THE LANDING-FORCE
AND
SMALL-ARM INSTRUCTIONS
UNITED STATES NAVY

1916

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Revised 1916
Containing Firing Regulations, 1917

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1916

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NAVY DEPARTMENT.

WASHINGTON, FEBRUARY 1, 1915.

The Landing-Force and Small-Arm Instructions, U. S. Navy, 1912, revised and corrected by Captain W. F. Fullam, U. S. Navy, to accord with Infantry Drill Regulations, U. S. Army, 1911, and further revised by the substitution of the new firing regulations for Part V, are issued to the service.

These instructions supersede all others of a similar nature and will be strictly observed.

JOSEPHUS DANIELS, *Secretary of the Navy.*

PREFACE

The subject-matter of this book is divided into parts as follows:

Part I.—The Landing-Force and its Employment on Shore. This part has been expanded and made as complete and as practical as possible.

The chapters on Military Hygiene and First-Aid were prepared in 1905 by Surgeon C. F. Stokes, U. S. Navy.

The chapters on Camping, Outposts, Scouting, Advance and Rear-Guards, Marches, Street-Riot Formations, Wall-Scaling and Field-Fortification are grouped together in this part for convenience of reference in case of service on shore with the landing-force.

Part II.—Manual of Guard-Duty and Guard-Mounting. Taken from U. S. Army publications with certain omissions and necessary changes.

Part III.—Extended Order and Combat. Taken from the Infantry Drill-Regulations, U. S. Army, 1911.

This chapter is given this place in the book for convenience of reference in connection with the practical employment of the landing-force on shore.

Part IV.—Drill-Regulations for Artillery.

Part V.—Firing-Regulations for Small-Arms, etc.

Part VI.—Infantry Drill-Regulations (Close Order). Taken mainly from the Infantry Drill-Regulations, U. S. Army, 1911, with certain modifications rendered necessary by naval conditions.

All the principles of the Army Drill-Regulations have been followed except that no interval is left between the files in ranks, because of the restricted space for ordinary formations on board ship. The light touch of elbows is preserved, which makes the distance between ranks 36 inches.

Changes in the Navy Manual of Arms, the *facings,* and some other minor features, not essential to practical uniformity in co-operating with the Army, have been avoided for manifest reasons.

The Army Regulations concerning the bayonet and the Loadings and Firings have been closely followed.

The method of forming single rank is assimilated to the deployment of skirmishers. The abolition of the *column of twos,* the substitution of the column of files (single or double), and the method of diminishing the front of the column of squads to a single file and the reverse, were rendered necessary by the peculiar conditions on board ship where men are compelled to pass over gangways, up and down ladders, and through doors.

The principal change in Close Order is the return to the former method of maneuvering by squads—the abolition of the commands, 1. *Full Step,* 2. MARCH, the squads stepping off at the completion of the turn in all cases.

The term Regiment has been adopted for the reasons given in the note on page 48. This change was necessary. It will be noted that the School of the Regiment (formerly "Brigade") has been greatly simplified. Unnecessary movements have been cut out in the Army Regulations. The Regiment is maneuvered in a practical manner by battalions.

The term "Brigade" is now applied, as it always should have been, to two or more regiments. The Brigade does not engage in prescribed drills.

EXTENDED ORDER, COMBAT, ETC.

The Army Regulations concerning Extended Order, Combat, and other strictly practical subjects have been adopted almost verbatim. These chapters, therefore, should be very carefully studied. In this respect there has been a great simplification, and many spectacular features and formations in the old regulations have been abolished.

ILLUSTRATIONS.

The Army Regulations not being very fully illustrated, all illustrations in the previous edition of the Landing-Force which are applicable to the present work have been preserved for the assistance of officers and enlisted men of the Navy who necessarily can devote little time to the study of Infantry Regulations.

GENERAL PRINCIPLES.

The first edition of this book, published in 1905, was very carefully prepared with special attention to naval conditions and needs; and the principle was then established that the Navy should follow the Army in all fighting formations and other strictly practical and important matters, but that frequent changes in trivial things, like the *facing,* the Manual of Arms, etc., should be avoided. To use the words of the Army Regulations—"quibbling over the minutiæ of form is indicative of a failure to grasp the spirit."

ABBREVIATIONS

bg. c. ..... Brigade Commander.
bg. adj. ..... Brigade Adjutant.
bg. sf. ..... Brigade Staff.
bg. sur. ..... Brigade Surgeon.
bg. qmr. ..... Brigade Quartermaster.
rg. c. ..... Regimental Commander.
rg. adj. ..... Regimental Adjutant.
rg. sf. ..... Regimental Staff.
rg. sur. ..... Regimental Surgeon.
rg. qmr. ..... Regimental Quartermaster.
bt. c. ..... Battalion Commander.
bt. sf. ..... Battalion Staff.
c. c. ..... Company Commander.
adj. ..... Adjutant.
by. c. ..... Battery Commander.
pt. c. ..... Platoon Commander.
cs. o. s. ..... Chiefs of Section.
c. o. s. ..... Chief of Section.
c. p. o. ..... Chief Petty Officer.
sf. p. o. ..... Staff Petty Officer.
bg. sf. p. o. ... Brigade Staff Petty Officer.
rg. sf. p. o..... Regimental Staff Petty Officer.
bt. sf. p. os. .. Battalion Staff Petty Officers.
p. o. ..... Petty Officer.
p. os. ..... Petty Officers.
1 p. o. ..... First Petty Officer.
2 p. o. ..... Second Petty Officer.
3 p. o. ..... Third Petty Officer.
4 p. o. ..... Fourth Petty Officer.
5 p. o. ..... Fifth Petty Officer.
6 p. o. ..... Sixth Petty Officer.
pn. ..... Pioneers.
sig. ..... Signalmen.
am. ..... Ammunition Party.
ms. ..... Messmen.
amb. ..... Ambulance Party.

PART I

THE LANDING-FORCE AND ITS EMPLOYMENT ON SHORE

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THE LANDING-FORCE.

GENERAL REGULATIONS.

Organization.

1. **Each ship and squadron** shall have a permanently organized *landing-force,* composed of infantry and artillery. The proportion of infantry to artillery will necessarily vary with the nature of the service to be performed.

2. **The maximum force.**—For purposes of *instruction,* and in order that the maximum force may be ready for service on shore in an emergency, the organized landing-force of each ship must be as large as possible, and shall be formed from the fighting-divisions of the ship, including the powder-division. *It is not to be inferred that the whole force must always land. Circumstances will determine whether the whole or only a part shall go.* A sufficient number of sections shall be left on board to care for the ship, to use the battery, or to move the engines, as may be required by the existing conditions of weather or service. Not more than one-half of the combatant force of the ship shall be landed at any one time.

3. **Engineer-division.**—Except in cases of necessity, men belonging to the engineer-division on board ship shall not be landed. When circumstances require it, however, they may be assigned, preferably, to the special details or to duty in connection with railroads or electric-plants, and to other work on shore where mechanics are needed.

4. **Officers.**—When practicable, captains or commanders will be detailed as brigade- and regimental-commanders; lieutenant-commanders as battalion- and battery-commanders and brigade-adjutants; lieutenants as brigade- and regimental-adjutants, company-commanders, platoon-commanders, quartermasters, and ordnance-officers; junior line-officers as battalion-adjutants, chiefs of section, signal-officers, and aids; paymasters as commissaries.

5. **The section,** consisting of one officer, three petty officers, and twenty-four men, is the unit of organization. All sections are drilled both as infantry and artillery. The section complete with its officers and **p. os.** shall, as far as possible, be taken from the same gun-division on board ship.

6. **Infantry.**—When acting as infantry, two sections form a company; two or more companies, not exceeding six, form a

battalion; two or more battalions a regiment and two or more regiments a *brigade*. Companies and battalions shall, as far as practicable, be composed of sections from the same ship.

7. Artillery.—When acting as artillery, two sections form a platoon; two or more platoons not exceeding four, a battery; two or more batteries a battalion.

8. The marines of a squadron shall be posted on the right of the line. The titles of brigade, regimental, battalion, and company officers, and non-commissioned officers of marines, shall remain unchanged.

9. Colors.—One set of colors only shall ordinarily be carried by each regiment. In a mixed force, the colors shall be carried by the infantry. In street-parades, however, and when battalions are acting independently, each battalion may be permitted to carry its colors. The term "colors" is applied to the national flag if carried alone; but it includes the regulation battalion flag also if the latter is carried.

10. Boat-expeditions.—The Boat-Book prescribes the manner of utilizing the units of the landing-force for "Distant Service," "Cutting Out," etc.; and it shall be the duty of the **bt. c.** and the officers of the battalion-staff, each in his own department, to fit out and properly equip armed boat-expeditions that may be called upon to leave the ship for any service, as directed by the commanding officer.

The Regimental-Staff.*

11. The regimental-staff consists of a regimental-adjutant, quartermaster, ordnance-officer, commissary, surgeon, signal-officer, and two aids. One or more officers may also be assigned to the staff for *intelligence-service* if desirable.

12. Duties of regimental-staff.—The **rg. c.** shall assign to the regimental-staff officers such duties, not specified in these regulations, as may be necessary. They shall be held responsible for the efficiency of their various branches, and shall from time to time make such suggestions and recommendations to the **rg. c.** relative to the same as the exigencies of the case may demand. It shall be the duty of staff-officers to study the situation in every case and to take the initiative in preparing for and anticipating demands and emergencies in their departments. They shall act upon their own responsibility when necessary to do so, reporting their action to the **rg. c.** for his approval. They shall submit plans beforehand whenever practicable. They shall keep records and notes of all events and matters of importance in connection with their duties.

* The same duties apply to the brigade-commander and staff. The brigade staff may be reduced under some circumstances, in view of the duties assigned to the regimental staff. Or the brigade staff may perform some or all of the duties herein prescribed, and the different regimental staffs may be reduced.

13. (1) **The regimental-adjutant** will act as *chief of staff*. All official correspondence will pass through his hands, and all written orders issued by the **rg. c.** shall be authenticated by the adjutant's signature.

(2) Assisted by the aids, the **rg. adj.** shall keep a complete journal of events, including a record of all orders given and all reports received, notes regarding the service of detached bodies, sketches and maps, from which a full report of the expedition may be prepared. He shall submit this journal daily to the **rg. c.** for approval.

14. The regimental-quartermaster shall supervise all the details of transportation, and provide quarters and camp equipage as may be necessary. He will advise the **rg. c.** regarding the organization and equipment of the pioneers of the several battalions, and will assume general charge of the inspection, instruction, and operations of the pioneers whenever the latter are massed under the direction of the **rg. c.** He shall co-operate with the ordnance-officer as regards military engineering.

15. (1) **The ordnance-officer** shall advise the **rg. c.** regarding the necessary ammunition supply, the means of transporting it, the organization and employment of the artillery, and the regulations for the care and preservation of the ordnance outfit. He shall inspect and have charge of the ammunition-parties whenever the latter are massed by direction of the **rg. c.**, and he will assume charge of the gun-cotton party and direct its operations.

(2) He shall also act as *military engineer*, laying out field-works, building bridges, making roads, using mines, and prescribing the details of transporting and making emplacements for heavy guns. He shall co-operate with the regimental-quartermaster.

16. The regimental-commissary shall perform the duties of purchasing and disbursing officer, and shall advise the **rg. c.** regarding the organization of the commissariat, the necessary facilities for its transportation, and the details of subsistence. He shall inspect the messmen of the several battalions whenever they are massed by direction of the **rg. c.**

17. The regimental-surgeon shall prepare for the **rg. c.** such hygienic and hospital regulations as may be required, and shall submit such recommendations as he may deem necessary for the preservation of health. He shall advise the **rg. c.** regarding the organization of the ambulance-parties of the several battalions, and shall submit regulations for the instruction in *first-aid to the wounded*, and for the practical drill of stretchermen. He shall, if

necessary, establish and assume general charge of a *base-hospital,* and shall make all arrangements for the transport of the sick and for forwarding cases to the base-hospital for treatment. He shall inspect and assume general charge of the ambulance-parties whenever the latter are massed by direction of the **rg. c.** He will prescribe the medical and surgical-outfits to be landed in any case, and report regarding the transportation required.

18. (1) **The Signal-officer and aids** shall perform such duties as may be assigned them by the **rg. c.**

(2) The signal-officer shall advise the **rg. c.** regarding the signal outfit, and shall submit recommendations as to the organization and employment of signalmen, in order to secure a uniform system of transmitting information and signals. He shall, if necessary, employ telegraph operators, and take charge of telegraph lines. Navy signalmen may be instructed in telegraphy, using the Navy code.

19. (1) **Intelligence-officers** will provide the **rg. c.** with all possible and useful information in connection with the operations on shore, the number and position of the enemy, the topography and resources of the country, etc. For this purpose they shall be provided with facilities for making maps, and special scouts may be employed to assist them in obtaining information. An intelligence-officer may act as chief of scouts.

(2) In case special intelligence-officers are not available, their duties shall be performed by the **rg. adj.,** signal-officer, and aids.

20. Regimental-staff petty-officers.—A **p. o.** shall be detailed as assistant to each officer of the regimental-staff.

Battalion-Staff.

21. The battalion-staff consists of an adjutant, commissary, and surgeon. Additional junior-officers may be added to the battalion-staff, if such are available, to act as aids to the **bt. c.** and to assist the **adj.** in organizing and directing the pioneers, ammunition-party, signalmen, scouts, etc.

22. The duties of battalion-staff officers are similar to those of the **rg. sf.** They shall be held responsible for the efficiency of their several branches, and shall make such suggestions and recommendations to the **bt. c.** and keep such records as the exigencies of the service may demand. They shall take the initiative in providing for all details to meet the emergencies of the service.

23. The battalion-adjutant acts as *chief of staff,* receives and forwards all official correspondence, and organizes and directs

the pioneers, ammunition-party, signalmen, and special scouts, assisted by junior and **p. os.** He receives the reports of **c. cs.,** communicates them to the **bt. c.,** and makes out the details for all guards, etc. He shall keep a journal similar to that kept by the **rg. adj.,** and submit it daily to the **bt. c.**

24. (1) **The commissary** shall organize the battalion commissariat, under the direction of the **bt. c.,** following as far as practicable the system that obtains on board ship. In brigade, he will co-operate with and assist the brigade-commissary.

(2) In the case of a battalion acting alone, the commissary will obtain transportation, provide quarters and camp equipage as directed by the **bt. c.,** and be responsible for all the details of subsistence. He will take the initiative in making preparations and recommendations regarding his department.

25. **The surgeon** of the battalion shall organize and instruct the ambulance-party as directed by the **bt. c.** He shall establish a field-hospital, and assist the **rg. sur.** in carrying out the general regulations for the care of the sick and wounded and for the preservation of health. He will prescribe, under the direction of the **rg. sur.,** the necessary medical and surgical outfits, and report regarding the transportation required. He will take the initiative in making preparations in his department.

26. **Petty-officers.**—A **c. p. o.** is detailed to assist the **bt. adj.,** and **p. os.** will be detailed to assist other staff-officers as may be necessary.

Special Details.

27. (1) **The special details** accompanying a landing-force comprise *pioneers, signalmen, messmen, ammunition- and ordnance-party, gun-cotton party,* and *ambulance-party.*

(2) By direction of the **rg. c.** any or all of these details from the various battalions may be massed from time to time under the direction of, or for inspection by, the officers of the **bg. sf.** A battalion or other unit assigned to detached or independent service, and at other times when circumstances require it, may take its quota of the special details.

(3) If preferable the commanding officer may distribute the special details among the several companies, each taking its quota. Circumstances must determine whether these men shall be massed or distributed in active service.

28. **The organization of the special details** is a matter of the first importance; but it must be recognized that the number of men assigned to these duties, and their equipment, must depend

largely upon the circumstances of the service in any case. The rules can only serve as a general guide; it is quite impossible to anticipate all conditions and necessities in these regulations.

29. During an engagement, in order to reduce the number of ineffective men to a minimum, the *pioneers, messmen, signalmen, servants,* and others who are not actually engaged in their own legitimate duties shall be employed to re-inforce the stretcher-men, or ammunition-passers, as the case may be. They should recover the arms and ammunition of disabled men, and perform such other duties as the **bt. c.** may direct. Those who assist the stretchermen should remove their arms and wear the red cross.

Pioneers.

30. The pioneers, consisting ordinarily of one man for every section landed, will carry as complete an outfit of intrenching and carpenter's tools as the conditions of service and the facilities for transportation will permit. The following articles may be useful, the smaller and lighter ones to be carried by hand and the heavier implements by transport as far as possible:

Shovels,	Hammers,	Augers,	Rulers,
Axes,	Mauls,	Files,	Pliers,
Pickaxes,	Saws,	Chisels,	Cutters, wire,
Crowbars,	Spades,	Cold-Chisels,	Nails.

31. Electricians, locomotive engineers, and other special men who may be needed in some cases to take charge of electric plants or railroad property on shore, may be added to the pioneers. Such men are always available in a ship's company.

32. Duties of pioneers.—(1) The ordnance-officer, **bt. adjs.,** and the **p. os.,** detailed as leaders, shall be responsible for the instruction of the pioneers in the principles of field-fortifications, bridge-building, and other work for which these men are to be employed.

(2) Circumstances must largely determine the duties of the pioneers in any case. They may precede the main body with the advance guard to clear away obstructions and entanglements and repair bridges and roads. In camp they may assist in digging sinks, constructing defenses and entanglements, and making gun-emplacements. In retreat they may co-operate with the gun-cotton party in obstructing the pursuit.

(3) **A gun-cotton party** may also be organized, supplied with gun-cotton and all the means for blowing up bridges, buildings, and fortifications, or for destroying guns, planting mines, etc. In

retreat this party may be attached to the rear guard to obstruct the pursuit.

Signalmen.

33. Duties.—Ordinarily, one signalman will be detailed for each company of the landing-force. In addition to the duty of making necessary signals, these men should be actively employed as special scouts and aids to the **bt. c.** and intelligence-officers, to collect information, carry dispatches, and take charge of telegraph lines. A **p. o.** will be detailed as leader of the signalmen of each battalion.

34. Signal outfit.—Each signalman should carry a flag for day signals, and the party should have the necessary night-signal outfit. The following articles should also be supplied: Compass, binoculars, spy-glass, lanterns, memorandum-books, boat signal-book and facilities for making sketches when employed as scouts. A pair of climbing-irons will be of use to a signalman, who may obtain and communicate information by climbing trees.

35. Telescope.—A telescope of high power, mounted on a tripod, should be supplied if possible for the use of intelligence-officers. Such an instrument has been found to be of inestimable value in recent campaigns. A naval officer of experience declares that his guns, which were used in a campaign on shore, would have been comparatively helpless without the high-power telescope. In the hands of a trained man it served to fix the position of the enemy's trenches and gun-emplacements and to bring them quickly under an effective fire.

Ammunition-Party.

36. The ammunition-party will consist ordinarily of one man for every section landed, and will be composed partly of gunner's-mates or men qualified to keep the ordnance outfit in efficient condition. Each party will carry, in special haversacks, an ample supply of spare-parts for small-arms and field-pieces, and the necessary tools for the repair of ordnance material; also haversacks to distribute ammunition to the firing-line.

37. Spare ammunition.—In case a large supply of spare ammunition must be carried, *special means should be supplied for its transportation,* especially in hot climates. Native carriers or pack animals should be obtained if possible. Poles about six feet long for each pair of carriers may be useful to sling a box of ammunition. Two haversacks, filled with ammunition, secured together and slung over the shoulders one hanging down over

the chest and the other over the back, make an excellent and comfortable support for the weight.

38. Ammunition supply.—The **c. p. o.** will act as ordnance-officer for each battalion and take general charge of the ammunition-party under the direction of the **adj.** He will give particular attention to the supply and distribution of reserve ammunition, and for this purpose he will keep in touch with **c. cs.** and **by. cs.** on the fighting-line. He will call for additional men when necessary, and will see that special haversacks or other means are provided for the distribution of ammunition to the firing-line.

Commissariat and Messmen.

39. Commissariat.—The commissariat of each battalion will be organized by the commissary under the direction of the **bt. c.**

40. Messmen.—One messman will be detailed as cook for each section landed, and he will take charge of, and be responsible for, the mess outfit of his section.

41. Officers' servants.—One servant will be detailed for the three officers of each company or platoon (artillery), one for the **bt. sf.,** and one for the **bt. c.** One cook will be detailed for the **bt. c.** and his staff, and one for the company officers of each battalion. The necessary number of servants will be detailed for the **rg. c.** and his staff. The officers will furnish their own mess outfit.

42. Provisions.—(1) The quantity and kind of provisions will depend upon the nature and length of service, distance from the base, and upon the probable supplies obtainable in the field. *A part or all of the navy ration may be used.*

(2) The following limited table of rations is suggested as suitable for brief tours of duty on shore:

Article.	Per 100 Rations.
Bread (hard or soft)	100 lbs.
Corned beef (canned)	75 "
Baked beans (canned)	45 "
Coffee (roasted and ground)	8 "
Sugar (granulated)	15 "
Tomatoes (canned)	100 "
Salt (table)	2 "
Pepper (black)	4 oz.

43. An emergency ration for two days' service may be issued to each man, and carried in the haversack.

44. Fruit.—Fruits which are ripe and sound and which are peeled or cooked before eating may not be objectionable; but all fruit must be inspected and passed by the surgeon before being issued or eaten. Lime and lemon-juice may be used freely.

45. Cooking-utensils.—Boat-stoves will be carried if practicable. They are not indispensable, however, as fire-places can be built with ease. Kettles of different sizes are specially useful. Frying-pans and broilers are very necessary. Cooking-utensils must be kept scrupulously clean. When the force is to remain near the ship, or whenever transportation is available, an ample supply of utensils should be carried. Circumstances must govern in each case. If practicable, each man may be supplied with a small frying-pan which is furnished with some field outfits. This serves to make men independent when on detached service in small numbers.

46. Useful articles.—The following articles should be provided by the messmen of each company:

Corkscrew,	Butchers'-tools,	Candles,
Tin-opener,	Soap,	Lantern,
Towels,	Canvas clothes-bags,	Buckets.
Hatchet,	Axe,	

A liberal supply of matches should be carried. They should be stowed in tight tin-boxes kept free from moisture, and should be expended economically.

47. Boiled water.—The messmen of each company should supply the men with boiled water for their canteens. Special kettles, very carefully cleaned, should be used for boiling water. The boiled water may be poured into canvas bags and hung in the open air to cool, and all available buckets should be filled. Canteens should always be filled in the morning, and before a march.

48. Drinking-water.—Distilled or boiled water only will be used for drinking purposes, except when authorized by the commanding officer. *It is most important to impress upon the men the necessity for this regulation.*

49. Water-allowance.—Two quarts per day is a short allowance for cooking and drinking. A gallon per day is a reasonable allowance, and when there is a plentiful supply the men should be allowed about four gallons per day for drinking, cooking and washing.

50. Cold tea and coffee.—When authorized, the men may fill their canteens with cold tea or coffee.

NOTE.—See chapter on military hygiene for additional information under these heads.

Ambulance-Party—Hospital-Staff.

51. The ambulance-party of each battalion will be composed, ordinarily, of one stretcherman for each section, with a hospital steward and as many hospital apprentices as the circumstances may demand. One stretcher will be provided for each pair of stretchermen. The necessary medical and surgical outfits will be prescribed by the surgeon.

52. Base-hospital.—In case a base-hospital is to be established on shore, it will be under the personal charge of the **rg. sur.** who will advise the **rg. c.** regarding the organization of a separate hospital-staff independent of the ambulance-parties.

53. A ship as base-hospital.—A ship will be used as a base-hospital whenever practicable, and the sick and wounded will be sent on board as promptly as possible, in order to relieve the field-hospital force and to avoid hampering the movements of the landing-force.

54. During an engagement the following general plan will be carried out:

(1) The **bt. surs.** will select one or more dressing-stations under cover, about 300 yards in rear of the firing-line.

(2) The **rg. sur.** will establish one or more field-hospitals at convenient points where water and shade are available if possible.

(3) Men seriously wounded will first be carried to the dressing-stations and later to the field-hospital; the slightly wounded will find their own way to the hospital, or will return to the firing-line as directed by the surgeon.

(4) Men will be transferred from the field-hospitals to the base-hospital as soon as practicable.

(5) All officers and **p. os.**, and as far as possible all men, will be supplied with *first-aid packages* and be instructed in their use. (See chapter on First-Aid.)

55. Distant service.—Special arrangements must be made for the transport of the sick and wounded in the case of distant expeditions and long marches.

Beach-Master, Boat-Keepers, and Buglers.

56. Beach-masters.—An officer will be detailed as beach-master to take charge of the boats and their keepers after the force is

landed. The duties of the beach-master are stated in connection with the details of landing. He will see that arrangements are made for the subsistence of boat-keepers, etc.

57. Boat-keepers will be detailed as follows: Whaleboats, gigs, and dinghys, one; cutters, two; launches, three or four as may be necessary.

58. Buglers.—At least one bugler should be detailed for each battalion and battery, and one for the use of the **rg. c.** Whistles are preferable for use on the firing-line, and should be carried by officers when practicable.

Transportation.

59. (1) **Transportation** is a matter of the first importance. Every effort should be made to secure ample transportation for a landing-force which is to operate at a considerable distance from the fleet, or which is to remain on shore for any length of time. With insufficient facilities it may not be possible to equip fully the special details for effective service, or to carry the stores, mess outfits, equipage and ammunition necessary for the comfort of the officers and men, and for the success of the expedition.

(2) Requisitions should be made upon the **rg. qmr.** (or upon commissaries in case of battalions acting alone) for necessary transportation; but all officers must independently improvise or secure transportation for their own detachments as far as possible.

60. Wagons, carts, pack-animals, and native carriers should be hired or impressed into service. All spare field-carriages and limbers should be utilized. Wagons may be improvised and fitted with long drag-ropes to be manned by the men, if necessary.

61. Transportation by water should be used as far as possible, and if necessary a secondary base should be established in communication with the fleet. The duties in connection with transportation have been assigned to the **rg. qmr.** and battalion-commissaries. Railways may be seized and operated by the pioneers.

ARMS.

62. Officers.—At parades and ceremonies and at ordinary infantry and artillery drills *on shore,* officers will wear swords only. *At practical exercises with the landing-force on shore, swords shall not ordinarily be worn,* but officers will carry pistols and binoculars.

NOTE.—Should swords be prescribed for *active service* on shore, they will be worn in the usual manner by officers and petty-officers who may be required to carry them. The circumstances must determine whether or not swords are needed in any particular case.

63. Petty-Officers.—(1) The **rg.** and **bt. sf. p. os., c. p. os.,** color-bearers, and buglers will wear pistols at all drills, and ordinarily on active service on shore. Cutlasses may be prescribed.

(2) Sergeants-Major of Marines and First Sergeants of Marines in charge of companies will ordinarily be armed with non-commissioned officer's swords in lieu of pistols. Sergeants-Major will conform to the movements of the Adjutant in drawing and returning swords. First Sergeants in charge of companies will use the sword as prescribed for **c. cs.**

64. Special details.—(1) All the special details, except the ambulance-parties, will, ordinarily, be armed with pistols.

(2) In case ample transportation is available, or whenever the force is to operate near the fleet, the senior officer may arm the special details and other men with rifles instead of pistols *in order to increase the number of effective men in an emergency.*

65. The ambulance-party will, ordinarily, carry no weapons, but will wear the Geneva Cross on the left arm *Against a savage or uncivilized enemy,* however, the men of the hospital-staff and ambulance-party will carry pistols and omit the red cross.

66. Surgeons will wear swords at parades, ceremonies, and ordinary drills. On active service and at practical exercises with the landing-force they will observe the rule for the hospital-staff.

67. Boat-keepers will be armed with rifles.

68. Infantry-sections will be armed with rifles.

69. Artillery-sections.—In the artillery-sections the **1 p. o.** and numbers **1** to **4** inclusive shall be armed with pistols, and the remainder of the men with rifles. On parades, when a long march may be anticipated, artillery-sections may be armed with pistols only; or numbers above **4** may carry no arms.

70. Servants.—If armed at all, servants will carry pistols. The commanding officer will give directions, as circumstances may require.

OFFICERS' EQUIPMENTS AND CLOTHING.

71. Fully equipped.—When fully equipped, officers will wear leggings and carry pistol, canteen, haversack, binoculars, cup, and a rubber-blanket. The latter will be rolled, secured with tie-ties, and placed on the right shoulder with the ends of the roll fastened together under the left arm. It may be worn as a poncho in rainy weather.

NOTE.—The officers' equipment will be worn as follows: *First,* place the straps of binocular-case on right shoulder and under left arm, the case hanging in front and a little to the left and below the belt-buckle (Plate 1). Next, put on the haversack, canteen and belt (in the order named) with the pistol and cartridge-box (Art. **73**). Then put on the rubber-blanket, rolled (Art. **71**), the ends secured together and tucked under the haversack between its slings. Worn in this manner the equipment will be comfortable, and each article will be held securely in its place. The rubber blanket can be removed easily and put over the head as a poncho to cover the body and the equipments.

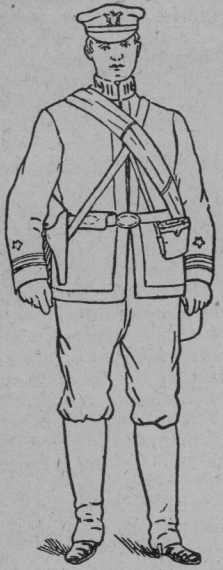


Plate 1. Art. 71.
Fully equipped (front).

Plate 2. Art. 71.
Fully equipped (back).

Plate 3. Art. 72.
Lightly equipped.
Canteen and pistol.

Plate 4. Art. 73.
Pistol, canteen, and overcoat.

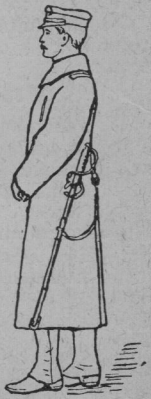


Plate 5. Art. 74.
Overcoat and sword.

72. Lightly equipped.—(1) When *lightly equipped,* officers will wear leggings and carry the canteen. The sword is worn at parades and drills only, unless specially prescribed; the pistol on active service. (See note, Art. 62.)

(2) The haversack may also be prescribed if circumstances require it.

73. Haversack, pistol, and canteen.—If officers carry the pistol or canteen, or both, *the belt is worn outside the service-coat or overcoat,* the cartridge-box (if supplied) in front, and to the right of the belt-buckle. The pistol is placed slightly in rear of the right hip, the muzzle of holster over the front-sling of the canteen to steady the latter. The canteen is carried on the right side in rear of the pistol, with its *rear-sling* under the belt. The haversack is carried in rear of the left hip with *both* slings under the belt. It should be put on before the canteen.

74. Overcoat and sword.—When overcoats and swords are worn, officers will wear the scabbard outside the coat, with the short-sling passing through the side-slit, and the long-sling through the back-slit.

75. Useful articles.—The following articles should be carried, if possible, by officers on active service:

Watch,	First-aid package,	Hand-mirror,
Whistle,	Dark lantern,	Rubber-basin,
Pocket-compass,	Knife,	Whisk-broom,
Pencils,	Sewing-kit,	Cup.
Maps,	Scissors,	
Note-book,	Toilet articles,	

76. Officers' clothing.—(1) The clothing to be worn or carried by officers will depend upon the climate and other circumstances of service, and must be limited in amount.

(2) White shoes will never be worn with leggings.

(3) A change of underclothing, two pairs of socks, two towels, and an extra pair of shoes at least should be carried. No linen should be worn. Flannel shirts are preferable. Celluloid collars and cuffs are permissible.

77. Transportation, or special carriers, shall, if possible, be provided for the officers' clothing and mess outfit.

78. Knapsack for officers' outfit.—(1) The knapsack furnishes the best means for stowing and carrying an officer's necessary outfit. When no other transportation is available, the servants or carriers of the several companies may work in pairs, each pair being provided with a light pole to be carried upon their shoul-

ders; one knapsack may then be suspended in front of the leading-carrier, one in rear of the rear-carrier, and others on the pole between the two.

(2) It is only under exceptional circumstances that an officer would be required to carry his own knapsack.

(3) Officers will soon determine which articles to carry in the haversack or on their persons, and which to stow for transportation.

NOTE.—The new "service-belt," worn at all ship- and boat-drills and at practical exercises on shore, is fitted with a pistol-holster and with several pockets, *instead of a box*, for cartridges.

This belt will be worn in the usual manner, outside the coat, as shown in the plates (both for officers and men).

In case the sword is required in the future for active service on shore, it may be attached to the new service-belt.

MEN'S EQUIPMENT AND CLOTHING.

79. Fully equipped.—The equipment will depend upon the circumstances of service. When *fully equipped* each man will carry packed knapsack and haversack, rubber-blanket, and overcoat, cartridge-belt, cup, filled canteen, and leggings. The knife-lanyard will be hauled down straight in front, and, *with the knife,* tucked inside of the cartridge-belt. (See Plates 6 and 7.)

80. Haversack and canteen.—The haversack is worn in rear of the left hip, the canteen in rear of the right hip, with cartridge-belt over both haversack-slings and over the rear-sling of the canteen. The haversack will contain rations, knife, fork, spoon, and plate. The frying-pan, if supplied, will be carried inside the haversack or slung outside in the most convenient manner, and the plate *may be omitted.*

81. Knapsack.—(1) The knapsack will contain the following articles: One single-blanket; one suit of blue or white, one suit of underclothes, two pairs of socks, one pair of shoes, one watch-cap, and one white hat, all of which shall be packed in the following order: Blanket in flat fold, exact size of knapsack, next to the back; undershirt and drawers, folded separately, flat folds, side by side, forming second layer; extra suit, similarly folded, forming third and outer layer; each layer to fit the knapsack snugly; shoes tucked down, one on each side, soles outward, heels up and flush with top of clothing; cap, or white hat, and socks on top of all; then make fast the tie-ties.

(2) The knapsack-pocket will contain towel, soap, comb, tooth-brush, sewing-kit, pipe, and tobacco. Pipe and tobacco may be carried in the haversack if preferable or practicable.

(3) When knapsacks are not provided, the most necessary of the above-mentioned articles will be carried in the blanket, neatly rolled lengthwise and stopped, the roll placed over the right shoulder, with both ends of the roll secured together under the left arm as described for an officer. (See Art. **71**, Plates 1 and

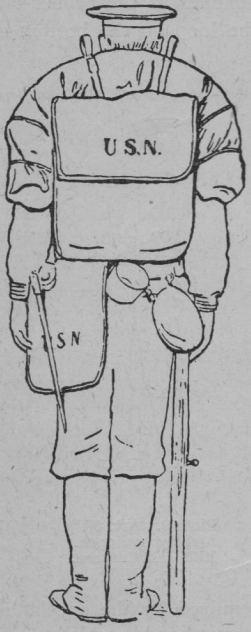


Plate 6. Art. 79.
Fully equipped.
Overcoat inside rubber-blanket.

Plate 7. Art. 79.
Fully equipped.
Without overcoat.

2.) It will be impracticable, without the knapsack, to carry all the articles named.

82. The rubber-blanket will be rolled tightly on its width and secured by tie-ties placed in the eyelet holes; then middle it across top of knapsack and secure it by the two straps, the ends of the latter to be tightly coiled up on top. The ends of the roll to be secured down the sides of the knapsack by buttoning over them

the beckets that secure the flap. The rubber-blanket may be placed over the head and shoulders as a poncho in rainy weather.

83. **The overcoat,** if carried, to be rolled lengthwise inside the rubber-blanket.

84. **Rain-clothes,** if carried in place of the rubber-blanket, will be rolled and secured in the same manner as the rubber-blanket.

85. **The cup** will be secured by the loop on the bottom of the knapsack.

Plate 8. Art. 87.
Lightly equipped.
Rifle and Canteen.

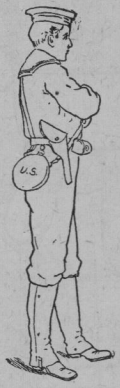


Plate 9. Art. 87.
Lightly equipped.
Rifle and Canteen.

86. **Special service.**—When not required by the special nature of the service, any of the above-mentioned articles may be omitted by direction of the commander-in-chief or senior officer present. Climatic and other conditions must determine what shall be worn and what shall be carried.

87. **Lightly equipped.**—When lightly equipped, men will carry filled canteens and cartridge-belt and wear leggings. The haversack may be prescribed if circumstances require it. (See Plates 8 and 9.)

MODEL 1910 UNITED STATES ARMY INFANTRY EQUIPMENT AS ADAPTED FOR USE IN THE NAVY.

Haversack.

(Plate 7.)

(1) The haversack body is 20⅝ by 18⅜ inches, made of No. 9 olive-drab cotton duck. The bottom is turned over and stitched for 2 inches, with eight perpendicular buttonholes worked therein through which the coupling strap is laced to attach the pack carrier to the haversack. One horizontal buttonhole is also worked in the center, between the two sections of four perpendicular buttonholes, through which the lower haversack binding strap is passed, without the pack carrier.

(2) To the top and center of haversack is stitched the outer flap; the suspenders are stitched to the outside and top of haversack; under the suspenders at the center and outside is the rear belt suspender and the loop for bayonet scabbard on the right side of haversack body on a line with the eyelets in the outer flap. Stitched to the right-hand side of the haversack body an equal distance apart are three five-eighths inch tongueless bar buckles of steel, bronze finish, and corresponding haversack binding straps are stitched to the left or opposite side.

(3) The inside flap is 24⅝ inches in length by 7½ inches wide, sewed to the inside of the haversack body 7 inches from the bottom of the latter. A piece of three-fourths inch olive-drab cotton webbing is stitched at the center of the inside flap, commencing at the top and forming 17 loops. When the haversack is packed the haversack binding straps are passed through these loops to properly raise or lower the inside flap to correspond to the load. Sewed to the outside of the inside flap at its center is the lower haversack binding strap and two suspension rings, which are attached by two chapes near the sides in line with the coupling strap or perpendicular buttonholes.

(Plates 7 and 11.)

(4) The outer flap is 16¼ by $10\frac{9}{16}$ inches, the top of which is sewed to the haversack body at the middle of the top of the latter. Stitched to the top of the outer flap is the intrenching-tool attachment. It has two eyelets into which is inserted the double hook of the shovel carrier. The underside of the meat-can pouch laces to the outer flap with 10 eyelets, five on each side of this flap. The letters "U. S." are stenciled on the outer flap below the meat-can pouch. Sewed to the back of the outer flap

is a five-eighths inch tongueless bar buckle. The lower haversack binding strap engages in this buckle for the proper adjustment of the load.

(5) The meat-can pouch is composed of a flap, gusset, outside piece, and two thongs. The flap forms the back and the flap proper of the pouch. It is semicircular in shape and has two rows of five eyelets each, which correspond to the eyelets in the outer flap of the haversack. The gusset is sewed to and between the flap and outside piece. A button is riveted to the outside piece and a buttonhole worked in the flap.

Pack Carrier.

(Plates 8 and 9.)

(6) The pack carrier is made of No. 9 olive-drab cotton duck, called the body, which is roughly triangular in shape, the small ends terminating in two lugs or ears. Attached to the ears are two suspension rings that are stitched to the body. Two carrier binding straps are stitched horizontally across the body 3½ inches from the top, and the other where the body begins to form the lugs or ears. Two upper suspension rings are inserted under and stitched to the body with the lower carrier binding strap. Two inches of the top is turned over and stitched and eight perpendicular buttonholes worked in the bottom of the haversack body. The coupling strap is laced through these buttonholes and links the pack carrier to the haversack. The coupling strap is of russet harness leather, and is attached to the center by the coupling strap retainer and the pack carrier body, which is stitched to the body between the fourth and fifth perpendicular buttonholes. The letters "U. S." are stenciled at the center of body below the top carrier binding strap.

Cartridge Belt, Cal. .30.

(Plates 10 and 16.)

(7) The cartridge belt is made of No. 2 olive-drab cotton duck, closely woven, consisting of two pocket sections, right and left, connected by an adjustment strap at the back. The sections have five pockets each of the required size for holding two United States rifle clips, each clip containing five cartridges. Each pocket has a flap, extending about 1 inch below the top of the belt body to which it is secured. The free end of the flaps are folded so as to cover and close by a secure and serviceable glove fastener. The fasteners are capable of withstanding

5000 fastenings and unfastenings. A retaining strap is attached to the inner front wall, from the bottom, and in the center of each pocket, about three-fourths inch wide and extending 4⅝ inches above the upper edge of the pockets. The free end of the strap is provided with a socket member of a thin glove fastener, the stud member of the latter is fixed in the front wall of the pockets, at the center just below the upper edge. The five pockets of each section are equal in size. A short billet is woven at the front ends of the pocket sections for attaching the right and left belt fasteners, male and female. At the rear ends of the sections are also woven billets for attaching metal guides or tongueless bar buckles to receive the adjustment strap, which joins the two pocket sections. Each end of the adjustment strap has a finished metal tip secured by three eyelets, to which is attached a double hook engaging into the anchor eyelets which are fixed in pairs in the center of the web of the pocket sections against the body. Secured to the right-hand pocket section about one-fourth inch above the lower edge of belt are five round eyelets with washers. On the left-hand pocket sections are secured five eyelets, elliptical in shape. Secured to the adjustment strap near the top edge are three round eyelets and washers, one at the center and two others about 1½ inches to the right and left, for securing and holding the weight of the belt by the end hook or rear belt suspender that is attached to the haversack body. A round eyelet and washer is secured between each two pockets and at the rear of the rear pocket about five-sixteenths of an inch below the top edge of the belt to assist in holding the weight of the belt by the end hooks of the front belt suspenders.

Canteen Cover.

(Plates 10 and 15.)

(8) The canteen cover consists of a body and bottom made of No. 9 olive-drab cotton duck, stitched together and forms the cover, the top of which toward the back has two ears or lugs which form the flaps. A stud member of a glove fastener is secured to each flap. With the canteen assembled and in the cover, the flaps fold over and the studs engage into their respective sockets that are secured to the front body and bearing the letters "U. S." at a point a little below the center. The canteen cover is lined with gray felt (approximately 25 ounces per yard). To the rear and top of the canteen cover is stitched a heavy piece of duck to which is attached a double hook made of bronze.

Canteen.

(Plate 15.)

(9) This is a flask-shaped canteen with a flat bottom, slightly concaved on the side next to body, and is housed in the cup for transportation. The body is one piece, seamless aluminum, which is drawn and turned to the proper shape and has a capacity of 2 pints. The neck of the body is threaded to receive the canteen cap and is also grooved for a sliding ring to which is attached the cap chain bearing the cap.

Cup.

(Plate 15.)

(10) The body is one piece, seamless aluminum, drawn and shaped to correspond to the lower half of the canteen. Secured to the cup is a folding handle which, when opened and fixed in position, forms a support for the cup when placed upon the ground, and when not in use the handle is sprung over the cup body. The horizontal slot in the handle is for making an extension by inserting a fork. The handle is provided with a sliding lock which engages with two ears of the cup handle hinge when in position for use.

First-Aid Pouch.

(Plates 1 and 16.)

(11) This is made of No. 9 olive-drab cotton duck, and for convenience will be called the pouch, pocket, and flap. The pouch, pocket, and flap are formed by stitching to conform with the shape of the first-aid packet. Two glove-fastener caps are riveted to the flaps, which button over the studs on the front of the pouch pocket. The double hook is attached to the flap by two metallic eyelets riveted therein.

Pick Mattock.

(Plates 1, 2, and 16.)

(12) The pick consists of a head made of tool steel. The front and entire blade of the head is hardened, tempered, and sharpened. The handle, made of hickory or ash, is detached when carried. Both pieces are painted olive drab.

Pick-Mattock Carrier.

(Plate 16.)

(13) The body and top handle loop are made of No. 2 olive-drab cotton duck. The two sides of the top of the body are shaped and stitched together, also the top handle loop, which forms a pocket for the point of the pick mattock. The lower part of the body folds over the end of the pick-mattock blade and is held in position by a strap which passes through a loop sewed to the body. The strap is secured by a tongueless bar buckle stitched to one end. The lower handle loop is stitched to the front of the body on a line below the top handle loop. A double hook is attached by a hanger which is stitched to the top handle loop.

Hand Ax.

(14) The ax consists of a head of tool steel, whose blade is hardened, tempered, and sharpened. The handle is made of hickory or ash, firmly secured in the eye of the head by two wooden wedges. Both pieces are painted olive drab.

Hand-Ax Carrier.

(15) The body is of one piece of No. 2 olive-drab cotton duck, stitched and riveted to form a pocket for the ax, the handle of which is inserted through a hole in the carrier provided for that purpose. The flap folds over the ax head and is secured by a strap, engaging in a tongueless bar buckle, which is attached to the outside body. A hanger is stitched to the rear end of the body and contains a double hook.

The Shovel.

(Plates 2, 4, 5, and 16.)

(16) The shovel consists of a steel blade hardened, tempered, polished, and sharpened. The handle is made of hickory or ash, -shaped. The blade and handle are painted olive drab.

The Shovel Carrier.

(17) The body is made of two pieces of No. 2 olive-drab cotton duck, stitched together. A heavy binding strap is sewed to the outside of the completed body, which engages in a five-eighths inch tongueless bar buckle sewed to the same side of the

body. A heavy piece of webbing is stitched to the rear of the body, with a loop into which is attached a bronzed double hook. This shovel is locked in the carrier by one round turn of the binding strap. (See Pl. 2.)

Bayonet Scabbard.

(Plates 13 and 14, assembled.)

(18) The bayonet scabbard consists of a body of white pine having an inside cover of rawhide, which is soaked and while wet stitched around the wooden body with light wet rawhide thongs. When the rawhide dries and shrinks it forms a smooth hard cover which prevents the wood from splitting easily. The mouthpiece top is fastened to the mouthpiece body by a crimp in the latter. The mouthpiece bushing is held in place by the mouthpiece cap and mouthpiece body, and the latter is riveted to the wooden body with four steel mouthpiece rivets. The double hook is attached by a hanger which is stitched to the duck cover. The reinforce is stitched to the duck cover, and both the reinforce and cover are stitched and inclose the rawhide-covered wooden body. The reinforce has an eyelet secured at its tapered end for drainage.

Meat Can.

(Plate 15.)

(19) The meat can and cover are made of aluminum, formed in separate dies, with one thickness of metal pressed back to form a rim. The body has a hinge riveted to and supports the handle, which is corrugated for increased strength. The cover has a D-ring secured to it for slinging or drying purposes. When the meat can is assembled it carries in the body a knife, fork, and spoon. The cover is then assembled on the body; the handle then folds over the cover, and the end of it engages the rim of the body, holding the cover firmly in place.

Knife.

(Plate 15.)

(20) The knife is blanked from special, double-beveled cutlery steel, is strengthened and tempered, with aluminum handle cast on, bearing the letters "U. S." on the handle.

Fork.

(Plate 15.)

(21) The fork is blanked and formed to shape, with letters stamped as above.

Spoon.

(Plate 15.)

(22) The spoon is blanked and formed to shape, with letters stamped as above.

Bacon Can.

(Plate 15.)

(23) The bacon can is made of tin, one piece, rectangular in shape. The cover fits over the body and is hinged there by the hinge and hinge pin. The capacity is two days' rations of side bacon.

Condiment Can.

(Plate 15.)

(24) The condiment can is made of tin; the body and two ends are formed into a can 2½ inches square, 5 inches long. The body has five corrugations to strengthen it, also to furnish or act as a guide in equalizing the use of articles. A partition is soldered at the center in the body parallel with the corrugations, dividing the can into two compartments for carrying a three-day ration of coffee and sugar. The ends of the can have a threaded section for securing two 2-inch screw tops. The cover belonging on the sugar compartment has a round receptacle 2 inches in diameter, one-half inch deep, closed with a compression friction top, and carries a three days' ration of salt. The other cover has no space and screws on coffee compartment.

Assembling the Equipment.

(25) *Assembling the pack carrier to the haversack* (Pl. 9).—Spread the haversack on the ground, inner side down, outer flap to the front. Place the buttonholed edge of the pack carrier on the buttonholed edge of the haversack, lettered side of the carrier up, buttonholes of the carrier resting on the corresponding ones of the haversack. Lace the carrier to the haversack by passing the ends of the coupling strap through the corresponding buttonholes of the carrier and haversack nearest the center of

the carrier, passing the ends up through the next buttonholes and continuing to the right and left, to the sides, until they are linked together.

(26) *Assembling the cartridge belt to the haversack* (Pls. 10 and 16).—With the pack carrier and haversack assembled, spread on the ground, inner side down, belt adjusted to man. Place the cartridge belt, pockets down, tops to the front, along the junction of the haversack and carrier. Insert the end hook of rear belt suspender in the center eyelet of the adjusting strap, the end of the hook outside of the belt. Insert end hooks of front belt suspenders in the eyelets between the second and third pockets from the male and female fasteners.

(27) *Assembling the canteen cover to the cartridge belt* (Pls. 10 and 17).—Disengage the canteen and cup from the cover, the cover being flexible and easier to attach. Attach the canteen cover to the belt under the rear pocket of the right pocket section of the belt by inserting one hook of the double hook attachment in the eyelet from the inside of the belt. Pinch the base of the pocket, bringing eyelets close together; then insert the other hook in the same manner. Insert the canteen in the cups (assembled), place them in the cover, and secure the flaps.

(28) *Assembling the first-aid pouch to the cartridge belt* (Pls. 1 and 16).—Attach the pouch under the second pocket of the right pocket section of the belt in the same manner as the canteen cover. Place the first-aid packet in the pouch and secure the cover.

(29) *Assembling the full equipment, with rations* (Pls. 11 and 12).—Place the assembled equipment on the ground, suspender side of haversack down, pockets of cartridge belt up, haversack spread out, inner flap and pack carrier extended their full length to the rear. (Pl. 11.)

An emergency ration for two days' service may be issued to each man and carried in the haversack, consisting of four cartons of hard bread (20 ounces) in the center of the haversack body, the lower ones on a line of attachment of the inside flap. Lay the remaining ones at the head, the bacon can and the condiment can at the head of the bread, bacon can at the bottom, containing 2 pounds, condiment can on top (coffee 4 ounces, sugar 8 ounces, three days' rations of salt in the cover).

The socks and toilet articles (Pl. 15) are rolled, towel on the outside, into a neat roll of the same approximate dimensions as a carton of bread, and are placed in front of the cans, at the head of the haversack.

The inner flap of the haversack is folded over these articles, the end of the flap being turned in so that the flap tends to hold the towel and rations firmly. The sides of the haversack are folded over the sides of the rows; the upper binding straps are passed through the loops on the outside of the inside flap, each strap through the loop opposite the point of its attachment to the haversack body, and fastened to the tongueless bar buckles on the opposite side. The straps are then pulled tight to make the fastening secure. The outer flap is folded over and fastened by means of the lower haversack binding strap and the tongueless bar buckle on the inside of the outer flap. The strap is pulled tight, drawing the outer flap singly over the filled haversack. (Pl. 12.)

(30) *Assembling the clothing in the blanket without the poncho.*—The blanket will be laid out its full length, folding the blanket on its length, so that its ends will meet at the center. The length is approximately 158 inches, and 59 inches in width, weighing 3 pounds, and when folded the length is 79 inches, one-half. (Pl. 17.) The left-hand part of the blanket will form a place for the clothing; the right-hand part will form the lock. On the left-hand part of the blanket, about 1 foot from the edge or the man's body, is laid a blue or white jumper and a pair of blue or white trousers, folded separately, single fold, laid side by side, forming the first layer of clothes. (Pl. 18.)

Placed on top of the first layer of clothes is one undershirt and one pair of drawers, similarly folded, forming the second layer (extra suit of underclothes may be folded if necessary). A white cap and watch cap are laid as most convenient, forming the outer layer. (Pl. 19.) In the space toward the edge of the blanket, near the body, are placed a pair of shoes, the soles upward, the toes at the center, heels outward.

The lower or right-hand part of the blanket is now folded over the equipment once, locking the clothing. (Pl. 20.) Then take the further edge of the blanket away from the body and fold it so that the edge will be on a line with the shoes, this being the second fold (Pl. 21) and affords a means for rolling. Grasping the blanket and shoes firmly, roll tightly and compactly. This forms the pack, approximately 8 inches in diameter and 20 inches in length.

(31) *Assembling the clothing in the blanket with poncho or shelter half.*—Spread the poncho on the ground and fold once on its length (Pl. 22), with the slit and flap at the top and center, the

flap laid back. Take the edge of the poncho and fold it again (Pl. 23), forming an approximate square to receive the blanket pack, which is laid in the center of the poncho (Pl. 24), and fold the edges of the poncho snugly over the blanket pack, and, beginning on the side that bears the shoes, roll tightly and compactly. This also forms the pack, but it is advisable to carry the poncho in the upper carrier binding strap (Pl. 4) in case of a sudden change in weather, thus making it unnecessary to disturb the pack when removing poncho. The shelter half of the tent may be used in the same manner as the poncho, in assembling the pack. It may be used to protect the equipment if the poncho is carried in the upper carrier binding strap.

(32) *To assemble the pack.*—Place the pack in the pack carrier and grasp the lower suspension at the base of the pack carrier, one in each hand; place the right knee against the bottom of the roll; pull the carrier down and force the pack up close against the bottom of the packed haversack; without removing the knee, pass the lower carrier binding strap over the pack and secure it by means of the opposite buckle; in a similar manner secure the bottom haversack binding strap and then the upper carrier binding strap. Engage the snap hook on the pack suspenders in the lower suspension rings. (Pl. 13.) The equipment is now assembled and packed, ready to be further adjusted to the man.

NOTE.—Any of the above-mentioned articles, when not required by special nature of service, may be omitted by direction of the commander-in-chief or senior officer present.

(33) *To remove the pack without removing the equipment from the body* (Pl. 5).—Unsnap the pack suspender from the suspension rings and snap them to the eyelets on top of the belt and in rear of the rear pockets of the right and left pocket sections. Support the bottom of the pack with the left hand and with the right hand grasp the coupling strap at its middle and withdraw first one end, then the other; press down gently on the pack with both hands and remove it. Adjust the pack suspenders to suit.

(34) *Assembling the haversack with ration without the pack* (Pl. 14).—With the pack carrier detached from the haversack, place the rest of the equipment on the ground as heretofore described; place the four cartons of hard bread, the bacon can, the condiment can, and the towel containing the toilet and other articles in one row in the middle of the haversack body horizontally, the toilet articles on top, the bacon can on the bottom, the row extending from top to bottom of the haversack. Fold

the inside flap up and over; pass the three haversack binding straps through the loops on the inside flap and secure by means of the tongueless bar buckles on the opposite side of the haversack. Pass the lower haversack binding strap through the small horizontal buttonhole at the center, between the four sections of four perpendicular buttonholes; fold the outer flap of the haversack over the whole and secure by means of the tongueless bar buckle on its under side and the lower haversack binding strap. Pass the haversack suspension rings, which are secured to the outside of the inside flap, through the contiguous buttonholes in the lower edge of the haversack and engage the snap hooks on the ends of the pack suspenders, to the suspension rings as above mentioned.

(35) *To assemble the bayonet scabbard to the haversack* (Pls. 13 and 14).—Disengage the bayonet from the scabbard, and attach the scabbard by passing its lower end through the loop provided on the left side of the haversack body, then engage the double hook attachment in the eyelets on the outer flap on the haversack, inserting the hooks from the inside. Place the bayonet in the scabbard, eye to the front, edge of blade to the rear.

(36) *To assemble the shovel carrier to the haversack* (Pls. 1 and 16).—Fold the outer flap of the haversack over so that the meat-can pouch is uppermost and engage the double hook attachment in the eyelets in the intrenching tool attachment, inserting the hooks from the under side. Place the intrenching tool in the carrier and secure it by its binding strap. Place the meat can in the meat-can pouch.

(37) *To assemble the pick-mattock carrier to the cartridge belt.*—Disengage the pick mattock and handle from the carrier. Attach the pick-mattock carrier to the belt under the rear pocket of the left pocket section of the belt by inserting one hook of the double hook attachment in the eyelet from the inside of the belt; pinch the base of the pocket, bringing the eyelets close together, then insert the hook in the same manner. With lower part of the carrier body released by its strap, insert the point of the pick mattock into the top handle loop which forms a pocket for the point, and secure the blade by folding the lower body over and fasten in position by a strap which passes through a loop to the body, through a tongueless bar buckle sewed to the other end of the strap. Insert the pick-mattock handle through the top handle loop by the double hook, and the lower handle loop by the front of the body.

(38) *To assemble the ax carrier to the cartridge belt.*—Disengage the ax from the ax carrier. Assemble the ax carrier under the second pocket of the left pocket section of the belt in the same manner as the pick-mattock carrier.

Shelter Tent.

(Pl. 26.)

Plates.

PLATE

1. Man fully equipped (front).
2. Man fully equipped (rear).
3. Man fully equipped, without intrenching tools.
4. Man fully equipped, poncho carried in carrier binding strap.
5. Partially equipped. Pack discarded.
6. Poncho over equipment.
7. Haversack.
8. Pack carrier.
9. Haversack and pack carrier (assembled).
10. Assembling cartridge belt.
11. Assembling rations.
12. Assembling packed haversack.
13. Full equipment without intrenching tools.
14. Full equipment without the pack.
15. Details of equipment.
16. Cartridge belt and intrenching tools.
17. Blanket folded to receive equipment.
18. First layer of clothes.
19. Second and outer layer of clothes.
20. Equipment locked in blanket, folded once.
21. Equipment locked in blanket, folded twice.
22. Poncho folded once, to receive blanket pack.
23. Poncho folded twice, forming a square to receive blanket pack.
24. Blanket pack laid on poncho for rolling.
25. Square bag.
26. Shelter tent.

GENERAL DESCRIPTION OF THE LANDING-FORCE EQUIPMENT.

PLATES

7 and 11. Haversack, model 1910.
Inside flap.
Outside flap.
Meat-can pouch.
8 and 9. Pack carrier, model 1910.
10 and 12. Cartridge belt, caliber .30, model 1910.
10 and 15. Canteen, model 1910.
Cover.
Cup.
1 and 16. Pouch for first-aid packet.
1, 2, and 16. Pick mattock, model 1910.
Carrier.
Hand ax, model 1910.
Carrier.
16. Shovel, model 1910.
Carrier.
13 and 14. Bayonet scabbard, model 1910 (assembled).
15. Meat can, model 1910.
Knife, fork, spoon.
Bacon can, model 1910.
Condiment can, model 1910.

ASSEMBLING OF EQUIPMENT.

PLATES

9. Assembling the pack carrier to the haversack.
10 and 16. Assembling the cartridge belt to the haversack.
10 and 11. Assembling the canteen cover to the cartridge belt.
1 and 16. Assembling the first-aid pouch to the cartridge belt.
11, 12, and 15. Assembling the full equipment with rations.
17, 18, 19, 20, and 21. Assembling the clothing in blanket without poncho.
22, 23, and 24. Assembling the clothing in blanket with poncho, or shelter half.
To assemble the pack.
5. To discard the pack without removing the equipment from the body.
14. Assembling the haversack with ration without the pack.

13 and 14. To assemble the bayonet scabbard to the haversack.

1 and 16. To assemble the shovel carrier to the haversack.

5, 16, and 24. To assemble the pick mattock to the cartridge belt.

To assemble the ax carrier to the cartridge belt.

26. Shelter tent.

FULLY EQUIPPED.
(Front.)

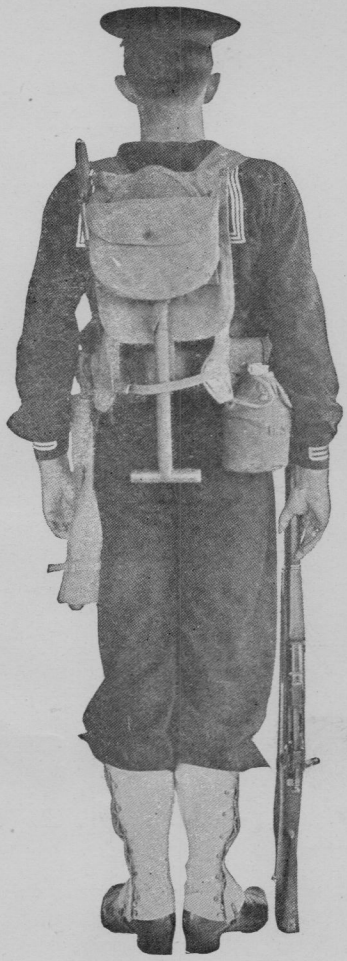
PLATE 2.

FULLY EQUIPPED.
(Rear.)

FULLY EQUIPPED.
(Without intrenching tools.)

PLATE 4.

FULLY EQUIPPED.
(Poncho carried in carrier binding strap.)



PARTIALLY EQUIPPED.
(Pack discarded.)

PLATE 6.

PONCHO OVER EQUIPMENT.

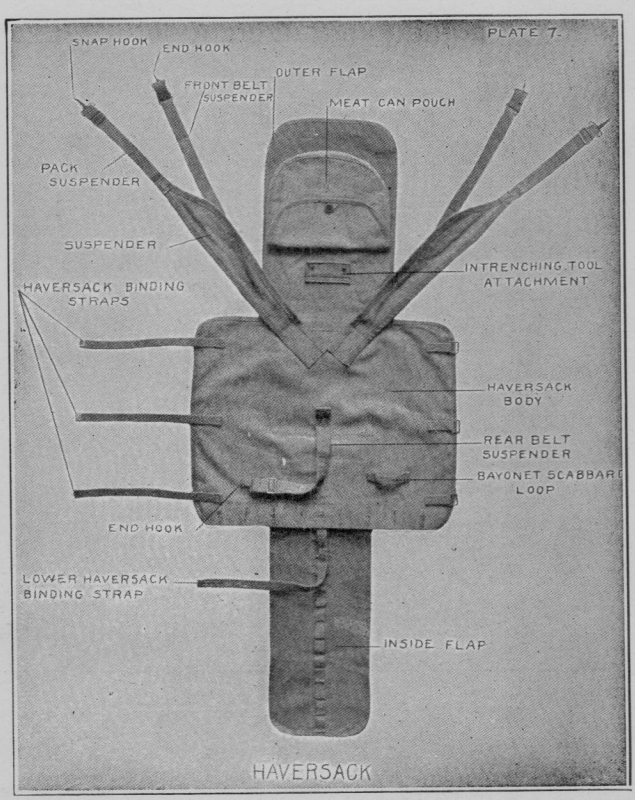
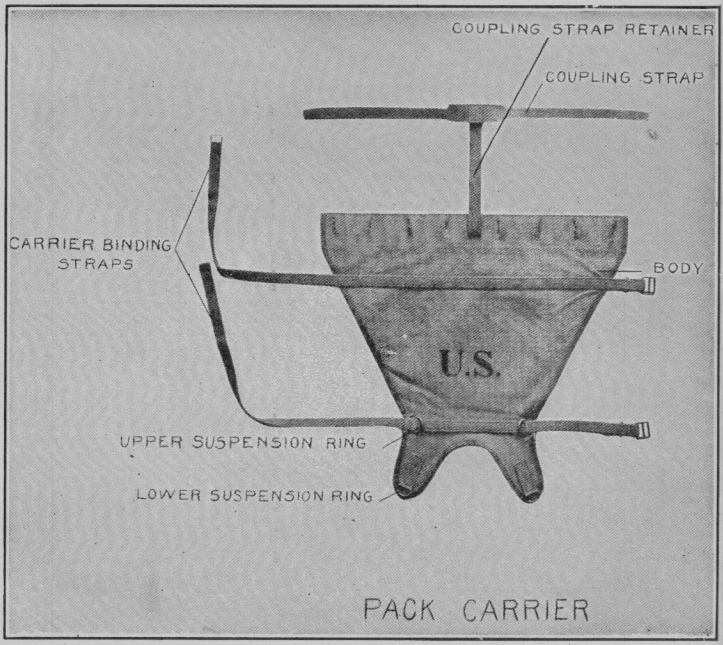
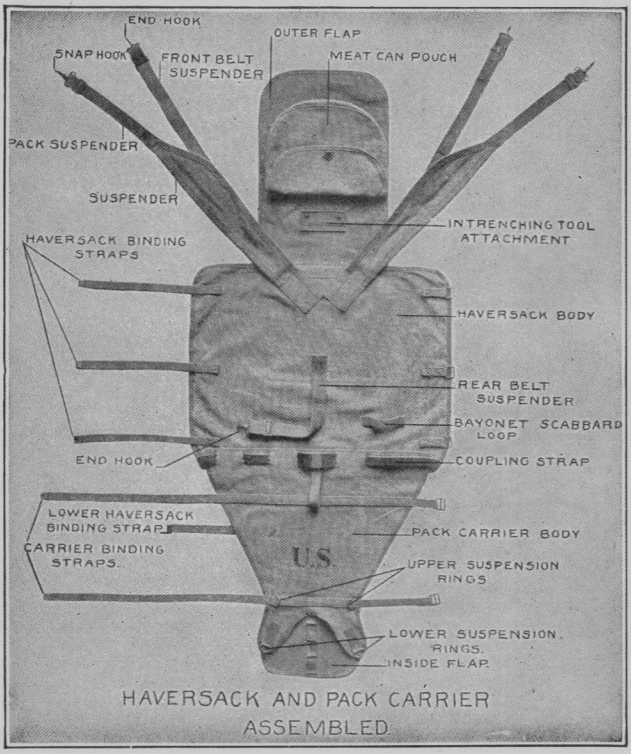


PLATE 7.
SNAP HOOK
END HOOK
OUTER FLAP
FRONT BELT SUSPENDER
MEAT CAN POUCH
PACK SUSPENDER
SUSPENDER
INTRENCHING TOOL ATTACHMENT
HAVERSACK BINDING STRAPS
HAVERSACK BODY
REAR BELT SUSPENDER
BAYONET SCABBARD LOOP
END HOOK
LOWER HAVERSACK BINDING STRAP
INSIDE FLAP
HAVERSACK

PLATE 8.

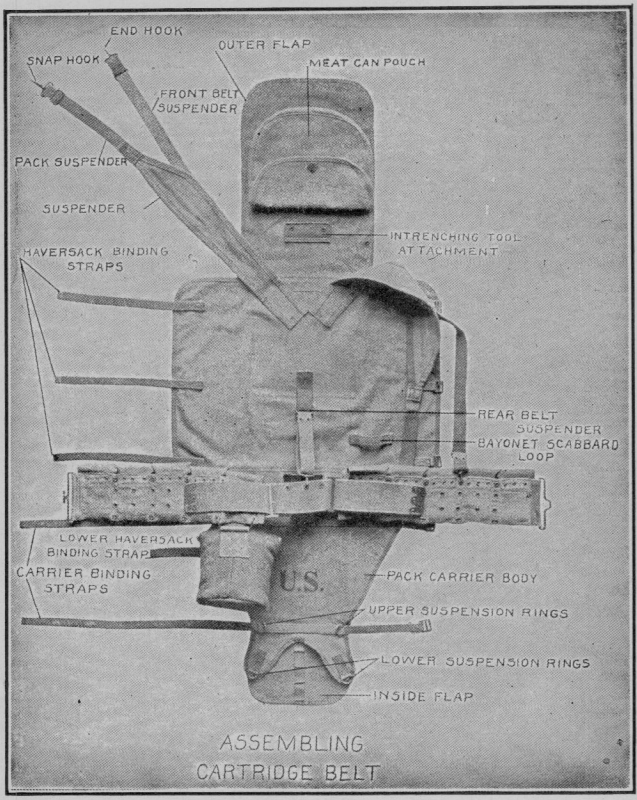


PACK CARRIER

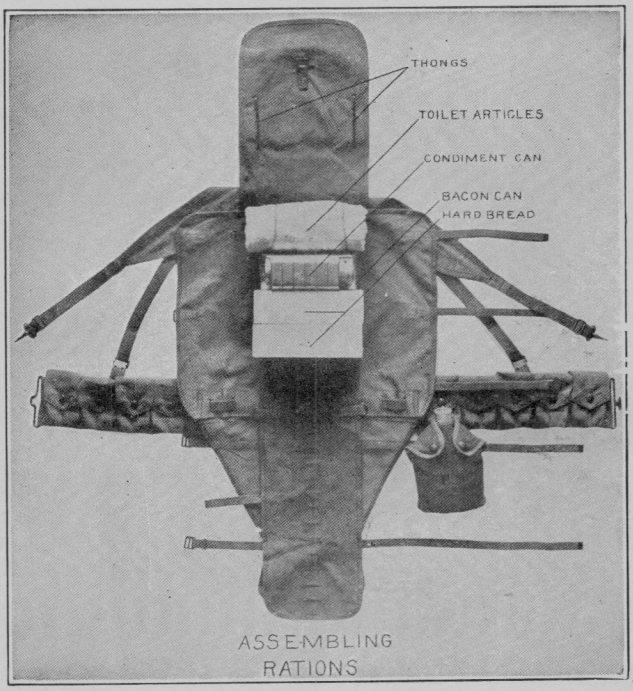


HAVERSACK AND PACK CARRIER ASSEMBLED

PLATE 10.

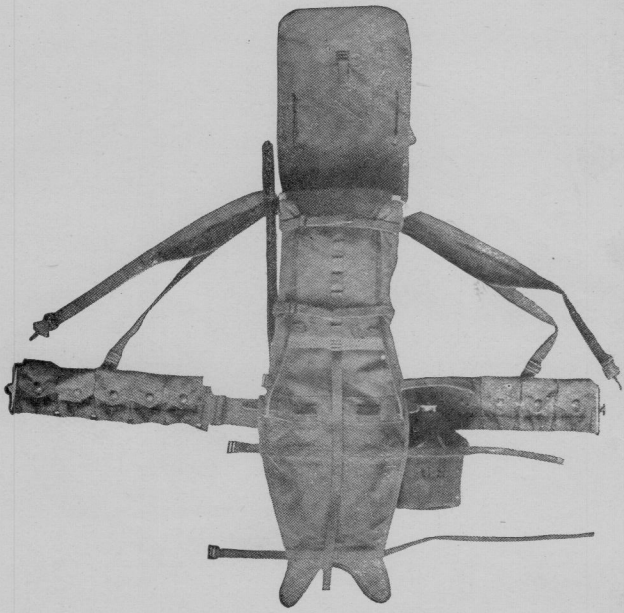


ASSEMBLING
CARTRIDGE BELT



ASSEMBLING
RATIONS

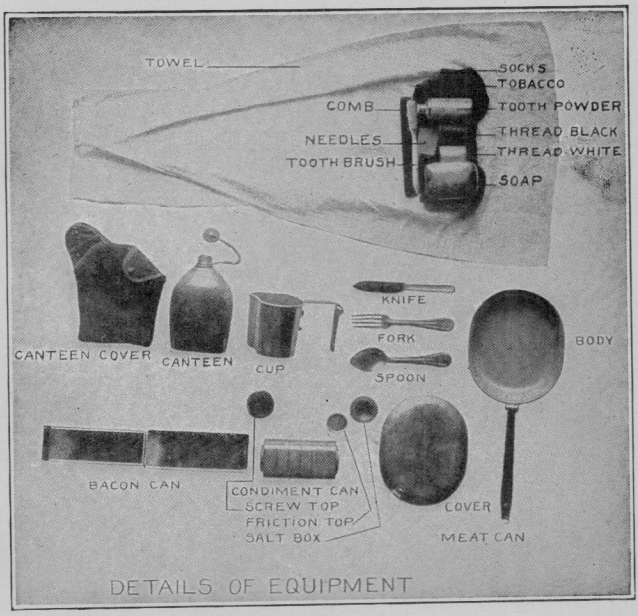
PLATE 12.

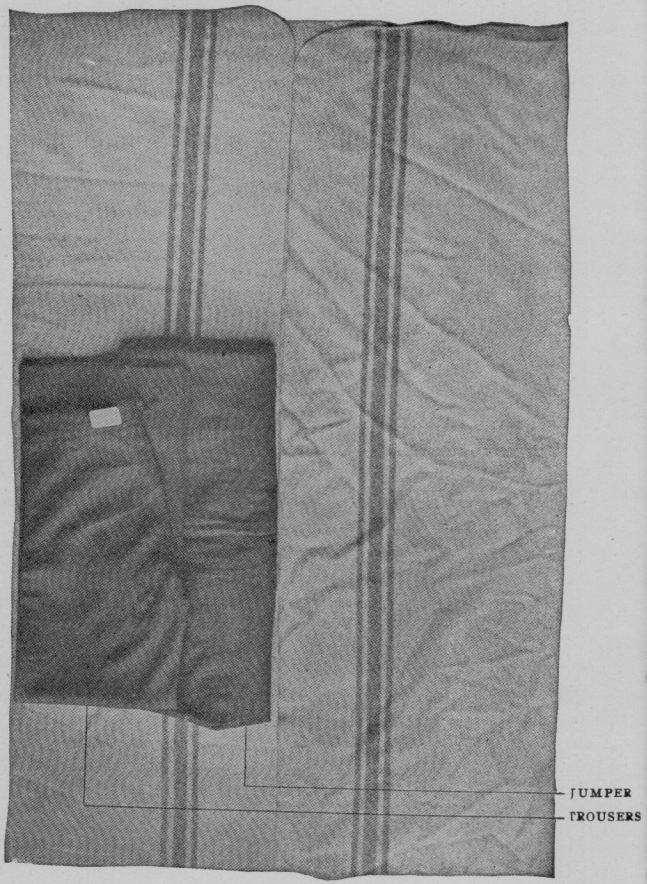


ASSEMBLING PACKED HAVERSACK.

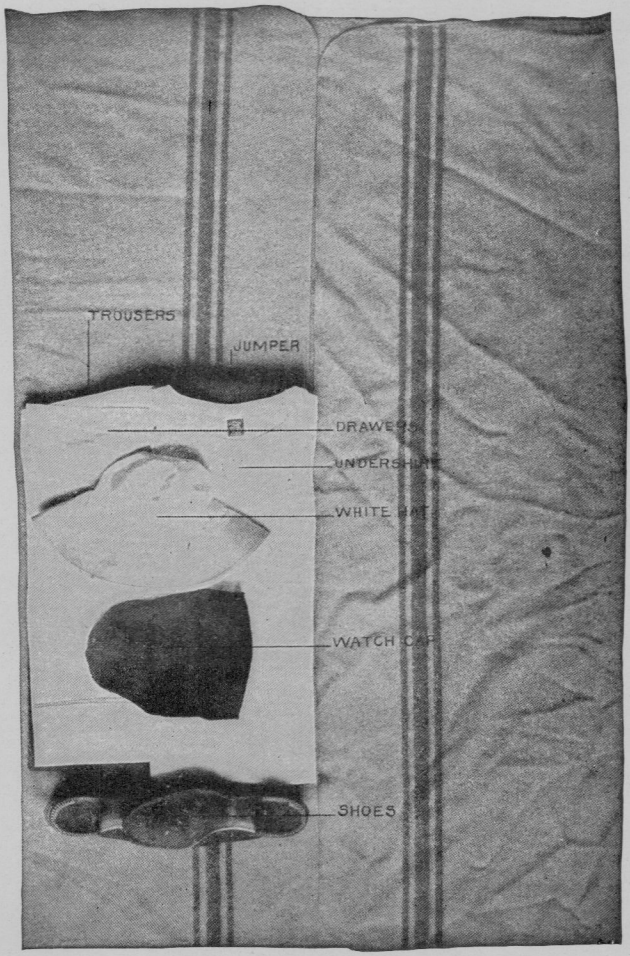
FULL EQUIPMENT.
(Without intrenching tools.)

FULLY EQUIPPED.
(Without the pack.)


TOWEL
SOCKS
TOBACCO
COMB
TOOTH POWDER
NEEDLES
THREAD BLACK
THREAD WHITE
TOOTH BRUSH
SOAP
KNIFE
FORK
SPOON
CANTEEN COVER
CANTEEN
CUP
BODY
BACON CAN
CONDIMENT CAN
SCREW TOP
FRICTION TOP
SALT BOX
COVER
MEAT CAN
DETAILS OF EQUIPMENT



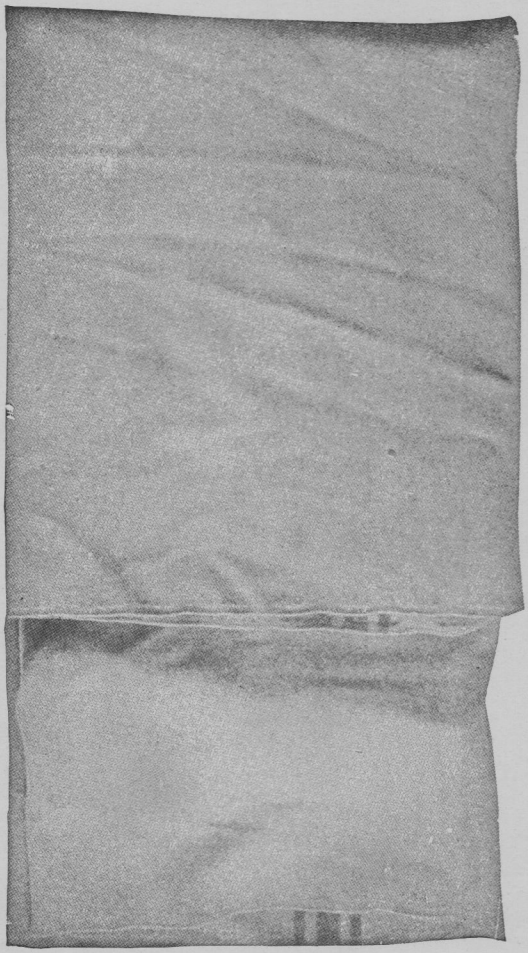
FIRST LAYER OF CLOTHES.



SECOND AND OUTER LAYER OF CLOTHES.

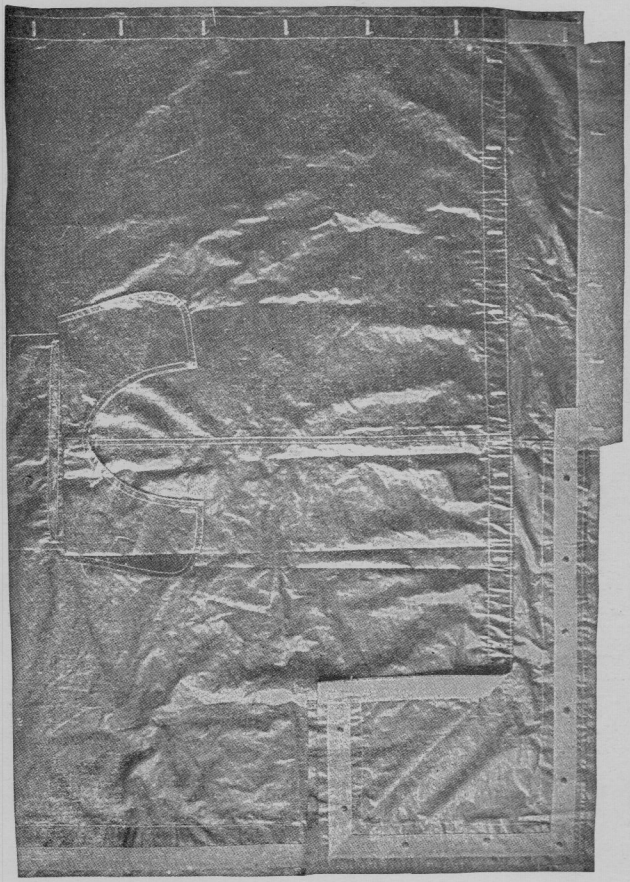
PLATE 20.

EQUIPMENT LOCKED IN BLANKET.
(Folded once.)

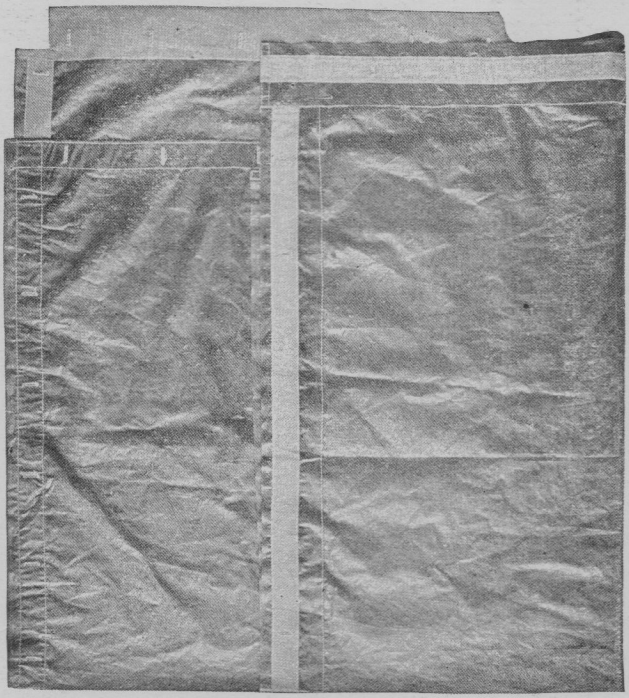


EQUIPMENT LOCKED IN BLANKET.
(Folded twice.)

PLATE 22.

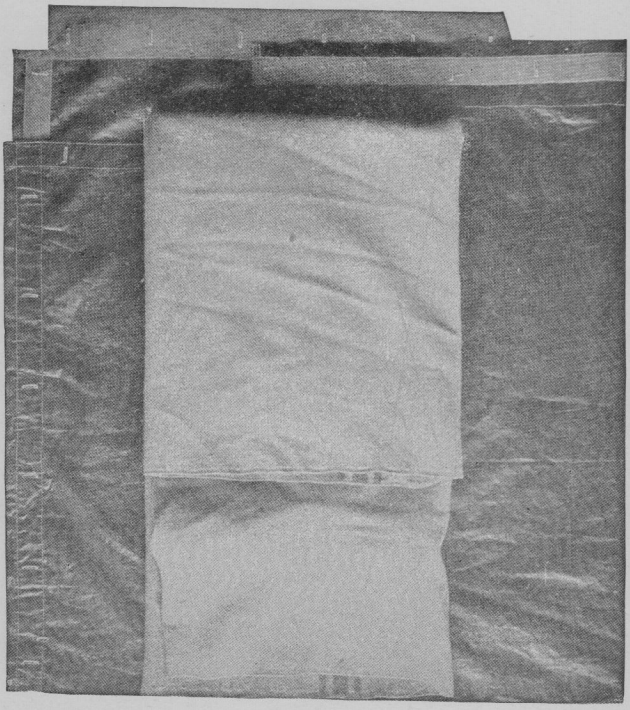


PONCHO FOLDED ONCE, TO RECEIVE BLANKET PACK.



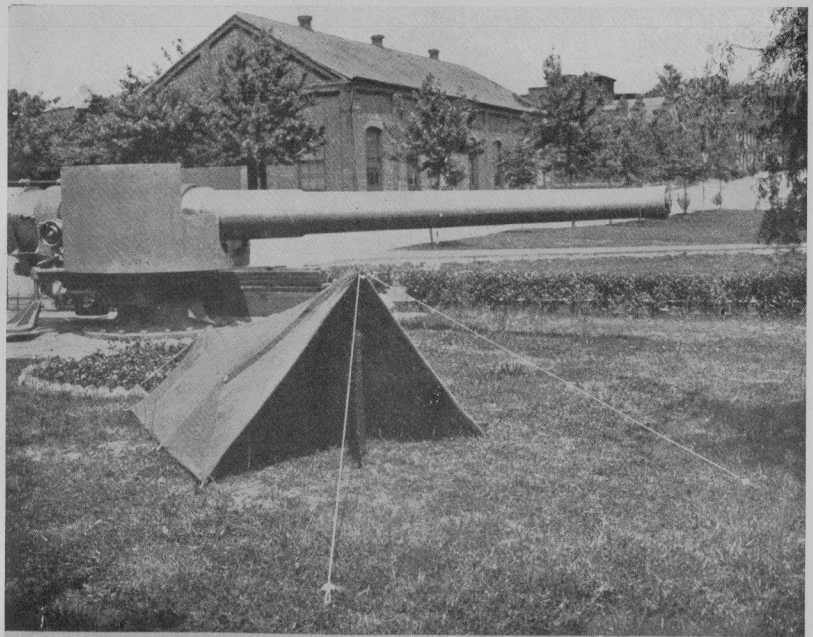
PONCHO FOLDED TWICE, FORMING A SQUARE TO RECEIVE BLANKET PACK.

PLATE 24.



BLANKET PACK LAID ON PONCHO FOR ROLLING.

SQUAD BAG.



SHELTER TENT

PREPARATIONS FOR LANDING.

88. **Information.**—Before formulating the orders for throwing a force on shore for active service, the following points shall be considered:

(1) The fighting capacity of the enemy.
(2) His tactics, arms, artillery, etc.
(3) Number and position of fortifications or defenses.
(4) The roads by which to advance, and the distance.
(5) The probable length of time the force will remain on shore, and the nature of the service.
(6) If transportation by water is available.
(7) The intelligence-officers of the staff shall assist in obtaining this and other useful information both before and after landing.

89. **Preliminary measures.**—Having obtained as much information as possible regarding the service to be required of the landing-force, the following steps shall be taken, employing the **bg.** and **bt. sf.** officers for this purpose, consistently with their duties as prescribed in previous paragraphs:

(1) Decide upon the organization and strength of the force to be landed.
(2) Make calculations regarding ammunition, supplies, water, and necessary equipments of all kinds.
(3) Decide upon a base, and the place of landing; reconnoiter the latter, and if necessary land a force, or send ships, to seize and fortify it.
(4) Issue the order covering all possible details of the landing and the service to be required.
(5) Obtain necessary transportation, and organize, if possible, an auxiliary or native force.
(6) Make arrangements for the care of sick and wounded men.
(7) Prepare plans for scouting, signalling, and for obtaining information.
(8) Make arrangements to keep the force supplied with provisions, water, and ammunition, and for keeping open a line of communications.

The Orders for the Landing.

90. **In preparing orders** for a landing-force, after having obtained as much information as possible, the following points should be considered by the senior officer present:

(1) **Organization.**—The number of sections of infantry and artillery to be landed, the formation into battalions and batteries, and the commanding and staff-officers of battalions and of the brigade.

(2) **Equipment of officers.**—The arms and equipment of officers,

the articles they are to carry, and what articles, if any, will be transported for them.

(3) **Equipment of men.**—The arms and equipment of the men, and the ammunition, provisions, and water they are to carry.

(4) **Special details.**—The organization, arms, and equipment of the special details, servants, and other special men as may be required by the circumstances.

(5) **Boats:**

(a) The assignment of the force to the boats and the articles the boats are to carry, including means for stopping shot-holes and buckets for bailing.

(b) Boats for field-pieces, and whether or not boat-guns are to be used in covering the landing.

(c) Boats which are to carry the reserve ammunition, provisions, water, etc., and whether it shall be landed with the force or afterward; its disposition after the force has landed, and the officers who are responsible for it.

(6) **Formation and landing:**

(a) The formation of the flotilla and the time and place of landing.

(b) The maneuvering of the flotilla, and the manner of landing the force.

(c) If opposed, whether the men are to land with all their equipments, or only with rifles, ammunition, and canteens, returning for their equipments after the landing is effected.

(7) **Covering-ships.**—Positions and duties of the covering-ships and the points against which they are to direct their fire. The distances of conspicuous objects, or of cover for an enemy, should be known if possible in order to assist the covering-ships to clear the way for the landing by the fire of their guns.

(8) **Beach-master** and assistants, and their duties in detail as to the management of the boats, the disposition of material, the preparations for re-embarking the force, and the protection of the landing-place from attack.

(9) **Signals and scouting.**—A system of signals between the ships and the force on shore, and a system of scouting.

(10) **General remarks.**—In the orders for the landing outlined above, all points are considered in their proper sequence, and this general outline shall always be followed in the formulation of such orders, so that the service may become familiar with one general plan.

(11) Additional and necessary measures, not anticipated in this

outline, shall be considered and the orders inserted under the proper head in any case.

(12) All officers should be furnished with copies of all orders, with a view to expediting the organization and to ensure the prompt co-operation of all concerned, with as little necessity as possible for sending messages and signals.

Supplementary Measures.

91. Final inspection.—The different units of the landing-force having been equipped in accordance with the orders, should be immediately mustered for a careful and final inspection by the officers in command before landing, if possible.

92. Material.—(1) All material, ammunition, stores, etc., should be collected, checked, and inspected preparatory to landing.

(2) Careful and complete lists of all kinds of material shall be taken by the officers, and every preparation made for its proper distribution and expenditure, so that the amount on hand shall be known at all times, and requisitions be prepared to anticipate future needs.

93. Special instructions.—(1) The officer commanding the force shall be given instructions as to the discretion he may use in the advance and in the operations required after the landing is effected.

(2) All officers shall be supplied with such information, maps, etc., as may be essential to the intelligent and vigorous performance of their duties in contributing to the success of the expedition.

Time and Place of Landing.

94. The time and place of landing must depend largely upon circumstances and emergencies, but the following points should be considered:

(1) The landing-place should be under a lee if possible, and should be selected with reference not only to an advance, but in anticipation of a possible retreat or return to the boats.

(2) The beach in the vicinity should not afford cover for an enemy.

(3) The rise and fall of the tide must be noted, and a place selected where the boats can run close in and land their crews quickly.

(4) There should be good holding ground for covering-ships to anchor, or safe ground for them to maneuver during the landing.

THE EMBARKATION.

95. Embarkation.—At the appointed hour, after all ships have signalled that their forces are in readiness, the commander-in-chief makes the necessary signals for the covering-ships to take their positions and for the force to embark.

96. Infantry.—(1) Cutters and large whaleboats will be used for the transportation of the infantry, one section complete in each boat, the men being seated by squads from the bow to the stern, ready to deploy the instant the boats strike the beach.

(2) Launches not needed for the artillery may be used for landing one or more sections of infantry, complete companies of marines, or the assembled *special details.*

(3) The *color-guard* will land with the color-company.

97. Artillery.—(1) Artillery that is to be landed shall be carried in sailing-launches or large cutters.

(2) Steam-launches may carry artillery not intended for landing, and may patrol the beach for the purpose of covering the landing or re-embarkation. They may be used for towing and for floating boats that have grounded, but they must not be beached, and any portion of the landing-force that may have taken passage in them will be ferried to and from the shore in pulling-boats.

98. Marines.—If practicable, the marines will be landed as complete sections or companies in boats that are not otherwise required. If not, they will be assigned by squads or sections to the several boats conveying the infantry and artillery.

99. Special details.—The special details of each battalion will be concentrated in their own boats, if practicable; if not, then they will be distributed among the larger boats. Circumstances must determine whether they are to land with the combatant force, or later with provisions, spare ammunition, and material.

100. Ambulance-parties.—Fast pulling-boats, containing the medical officers with assistants, and proper outfits, will be stationed in rear of the main line. They will be designated by the hospital-flag, and the ambulance-party will form their crews.

101. Signalmen and buglers will land with the **rg. cs.** and **bt. cs.**

102. Scouts should precede the force, or land with the first line.

The Flotilla of Boats.

103. Formation.—(1) At the signal, the boats of each ship's landing-force will form in column on the starboard (or port) beam, in the following order: Steam-launch, sailing-launch, cut-

ters, whaleboats, gig. The **bt. c.**, in the steam-launch, will take the boats in tow, oars being used to assist if necessary.

(2) The commander-in-chief not having prescribed a special formation for landing, the **rg. c.** will embark and direct one battalion in boats to take a specified position, and the other battalions will then form in parallel columns at intervals of four boat-lengths. The *line of columns* will be the habitual formation of the regiment for landing. The interval between columns may be increased or diminished on the center or right-center battalion by signal. (See Plate 10.)

(3) If the regiment is to be landed for parade or drill, the **rg. c.** will direct the battalions where and when to land.

(4) The regiment in boats *should never be formed in line or lines,* except preliminary to landing when likely to be opposed, in which case the formation will be governed by the plan of attack.

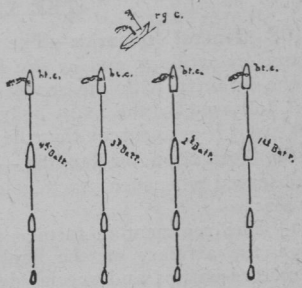


Plate 10. Art. 103.
Line of columns.

104. Whistle-signals. — (1) After embarking, boats will promptly pull clear of the ship or landing, and make fast their tow-lines in the assigned order. The steam-launch having straightened out the tow, *three blasts* will be the signal to "stand by," and *two blasts* to "boat the oars."

(2) Being in tow, and preliminary to disembarking, the following whistle-signals will be used:

Three blasts.....Oars stand by, and prepare to cast off.
Two blasts.....Up, or out, oars.
One blast.....Cast off and let fall.

105. Maneuvering the flotilla.—The regiment in boats will be maneuvered by the **rg. c.**, by signal or otherwise, and will approach the landing-place in *line of columns.*

Shelling the Beach.

106. Covering-ships.—(1) The covering-ships, so stationed as not to interfere with the formation or advance of the regiment in boats, will carefully shell the beach, searching out all points where

the enemy is or may be concealed, and keeping up the fire until the force is landed and as long afterward as may be possible or desirable.

(2) The fact that no enemy may be visible must not lead to the assumption that the landing will be unopposed. Every precaution must be taken against a hidden enemy.

107. Lookouts, with glasses, should be sent aloft on all ships to scan the beach and to report by signal, not only to the ships but to the landing-force, the positions and movements of the enemy before, during, and after landing. The signalmen and aids with the landing-force should also keep a sharp lookout for such signals and transmit them at once to their commanding officers.

THE LANDING.

108. General remarks.—The beach having been sufficiently cleared by artillery, and by fire from the covering-ships, a portion of the infantry with the scouts is landed, and at once deployed. It is followed by the main body. A part of the artillery is held back until it is apparent that the force is well established.

109. Formation for landing.—The following general plan will be observed whenever practicable, the **rg. c.** making the necessary signals:

(1) The regiment is formed in line, facing the beach, out of range, the artillery on the flanks, and the boats containing the ambulance-parties and special details in rear. (See Plate 11.)

(2) At the signal "*form for attack*," one company from each battalion in boats advances to form the firing-line, with Gatlings or light field-pieces in the center to sweep the beach.

(3) The artillery-boats are placed in echelon on the flanks of the firing-line to secure a cross-fire; these boats will advance as far as practicable. One or more heavy field-pieces mounted in fast steamers, and not to be landed, may be of service in clearing the beach and in protecting the re-embarkation; this provision may be necessary when the guns of the ships are not available to cover the landing.

(4) The lines then advance, a rapid-fire being maintained, and as soon as the boats of the firing-line strike the beach each company deploys skirmishers at once and makes a rush for a point or position which should have been designated by the **c. c.** while approaching the beach. The scouts advance if possible.

(5) The boats of the main body follow the movement; as soon as they reach the beach, two companies from each battalion will

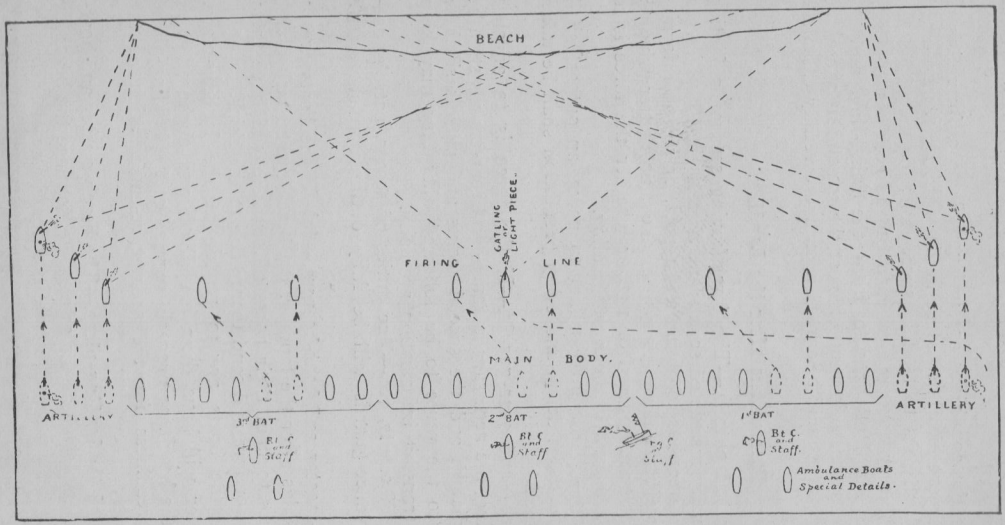


Plate 11. Art. 109. Regiment formed for attack.

The regiment is formed in line facing the beach, out of range, the artillery on one or both flanks, the boats containing ambulance-parties and special details in rear. At the signal "*form for attack*," one company from each battalion advances to form the firing-line, with Gatlings, or light field-pieces in the center to sweep the beach. The artillery-boats are placed in echelon on the flanks of the advanced line to secure a cross-fire; these boats will advance as far as practicable. One or more heavy field-pieces mounted in fast steam-cutters, and not to be landed, will be of great service in clearing the beach and in protecting the re-embarkation: this provision may be necessary when the guns of a squadron are not available to cover the landing.

The companies are placed in the boats by squads from bow to stern. As soon as the boats of the firing-line strike the beach, each company deploys skirmishers at once, and makes a rush for a point or position which should have been designated by the c. c. while approaching the beach. The boats of the main body follow the movement: as soon as they reach the beach, two companies from each battalion advance to support the firing-line, one company being held in reserve.

advance to support the firing-line, one company being held in reserve.

(6) In case the conditions are unfavorable to a formation of the whole regiment into line before landing, the **rg. c.** may direct the different battalions to land in succession; or he may direct the leading infantry company of each of the columns of boats to pull ahead and land first to form the firing-line, and the others to land in succession and support the movement as before. The plan, however, should be agreed upon and carefully explained beforehand.

Precautions after the Landing.

110. Scouts and patrols.—The force having secured a footing on shore, specially instructed scouts and patrols shall be sent out at once in all directions to obtain and report, or signal, information. This precaution must always be taken, no matter whether the landing has been opposed or not, or whether the force is to advance or to remain at the place of landing.

111. Outposts.—If the force is not to move, an outpost shall be established without delay, and every precaution shall be taken to meet an attack.

112. Advance- and rear-guards.—If the force is to advance after the landing, the necessary advance- and rear-guards shall be formed immediately, and the special scouts and patrols shall be instructed as to the route to be followed, that they may keep in touch and transmit information promptly.

113. Duties of scouts, etc.—The duties of scouts, patrols, outposts, and advance-guards will be fully outlined in succeeding paragraphs.

114. Beach-master and boat-keepers.—(1) If the boats are to return to the ships after the landing, the beach-master will direct the boat-keepers to haul their boats off, and he will have them taken in tow as before and send them back to the ships.

(2) In case the boats are to remain at the landing-place, the beach-master will have them hauled off and anchored with stern-lines to the beach, or properly secured at the landing-place, in immediate readiness for the prompt re-embarkation of the force.

115. To defend the landing-place.—The beach-master and boat-keepers will be employed, as far as possible, to place the beach or point of landing in a defensible condition for the re-embarkation, or to secure it against attack. For this purpose, however, it may be necessary to retain a part of the landing-force, or to

send additional men ashore to make special provision to protect the landing-place. Artillery may be used to sweep the approaches. Circumstances must determine the proper course to pursue in any case.

116. Signals.—At all times a bright lookout must be kept for signals both afloat and ashore. A signal-station, visible from the ships, should be selected at or near the landing-place.

Re-embarkation.

117. The return or retreat of a landing-force must be carefully anticipated and provided for. In general, the re-embarkation will be conducted in the reverse manner to the landing:

(1) The covering-ships will be signalled from time to time, in order that they may use their guns if necessary.

(2) Under cover of a strong firing-line, the main body of the infantry and artillery will embark and pull well clear of the beach or landing, and be prepared to keep up a fire upon the flanks of the position.

(3) The firing-line will retire slowly, keeping up a vigorous defense and occupying the cover at the landing-place until the main body has embarked and is well clear.

(4) The firing-line will then embark as quickly as possible and pull away from the landing, under the cover of a rapid fire from the ships and from the main body.

Practical Instruction of the Landing-Force.

118. (1) **The organization and equipment of the landing-force** should be complete in every detail, and it should take intelligent account of the climate and of the nature of the service that the ship or squadron might be called upon to perform.

(2) **The exercises** of the landing-force should not be regarded as routine or ceremonial drills. It is not to be expected that such forces will be landed very often. Past experience demonstrates, however, that when naval forces are called upon to land, the conditions are usually of a serious nature. For this reason the question must always be considered seriously; and as the routine afloat does not permit of frequent drills on shore, *the time given to the exercise of the landing-force should always be devoted exclusively to practical work.*

(3) **The interest of officers and men** should be excited by treating each landing as a special practical problem. A part of the force should be detailed to take the offensive against the other

part. *Fighting formations,* the details of *outposts, advance- and rear-guards* and *scouting* should be taught, and *practice-marches,* fully equipped, should be resorted to whenever practicable, in order to teach the men the difference between parades and active service. Work of this kind will not be irksome and *by employing the available time in a strictly practical manner the force will be so well prepared for service that it need not be landed frequently.*

NOTE.—The term "Naval Brigade," was formerly used instead of "Landing Force." It was often applied to small as well as large bodies of men landed from ships. More recently, however, it has been used to designate forces composed of two or more battalions. The organization of the battle fleet into four divisions, each of four ships, forced a new situation and the commander-in-chief found it necessary to designate the landing force of a division (four or five battalions including the marine battalion) as a "Regiment," and the total force of the fleet (four regiments) as a "Brigade." This, therefore, is the rule adopted in this revision; two or more companies form a battalion, two or more battalions a regiment, and two or more regiments a brigade.

NOTES ON FIRST-AID TO WOUNDED.*

General Remarks.

1. Knowledge of First-Aid.—(1) It is the duty of every officer and man to familiarize himself with the details of first-aid so that he may be able to give efficient help to fallen comrades, and in case of necessity direct or assist in efforts made in his own behalf.

(2) By first-aid is meant the measures that should be employed in the immediate treatment of gunshot wounds and the various accidents and emergencies incident to military service.

2. Measures of treatment may be grouped under the following heads:

(1) The resuscitation of the apparently drowned, those poisoned by noxious gases, and those suffocated from other causes.

(2) The treatment of accidents and emergencies.

(3) The checking of hemorrhage.

(4) The application of first-aid dressings in gunshot wounds.

(5) The preparation of the wounded for transportation.

3. Efficiency in first-aid can be attained only by thorough drilling. In order to save life, some one on the spot must render assistance to the apparently drowned, and to those bleeding profusely.

4. Wound-poisoning.—The most important duty of military surgeons, behind and at the firing-line, is to prevent wound-poisoning. This can best be accomplished by training officers of divisions and the men under them in the application of first-aid dressings, so that they can treat intelligently not only their own wounds, but those of fallen comrades as well.

5. The measures for preventing wound-infection are extremely simple, yet their efficacy in saving life, in minimizing suffering, and in making complete recovery possible, is marvelous. For example, in 1870 the death-rate from gunshot wounds of the knee-joint was 75 per cent, and this meant many mutilating operations. To-day the death-rate is less than 6 per cent in these cases, and those who recover have useful joints and suffer little or no pain at any time.

6. Handling the wounded.—Officers and men should be instructed in the proper methods of handling the wounded and in the various ways of improvising splints and litters.

* Prepared by Surgeon C. F. Stokes, U. S. Navy, under the direction of the Bureau of Medicine and Surgery.

7. The embarkation.—Every ship's boat is supplied with a box containing emergency drugs and appliances with printed instructions for their use.

THE RESUSCITATION OF THE APPARENTLY DROWNED.

8. (1) Persons in distress in the water should try to throw themselves on their backs in order to float in that position, or should seek support from objects close at hand. As a rule it is a mistake to try to swim to the shore.

(2) In approaching drowning persons, swimmers should get their attention and reassure them by calling in a loud voice that assistance is at hand. Approach a drowning person from behind, seize him by the hair if possible, and turn him on his back in front

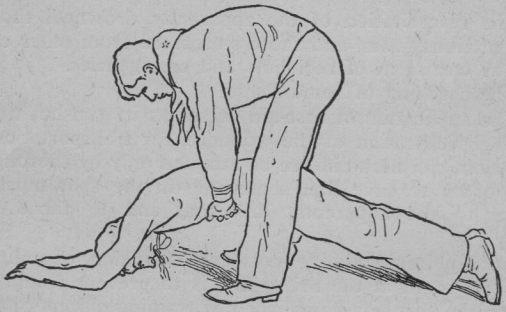


Plate 1. Art. 9.
To remove water from the lungs.

of you, while you yourself assume the same position in the water, keeping both heads a little above the surface by an occasional kick.

(3) Persons apparently drowned are suffering not only from the suffocating effects of water, but, usually, from exhaustion caused by struggling, and shock from fright and cold, as well. They should be promptly and gently removed from the water and efforts at resuscitation should be begun instantly.

9. To remove water from the lungs.—Remove shirts; lay the patient on his face; clasp your hands under his abdomen and raise him in order to drain water from his lungs and air-passages (Plate 1).

10. To clear air-passages.—Turn him on his back quickly, placing a rolled shirt under his shoulders, and thoroughly wipe out his mouth and nose. Pull his tongue well forward and tie it

against the lower teeth by passing a shoestring or rubber band over it and under the chin, or hold it forward with a handkerchief.

11. To restore breathing.—(1) *First motion.*—Rest on one knee behind the head, seizing both forearms above the wrists (Plate 2), thumbs pointing inward; sweep them away from the body and over the head, at the same time rising and leaning back so as to make a strong pull on them for a couple of seconds (Plate 3), bracing with a foot against the patient's shoulder.

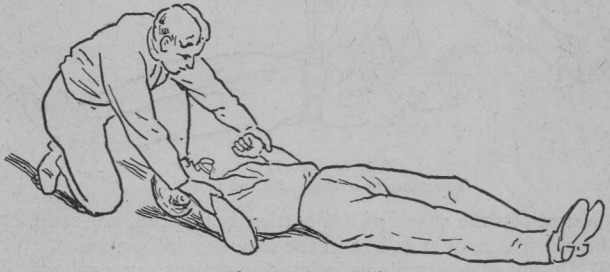


Plate 2. Art. 11 (1).
To restore breathing. First motion.

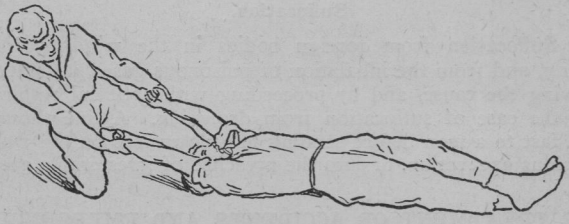


Plate 3. Art. 11 (1).
To restore breathing. Second part of first motion.

(2) *Second motion.*—Rise quickly and leaning over the patient, still grasping the forearms, bring them across the lower part of his chest, making strong pressure with your weight against his lower ribs, which drives the air out of his chest (Plate 4). This motion should occupy but a second of time.

(3) Repeat these motions about fifteen times a minute until breathing returns.

(4) Efforts at resuscitation should be kept up for *at least* half an hour.

(5) All wet clothing should be removed while artificial respiration is being practiced, and the body and limbs should be rubbed toward the heart. Blankets should be wrapped about the patient

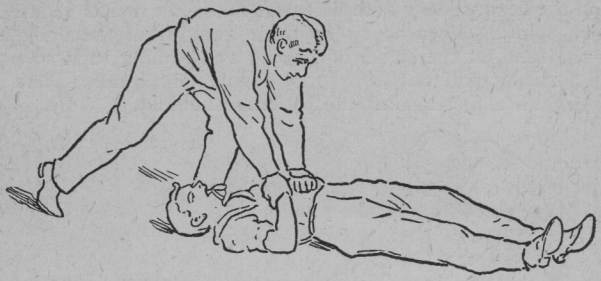


Plate 4. Art. 11 (2).
To restore breathing. Second motion.

and warmth in the shape of hot bottles, hot bricks, hot sand, or a hot board, that may have lain in the sun, should be applied.

(6) Do not give stimulants before the patient can swallow. Do not remove him until he is conscious and is breathing naturally.

Suffocation.

12. Suffocation from foreign bodies in the wind-pipe, from hanging, and from the inhalation of poisonous gases, is treated by removing the cause, and by proceeding with artificial respiration as in the case of suffocation from drowning. A line should be made fast to a man before sending him down into an old well, or suspicious excavation, or into the presence of irrespirable gases.

THE TREATMENT OF ACCIDENTS AND EMERGENCIES.

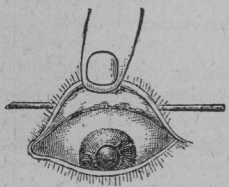


Plate 5. Art. 13.
Method of turning up the upper lid.

13. Foreign bodies in the eye.—Foreign bodies in the eye usually lodge on the inner surface of the upper lid. If they cannot be seen on the eyeball, tell the patient to look down, press a match, pencil, or the edge of a finger across the upper lid, half an inch above its edge, at the same time taking hold of the lashes and turning the lid up (Plate 5). Remove the foreign body with the angle of a card or a twist of cotton on the end of a toothpick.

14. Foreign bodies in the ear.—Foreign bodies in the ear, including insects, are best removed by gentle syringing with warm water, or by pouring warm water into the ear. Objects that swell in water should not be removed in this way. Rough manipulations about the ear are dangerous.

15. Bites and stings of insects.—(1) Extract the sting if possible; squeeze the part lightly, which will expel some of the poison. Pressure made with the barrel of a hollow key is excellent. Afterward apply a little ammonia water, wet salt, or a slice of onion. Cold, wet applications may, if necessary, be applied afterward.

(2) The stings of poisonous spiders, tarantulas, scorpions, and centipedes often make their victims very ill, but rarely are any of them fatal in their effects.

(3) Cut off the circulation with a string, or tourniquet, and suck the wound strongly until the part is freed of poison, then apply ammonia water, and cold, wet applications.

Snake-Bites.

16. (1) The poisonous snakes of North America, except the coral snake, belong to the pit-viper family, which includes rattlesnakes, copperheads, and water-moccasins. These snakes have a pit or depression between the eye and nostril, which readily identifies them. Their heads are heart-shaped, bodies thick, and their teeth are arranged in two rows. Outside the teeth, in the front part of the upper jaw, are two fangs, one on each side. *Fangs are characteristic of poisonous snakes everywhere.* If the bite shows wounds from two rows of teeth and two fangs (Fig. I) it is that of a poisonous snake. A single puncture usually means a fang-prick.

Fig. I.

(2) The teeth in the non-poisonous snakes are arranged in four rows and the bitten part would show four rows of punctures (Fig. II).

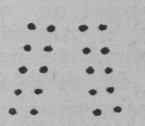


Fig. II.

17. Treatment.—(1) If possible, have the snake examined at once. Should it prove to be a non-poisonous snake, then no treatment will be required.

(2) In every case of snake-bite proceed as follows, unless the snake is known to be of a harmless type: Tie a strong ligature or two, a string or handkerchief, between the wound and the heart, wherever practicable; suck the fang-punctures strongly, first cut-

ing into each, with a penknife, a half-inch deep and a half-inch in length, if possible. Loosen the ligatures for a few seconds, at the end of a half-hour, and from time to time afterward, to prevent gangrene from stoppage of the circulation. Give alcoholic stimulants in small doses, at frequent intervals, but never to excess.

(3) Amputation and cauterization are not necessary. Strychnine, given with a free hand, is the best medicinal treatment; this should be employed only by a medical officer.

Effects of Heat.

18. (1) **Burns** are caused by fire or dry heat.

(2) **Scalds** are caused by hot liquids or moist heat.

(3) There are three degrees of burns: 1st degree, a mere reddening of the skin; 2d degree, the formation of blisters (these two degrees of burns are not followed by scarring, and unless one-sixth of the body surface is involved, recovery may be looked for); 3d degree, charring and destruction of the tissues. Both layers of the skin are burned, and scarring always follows. These injuries are common in the naval service and are often of extreme gravity.

19. Shock to the system.—This is in direct proportion to the superficial extent of the burn. Stimulants and quiet are the first essentials. If the shock—as shown by a cool, moist skin, shallow breathing, and weak pulse—is severe, it should be treated first, and the local injury afterward, when reaction has set in.

20. The local injury.—Remove the clothing with the utmost care, seeing that no blisters are broken. It may be necessary to cut the clothing away, and if parts adhere they may be removed by soaking them in oil; if this is not sufficient, the part should be immersed in a bath of warm water. Only one part should be dressed at a time. In severe and extensive burns a greased bed sheet wrapped about the entire person makes an excellent temporary dressing.

21. To dress burns proceed as follows: Apply over the burned parts pieces of lint soaked in a saturated solution of common washing-soda (two heaping tablespoonfuls to a pint of water). Boracic-acid ointment (10 per cent) spread on lint and applied to the burned parts makes a simple and excellent dressing. Strong antiseptics and powders should be avoided, and the dressings should not be changed too often. Normal salt-solution, made by dissolving a teaspoonful of common table-salt in a pint of water,

bringing it to a boil, and then cooling it,—is the only solution that should be used in cleansing burns and bathing wounds in general.

22. **Burns from acids.**—First flush the parts with water, wash them with a saturated solution of common washing-soda, and then treat as for an ordinary burn.

23. **Burns with alkalies.**—Flush the parts with water, then wash with a dilute mixture of vinegar and water, one part in four, and finally treat as for an ordinary burn.

24. **To extinguish the flames from burning clothing.**—Throw down the person whose clothes are on fire, and cover him up as quickly as possible with a coat, blanket, rug, or anything at hand that will smother the flames. The impulse to escape is irresistible.

25. **Sun-burn.**—Sun-burn should be treated in the same manner as other burns. Lime-water, with the addition of two drops of liquid carbolic-acid to the ounce, is a very soothing application.

Sunstroke.

26. Sunstroke begins with headache, dizziness, redness of the eyeballs, and dryness of the skin. Persons in this condition should immediately apply for treatment. If the symptoms are not checked, the patient becomes unconscious, with heavy, labored breathing, a hot, dry skin with engorged blood-vessels, and finally has convulsions.

27. **Treatment.**—Lowering the temperature is the primary object in these cases. Transport the patient to a cool, airy, shaded spot, and remove as much clothing as possible. Pour cold water, or ice-water over the head and body, or ice may be rubbed over the chest and placed in the armpits. If at hand, a cold bath should be given. After a while consciousness will return; the application of cold water may then be discontinued, to be resumed only in case consciousness is again lost. These cases are most serious in character and should be treated promptly and actively. If there is no ice at hand, cool water and fanning must be employed.

Heat Exhaustion.

28. This is a condition of great depression of the system due to the action of heat. The skin is cool and moist, and the patient is more or less collapsed, but generally responds well to treatment.

29. **Treatment.**—Give a teaspoonful of aromatic spirits of ammonia in a third of a tumbler of water. Small doses of whiskey, or brandy, well diluted, may be given. Remove the patient to a

cool, shady place; bathe his face, hands, and wrists, and keep him on his back until he recovers. Loosen all tight clothing.

Effects of Cold.

30. Frost-bite most often involves the toes; still the fingers, ears, and nose are frequently frozen.

31. Treatment.—All forms of frost-bite, or local freezing, are to be treated in the same way, which consists in gradually bringing the temperature up to the normal point and maintaining it there. For this purpose use moderate rubbing, warm wet cloths, or soak the part in moderately hot water. It is not necessary to rub the part with snow—it is the rubbing that is beneficial, not the snow. Soaking in ice-water is harmful.

Freezing.

32. If the whole body has been long exposed to extreme cold, there will follow a depression of vitality, which requires most cautious treatment.

33. Treatment.—(1) Restore bodily warmth by surrounding the patient with heated blankets, or by exposing him before an open fire. It is safe to bring him into a moderately warm room. If a bath can be given, immerse the patient in warm water, and gradually increase the temperature until it is as hot as it can be borne.

(2) Stimulants, such as hot tea or coffee, in moderate quantity, may be given internally, with the addition of small quantities of spirits.

Shock by Electricity.

34. Persons taking hold of naked, live wires, with a current of high tension passing through them, would be violently convulsed and be unable to let go, or there might be insensibility with suspended animation, or even death. Parts of the body or clothes in contact with the wires may be scorched or burned.

35. Treatment.—(1) Promptly remove the sufferer from the source of the danger. This must be done with the greatest care, otherwise the person giving assistance may be dangerously shocked. The rescuer's hands should be protected with rubber gloves; if these cannot be procured, first wrap a mackintosh coat, or a thick, *dry*, woolen-cloth coat, or other *dry* article of clothing, around the patient and then pull him away from the source of danger. Two live wires in contact with the patient may be short-circuited by *dropping* an iron bar, or a metallic tool, across them.

(2) The patient should be laid in a quiet place, his clothing should be loosened, and he should have plenty of fresh air. Medicines are not required. If breathing is suspended or feeble, artificial respiration may be set up in the manner described on page 51. The mouth will not have to be cleared as in drowning accidents, but care must be taken that the tongue does not fall back, so that its base will close the breathing passages.

36. Lightning-stroke.—Lightning-stroke is much the same as electricity in its effects and the treatment is the same.

Unconsciousness or Insensibility.

37. Unconsciousness may be due to diseases of the brain, to diseases of the heart, to general diseases, to injuries of the head, and to poisons of various sorts.

38. Treatment of unconsciousness.—The treatment suitable for all cases, in which there is doubt as to the cause of unconsciousness, is to secure quiet and rest, the body being laid upon the back with the head a little raised. If there is great paleness and a cold surface, with slow, sighing-breathing (signs of prostration), smelling salts, or a few drops of ammonia on a cloth may be held under the nose, and hot tea or coffee may be given while heat is applied to the body. If there is great heat of the surface, cold may be applied to the head and body, and cold drinks may be given. If the patient is fully unconscious, drinks should not be administered, as the fluid is apt to get into the windpipe, which would cause the patient to cough violently.

39. Fainting.—(1) A fainting person should be laid out flat at once. The head should be as low as, or lower than, the body in order to get blood to the brain. Tight clothing should be loosened. Ammonia held under the nose will sometimes act promptly. After a fainting fit, give half a teaspoonful of aromatic spirits of ammonia in a tablespoonful of water. A little alcoholic stimulant in hot water may be useful. It is dangerous to keep a fainting person in an upright position.

(2) In a crowded room, fainting may be prevented by placing the patient in a stooping position, with his head between his knees and at a lower level than his hips. This will usually ward off an attack, but this plan must not be employed if the patient has fainted completely.

Epileptic Fits.

40. The patient falls with a cry, his face is livid, he has convulsions and foams at the mouth. His tongue and lips are often bitten.

41. **Treatment.**—Gently lay the patient on his back and control only those movements calculated to injure him; do not struggle against such movements as will do no injury. To prevent the lips and tongue from being bitten, put a folded towel, or a bit of soft wood, or a cork with a string attached, between the teeth. The fit usually lasts but a few moments, after which the patient falls into a deep sleep, and should not be disturbed.

The Treatment of Poisoning by Unknown Poisons and Poisonous Foods.

42. (1) **If treated promptly** cases of accidental poisoning are rarely fatal. Proceed as follows: If possible give a large quantity of lukewarm water and tickle the back of the throat with a finger or a feather. A tablespoonful of common powdered mustard in a tumbler of warm water is an excellent emetic. Two tablespoonfuls of common table-salt in a tumbler of warm water is also an excellent emetic. These emetics may be repeated once or twice. Soap-suds or dish-water may be drunk. Soap is an antidote for many poisons. The patient must be forced to drink a large quantity of fluid, and be made to vomit several times, though not pushing this to exhaustion. After copious vomiting, soothing liquids should be given, such as oil, milk, beaten-up raw eggs, or flour and water—each in moderate quantities. These are valuable when the poison has been of an irritating character.

(2) If the patient is in collapse, give stimulants such as strong hot tea, without milk, as it is a chemical antidote for many poisons. Coffee is next in value. Alcoholic stimulants in teaspoonful doses in hot water should be given as well. The patient should be covered with warm blankets; and hot bottles, or hot bricks, properly protected, should be applied next to his body.

43. **Acid poisoning.**—In acid poisoning give alkalies, such as a tablespoonful of aromatic spirits of ammonia in two teacupfuls of water, or baking-soda, whitewash, chalk, tooth-powder, whiting, plaster from the wall, or soap.

44. **Alkaline poisoning.**—(1) In alkaline poisoning, vinegar can generally be had, and there is nothing better. It should be given undiluted and freely—a half teacupful at a time. Lemon juice may be used.

(2) After the antidote has been given in cases of poisoning either by acids or alkalies, milk, oil, or beaten eggs should be administered and rest should be secured.

45. Wood-alcohol poisoning.—(1) Wood-alcohol, which is one of the most dangerous poisons known, has caused many deaths in the naval service, and has induced total and permanent blindness in many of those who have escaped death. The men should be taught that the penalty for drinking wood-alcohol may be either permanent, total blindness, or death. Wood-alcohol receptacles should be labelled so that the danger will be made known to those likely to drink of their contents, and the alcohol should be made undrinkable by the addition of a small percentage of naphthalin.

(2) *The symptoms* are great abdominal distress, vomiting, pronounced depression, unconsciousness and death. If recovery does occur, blindness is likely to follow in a few hours.

(3) **Treatment.**—The treatment should be the same as that given for poisons in general. If a medical officer is within call the stomach and rectum should be washed out immediately.

46. In all cases of poisoning, the patient should be urged to pass urine.

Sprains.

47. (1) A sprain is the straining or tearing, by a sudden twist or wrench, of the ligaments and capsule which surround a joint.

(2) *Signs.*—Pain, heat, and swelling at the seat of injury, followed by discoloration of the skin. The ankle, knee, and elbow are the joints most commonly sprained. The bones about the wrist-joint are very commonly broken but the joint is rarely sprained.

48. Treatment.—Put the parts at complete rest and apply cold. If the pain is severe and cold applications cannot be tolerated, bathe the joint with water as hot as can be borne comfortably, or apply hot flaxseed poultices. A snug bandage should be applied afterward. Later on the joint should be strapped with rubber plaster, which should be applied by a medical officer. Massage should be employed in many cases. When the sprain involves a joint of the upper extremity, the forearm should be supported by a sling, after the joint has been treated. A light padded splint should be applied behind the knee, when that joint is injured; the patient should use crutches, if he moves about at all, in cases of sprains of the ankle and knee-joints.

49. The patient's care of himself.—(1) Follow directions faith-

fully. Too early use of a sprained joint induces weakness of that joint and a tendency to a recurrence of the sprain.

(2) An injured joint should be kept slightly elevated by placing it on a pillow or other support.

Dislocations.

50. (1) A dislocation is the displacement of the end of a bone which enters into the formation of a joint.

(2) *Signs.*—Dislocated bones usually lie away from the body, and cannot be brought to the side so as to parallel the long axis of the body. There is distortion of the joint; the end of the bone can be felt under the skin, and by comparing with the uninjured side, it will be recognized as out of its normal position. There is pain on attempting to move the bone, and loss of motion in the joint.

51. Treatment.—The risk of doing injury by injudicious efforts to replace a dislocated bone is greater than that of delaying until the services of a medical officer can be had. The best that can be done is to put the parts in the position easiest to the patient, and to surround the joint with cool, wet cloths, or with cotton and a bandage.

52. The patient's care of himself.—He should keep as quiet as possible until the dislocated bone has been replaced, and should steady the injured part by taking hold of it. He should lie down if the injury has made him feel faint.

FRACTURES.

53. (1) A fracture is a broken bone.

(2) **Causes.**—*Direct violence* by means of which the bone is broken at the seat of injury. *Indirect violence* by means of which the bone is broken at some distance from the point which received a blow or shock, as a broken collar-bone following a fall upon the outstretched hand. *Muscular action,* snapping a bone across by a sudden and violent muscular contraction, as in the case of the knee-cap in jumping.

54. Signs of fracture.—These are pain, swelling and deformity at the seat of injury. Unnatural mobility where no mobility should exist. Loss of power in the limb. The limb can be pulled into line with the long axis of the body without difficulty. There is shortening of the limb. Crepitus, which is a sensation of grating, can be felt when the ends of the bones move against each other.

55. Varieties.—There are two general varieties of fractures, 1 simple; 2, compound.

(1) *Simple fractures* are those which are beneath the unbroken skin.

(2) *Compound fractures* are those in which an external wound, communicating with the break, exists.

56. Treatment.—In the immediate treatment of a fracture the following points should be attended to: (1) the prevention of further injury, and (2) the preparation of the patient for transport.

57. To prevent further injury.—(1) Attend to the patient on the spot where the injury occurred, especially if the fracture happens to be in the lower extremity.

(2) Do not touch the limb (beyond what is necessary for diagnosis), until you have all splints and bandages ready.

(3) Handle the injured part with extreme gentleness. By rough handling a simple fracture may be converted into a compound or complicated one, especially where the bones are immediately under the skin, like the collar-bone and the shin-bone.

(4) Without removing the clothes (unless the fracture is compound or there is hemorrhage), bring the bones into their relative positions as follows: First lift the limb by grasping it gently but firmly above and below the seat of fracture, and then make gentle extension and counter extension, in the normal line of the bone, which should cause little or no pain if done properly.

(5) Fix the limb in this position by means of splints and bandages.

58. Splints.—Splints are more or less rigid supports used to immobilize joints and fractured bones. Many articles in daily use, and others that can be found in the field, can be used to keep the injured parts in place. For instance, broom handles, newspapers, wine-bottle covers, stockings filled with straw or sand, pieces of wood and laths can be employed. In the field we may make use of the branches of trees, pieces of bark, shrubs, rifles, and bayonets. The opposite leg can be used as a splint for the injured one, and in the case of the upper extremity, it can be splinted against the chest by snugly binding it there with bandages.

59. Improvised splints.—These splints should always be constructed out of material which is sufficiently stiff to keep the parts in position; they should be made long enough to extend some distance beyond the joint below the point of fracture, and beyond the joint above it, if possible. They should be as wide as the limb

to which they are to be applied. Before applying splints, pad them well, on the side next to the limb (unless the clothing is allowed to remain on), with some soft material such as towels, cotton, wool, oakum, straw, flannel, folded triangular bandages, etc., and make the padding extend well over on each side of the splint.

60. **To apply splints.**—Two persons are required: One makes traction, and gently lifts the injured part while pulling steadily in the line of the injured bone. This can sometimes be done with one hand. In that case the other hand should be put under the seat of fracture to support it. The second person applies the splints, one on each side of the limb, and fixes them in position by tying about them, above and below the line of fracture, triangular bandages, folded narrow, or straps, belts, suspenders, tapes, or rubber-plaster. All knots should be tied over the outer splint and not over the bone. The general rule that injured parts should be elevated holds good in the case of fractures. The splints should not be applied so tightly as to impede the circulation. If splinted limbs are allowed to hang down, swelling follows and the circulation may be dangerously cut off.

61. **The immediate treatment of a compound fracture.**—Expose the wound, check the hemorrhage (pages 66-71), and apply the first-aid dressing (page 72). Then apply splints. The principal danger in these cases is wound poisoning. The commonest source of poisonous bacteria, or germs, is the skin of the fingers, or the skin about the wound. Do not touch the wound with unclean fingers, unless necessary to stop bleeding to save life.

62. **Transportation.**—As a rule persons with broken bones should not be removed until the bones have been splinted. Faintness is apt to come on after a fracture, but usually persons suffering from fractures of the upper extremity can walk with assistance. Those suffering from fractures of the lower extremity should be carried on a stretcher, and this should be done in accordance with the instructions laid down on page 74.

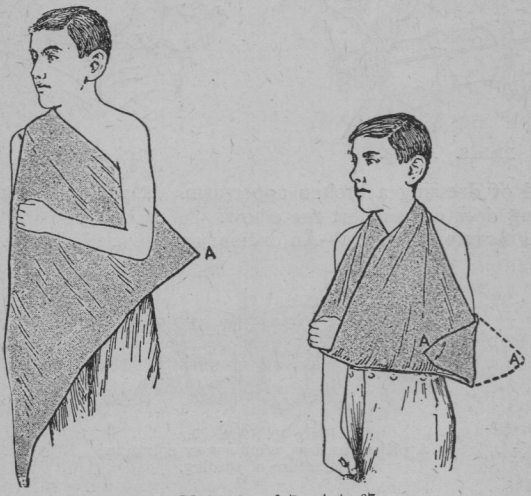
63. **The injured person's care of himself.**—Should the patient believe he has sustained a fracture, he should lie down carefully, and should try to place the broken bone in its proper position, which will be found to be the most comfortable one. Under no circumstances should he attempt to walk, if a lower extremity has been injured, as, in this way, a simple fracture might be made compound, or the bone ends might be made to tear into a large blood-vessel.

Special Fractures.

64. Fracture of the skull.—These injuries are very serious and should be treated by a medical officer as early as possible. Wound poisoning should be prevented by applying a dressing as directed on page 65.

65. Fracture of the jaw.—Tie a triangular bandage, or handkerchief, under the chin and over the top of the head.

66. Fracture of the ribs.—Pass a wide band of rubber-plaster, or several narrow bands, two-thirds around the chest, while the



Plates 6 and 7. Art. 67.
Method of applying a sling for the support of the forearm.

arms are held over the head and the chest is emptied of air; or snugly apply wide bandages.

67. Fracture of the collar-bone.—Apply a sling (Plates 6 and 7) and secure the arm to the chest by passing a bandage around the chest above the forearm of the injured side, *over* the arm of that side, and *under* the opposite arm.

68. Fractures of the arm and forearm.—The proper method of dressing a fracture of the forearm is shown in Plate 8. The part should be carried in a wide sling. Plate 9 shows the proper

Plate 8. Art. 68.

Plate 9. Art. 68.

method of dressing a broken upper-arm. It will be noticed that the sling does not support the elbow.

69. Fracture of the leg.—An ordinary pillow tied about a broken

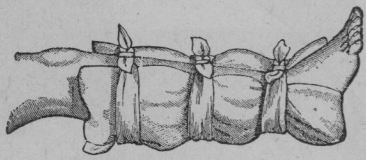


Plate 10. Art. 69.
A pillow used as a temporary splint in fracture of the leg.

leg makes an excellent splint (Plate 10). Splints should be applied as shown in Plate 11.

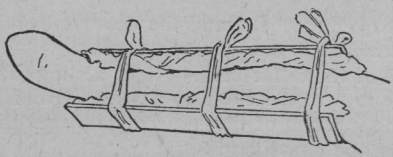


Plate 11. Art. 69.

70. Fractures of the thigh.—(1) A broken thigh is the most difficult bone in the body to splint properly. The splint on the

outside should extend from the armpit beyond the sole of the foot, and that on the inside from the crotch to the sole of the foot. The splints should be applied as shown in Plate 12.

(2) In the field a rifle may be used instead of the long outside splint. The butt is placed in the armpit, the trigger guard to the front. It should be secured at the points shown in Plate 12. The

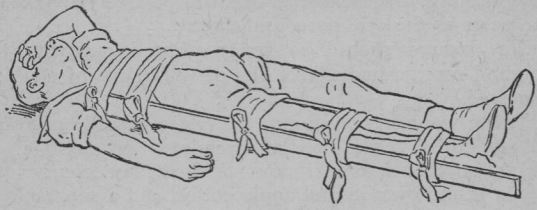


Plate 12. Art. 70.

feet should be tied together, also the legs below the knee. This prevents the foot on the injured side from turning out.

WOUNDS IN GENERAL.

71. (1) **The immediate treatment** of wounds in general is extremely simple. As a rule, if the wounded part is freed of constricting clothing between the heart and the wound, and is elevated, or held up, bleeding soon ceases. Of course, whenever it is possible to secure the services of a medical officer, all wounds should be promptly referred to him for treatment, as important nerves, tendons, and other structures might be damaged, thus seriously crippling the part afterwards.

(2) *If a wound is kept free from infection,* which means poisoning by germs, it will, as a rule, heal promptly, painlessly and with little scarring. The common sources of infection are the skin of the hand, the skin about the wound, the hair, soiled dressings, and foreign bodies, like bits of clothing carried into the wound.

72. To dress a wound.—(1) Scrub the hands vigorously for 4 or 5 minutes with a brush and some good soap, paying particular attention to the nails, and rinse them in boiled water. They may, if it is at hand, be soaked for a few moments in a solution of bichloride of mercury, one part in two thousand parts, or in a solution of carbolic acid, one part in forty, and again rinsed in boiled water. The skin about the wound should be shaved for

2 or 3 inches and scrubbed in the same way, and finally washed off with boiled, common-salt solution. The salt-solution is prepared by dissolving a teaspoonful of common table-salt in a pint of clear water and boiling for a few moments.

(2) This solution will answer for wounds in any part of the body and is the best one that can be employed. It is harmless, soothing, healing, and cleansing, and can be freely applied to such delicate parts as the eye, nose, and throat.

(3) The wound should be freely washed out with the salt solution and foreign bodies like bits of wood, bits of clothing, and dirt removed.

(4) If the wound is clean-cut, the edges should be brought together and held there by the dressings, if possible. If the wound is jagged, irregular and bruised, lay plenty of loose gauze into it and over it, and apply cotton and a supporting bandage outside.

(5) All instruments should be boiled, all dressings should be baked in an oven, just short of charring, unless they are known to be free from germs. Boiling them also kills all contaminating germs that may lodge on them.

(6) Bad-smelling powders and all other applications of that sort are unnecessary in fresh wounds.

73. Inflamed parts with unbroken skin.—Remove tight clothing, elevate the part and apply plain cotton and a bandage from below to a point above the inflamed part. If pus (matter) is present it should be let out.

74. Inflamed wounds forming pus.—Elevate the part, arrange the dressing so that the pus can flow away, and is not dammed up. Cloths wet in ice-water, or cool, boiled water, should be laid upon the part. When the inflammation has subsided apply a simple dressing consisting of gauze, cotton, and a bandage.

THE CHECKING OF HEMORRHAGE.

75. (1) Though eighty-five per cent of the deaths on a battle-field are due to hemorrhage, the danger from hemorrhage, when not immediately fatal, has been greatly exaggerated.

(2) Those whose injuries involve the great blood-vessels will probably die immediately, unless some comrade checks the flow of blood by pressure made with the fingers, until the services of a medical officer can be secured.

(3) When properly applied, the tourniquet may be a useful instrument; ordinarily, it is a very dangerous one. It should not

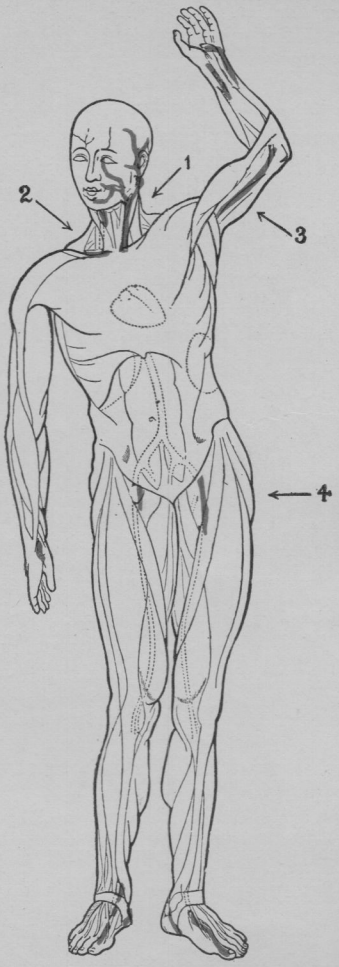


Plate 13. Art. 75 (4).
Diagram showing the position of the important arteries.

remain on longer than two hours, lest gangrene be induced. If not properly adjusted it will increase the flow of blood by failing to cut off the circulation in the arteries (which are deeply embedded in the flesh) while the blood is backed up in the veins (many of which are near the surface, just under the skin).

(4) In order to control external hemorrhage satisfactorily, it is necessary to know the location of but four great blood-vessels. In Plate 13, the numbered arrows designate the important vessels. Arrow No. 1 points to the carotid artery, which supplies the head with blood. No. 2 points to the subclavian artery, behind the middle of the collar-bone. This blood-vessel continues into the arm and finally becomes the brachial artery, designated by arrow No. 3, which supplies the arm, hand, and forearm. Arrow No. 4 points to the femoral artery, which supplies the foot, leg, and thigh.

Plate 14. Art. 75 (6). Checking hemorrhage by flexion of the elbow.

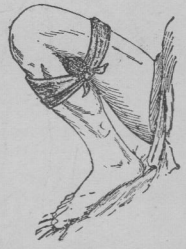


Plate 15. Art. 75 (6). Checking hemorrhage by flexion of the knee.

(5) Officers and men should study the pulsation of these vessels in their own persons, in order to become familiar with their location, and to determine the amount of pressure necessary to arrest the flow of blood.

(6) By putting a pad behind the knee and bending (the knee) sharply on the pad, all circulation will be stopped in the foot and leg. The same is true of the elbow. (Plates 14 and 15.)

76. Tourniquets.—The best field-tourniquet is an elastic rubber-tube. This should be bound tightly about a limb and its ends secured by tying.

77. The "Spanish windlass" is the best of the improvised tourniquets (Plate 16). If possible put a pad, a smooth stone, or a folded handkerchief, over the blood-vessel to be compressed.

The stick, or bayonet, can be secured to the limb by a band of some sort to prevent it from unwinding.

78. **How to proceed in a case of severe hemorrhage.**—When the blood spurts in jets, or flows very freely, press the great vessels supplying the part (Plate 13), against the bone beneath and, with the assistance of the wounded man, apply a "Spanish windlass" as soon as possible. Finger-pressure cannot be kept up longer than a quarter of an hour. In order to save life it may be necessary in rare cases to put the fingers or thumb directly into the wound in order to compress the bleeding vessel therein. *Under no other circumstances should an unclean finger come into direct contact with the wound.* If practicable, compress the vessel in the wound *through* a first-aid dressing. The part should, if possible, be elevated and have all constrictions between the heart and the wound removed.

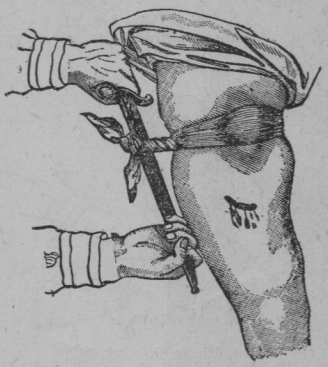


Plate 16. Art. 77.
The Spanish windlass.

79. **The wounded person's care of himself.**—(1) Apply the first-aid dressing, and compress the bleeding vessels in the wound through this dressing. Elevate the part, loosen constrictions, and apply a "Spanish windlass." Lie down and remain quiet. If the bleeding is profuse, press the great vessel supplying the part against the bone and apply a "Spanish windlass," made with a neckerchief, or a triangular bandage, and tightened with a stick, or bayonet (Plate 16).

(2) Pressure may be applied in the following regions to check the flow of blood:

80. **Scalp wounds** bleed profusely as a rule. Apply a first-aid dressing and bind it firmly against the skull, and make further pressure on the dressing if necessary.

81. Plates 17, 18, 19, 20, 21, 22, 23, and 24 show where and how the blood-vessels in the different parts of the body should be compressed. The great advantage of compression with the fingers is that it can be applied immediately and may thus be the means of saving life.

82. **Internal hemorrhages.**—These hemorrhages are apt to be very grave complications. In wounds of the chest and abdomen,

Plate 17. Art. 81.
Compression of the facial artery.

Plate 18. Art. 81.
Compression of the carotid artery.

Plate 19. Art. 81.
Compression of the subclavian artery with the thumb.

Plate 20. Art. 81.
Compression of the subclavian artery with the padded handle of a door key.

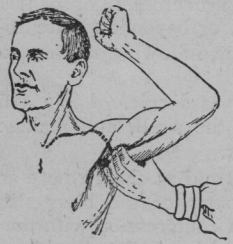


Plate 21. Art. 81.
Compression of the axillary artery.

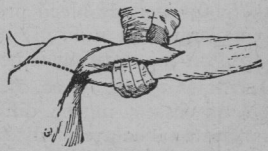


Plate 22. Art. 81.
Compression of the brachial artery.

complicated by dangerous internal bleeding, firm, circular compression over the first-aid dressings should be made. The cartridge-belt, or gunstrap, can be used to limit the movements of the chest and abdomen and thus secure a condition of rest for the bleeding organs, as near as can be done by external means.

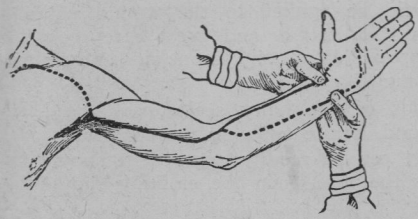


Plate 23. Art. 81.
Compression of the radial and ulnar arteries.

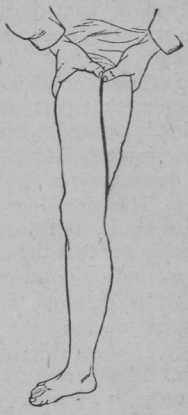


Plate 24. Art. 81.
Deep pressure with thumbs over main artery of the thigh (femoral artery).

THE APPLICATION OF FIRST-AID DRESSINGS IN GUNSHOT WOUNDS.

83. The first-aid packet contains two compresses made of folds of gauze, one gauze bandage, two safety-pins, and a triangular bandage. Printed explanations on the triangular bandage show the various uses to which it can be put.

84. The dressings are wrapped in a water-proof cover and are served out clean and germ-free. The men should be made to appreciate the value of this life-saving device, and should be held responsible for its safe-keeping.

85. The two compresses, or folds of gauze, are for the two wounds, that of entrance and that of exit. The bandage holds the compresses in place, and is secured with the safety-pins. In some types of first-aid packages, the compresses and bandage are all in one piece, which simplifies the application of the dressing.

86. By frequent drills alone can skill in the application of these dressings be acquired.

How to Apply a First-Aid Dressing to a Gunshot Wound.

87. The immediate treatment of gunshot wounds differs in some particulars from the treatment of wounds in general.

(1) Under no circumstances attempt to disinfect or wash the wound.

(2) The wound is not to be touched with the fingers. Avoid handling that part of the dressing which will come into contact with the wound. The danger of infection from unclean fingers is very great, and is more serious in its effects, as a rule, than the destructive action of the bullet.

(3) The dressing should be applied to the wound without cleansing it, but just as it is found, and great care must be taken to see that the compresses do not slip to one side and expose the wound to germ-poisoning.

(4) In dressing wounds of the hairy scalp, part the hair, without touching the wound, before applying the compress.

(5) If the injured part can be readily exposed, it should be done. If the contrary is the case, then the clothing should be slit up with a knife.

(6) The majority of these wounds heal under a single dressing. The men should be made to understand this, as they are usually impatient to have their wounds dressed frequently.

(7) Under no circumstances are dried blood-crusts and scabs to be disturbed.

(8) In case of hemorrhage, proceed in accordance with instructions in Art. 78.

(9) In case some of the bones have been damaged, proceed as directed in Arts. 60 and 61.

88. **The wounded person's care of himself.**—After the checking of dangerous hemorrhage, the prevention of germ-poisoning is of the greatest importance. Carefully get out the first-aid packet, seeing that none of its contents is dropped on the ground, and that the fingers do not touch the part of the compress likely to lie in contact with the wound. Do not disturb crusted blood on the dressings near the wounds. If the wound is out of reach and cannot be dressed at once it should be left exposed to the air until assistance comes. If there is little pain, no throbbing and no fever, be contented, for the wound is doing well and will probably heal under a single dressing. Be patient in waiting for dressings

Plate 25. Art. 89.
Carrying by one bearer. Patient across back.

Plate 26. Art 89.
Carrying by one bearer. Patient across shoulder.

Plate 27. Art. 89.
Carrying by two bearers.
Two-handed seat.

Plate 28. Art. 89.
Carrying by three bearers.

and for treatment, as the medical officers will be overwhelmed with work after a battle, and those most seriously injured and most urgently in need of attention must be treated first.

89. The preparation of the wounded for transportation.—The first-aid dressings should be applied (Art. 87), and broken bones should be immobilized with splints (Arts. 60 and 61), when the wounded will be ready for transportation. Plates 25, 26, 27, and 28 show the methods of carrying the wounded with one, two, and three bearers. Patients can sometimes be carried "pick-a-back." The "fore-and-aft" carry is effected by two bearers, one between the knees, the other behind the head, arms under the armpits of the patient with hands clasped over his chest.

Plate 29. Art. 90.
Method of placing a patient on a stretcher.

General Directions for Handling a Stretcher.

90. (1) The method of placing a wounded man on a stretcher is shown in Plate 29. The position of a patient on a stretcher depends upon the character of his injury. An overcoat, blanket, knapsack, or other suitable article may be used as a pillow. If the patient is faint the head should be kept low. Difficulty in breathing due to wounds of the chest is sometimes relieved by judicious elevation of the shoulders. In wounds of the abdomen the best position is on the injured side, or on the back if the front of the abdomen is wounded, the legs being drawn up and supported in that position.

(2) In injuries of the upper extremity, the best position is on the back with the arm across the body, or suitably placed by its side. In injuries of the lower extremity the patient should be on his back, or inclining toward the wounded side. Patients should be handled deliberately and as gently as possible, having special care not to jar the injured part. Bearers should not keep step.

The handles of the stretcher should be carried at arms length. Bearers should keep the stretcher level, notwithstanding any unevenness of the ground. As a rule the patient should be carried on a stretcher feet foremost, but in going up a hill his head should be in front. In case of fracture of the lower extremities, he should be carried up a hill feet foremost and down hill head foremost, to prevent the weight of the body from pressing down on the injured part.

91. Improvised stretcher.—(1) An improvised stretcher should always be tested before placing a patient on it.

(2) Among the articles that may be employed as stretchers are boards, window-shutters, doors, bed-frames, mattresses, benches, tables, chairs, blankets, rugs, hammocks, etc.

(3) Rifles or poles may be passed through openings made in the bottom of sacks, or coats; or trousers may be used. The rifles or poles can be prevented from spreading too far apart by a turn of rope or telegraph wire.

92. The rifle-stretcher.—Spread a blanket on the ground, lay two rifles (magazines empty), across the middle of it, parallel to each other, and twenty inches apart, both muzzles pointing in the same direction, trigger-guards outward. Turn a fold of the blanket six inches wide over the ends of the butts, fold the right side of the blanket over the rifle on that side, as far as the rifle on the opposite side, then, similarly, fold the left side. These folds of blankets form the body of the stretcher, the butts forming the head.

93. The pole-and-blanket stretcher.—Place two poles longitudinally along the edges of a blanket and roll the sides of the blanket snugly over the poles until they are twenty inches apart. The blankets can then be tied to the poles, and sticks of wood can be placed between the poles at each end to act as spreaders.

94. The pole-and-rope stretcher.—Place two poles twenty inches apart, and securely lace back and forth a suitable piece of rope; this rope forms the body of the stretcher.

ORGANIZATION OF THE MEDICAL DEPARTMENT IN THE FIELD.

95. (1) Assistance will be rendered to the wounded at four points, viz.: 1. The firing-line, 2. the dressing-station, 3. the field-hospital, 4. the base-hospital.

(2) In all wars, except that of 1870, the casualties among the medical officers and hospital-corps men have exceeded those of any other corps.

(3) For the stretchermen to advance on the field under fire is to invite disaster. Not only may they be killed by drawing the enemy's fire in this way, but the wounded will also be similarly exposed.

(4) The hospital-corps men, when called to urgent cases on the firing-line, should advance by rushes, seeking what shelter may be available. They should be prepared to check hemorrhage, to secure improperly applied dressings with rubber-plaster, and to administer water and stimulants where needed. They should carry knives suitable for cutting away clothing, preparing splints, etc. They should be equipped with lanterns for searching the battlefield after sundown.

(5) The average percentage of casualties is fifteen. About one-third of this number will have to be carried off the field. When possible the hospital-corps men will adjust splints and otherwise prepare the wounded for transportation, and the stretchermen will carry them to the dressing-stations.

96. The dressing-stations.—(1) The dressing-stations will be located three hundred yards or more back of the firing-line, behind some natural or artificial shelter, and out of the direct line of fire, and will be designated by a red-cross flag by day and a white over a green light at night.

(2) At this point the medical officers will dress the wounds of men not seriously disabled and will send them back to their respective companies. The other cases will be identified and tagged with their names, ship, nature of their wounds, treatment and the probable time when another dressing will be necessary. Here tourniquets will be removed, bleeding blood-vessels tied, and dressings and splints renewed when necessary. Water, liquid foods, and stimulants will be served out as required.

(3) The dressing-stations should be promptly cleared of wounded.

97. The field-hospital.—(1) The field-hospital will fly a red-cross flag by day and a green over a white light at night. At this point necessary operations will be performed and dressings applied. The application of splints will be carefully looked after and the men will be prepared for removal to the base-hospital.

(2) The field-hospital should be promptly cleared of wounded.

98. The base-hospital.—A hospital-ship, or other ship, will usually be designated to act as a base-hospital. The wounded will remain in the base-hospital until they are fit for duty, or able to be sent to a home station.

NOTES ON MILITARY HYGIENE.*

General Remarks.

1. (1) **Camp diseases** are preventable; their presence in a command means that the laws of hygiene have been violated. Deliberate disregard of sanitary regulations is a grave military offense and should be dealt with accordingly.

(2) In ordinary campaigns sickness disables from 5 to 10 times as many men as wounds.

(3) In a modern engagement it requires, on an average, an expenditure of from 200 to 400 rounds of ammunition for each one of the enemy put out of the fighting, and considering the number of rounds carried, this expenditure represents the effectiveness of from 1 to 2 men.

(4) When it is realized that but a single cupful of polluted water may be equally damaging by rendering a fighting man unfit for duty for many weeks, if he survives at all, and may be the means of spreading disease far and wide in a command, then the great importance of faithfully observing hygienic precautions will be appreciated.

(5) On board ship sanitary regulations can be effectively enforced, but on shore under changed conditions the maintenance of the highest efficiency of the command is dependent upon the co-operation of each individual of that command.

(6) All officers should familiarize themselves with the simple hygienic hints set forth in this chapter and they should, with the assistance of the medical officers, interest and instruct the men under their immediate command in the intelligent observance of these measures.

(7) The landing-force should be prepared to combat disease-producing conditions wherever they may be encountered, whether it be in the jungles of the tropics or in great cities.

Preparatory.

2. The following individuals should be excluded from landing-parties:

(1) Men afflicted with venereal disease.

(2) Men whose feet are deformed or sore from blisters, chafes, corns, callosities, bunions, or hammer-toe.

* Prepared by Surgeon C. F. Stokes, U. S. Navy, under the direction of the Bureau of Medicine and Surgery.

(3) Men under 20 years and over 45 years, with few exceptions.
(4) Men convalescing from disease or injury.
(5) Men with badly decayed teeth, men with diarrhœal diseases, and obese men.

Physical Betterment.

3. (1) **Officers and men** should take part in all physical drills and should, when expedient, encourage and engage in athletic sports. These sports not only better men physically but they develop a spirit of comradeship that is of inestimable value.

(2) **Practice-marches** on shore with the men not under restraint should be undertaken regularly. This exercise would greatly improve the physically fit and would enable the medical officers to weed out the undesirable.

(3) **Gymnastic exercises** and track events, also boxing, wrestling, swimming, boat-racing, base-ball and foot-ball should form a conspicuous part of service in the Navy. These sports, when engaged in under intelligent supervision, not only raise the physical standard of the officers and men but their mental and moral tone as well.

Care of the Feet.

4. Neglect of the feet should be considered a punishable offense.

(1) **Shoes.**—The shoe is the most important single article of uniform. The regulation shoe should be worn without exception, unless on the advice of a medical officer.

(2) **A good marching shoe** should be large enough in all directions, but not too large. If the foot moves in the shoe it is apt to chafe and blister. A common defect in shoes is that they are too tight over the instep and too loose across the ball of the foot. If the leather forward of the instep is too slack, wrinkles will form. Folds of leather and rough inner seams should be avoided. The inner edge of the shoe should be almost straight, the sole thick and wide, projecting beyond the upper leather. The heel should be low and broad, and the toe of the shoe should be of such a length that there will be no pressure on the ends of the toes or toe-nails.

(3) **Nails.**—The toe-nails should be cut straight across, a little behind the end of the toe, and should not be rounded. Any tendency to ingrowing should receive treatment at once.

(4) **Corns and callosities.**—Corns and callosities are due to pressure and friction from unhygienic shoes. When between the toes they are soft; on other parts they are dry and hard. They often render men unfit for duty.

(a) **Treatment.**—Remove the cause by wearing hygienic shoes. Soak the feet well in hot water, then pare the corn or callus down with a sharp knife, a fragment of glass, or with sand paper, without wounding the skin. Soft corns should be treated by applying a dusting powder like aristol on cotton or gauze between the toes.

(b) **Salicylic-acid treatment.**—Apply the following collodion paint with a camel's-hair brush, night and morning, for several days, then soak the feet in hot water and the corns will come away painlessly:

Acid salicylic	ʒi
Extract cannabis indicæ	gr. xx
Collodii	ʒi

M. S. Corn paint.....

(5) **Blisters.**—Save the skin; drain at the lowest point with a clean needle; or better, pass a threaded needle through and tie the thread ends, later cutting the ends and leaving the thread in the blister to come away with the skin. Protect with cotton and rubber-plaster.

(6) **Excessive and foul perspiration.**—Excessive perspiration often leads to foot-soreness, blisters, fissures, and corns, and may be offensive.

(a) *Mild cases* will be relieved by dusting into the shoes and on to the feet the following "foot-powder":

Acid salicylic	3 parts.
Pulv. amyli	10 "
Talci	87 "

This foot-powder may be used with benefit before a march, especially in cases of sore or tender feet.

(b) *Severe cases.*—Severe cases will be relieved by soaking the feet, after a preliminary scrub with soap and water, in a solution of permanganate of potassium. The stain should be left on the feet. The solution should be gradually increased from one per cent to six per-cent and the treatment continued nightly for three weeks. The foot-powder should be used during the day.

(c) *Another method.*—Sprinkle a few drops of formalin into the shoes each morning.

5. **Before a march.**—The feet should be well greased with tallow or neat's-foot oil, or the inside of the stockings should be covered with a stiff lather of common yellow soap well rubbed in, or the foot-powder may be freely used.

6. **On the march.**—Should the stockings cause pain, the pressure is sometimes relieved by shifting them to the opposite feet, or by turning them inside out. Within two hours after reaching camp the feet should be wiped off with a wet cloth, clean stockings put on, and those which are removed washed for the following day if possible.

7. **To toughen the feet.**—Men unaccustomed to marching may toughen their feet by soaking them in strong, tepid alum-water (a teaspoonful to a **pint**).

Care of the Mouth.

8. (1) **Mouth-breathing** induces sore-throat, diseases of the nose and ears and causes thirst. Nose-breathing is normal and should be employed at all times.

(2) **The teeth.**—The teeth should be brushed night and morning. Decayed teeth should be filled or pulled, as they are apt to induce abscess of the jaw, indigestion, debility, and diarrhœa.

(3) **The proper chewing** of food is more important than the kind of food chewed. Thorough chewing makes food nourishing, prevents hunger, and diminishes thirst.

Drinking-Cups.

9. **Common drinking-cups** on board ship and in camp are sources of great danger through spreading disease. When not in use they should be kept submerged in formalin solution (1-1000). Where common drinking-cups are not disinfected, lip-drinking, which consists in putting both lips, horse-fashion, into the fluid to be drunk, should be practiced.

Thirst.

10. (1) **The habit of abstaining from drinking water** on the march is an excellent one and can be acquired readily. Thirst sensations lie in the back of the throat and may be relieved by carrying any small object, as for instance a pebble, in the mouth.

(2) **Boiled water** may be drunk at the start and near the end of the march.

(3) **Canteens** should be carried filled.

Bathing.

11. (1) **A daily bath** and rub-down is desirable. The hair should be cut close and the head washed daily.

(2) On the march, the feet and groins, as well as the armpits, genitals, and anus, should be cleansed even though only a damp cloth is available. After reaching camp the more completely the person is bathed the better.

ON THE MARCH AND IN CAMP.

12. (1) A marching column is a healthy column.

(2) **Sources of danger:**

(a) Mosquitoes.
(b) Flies.
(c) Dust.
(d) Water.
(e) Food.
(f) Drinking-cups.
(g) Climate.

HOW TO AVOID THESE DANGERS.

(a) Mosquitoes.

13. (1) Mosquitoes transmit malarial and yellow fevers and other germ-diseases. In the tropics these diseases may prove rapidly fatal and hopelessly cripple a command.

(2) *Preventive measures:*

(a) Medicinal.
(b) Mechanical, by the use of screens, netting, etc.
(c) The destruction of mosquitoes and their larvæ and the prevention of their growth.

14. Medicinal.—(1) Malarial fever is transmitted by the bite of anopheles mosquitoes alone. These mosquitoes become dangerous about 5 days after sucking the blood of infected persons, otherwise they are harmless; it follows that malarial patients should be screened with netting and actively treated with quinine to prevent the spread of the disease.

(2) The best way to rid a region of malaria is to treat with quinine all persons infected in that region. In some districts over 50 per cent of the natives are afflicted. For this reason camps should not be established within half a mile of villages, and under no circumstances should native houses be occupied.

(3) From three to five grains of quinine taken daily will greatly reduce the chances of becoming infected with malaria.

15. Mechanical.—Screens, netting, and other mechanical devices should be used wherever it is possible to employ them. They protect the well and prevent the sick from spreading the disease.

16. Destruction of mosquitoes and their larvæ and the prevention of their growth.—(1) Mosquitoes breed in water lodged in eaves-troughs, barrels, tin cans, broken bottles, foot-prints, stagnant pools, ponds, and swamps. They hide during the day and are active only at night, unless disturbed. The females alone bite. A single female lays between 200 and 400 eggs and the laying and hatching continues from early spring until November. The eggs develop in 3 days into wigglers (larvæ) which in turn become tumblers (pupæ) in 16 days. The pupæ or tumblers become full-grown mosquitoes in about 5 days, the whole covering a period of about 3 weeks.

(2) **Drying kills the eggs,** wigglers, and tumblers; petroleum promptly kills the insects in all stages.

(3) **Directions.**—Do away with all unnecessary water-containers. Drain or fill-in all ponds, pools, and swamps, if possible. Treat all standing water with petroleum at least 3 times in 2 months, using the cheap oil, two tablespoonfuls to 15 square feet of surface.

To Remove Mosquitoes from Dwellings.

17. (1) **Close and seal doors** and windows. Burn at night 3 pounds of sulphur for every 1000 cubic feet of space.

(2) **Pyrethrum** (insect) **powder** when burned at night will stupefy the insects and they can be swept out in the morning.

(3) **Camp-fires** attract and burn mosquitoes.

Yellow Fever.

18. (1) **Yellow fever is transmitted** by the bite of stegomyia mosquitoes alone. These mosquitoes become dangerous about 12 days after sucking the blood of persons ill with that disease.

(2) **Quinine** is without effect in yellow fever.

(3) **Directions.**—Screen all patients to prevent the contamination of mosquitoes. Screen all others to prevent them from being bitten. Destroy these mosquitoes as directed under malaria. If yellow fever breaks out, the camp should be moved at once.

(b) Flies.

19. (1) **The germs of many diseases** such as typhoid fever, dysentery, cholera, and diarrhœa may be carried on the feet of flies from sinks and urinals to uncovered food, water, and food receptacles.

(2) **The sinks and kitchens** should be as far apart as possible, sinks to leeward. (See care of the sinks.)

(3) **The food and drink,** after cooking or boiling, as the case may be, should be carefully protected from flies.

(4) **A single female fly** lays about 120 eggs which mature in about 10 days. The eggs develop best in putrid, organic matter, in sinks, in polluted soil, and in manure.

(5) **A clean, sanitary camp,** properly policed, is the remedy.

(c) Dust.

20. (1) **In insanitary camps,** not properly policed, dust may carry dried filth, laden with the germs of disease, to be breathed or eaten as the case may be.

(2) **Destruction of camp-refuse,** cleanliness, the proper care of the urinals and sinks, and the selection of suitable camp-sites are the remedies.

(d) Water.

21. (1) **All drinking-water** must be boiled or distilled and afterward protected against contamination.

(2) **Roadside water** and raw water from streams, wells, and badly kept springs is commonly polluted with the germs of typhoid fever, dysentery, cholera, and diarrhœal diseases, and should be avoided. Boiling destroys these germs and renders water fit for drinking and cooking purposes.

(3) **On going into camp** the water-supply should immediately be placed under intelligent supervision and its approach protected by boards, rails, or logs, even in temporary camps.

The Water-Supply.

22. Physical characteristics of good water.—Good water is colorless, clear, free from suspended matter, of brilliant luster, devoid of smell or taste, except that recognized as belonging to good water.

23. Physical characteristics of bad water.—Bad water may occasionally have all the characteristics of good water and still

contain the germs of disease. Any departure from the characteristics of good water, especially undue turbidity or the development of odors on gentle warming, should cause it to be treated with suspicion.

24. **Sources of water.**—(1) *Good.*—Rain-water, water from clear ice, lakes, large rivers, and streams in uninhabited districts, artesian-wells and protected springs.

(2) *Bad.*—Rain-water from polluted surfaces, snow-ice, small ponds, small streams, and wells in inhabited regions, marsh-water and rivers below towns and cities.

25. **How to cool water.**—Suspend it in air currents in porous earthen jars, canvas bags, or in other receptacles wrapped in wet fabrics.

26. **How to clear turbid water.**—Add from 5 to 10 grains of alum to the gallon of water before boiling.

27. **How to clear muddy water.**—Prepare a double barrel or box as follows: into the larger barrel or box place sand, pebbles, charcoal, etc.; it should receive the muddy water. The small barrel, or box, with a perforated bottom, rests inside the larger and the clear water passes up into it.

(e) Food.

28. **Food and food-containers** contaminated by flies and germ-laden dust are the most common sources of camp diseases, such as typhoid, cholera, and dysentery.

29. **Beverages.**—Uncooked milk and "soft drinks" should be treated with suspicion.

30. **Fruit.**—(1) If it were possible to select fresh, ripe, sound, and scrupulously clean fruits they might be eaten with benefit.

(2) **The danger** lies in unripeness, staleness, commencing decomposition and surface germ-contamination.

(3) **Salads** and other raw food from the surface of the soil are especially dangerous.

31. **Precautions.**—It is safest in camp to interdict raw foods and beverages without exception. Thorough cooking removes all danger from germ-contamination.

Cooks.

32. **Efficient cooks,** drilled in the proper methods of keeping, preparing, and cooking food, and congnizant of the importance of intelligently cleansing and caring for food-containers, and the

preparation of drinking-water, should accompany the landing-force. Badly cooked food and dirty food-containers cause digestive and diarrhœal diseases.

33.—Precautions—All food should be carefully screened, covered or otherwise protected from dust and flies from the time it is cooked until it is eaten. Uncooked and badly exposed food should not be eaten.

(f) Drinking-Cups.

34. (1) Drinking-cups, eating utensils, lead-pencils, plug-tobacco, and the like should not be passed around. They have been known to spread contagious diseases like syphilis, diphtheria, mumps, and measles.

(2) Common drinking-cups at scuttle-butts and elsewhere should be kept submerged in formalin (1-1000) when not in actual use.

(3) Lip-drinking, horse-fashion, should be practiced where the cups are not disinfected.

(g) Climate.

35. (1) **Extremes of heat and cold** are rarely causes of sickness in themselves, if camp-sites are well chosen and sanitary regulations are intelligently carried out.

(2) The men should not sleep directly on the ground if it can be avoided. They should raise their beds with straw, leaves, boughs or other means.

36. Badly selected camp-sites may, through dampness and other avoidable climatic influences, be responsible for pneumonia, bronchitis, colds, sore-throat, and rheumatic affections.

37. Wet clothes.—Little harm comes to men with wet clothes and wet foot-gear if they are exercising actively.

38. Chilliness from extreme cold, or inactivity is dangerous.

In the Tropics.

39. (1) In the tropics there should be moderation in diet, drinking, exercise, clothing, and work.

(2) **The abuse of alcohol** is most dangerous to health.

(3) **The diet** should be light and nutritious, much the same as at home, but diminished in amount.

(4) **Sports,** in moderation, should be encouraged for recreation. Swimming is a healthful tropical exercise.

(5) **Exposure of the head,** neck, and spinal column to the direct rays of the sun is particularly harmful and should be avoided.

(6) **Drills.**—There should be no hard work or exhausting drills between 8 a. m. and 4 p. m. During these hours necessary work only should be undertaken.

(7) **Chilling of the person,** especially of the abdomen, should be avoided. Suitable covering at night not only protects the individual from the sudden changes of temperature incident to the tropics but also against the bites of insects.

CAMPS AND CAMP-SITES.

40. **Old camp-grounds** should be avoided whenever possible. Wood, water, and grass should be available. A southern slope and high well-drained ground is desirable.

41. **The driest site** is the best. A side hill is warmer than the top, and drier than the bottom.

42. **Grass-land** generally is a good camping-ground, but rank vegetation in the tropics means a damp soil.

43. **The soil** should be dry and porous.

44. **Clay** and other soils of low permeability to air and moisture should if possible be avoided. They are retentive of water and cold, and cause dampness of the atmosphere. Old river-bottoms, marshy ground, and land subjected to periodical flooding, especially by salt water are undesirable.

45. **Winds.**—The camp should be so placed that the prevailing wind will blow toward possible breeding places for mosquitoes and will not blow dust and flies from the sinks toward the kitchens.

Sinks.

46. (1) **On halting for the day** the first duty is the posting of sentries over the water-supply and the designating of a place for relieving the calls of nature.

(2) The first task should be to dig the sinks.

(3) If the force is small and the camp is reached after dark and it is to be broken early next morning, then sinks need not be dug. The men should use a designated place and should cover their evacuations with earth.

(4) Sinks should be 2 feet wide at the top, 12 to 20 feet long, and from 3 to 10 feet deep in proportion to the probable length of stay. The earth should be thrown to the rear, and a layer of a few inches from it covered in at least 3 times a day.

(5) Shallow sinks should be filled in when they reach within a foot of the top; deeper sinks at a lower level.

(6) All sinks should be re-covered and marked on breaking camp.

(7) A pole on forked uprights makes a satisfactory seat. Each man should cover his evacuations with earth.

(8) Straw or paper saturated with kerosene, or kerosene alone, should be burned in the sinks at least twice a day when practicable. Quicklime thrown in to cover the passages is also effective. Earth, kerosene and quicklime should *all* be used, when possible, as no one alone is entirely satisfactory.

(9) These measures greatly diminish the number of flies about camp, and prevent the spread of camp filth and disease by these pests.

(10) The sinks should be so placed that prevailing winds blow across the camp toward them; so situated that they cannot pollute the water-supply, and located as far away from the kitchens as possible, yet not at such a distance as to tempt men to pollute the soil at more convenient points. They should be screened by bushes.

(11) A number of sinks are better controlled than a single large one.

Urinals.

47. (1) Urinals should be conveniently located and kept under control to avoid soil-pollution. They should be quicklimed and kept covered.

(2) Typhoid-fever germs often abound in the urine as well as in the bowel discharges.

(3) Filthiness in camp is an offense against health as well as an offense against decency.

Kitchen-Pits.

48. (1) Pits should be dug at once for the purely liquid refuse from the kitchens. They should be located in the vicinity of the kitchen, and should be covered with boards or other material to exclude flies. If boards are not to be had, brushwood, straw, grass, or something of the sort, supported by saplings laid crosswise, will answer. If possible the openings for the slops should be guarded with wire mesh, and covered with boards. The pits should be treated with kerosene from time to time and should be filled in before marching.

(2) Unless the pits are guarded, flies will breed in them and will swarm about the kitchen and camp.

(3) The solid kitchen-refuse should be burned daily.

(4) In temporary camps the kitchen fire may be used for the purpose. In more permanent camps the solid refuse should be removed to a designated place and there destroyed by fire.

CAMPING, BIVOUACS, CANTONMENTS.

1. In the presence of the enemy, the troops bivouac in position; company officers bivouac in rear of their companies; the field and staff, in rear of the center of the line of company officers.

Arrangement of Tents.

2. When not in the presence of the enemy, each battalion usually camps in column of companies at convenient distances.

(1) The tents of each company are arranged in two lines, facing each other, or in one line, all facing in the same direction; the tents of the company officers are arranged in line parallel to the flank of the column and at a convenient distance, facing the company street; tent of the **c. c.,** on the right; his **cs. o. s.,** on his left. The **1 p. o.'s** tent is on the flank of the company toward the officers' tents.

(2) The tents of the **bt. c.** and his staff are in line parallel to those of the company officers; the **bt. c.** opposite the center of his battalion; his **adj.** on his right; those of the other staff-officers, on his left.

(3) The tent of the **rg. c.** is opposite the center of the regiment in rear of those of the **bt. cs.;** the tent of the **adj.** on the left of the **rg. c.;** those of the other staff-officers, on the left of the **adj.**

(4) The tents of the **sf. p. os.** and band are at the head of the column.

Kitchens, Sinks, Hospitals, Etc.

3. (1) The kitchens of the men are in line on the flank nearest the company officers; the sinks for the men are on the flank opposite the company officers.

(2) The kitchens of the officers are in rear of their tents; the sinks for the officers are in rear of the line of tents of the **rg. c.** and his staff.

(3) The position of the color-line, guard-tent, hospital, officers' horses, baggage-wagons, etc., are prescribed by the commanding officer.

Plate 1. Art. 2.
Plan of a Camp.

Streets.

4. (1) The width of the company streets and of the streets in front of the officers varies with the nature of the ground and the strength of the command.

(2) When time will permit, all the streets are ditched; a shallow ditch is also made around each tent.

Special Precautions.

5. (1) When straw, leaves, or boughs are at hand, the men should be required to raise their beds above the ground; attention to this rule, to cleanliness, and to the proper cooking of food will greatly reduce the number and frequency of camp diseases.

(2) In winter quarters, tents may be pitched on frames made of boards or split logs, the bunks of the men being arranged one above another.

6. **Selection of site.**—(See Arts. 40-45, Notes on Military Hygiene.)

7. **Sinks.**—(See Art. 46, Notes on Military Hygiene.)

8. **Kitchen-pits.**—(See Art. 48, Notes on Military Hygiene.)

Water-Supply.

9. (1) On going into camp a guard should be placed over the water-supply and places designated for obtaining the drinking and cooking-water, watering animals, bathing, and washing clothing. The first should be farthest up the source of supply and the others in the order named. If the stream be small it is best to construct reservoirs by building small dams across it.

(2) If the supply be from small springs each may be dug out, lined with a gabion or barrel with both heads removed, and the space between the lining and the earth filled with puddled clay. The same method may frequently be used near swamps, streams or lakes. In all cases the puddled clay should be carried up into a curb to keep out the surface drainage.

(3) Water that is not known to be pure should be thoroughly boiled, then cooled and aerated before drinking.

(4) Impurities in suspension may be removed by an extemporized filter. A small hole in the bottom of a barrel, a can, or similar vessel, is stopped with a piece of sponge or other material allowing the free passage of water. A layer of clean, coarse sand, three or

four inches thick, is then placed in the bottom, followed by a similar layer of pounded charcoal; then another of sand followed by one of gravel, both of which should be washed clean before being placed in the filter.

Kitchen Fires.

10. (1) Camp kettles can be hung on a support consisting of a small green pole lying in the crotches of two upright posts of the same character.

(2) A narrow trench for the fire, about one foot deep, dug under the pole, not only protects the fire from the wind but saves fuel. A still greater economy of fuel can be effected by digging a similar trench in the direction of the wind and slightly narrower than the diameter of the kettles. The kettles are then placed on the trench and the space between the kettles filled in with stones, clay, etc., leaving the flue running beneath the kettles. The draft may be improved by building a chimney of stones, clay, etc., at the leeward end of the flue.

(3) Four such trenches radiating from a common, central chimney will give one flue for use, whatever may be the direction of the wind.

(4) A slight slope of the flue, from the chimney down, provides for drainage and improves the draft.

Ovens.

11. (1) The lack of portable ovens can be met by ovens constructed of stone and covered with earth to better retain the heat. If no stone is available an empty barrel with one head out is laid on its side, covered with wet clay to a depth of six or more inches and then with a layer of dry earth equally thick. A flue is constructed with the clay above the closed end of the barrel, which is then burned out with a hot fire. This leaves a baked clay covering for the oven.

(2) A recess can be similarly constructed with boards or even brushwood, supported on a horizontal pole resting on upright posts, covered and burned out as in case of the barrel.

(3) When clay banks are available an oven may be excavated therein and used at once.

(4) To bake in such ovens, first heat and then close flues and end.

General Remarks.

12. (1) As soon as the lines of company streets are established, the positions of the tents should be marked from the flank nearest the officers' tents, by pins. The front pole of the wall and common tent, and the door-pins of the conical wall-tents occupy the points so marked. The distance between pins may be determined by pacing, or by a light cord with the distances marked upon it. These distances are: for wall-tents, eight paces; common tents, six paces; conical wall-tents, ten paces. The pins marking the position of the tents are, when practicable, set on a straight line, and the company officers verify and correct the alignment of such pins in the quickest and most convenient manner.

(2) Wall-pins are so driven as to slope slightly away from the tent; guy-pins, so as to slope slightly toward the tent.

(3) Each tent, its fly, hood, poles, and tripod should have the same number.

Working-Parties.

13. (1) On arriving at the ground selected for the camp the following parties should be told off, and their duties assigned by the **c. c.:**

(2) *Sink-party:* All the pioneers who carry pickaxes and shovels and two men per company, in charge of a **p. o.**

(3) *Water-party:* Two men per company, under a **p. o.**

(4) *Ration-party:* Two men per company, under a **p. o.**

(5) *Wood-party:* Two men per company, or more if necessary.

DAILY ROUTINE IN CAMP

Roll-calls.

14. (1) There should be, daily, at least three roll-calls, viz., at reveille, retreat, and tattoo. They will be made on the company parades by the **1 p. os.,** superintended by an officer of the company.

(2) At all established roll-calls, except dress-parade, after the companies are dismissed, each officer superintending the company roll-call reports to the **adj.,** or other officer designated, the result of the roll-call; the **adj.** or other officer designated reports the result of the roll-call to the commanding officer.

(3) Immediately after reveille roll-call, the tents or quarters and the space around them will be put in order by the men of the companies, superintended by the **p. os.,** and the guard-house or guard-tent by the guard or prisoners.

(4) The morning reports of companies, signed by the **c. cs.** and **1 p. os.**, will be handed to the **adj.** before 8 o'clock in the morning, and will be consolidated by the **adj.** within the next hour, for the information of the **bt. c.**; and if the consolidation is to be sent to higher authority, it will be signed by the **bt. c.** and the **adj.**

Routine Calls.

15. The **rg. c.** establishes the hours for the different calls, having regard to the season and circumstances. (See Bugle-Calls and Signals.)

(1) *Reveille* is usually sounded about sunrise.

(2) *Sick-call* in time to allow the **1 p. os.** to obtain from the surgeon a list of the men they are to report as sick on their morning report.

(3) *Breakfast-call* should be sounded as soon after reveille as practicable, allowing the men time to wash themselves and put their tents or quarters in order. Usually no work or drill will be ordered before breakfast.

(4) **1 p. os.** *call* is the signal for the morning reports to be sent in to the battalion headquarters.

(5) The *First-call* followed by the *Assembly* is the signal for morning parade. If the guard is mounted in the morning, guard-mounting should follow morning parade.

(6) *Fatigue* is the signal for policing camp or quarters, and for working-parties to commence work.

(7) *Drill-call* is usually sounded after the morning fatigue duties have been performed, or after dinner.

(8) *Assembly,* signal to form by companies.

(9) *Recall from drill* is the signal for drill to cease.

(10) *Dinner-call,* usually at noon.

(11) *Retreat* at sunset, when the troops should appear under arms, weather permitting; orders and detail for the following day are published then.

(12) *Supper-call* generally follows parade.

(13) *Tattoo* not earlier than 9 nor later than 10.30 p. m.

(14) *Taps* from fifteen to thirty minutes after tattoo.

(15) *To Arms* is the signal of alarm. The command should turn out under arms.

(16) *The general* is the signal to break camp and prepare to march.

BIVOUACS.

16. (1) In fine weather the bivouac is more healthy than the camp, particularly if operating in a wooded country where fires

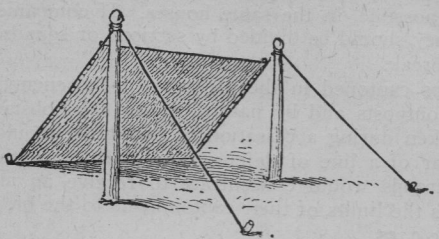


Plate 2. Art. 16.
Rubber-blanket as a shelter-tent.

an be maintained easily. (Plates and 3.)

(2) In selecting a site for a ivouac, wood and water are the reat requisites; a good supply f the former is all the more ssential if the nights are cold.

(3) The fires should be so onstructed as not to be seen rom the distance, to be quickly xtinguished, to admit of many athering around them, and at ie same time to economize fuel. s a rule, if warmth is desired, ee that the fire is kept close to ie ground; if light is wanted, evate it 1½ or 2 feet above the round.

CANTONMENTS.

17. (1) Cantonments are the habited places which troops cupy for shelter when not put to barracks.

(2) The rg. c. indicates the ace where the command shall semble in case of alarm. It

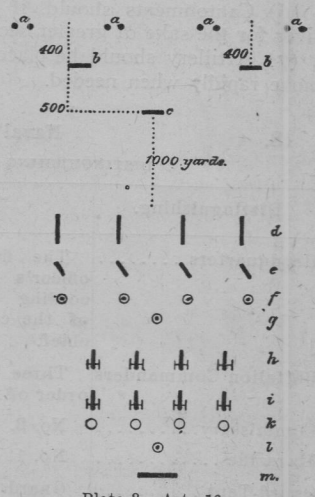


Plate 3. Art. 16.
Bivouac.

a a a a Double sentries. *b b*, Pickets. *c*, Support of outpost. *d*, Main body. *e*, Kitchens. *f*, Company officers. *g*, Field-officers' headquarters. *h*, Stores, etc. *i*, The guns. *k*, Guns'-crews. *l*, Battery-officer. *m*, Rear guard.

should generally be outside the cantonment; the egress from it should be free; the retreat upon the other positions secure; and roads leading to it on the side of the enemy obstructed.

(3) Near the enemy, companies or sections should be collected, as much as possible, in the same houses. If companies must be separated, they should be divided by sections or squads. All take arms at daybreak.

(4) Troops cantoned in the presence of the enemy should be covered by outposts and by natural or artificial obstacles. Cantonments taken during a cessation of hostilities should be established in rear of a line of defense and in front of the point on which the troops would concentrate to receive an attack. The rg. c. assigns the limits of their cantonments to the bt. cs. and the bt. cs. to the c. cs.

(5) The position for each battalion in case of attack should be carefully indicated by the rg. c.

(6) Cantonments should, if possible, be established behind a river for the sake of greater security against attack.

(7) Artillery should be placed near the roads, so that it may move rapidly when needed.

18. Naval Brigade.

DISTINGUISHING FLAGS AND LIGHTS.

Distinguishing.	Day.	Night.
Headquarters	The flag, or senior officer's pennant according to the rank of the commander-in-chief.	Two red lanterns.
Battalion Commanders	Three repeaters in order of rank.	One red lantern.
Commissary.....	No. 2.	One green lantern.
Magazine	No. 1.	.....
Guard-Tent	Guard-Flag.	One red lantern over one white lantern.
Hospitals.....	Hospital Flag.	One green lantern over one white lantern.

MANUAL OF TENT PITCHING.

Shelter Tents.

1. Being in line or in column of sections, the c. c. commands: FORM FOR SHELTER TENTS.

The officers and guides fall out; blank files are filled by the file closers or by men taken from the front rank; the remaining guide, or guides, and file closers form on a convenient flank.

2. The c. c. then causes the company to take intervals and commands: PITCH TENTS.

(1) At the command *pitch tents,* each man steps off obliquely to the right with the right foot and lays his rifle on the ground, the butt of the rifle near the toe of the right foot, muzzle to the front, barrel to the left, and steps back into his place; each front-rank man then draws his bayonet and sticks it in the ground by the outside of the right heel.

(2) Equipments are unslung, packs opened, shelter half and pins removed; each man then spreads his shelter half, small triangle to the rear, flat upon the ground the tent is to occupy, the rear-rank man's half on the right. The halves are then buttoned together; the guy loops at both ends of the upper half are passed through the buttonholes provided in the upper half; the whipped end of the guy rope is then passed through both guy loops and secured, this at both ends of the tent. Each front-rank man inserts the muzzle of his rifle under the front end of the ridge and holds the rifle upright, sling to the front, heel of butt on the ground beside the bayonet. His rear-rank man pins down the front corners of the tent on the line of bayonets, stretching the tent taut; he then inserts a pin in the eye of the front guy rope and drives the pin at such a distance in front of the rifle as to hold the rope taut; both men go to the rear of the tent, each pins down a corner, stretching the sides and rear of the tent before securing; the rear-rank man then inserts an intrenching tool, or a bayonet in its scabbard, under the rear end of the ridge inside the tent, the front-rank man pegging down the end of the rear guy ropes; the rest of the pins are then driven by both men, the rear-rank man working on the right.

(3) The front flaps of the tent are not fastened down, but thrown back on the tent.

(4) As soon as the tent is pitched each man arranges his equipment and the contents of his pack in the tent and stands at

attention in front of his own half on line with the front guy-rope pin.

(5) To have a uniform slope when the tents are pitched, the guy ropes should all be of the same length.

3. When the pack is not carried the company is formed for shelter tents, intervals are taken, arms are laid aside or on the ground, the men are dismissed and proceed to the wagon, secure their packs, return to their places, and pitch tents as heretofore described.

4. **Double shelter tents** may be pitched by first pitching one tent as heretofore described, then pitching a second tent against the opening of the first, using one rifle to support both tents, and passing the front guy ropes over and down the sides of the opposite tents. The front corner of one tent is not pegged down, but is thrown back to permit an opening into the tent.

Single Sleeping Bag.

5. Spread the poncho on the ground, buttoned end at the feet, buttoned side to the left; fold the blanket once across its short dimension and lay it on the poncho, folded side along the right side of the poncho; tie the blanket together along the left side by means of the tapes provided; fold the left half of the poncho over the blanket and button it together along the side and bottom.

Double Sleeping Bag.

6. Spread one poncho on the ground, buttoned end at the feet, buttoned side to the left; spread the blankets on top of the poncho; tie the edges of the blankets together with the tapes provided; spread a second poncho on top of the blankets, buttoned end at the feet, buttoned side to the right; button the two ponchos together along both sides and across the end.

To Strike Shelter Tents.

7. The men standing in front of their tents: STRIKE TENTS.

Equipments and rifles are removed from the tent; the tents are lowered, packs made up, and equipments slung, and the men stand at attention in the places originally occupied after taking intervals.

Common and Wall Tents.

8. Four men pitch each tent.

Drive a pin to mark the center of the door; spread the tent

on the ground to be occupied; place door loops over door pin; draw front corners taut, align, and peg them down; lace rear door, if necessary; draw rear corners taut in both directions and peg them down; the four corner guy pins are then driven in prolongation of the diagonals of the tent and about 2 paces beyond the corner pins; temporarily loosen the front door and the lee corner loops from the pins; insert uprights and ridge pole, inserting the pole pins in ridge pole and in eyelets of tent and fly; raise the tent; hold it in position; replace lee corner loops and secure corner and fly guy ropes; tighten same to hold poles vertical; drive wall pins through the loops as they hang; drive intermediate guy pins, aligning them on corner pins already driven.

The Pyramidal Tent.

9. One squad pitches each tent.

The **p. o.** drives a pin to mark the center of the door. The others of the squad unfold the tent and spread it out on the ground to be occupied, pole and tripod underneath. The **p. o.** places the door loops over the door pin; one man goes to each corner of the tent; the two men in front draw the front corners taut, align the front of the tent with the company line of tents, and peg the corners down; the two men in rear draw rear corners taut in both directions and peg them down. The same four men drive the four corner guy pins in prolongation of the diagonals of the tent, about 2 paces beyond the corner pins. Meantime, the other men of the squad, having crept under the tent, insert the tent pole spindle in top plate, the **p. o.** placing the hood in position; the pole is raised and the lower end inserted in the tripod socket; the tripod is raised to its proper height. Under the supervision of the **p. o.** the men inside the tent shift the tripod and the men outside the tent handle the corner guy lines in such manner as to erect the tent with the corner eaves directly above the corner pins. Each outside man, moving to the left, drives pins for the wall loops along one side of the tent and, returning, drives the intermediate guy pins; in both cases the pins are aligned on the corner pins. The inside men assist.

Conical Wall Tent.

10. (1) Drive the door pin and center pin 8 feet 3 inches apart. Using the hood lines, describe two concentric circles 8 feet 3 inches and 11 feet 3 inches in diameter. In the outer circle

drive two door guy pins 3 feet apart. At intervals of about 3 feet drive the other guy pins.

(2) In other respects conical tents are erected practically as in the case of pyramidal tents.

To Strike Common, Wall, Pyramidal, and Conical Wall Tents.

11. STRIKE TENTS.

(1) The men first remove all pins except those of the four corner guy ropes, or the four quadrant guy ropes in the case of the conical wall tent. The pins are neatly piled or placed in their receptacle.

(2) One man holds each guy, and when the ground is clear the tent is lowered, folded, or rolled and tied, the poles or tripod and pole fastened together, and the remaining pins collected.

To Fold Tents.

12. (1) **For folding common, wall, hospital, and storage tents:** Spread the tent flat on the ground, folded at the ridge so that bottoms of side walls are even, ends of tent forming triangles to the right and left; fold the triangular ends of the tent in toward the middle, making it rectangular in shape; fold the top over about 9 inches; fold the tent in two by carrying the top fold over clear to the foot; fold again in two from the top to the foot; throw all guys on tent except the second from each end; fold the ends in so as to cover about two-thirds of the second cloths; fold the left end to meet the turned-in edge of the right end, then fold the right end over the top, completing the bundle; tie with the two exposed guys.

(2) **For folding pyramidal tents:** Spread the tent flat on the ground with bottom edges even, door and square iron up and in the center of opposite sides of the flat tent, exposed guys thrown toward the square iron; fold the ends over toward the center, the left end slightly overlapping the right, the tent forming a quadrangle of which the square iron side is about 2 feet shorter than the door side; fold over the top of the tent the width of the square iron and continue folding toward the foot with folds of equal width until the wall protects completely the under side of the tent; fold and tie as described in the preceding subparagraph.

(3) This method of folding the tent should place the wall on the outside of the bundle and protect the roof of the tent from damage.

PROTECTION OF CAMP OR BIVOUAC.

Outposts.

1. The outpost is a covering detachment detailed to secure the camp or bivouac against surprise and to prevent an attack upon it before the troops can prepare to resist.

2. (1) **The size and disposition** of the outpost will depend upon many circumstances, such as the size of the whole command, the proximity of the enemy and the situation with respect to him, the nature of the terrain, etc.

(2) A suitable strength may vary from a very small fraction to one-third of the whole force. For a single company in bivouac a few sentinels and patrols will suffice; for a large command a more elaborate outpost system must be provided. It should be no stronger than is consistent with reasonable security.

(3) The most economical protection is furnished by keeping close contact with the enemy by means of outpost patrols, in conjunction with resisting detachments on the avenues of approach.

(4) The outpost should be composed of complete organizations.

3. In a brigade or smaller force on the march toward the enemy, the outpost is generally formed from the advance guard, and is relieved the following day when the new advance guard crosses the line of outguards. In a retreat, the detail for outpost duty is generally made from the main body. The new outpost becomes the rear guard the following day.

4. (1) When, as in large forces, an advance and rear guard performs such duty for several days, the outpost, during this period, is furnished by the advance or rear guards.

(2) **When the command is small** and stationary for several days, the outpost is relieved daily. In large commands, the outpost will, as a rule, be relieved at intervals of several days.

5. (1) **The positions** held by the subdivisions of the outpost should generally be prepared for defense, but conditions may render this unnecessary.

(2) Troops on outpost keep concealed as much as is consistent with the proper performance of their duties; especially do they avoid appearing on the sky-line.

(3) Outpost troops do not render honors.

Distribution of Outpost Troops.

6. (1) The outpost will generally be divided into three parts. These, in order from the main body, are the *reserve*, the line of *supports*, and the line of *outguards*.

(2) **The distances** separating these parts, and their distance from the main body, will depend upon the object sought, the nature of the terrain, and the size of the command. There can be no uniformity in the distance between supports and reserve, nor between outguards and supports, even in the same outpost. The avenues of approach and the important features of the terrain will largely control their exact positions.

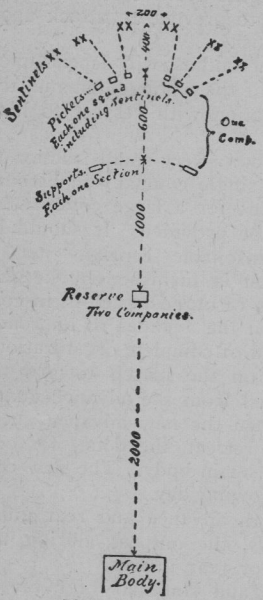


Plate 4. Art. 6. Outpost.

NOTE.—It will be seen from the plate that the disposition of the four companies as an outpost in four lines is similar to the preliminary formation of a battalion in extended order. Two companies are advanced, one section of each company being in line of squads, 600 yards in front of the supporting section of the same company. Each squad furnishes one or two sentinels. In case of an alarm or attack the pickets may deploy and advance as a firing-line to aid the sentinels, while the section in support advances to re-enforce the firing-line; and the two reserve companies may come up on the flanks, as in extended order, thus throwing the whole battalion into battle formation to the front as a resisting screen behind which the main body may prepare for the attack. Or, each line may, in succession, *fall back* upon the one in rear until the whole outpost is deployed into a firing-line. It may be possible, in either case to avoid mixing companies, and thus keep good control. It is an excellent exercise to dispose a battalion as an outpost, and then maneuver as in an attack.

(3) The outpost of a small force should ordinarily hold the enemy beyond effective rifle range of the main body until the latter can deploy. For the same purpose the outpost of a large force should hold the enemy beyond artillery range.

7. (1) **The reserve** constitutes the main body of the outpost and is held at some central point from which it can readily *support the troops in front* or *hold a rallying position* on which they may retire. The reserve may be omitted when the outpost consists of less than two companies.

(2) The reserve may comprise one-fourth to two-thirds of the strength of the outpost.

8. (1) **The supports** constitute a line of *supporting* and *resisting* detachments, varying in size from a half company to a battalion. They furnish the line of *outguards.*

(2) The supports are numbered consecutively from right to left. They are placed at the more important points on the outpost line, usually in the line on which resistance is to be made in case of attack.

9. As a general rule, roads exercise the greatest influence on the location of supports, and a support will generally be placed on or near a road. The section which it is to cover should be clearly defined by means of tangible lines on the ground and should be such that the support is centrally located therein.

10. **The outguards** constitute the line of small detachments farthest to the front and nearest to the enemy. For convenience they are classified as *pickets, sentry squads,* and *cossack posts.* They are numbered consecutively from right to left in each support.

11. (1) **A picket** is a group consisting of two or more squads, ordinarily not exceeding half a company, posted in the line of outguards to cover a given sector. It furnishes patrols and one or more sentinels, double sentinels, sentry squads, or cossack posts for *observation.*

(2) Pickets are placed at the more important points in the line of outguards, such as road forks. The strength of each depends upon the number of small groups required to observe properly its sector.

12. **A sentry squad** is a squad posted in *observation* at an indicated point. It posts a double sentinel in observation, the remaining men resting near by and furnishing the reliefs of sentinels. In some cases it may be required to furnish a patrol.

13. **A cossack post** consists of four men. It is an *observation* group similar to a sentry squad, but employs a single sentinel.

14. **At night,** it will sometimes be advisable to place some of the outguards or their sentinels in a position different from that which they occupy in the daytime. In such case the ground should be carefully studied before dark and the change made at dusk. However, a change in the position of the outguard will be exceptional.

15. (1) **Sentinels** are generally used singly in daytime, but at night double sentinels will be required in most cases. Sentinels furnished by cossack posts or sentry squads are kept near their

group. Those furnished by pickets may be as far as 100 yards away.

(2) Every sentinel should be able to communicate readily with the body to which he belongs.

(3) Sentinel posts are numbered consecutively from right to left in each outguard. Sentry squads and cossack posts furnished by pickets are counted as sentinel posts.

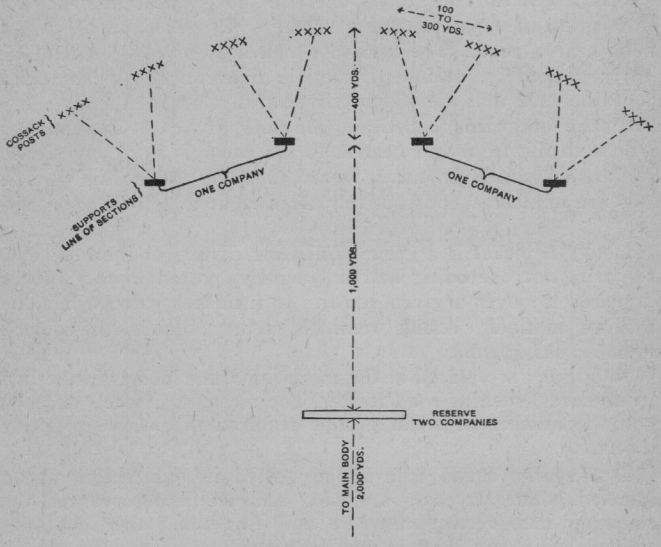


Plate 5. Art. 13.
Cossack posts.

16. (1) Instead of using outguards along the entire front of observation, part of this front may be covered by *patrols* only. These should be used to cover such sections of the front as can be crossed by the enemy only with difficulty and over which he is not likely to attempt a crossing after dark.

(2) In daylight much of the local patrolling may be dispensed with if the country can be seen from the posts of the sentinels. However, patrols should frequently be pushed well to the front unless the ground in that direction is exceptionally open.

17. Patrols or sentinels must be the first troops which the enemy meets, and each body in rear must have time to prepare for the blow. These bodies cause as much delay as possible without sacrificing themselves, and gradually retire to the line where the outpost is to make its resistance.

18. Patrols must be used to keep up connection between the parts of the outpost except when, during daylight, certain fractions or groups are mutually visible. After dark this connection must be maintained throughout the outpost except where the larger subdivisions are provided with wire communication.

19. (1) In addition to ordinary outguards, the outpost commander may detail from the reserve one or more *detached posts* to cover roads or areas not in the general line assigned to the supports.

(2) In like manner the commander of the whole force may order *detached posts* to be sent from the main body to cover important roads or localities not included in the outpost line.

(3) The number and strength of detached posts are reduced to the absolute needs of the situation.

Establishing the Outpost.

20. The outpost is posted as quickly as possible so that the troops can the sooner obtain rest. Until the leading outpost troops are able to assume their duties, temporary protection, known as the *march outpost,* is furnished by the nearest available troops.

21. The halt order of the commander, besides giving the necessary information and assigning camp sites to the parts of the command, details the troops to constitute the outpost, assigns a commander therefor, designates the general line to be occupied, and, when practicable, points out the position to be held in case of attack.

22. (1) **The outpost commander,** upon receipt of this order, should issue the outpost order, with the least practicable delay. In large commands it may often be necessary to give the order from the map, but usually the outpost commander will have to make some preliminary reconnaissance, unless he has an accurate and detailed map.

(2) The order gives such available information of the situation as is necessary to the complete and proper guidance of subordinates; designates the troops to constitute the supports; assigns

their location and the sector each is to cover; provides for the necessary detached posts; indicates any special reconnaissance that is to be made; orders the location and disposition of the reserve; disposes of the train if same is ordered to join the outpost; and informs subordinates where information will be sent.

23. (1) Generally it is preferable for the outpost commander to give verbal orders to his support commanders from some locality which overlooks the terrain. The time and locality should be so selected that the support commanders may join their commands and conduct them to their positions without causing unnecessary delay to their troops. The reserve commander should, if possible, receive his orders at the same time as the support commanders. Subordinates to whom he gives orders separately should be informed of the location of other parts of the outpost.

(2) In large outposts, written orders are frequently most convenient.

(3) After issuing the initial orders, the outpost commander inspects the outpost, orders the necessary changes or additions, and sends his superior a report of his dispositions.

24. **The reserve** is marched to its post by its commander, who then sends out such detachments as have been ordered and places the rest in camp or bivouac, over which at least one sentinel should be posted. Connection must be maintained with the main body, the supports, and nearby detached posts.

25. **The supports** march to their posts, using the necessary covering detachments when in advance of the march outpost. A support commander's order should fully explain the situation to subordinates, or to the entire command, if it be small. It should detail the troops for the different outguards and, when necessary, define the sector each is to cover. It should provide the necessary sentinels at the post of the support, the patrols to be sent therefrom, and should arrange for the necessary intrenching. Connection should be maintained with adjoining supports and with the outguards furnished by the support.

26. In posting his command the support commander must seek to cover his sector in such manner that the enemy cannot reach, in dangerous numbers and unobserved, the position of the support or pass by it within the sector intrusted to the support. On the other hand, he must economize men on observation and patrol duty, for these duties are unusually fatiguing.

He must practice the greatest economy of men consistent with the requirements of practical security.

27. As soon as the posting of the support is completed, its commander carefully inspects the dispositions and corrects defects, if any, and reports the disposition of his support, including the patrolling ordered, to the outpost commander. This report is preferably made by means of a sketch.

28. (1) Each **outguard** is marched by its commander to its assigned station, and, especially in the case of a picket, is covered by the necessary patrolling to prevent surprise.

(2) Having reached the position, the commander explains the situation to his men and establishes reliefs for each sentinel, and, if possible, for each patrol to be furnished. Besides these sentinels and patrols, a picket must have a sentinel at its post.

(3) The commander then posts the sentinels and points out to them the principal features, such as towns, roads, and streams, and gives their names. He gives the direction and location of the enemy, if known, and of adjoining parts of the outpost.

(4) He gives to patrols the same information and the necessary orders as to their routes and the frequency with which the same shall be covered. Each patrol should go over its route once before dark.

29. Every picket should maintain connection by patrols with outguards on its right and left. Each commander will take precaution to conceal his outguard and will generally strengthen his position by intrenching.

Duties of Outposts and Patrols.

30. Men assigned to outpost duty should be carefully instructed as to the duties required. Generally speaking these duties are as follows:

(1) To discover and check the advance of an enemy.

(2) To prevent the main body from being needlessly alarmed.

(3) To obtain all possible information regarding the enemy, and to prevent the scouts and patrols of the enemy from obtaining information.

31. Concealment.—It is important that officers and men on outpost duty should keep themselves concealed as much as possible consistent with the proper performance of their duty. No fires should be lighted without permission.

32. Sentinels.—A sentinel should never be placed where he will

be visible against the sky-line, and he should be instructed as follows:

(1) The countersign.

(2) The extent of the post.

(3) The probable direction of the enemy.

(4) The positions of adjoining sentries, and of the picket.

(5) To conceal himself and listen and to avoid being seen and heard.

(6) That the safety of the command may depend upon his strict attention to duty.

(7) That he is to pay no compliments.

(8) That he shall allow but one strange person to approach him at a time.

(9) What to do in case strangers or men without passes approach or refuse to obey him.

(10) What to do if attacked, or if he sees an enemy, or discovers an enemy advancing.

33. Duties of Officers.—(1) The officer should be familiar with the country, and should scan it carefully with field-glasses.

(2) He should select a defensive position, and instruct the outpost what to do in case of an attack.

(3) He should make careful note of all orders, both written and verbal, and turn them over with all additional information to his relief.

(4) He should be particularly alert at night and warn the men to avoid giving an alarm needlessly.

PATROLS.

34. The following paragraphs on patrols are placed here for convenience. They relate in particular to the conduct of the patrol and its leader, and apply to patrols employed in covering detachments as well as in combat reconnaissance.

35. A patrol is a detachment sent out from a command to gain information of the country or of the enemy, or to prevent the enemy from gaining information. In special cases patrols may be given missions other than these.

36. (1) **The commander** must have clearly in mind the purpose for which the patrol is to be used in order that he may determine its proper strength, select its leader, and give the latter proper instructions.

(2) In general, a patrol should be sent out for one definite purpose only.

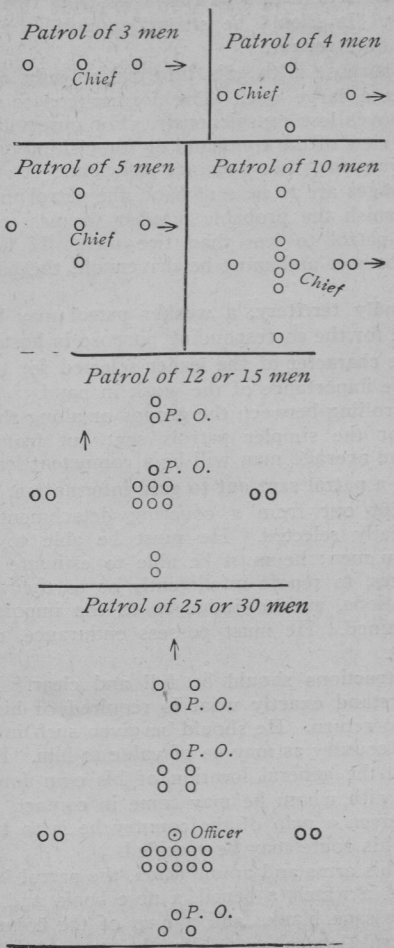


Plate 6. Art. 41.
Patrols.

37. (1) **The strength of a patrol** varies from two or three men to a company. It should be strong enough to accomplish its purpose, and no stronger.

(2) If the purpose is to gain information only, a small patrol is better than a large one. The former conceals itself more readily and moves less conspicuously. For observing from some point in plain view of the command or for visiting or reconnoitering between outguards two men are sufficient.

(3) **If messages** are to be sent back, the patrol must be strong enough to furnish the probable number of messengers without reducing the patrol to less than two men. If hostile patrols are likely to be met and must be driven off, the patrol must be strong.

(4) **In friendly territory,** a weaker patrol may be used than would be used for the corresponding purpose in hostile territory.

38. (1) **The character of the leader** selected for the patrol depends upon the importance of the work in hand.

(2) For patrolling between the groups or along the lines of an outpost, or for the simpler patrols sent out from a covering detachment, the average man will be a competent leader.

39. (1) **For a patrol sent out to gain information,** or for a distant patrol sent out from a covering detachment, the leader must be specially selected. He must be able to cover large areas with few men; he must be able to estimate the strength of hostile forces, to report intelligently as to their dispositions, to read indications, and to judge as to the importance of the information gained. He must possess endurance, courage, and good judgment.

(2) His instructions should be full and clear. He must be made to understand exactly what is required of him, where to go and when to return. He should be given such information of the enemy and country as may be of value to him. He should be informed as to the general location of his own forces, particularly of those with whom he may come in contact. If possible, he should be given a map of the country he is to traverse, and in many cases his route may be specified.

(3) Besides his arms and ammunition, the patrol leader should have a compass, a watch, a pencil, a note book, and, when practicable, field message blanks and a map of the country.

(4) The patrol leader assembles the men detailed for the patrol. He inspects their arms and ammunition and satisfies himself that they are in suitable condition for the duty. He sees

that none has any papers, maps, etc., that would be of value to the enemy if captured. He sees that their accoutrements do not glisten or rattle when they move. He then repeats his instructions to the patrol and assures himself that every man understands them. He explains the signals to be used and satisfies himself that they are understood. He designates a man to take his place should he be disabled.

40. (1) The information and movements of the patrol must be regulated so as to render probable the escape of at least one man should the patrol encounter a superior force. The formation will depend upon the nature of the ground traversed and the cover afforded. The leader must adopt the formation and measures best suited to the accomplishment of his object.

(2) In general, it should have the formation of a main body with advance, rear, and flank guards, though each be represented only by a single man.

41. (1) The distances separating the members of the patrol vary according to the ground. If too close together, they see no more than one man; if too widely separated they are likely to be lost to the control of the leader.

(2) With a patrol of four or five men the distances may vary from 25 to 50 yards; with a larger patrol they may be as great as 100 yards.

(3) At times a column of files, separated by the distances prescribed, is a satisfactory formation.

42. The country must be carefully observed as the patrol advances. In passing over a hill, the country beyond should first be observed by one man; houses, inclosures, etc., should be approached in a similar manner or avoided entirely; woods should generally be reconnoitered in a thin skirmish line.

43. (1) **The strength and composition of hostile troops** must be observed. If they cannot be counted, their strength may be estimated by the length of time a column consumes in passing a given point, or by the area covered if in camp.

(2) Patrol leaders should know, if practicable, the uniforms, guidons, etc., of the enemy, as it will assist in determining the class of troops seen when no other means for doing so are available.

(3) Insignia from the enemy's uniforms, picked up by patrols, often convey valuable information by indicating what troops are in the vicinity.

44. Patrols avoid fighting, except in self-defense or in order to prevent the enemy's patrols from gaining valuable information, or when necessary in order to accomplish their mission. In such cases, a patrol should fight resolutely even though inferior in numbers.

45. Information gained by patrols is generally of no value unless received in time to be of use to the commander. Patrol leaders must therefore send back information of importance as soon as it is gained unless the patrol itself is to return at once.

46. (1) If written, messages should state the place, date, hour, and minute of their dispatch. The information contained in them should be clearly and concisely expressed. They should be signed by the patrol leader.

(2) The authorized message book should be used and the form therein adhered to.

47. If the message be an oral one, the patrol leader should require the messenger to repeat it before starting back. In general, an oral message should cover but one point. Except when there is little chance of error in transmission, messages should be written.

48. When in friendly territory and not very far from friendly troops, one messenger is sufficient unless the message is very important. In hostile territory, either two men should go together or the message should be sent in duplicate by different routes.

49. Whether the information gained is of sufficient importance to be reported at once or may await the return of the patrol is a question which must be decided in each case. In case of reasonable doubt, it is generally better to send the report promptly. If the patrol leader has received proper instructions before starting out and has the requisite ability to lead a patrol, he can generally decide such questions satisfactorily as they arise.

50. **Infantry patrols** are generally used for work within 2 miles of supporting troops, but cases arise where they must go to greater distances.

51. **For distant patrolling,** a mounted patrol under an officer should be used.

52. (1) For controlling the movements of the patrol, the leader should, when necessary, make use of the arm signals prescribed in these regulations.

(2) On account of the short distance separating them, ordinary communication between members of the patrol is best effected quietly by word of mouth.

(3) When a member of a patrol is sent to a distant point, communication may be effected by means of simple, prearranged signals.

(4) When practicable, the patrol leader may communicate with the main body by means of visual signaling.

SCOUTING.*

"It has been said that 'there is scarcely a battle in history which has not been lost or won in proportion to the value of the previous reconnaissance.'"—*Baden-Powell.*

1. Duties of scouts.—(1) On the *offensive,* scouts should invariably be sent out ahead and on the flanks to search for and report the position of the enemy, and to examine the ground in order to select the best route for the advance, and to guard against an ambush.

(2) On the *defensive,* it is the special function of the scouts to observe and to report the enemy's approach, his number and his probable tactics.

2. The selection of scouts is a matter of the first importance. Each **c. c.** should select at least two men from each section of his company for special instruction in scouting. They should be active, intelligent men of great physical endurance.

Chief of Scouts.—Instructions.

3. An intelligence-officer, signal-officer, or aid may act as chief of scouts for a landing-force. He should instruct the scouts in all their duties, and especially in the following points:

(1) To read and make maps.

(2) To keep in touch with the force, and to signal or transmit information promptly and intelligibly.

(3) To know the points of the compass at all times, and the names of all rivers and important landmarks.

(4) To keep themselves concealed, and not to fire except in self-defense, or to signal an enemy.

(5) To climb trees and heights to observe the surrounding country; to select a background according to their clothing, and to hide by day, if necessary, and advance by night.

(6) To work in groups or pairs.

(7) To find the way, in a strange country, by night and by day, by memory of maps, by compass, stars, landmarks, questioning natives, etc.

(8) Quickness of eye and ear by day and by night, noting small signs, and keeping records of landmarks.

*Many points under this head were taken from "Aids to Scouting" by Major-General Baden-Powell of the British Army.

(9) To track men, horses, and wheels.
(10) To deduce information from tracks, signs, or sounds.
(11) Care of self. How to keep fit, preparing meat, flour, etc., for food; cooking and bivouacking.
(12) Sketching.

Carrying Dispatches.

4. **Dispatches,** particularly for distant bodies of troops, should be intrusted only to officers or special scouts to whom their contents can be confided. In a country occupied by the enemy the bearer of dispatches should be accompanied by at least two men; should avoid towns and villages, and the main road; rest as little as possible, and only at out-of-the-way places. Where there is danger, he should send one of the men in advance, and be always ready to destroy his dispatches. He should be adroit in answering questions, and not be intimidated by threats.

Special Points for a Scout.

5. See that you thoroughly understand your instructions:
(1) What you are expected to find out.
(2) About how far you are to go (it may be five miles, or it may be fifty), and in what direction.
(3) To what place you are to bring or send your information.
(4) Where and in what strength the enemy may be.
(5) If you get verbal orders write them down in your notebook so that there will be no mistake; you should then learn these orders thoroughly by heart, and destroy the written memorandum, so that in the event of your being shot or captured this will not fall into the enemy's hands.
(6) On getting into enemy's country, keep hidden and move fast over open ground, slow under cover.
(7) Take advantage of all points of high ground, taking care not to show yourself on the top, in an attempt to get a more comprehensive view of the country.

6. **By night** keep your ears as well as your eyes open for every sound, distant or near.

7. **Cooking** should be done in the daytime with a fire of dry chips and sticks, which do not give much smoke to betray your position.

8. **Language.**—Try and pick up sufficient of the language of the country to ask your way. Write down and learn the equivalent for such questions as "Which is the way to ———?" "Where

does this road lead to?" "Have you seen any soldiers?" "How many hours is it to ———?" "Where is ———?" "What is the name of that place?" and such questions as will not produce a long reply in the unknown language.

9. Landmarks.—(1) A great assistance to you in finding your way in a strange country are landmarks or prominent features of any kind, such as distant hills, towers, conspicuous trees, the course of railways, rivers, etc.

(2) Practice making your own landmarks. "Blazing" trees is especially useful for night work as well as for daylight.

10. Ashes of fires always afford valuable information regarding enemy's moves, and should be carefully examined whenever met with on service.

11. Sounds.—At night, when there is a stillness in the air, the beat of a horse's hoof, or the ordinary tone of a man's voice, carry a long distance as compared with the same sounds by day.

12. Tracks.—Note the difference between soldiers' boots, ordinary shoes, native shoes, etc., in their track.

13. Wheel tracks should also be studied till you can tell the difference between the track of a gun, a carriage, a country cart, a bicycle, and the direction they are going in.

To Make a Reconnaissance.

14. (1) The usual course taken for a distant reconnaissance is for a patrol to be sent out consisting of an officer and a few trained scouts, with a few extra men to bring in the information.

(2) The patrol makes its way out to the enemy's neighborhood, which may be fifty or a hundred miles away from their own main body, relays of dispatch-carriers are dropped every few miles.

(3) When the patrol arrives within a few miles of the enemy, the scouts are sent out in pairs to reconnoiter and bring in their reports to a patrol-leader at a given spot.

(4) These reports he sends back to the main body.

(5) Every man in the patrol should notice for himself the direction taken, and all landmarks passed.

(6) The patrol should move on the same principles as that explained for a single scout, going quickly over open ground, and pausing when under cover again. The advanced scout would hasten on to the next bit of cover ahead and see that it is all clear before the patrol advances.

(7) If a patrol is suddenly attacked or surprised by a superior force, either when on the march or in bivouac, the men should at

once scatter in all directions, and eventually make their way independently by roundabout ways to the last place where a halt was made, or to any other rendezvous that may have been ordered. If no special orders have been issued, the last halting place will be understood to be the rendezvous.

(8) It is useful to have some whistle-signals—a slow succession of long blasts meaning "Disperse," a rapid succession of short blasts meaning "Rally."

(9) For men and parties meeting in the dark, some prearranged whistle or pass-word is useful for recognizing each other. The whistle is the best, because a man who cannot find his party can whistle the call until found by his friends.

(10) If an enemy's patrol is seen, it may be best to hide and let it pass and afterwards look out for and capture any messengers coming back from it with dispatches for their main body.

To Make a Report as a Scout.

15. (1) In making your reports, whether in writing or by word of mouth, keep to the points that you have been ordered to report on.

(2) Word it just as you would a telegram. Write clearly, because the officer receiving your message may have to read it by the light of a match, etc.

(3) Remember that you are reporting to an officer who has never been in the country you are working over, so don't assume that he knows all that you know.

(4) Don't cut down your report to the extent of leaving out any information that applies to what you have been told to reconnoiter.

(5) Only report facts and suspicious circumstances, not fancies.

(6) Always give the hour of sending off your message, as well as the date.

ADVANCE AND REAR GUARDS.

PROTECTION OF THE MARCH.

General Considerations.

1. (1) **A column on the march** in the vicinity of the enemy is covered by detachments called "advance guards," "rear guards," or "flank guards." The object of these covering detachments is to facilitate the advance of the main body and to protect it from surprise or observation.

(2) They facilitate the advance of the main body by promptly driving off small bodies of the enemy who seek to harass or delay it; by removing obstacles from the line of advance, by repairing roads, bridges, etc., thus enabling the main body to advance uninterruptedly in convenient marching formations.

(3) They protect the main body by preventing the enemy from firing into it when in close formation; by holding the enemy and enabling the main body to deploy before coming under effective fire; by preventing its size and condition from being observed by the enemy; and, in retreat, by gaining time for it to make its escape or to reorganize its forces.

2. Tactical units should not be broken in making details for covering detachments.

3. (1) **The march order** of the whole command should explain the situation, and, among other things, detail the commander and troops for each covering detachment. It should specify the route to be taken and the distance to be maintained between the main body and its covering detachments. It should order such reconnaissance as the commander specially desires to have made.

(2) **The order of the commander** of a covering detachment should clearly explain the situation to subordinates, assign the troops to the subdivisions, prescribe their distances, and order such special reconnaissance as may be deemed necessary in the beginning.

(3) **An advance or flank guard commander** marches well to the front and, from time to time, orders such additional reconnaissance or makes such changes in his dispositions as the circumstances of the case demand.

Advance Guards.

4. **An advance guard** is a detachment of the main body which precedes and covers it on the march.

5. The advance guard commander is responsible for its formation and conduct. He should bear in mind that its purpose is to facilitate and protect the march of the main body. Its own security must be effected by proper dispositions and reconnaissance, not by timid or cautious advance. It must advance at normal gait and search aggressively for information of the enemy. Its action when the enemy attempts to block it with a large force depends upon the situation and plans of the commander of the troops.

6. **The strength of the advance guard** varies from one-twentieth to one-third of the main body, depending upon the size of the main body and the service expected of the advance guard.

7. **The formation of the advance guard** must be such that the enemy will be met first by a patrol, then in turn by one or more

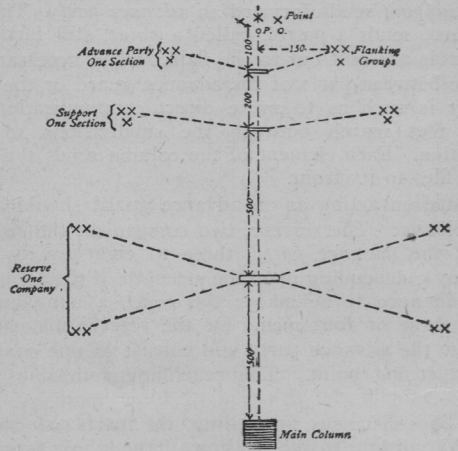


Plate 7. Art. 10.
Advance Guard.

NOTE.—It will be seen from the plate that the disposition of the two companies forming the *advance guard* is such that they may be quickly thrown into battle formation for attack or defense. The *advance party*, with its *point* and *flanking groups*, may deploy at once into a skirmish-line while the section in *support* moves up promptly to re-enforce it; and the company in *reserve* may deploy and advance at once to join the firing-line, thus forming the whole force as a screen behind which the main column may form for attack or defense. Or, each line may, if overpowered, *fall back* in succession upon the one in rear until the whole *advance guard* is in a skirmish-line. Every battalion should be exercised in this manner.

larger detachments, each capable of holding the enemy until the next in rear has time to deploy before coming under effective fire.

8. Generally an advance guard consisting of a battalion or more is divided primarily into the *reserve* and the *support.* When the advance guard consists of less than a battalion, the reserve is generally omitted.

9. (1) In an advance guard consisting of two battalions or less, the reserve and support, if both are used, are approximately equal; in larger advance guards, the reserve is approximately two-thirds of the whole detachment.

(2) In an advance guard consisting of one battalion, the machine guns, if any, form part of the reserve. In an advance guard consisting of two or more battalions, the machine guns form part of the support.

10. The *support* sends forward an *advance party.* The *advance party,* in turn, sends a patrol, called a *point,* still farther to the front. Patrols are sent out to the flanks when necessary. When the distance between parts of the advance guard or the nature of the country is such as to make direct communication difficult, connecting files march between the subdivisions to keep up communication. Each element of the column sends the necessary connecting files to its front.

11. A battalion acting as an advance guard should be formed about as follows: The *reserve,* two companies; the *support,* two companies; the *advance party,* three to eight squads (about a half company), depending upon the strength of the companies and the reconnaissance to be made; the *point,* a non-commissioned officer and three or four men. Or the reserve may be omitted. In such case the advance party will consist of one company preceded by a strong point. The remaining companies form the support.

12. (1) The distances separating the parts of an advance guard vary according to the mission of the whole force, the size of the advance guard, the proximity and character of the enemy, the nature of the country, etc. They increase as the strength of the main body increases; they are less when operating in rolling, broken country than in open country; when in pursuit of a defeated enemy than against an aggressive foe; when operating against cavalry than when against infantry.

(2) If there be a mounted point, it should precede the dismounted point by 250 to 600 yards. The advance party may be stronger when there is a mounted point in front.

13. To afford protection to an infantry column, the country must be observed on each side of the road as far as the terrain affords positions for effective rifle fire upon the column. If the country that it is necessary to observe be open to view from the road, *reconnaissance* is not necessary.

14. (1) The advance guard is responsible for the necessary reconnaissance of the country on both sides of the line of march.

(2) Special reconnaissance may be directed by the commander of the troops, or cavalry may be reconnoitering at considerable distances to the front and flanks, but this does not relieve the advance guard from the duty of local reconnaissance.

15. (1) **This reconnaissance is effected by patrols** sent out by the leading subdivisions of the advance guard. In a large advance guard the support commander orders the necessary reconnaissance.

(2) Patrols should be sent to the flanks when necessary to reconnoiter a specified locality and should rejoin the column and their proper subdivision as soon as practicable. When the advance party is strong enough, the patrols should be sent out from it. When depleted by the patrols sent out, the advance party should be re-enforced during a halt by men sent forward from the support. If it be impracticable to send patrols from the advance party, they will be sent from the support.

(3) Where the country is generally open to view, but localities in it might conceal an enemy of some size, reconnaissance is necessary. Where the road is exposed to fire and the view is restricted, a patrol should be sent to examine the country in the direction from which danger threatens. The object may be accomplished by sending patrols to observe from prominent points. When the ground permits and the necessity exists, patrols may be sent to march abreast of the column at distances which permit them to see important features not visible from the road.

(4) Mounted scouts or cavalry, when available, should be used for flank patrols.

16. Cases may arise where the best means of covering the head and flanks of the column will be by a line of skirmishers extending for several hundred yards to both sides of the road, and deployed at intervals of from 10 to 50 yards. A column may thus protect itself when passing through country covered with high corn or similar vegetation. In such case, the vege-

tation forms a natural protection from rifle fire beyond very short ranges.

17. Fixed rules for the strength, formation, or conduct of advance guards cannot be given. Each case must be treated

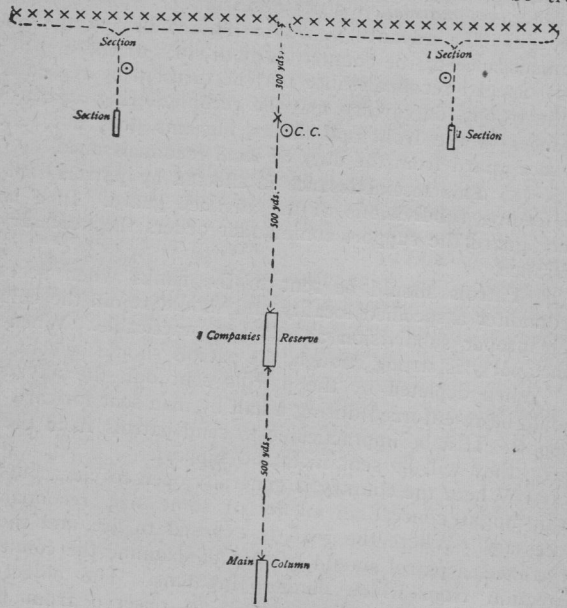


Plate 8. Art. 16.
Advance guard.

to meet conditions as they exist. That solution is generally the best which, with the fewest men and unbroken units, amply protects the column and facilitates the advance.

Rear Guards.

18. (1) **A rear guard** is a detachment detailed to protect the main body from attack in rear. In a retreat, it checks pursuit and enables the main body to increase the distance between it and the enemy and to re-form if disorganized.

(2) The general formation is that of an advance guard reversed.

19. Its commander should take advantage of every favorable opportunity to delay the pursuers by obstructing the road or by taking up specially favorable positions from which to force the enemy to deploy. In this latter case care must be taken not to become so closely engaged as to render withdrawal unnecessarily difficult. The position taken should be selected with reference to ease of withdrawal and ability to bring the enemy under fire at long range.

20. In large commands artillery and cavalry form a very important part of the rear guard.

Flank Guards.

21. **A flank guard** is a detachment detailed to cover the flank of a column marching past, or across the front of, an enemy. It may be placed in position to protect the passage, or it may be so marched as to cover the passage.

22. (1) The object of the flank guard is to hold the enemy in check long enough to enable the main body to pass, or, like the advance guard, to enable the main body to deploy.

(2) Like all other detachments, it should be no larger than is necessary, and should not be detailed except when its protection is required.

23. When a flank guard consists of a regiment or less, its distance from the main body should not exceed a mile and a half. Practicable communication must exist between it and the main body.

24. The flank guard is marched as a separate command; that is, with advance or rear guards or both, as circumstances demand, and with patrolling on the exposed flank.

25. At times it may be necessary for an advance-guard commander to send out large reconnoitering parties which temporarily assume the character and duties of a flank guard. Such parties should be given specific orders as to when and where they are to rejoin the column.

MARCHES.

TRAINING AND DISCIPLINE.

1. Marching constitutes the principal occupation of troops in campaign and is one of the heaviest causes of loss. This loss may be materially reduced by proper training and by the proper conduct of the march.

2. (1) **The rate of march** is regulated by the commander of the leading company of each regiment, or, if the battalions be separated by greater than normal distances, by the commander of the leading company of each battalion. He should maintain a uniform rate, uninfluenced by the movements of troops or mounted men in front of him.

(2) The position of companies in the battalion and of battalions in the regiment is ordinarily changed daily so that each in turn leads.

3. (1) **The marching efficiency** of an organization is judged by the amount of straggling and elongation and the condition of the men at the end of the march.

(2) An officer of each company marches in its rear to prevent undue elongation and straggling.

(3) When necessary for a man to fall out on account of sickness, he should be given a permit to do so. This is presented to the surgeon, who will admit him to the ambulance, have him wait for the trains, or follow and rejoin his company at the first halt.

4. In large commands the marching capacity of troops is greatly reduced by faulty march orders and poor march discipline.

5. The march order should contain such instructions as will enable the troops to take their proper places in column promptly. Delay or confusion in doing so should be investigated. On the other hand, organization commanders should be required to time their movements so that the troops will not be formed sooner than necessary.

6. The halts and **starts** of the units of a column should be regulated by the watch and be simultaneous.

7. Closing up during a halt, or changing gait to gain or lose distance should be prohibited.

General Rules.

8. (1) The average march for infantry is from fifteen to twenty miles per day, at a rate of two and one-half to three miles per hour.

(2) When troops move in large bodies, and particularly in the vicinity of the enemy, the march should be conducted in several columns, in order to diminish the depth of the columns and to expedite the deployment into line of battle.

(3) In large commands, the roads, if possible, are left to the artillery and trains. The orders for the march should state whether the troops or trains are to have the right of way.

Duties of Pioneers.

9. (1) Each brigade is provided with a corps of pioneers under charge of a commissioned officer. The pioneers precede the column for the purpose of removing obstacles and preparing the way for the troops.

(2) Whenever fences, hedges, walls, ditches, or small streams are encountered, a passageway is made wide enough for the column to march without obstruction. This will prevent the column from lengthening out, and also prevent the fatigue and delay of regaining distances.

(3) Pioneers, mounted or in wagons when practicable, should repair the roads for trains.

Rests and Meals.

10. (1) Marches should ordinarily begin in the morning after the men have had their breakfast.

(2) After marching half or three-quarters of an hour, the troops are halted for fifteen minutes to allow the men to relieve themselves and to adjust their clothing and accoutrements.

(3) After the first rest, there should be a halt of ten minutes during every hour.

(4) In tropical countries it is often necessary to increase the length and frequency of the halts.

(5) On long marches, halts of half or three-quarters of an hour should be made for meals. The halt, if practicable, should be made in the vicinity of wood and water.

(6) When long distances have to be overcome rapidly, it is done by changing gaits; the most favorable ground is selected for the double time; special care should be taken not to exhaust the troops immediately before engaging the enemy.

Stragglers.

11. (1) No man should be permitted to leave the ranks without permission of the **c. c.**; if he needs medical attention, the **c. c.** gives him a pass to the surgeon, showing his name, company, and regiment; if he is unable to return to his company, the surgeon admits him to the ambulance, or indorses the pass, stating that he is permitted to fall out on account of sickness.

(2) It is the duty of all officers and **p. os.** to suppress straggling. Men who fall out of ranks are examined by the *provost guard*, and if absent without authority, they are arrested and sent to their regiments.

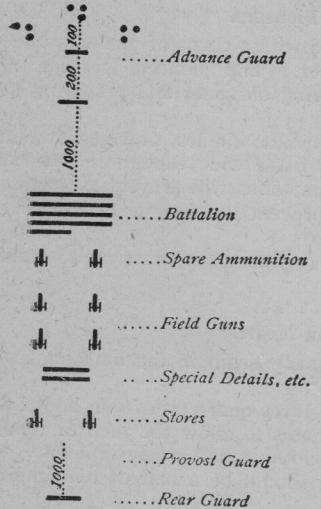


Plate 9. Art. 13.
Order of march.

Delays.

12. Whenever delays occur in front, the brigade may stack arms. It is the duty of all commanders, within their commands, to investigate, personally or by means of staff-officers, every cause of delay, and staff-officers should frequently be sent ahead for the purpose of gaining information that may shorten the march and lessen the fatigue of the troops.

Order of March.

13. The following is the order of march through an enemy's country, which may be varied according to circumstances (see Plate 9).

(1) Advance guard. (One or more pieces of artillery, if deemed necessary, may accompany the advance guard.)

(2) Main body of infantry.
(3) The artillery and spare ammunition.
(4) Special details.
(5) Officers' servants and mess-cooks.
(6) The supply train.
(7) The provost guard.
(8) The rear guard.

Provost Guard.

14. (1) A provost guard is formed by the **rg. c.** where one is deemed necessary.

(2) It is commanded by a *provost-marshal,* under whose orders the guard acts.

(3) Its duties are, under the direction of the **rg. c.,** to suppress marauding expeditions, prevent disturbances, keep order, regulate places of public resort, to enforce orders with regard to conduct of a camp or town, and to make searches, seizures, and arrests.

(4) The *provost-marshal* takes charge of all prisoners, arrests stragglers and offenders of the command; may examine passes of officers, soldiers, and citizens.

(5) He is assisted by a **p. o.,** who receives instructions from him.

FORMATIONS FOR STREET RIOTS.*

General Rules.

1. (1) If practicable, each **rg. c., bt. c.,** or **c. c.,** should have a map showing all the principal streets, squares, parks, and open places where a force may be rallied.

(2) When practicable, it is recommended to utilize the services of civilian scouts, or men disguised in civilians' clothing, in order to keep the commanding officer informed as to the situation of affairs in the city.

(3) A few pioneers with picks, crowbars, shovels, and axes will accompany the command.

(4) Squads may advance along the house-tops, or in rear of the houses, whenever practicable and necessary to secure a flanking position against a barricade, or to command the windows of the houses opposite.

(5) Pieces will be habitually carried with bayonets *fixed.*

(6) It is essential that perfect control of the fire be maintained to prevent unnecessary loss of life. A few selected marksmen should be ready at all times, under the direction of the officers, to pick off the leaders of the mob.

To Protect the Flanks in Column.

2. Being in column of companies: 1. *Twos and fours, rear rank, as flankers,* 2. *Double time,* 3. MARCH.

(1) The numbers designated place themselves on the flanks; those of the right section on the right flank, and those of the left section on the left flank, at equal intervals between their own company and the one next in rear. The **5 p. o.** of each company controls its right flankers, and the **6 p. o.** its left flankers; the former watches the windows and houses on the left side of the street, the latter those on the right side. The flankers of the rear company form a semi-circle in its rear, facing about whenever necessary to fire. Scouts may be detailed under the command of an officer or **p. o.** to precede the column.

(2) At the command: 1. *Flankers,* 2. POSTS, the flankers resume their places in the rear rank, and the **5 p. o.** and **6 p. o.** resume their posts.

*Prepared by Lieutenant-Commander W. F. Fullam, U. S. Navy.

To Form Street Column.

3. Being in column of companies at full distance: 1. *Street column,* 2. MARCH.

(1) At the second command, the first company halts and stands fast; the rear company marks time; the first sections of interior companies execute *sections right* and then *squads left;* the second

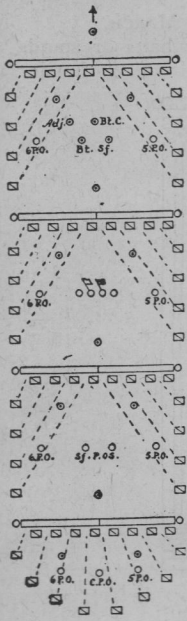


Plate 10. Art. 2.
Twos and fours as flankers.

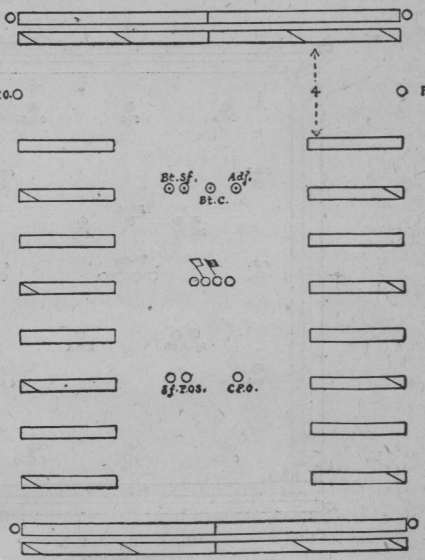


Plate 11. Art. 3.
Street column.

sections execute *sections left* and then *squads right,* and all companies close on the first, forming as shown in the plate; all the officers, the color-guard, **sf. p. os.,** guides, and file-closers take post within the column, **c. cs.** opposite the center of their companies, the others near their posts in line or column.

(2) Being in column of squads, street column is formed by first forming column of companies.

4. The street column *advances, obliques, changes direction,*

halts, and *marches by the flank* and *to the rear* by the commands and means prescribed for a company, the rear companies regulating their movements by the first. In changing direction the rear company regulates its movements on the companies in columns of squads.

To Form Square.

5. Being in street column: 1. *Form square,* 2. MARCH.

At the second command, the leading company halts or stands

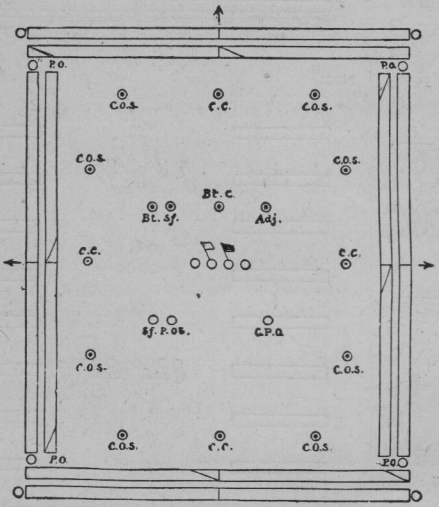


Plate 12. Art. 5.
Form square.

fast; the right- and left-flank sections execute squads right and left, respectively, and halt; the rear company executes *about face.*

6. To form again in street column: 1. *Street column,* 2. MARCH.

At the second command the company that was leading when the square was formed stands fast; the rear company executes *about face;* the right- and left-flank sections form column of squads to the left and right, and halt; they regain their positions when the column marches.

To Form Column of Companies.

7. Being in street column: 1. *Column of companies,* 2. MARCH, 3. *Guide right* (or *left*).

At the second command, the first company advances, the right-flank sections execute *column left,* the left-flank sections, *column right,* and as the sections of each company approach the C. C. commands *forward,* the chiefs of the right sections command *squads right,* the chiefs of the left sections command *squads left,* and the C. C. adds MARCH in time to form his company in line, and the rear companies follow in column at full distance.

8. The *street column* forms column of squads by first forming column of companies.

To Protect the Flanks at Street Crossings.

9. Being in column of companies with flankers, the flankers of the leading company are ordered into ranks; the first company having reached the fence, or building, line: 1. *First company,* 2. *Sections right and left turn,* 3. *Double time,* 4. MARCH.

(1) At the fourth command, the first section *turns* to the right, the second section to the left; the rear ranks oblique to the left and right, respectively, joining on the flanks of their respective front ranks to extend the line across the side street. During this movement the *charge bayonet* will be taken, if necessary, to force back the mob. The rear companies continue the march. The single ranks may be advanced along the side street, if necessary, to clear it. Returning, they form as the rear company of the column.

(2) If the street does not cross, but ends at the one through which the column is marching, the whole of the first company *turns* to the right or left.

To Re-form the Company in Column.

10. The sections being in line across the side street: 1. *Form company,* 2. MARCH, 3. *Forward,* 4. MARCH.

At the first command, the sections are quickly formed in double rank facing by the flank in the direction of the march; at the second command, the first section executes *column left,* the second section *column right;* as the heads of the sections are about to unite, the third and fourth commands are given, at which the sections execute *right* or *left flank,* and the company advances as the rear company of the column.

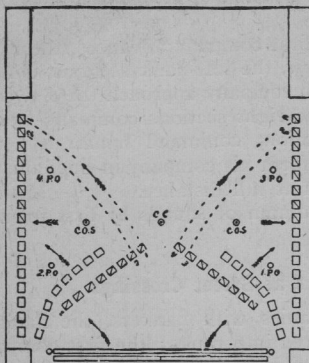


Plate 13. Art. 9.
Sections right and left turn.

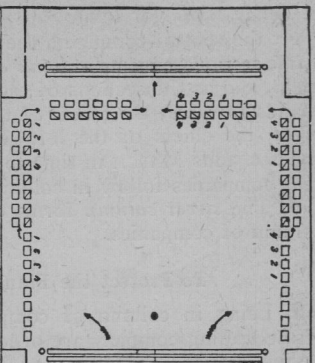


Plate 14. Arts. 9-10.
To re-form company in column.

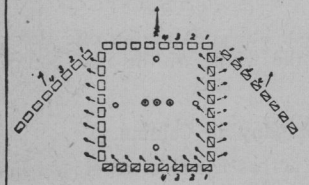


Plate 15. Arts. 11-14.
Company square.

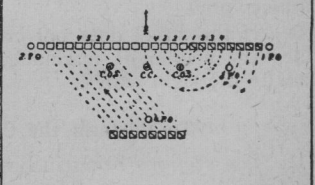


Plate 16. Arts. 13-16.
Formation for clearing a street.

To Form Company Square.

11. Being in column of sections, marching, or at a halt: 1. *Form company square,* 2. *Double time,* 3. MARCH.

(1) At the second command, the front rank of the first section continues the march or stands fast; the rear rank faces about, and *turns* to the left in *double time;* the front rank of the second section *turns* to the left in *double time;* the flank men of the two ranks avoid each other during the *turn,* and, if marching, each flanker moves to the front as soon as he reaches his position in the square so as not to delay the march; the rear rank, second section, continues the march or faces about. Officers and **p. os.** may be inside or outside the square, preferably inside. The **1 p. o.** and **2 p. o.** have charge of the front ranks, and the **3 p. o.** and **4 p. o.** have charge of the rear ranks of their respective sections.

(2) On the march, the men forming the right flank of the square may be directed to carry their pieces with the muzzles pointing to the right, in a position similar to *port arms,* in order to facilitate the use of the bayonet, provided that the remainder of the company is at *port arms.*

(3) One or more men may be detailed from each side of the square to act as scouts or flankers.

(4) The square may *march to the front, to the rear, by the flank,* and execute the *turn,* and the *oblique.* When halted the men will face outward. At the command, *forward,* the **c. c.** will indicate the direction of the march with his sword, and the **p. os.** will then face their respective sides of the square in the designated direction.

(5) The color guard (if present) will take post inside the square.

12. The company being in line, marching, or at a halt: 1. *Form company square,* 2. *Double time,* 3. MARCH.

At the second command, the front rank of the first section continues the march or stands fast; the rear rank faces about, *turns* to the left in *double time,* and each man continues the march in the original direction, or halts, when in position; the second section faces about, the original rear rank obliques to the left in *double time* to its position in the square, faces to the front and continues the march, or halts; the original front rank, when cleared by its rear rank, *turns* to the left in *double time,* and each man continues the march, or faces about and halts, when in position.

To Form for Clearing a Street.

13. Being in company square, marching, or at a halt: 1. *Flankers right and left front into line,* 2. *Double time,* 3. MARCH.

At the second command, intervals are taken from the center, if necessary, to reach across the street; the rear side of the square remains in its place to protect the flanks and rear; the flankers execute *front into line* in *double time,* and the men in the front line advance at *charge bayonet.*

14. To reform the square: 1. *Form square,* 2. MARCH.

At the second command, the flankers face to the rear, *turn* to the right or left into their places in *double time,* and continue the march, or halt.

15. The company being in line, marching, or at a halt: 1. *Right flankers into line,* 2. MARCH.

At the second command, the company continues the march, or stands fast; the rear rank, first section, faces to the right and the men successively place themselves on the line of the front rank, in *double time;* the rear rank, second section, faces about, obliques to its position in rear of the center, in *double time,* and then continues the march to the front, or halts.

To Form Line from Formation for Clearing a Street.

16. Flankers being in line: 1. *Form company,* 2. MARCH.

At the second command, the right flankers face to the left and successively resume their places in line, in *double time;* the rear rank, second section, obliques to its position in line in *double time.*

To Form Column of Sections.

17. The company square being in march, or at a halt, faced in the proper direction: 1. *Form column of sections,* 2. MARCH.

At the second command, the flankers face inward and *turn* into their places in *double time,* avoiding each other during the movement; if marching, each man, when in position, moves to the front so as not to delay the march.

18. *Company squares* of a battalion may be used to clear parallel streets, each of which may be occupied by a company square during the advance.

To Form Line.

19. Being in company square: 1. *Form company,* 2. MARCH.

At the second command, each rank *turns* or *obliques, in double*

time, to its place in line; each man halts, or continues the march, when in position.

Artillery.

20. Should *artillery* be detailed with a battalion for service in city streets, it will be assigned where its presence may be most needed. If necessary, squads of riflemen may be detailed from the infantry companies for its support.

Special Precautions.

21. The foregoing formations are designed specially for use against *unarmed mobs or disorganized forces.* When artillery is encountered, or if the enemy is supplied with dynamite or bombs, the two sections of a company should be deployed as skirmishers and move by the flank, one on each side of the street, the men watching the windows and houses on the opposite side, and with the assistance of the pioneers special squads may take possession of the housetops as the advance proceeds.

ADDENDA.

1. The following formations, devised by Captain J. F. McGill, U. S. M. C., are issued as an addenda to the chapter on Street Riot Formations. They will be useful in connection with the company square when advancing through narrow streets.

2. Under the supervision of the **c. c.**, the **c. o. s.**, and the **p. os.** of the first section will take charge of the right column; the **c. o. s.** and **p. os.** of the second section will take charge of the left column. This will leave the **c. c.** free to direct the advance of the company. The commands and the conditions calling for their use are set forth as follows:

3. A company square advancing or at a halt, with automatic guns inside the square, it is desired to open fire with the guns to the front or rear: 1. *Front (rear) break,* 2. MARCH. The front (rear) of the square breaks, half turning to the right, the other half to the left, thus unmasking the guns. The flanks and rear of square protect the guns from flank or rear attack. Fig. 1.

4. (1) To avoid an obstruction in the street.

(2) To pass through a narrow street, alley, or gate.

(3) To take a formation similar to that directed in paragraph 21, page 135.

(4) To allow teams or troops to pass through the square: 1. *Front and rear break,* 2. MARCH. The front and rear of the square break at the point designated when the company was formed, each half turning to the right and left in prolongation of the sides of the square. Fig. 2.

5. These two columns may be closed one on the other, or both on the center, by the commands: 1. *On right close,* 2. MARCH. The left column will oblique to the right and after forming column of twos continue the march to the front. 1. *On left close,* 2. MARCH; executed in a similar manner. 1. *On center close,* 2. MARCH; each column will oblique to the center, resuming the *forward march* when united in column of twos. When the above movements are executed from a halt, the two columns will face and march by the flank, halting and facing to the front when united in column of twos. Figs. 3 and 4.

6. Marching in column of twos, to separate or extend the interval between the columns of files: 1. *To right and left extend,* 2. MARCH, 3. *Forward,* 4. MARCH. The columns of files oblique to right and left, and continue the advance at the signal or command: 1. *Forward,* 2. MARCH. Fig. 4.

7. Marching with any interval between columns of files, to form square: 1. *Form square,* 2. MARCH. At the first command the files oblique toward or away from each other until section distance apart, when the second command is given. At the second command, those men at the head of the columns constituting the original front turn to the left and right and fall back, placing themselves to the left and right of No. 1 of the first squad, and No. 4 of the left squad of the front rank of the first section. Nos. 1 and 4 referred to, march to the front at the command, MARCH. At the second command the rear of the square executes a *left and right front into line.* Figs. 5 and 6.

8. (1) Marching in column of twos to form square: 1. *Form square,* 2 MARCH. The two men at head of column continue the march in quick time, that portion of the front of the square in the right column of files executes *right front into line,* that portion in the left column of files—*left front into line.* The original sides of the square oblique to the right and left until section distance apart, when they follow in trace of the right and left of the front. The last two men of the column of twos continue to the front; the men in their front, constituting the rear of the square, oblique to the right and left, falling back and placing themselves on the right and left of these last two men. Fig. 7.

(2) If at a halt, the movement is executed as shown in Fig. 8.

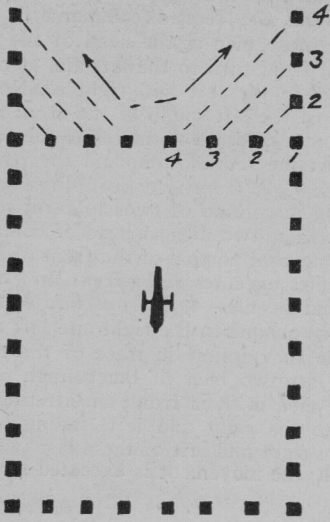


FIG. 1.

Co. Square marching or at halt.

1. Front break, 2. MARCH.

Reverse:-

1. Form square, 2. MARCH.

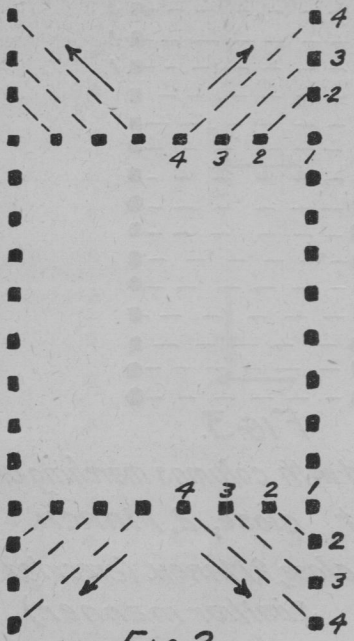


FIG. 2.

Co. Square marching or at halt.

1. Front & Rear break, 2. MARCH.

Reverse:-

1. Form Square, 2. MARCH.

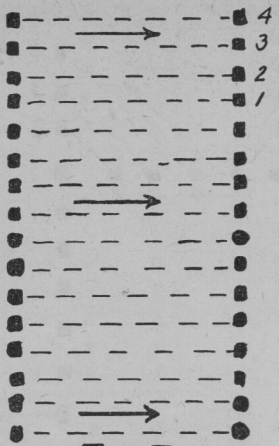


FIG. 3.

Can be executed with columns marching or at halt.

1. On right close, 2. MARCH.

1. on left close, 2 MARCH. (executed in a similiar manner.)

Reverse:-

1. To right (left) extend, 2. MARCH,

3. Company, 4. HALT.

If marching the interval is closed by obliquing column continuing the march to the front after closing to column of twos.

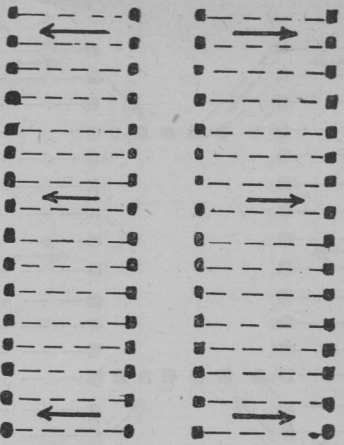


FIG. 4.

Can be executed with columns marching or at halt.

1. To right & left extend, 2. MARCH.

3. Company, 4. HALT.

Reverse:-

1. On center close, 2. MARCH.

If marching the command "to right & left extend" would be followed by "Forward, March," when the desired interval was obtained.

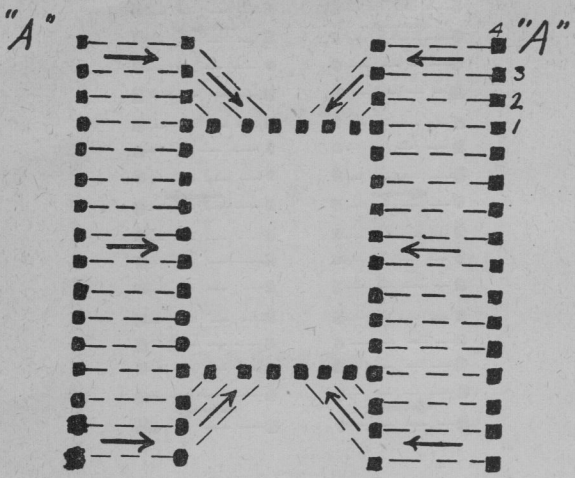


FIG. 5.

From a halt.

"A" position of columns greater than section distance apart.

1. Form square, 2. MARCH.

At 1st command columns close by the flank to section distance apart. At 2nd Command square is formed as in FIG 2. The second command should be given by C.C. when columns have closed to section distance apart.

Reverse:- 1. Front & rear break, 2. MARCH, 1. To Right & left extend, 2. MARCH, 3. Company, 4. HALT.

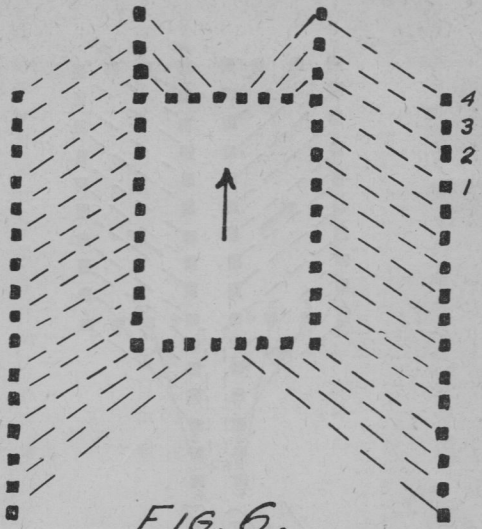


FIG. 6.

Marching— 1. Form square, 2. MARCH. Columns oblique until section distance apart. Rear of square obliquing directly into position.

Reverse:—

1. Front & rear break, 2. MARCH.

1. To right & left extend, 2. MARCH, 3. Forward, 4. MARCH. The extension being made to the right & left by obliquing. Both columns advance to the front at the command "Forward March."

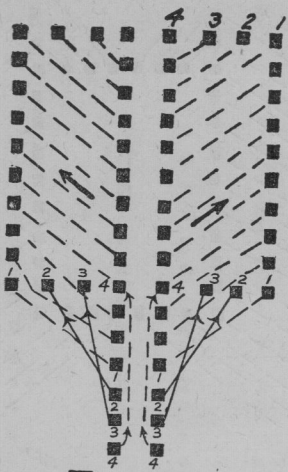


FIG. 7.

Column of twos marching.
1. Form square, 2. MARCH:
Reverse:- Same as FIG. 8.

NOTE. (1.) Company square to be formed when desired from any one of eight formations.
(2.) Guide of the square or columns always right.
(3.) When square is broken, men march at ease.
(4.) All movements to be executed in double time.

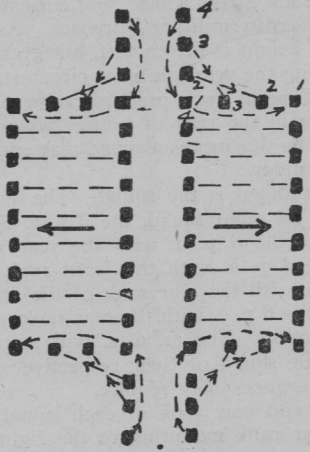


FIG. 8.

Column of twos at a halt.

1. Form square, 2. MARCH

Reverse:—

1. Front & rear break, 2. MARCH.

1. On center close, 2. MARCH.

WALL-SCALING.*

General Instructions.

22. (1) This maneuver is designed for use in connection with the "Formations for Street Riots," and consists of a simple adaptation of *pyramids* to military purposes. As a maneuver, the practical limit of height is fifteen feet, but greater heights may be scaled by extending the principle when circumstances are favorable. This exercise will be of great practical value when men are compelled to advance in the rear of houses where walls and fences are encountered; by this means a squad may enter a house through a second-story window.

(2) The unit adopted is the squad. The **1 p. o.** mounts with the rear rank of the right squad, the **2 p. o.** with the front rank of the left squad, the **3 p. o.** with the rear rank of the right-center squad, the **4 p. o.** with the front rank of the left-center squad, the **5 p. o.** with the rear rank of the middle squad of the first section, and the **6 p. o.** with the rear rank of the middle squad of the second section. The **cs. o. s.** will mount with the front rank of the middle squad of their respective sections. The **c. c.** mounts as circumstances may require.

(3) The front and rear rank of each squad will mount independently, the rear rank mounting to the right of its own front rank.

(4) For heights of ten feet or less, no special equipment is required; for greater heights a lanyard is provided.

(5) The lanyard consists of a piece of twelve-thread manila, six feet long, with an eye large enough for a man's hand at one end, and a stopper knot at the other. "Matthew Walker" knots of spun yarn are worked on the lanyard at intervals of eighteen inches. When not in use, the lanyard is bighted up and hooked to the left sling of the knapsack by means of a small eye worked on the lanyard.

To Mount.

23. Being in any formation: 1. *Wall to the front* (or, *in succession to the front;* or, *to the right, left,* or *rear*), 2. MOUNT.

(1) At the first command, the section, company, or battalion

*Prepared by Lieutenant W. J. Maxwell, U. S. N.

that is to mount first will be formed in *line of squads* along the wall at such intervals that the rear rank of each squad may form on the right of its front rank. At the second command, given when the rear ranks are so formed, all the numbers except number *four* of each rank, rest their pieces against the wall. Numbers *one* and *two* then approach the wall, face each other, advance their right and left feet, respectively, near the base of the wall, place their right and left hands, respectively, against the wall, brace themselves, and then interlock the fingers of their free hands, palms up, thumbs pointing to the rear, thus forming a stirrup. Number *three* then places his left foot in the stirrup, his hands on the shoulders of numbers *one* and *two,* and then springs

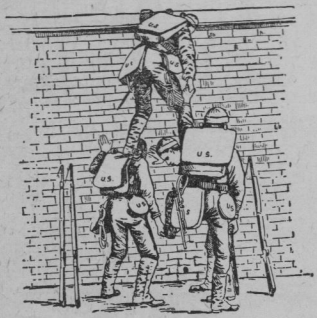


Plate 17. Art. 23 (1).
No. 4 mounting.

Plate 18. Art. 23 (1).
No. 4 straddling wall.

lightly up, placing his right foot on the left shoulder of number *one,* his left foot on the right shoulder of number *two,* toes pointing to the right, his left hand against the wall; he then turns slightly, and with his right hand grasps the left hand of number *four.* If on the retreat, the **p. o.** and number *four* cover the movement, firing if necessary until their turns come to mount. Number *four* having grasped hands with number *three,* places his left foot in the stirrup, springs up, and places his right foot on the right shoulder of number *one;* he then loosens his grasp of number *three's* hand, places his left foot in the right hand of number *three,* and, assisted by the latter, springs up, throws his right leg over the wall, and straddles it.

and *four*, and passes over the wall; numbers *three* and *four* then drop to the ground.

(6) When the height of the wall requires it, numbers *three* and *four* drop their lanyards to numbers *two* and *one*, respectively, who assist the **p. o.** to mount, and then pass up the pieces; numbers *one* and *two* then haul themselves up and all drop to the other side. Having passed over the wall, the men form as directed.

To Fire While Mounting.

24. If advancing or in pursuit, number *three*, standing on the shoulders of numbers *one* and *two*, looks over the wall to reconnoiter; the piece of number *four* may be passed to him and he may fire a few rounds, and then will assist number *four* to straddle the wall; the latter takes his piece from number *three* and continues the fire; number *three* then assists the **p. o.** to pass over the wall and hands him his piece; number *two* then passes over, and the remaining pieces are passed to him; if necessary, each man takes cover and continues the fire as soon as he reaches the other side.

FIELD-FORTIFICATIONS.*

1. A judicious use of fortifications enables a body of men that is weak (from whatever cause) to become equal to, or stronger than, a superior force.

2. Trenches and ditches.—(1) A trench is an excavation in rear of the covering mass; a ditch is one in front of it.

(2) Cover is more rapidly gained by the use of a trench, as it will be obtained by the excavation plus the height of earth thrown immediately in front.

(3) A ditch might provide the earth for the parapet in works of a more important nature, and at points which are purely de-

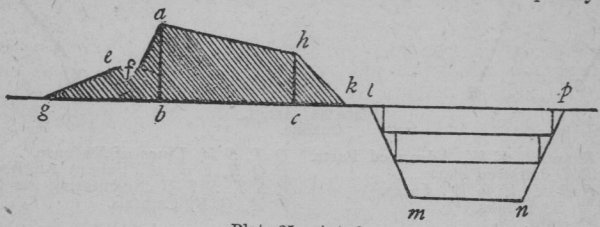


Plate 25. Art. 3.
Parapet and ditch.

lm, the *escarp*.
pn, the *counterscarp*.
af, the *interior slope*.
kl, the *berm*.
ef, the *banquette*.
ah, the *superior slope*.

fensive. The bottom of a ditch may be formed in a V-shape with advantage, in order to prevent the attack from accumulating there.

3. Profile.—(1) The profile is a section shown by a vertical plane at right angles to the direction of the work. The profile selected will depend upon the object the work has to fulfill, upon the projectiles it may have to withstand, and upon the nature of the surrounding ground.

(2) The profile may be formed also of a trench and a ditch, the men working on each side of the parapet and throwing the earth upon the intermediate space. By these means a considerable thickness of parapet may be obtained in a short time, but in such a case the ditch does not become deep enough for a sufficient obstacle, but may be subsequently deepened, the earth being thrown upon the crest of the counterscarp and forming a sloping surface called a *glacis*.

(3) The profile shown in Plate 25 is that of a parapet and ditch.

* See intrenchments, page 258.

4. Outline.—(1) The outline is the general arrangement, or trace, of works upon the ground. As much direct and flanking fire as possible must be brought to bear upon points of attack.

(2) The outline, therefore, will depend upon the object of the work and the natural features of the ground.

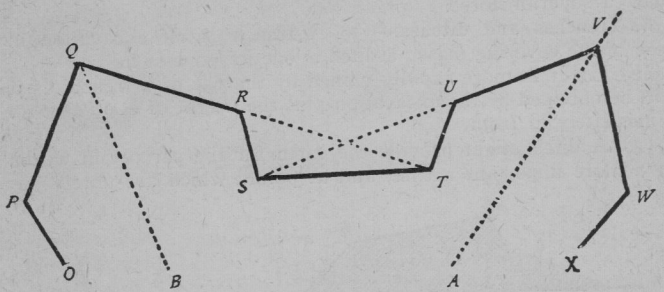


Plate 26. Art. 4.
Outline.

P Q R and *U V W*, Advanced Parts.
R S T U, Retired Parts.
P Q Q R, *U V V W*, Faces.
R S, *T U*, Flanks.
S T, Curtain.
Q T, *S V*, Lines of Defense.
P Q R, *U V W*, Salient Angles.
R S T, *S T U*, Re-entering Angles.
V A, *Q B*, Capitals.

5. Construction of single field-works.—Pickets are to be driven at the salient and re-entering angles and tape or string passed round them. The lines traced are the crest-line (or highest part of the work) and the lines marking the excavation for trenches or

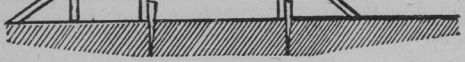


Plate 27. Art. 5.
Right profile.

ditches. With ditches these lines will be the crest of the work and the edge of the escarp and counterscarp; if with trenches, it will be sufficient to mark the front line of the trench only. "Profiles," or skeletons, of the work are then set up, formed of slips of deal or other wood, secured to pickets driven into the ground; or they may be formed with wood, cut to the proper lengths, for the

heights of the various slopes, connected at their ends with rope yarn.

Obstacles.

6. Obstacles have for their object the holding of an enemy under fire while checking his advance and breaking up his formation.

(1) They must be within the effective range of the defender's fire.

(2) They should not be visible to the attacking party until the latter is at close range.

(3) They should be difficult of removal under fire.

(4) They must afford no shelter to an enemy.

(5) To hinder the approach of an enemy, keep him under the fire of the intrenchments, and render an assault as difficult as possible, are most important points in the defense of field-works, and it must especially be borne in mind that obstructions should always be placed in the unflanked ditches.

7. **Palisades** made of young trees, or of large ones split into two or three pieces of a triangular shape and pointed, 10 feet long and 6 or 8 inches thick, are very useful when placed either upright in the middle of the ditch, or at the foot of the escarp inclining upwards; they are planted 4 or 5 inches apart, and buried 3 or 4 feet in the ground. The lower ends under ground are connected by a riband or crosspiece to prevent them from being torn up separately; another riband is also used to connect them at about 1 foot from the top.

8. **Abattis** are constructed of trees or stout branches having their ends pointed or fastened to the ground with strong pickets, the branches being turned towards the enemy; for putting a village into a state of defense, trees bordering the road can easily be turned into a serious obstacle by sawing half through their trunks and fixing their heads to the ground.

9. **Barbed-wire.**—Barbed-wire fences have been used in recent wars to check an attack. Wire entanglements, both high and low, made by driving stakes into the ground and connecting them by stout wire are also used. All such obstacles are particularly useful at night.

10. **Mines and hand-grenades** may be improvised and used with great effect by the defenders of a position, and sometimes in the attack.

Hasty Intrenchments.

11. Hasty intrenchments are such as may be made with little delay after occupying a position in the field; they consist of cover or shelter-trenches for the men, and gun-pits or epaulments for artillery.

12. Shelter-trench, lying.—The shelter-trench for skirmishes lying down is shown in Fig. 1, Plate 28. It gives a protection of 2½ feet of loose earth, which will stop small-arm bullets under ordinary circumstances. The time required for one man to make 5 feet of this trench with a small intrenching spade is about 25 minutes. Ordinarily two men may use 5 feet of this trench, though three may occupy five feet by lying on their left sides. In firing, the left elbow rests on the berm.

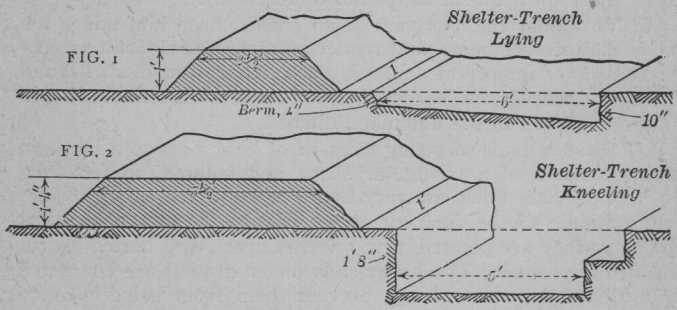


Plate 28. Arts. 12-13.
Shelter-trenches.

13. Shelter-trench, kneeling.—To get cover, kneeling, deepen the lying-down trench to 1 foot 8 inches and make it 5 feet wide, with an embankment in front having a height of 1 foot 4 inches with a resulting thickness of about 5½ feet (Fig. 2). The time, for one man to deepen the trench in this manner with a small entrenching tool, is about 45 minutes.

Advantages and Disadvantages of Shelter-Trenches.

14. The advantages are:

(1) They stop rifle-bullets.
(2) They offer a small target.
(3) They are quickly and easily made.

15. The disadvantages:

(1) The embankments being low, the field of fire may be limited by small folds in the ground, unless care is taken in selecting the position.

(2) In wet weather they may become untenable by reason of mud and water.

16. Gun-pits have practically the same advantages and disadvantages as shelter-trenches.

Lines of Works.

17. A line of works may have intervals, or it may be continuous. A line with intervals has the following advantages:

(1) It involves less labor.

(2) The garrison may be smaller.

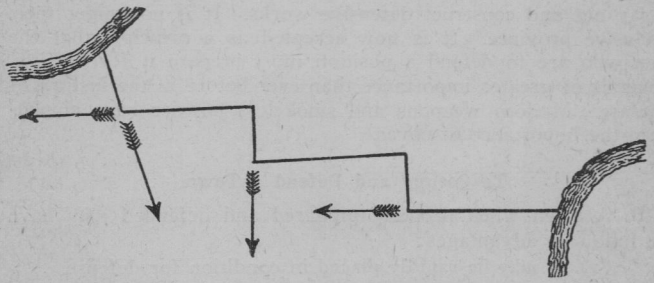


Plate 29. Art. 17 (4).
Indented lines.

(3) It allows greater freedom of movement for counter-attacks. Such works are usually so placed as mutually to flank each other; that is, in echelon.

(4) In the case of continuous works, the line may be an indented line, or a right line. From the latter, only a direct fire can be obtained, while from the indented line both a front and flank fire may be practicable, as will be seen from the sketch.

A Defensive Position.

18. A position of perfect defense may not always be possible, but the following general advantages should always be sought:

(1) The position should conform to the tactical requirements of the occasion and should favor the effective use of the principal weapon of the defenders.

(2) The flanks should be as secure as possible against a turning movement.

(3) It should be impossible for the enemy to obtain natural cover during his advance; that is, the defenders should have a free field of fire.

(4) The defenders should be protected from the fire and view of the enemy by cover, natural or otherwise, which will not interfere with counter attacks.

(5) The position should be such that the defenders may move readily from one part of the line to another.

(6) The advance of the enemy should be delayed by obstacles and entanglements.

(7) It was formerly the function of engineers and pioneers to lay out and construct defensive works. It is no longer their exclusive province. It is now accepted as a principle that the men who are to defend a position must prepare it for defense. Cover is of greater importance than ever before in the history of warfare. Modern weapons and smokeless powder have emphasized the importance of cover.

To Occupy and Defend a Town.

19. A town when properly prepared and defended may have the following advantages:

(1) It may be rapidly placed in condition for defense.

(2) It conceals the strength of the defenders.

(3) It provides a certain amount of cover from fire.

(4) It affords shelter from the elements.

20. On the contrary it has the following disadvantages:

(1) The garrison is scattered and not easily controlled.

(2) When under artillery fire, splinters and fragments may cause casualties.

(3) It may be set on fire by shell-fire.

21. A town may be held for the following reasons:

(1) As a supporting point in the main line.

(2) As an advanced post in front of the main line.

(3) As an independent post.

(4) As a reserve-station, or rallying-point, in rear.

To Occupy a Village.

22. To occupy a village as a military post, the following general rules should be observed:

First select some suitable and substantial building as a stronghold, and determine whether it would be best to occupy the whole village, or a part only. Avoid wooden houses and thatched roofs, and prefer brick houses to those of stone, selecting such as mutually flank each other. Take care that the amount of ground occupied be not in excess of the number of men available for the defense. Salient points must be strengthened as much as possible; all houses not occupied by the defense which may be of the least use to the attack must be demolished. *Outside* the defenses, destroy all walls, thick hedges, and any cover which may be parallel generally to the place, and leave such as may be perpendicular to it, and which will therefore be enfiladed and cause obstruction. *Inside* the place, reverse this rule; *wet* ditches, palings, and thin hedges outside the place may be left. Hedges, walls, etc., may be incorporated with the general line of defense. Long walls may receive flank defense by means of *tambours* or projecting small angular stockade-works; communications may also be thus covered. The streets may be barricaded and the houses loopholed; great care must be given to the communications with the stronghold, and also that barricades be not in position to be taken in reverse; in this case other barricades must be formed in rear. Field-guns must be placed in commanding and retired positions difficult of access.

23. Houses.—Loopholes should be made in the walls and at the angles. The upper windows need not be barricaded throughout, but must be so to a height of 6 feet from the flooring. Balconies may be strengthened and made bullet-proof, being loopholed at the base in order to give fire from beneath to the foot of the wall; suitable overhanging constructions of a similar nature may be formed by beams of timber, these being passed through the wall and secured inside to the joists of the flooring; it would be advisable to construct them over outer doors. Especial care must be given to the communications inside the building, staircases being partially removed and ladders substituted. If the outer wall be liable to be weakened by artillery fire, the flooring inside should be supported by stanchions. *Plenty of water* must be available, in casks, etc., within the building. All windows and doors of the lower stories should be well barricaded and secured, and ditches cut around the house.

24. Hedges and walls.—Hedges and walls serve as screens; and with ditches on either or both sides, the earth being thrown against them, they may afford more or less cover. To prevent

their being used by the enemy, in case they are abandoned or captured, the ditch on the enemy's side should be so deep that he cannot fire through or over them.

Concealment of Trenches and Gun-Positions.

25. It is of the utmost importance that all trenches and gun-pits, or gun-positions, should be covered with branches, weeds, sod, etc., in order that their position and extent may not be discovered. The old rule "fire draws fire" is now changed to "visibility draws fire," and all problems in attack and defense must consider this principle first of all. Smokeless powder is a great aid to the defender in that it does not betray his position.

Naval Forces on Shore.

26. (1) It is not to be expected that purely naval forces will be called upon to construct permanent fortifications or to engage in independent operations on shore, requiring an extensive knowledge of field-engineering. The brief discussion of the subject in this chapter may suffice for most situations in which a naval officer may find himself.

(2) Naval landing-forces may be required to man permanent fortifications already constructed, to seize and hold towns or other positions, or to attack the same. The lessons of recent campaigns, both as regards offensive and defensive tactics, should not be forgotten. But it will of course be apparent that the open order formations, and the tactics used by and against the Boers, who were expert marksmen armed with modern magazine rifles using smokeless powder, may not be practicable against another enemy differently armed.

(3) Formations in mass, for mutual support, both on the march and in action, may be required *against an uncivilized or semi-civilized enemy* whose tactics are to surround and to come to close quarters with his opponent. Such were the squares used by the British in the Soudan.

(4) Bayonet charges, hand-to-hand fighting, night attacks in mass, and the use of hand-grenades at close quarters have been resorted to in recent campaigns.

(5) The officer must choose the formations, make the disposition of his force, and adopt the tactics which may be required by the existing conditions and by the character and tactics of the enemy. There is range enough in the drill regulations to cover most cases, if an officer applies them in a practical manner.

PART II

MANUAL OF GUARD-DUTY AND GUARD-MOUNTING

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MANUAL OF GUARD-DUTY.*

Rosters.

1. A roster is a list of officers or men for duty, with a record of the duty performed by each. Generally, details for duty are made so that the one longest off is the first for detail. Details so made are said to be made *by roster.*

2. (1) In the field, when the commanding officer deems it advisable, a company may be detailed to form the guard, the **c. c.** being the officer of the day, and the **cs. o. s.** officers of the guard. The company is inspected on its own parade by its commander and is marched to the post of the guard by the senior **c. o. s.**

(2) The same principle may be made to apply to the detail of an organization or subdivision larger or smaller than a company.

3. (1) The following are the usual rosters relative to guard-duty:

(a) Officers of the day.
(b) Officers of the guard.
(c) First petty officers of the guard.
(d) Petty officers of the guard.
(e) Musicians of the guard.
(f) Men of the guard.

(2) The first two are kept by the **bt. adj.;** the third, fourth, and fifth by the **c. p. o.** under the supervision of the **adj.,** or by the **1 p. os.** of companies, as may be directed by the commanding officer; the sixth is always kept by the **1 p. os. C. cs.** supervise the keeping of the company rosters by their **1 p. os.,** and see that all duties performed by members of the company are duly credited.

4. **C. cs.** serve on the first roster, **cs. o. s.** serve on the second roster, and may also be placed on the first roster, at the discretion of the commanding officer.

5. Post and camp-guards will be relieved every twenty-four hours.

6. Except in emergencies, no duty shall be required of the *old* officer of the day, or of the *old* guard, until four hours after they have been relieved.

* Taken mainly from the Manual of Guard-Duty, U. S. Army, 1902.

7. At **1 p. os.'** call, all the **1 p. os.** proceed to headquarters and take from the bulletin-board all the data necessary for them to make the required details from their respective companies; they make their details accordingly from their rosters.

The Commanding Officer.

8. The commanding officer will exact a faithful, correct, and vigilant performance of guard-duty in all its details, giving his orders to the officer of the day, or causing them to be communicated to him with the least practicable delay. He prescribes the strength of the guard, the positions of the color-line and guard-tents, the number and location of the posts of sentinels, the necessary regulations for police and fatigue duties, the uniform and equipment of the guard, and the hours of sounding calls; causes a list of calls to be furnished the commander of the guard; designates the hour for challenging to begin, otherwise challenging begins at retreat; causes the guard to be relieved every twenty-four hours when in camp; gives the special instructions which the duties of the guard and sentinels require; causes the necessary copies of orders for sentinels to be furnished the commander of the guard; receives the reports of the officers of the day immediately after the guard-mounting, at his office or at some place previously designated; carefully examines the guard-report and the remarks made thereon (questioning the old officer of the day, if necessary, concerning his tour of duty); relieves the *old* officer of the day, and gives the *new* officer of the day such instructions as may be necessary.

Posts of Sentinels.

9. The number and posts of sentinels about a regularly formed camp, are as follows: One over the arms of the guard; one at the commanding officer's tent; and as many on the front, rear, and flanks as may be necessary. No sentinel will be posted so distant as not to be heard by the guard, either directly or through other sentinels.

Detached Posts.

10. When necessary, detached posts may be established outside the chain of sentinels. These posts are under the orders of the commander of the post or camp guard, and are visited by his patrols.

Officers of the Day.

11. The officer of the day is responsible for the proper performance of duty by the guard with which he marches on, and for the enforcement of all police regulations, and is charged with the execution of all orders of the commanding officer relating to the safety and good order of the post or camp. His actual tour of duty begins when he receives the report of the **adj.** at guard-mounting, and ceases when he has been relieved by the commanding officer.

12. In the absence of special instructions from the commanding officer, the officer of the day will inspect the guard and sentinels during the day and night at such times as he may deem necessary.

13. He will prescribe patrols and visits of inspection to be made by officers and **p. os.** of the guard.

14. He will see that the commander of the guard is furnished with the parole and countersign before retreat, and will inform him of the presence in the post or camp of any person entitled to compliment.

15. The officer of the day, in the performance of his duties as such, is subject to the orders of the commanding officer only, except that in case of an alarm, and at a time of great danger, the senior line-officer present is competent to give necessary orders to the officer of the day for the employment of the portion of his guard not already occupied with duties prescribed in this manual and the standing orders of the post or camp.

16. At inspections and musters, the officer of the day will be present at the post of the guard, but all commands to the guard will be given by the commander of the guard.

17. (1) Both officers of the day, together, verify the number of prisoners and inspect the guardhouse and premises.

(2) The *old* officer of the day will, at guard-mounting, release all prisoners whose terms of confinement expire on that day.

18. If there be no officer of the guard, the *new* officer of the day will receipt to the *old* officer of the day for the articles under charge of the guard.

19. The *old* officer of the day enters on the report of the commander of the guard such remarks concerning his tour of duty as may be necessary, and signs his name thereto as officer of the day; if he enters no remarks, he signs his name as officer of the day on the face of the report.

20. The officers of the day then report to the commanding

officer. On presenting themselves, both salute. The *old* officer of the day, standing on the right of the *new*, then says: *"Sir, I report as old officer of the day,"* and presents the guard-report. As soon as the commanding officer notifies the *old* officer of the day that he is relieved, the *new* officer of the day says: *"Sir, I report as new officer of the day,"* and then receives his instructions.

Commander of the Guard.

21. The senior officer or p. o. of the guard is commander of the guard.

22. The commander of the guard is responsible for its instruction and discipline. He will see that all its members are correctly instructed in their orders and duties, and that they understand and properly perform them.

23. He receives and obeys the orders of the commanding officer and the officer of the day, and reports to the latter without delay all orders relating to the guard not given or transmitted by him; he transmits to his successor all material instructions and information relating to his duties.

24. He is responsible for the general safety of the camp as soon as the *old* guard marches off from the guardhouse. In case of any emergency occurring while both guards are at the guardhouse, the senior commander of the two guards will be responsible that proper action is taken.

25. Except in emergencies, the commander of the guard may divide the night with the next in command, but retains his responsibility; the one whose watch it is must be constantly on the alert.

26. When an alarm is raised in a camp, the guard will be formed immediately. If the case be serious, the proper *call* will be sounded, and the commander of the guard will cause the commanding officer and the officer of the day to be notified at once.

27. When practicable, there should always be an officer or p. o. and at least two men of the guard at the guardhouse, in addition to the sentinels there on post.

28. (1) Between 8 a. m. and sunset, when the guard has been turned out for any person entitled thereto, the commander of the guard, if an officer, will receive the report of the 1 p. o. of the guard, returning the salute of the latter.

(2) He will then draw his sword, and place himself two paces

in front of the center. When the person for whom the guard has been turned out approaches, the commander of the guard faces his guard, commands: 1. *Present,* 2. ARMS; faces to the front and salutes. When his salute is acknowledged, he resumes the *carry,* faces about, commands: 1. *Order,* 2. ARMS; and faces to the front.

(3) Between sunset and 8 a. m., the commander of the guard salutes and reports, but does not bring the guard to the *present.*

29. The commander of the guard will inspect his guard at 8 a. m. and sunset, to assure himself that the men are in proper condition to perform their duties, and that their arms and equipments are in proper order; for inspection by other officers, he will prepare the guard as directed in each case by the inspecting officer.

30. At all formations of the guard or reliefs, he will see that the chambers of rifles are opened and inspected as soon as the men have fallen in.

31. After receiving the report of its **p. o.** he will inspect each relief before it goes on post to assure himself that every sentinel is properly armed and equipped, and is in proper condition to perform his duties. The same rule applies to all patrols and sentinels over prisoners. The relief first posted after guard-mounting need not be thus inspected.

32. He will see that sentinels are relieved every two hours, unless the weather or other circumstances make it necessary or proper that it be done at shorter or longer intervals, as directed by the commanding officer.

33. He will question his **p. os.** and sentinels relative to the instructions they may have received from the *old* guard; he will see that patrols and visits of inspection are made as directed by the officer of the day.

34. He will see that the orders for each sentinel are posted, either written or printed, in the guardhouse, and, if practicable, in the sentry-box or other sheltered place to which the sentinel has constant access.

35. He will see that the proper *calls* are sounded at the hours appointed by the commanding officer.

36. Should a member of the guard be taken sick, be arrested, desert, or leave his guard, the commander of the guard will at once notify the **adj.**

37. He will communicate the countersign to the **p. os.** of his guard, and see that it is duly communicated to sentinels, before

the hour for challenging; the countersign will not be given to sentinels posted at the guardhouse.

38. He will have the details for hoisting the flag at 8 a. m., and lowering it at retreat, made in time for the proper performance of these duties; he will see that the flags are kept in the best condition possible, and that they are never handled except in the proper performance of duty.

39. He will enter in the guard-report a record of his tour of duty, and, on the completion of his tour, will present it to the officer of the day. He will transmit with his report all passes turned in at the post of the guard.

40. He will inspect the guard-rooms and cells, and the irons of such prisoners as may be ironed, at least once during his tour, and at such other times as he may deem necessary.

41. He will inspect all meals sent to the guardhouse for the prisoners, and see that the quantity and quality are in accordance with regulations.

42. At guard-mounting, he will report to the *old* officer of the day the names of all prisoners whose terms of confinement expire on that day, and also all cases of prisoners concerning whom no statement of charges has been received.

First Petty-Officer of the Guard.

43. The senior **p. o.** of the guard always acts as **1 p. o.** of the guard, and, if there be no officer of the guard, will perform the duties prescribed for the commander of the guard.

44. Immediately after guard-mounting, he will prepare duplicate lists of the names of all **p. os.**, musicians, and men of the guard, showing the relief and post, and the duties of each. One list will be handed as soon as practicable to the commander of the guard; the other will be retained by himself.

45. He will see that reliefs are turned out at the proper time, and that the **p. os.** thoroughly understand, and are prompt and efficient in the discharge of their duties.

46. During the temporary absence from the guardhouse of the **1 p. o.** of the guard, the next in rank of the **p. os.** present will perform his duties.

47. After breakfast, he will cause the guardhouse or guard tent and the space around it to be policed by the prisoners, if there be any, or by members of the guard if there be no prisoners.

48. He will see that the guard-room and cells are thoroughly policed twice daily, morning and evening.

49. At **1 p. o's.** *call,* he will proceed to the **adj's.** office and obtain the guard-report book.

50. When the colors are taken from the stacks of the color-line, the color-bearer and guard, or the **1 p. o.** of the guard, unarmed, and two armed men as a guard, will escort the colors to their destination.

51. Upon the return of men having passes, the passes will be given to the **1 p. o.** of the guard, who will endorse upon them the time at which each of the men, included in a pass, returns; at guard-mounting he will turn in the passes to the commander of the guard.

52. He will report to the commander of the guard any suspicious or unusual occurrence that comes under his notice, will warn him of the approach of any armed body, and will send to him all persons arrested by the guard.

To Form and Dismiss the Guard.

53. When the guard is turned out, its formation will be as follows: The senior **p. o.,** if commander of the guard, takes post and carries his piece as prescribed in Article 24, General Principles, Close Order; if not commander of the guard, he is the right guide; the next in rank is the left guide; the others, in the line of file-closers, each in rear of his relief; the field-music, three paces to the right of the right guide. The reliefs form in the same order as when the guard was first divided.

54. The **1 p. o.** forms the guard, calls the roll, and, if not in command of the guard, reports to the commander of the guard as prescribed in the "School of the Company" for a **1 p. o.** forming a company; the guard is not divided into sections, and, except when the whole guard is formed prior to marching off, *squads* are not counted.

55. The **1 p. o.** reports as follows: *"Sir, the guard is present;"* or, *"Sir, the guard and prisoners are present;"* or, *"Sir, the guard is present and the prisoners are secure;"* or, *"Sir* (so and so) *is absent;"* or, if the roll-call has been omitted, *"Sir, the guard is formed."* Only men absent without proper authority are reported absent. He then takes his place, without command.

56. At night, the roll may be called by reliefs and numbers instead of names; thus, the first relief being on post: *Second relief,* **p. o.;** *No. 1; No. 2;* etc. *Third relief,* **p. o.;** *No. 1;* etc.

57. Calling the roll will be dispensed with in forming the guard when it is turned out as a compliment, on the approach of an armed body, or in any sudden emergency; but in such cases the roll may be called before dismissing the guard.

58. When directed by the officer of the guard to dismiss the guard, the **1 p. o.** salutes, steps in front of the guard, and commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. DISMISSED; or, 7. *Order,* 8. ARMS, 9. *Stack,* 10. ARMS, 11. DISMISSED.

Prisoners.

59. The **1 p. o.** of the guard has direct charge of the prisoners, and is responsible to the commander of the guard for their security.

60. He will carry the keys of the guard-room and cells, and will not suffer them to be removed from his personal possession while he is at the guardhouse, except in the event of his leaving the guardhouse for any purpose, when he will turn the keys over to the **p. o.** who takes his place.

61. He will count the knives, forks, etc., given to the prisoners with their food, and see that none of these articles remain in their possession. He will see that no prohibited articles of any kind are conveyed to the prisoners.

62. (1) Prisoners, when paraded with the guard, are placed in line, in its center. The **1 p. o.,** immediately before forming the guard, will turn over the keys to the **p. o.** at the guardhouse. Having formed the guard, he will divide it into two nearly equal parts. Indicating the point of division with his hand, he commands: 1. *Right* (or *Left*), 2. FACE, 3. *Forward,* 4. MARCH, 5. *Guard,* 6. HALT, 7. *Left* (or *Right*), 8. FACE.

(2) If the command be, *right face,* the right half of the guard only will execute the movements; if, *left face,* the left half only will execute them. The command, *halt,* is given when sufficient interval is obtained to admit the prisoners. The doors of the guard-room and cells are then opened by the **p. o.** having the keys. The prisoners will file out under the supervision of the **1 p. o.,** the **p. o.** and sentinel on duty at the guardhouse, and will form in line in the interval between the two parts of the guard.

63. (1) To return the prisoners to the guard-room and cells, the **1 p. o.** commands: 1. *Prisoners,* 2. *Right* (or *Left*), 3. FACE, *Column right* (or *left*), 5. MARCH.

(2) The prisoners, under the same supervision as before, return to their proper rooms or cells.

64. (1) To close the guard, the **1 p. o.** commands: 1. *Left* (or *Right*), 2. FACE, 3. *Forward,* 4. MARCH, 5. *Guard,* 6. HALT, 7. *Right* (or *Left*), 8. FACE.

(2) The left or right half only of the guard, as indicated, executes the movement.

65. If there be but few prisoners, the **1 p. o.** may indicate the point of division as above, and form the necessary interval by the commands: 1. *Right* (or *Left*) *step,* 2. MARCH, 3. *Guard,* 4. HALT, and close the intervals by the commands: 1. *Left* (or *Right*) *step,* 2. MARCH, 3. *Guard,* 4. HALT.

66. The **1 p. o.** of the guard will cause the **p. o.** of each relief to verify the number of prisoners whenever his relief goes on post.

Petty-Officer of the Guard.

67. **P. os.** of the guard are assigned to reliefs by the commander of the guard.

68. A **p. o.** of the guard receives and obeys orders from none but **p. os.** of the guard senior to himself, the officers of the guard, the officer of the day, and the commanding officer.

69. It is the duty of the **p. o.** of the guard to post and relieve sentinels and to instruct the members of his relief in their orders and duties.

70. Immediately after the division of the guard into reliefs, the **p. os.** will assign the members of their respective reliefs to posts by number, and a man so assigned to his post will not be changed to another during the same tour of guard-duty, unless by direction of the commander of the guard, or higher authority. Usually, experienced men are placed over the arms of the guard, and at remote and responsible posts.

71. Each **p. o.** will then make a list of the members of his relief, including himself. This list will contain the number of the relief, the name, the company, and battalion of every member thereof, and the post to which each man is assigned. The list will be made in duplicate, one copy to be given to the **1 p. o.** of the guard as soon as completed, the other to be retained by the **p. o.**

72. As soon as the officers of the day have visited their respective guards, or as soon as directed by the officer of the guard, the **p. o.** of the first relief posts his relief.

To Post and Dismiss a Relief.

73. (1) The **p. o.** forms his relief, and then commands: CALL OFF. Commencing on the right, the men call off alternately, rear and front rank, *"one," "two," "three," "four,"* and so on; if in single rank, they call off from right to left. The **p. o.** then commands: 1. *Right,* 2. FACE, 3. *Forward,* 4. MARCH.

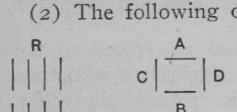
(2) In wet weather the relief may be marched at the *secure.*

(3) The **p. o.** marches on the left, and near the rear file, in order to observe the march. The **p. o.** of the *old* guard marches on the right of the leading file, and takes command when the last one of the *old* sentinels is relieved, changing places with the **p. o.** of the *new* guard.

74. When the relief arrives at six paces from a sentinel, the **p. o.** halts it and commands, according to the number of the posts: No. (—). Both sentinels execute *port arms;* the *new* sentinel approaches the *old,* and halts at about one pace from him.

75. (1) The **p. os.** advance and place themselves, facing each other, a little in advance of the *new* sentinel, the *old* **p. o.** on his right, the *new* **p. o.** on his left, both at the *shoulder,* and observe that the *old* sentinel transmits correctly his instructions.

(2) The following diagram will illustrate the positions taken:



R is the relief; *A,* the *new* **p. o.**; *B,* the *old; C,* the *new* sentinel; *D,* the *old.*

76. (1) The instructions relative to the post having been communicated, the *new* **p. o.** commands: *Post,* then steps back about two paces and commands: 1. *Forward,* 2. MARCH.

(2) The old sentinel takes his place in rear of the relief as it passes him.

(3) The **p. os.** take their places as the relief passes them.

77. The sentinels at the guardhouse are the first relieved; they are left at the guardhouse.

78. On the return of the *old* relief, the **p. o.** of the *new* guard falls out when the relief halts; the **p. o.** of the *old* guard forms his relief on the left of the *old* guard, salutes, and reports to the commander of his guard: *"Sir, the relief is present,"* and takes his place in the guard.

79. (1) To post a relief after the sentinels of the *old* guard have been relieved, its **p. o.** forms it by the commands: 1. (Such) *relief,* 2. FALL IN; and if arms are stacked, 3. *Take,* 4. ARMS.

(2) The relief is formed in double or single rank (according

as the guard is formed) facing to the front, with arms at the *order;* the men place themselves according to the numbers of their respective posts, viz.: *two, four, six,* and so on, in the front rank: *one, three, five,* and so on, in the rear rank, or in the order of their respective posts from right to left, according as the relief is in double or single rank. The **p. o.,** standing about two paces in front of the center of his relief, then commands: CALL OFF; the men call off as prescribed.

(3) The **p. o.** then commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. *Order,* 8. ARMS; faces the commander of the guard, executes the *rifle salute,* reports: *"Sir, the relief is present,"* and then takes his place on the right, at the *order.*

80. Having inspected the relief, the commander of the guard directs the **p. o.**: *Post your relief.* The **p. o.** salutes and posts his relief as prescribed; the **p. o.** of the relief on post does not go with the *new* relief, except when necessary to show the way.

81. If so directed by the commander of the guard, the **p. o.,** before posting his relief, will command: 1. *With ball cartridge,* 2. LOAD, 3. *Order,* 4. ARMS. Magazines will be filled if specially ordered.

82. To dismiss the *old* relief, it is halted and faced to the front at the guardhouse by the **p. o.** of the *new* relief, who then falls out; the **p. o.** of the *old* relief steps in front of the relief, and commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. DISMISSED; or, 7. *Order,* 8. ARMS, 9. *Stack,* 10. ARMS, 11. DISMISSED.

83. Should the pieces have been loaded before the relief was posted, the **p. o.** commands: UNLOAD; the pieces being free of cartridges, the relief is dismissed.

General Duties of P. Os. of the Guard.

84. Each **p. o.** will thoroughly acquaint himself with all the special orders of every sentinel on his relief, and see that each sentinel correctly transmits such orders in detail to his successor.

85. He will see that each sentinel, on being posted, clearly understands the limits and extent of his post.

86. There should be at least one **p. o.** constantly on the alert at the guardhouse, usually the **p. o.** whose relief is on post. This **p. o.** takes post near the entrance of the guardhouse, and does not fall in with the guard when it is formed. He will have his rifle constantly with him.

87. He will see that no person enters the guardhouse, or guard tent, or crosses the posts of the sentinels there posted, without proper authority.

88. Should any sentinel call for the **p. o.** of the guard, the **p. o.** will, in every case, at once and quickly proceed to such sentinel. He will notify the **1 p. o.** of the guard, before leaving the guardhouse.

89. He will at once report to the commander of the guard any violation of regulations or any unusual occurrence reported to him by a sentinel, or coming to his notice in any other way.

90. Should a sentinel call: *"The Guard,"* the **p. o.** wil. promptly notify the commander of the guard.

91. Should a sentinel call: *"Relief,"* the **p. o.** will at once proceed to the post of such sentinel, taking with him the man next for duty on that post. If the sentinel is relieved for a short time only, the **p. o.** will see that he is again posted as soon as the necessity for his relief ceases.

92. Immediately before the hour for challenging to begin, the **p. o.** whose relief is on post will communicate the countersign to all the sentinels of his relief, excepting those posted at the guardhouse.

93. He will, at the proper time, notify *No. 1,* of the hour, if sentinels are required to call the hours or half hours of the night.

94. He will wake the **p. o.** whose relief is next on post in time for the latter to form his relief and post it at the proper hour.

95. Should the guard be turned out, each **p. o.** will call his own relief, and cause its members to fall in promptly.

96. **P. os.** will ascertain the tents or bunks of all members of their reliefs, in order to turn them out when necessary, in the shortest time, and with the least confusion.

97. When challenged by a sentinel, while posting his relief, the **p. o.** commands: 1. *Relief,* 2. HALT; to the sentinel's challenge he answers: *"Relief,"* and at the command of the sentinel, he advances alone to give the countersign, or to be recognized. When the sentinel says: *"Advance relief,"* the **p. o.** commands: 1. *Forward,* 2. MARCH. If to be relieved, the sentinel is then relieved as prescribed.

98. Between retreat and reveille, the **p. o.** of the guard will challenge all suspicious persons or parties he may observe, first halting his patrol or relief, if either be with him. He will ad-

vance them in the same manner that sentinels on post advance like parties; but if the route of a patrol is on a continuous chain of sentinels, he should not challenge persons coming near him unless he has reason to believe that they have eluded the vigilance of sentinels.

99. Between retreat and reveille, whenever so ordered by an officer entitled to inspect the guard, the **p. o.** will call: *"Turn out the guard,"* announcing the title of the officer and then, if not otherwise ordered, he will salute, and return to his post.

100. Between retreat and reveille, on the approach of an armed party other than a returning relief or detachment of the guard, he will call: *"Turn out the guard: Armed party,"* and remain where he can observe the movements of the party while the guard is forming, and then return to his post.

101. As a general rule, he will advance parties approaching the guard at night in the same manner that sentinels on post advance like parties. Thus: The sentinel at the guardhouse challenges and reports the answer to the **p. o.** as prescribed hereafter; the **p. o.** advancing at the *port,* says: *"Advance* (so and so) *with the countersign,"* or *"to be recognized"* if there be no countersign used; the countersign being correctly given, or the party being duly recognized, the **p. o.** says: *"Advance* (so and so);" repeating the answer to the challenge of the sentinel.

102. When officers of different rank approach the guardhouse from different directions at the same time; the senior will be advanced first, and will not be made to wait for his junior.

103. Out of ranks and under arms, the **p. o.** salutes with the *rifle salute.* He will salute all officers, whether by day or night.

104. The **p. o.** will examine parties halted and detained by sentinels, and if he has any reason to believe the parties have no authority to cross sentinels' posts, will conduct them to the commander of the guard.

105. The **p. o.** of the guard will arrest all suspicious characters prowling about the post or camp, all persons of a disorderly character disturbing the peace, and all persons taken in the act of committing crime against the Government on a naval reservation or post. All persons arrested by **p. os.** of the guard, or by sentinels, will at once be conducted to the commander of the guard by the **p. o.**

Musicians of the Guard.

106. Musicians of the guard are subject to the orders of none but the commanding officer, the officer of the day, officers and **p. os.** of the guard.

107. Unless otherwise directed by the commanding officer, they will remain at the guardhouse during their tour, and will fall in with the guard when it is formed. They form on a line with the front rank of the guard, their left three paces from the right guide.

108. Musicians of the guard sleep at the guardhouse, unless otherwise directed by the commanding officer.

109. They will sound all *calls* prescribed by the commanding officer, and such other *calls* as may be ordered by proper authority, at such times and places as may be directed.

110. Should the guard be turned out for the colors, the field-music of the guard will, when the guard presents arms, sound, *To the color,* or, if for any person entitled thereto, the prescribed march, flourishes, or ruffles.

Orderly for Commanding Officer.

111. When so directed, the **adj.** will select an orderly for the commanding officer from the members of the *new* guard, an extra man being detailed for the guard for this purpose; the selection is usually made during the inspection at guard-mounting.

112. The man who is most correct in the performance of duty and in military bearing, neatness in person and clothing, and whose arms and accoutrements are in the best condition, will be chosen. Clothing, arms, and equipments must conform to the regulations prescribing the uniform. The **adj.** will notify the commander of the guard of his selection.

113. When directed by the commander of the guard to fall out and report, the orderly will give his name, company, and battalion, to the **1 p. o.** of the guard, and, leaving his rifle in the arm rack in his company quarters, will proceed at once to the commanding officer, reporting: *"Sir* (name), *company, reports as orderly."*

114. In the field, or on the march, the equipment of the orderly will be as directed by the commanding officer.

Men of the Guard.

115. Without permission from the commander of the guard, members of the guard, except orderlies, will not remove their

accoutrements or clothing, nor leave the immediate vicinity of the guardhouse.

116. During his tour of guard-duty, a man is subject to the orders of the commanding officer, the officer of the day, the officers and **p. os.** of the guard only.

117. When not engaged in the performance of a specific duty, a member of the guard will salute all officers who pass him. This rule applies at all hours of the day or night.

118. Whenever the guard or a relief is dismissed, each member, not at once required for duty, will place his rifle in the arm racks, if they be provided, and will not remove it therefrom unless he requires it in the performance of some duty.

119. Men are assigned to reliefs by the commander of the guard, and to posts, usually, by the **p. o.** of their relief. They will not change from one relief or post to another, during the same tour of guard-duty, unless by proper authority.

120. Should the guard be formed, the men will fall in ranks under arms. At a roll-call, the men are brought to the *port;* each man, as his name or number and relief are called, answers, "*Here,*" and comes to the *order.*

Orders for Sentinels on Post.

121. Orders for sentinels on post are divided into two classes, *general orders* and *special orders.*

122. Sentinels will be required to memorize the following: *My general orders are:*

(1) To take charge of this post and all Government property in view.

(2) To walk my post in a military manner, keeping constantly on the alert, observing everything that takes place within sight or hearing.

(3) To report every breach of orders or regulations that I am instructed to enforce.

(4) To repeat all calls from posts more distant from the guardhouse than my own.

(5) To quit my post only when properly relieved.

(6) To receive, transmit, and obey all orders from, and allow myself to be relieved by, the commanding officer, officer of the day, an officer or **p. o.** of the guard only.

(7) To hold conversation with no one except in the proper discharge of my duty.

(8) In case of fire or disorder to give the alarm.

(9) To allow no one to commit a nuisance in the vicinity of my post.

(10) In any case not covered by instructions, to call the **p. o.** of the guard.

(11) To salute all officers, and colors not cased.

(12) At night to exercise the greatest vigilance. Between retreat (or — o'clock, naming the hour designated by the commanding officer) and broad daylight, challenge all persons seen on or near my post, and allow no person to pass without proper authority.

123. In addition to the foregoing, sentinels posted at the guardhouse or guard tent, will be required to memorize the following:

(1) Between 8 a. m., and sunset, to turn out the guard for all persons entitled to the compliment, for all colors not cased, and for all armed parties approaching my post, except men at drill, and reliefs or detachments of the guard.

(2) At night, after challenging any person or party, to advance no one, but call the **p. o.** of the guard, repeating the answer to the challenge.

124. A sentinel on post is not required to halt and change the position of his rifle on arriving at the end of his post, nor to execute *to the rear,* precisely as prescribed in the "School of the Squad," but faces about while marching in the way most convenient to him, and either to the *right about* or *left about,* and at any part of his post, as may be best suited to the proper performance of his duties. He carries his rifle on either shoulder; at night, or in wet or severe weather, when not in the sentry box, he may carry it at the *secure.*

125. Sentinels, when in sentry boxes, stand *at ease.* Sentry boxes will be occupied in wet weather only, or at other times when specially authorized by the commanding officer.

126. In very hot weather, sentinels may be allowed to stand *at ease* on their posts, provided they can, in this position, effectively discharge their duties. Sentinels will, however, before taking advantage of this privilege, obtain the express authority of the commander of the guard or officer of the day.

127. When calling for any purpose, challenging, or in communication with any person, a sentinel will take the position of *port arms.*

128. A sentinel will not quit his piece, except on an explicit order from some person from whom he lawfully receives orders

while on post; under no circumstances will he yield it to any other person. Unless necessity therefor exists, no person will require a sentinel to quit his piece, even to allow it to be inspected.

129. A sentinel will arrest suspicious persons prowling about the post or camp at any time, all parties to a disorder occurring on or near his post, or any one who attempts to enter the camp at night, and will turn over all persons arrested to the **p. o.** of the guard.

130. He will at once report to the **p. o.** of the guard every unusual or suspicious event noticed.

131. If relief becomes necessary, by reason of sickness or other cause, the sentinel will call: "**P. o.** *of the Guard, No.* (——) : *relief,*" giving the number of his post.

132. To call the **p. o.** of the guard for any other purpose than for relief, the sentinel will call: "**P. o.** *of the Guard, No.* (——)."

133. Whenever relieved, a sentinel will repeat, in detail to his successor, all special orders relating to his post.

Orders for Sentinels except those at the Post of the Guard.

Night Orders.

134. Between sunset (or the hour designated by the commanding officer) and broad daylight, if a sentinel sees any person or party on or near his post, he will advance rapidly along his post toward such person or party, and when within about thirty paces will challenge sharply: "*Halt. Who is there?*" He will place himself in the best position to receive or, if necessary, arrest the person or party.

135. In case a mounted party be challenged, the sentinel will call: "*Dismount,*" after challenging.

136. A sentinel will not divulge the countersign to any one except the sentinel who relieves him, or to a person from whom ne properly receives orders, on such person's verbal order given personally. Men of the guard will not use the countersign except in the performance of their duties while posted as sentinels.

137. The sentinel will permit one, only, of any party to approach him for the purpose of giving the countersign; or, if no countersign be used, of being duly recognized. When this has been done, the whole party is advanced, *i. e.* allowed to pass.

138. In all cases, the sentinel must satisfy himself beyond a reasonable doubt that the parties are what they represent themselves to be, and have a right to pass. If he be not satisfied, he

must cause them to stand, and call the **p. o.** of the guard. He will also call the **p. o.** of the guard if he has no authority to pass persons with the countersign, or when the party challenged has not the countersign, or gives an incorrect one.

139. When two or more persons approach in one party, the sentinel, on receiving an answer that indicates that some one in the party has the countersign, will say: "*Advance one with the countersign,*" and, if the countersign be given correctly, will then say: "*Advance* (so and so)," repeating the answer to his challenge. Thus, if the answer be, "*Friends with the countersign* (or *patrol,* or etc.)," the sentinel will say: "*Advance one with the countersign*"; then, "*Advance friends* (or *patrol,* or etc.)."

140. If a person having the countersign approach alone, he is advanced to give the countersign. Thus: If the answer be, "*Friend with the countersign* (or *officer of the day,* or etc.)," the sentinel will say: "*Advance friend* (or *officer of the day,* or etc.), *with the countersign*"; then: "*Advance friend* (or *officer of the day,* or etc.)."

141. (1) When not in the presence of the enemy, sentinels may be required to call the hours and half hours between the time when challenging begins and reveille.

(2) When this is required, they will call successively in the numerical order of their posts, beginning at the guardhouse, each one giving the number of his post, repeating the hour of the night, then adding: "*All's well.*" Thus: "*No. 2, eleven o'clock: All's well.*" This call should be made, and the number of the post and the hour announced in a clear and distinct manner without unduly prolonging the words.

142. In case any sentinel fails to call off, the one next preceding him will repeat the call; if the call is not taken up within a reasonable time, he will call the **p. o.** of the guard, and report the facts.

Fire or Disorder.

143. In case of fire, the sentinel will call "*Fire* No. (——)," adding the number of his post; if possible he will extinguish the fire by his own efforts. In case of disorder he will call "The Guard, No. (——)." Adding the number of his post. If the danger be great, he will in either case discharge his piece before calling.

Orders for Sentinels at the Post of the Guard.

144. (1) The following examples illustrate the manner in which a sentinel at the post of the guard turns out the guard: *"Turn out the guard, commanding officer," "Turn out the guard, national colors," "Turn out the guard, armed party."* etc.

(2) At the approach of the *new* guard at guard-mounting, the sentinel will call, as in the last example: *"Turn out the guard, armed party."*

145. Should the officer designated by the sentinel not desire the guard formed, he will salute and say: *"Never mind the guard,"* whereupon the sentinel calls: *"Never mind the guard."*

146. After having called *"Turn out the guard,"* the sentinel will not, in any case, call: *"Never mind the guard,"* on the approach of an armed party.

147. Though the guard be already formed, he will not fail to call: *"Turn out the guard,"* as required in his general orders, except as provided in the following article.

148. If two or more persons, entitled to the compliment, approach at the same time, the sentinel will call for the senior only; if the senior does not desire the guard formed, the sentinel then calls: *"Never mind the guard."* The guard will not be turned out for an officer while a senior entitled to the compliment is at, or coming to, the post of the guard.

149. The sentinels at the post of the guard will warn the commander of the approach of any armed body, and will arrest all suspicious or disorderly persons. They will not permit enlisted men to pass without reporting, unless orders to the contrary have been given by the commanding officer.

150. In case of fire or disorder in the vicinity of the guard-house, the sentinel posted there will call the **p. o.** of the guard and report the facts to him.

Compliments from Sentinels.

151. The salute of a sentinel will habitually be rendered at a halt, facing the front of his post. (See Honors.)

152. Saluting distance is the limit within which individuals and the insignia of rank can be readily recognized; it is assumed to be about thirty paces.

153. (1) A sentinel will salute an officer approaching when he arrives within about six paces; but if, after coming within saluting distance, the officer does not approach within six paces

the sentinel salutes when the officer arrives nearest him, or just before he crosses the sentinel's post.

(2) The same rules apply whenever the colors, not cased, carried by a color-guard or an armed party, or when the officer commanding a party, whether armed or unarmed, passes; so also when the remains of a deceased officer or man are carried past.

Color-Line and Sentinels.

154. A sufficient number of sentinels, not to exceed three, is placed on the color-line to guard the colors and stacks.

155. In camps of instruction, the proper number of sentinels for the color-line will be selected from the guard by the **adj.** at guard-mounting, the required number of extra men being detailed for guard for this purpose. They are designated *color-sentinels,* and are selected in the manner prescribed for the selection of the orderly for the commanding officer.

156. Color-sentinels so selected are on post only so long as the stacks are formed. If necessary, their places are taken at night by the other sentinels posted on the color-front or on the flanks.

157. When stacks are broken, the color-sentinels may be permitted to return to their respective companies. They are required to report in person to the commander of the guard at reveille and retreat. They will fall in with the guard, under arms, at guard-mounting.

158. Color-sentinels are not placed on the regular reliefs, nor is their post numbered. In calling for the **p. o.** of the guard, they call: "**P. o.** *of the guard: Color-line.*"

159. The time of walking post on the color-line is equally divided among the color-sentinels by the commander of the guard.

160. A color-sentinel on post is subject to, and will observe, all the general orders prescribed for sentinels on other posts.

Special Orders for Color-Sentinels.

161. (1) A sentinel placed over the colors will not permit them to be removed, except in the presence of an escort.

(2) He will allow no one to touch them but the color-bearer, or a **p. o.** of the guard.

(3) He will not permit any man to take arms from the stacks, or to touch them, except by order of an officer, or a **p. o.** of the guard.

(4) If any person, passing the colors or crossing the color-line, fails to salute the colors, the sentinel will caution him to do so, and if the caution be not heeded, he will call the **p. o.** of the guard and report the facts.

Guard-Patrols.

162. A guard-patrol is a small detachment of two or more men detailed to observe and procure information of the enemy, or for the performance of some special service connected with guard-duty. Patrols are usually detailed from the guard and receive instructions from its commander.

Miscellaneous.

163. All persons, of whatever rank in the service, are required to observe respect toward sentinels.

164. Officers or enlisted men passing the colors will give the salute prescribed in the U. S. Navy Regulations. If the colors are on the stacks, the salute will be made on crossing the color-line, or on passing the colors.

165. On the march, the camp-guard, with the prisoners, marches in rear of the battalion, or in advance with the camping party.

Police and Fatigue Duty.

166. Police and fatigue duties may be placed under the supervision of an officer detailed for the purpose; otherwise they are under the supervision of the officer of the day. The officer of the day or the officer detailed for the purpose, has general supervision, under the orders of the commanding officer, of all police and fatigue duties of the post or camp. Fatigue parties will be furnished him when the number of prisoners is insufficient for the necessary police purposes.

167. In camp, general police duty is usually done by the *old* guard, under the direction of the officer of the day. The tour is for twenty-four hours, beginning with *fatigue-call* on the morning of the day following that on which the guard marches off.

168. General police duty may, at the discretion of the commanding officer, be performed by fatigue parties, or by prisoners, if there be enough of the latter for the purpose.

Flags and Colors.

169. It is the duty of the commander of the guard to see that the proper flag is hoisted. In case of storm, either of wind or rain, he will see that a storm-flag is promptly substituted.

170. The flag shall be hoisted at 8 a. m. and lowered at sunset.

171. The national flag will always be displayed at the time of firing salutes.

172. The sentinel at the guardhouse, or the sentinel nearest the flagstaff, will report at once to the **p. o.** of the guard any danger to the flag, from loosened halyards, or from entanglement with either halyards or staff.

173. When practicable, a detail consisting of a **p. o.** and two men of the guard will hoist or lower the flag. This detail is formed in line, with side arms, or if the special equipments do not include side arms, then with belts only, the **p. o.** carrying the flag, in the center, and is marched to the staff. The flag is then securely attached to the halyards and is rapidly hoisted at the sounding of the first note of the bugle. The halyards are then securely fastened to the cleat on the staff. The detail will salute the colors as required by the Navy Regulations.

174. When the flag is to be lowered, the halyards are cast off from the staff and made perfectly free. At sunset the flag is slowly lowered so as to reach the ground at the sounding of the last note of the retreat. It is then neatly made up and the halyards fastened. The detail is then re-formed and marched to the guardhouse, where the flag is turned over to the commander of the guard.

Reveille and Retreat-Gun.

175. (1) The morning and evening-guns will be fired by a detachment of the guard consisting of a **p. o.** and two men. The morning-gun is fired at the first note of the reveille, or, if marches be played before the reveille, it is fired at the commencement of the first march. The retreat-gun is fired at the last note of the retreat.

(2) The **p. o.** marches the detachment to and from the piece, and the piece is fired, sponged, and secured under his direction.

GUARD-MOUNTING.*

The Assembly.

176. (1) At the *assembly,* the men warned for duty fall in on their company parade-grounds, facing to the front, **p. os.** and supernumeraries falling in as file-closers; each **1 p. o.** then verifies his detail, inspects the dress and general appearance, and replaces by a supernumerary any man unfit to march on guard.

(2) The band takes post on the parade, so that the left of its front rank shall be twelve paces to the right of the front rank of the guard when the latter is formed.

Adjutant's Call.

177. (1) At **adj's.** *call,* the **adj.** dismounted, and the **c. p. o.** on his left, marches to the parade-ground. The **adj.** halts and takes post so as to be twelve paces in front of, and facing, the center of the guard when formed; the **c. p. o.** continues on, moves by the left flank, and takes post facing to the left, twelve paces to the left of the front rank of the band; the band plays in *quick* or *double time;* the details are marched to the parade-ground by the **1 p. os.** with arms at the *shoulder;* the detail that arrives first is so marched to the line that, upon halting, the breast of the right front-rank man shall be near to, and opposite, the left arm of the **c. p. o.**; the **1 p. o.** halts his detail, places himself in front of, and facing, the **c. p. o.,** at a distance equal to, or a little greater than, the front of his detail; he then commands: 1. *Right,* 2. DRESS. The detail dresses up to the line of the **c. p. o.** and **1 p. o.,** the right front-rank man placing his breast against the left arm of the **c. p. o.**; the **p. os.** take post two paces, and the supernumerary nine paces, in rear of the rear rank of the detail. Seeing the detail aligned, the **1 p. o.** commands: FRONT, salutes, and then reports: *The detail is correct;* or (so many) *men are absent;* the **c. p. o.** returns the salute after the report is made; the **1 p. o.** then passes by the right of the guard and takes post three paces in rear of his supernumerary, at the *order*

(2) Each of the other details is formed in like manner on t left of the one preceding; the men, **p. os.,** supernumerary, **1 p. o.** of each detail dress on those of the preceding det

*Taken mainly from Infantry Drill-Regulations, U. S. Army, 1

the same rank or line; each **1 p. o.** closes the rear rank to the right and fills blank files, as far as practicable, with men from his front rank.

(3) The company details alternate in taking the right of the line.

(4) When the last detail has formed, the **c. p. o.** takes a side step to the right, verifies the detail, takes post two paces to the right and two paces to the front of the guard, facing to the left, causes the guard to count off, completing the left squad, if necessary, as in the "School of the Company," and if there be more than three squads, divides the guard into two sections, again takes post as described above and commands: 1. *Open ranks,* 2. MARCH. At the second command, the rear rank steps back and halts three paces in rear of the front rank; the **p. os.** three paces in rear of the rear rank; all dress to the right. The **c. p. o.** verifies the alignment of the ranks, file-closers, supernumeraries, and **1 p. os.,** and again takes post as described above and commands: FRONT, moves parallel to the front rank until opposite the center, turns to the right, halts midway to the **adj.,** salutes and reports: *Sir, the details are correct;* or, *Sir* (so many) *men are absent;* the **adj.** returns the salute, directs the **c. p. o.:** *Take your post,* and then draws sword; the **c. p. o.** faces about and takes post facing to the front, three paces to the left of the front rank. When the **c. p. o.** has reported, the officer of the guard takes post, facing to the front, three paces in front of the center of the guard, and draws sword. (See Plate 30.)

Assignment of Commander of the Guard and Petty-Officers.

178. (1) The **adj.** then commands: 1. *Officer* (or *Officers*) and **p. os.,** *front and center,* 2. MARCH. At the command *center* the officer carries sword. The officer advances and halts three paces from the **adj.** remaining at the *carry;* the **p. os.** bring their pieces to the trail, pass by the flanks along the front and form in the order of rank, from right to left, three paces in rear of the officer, pieces at the order; the **adj.** then assigns the officer and **p. os.** according to rank, as follows: *Commander of the guard, chief of first section, chief of second section, right guide of first section, left guide of second section, left guide of first section, right guide of second section,* and *file-closers.*

(2) The **adj.** then commands: 1. *Petty-Officers;* or, 1. *Officer and petty-officers,* 2. *Posts,* 3. MARCH. At the second command

all, except the officer commanding the guard, face about and at the third command take the posts prescribed in the "School of the Company," with open ranks, and pieces at the *order*. The **adj.** then directs: *Inspect your guard, sir;* at which the officer commanding the guard faces about, commands: 1. *Inspection,* 2. ARMS, returns sword and inspects the guard.

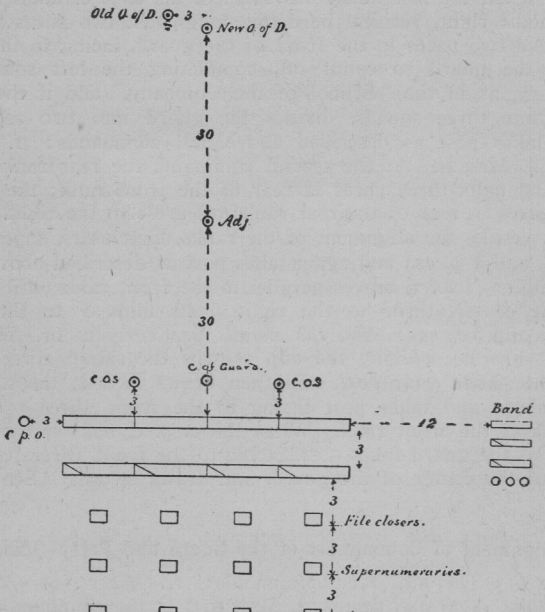


Plate 30. Arts. 177 and 180. Formation of guard.

Inspection.

179. (1) During the inspection, the band plays, and the **adj.** returns sword, observes the general condition of the guard, and replaces by the supernumerary any man who does not present a creditable appearance. He, also, when so directed, selects an orderly for the commanding officer, and notifies the commander of the guard of his selection.

(2) If there be a junior officer of the guard, he takes post

facing to the front, three paces in front of the center of the first section; in going to the front and center he closes on the senior and is assigned as chief of the first section; he may be directed by the commander of the guard to assist in the inspection of the guard.

(3) If there be no officer of the guard, the **adj.** makes the inspection. The **p. o.** commanding the guard takes post on the right of the front rank, the right guide falling back into the rear rank, when the guard is in line; and takes the post of the officer commanding the guard, when in column or passing in review.

Review.

180. (1) The inspection ended, the **adj.** places himself about thirty paces in front of, and facing, the center of the guard, and draws sword; the officers of the day take post in front of, and facing, the guard, about thirty paces from the **adj.**; the *old* officer of the day three paces to the right of and one pace to the rear of the *new* officer of the day; the officer commanding the guard takes post three paces in front of its center, draws sword with the **adj.** and comes to the *order;* thereafter, he takes the same relative positions as a **c. c.**

(2) The **adj.** then commands: 1. *Parade,* 2. REST, 3. SOUND OFF, and comes to *parade rest.*

(3) The band, playing, passes in front of the officer of the guard to the left of the line, and back to its post on the right, when it ceases playing.

(4) The **adj.** then resumes *attention,* brings his sword to the *carry* and commands: 1. *Guard,* 2. ATTENTION, 3. *Close ranks,* 4. MARCH.

(5) The **adj.** then commands: 1. *Present,* 2. ARMS, faces toward the *new* officer of the day, salutes, and then reports: *Sir, the guard is formed.* The *new* officer of the day, after the **adj.** has reported, returns the salute with the hand and directs the **adj.**: *March the guard in review, sir.*

(6) The **adj.** carries sword, faces about, brings the guard to the *order,* and commands: 1. *Sections right,* 2. MARCH, 3. *Guard,* 4. HALT. The sections execute the movement; the band turns to the right and places itself twelve paces in front of the first section. The **adj.** places himself abreast of the first section and six paces from its left flank; the **c. p. o.** six paces from the left flank of the second section.

(7) The **adj.** then brings the guard to the *shoulder,* and commands: 1. *Pass in review,* 2. *Forward,* 3. *Guide right,* 4. MARCH. The guard marches in *quick time* past the officer of the day, according to the principles of review, and is brought to *eyes right* at the proper time by the commander of the guard; the **adj.,** commander of the guard, **cs. o. s., c. p. o.,** and drum-major, salute.

(8) The band, having passed the officers of the day, turns to the left out of column, places itself opposite and facing them, and ceases to play when the rear of the column has passed; the field-music detaches itself from the band when the latter turns out of column, and, remaining in front of the guard, commences to play when the band ceases. In the absence of the band, the field-music does not turn out of column, but continues in front of the guard.

(9) Having passed twelve paces beyond the officer of the day, the **adj.** halts and returns sword; the **c. p. o.** halts abreast of the **adj.** and one pace to his left; they then salute and retire.

(10) The commander of the guard forms it into column of squads without halting, and marches it to its post.

Exchange of Duty by the Old and New Officer of the Day.

181. (1) The officers of the day face toward each other and salute, the *old* officer of the day turning over the orders to the *new* officer of the day.

(2) While the band is sounding off, and while the guard is marching in review, the officers of the day stand at *parade rest* with arms folded, and come to *attention* before the guard is to be presented, and again as the head of the column approaches.

(3) The *new* officer of the day returns only the salute of the commander of the guard and the **adj.,** making one salute with the hand.

Supernumeraries Dismissed.

182. (1) The **1 p. os.** and supernumeraries come to *parade rest* and *attention* with the guard; they remain at the *order* while the guard is being presented and formed into column. The senior **1 p. o.** commands: 1. *Parade,* 2. REST, at the command, *march,* for passing in review, and: 1. *Supernumeraries,* 2. ATTENTION, when the officers of the day come to *attention.*

(2) The **1 p. os.** come to *parade rest,* and to *attention* with the supernumeraries. The rear of the column having passed the

officers of the day, each **1 p. o.** marches his supernumerary to the company parade and dismisses him.

General Instructions.

183. If the guard be not divided into sections, the **adj.** commands: 1. *Guard right,* 2. MARCH, and it passes in review as above; the commander of the guard is three paces in front of its center; the **adj.** is six paces from and abreast of its left flank; the **c. p. o.** covers the **adj.** on a line with the file-closers.

184. (1) As the *new* guard approaches the guardhouse, the *old* guard is formed in line, with its field-music three paces to its right; and, when the field-music at the head of the *new* guard arrives opposite its left, the commander of the new guard commands: 1. *Eyes,* 2. RIGHT, the commander of the *old* guard commands: 1. *Present,* 2. ARMS.

(2) The *new* guard marches in *quick time* past the *old* guard, commanders of both guards saluting. When the commander of the new guard is opposite the field-music of the old guard, he commands: FRONT; the commander of the old guard commands: 1. *Order,* 2. ARMS.

(3) The field-music having marched three paces beyond the field-music of the *old* guard, changes direction to the right, and, followed by the guard, changes direction to the left, when on a line with the *old* guard; the changes of direction are without command. The senior officer of the guard halts on the line of the front rank of the *old* guard, allows his guard to march past him, and, when its rear approaches, forms it in line to the left, halts it, establishes the left guide three paces to the right of the field-music of the *old* guard, and on a line with the front rank, and then dresses his guard to the left; the field-music with the *new* guard is three paces to the right of its front rank.

(4) The *new* guard being dressed, the commander of each guard, in front of, and facing, its center, commands: 1. *Present,* 2. ARMS, resumes his front and salutes.

(5) The commanders having saluted, face their guards and command: 1. *Order,* 2. ARMS.

185. Should a guard be commanded by a **p. o.** he executes the *rifle salute,* standing on the right or left of the front rank, according as he commands the *old* or *new* guard.

186. The detachments and sentinels of the *old* guard are relieved, and, as they come in, form on its left; both guards are brought to the *shoulder;* the commander of the *old* guard then

marches it, with the guide right, six paces to the front, then in column of squads to the right. The field-music begins to play, and the guard marches in *quick time,* past the *new* guard, both guards saluting.

187. Arriving on the parade-ground, the commander of the *old* guard forms it in line and halts it, opens and closes chamber, orders successively the company details two paces to the front, and sends each, under charge of a **p. o.,** to its company.

188. (1) In bad weather, at night, or after long marches, the music may be dispensed with, or the field-music may take the place of the band and sound off, standing on the right of the guard, and the review be omitted.

(2) The new officer of the day directs the **adj.:** *March the guard to its post, Sir.* The **adj.** brings the guard to an *order* or *shoulder,* commands: 1. *Guard to its post,* and adds the necessary commands for the guard to move off in column of squads.

189. The duties herein prescribed for the **1 p. o.** may be performed by other **p. os.** not detailed for guard.

190. (1) Whenever practicable a single company, if of sufficient strength, furnishes the officers of the day and guard, the **p. os.,** musicians and men of each guard.

(2) If the entire strength of the company is not required for the guard, the remainder is held for such other duty, including fatigue, as may be required of it. The number of supernumeraries in such detail is fixed by the commanding officer.

(3) Supernumerary and **bt. sf.** officers are so detailed for duty with the company furnishing the guard, as to keep the tours of service distributed as uniformly as possible among all officers available for such duty.

(4) Guard-mounting, when there is but the one detail, is held as previously described; the detail is marched on as described for the first detail, the supernumeraries are distributed uniformly on the line nine paces in rear of the rear rank and the **1 p. o.** places himself three paces in rear of the center of the line of supernumeraries.

191. For detailed instructions not herein prescribed, see Manual of Guard-Duty, U. S. Army.

PART III
EXTENDED ORDER

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CHAPTER I.—DRILL.

INTRODUCTION.

1. **Success in battle** is the ultimate object of all military training; success may be looked for only when the training is intelligent and thorough.

2. **The purpose of extended order drill** is to teach the *mechanism* of deployment, of the firings, and, in general, of the employment of troops in combat. Such drills are in the nature of disciplinary exercises and should be frequent, thorough, and exact in order to habituate men to the firm control of their leaders. Extended order drill is executed *at ease*. The company is the largest unit which executes extended order drill.

3. (1) **Field exercises** are for instruction in the duties incident to campaign. Assumed situations are employed. Each exercise should conclude with a discussion, on the ground, of the exercise and principles involved.

(2) In field exercises the enemy is said to be *imaginary* when his position and force are merely assumed; *outlined* when his position and force are indicated by a few men; *represented* when a body of troops acts as such.

(3) **The excellence of an organization** is judged by its field efficiency. The field efficiency of an organization depends primarily upon its effectiveness as a whole. Thoroughness and uniformity in the training of the units of an organization are indispensable to the efficiency of the whole; it is by such means alone that the requisite teamwork may be developed.

(4) The firing line can rarely be controlled by the voice alone; thorough training to insure the proper use of prescribed signals is necessary.

(5) The exercise should be followed by a brief drill at attention in order to restore smartness and control.

4. (1) **The combat exercise, a form of field exercise** of the company, battalion, and larger units, consists of the *application of tactical principles* to assumed situations, employing in the execution the appropriate formations and movements of close and extended order.

(2) Combat exercises must simulate, as far as possible, the battle conditions assumed. In order to familiarize both officers and men with such conditions, companies and battalions will

frequently be consolidated to provide war-strength organizations. Officers and **p. os.** not required to complete the full quota of the units participating are assigned as observers or umpires.

(3) **The principles of combat** are considered in Chapter II of Part III. They are treated in the various schools included in this chapter only to the extent necessary to indicate the functions of the various commanders and the division of responsibility between them. The amplification necessary to a proper understanding of their application is to be sought in Chapter II.

Bugle Signals.

5. (1) The following bugle signals may be used off the battle field, when not likely to convey information to the enemy:

Attention. Troops are brought to attention.

Attention to orders. Troops fix their attention.

Forward, march. Used also to execute quick time from double time.

Double time, march.

To the rear, march. In close order, execute *squads right about.*

Halt.

Assemble, march.

The following bugle signals may be used on the battle field:

Fix bayonets.

Charge.

Assemble, march.

(2) These signals are used only when intended for the entire firing line; hence they can be authorized only by the commander of a unit (for example, a regiment or brigade) which occupies a distinct section of the battle field. Exception: *Fix bayonet.* (See par. 109.)

6. (1) The following bugle signals are used in exceptional cases on the battle field. Their principal uses are in field exercises and practice firing.

(2) **Commence firing.** Officers charged with fire direction and control open fire as soon as practicable. When given to a firing line, the signal is equivalent to *fire at will.*

(3) **Cease firing.** All parts of the line execute *cease firing* at once.

These signals are not used by units smaller than a regiment, except when such unit is independent or detached from its regiment.

Whistle Signals.

7. (1) **Attention to orders.** A *short blast* of the whistle. This signal is used on the march or in combat when necessary to fix the attention of troops, or of their commanders or leaders, preparatory to giving commands, orders, or signals.

(2) When the firing line is firing, each squad leader suspends firing and fixes his attention at a *short blast* of his section leader's whistle. The section leader's subsequent commands or signals are repeated and enforced by the squad leader. If a squad leader's attention is attracted by a whistle other than that of his section leader, or if there are no orders or commands to convey to his squad he resumes firing at once.

(3) **Suspend firing.** A *long blast* of the whistle.

Arm Signals.

8. (1) The following arm signals are prescribed. In making signals either arm may be used. Officers who receive signals on the firing line "repeat back" at once to prevent misunderstanding.

(2) **Forward, march.** Carry the hand to the shoulder; straighten and hold the arm horizontally, thrusting it in direction of march.

This signal is also used to execute quick time from double time.

(3) **Halt.** Carry the hand to the shoulder; thrust the hand upward and hold the arm vertically.

(4) **Double time, march.** Carry the hand to the shoulder; rapidly thrust the hand upward the full extent of the arm several times.

(5) **Squads right, march.** Raise the arm laterally until horizontal; carry it to a vertical position above the head and swing it several times between the vertical and horizontal positions.

(6) **Squads left, march.** Raise the arm laterally until horizontal; carry it downward to the side and swing it several times between the downward and horizontal positions.

(7) **Squads right about, march** (if in close order) or, **To the rear, march** (if in skirmish line). Extend the arm vertically above the head; carry it laterally downward to the side and swing it several times between the vertical and downward positions.

(8) **Change direction** or **Column right (left), march.** The hand on the side toward which the change of direction is to be made

is carried across the body to the opposite shoulder, forearm horizontal; then swing in a horizontal plane, arm extended, pointing in the new direction.

(9) **As skirmishers, march.** Raise both arms laterally until horizontal.

(10) **As skirmishers, guide center, march.** Raise both arms laterally until horizontal; swing both simultaneously upward until vertical and return to the horizontal; repeat several times.

(11) **As skirmishers, guide right (left), march.** Raise both arms laterally until horizontal; hold the arm on the side of the guide steadily in the horizontal position; swing the other upward until vertical and return it to the horizontal; repeat several times.

(12) **Assemble, march.** Raise the arm vertically to its full extent and describe horizontal circles.

(13) **Range,** or **Change elevation.** To announce *range,* extend the arm toward the leaders or men for whom the signal is intended, fist closed; by opening and closing the fist, expose thumb and fingers to a number equal to the hundreds of yards; to add 50 yards describe a short horizontal line with forefinger. *To change elevation,* indicate the *amount of increase* or *decrease* by fingers as above; point upward to indicate increase and downward to indicate decrease.

(14) **Suspend firing.** Raise and hold the forearm steadily in a horizontal position in front of the forehead, palm of the hand to the front.

(15) **Cease firing.** Raise the forearm as in *suspend firing* and swing it up and down several times in front of the face.

(16) **Section.** Extend the arm horizontally toward the **c. o. s.;** describe small circles with the hand.

(17) **Squad.** Extend the arm horizontally toward the **c. o. s.;** swing the hand up and down from the wrist.

(18) **Rush.** Same as *double time.*

9. The signals *section* and *squad* are intended primarily for communication between the **c. c.** and his **cs. o. s.** The signal *section* or *squad* indicates that the **c. o. s.** is to cause the signal which follows to be executed by section or squad.

Flag Signals.

10. For communication between the firing line and the reserve or commander in rear, the subjoined signals (Signal Corps code) are prescribed. In transmission their concealment from

the enemy's view should be insured. In the absence of signal flags, the head dress or other substitute may be used.

Letter of alphabet.	If signaled from the rear to the firing line.	If signaled from the firing line to the rear.
a a a	Ammunition going forward....	Ammunition required.
c c c	Charge (mandatory at all times)	Am about to charge if no instructions to contrary.
s s s	Support going forward	Support needed.
f f f	Move forward	Preparing to move forward.
h h h	Halt	
n n n	Negative	Negative.
y y y	Affirmative	Affirmative.

THE SQUAD IN EXTENDED ORDER.

To Deploy as Skirmishers.

11. Being in any formation, assembled: 1. *As skirmishers,* 2. MARCH.

(1) The **p. o.** places himself in front of the squad, if not already there. Moving at a run, the men place themselves on a line three paces in rear of the **p. o.** at half-pace intervals, No. 2 front-rank directly in rear of the **p. o.,** No. 1 on his right, Nos.

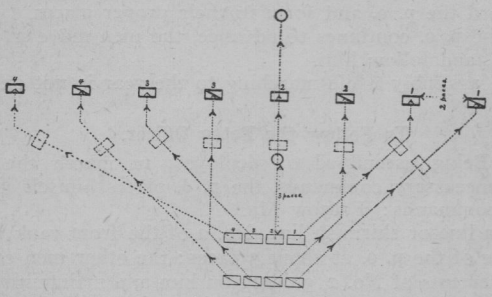

Plate 1. Art. 11.
To deploy the squad, forward.

3 and 4 on his left, rear-rank men on the right of their file leaders, extra men on the left of No. 4; all then conform to the **p. o.'s** gait.

(2) When the squad is acting alone, skirmish line is similarly formed on No. 2 of the front rank, who stands fast or continues the march, as the case may be; the **p. o.** places himself in front of the squad when advancing and in rear when halted.

(3) When deployed as skirmishers, the men march at ease, pieces at the trail unless otherwise ordered; No. 2 front rank is the guide.

(4) **The p. o. is the squad leader.** His position is in front or in rear of the squad as circumstances require. He may place himself on the line if necessary to use his rifle.

12. The normal interval between skirmishers is *one-half pace,* resulting practically in one man per yard of front. The front of a squad thus deployed as skirmishers is about **10 paces.**

To Increase or Diminish Intervals.

13. (1) If assembled, and it is desired to deploy at greater than the normal interval; or if deployed, and it is desired to increase or decrease the interval: 1. *As skirmishers* (*so many*) *paces*, 2. MARCH.

(2) Intervals are taken at the indicated number of paces. If already deployed the men move by the flank toward or away from the guide.

The Assembly.

14. (1) Being deployed: 1. *Assemble.* 2. MARCH. The men move toward the **p. o.** and form in their proper places.

(2) If the **p. o.** continues to advance, the men move in double time, form, and follow him.

(3) The assembly while marching to the rear is not executed.

To Follow the Petty Officer.

15. (1) Being assembled or deployed, to march the squad without unnecessary commands, the **p. o.** places himself in front of it and commands: FOLLOW ME.

(2) If in line or skirmish line, No. 2 of the front rank follows in the trace of the **p. o.** at about 3 paces; the other men conform to the movements of No. 2, guiding on him and maintaining their relative positions.

(3) If in column, the head of the column follows the **p. o.**

The Use of Cover.

16. (1) The recruit should be given careful instruction in the individual use of cover.

(2) It should be impressed upon him that, in taking advantage of natural cover, he must be able to fire easily and effectively upon the enemy; if advancing on an enemy, he must do so steadily and as rapidly as possible; he must control himself as much as possible while firing and while advancing.

17. (1) **To teach him to fire easily** and effectively, at the same time concealing himself from the view of the enemy, he is practiced in simulated firing in the prone, sitting, kneeling, and crouching positions, from behind hillocks, trees, heaps of earth or rocks, from depressions, gullies, ditches, doorways, or windows. He is taught to fire around the right side of his concealment whenever possible, or, when this is not possible, to rise enough to fire over the top of his concealment.

(2) When these details are understood, he is required to select cover with reference to an assumed enemy and to place himself behind it in proper position for firing.

18. (1) **The evil of remaining too long in one place,** however good the concealment, should be explained. He should be taught to advance from cover to cover, selecting cover in advance before leaving his concealment.

(2) It should be impressed upon him that a man running rapidly toward an enemy furnishes a poor target. He should be trained in springing from a prone position behind concealment, running at top speed to cover and throwing himself behind it. He should also be practiced in advancing from cover to cover by crawling, or by lying on the left side, rifle grasped in the right hand, and pushing himself forward with the right leg.

19. He should be taught that, when fired on while acting independently, he should drop to the ground, seek cover, and then endeavor to locate his enemy.

20. The instruction of the recruit in the use of cover is continued in the combat exercises of the company, but he must then be taught that the proper advance of the section or company and the effectiveness of its fire is of greater importance than the question of cover for individuals. He should also be taught that he may not move about or shift his position in the firing line except the better to see the target.

Observation.

21. (1) The ability to use his eyes accurately is of great importance to the recruit. He should be trained in observing his surrounding from positions and when on the march.

(2) He should be practiced in pointing out and naming military features of the ground; in distinguishing between living beings; in counting distant groups of objects or beings; in recognizing colors and forms.

22. In the training of men in the mechanism of the firing line, they should be practiced in repeating to one another target and aiming point designations and in quickly locating and pointing out a designated target. They should be taught to distinguish, from a prone position, distant objects, particularly troops, both with the naked eye and with field glasses. Similarly, they should be trained in estimating distances.

THE COMPANY IN EXTENDED ORDER.

Rules for Deployment.

23. The command *guide right* (*left* or *center*) indicates the base squad for the deployment; if in line it designates the actual *right* (*left* or *center*) squad; if in column the command *guide right* (*left*) designates the *leading* squad, and the command *guide center* designates the *center* squad. After the deployment is completed, the guide is *center* without command, unless otherwise ordered.

24. At the preparatory command for forming skirmish line, from either column of squads or line, each squad leader (except the leader of the base squad, when his squad does not advance), cautions his squad, *follow me* or *by the right* (*left*) *flank*, as the case may be; at the command *march*, he steps in front of his squad and leads it to its place in line.

25. Having given the command for forming skirmish line, the **c. c.**, if necessary, indicates to the **p. o.** of the base squad the point on which the squad is to march; the **p. o.** habitually looks to the **c. c.** for such directions.

26. (1) The base squad is deployed as soon as it has sufficient interval. The other squads are deployed as they arrive on the general line; each **p. o.** halts in his place in line and commands or signals, *as skirmishers;* the squad deploys and halts abreast of him.

(2) If tactical considerations demand it, the squad is deployed before arriving on the line.

27. (1) Deployed lines preserve a general alignment toward the guide. Within their respective fronts, individuals or units march so as best to secure cover to facilitate the advance, but the general and orderly progress of the whole is paramount.

(2) On halting, a deployed line faces to the front (direction of the enemy) in all cases and takes advantage of cover, the men lying down if necessary.

28. The company in skirmish line *advances, halts,* moves *by the flank,* or *to the rear, obliques,* resumes *the direct march,* passes from *quick* to *double time* and the reverse by the same commands and in a similar manner as in close order; if at a halt, the movement *by the flank* or *to the rear* is executed by the same commands as when marching. *Company right* (*left, half right, half left*) is executed as explained for the front rank, skirmish intervals being maintained.

29. (1) A section or other part of the company is deployed and marched in the same manner as the company, substituting in the commands, *section* (*detachment*, etc) for *company*.

(2) A company so depleted as to make division into sections impracticable is led by the **c. c.** as a single section, but retains the designation of company. The **cs. o. s.** and **p. os.** assist in fire control; extra **p. os.** place themselves in the firing line as skirmishers.

Deployments.

30. Being in line, to form skirmish line to the front: 1. *As skirmishers, guide right* (*left* or *center*), 2. MARCH.

(1) **If marching,** the **p. o.** of the base squad moves straight to the front; when that squad has advanced the desired distance, the **c. c.** commands: 1. *Company,* 2. HALT. If the guide be *right* (*left*), the other **p. os.** move to the *left* (*right*) front, and, in succession from the base, place their squads on the line; if the guide be center, the other **p. os.** move to the *right* or *left* front, according as they are on the right or left of the center squad, and in succession from the center squad place their squads on the line.

(2) **If at a halt,** the base squad is deployed without advancing; the other squads may be conducted to their proper places by the flank; interior squads may be moved when squads more distant from the base have gained comfortable marching distance.

31. Being in column of squads, to form skirmish line to the front: 1. *As skirmishers, guide right* (*left* or *center*), 2. MARCH.

(1) If marching, the **p. o.** of the base squad deploys it and moves straight to the front; if at a halt, he deploys his squad without advancing. If the guide be *right* (*left*), the other **p. os.** move to the *left* (*right*) *front,* and, in succession from the base, place their squads on the line; if the guide be *center,* the **p. os.** in front of the center squad move to the right (if at a halt, to the right rear), the **p. os.** in the rear of the center squad move to the left front, and each, in succession from the base, places his squad on the line.

(2) The company moving by the flank or in column of files is deployed by the same commands and in like manner.

32. The company in line or in column of squads may be deployed in an oblique direction by the same commands. The **c. c.** points out the desired direction; the **p. o.** of the base squad moves in the direction indicated; the other **p. os.** conform.

33. To form skirmish line to the flank or rear, the line or the column of squads is turned by squads to the flank or rear and then deployed as described.

34. The intervals between men are increased or decreased as described in the Squad in Extended Order, adding to the preparatory command, *guide right* (*left* or *center*) if necessary.

The Assembly.

35. (1) The **c. c.** takes his post in front of, or designates, the element on which the company is to assemble and commands: 1. *Assemble,* 2. MARCH.

(2) If in skirmish line the men move promptly toward the designated point and the company is re-formed in line. If assembled by sections these are conducted to the designated point by **cs. o. s.,** and the company is re-formed in line.

(3) Sections may be assembled by the command: 1. *Sections, assemble,* 2. MARCH.

Executed by each section as described for the company.

(4) One or more sections may be assembled by the command: 1. *Such section* (*s*), *assemble,* 2. MARCH.

Executed by the designated section or sections as described for the company.

The Advance.

36. (1) The advance of a company into an engagement (whether for attack or defense) is conducted in close order, preferably column of squads, until the probability of encountering hostile fire makes it advisable to deploy. After deployment, and before opening fire, the advance of the company may be continued in skirmish line or other suitable formation, depending upon circumstances. The advance may often be facilitated, or better advantage taken of cover, or losses reduced by the employment of the *section* or *squad columns* or by the use of a *succession of thin lines.* The selection of the method to be used is made by the **c. c.** or **bt. c.,** the choice depending upon conditions arising during the progress of the advance. If the deployment is found to be premature, it will generally be best to assemble the company and proceed in close order.

(2) Patrols are used to provide the necessary security against surprise.

37. Being in skirmish line: 1. *Section columns,* 2. MARCH.

The **cs. o. s.** move forward through the center of their respective sections; men to the right of the **c. o. s.** march to the left and

follow him in file; those to the left march in like manner to the right; each **c. o. s.** thus conducts the march of his section in double column of files; **p. os.** follow in rear of their respective squads to insure prompt and orderly execution of the advance.

38. Being in skirmish line: 1. *Squad columns,* 2. MARCH.

Each squad leader moves to the front; the members of each squad oblique toward and follow their squad leader in single file at easy marching distances.

39. Section columns are profitably used where the ground is so difficult or cover so limited as to make it desirable to take advantage of the few favorable routes; no two sections should march within the area of burst of a single shrapnel.* *Squad columns* are of value principally in facilitating the advance over rough or brush-grown ground; they afford no material advantage in securing cover.

40. To deploy section or squad columns. 1. *As skirmishers,* 2. MARCH.

Skirmishers move to the right or left front and successively place themselves in their original positions on the line.

41. Being in section or squad columns: 1. *Assemble,* 2. MARCH.

The **cs. o. s.** or squad leaders signal *assemble.* The men of each section or squad, as the case may be, advance and, moving to the right and left, take their proper places in line, each unit assembling on the leading element of the column and re-forming in line. The **cs. o. s.** or squad leaders conduct their units toward the element or point indicated by the **c. c.,** and to their places in line; the company is re-formed in line.

42. Being in skirmish line, to advance by a succession of thin lines. 1. (*Such numbers*), *forward,* 2. MARCH.

(1) The **c. c.** points out in advance the selected position in front of the line occupied. The designated number of each squad moves to the front; the line thus formed preserves the original intervals as nearly as practicable; when this line has advanced a suitable distance (generally from 100 to 250 yards, depending upon the terrain and the character of the hostile fire), a second is sent forward by similar commands, and so on at irregular distances until the whole line has advanced. Upon arriving at the indicated position, the first line is halted. Successive lines, upon arriving, halt on line with the first and the men take their proper places in the skirmish line.

* Ordinarily about 20 yards wide.

(2) Ordinarily each line is made up of one man per squad and the men of a squad are sent forward in order from right to left as deployed. The first line is led by the **1 p. o.**, the second by the **2 p. o.**, the third by the **3 p. o.**, the fourth by the chief of the first section, and the fifth and sixth by the **5 p. o.** and **6 p. o.**

(3) The advance is conducted in quick time unless conditions demand a faster gait.

(4) The company having arrived at the indicated position, a further advance by the same means may be advisable.*

43. The advance in a succession of thin lines is used to cross a wide stretch swept, or likely to be swept, by artillery fire or heavy, long-range rifle fire which cannot profitably be returned. Its purpose is the building up of a strong skirmish line preparatory to engaging in a fire fight. This method of advancing results in serious (though temporary) loss of control over the company. Its advantage lies in the fact that it offers a less definite target, hence is less likely to draw fire.

44. The above are suggestions. Other and better formations may be devised to fit particular cases. The best formation is the one which advances the line farthest with the least loss of men, time, and control.

The Fire Attack.

45. (1) The principles governing the advance of the firing line in attack are considered in the Battalion in Extended Order.

(2) When it becomes impracticable for the company to advance as a whole by ordinary means, it advances by rushes.

46. Being in skirmish line: 1. *By section* (*squad, four men,* etc.) *from the right* (*left*), 2. RUSH.

(1) The section leader on the indicated flank carefully arranges the details for a prompt and vigorous execution of the rush and puts it into effect as soon as practicable. If necessary, he designates the leader for the indicated fraction. When about to rush, he causes the men of the fraction to cease firing and to hold themselves flat, but in readiness to spring forward instantly. The leader of the rush (at the signal of the section leader, if the latter be not the leader of the rush) commands: *Follow me,* and, running at top speed, leads the fraction to the new line, where he halts it and causes it to open fire. The leader of the rush selects the new line if it has not been previously designated.

* This method of deployment is similar to the "deployment by numbers," in Upton's Tactics used thirty years ago.

(2) The first fraction having established itself on the new line, the next like fraction is sent forward by its section leader, without further command of the **c. c.**, and so on, successively, until the entire company is on the line established by the first rush.

(3) If more than one section is to join in one rush, the junior section leader conforms to the action of the senior.

(4) A part of the line having advanced, the **c. c.** may increase or decrease the size of the fractions to complete the movement.

47. When the company forms a part of the firing line, the rush of the company as a whole is conducted by the **c. c.**, as described for a section in the preceding paragraph. The **c. c.** leads the rush; section leaders lead their respective sections; guides follow the line to insure prompt and orderly execution of the advance.

48. (1) When the foregoing method of rushing, by running, becomes impracticable, any method of advance that *brings the attack closer to the enemy*, such as crawling, should be employed.

(2) For regulations governing the charge, see paragraphs 109 and 110.

The Company in Support.

49. (1) To enable it to follow or reach the firing line, the support adopts suitable formations, following the principles explained in paragraphs 36-42.

(2) The support should be kept assembled as long as practicable. If after deploying a favorable opportunity arises to hold it for some time in close formation, it should be reassembled. It is re-deployed when necessary.

50. (1) The movements of the support as a whole and the dispatch of re-enforcements from it to the firing line are controlled by the **bt. c.**

(2) A re-enforcement of less than one section has little influence and will be avoided whenever practicable.

(3) The **c. c.** of a company in support is constantly on the alert for the signals or commands of the **bt. c.**

51. A re-enforcement sent to the firing line joins it deployed as skirmishers. The leader of the re-enforcement places it in an interval in the line, if one exists, and commands it thereafter as a unit. If no such suitable interval exists, the re-enforcement is advanced with increased intervals between skirmishers; each man occupies the nearest interval in the firing line, and each then obeys the orders of the nearest squad leader and section leader.

52. A re-enforcement joins the firing line as quickly as possible without exhausting the men.

53. (1) The original section division of the companies in the firing line should be maintained if possible and should not be broken up by the mingling of re-enforcements.

(2) Upon joining the firing line, officers and **p. os.** accompanying a re-enforcement take over the duties of others of like grade who have been disabled, or distribute themselves so as best to exercise their normal functions. Conditions will vary and no rules can be prescribed. It is essential that all assist in mastering the increasing difficulties of control.

The Company Acting Alone.

54. (1) In general, the company, when acting alone, is employed according to the principles applicable to the battalion acting alone; the **c. c.** employs sections and squads as the **bt. c.** employs companies, making due allowance for the difference in strength.

(2) The support may be smaller in proportion or may be dispensed with.

55. The company must be well protected against surprise. Combat patrols on the flanks are specially important. Each leader of a flank section details a man to watch for the signals of the patrol or patrols on his flank.

FIRE.

56. (1) Ordinarily pieces are loaded and extra ammunition is issued before the company deploys for combat.

(2) In close order the company executes the firings at the command of the **c. c.,** who posts himself in rear of the center of the company.

(3) Usually the firings in close order consist of saluting volleys only.

57. When the company is deployed, the men execute the firings at the command of their section leaders; the latter give such commands as are necessary to carry out the directions of the **c. c.** and, from time to time, add such further commands as are necessary to continue, correct, and control the fire ordered.

58. The voice is generally inadequate for giving commands during fire and must be replaced by signals of such character that proper fire direction and control is assured. To attract attention, signals must usually be preceded by the whistle signal (short blast). A fraction of the firing line about to rush should, if practicable, avoid using the long blast signal as an aid to *cease firing.* Officers and men behind the firing line cannot ordinarily move freely along the line, but must depend on mutual watchfulness and the proper use of the prescribed signals. All should post themselves so as to see their immediate superiors and subordinates.

59. The musicians assist the **c. c.** by observing the enemy, the target, and the fire effect, by transmitting commands or signals, and by watching for signals.

60. Firing with blank cartridges at an *outlined* or *represented* enemy at distances less than 100 yards is prohibited.

Ranges.

61. For convenience of reference ranges are classified as follows:

0 to 600 yards, close range.
600 to 1200 yards, effective range.
1200 to 2000 yards, long range.
2000 yards and over, distant range.

62. The distance to the target must be determined as accurately as possible and the sights set accordingly. Aside from training and morale, this is the most important single factor in securing effective fire at the longer ranges.

63. (1) Except in a deliberately prepared defensive position, the most accurate and only practicable method of determining the range will generally be to take the mean of several estimates.

(2) Five or six officers or men, selected from the most accurate estimators in the company, are designated as *range finders* and are specially trained in estimating distances.

(3) Whenever necessary and practicable, the **c. c.** assembles the range finders, points out the target to them, and adopts the mean of their estimates. The range finders then take their customary posts.

Classes of Firing.

64. Volley firing has limited application. In defense it may be used in the early stages of the action if the enemy presents a large, compact target. It may be used by troops executing *fire of position.* When the ground near the target is such that the strike of bullets can be seen from the firing line, *ranging volleys* may be used to correct the sight setting.

In combat, volley firing is executed habitually by section.

65. Fire at will is the class of fire normally employed in attack or defense.

66. Clip fire has limited application. It is principally used: 1. In the early stages of combat, to steady the men by habituating them to brief pauses in firing. 2. To produce a short burst of fire.

The Target.

67. (1) Ordinarily the **bt. c.** will assign to the company an objective in attack or sector in defense; the company's target will lie within the limits so assigned. In the choice of target, tactical considerations are paramount; the nearest hostile troops within the objective or sector will thus be the usual target. This will ordinarily be the hostile firing line; troops in rear are ordinarily proper targets for artillery, machine guns, or, at times, infantry employing fire of position.

(2) Change of target should not be made without excellent reasons therefor, such as the sudden appearance of hostile troops under conditions which make them more to be feared than the troops comprising the former target.

68. (1) The distribution of fire over the entire target is of special importance.

(2) The **c. c.** allots a part of the target to each section, or each section leader takes as his target that part which corresponds

to his position in the company. Men are so instructed that each fires on that part of the target which is directly opposite him.

69. All parts of the target are equally important. Care must be exercised that the men do not slight its less visible parts. A section of the target not covered by fire represents a number of the enemy permitted to fire coolly and effectively.

70. If the target cannot be seen with the naked eye, section leaders select an object in front of or behind it, designate this as the aiming point, and direct a sight setting which will carry the cone of fire into the target.

Fire Direction.

71. When the company is large enough to be divided into sections, it is impracticable for the c. c. to command it directly in combat. His efficiency in managing the firing line is measured by his ability to enforce his will through the section leaders. Having indicated clearly what he desires them to do, he avoids interfering except to correct serious errors or omissions.

72. The c. c. *directs* the fire of the company or of designated sections. He designates the target, and, when practicable, allots a part of the target to each section. Before beginning the fire action he determines the range, announces the sight setting and indicates the class of fire to be employed and the time to open fire. Thereafter, he observes the fire effect, corrects material errors in sight setting, prevents exhaustion of the ammunition supply, and causes the distribution of such extra ammunition as may be received from the rear.

Fire Control.

73. In combat the section is the *fire unit.* From 20 to 35 rifles are as many as one leader can control effectively.

74. Each section leader puts into execution the commands or directions of the c. c., having first taken such precautions to insure correct sight setting and clear description of the target or aiming point as the situation permits or requires; thereafter, he gives such additional commands or directions as are necessary to exact compliance with the will of the c. c. He corrects the sight setting when necessary. He designates an aiming point when the target cannot be seen with the naked eye.

75. In general, *section leaders* observe the target and the effect of their fire and are on the alert for the commands or signals of the c. c.; they observe and regulate the rate of fire. The p. os. watch the firing line and check every breach of fire discipline.

They transmit commands and signals when necessary, observe the conduct of their squads and abate excitement, assist in enforcing fire discipline and participate in the firing.

76. (1) The best troops are those that submit longest to fire control. Loss of control is an evil which robs success of its greatest results. To avoid or delay such loss should be the constant aim of all.

(2) Fire control implies the ability to stop firing, change the sight setting and target, and resume a well directed fire.

Fire Discipline.

77. (1) "**Fire discipline** implies, besides a habit of obedience, a control of the rifle by each man, the result of training, which will enable him in action to make hits instead of misses. It embraces taking advantage of the ground; care in setting the sight and delivery of fire; constant attention to the orders of the leaders, and careful observation of the enemy; an increase of fire when the target is favorable, and a cessation of fire when the enemy disappears; economy of ammunition."

(2) **In combat,** shots which graze the enemy's trench or position and thus reduce the effectiveness of his fire have the approximate value of hits; such shots only, or actual hits, contribute toward fire superiority.

(3) Fire discipline implies that, in a firing line without leaders, each man retains his presence of mind and directs effective fire upon the proper target.

78. (1) To create a correct appreciation of the requirements of fire discipline, men are taught that the rate of fire should be as rapid as is consistent with accurate aiming; that the rate will depend upon the visibility, proximity, and size of the target; and that the proper rate will ordinarily suggest itself to each trained man, usually rendering cautions or commands unnecessary.

(2) In attack the highest rate of fire is employed at the halt preceding the assault, and in pursuing fire.

79. In an advance by rushes, leaders of troops in firing positions are responsible for the delivery of heavy fire to cover the advance of each rushing fraction. Troops are trained to change slightly the direction of fire so as not to endanger the flanks of advanced portions of the firing line.

80. In defense, when the target disappears behind cover, section leaders suspend fire, prepare their sections to fire upon the point where it is expected to reappear, and greet its reappearance instantly with vigorous fire.

THE BATTALION IN EXTENDED ORDER.

COMBAT PRINCIPLES.

Orders.

81. The following references to orders are applicable to attack or defense.

82. In extended order, the company is the largest unit to execute movements by prescribed commands or means. The **bt. c.**, assembling his **c. cs.** if practicable, directs the disposition of the battalion by means of *tactical orders.* He controls its subsequent movements by such *orders* or *commands* as are suitable to the occasion.

83. (1) In every disposition of the battalion for combat the orders of the **bt. c.** should give subordinates sufficient information of the enemy, of the position of supporting and neighboring troops, and of the object sought to enable them to conform intelligently to the general plan.

(2) The order should then designate the companies which are to constitute the *firing line* and those which are to constitute the *support.* In attack, it should designate the direction or the objective, the order and front of the companies on the firing line, and should designate the right or left company as base company. In defense, it should describe the front of each company and, if necessary, the sector to be observed by each.

84. When the battalion is operating alone, the **bt. c.** provides for the reconnaissance and protection of his flanks; if part of a larger force, the **bt. c.** makes similar provisions, when necessary, without orders from higher authority, unless such authority has specifically directed other suitable reconnaissance and protection.

85. When the battalion is deployed upon the initiative of the **bt. c.**, he will indicate whether extra ammunition shall be issued; if deployed in pursuance of orders of higher authority, the **bt. c.** will cause the issue of extra ammunition, unless such authority has given directions to the contrary.

Deployment.

86. The following principles of deployment are applicable to attack or defense.

87. A premature deployment involves a long, disorganizing and fatiguing advance of the skirmish line, and should be avoided. A greater evil is to be caught by heavy fire when in dense column or other close order formation; hence advantage

should be taken of cover in order to retain the battalion in close order formation until exposure to heavy hostile fire may reasonably be anticipated.

88. (1) The bt. c. regulates the depth of the deployment and the extent and density of the firing line, subject to such restrictions as a senior may have imposed.

(2) Companies or designated subdivisions and detachments are conducted by their commanders in such manner as best to accomplish the mission assigned to them under the orders of the bt. c. Companies designated for the firing line march independently to the place of deployment, form skirmish line, and take up the advance. They conform, in general, to the base company.

89. The commander of a battalion, whether it is operating alone or as part of a larger force, should hold a part of his command out of the firing line. By the judicious use of this force the bt. c. can exert an influence not otherwise possible over his firing line and can control, within reasonable limits, an action once begun. So if his battalion be assigned to the *firing line* the bt. c. will cause one, two, or three companies to be deployed on the firing line, retaining the remaining companies or company as a *support* for that firing line. The division of the battalion into firing line and support will depend upon the front to be covered and the nature and anticipated severity of the action.

90. If the battalion be part of a larger command, the number of companies in the firing line will generally be determinable from the regimental commander's order; the remainder constitutes the support. If the battalion is acting alone, the support must be strong enough to maintain the original fire power of the firing line, to protect the flanks, and to perform the functions of a reserve, whatever be the issue of the action. See par. 122.

91. If the battalion is operating alone, the support may, according to circumstances, be held in one or two bodies and placed behind the center, or one or both flanks of the firing line, or echeloned beyond a flank. If the battalion is part of a larger force, the support is generally held in one body.

92. The distance between the firing line and the supporting group or groups will vary between wide limits; it should be as short as the necessity for protection from heavy losses will permit. When cover is available, the support should be as close as 50 to 100 yards; when such cover is not available, it should not be closer than 300 yards. It may be as far as 500 yards in rear if good cover is there obtainable and is not obtainable at a lesser distance.

93. In exceptional cases, as in a meeting engagement, it may be necessary to place an entire battalion or regiment in the firing line at the initial deployment, the support being furnished by other troops. Such deployment causes the early mingling of the larger units, thus rendering leadership and control extremely difficult. The necessity for such deployment will increase with the inefficiency of the commander and of the service of information.

Fire.

94. Fire direction and fire control are functions of company and section commanders. The **bt. c.** makes the primary apportionment of the target—in defense, by assigning sectors of fire; in attack, by assigning the objective. In the latter case each company in the firing line takes as its target that part of the general objective which lies in its front.

95. The **bt. c.** should indicate the point or time at which the fire fight is to open. He may do this in his order for deployment or he may follow the firing line close enough to do so at the proper time. If it be impracticable for him to do either, the senior officer with the firing line, in each battalion, selects the time for opening fire.

Attack.

96. The battalion is the *attack unit,* whether operating alone or as part of a larger unit.

97. If his battalion be one of several in the firing line, the **bt. c.,** in executing his part of the attack, pushes his battalion forward as vigorously as possible within the front, or section, assigned to it. The great degree of independence allowed to him as to details demands, in turn, the exercise of good judgment on his part. Better leadership, better troops, and more favorable terrain enable one battalion to advance more rapidly in attack than another less fortunate, and such a battalion will insure the further advance of the others. The leading battalion should not, however, become isolated; isolation may lead to its destruction.

98. The deployment having been made, the firing line advances without firing. The predominant idea must be to close with the enemy as soon as possible without ruinous losses. The limited supply of ammunition and the uncertainty of re-supply, the necessity for securing fire superiority in order to advance within the shorter ranges, and the impossibility of accomplishing this at

ineffective ranges, make it imperative that fire be not opened as long as the advance can be continued without demoralizing losses. The attack which halts to open fire at extreme range (over 1200 yards) is not likely ever to reach its destination. Every effort should be made, by using cover or inconspicuous formations, or by advancing the firing line as a whole, to arrive within 800 yards of the enemy before opening fire.

99. Except when the enemy's artillery is able to effect an unusual concentration of fire, its fire upon deployed infantry causes losses which are unimportant when compared with those inflicted by his infantry; hence the attacking infantry should proceed to a position as described above, and from which an effective fire can be directed against the hostile infantry with a view to obtaining fire superiority. The effectiveness of the enemy's fire must be reduced so as to permit further advance. The more effective the fire to which the enemy is subjected the less effective will be his fire.

100. (1) Occasionally the fire of adjacent battalions, or of infantry employing fire of position, or of supporting artillery, will permit the further advance of the entire firing line from this point, but it will generally be necessary to advance by rushes of fractions of the line.

(2) The fraction making the rush should be as large as the hostile fire and the necessity for maintaining fire superiority will permit. Depending upon circumstances, the strength of the fraction may vary from a company to a few men.

(3) The advance is made as rapidly as possible without losing fire superiority. The smaller the fraction which rushes, the greater the number of rifles which continue to fire upon the enemy. On the other hand, the smaller the fraction which rushes the slower will be the progress of the attack.

101. Enough rifles must continue in action to insure the success of each rush. Frequently the successive advances of the firing line must be effected by rushes of fractions of decreased size; that is, advances by rushes may first be made by company, later by section, and finally by squads or files; but no subsequent opportunity to *increase* the rate of advance, such as better cover or a decrease of the hostile fire, should be overlooked.

102. (1) Whenever possible, the rush is begun by a flank fraction of the firing line. In the absence of express directions from the **bt. c.**, each **c. c.** of a flank company determines when an advance by rushes shall be attempted. A flank company which inaugurates an advance by rushes becomes the base company,

if not already the base. An advance by rushes having been inaugurated on one flank, the remainder of the firing line conforms; fractions rush successively from that flank and halt on the line established by the initial rush.

(2) The fractions need not be uniform in size; each **c. c.** indicates how his company shall rush, having due regard to the ground and the state of the fire fight.

103. (1) A fraction about to rush is sent forward when the remainder of the line is firing vigorously; otherwise the chief advantage of this method of advancing is lost.

(2) The length of the rush will vary from 30 to 80 yards, depending upon the existence of cover, positions for firing, and the hostile fire.

104. When the entire firing line of the battalion has advanced to the new line, fresh opportunities to advance are sought as before.

105. Two identical situations will never confront the battalion; hence at drill it is prohibited to arrange the details of an advance before the preceding one has been concluded, or to employ a fixed or prearranged method of advancing by rushes.

106. The **bt. c.** posts himself so as best to direct the re-enforcing of the firing line from the support. When all or nearly all of the support has been absorbed by the firing line, he joins, and takes full charge of, the latter.

107. The re-enforcing of the firing line by driblets of a squad or a few men has no appreciable effect. The firing line requires either no re-enforcement or a strong one. Generally one or two sections will be sent forward under cover of a heavy fire of the firing line.

108. (1) To facilitate control and to provide intervals in which re-enforcements may be placed, the companies in the firing line should be kept closed in on their centers as they become depleted by casualties during the advance.

(2) When this is impracticable, re-enforcements must mingle with and thicken the firing line. In battle the latter method will be the rule rather than the exception, and to familiarize the men with such conditions the combat exercises of the battalion should include both methods or re-enforcing. Occasionally, to provide the necessary intervals for re-enforcing by either of these methods, *the firing line should be thinned by causing men to drop out and simulate losses during the various advances.* Under ordinary conditions the depletion of the firing line for this purpose will be from one-fifth to one-half of its strength.

109. (1) The **bt. c.** or senior officer in the firing line determines when bayonets shall be fixed and gives the proper command or signal. It is repeated by all parts of the firing line. Each man, as soon as he recognizes the command or signal, suspends firing, quickly fixes his bayonet, and immediately resumes firing. The support also fixes bayonets. The concerted fixing of the bayonet by the firing line at drill does not simulate battle conditions and should not be required. It is essential that there be no marked pause in the firing.

(2) **Bayonets** will be fixed generally before or during the last, or second last, advance preceding the charge.

110. (1) Subject to orders from higher authority, the **bt. c.** determines the point from which the charge is to be made. The firing line having arrived at that point and being in readiness, the **bt. c.** causes the *charge* to be sounded. The signal is repeated by the musicians of all parts of the line. The company officers lead the charge. The skirmishers spring forward shouting, run with bayonets at charge, and close with the enemy.

(2) The further conduct of the charging troops will depend upon circumstances; they may halt and engage in bayonet combat or in pursuing fire; they may advance a short distance to obtain a field of fire or to drive the enemy from the vicinity; they may assemble or reorganize, etc. If the enemy vacates his position every effort should be made to open fire at once on the retreating mass, reorganization of the attacking troops being of secondary importance to the infliction of further losses upon the enemy and to the increase of his confusion. In combat exercises the **bt. c.** will assume a situation and terminate the assault accordingly.

Defense.

111. In defense, as in attack, the battalion is the tactical unit best suited to independent assignment. Defensive positions are usually divided into sections and a battalion assigned to each.

112. The **bt. c.** locates such fire, communicating, and cover trenches and obstacles as are to be constructed. He assigns companies to construct them and details the troops to occupy them.

113. The **bt. c.** re-enforces the firing line in accordance with the principles applicable to, and explained in connection with, the attack, maintaining no more rifles in the firing line than are necessary to prevent the enemy's advance.

114. The supply of ammunition being usually ample, fire is opened as soon as it is possible to break up the enemy's forma-

tion, stop his advance, or inflict material loss, but this rule must be modified to suit the ammunition supply.

115. (1) The **bt. c.** causes the firing line and support to fix bayonets when an assault by the enemy is imminent. **C. cs.** direct this to be done if they are not in communication with the **bt. c.** and the measure is deemed advisable.

(2) Fire alone will not stop a determined, skillfully conducted attack. The defender must have equal tenacity; if he can stay in his trench or position and cross bayonets, he will at least have neutralized the hostile first line, and the combat will be decided by reserves.

116. If ordered or compelled to withdraw under hostile infantry fire or in the presence of hostile infantry, the support will be posted so as to cover the retirement of the firing line.

117. When the battalion is operating alone, the support must be strong and must be fed sparingly into the firing line, especially if a counter-attack is planned. Opportunities for counter-attack should be sought at all times.

THE REGIMENT IN EXTENDED ORDER.

COMBAT PRINCIPLES.

118. (1) The regiment is deployed by the order of the **rg. c.** to the commanders of battalions and special units. The order should give them information of the situation and of the proposed plan of action. In attack, the order should assign to each battalion not in reserve its objective or line of advance. In defense, it should assign to each its sector. In either case it should designate the troops for, and the position of, the reserve and prescribe the employment of the machine guns and mounted scouts.

(2) Both in attack and defense the order may fix the front to be covered in the deployment.

(3) Encroachment upon the proper functions of subordinates and unnecessary details should be studiously avoided.

119. (1) The regiment, when operating alone and attacking, should undertake an enveloping attack if it does not result in over-extension.

(2) Assuming a regiment of 1500 rifles, an extension of more than 1000 yards between its extreme flanks when making an enveloping attack alone is seldom justifiable; when part of a battle line, a front of 500 yards can rarely be exceeded.

120. In defense the front occupied when acting alone or posted on or near the flank of a battle line should seldom exceed 600 yards; when posted as an interior regiment, the front may be increased to 800 yards. The front may be somewhat longer than in the attack, since smaller battalion supports are justifiable. When the regiment is operating alone, however, the regimental reserve should be as strong in the defense as in the attack unless the flanks are secure.

121. The **rg. c.** should always hold out a reserve—generally one battalion; but when the regiment is operating alone, it is generally advisable to hold out more at first.

122. (1) Whereas the support held out in each battalion of the firing line is intended to thicken the diminishing firing line at the proper times and sometimes to lengthen it, the reserve held out in a regiment operating alone is used for this purpose only as a last resort. Its primary functions are: In attack, to protect the flanks, to improve fully the advantage following a victory, or to cover defeat; in defense, to prolong the firing line,

to effect a counter-attack, or to cover withdrawal. It is the commander's chief means of influencing an action once begun. It should be conserved to await the proper moment for its employment; the combat will seldom come to a successful issue without its employment in some form.

(2) The reserve of a regiment operating as part of a large force becomes a local reserve. It replaces depleted supports and in attack strengthens and protects the firing line in the charge.

THE BRIGADE IN EXTENDED ORDER.

COMBAT PRINCIPLES.

123. (1) A brigade of about 4000 rifles, as part of a general battle line, would be deployed on a front of not more than 1200 yards in attack or 1600 yards in defense.

(2) When acting alone the distance between extreme flanks in an enveloping attack should not exceed 2000 yards at the time the attacking infantry opens fire.

(3) When acting alone, the front in defense should not exceed 1600 yards.

(4) These limits apply to the original deployment of the brigade for combat and presuppose an enemy of equal or nearly equal training and morale. The limits necessitated by the subsequent progress of the combat cannot be foreseen.

CHAPTER II.—COMBAT.

INTRODUCTION.

124. This chapter treats only of the basic principles of combat tactics as applied to infantry and to the special units, such as machine guns and mounted scouts, which form a part of infantry regiments and battalions.

125. Modern combat demands the highest order of training, discipline, leadership, and morale on the part of the infantry. Complicated maneuvers are impracticable; efficient leadership and a determination to win by simple and direct methods must be depended upon for success.

126. The duties of infantry are many and difficult. All infantry must be fit to cope with all conditions that may arise. Modern war requires but one kind of infantry—good infantry.

127. (1) The infantry must take the offensive to gain decisive results. Both sides are therefore likely to attempt it, though not necessarily at the same time or in the same part of a long battle line.

(2) In the local combats which make up the general battle the better endurance, use of ground, fire efficiency discipline, and training will win. It is the duty of the infantry to win the local successes which enable the commanding general to win the battle.

128. (1) The infantry must have the tenacity to hold every advantage gained, the individual and collective discipline and skill needed to master the enemy's fire, the determination to close with the enemy in attack, and to meet him with the bayonet in defense. Infantry must be trained to bear the heaviest burdens and losses, both of combat and march.

(2) Good infantry can defeat an enemy greatly superior in numbers, but lacking in training, discipline, leadership, and morale.

129. It is impossible to establish fixed forms or to give general instructions that will cover all cases. Officers and petty officers must be so trained that they can apply suitable means and methods to each case as it arises. Study and practice are necessary to acquire proper facility in this respect. Theoretical instruction cannot replace practical instruction; the former supplies correct ideas and gives to practical work an interest, purpose, and definiteness not otherwise obtainable.

130. (1) After the mechanism of extended order drill has been learned with precision in the company, every exercise should be, as far as practicable, in the nature of a maneuver (combat exercise) against an *imaginary, outlined,* or *represented* enemy.

(2) Company extended order drill may be conducted without reference to a tactical situation, but a combat exercise, whatever may be the size of the unit employed, should be conducted under an assumed tactical situation.

131. (1) **An effective method of conducting a combat exercise** is to outline the enemy with a few men equipped with flags. The umpire or inspector states the situation and the commander leads his troops with due regard to the assumptions made.

(2) Changes in the situation, the results of reconnaissance, the character of artillery fire, etc., are made known to the commander when necessary by the umpire or inspector, who, in order to observe and influence the conduct of the exercise, remains in rear of the firing line. From this position he indicates, with the aid of prearranged signals, the character of the fire and movements of the hostile infantry. These signals are intended for the men outlining the enemy. These men repeat the signals; all officers and men engaged in the exercise and in sight of the outlined enemy are thus informed of the enemy's action and the exercise is conducted accordingly.

(3) Assistant umpires, about one for each company in the firing line, may assist in indicating hostile fire and movements and in observing the conduct of the exercise.

(4) An outlined enemy may be made to attack or defend.

(5) Situations should be simple and natural. During or after the exercise the umpire or inspector should call attention to any improper movements or incorrect methods of execution. He will prohibit all movements of troops or individuals that would be impossible if the enemy were real. The slow progress of events to be expected on the battle field can hardly be simulated, but the umpire or inspector will prevent undue haste and will attempt to enforce a reasonably slow rate of progress.

(6) The same exercise should not be repeated over the same ground and under the same situation. Such repetitions lead to the adoption of a fixed mode of attack or defense and develop mere drill masters. Fixed or prearranged systems are prohibited.

LEADERSHIP.

General Considerations.

132. (1) The art of leadership consists of applying sound tactical principles to concrete cases on the battle field.

(2) Self-reliance, initiative, aggressiveness, and a conception of teamwork are the fundamental characteristics of successful leadership.

133. (1) A correct grasp of the situation and a definite plan of action form the soundest basis for a successful combat.

(2) A good plan once adopted and put into execution should not be abandoned unless it becomes clear that it cannot succeed. Afterthoughts are dangerous, except as they aid in the execution of details in the original plan.

134. Combats that do not promise success or some real advantage to the general issue should be avoided; they cause unnecessary losses, impair the morale of one's own troops, and raise that of the enemy.

135. Complicated maneuvers are not likely to succeed in war. All plans and the methods adopted for carrying them into effect must be simple and direct.

136. Order and cohesion must be maintained within the units if success is to be expected.

137. Officers must show themselves to be true leaders. They must act in accordance with the spirit of their orders and must require of their troops the strictest discipline on the field of battle.

138. The best results are obtained when leaders know the capacity and traits of those whom they command; hence in making detachments units should not be broken up, and a deployment that would cause an intermingling of the larger units in the firing line should be avoided.

139. Leading is difficult when troops are deployed. A high degree of training and discipline and the use of close order formations to the fullest extent possible are therefore required.

140. In order to lighten the severe physical strain inseparable from infantry service in campaign, constant efforts must be made to spare the troops unnecessary hardship and fatigue; but when necessity arises, the limit of endurance must be exacted.

141. When officers or men belonging to fighting troops leave their proper places to carry back, or to care for, wounded dur-

ing the progress of the action, they are guilty of skulking. This offense must be repressed with the utmost vigor.

142. The complete equipment is carried into action unless the weather or the physical condition of the men renders such measure a severe hardship. In any event, only the pack * or knapsack will be laid aside. The determination of this question rests with the regimental commander. The complete equipment affords to men lying prone considerable protection against shrapnel.

143. (1) **The post of the commander** must be such as will enable him to observe the progress of events and to communicate his orders. Subordinate commanders, in addition, must be in position to transmit the orders of superiors.

(2) Before entering an action the commander should be as far to the front as possible in order that he personally may see the situation, order the deployment, and begin the action strictly in accordance with his own wishes.

(3) During the action, he must, as a rule, leave to the local leaders the detailed conduct of the firing line, posting himself either with his own reserve or in such a position that he is in constant, direct, and easy communication with it.

(4) A commander takes full and direct charge of his firing line only when the line has absorbed his whole command.

(5) When their troops are victorious, all commanders should press forward in order to clinch the advantage gained and to use their reserves to the best advantage.

144. The latitude allowed to officers is in direct proportion to the size of their commands. Each should see to the general execution of his task, leaving to the proper subordinates the supervision of details, and interfering only when mistakes are made that threaten to seriously prejudice the general plan.

Teamwork.

145. (1) The comparatively wide fronts of deployed units increase the difficulties of control. Subordinates must therefore be given great latitude in the execution of their tasks. The success of the whole depends largely upon how well each subordinate co-ordinates his work with the general plan.

(2) A great responsibility is necessarily thrown upon subordinates, but responsibility stimulates the right kind of an officer.

146. (1) In a given situation it is far better *to do any intelligent thing* consistent with the aggressive execution of the general plan, than to search hesitatingly for the ideal. This is the true

* The "pack" includes blanket, poncho, and shelter-tent.

rule of conduct for subordinates who are required to act upon their own initiative.

(2) A subordinate who is reasonably sure that his intended action is such as would be ordered by the commander, were the latter present and in possession of the facts, has enough encouragement to go ahead confidently. He must possess the loyalty to carry out the plans of his superior and the keenness to recognize and to seize opportunities to further the general plan.

147. (1) Independence must not become license. Regardless of the number of subordinates who are apparently supreme in their own restricted spheres, there is but one battle and but one supreme will to which all must conform.

(2) Every subordinate must therefore work for the general result. He does all in his power to insure co-operation between the subdivisions under his command. He transmits important information to adjoining units or to superiors in rear and, with the assistance of information received, keeps himself and his subordinates duly posted as to the situation.

148. (1) When circumstances render it impracticable to consult the authority issuing an order, officers should not hesitate to vary from such order when it is clearly based upon an incorrect view of the situation, is impossible of execution, or has been rendered impracticable on account of changes which have occurred since its promulgation. In the application of this rule the responsibility for mistakes rests upon the subordinate, but unwillingness to assume responsibility on proper occasions is indicative of weakness.

(2) Superiors should be careful not to censure an apparent disobedience where the act was done in the proper spirit and to advance the general plan.

149. (1) When the men of two or more units intermingle in the firing line, all officers and men submit at once to the senior. Officers and **p. os.** seek to fill vacancies caused by casualties. Each seizes any opportunity to exercise the functions consistent with his grade, and all assist in the maintenance of order and control.

(2) Every lull in the action should be utilized for as complete restoration of order in the firing line as the ground or other conditions permit.

150. (1) Any officer or **p. o.** who becomes separated from his proper unit and cannot rejoin must at once place himself and his command at the disposal of the nearest higher commander.

(2) Anyone having completed an assigned task must seek to rejoin his proper command. Failing in this, he should join the nearest troops engaged with the enemy.

151. Men are taught the necessity of remaining with their companies, but those who become detached must join the nearest company and serve with it until the battle is over or reorganization is ordered.

Orders.

152. (1) Commands are deployed and enter the combat by the orders of the commander to the subordinate commanders.

(2) The initial combat orders of the brigade are almost invariably written; those of the regiment are generally so. The written order is preferable and is used whenever time permits.

(3) If time permits, subsequent orders are likewise written, either as field orders or messages.

153. (1) The initial combat orders of battalions and smaller units are given verbally. For this purpose the subordinates for whom the orders are intended are assembled, if practicable, at a place from which the situation and plan can be explained.

(2) Subsequent orders are verbal or in the form of verbal or written messages. Verbal messages should not be used unless they are short and unmistakable.

154. (1) The initial combat order of any commander or subordinate is based upon his definite plan for executing the task confronting him.

(2) Whenever possible the formation of the plan is preceded by a personal reconnaissance of the terrain and a careful consideration of all information of the enemy.

155. (1) **The combat order** gives such information of the enemy and of neighboring or supporting friendly troops as will enable subordinates to understand the situation.

(2) The general plan of action is stated in brief terms, but enough of the commander's intentions is divulged to guide the subsequent actions of the subordinates.

(3) Clear and concise instructions are given as to the action to be taken in the combat by each part of the command. In this way the commander assigns tasks, fronts, objectives, sectors or areas, etc., in accordance with his plan. If the terms employed convey definite ideas and leave no loopholes, the conduct of subordinates will generally be correspondingly satisfactory.

(4) Such miscellaneous matter relating to special troops, trains, ammunition, and future movements of the commander is added as concerns the combat itself.

(5) Combat orders should prescribe communication, reconnaissance, flank protection, etc., when some special disposition is desired or when an omission on the part of a subordinate may reasonably be feared.

156. (1) When issuing orders, a commander should indicate clearly *what* is to be done by each subordinate, but not *how* it is to be done. He should not encroach upon the functions of a subordinate by prescribing details of execution unless he has good reason to doubt the ability or judgment of the subordinate, and cannot substitute another.

(2) Although general in its terms, an order must be definite and must be the expression of a fixed decision. Ambiguity or vagueness indicates either vacillation or the inability to formulate orders.

157. Usually the orders of a commander are intended for, and are given to, the commanders of the next lower units, but in an emergency a commander should not hesitate to give orders directly to any subordinate. In such case he should promptly inform the intermediate commander concerned.

Communication.

158. Communication is maintained by means of staff-officers, messengers, relay systems, connecting files, visual signals, telegraph, or telephone.

159. The signal corps of the Landing-Force establishes lines of information from brigade to regimental headquarters. The further extension of lines of information in combat by signalmen is exceptional.

160. Each regiment, employing its own personnel, is responsible for the maintenance of communication from the **rg. c.** back to the brigade and forward to the battalions. For this purpose the regiment uses the various means which may be furnished it. The staff and orderlies, regimental and battalion, are practiced in the use of these means and in messenger service. Orderlies carry signal flags.

161. Connection between the firing line and the **bt. c.** or **rg. c.** is practically limited to the prescribed flag, arm, and bugle signals. Other means can only be supplemental. Company musicians carry flags and are practiced in signaling.

162. The artillery generally communicates with the firing line by means of its own staff-officers, or through an agent who accompanies some unit in or near the front. The infantry keeps him informed as to the situation and affords him any reasonable assistance. When the infantry is dependent upon the artillery for fire support, perfect co-ordination through this representative is of great importance.

COMBAT RECONNAISSANCE.

163. Combat reconnaissance is of vital importance and must not be neglected. By proper preliminary reconnaissance, deployments on wrong lines, or in a wrong direction, and surprises may generally be prevented.

164. Troops deployed and under fire cannot change front and thus they suffer greatly when enfiladed. Troops in close order formation may suffer heavy losses in a short time if subjected to hostile fire. In both formations troops must be protected by proper reconnaissance and warning.

165. (1) The difficulty of reconnaissance increases in proportion to the measures adopted by the enemy to screen himself.

(2) The strength of the reconnoitering party is determined by the character of the information desired and the nature of the hostile screen. In exceptional cases as much as a battalion may be necessary in order to break through the hostile screen and enable the commander or officer in charge to reconnoiter in person.

(3) A large reconnoitering party is conducted so as to open the way for small patrols, to serve as a supporting force or rallying point for them, and to receive and transmit information. Such parties maintain signal communication with the main body if practicable.

166. Each separate column moving forward to deploy must reconnoiter to its front and flank and keep in touch with adjoining columns. The extent of the reconnaissance to the flank depends upon the isolation of the columns.

167. (1) Before an attack a reconnaissance must be made to determine the enemy's position, the location of his flanks, the character of the terrain, the nature of the hostile field works, etc., in order to prevent premature deployment and the resulting fatigue and loss of time.

(2) It will frequently be necessary to send forward a thin skirmish line in order to induce the enemy to open fire and reveal his position.

168. It will frequently be impossible to obtain satisfactory information until after the action has begun. The delay that may be warranted for the purpose of reconnaissance depends upon the nature of the attack and the necessity for promptness. For example, in a meeting engagement, and sometimes in a holding attack, the reconnaissance may have to be hasty and superficial,

whereas in an attack against an enemy carefully prepared for defense there will generally be both time and necessity for thorough reconnaissance.

169. (1) In defense, reconnaissance must be kept up to determine the enemy's line of advance, to ascertain his dispositions, to prevent his reconnaissance, etc.

(2) Patrols or parties posted to prevent hostile reconnaissance should relieve the main body of the necessity of betraying its position by firing on small bodies of the enemy.

170. (1) Reconnaissance continues throughout the action.

(2) A firing or skirmish line can take care of its front, but its flanks are especially vulnerable to modern firearms. The moral effect of flanking fire is as great as the physical effect. Hence, combat patrols to give warning or covering detachments to give security are indispensable on exposed flanks. This is equally true in attack or defense.

171. (1) The fact that cavalry patrols are known to be posted in a certain direction does not relieve infantry commanders of the responsibility for reconnaissance and security.

(2) To be surprised by an enemy at short range is an unpardonable offense.

172. (1) The commander of a battalion on a flank of a general line invariably provides for the necessary reconnaissance and security on that flank unless higher authority has specifically ordered it. In any event, he sends out combat patrols as needed.

(2) Where his battalion is on a flank of one section of the line and a considerable interval lies between his battalion and the next section, he makes similar provision.

173. Battalion commanders in the first line establish patrols to observe and report the progress or conduct of adjoining troops when these cannot be seen.

FIRE SUPERIORITY.

PURPOSE AND NATURE.

174. (1) In a decisive battle success depends on gaining and maintaining fire superiority. Every effort must be made to gain it early and then to keep it.

(2) Attacking troops must first gain fire superiority in order to reach the hostile position. Over open ground attack is possible only when the attacking force has a decided fire superiority. With such superiority the attack is not only possible, but success is probable and without ruinous losses.

(3) Defending troops can prevent a charge only when they can master the enemy's fire and inflict heavy losses upon him.

175. To obtain fire superiority it is necessary to produce a heavy volume of accurate fire. Every increase in the effectiveness of the fire means a corresponding decrease in the effectiveness of the enemy's fire.

176. The volume and accuracy of fire will depend upon several considerations:

(1) **The number of rifles employed.** On a given front the greatest volume of fire is produced by a firing line having only sufficient intervals between men to permit the free use of their rifles. The maximum density of a firing line is therefore about one man per yard of front.

(2) The **rate** of fire affects its volume; an excessive rate reduces its accuracy.

(3) **The character of the target** influences both volume and accuracy. Larger dimensions, greater visibility, and shorter range increase the rate of fire; greater density increases the effect.

(4) **Training and discipline** have an important bearing on the rate or volume of fire, but their greatest influence is upon accuracy.

(5) **The firing efficiency** of troops is reduced by fatigue and adverse psychological influences.

(6) **Fire direction and control** improve collective accuracy. The importance of fire direction increases rapidly with the range. Control exerts a powerful influence at all ranges.

FIRE DIRECTION AND CONTROL.

Opening Fire.

177. (1) Beyond effective ranges important results can be expected only when the target is large and distinct and much ammunition is used.

(2) Long-range is permissible in pursuit on account of the moral effect of any fire under the circumstances. At other times such fire is of doubtful value.

178. In attack, the desire to open fire when losses are first felt must be repressed. Considerations of time, target, ammunition, and morale make it imperative that the attack withhold its fire and press forward to a first firing position close to the enemy. The attacker's target will be smaller and fainter than the one he presents to the enemy.

179. (1) In defense, more ammunition is available, ranges are more easily determined, and the enemy usually presents a larger target. The defender may therefore open fire and expect results at longer ranges than the attacker, and particularly if the defenders intend a delaying action only.

(2) If the enemy has a powerful artillery, it will often be best for the defending infantry to withhold its fire until the enemy offers a specially favorable target. Vigorous and well-directed bursts of fire are then employed. The troops should therefore be given as much artificial protection as time and means permit, and at an agreed signal expose themselves as much as necessary and open fire.

180. In unexpected, close encounters a great advantage accrues to the side which first opens rapid and accurate fire with battle sight.

Use of Ground.

181. (1) The position of the firers must afford a suitable field of fire.

(2) The ground should permit constant observation of the enemy, and yet enable the men to secure some cover when not actually firing.

(3) Troops whose target is for the moment hidden by unfavorable ground, either move forward to better ground or seek to execute cross fire on another target.

182. The likelihood of a target being hit depends to a great extent upon its visibility. By skillful use of ground, a firing line may reduce its visibility without loss of fire power. Sky-lines are particularly to be avoided.

Choice of Target.

183. The target chosen should be the hostile troops most dangerous to the firers. These will usually be the nearest hostile infantry. When no target is specially dangerous, that one should be chosen which promises the most hits.

184. Frequent changes of target impair the fire effect. Random changes to small, unimportant targets impair fire discipline and accomplish nothing. Attention should be confined to the main target until substantial reason for change is apparent.

185. An opportunity to deliver flanking fire, especially against artillery protected in front by shields, is an example warranting change of target and should never be overlooked. Such fire demoralizes the troops subjected to it, even if the losses inflicted are small. In this manner a relatively small number of rifles can produce important results.

The Range.

186. Beyond close range, the correct setting of the rear sight is of primary importance, provided the troops are trained and well in hand. The necessity for correct sight setting increases rapidly with the range. Its importance decreases as the quality of the troops decrease, for the error in sight setting, except possibly at very long ranges, becomes unimportant when compared with the error in holding and aiming.

187. (1) In attack, distances must usually be estimated and corrections made as errors are observed. Mechanical range finders and ranging volleys are practicable at times.

(2) In defense, it is generally practicable to measure more accurately the distances to visible objects and to keep a record of them for future use.

Distribution of Fire and Target.

188. (1) The purpose of fire superiority is to get hits whenever possible, but at all events to keep down the enemy's fire and render it harmless. To accomplish this the target must be covered with fire throughout its whole extent. Troops who are not fired upon will fire with nearly peace-time accuracy.

(2) The target is roughly divided and a part is assigned to each unit. No part of the target is neglected. In attack, by a system of overlapping in assigning targets to sections the entire hostile line can be kept under fire even during a rush.

Observation.

189. The correctness of the sight setting and the distribution of fire over the target can be verified only by careful observation of the target, the adjacent ground, and the effect upon the enemy.

190. Observation only can determine whether the fire fight is being properly conducted. If the enemy's fire is losing in accuracy and effect, the observer realizes that his side is gaining superiority. If the enemy's fire remains or becomes effective and persistent, he realizes that corrective measures are necessary to increase either volume or accuracy, or both.

Discipline.

191. Discipline makes good direction and control possible and is the distinguishing mark of trained troops.

192. The discipline necessary in the firing line will be absent unless officers and **p. os.** can make their will known to the men. In the company, therefore, communication must be by simple signals which, in the roar of musketry, will attract the attention and convey the correct meaning.

Expenditure of Ammunition.

193. In attack the supply is more limited than in defense. Better judgment must be exercised in expenditure. Ordinarily, troops in the firing line of an attack cannot expect to have that day more ammunition than they carry into the combat, except such additions as come from the distribution of ammunition of dead and wounded and the surplus brought by re-enforcements.

194. When a certain fire effect is required, the necessary ammunition must be expended without hesitation. Several hours of firing may be necessary to gain fire superiority. True economy can be practiced only by closing on the enemy before first opening fire and thereafter suspending fire when there is nothing to shoot at.

Supporting Artillery.

195. Artillery fire is the principal aid to the infantry in gaining and keeping fire superiority, not only by its hits, but by the moral effect it produces on the enemy.

196. (1) In attack, artillery assists the forward movement of the infantry. It keeps down the fire of the hostile artillery and seeks to neutralize the hostile infantry by inflicting losses upon

it, destroying its morale; driving it to cover, and preventing it from using its weapons effectively.

(2) In defense, it ignores the hostile artillery when the enemy's attack reaches a decisive stage and assists in checking the attack, joining its fire power to that of the defending infantry.

197. (1) Troops should be accustomed to being fired over by friendly artillery and impressed with the fact that the artillery should continue firing upon the enemy until the last possible moment. The few casualties resulting from shrapnel bursting short are trifling compared with those that would result from the increased effectiveness of the enemy's infantry fire were the friendly artillery to cease firing.

(2) Casualties inflicted by supporting artillery are not probable until the opposing infantry lines are less than 200 yards apart.

198. When the distance between the hostile infantry lines becomes so short as to render further use of friendly artillery inadvisable, the commander of the infantry firing line, using a preconcerted signal, informs the artillery commander. The latter usually increases the range in order to impede the strengthening of the enemy's foremost line.

Fire of Position.

199. (1) Infantry is said to execute fire of position when it is posted so as to assist an attack by firing over the heads, or off the flank, of the attacking troops and is not itself to engage in the advance; or when, in defense, it is similarly posted to augment the fire of the main firing line.

(2) Machine guns serve a like purpose.

(3) In a decisive action, fire of position should be employed whenever the terrain permits and reserve infantry is available.

DEPLOYMENT.

200. (1) Troops are massed preparatory to deployment when the nature of their deployment cannot be foreseen or it is desirable to shorten the column or to clear the road. Otherwise, in the deployment of large commands, whether in march column, in bivouac, or massed, and whether forming for attack or for defense, they are ordinarily first formed into a line of columns to facilitate the extension of the front prior to deploying.

(2) The rough line or lines of columns thus formed enable troops to take advantage of the terrain in advancing and shorten the time occupied in forming the firing line.

201. In deploying the brigade each regiment is assigned a definite task or objective. On receipt of his orders, the **rg. c.** conducts his regiment in column or in line of battalions until it is advisable that it be broken into smaller columns. He then issues his order, assigning to each battalion its task, if practicable. In a similar manner the **bt. cs.** lead their battalions forward in column, or in line of companies, until the time arrives for issuing the battalion order.

202. Each subordinate commander, after receiving his order for the action, should precede his command as far as possible, in order to reconnoiter the ground personally, and should prepare to issue his orders promptly.

203. Each commander of a column directs the necessary reconnaissance to front and flank; by this means and by a judicious choice of ground he guards against surprise.

204. The premature formation of the firing line causes unnecessary fatigue and loss of time, and may result in a faulty direction being taken. Troops once deployed make even minor changes of direction with difficulty, and this difficulty increases with the length of the firing line.

205. In the larger units, when the original deployment is found to be in the wrong direction, it will usually be necessary to deploy the reserve on the correct front and withdraw and assemble the first line.

206. To gain decisive results, it will generally be necessary to use all the troops at some stage of the combat. But in the beginning, while the situation is uncertain, care should be taken not to engage too large a proportion of the command. On the other hand, there is no greater error than to employ too few and to sacrifice them by driblets.

207. (1) When it is intended to fight to a decision, fire superiority is essential. To gain this, two things are necessary: A heavy fire and a fire well directed and controlled. Both of these are best obtained when the firing line is as dense as practicable, while leaving the men room for the free use of their rifles.

(2) If the men are too widely separated, direction and control are very difficult, often impossible, and the intensity of fire is slight in proportion to the front occupied.

208. (1) In an attack or stubborn defense the firing line should have a density of one man per yard of front occupied.

(2) Where the tactical situation demands the holding of a line too long to be occupied throughout at this density, it is generally better to deploy companies or sections at one man per yard, leaving gaps in the line between them, than to distribute the men uniformly at increased intervals.

209. A relatively thin firing line may be employed when merely covering the movements of other forces; when on the defensive against poor troops; when the final action to be taken has not yet been determined; and, in general, when fire superiority is not necessary.

210. (1) The length of the firing line that the whole force may employ depends upon the density of the line and the *strength in rear* required by the situation.

(2) Supports and reserves constitute the strength in rear.

(3) In a decisive attack they should be at least strong enough to replace a heavy loss in the original firing line and to increase the charging line to a density of at least one and one-half men per yard and still have troops in rear for protection and for the other purposes mentioned above.

211. (1) In the original deployment the strength of the reserve held out by each commander comprises from one-sixth to two-thirds of his unit, depending upon the nature of the service expected of the reserve.

(2) A small force in a covering or delaying action requires very little strength in rear, while a large force fighting a decisive battle requires much. Therefore, depending upon circumstances, the original deployment, including the strength in rear, may vary from 1 to 10 men per yard. Against an enemy poorly disciplined and trained, or lacking in morale, a thinner deployment is permissible.

212. The density of the whole deployment increases with the size of the command, because the larger the command the

greater the necessity for reserves. Thus, a battalion acting alone may attack with two men per yard of front, but a regiment, with three battalions, may only double the front of the one battalion.

213. (1) By the assignment of brigades or larger units to parts of a line of battle several miles long, a series of semi-independent battle, or local combat, districts are created.

(2) The general deployment for a long line of battle comprising several battle districts is not directly considered in these regulations. The deployments treated of herein are those of the infantry within such districts.

(3) The density of deployment in these districts may vary greatly, depending upon the activity expected in each. Within these battle districts, as well as in smaller forces acting alone, parts of the line temporarily of less importance may be held weakly, in order to economize troops and to have more at the decisive point.

214. (1) The front that a unit may occupy when deployed depends also upon whether its flanks are secured. If both flanks are secured by other troops, the unit may increase its front materially by reducing its reserve or supports. If only one flank is so secured, the front may still be somewhat increased, but the exposed flank must be guarded by posting the supports or reserve toward that flank.

(2) Natural obstacles that secure the flanks have practically the same effect upon deployment.

215. Except when assigned as supports or reserve, regiments in the brigade, battalions in the regiment, and companies in the battalion are, when practicable, deployed side by side.

216. (1) In the deployment, battalions establish the firing line, each furnishing its own support.

(2) In each unit larger than the battalion a reserve is held out, its strength depending upon circumstances. In general, the reserve is employed by the commander to meet or improve conditions brought about by the action of the firing line. It must not be too weak or too split up. It must be posted where the commander believes it will be needed for decisive action, or where he desires to bring about such action. When necessary, parts of it re-enforce or prolong the firing line.

ATTACK.

217. (1) An attack is bound to succeed if fire superiority is gained and properly used.

(2) To gain this superiority generally requires that the attack employ more rifles than the defense; this in turn means a longer line, as both sides will probably hold a strong firing line.

218. With large forces, a direct frontal attack gives the attacker little opportunity to bring more rifles to bear. However, if the enemy is unduly extended, a frontal attack may give very decisive results.

219. Owing to the difficulty of control and the danger of the parts being defeated in detail, wide turning movements are seldom allowable except in large forces.

220. If the attack can be so directed that, while the front is covered, another fraction of the command strikes a flank more or less obliquely (an enveloping attack) the advantages gained are a longer line and more rifles in action; also a converging fire opposed to the enemy's diverging fire.

221. An envelopment of both flanks should never be attempted without a very decided superiority in numbers.

222. The enveloping attack will nearly always result locally in a frontal attack, for it will be met by the enemy's reserve. The advantage of envelopment lies in the longer concentric line, with its preponderance of rifles and its converging fire.

223. (1) Co-operation between the frontal and enveloping attacks is essential to success. Both should be pushed vigorously and simultaneously, and ordinarily both should move simultaneously to the charge; but at the final stage of the attack conditions may sometimes warrant one in charging while the other supports it with fire.

(2) The envelopment of a flank is brought about with difficulty when made by troops already deployed in another direction or by their reserves. The two attacks should be deployed at a suitable distance apart, with the lines of attack converging in rear of the hostile position. The troops that are to make the enveloping attack should deploy in the proper direction at the start and should be given orders which enable them to gain their point of deployment in the most direct and practical manner.

(3) The enveloping attack is generally made the stronger, especially in small forces.

DEPLOYMENT FOR ATTACK.

224. (1) Where open terrain exposes troops to hostile artillery fire it may be necessary to make the deployment 2 miles or more from the hostile position.

(2) The foreground should be temporarily occupied by covering troops. If the enemy occupies the foreground with detachments, the covering troops must drive them back.

225. (1) To enable large forces to gain ground toward the enemy, it may sometimes be cheaper and quicker in the end to move well forward and to deploy at night. In such case the area in which the deployment is to be made should, if practicable, be occupied by covering troops before dark.

(2) The deployment will be made with great difficulty unless the ground has been studied by daylight. The deployment gains little unless it establishes the firing line well within effective range of the enemy's main position. (See Night Operations.)

226. Each unit assigned a task deploys when on its direction line, or opposite its objective, and when it has no longer sufficient cover for advancing in close order. In the firing line, intervals of 25 to 50 yards should be maintained as long as possible between battalions. In the larger units it may be necessary to indicate on the map the direction or objective, but to battalion commanders it should be pointed out on the ground.

227. (1) The reserve is kept near enough to the firing line to be on hand at the decisive stage. It is posted with reference to the attack, or to that part of the attacking line, from which the greater results are expected; it is also charged with flank protection, but should be kept intact.

(2) Supports are considered in paragraphs 49 to 52, inclusive, and 89 to 93, inclusive.

ADVANCING THE ATTACK.

228. (1) The firing line must ordinarily advance a long distance before it is justified in opening fire. It cannot combat the enemy's artillery, and it is at a disadvantage if it combats the defender's long-range rifle fire. Hence it ignores both and, by taking full advantage of cover and of the discipline of the troops, advances to a first firing position at the shortest range possible.

(2) Formations for crossing this zone with the minimum loss are considered in paragraphs 36 to 44, inclusive. These and other methods of crossing such zones should be studied and practiced.

229. The best protection against loss while advancing is to escape the enemy's view.

230. (1) Each battalion finds its own firing position, conforming to the general advance as long as practicable and taking advantage of the more advanced position of an adjacent battalion in order to gain ground.

(2) The position from which the attack opens fire is further considered in paragraphs 97 to 99, inclusive.

231. It will frequently become necessary for infantry moving to the attack to pass through deployed artillery. This should be done so as to interfere as little as possible with the latter's fire, and never so as to cause that fire to cease entirely. As far as practicable, advantage should be taken of intervals in the line, if any. An understanding between artillery and infantry commanders should be had, so as to effect the movement to the best advantage.

232. In advancing the attack, advanced elements of the firing line or detachments in front of it should not open fire except in defense or to clear the foreground of the enemy. Fire on the hostile main position should not be opened until all or nearly all of the firing line can join in the fire.

THE FIRE ATTACK.

233. At the first firing position the attack seeks to gain fire superiority. This may necessitate a steady, accurate fire for a long time. The object is to subdue the enemy's fire and keep it subdued so that the attacking troops may advance from this point to a favorable place near the enemy from which the charge may be made. Hence, in the advance by rushes, sufficient rifles must be kept constantly in action to keep down the enemy's fire; this determines the size of the fraction rushing.

234. To advance without fire superiority against a determined defense would result in such losses as to bring the attack to a standstill or to make the apparent success barren of results.

235. Diminution of the enemy's fire and a pronounced loss in effectiveness are the surest signs that fire superiority has been gained and that a part of the firing line can advance.

236. (1) The men must be impressed with the fact that, having made a considerable advance under fire and having been checked, it is suicidal to turn back in daylight.

(2) If they can advance no farther, they must intrench and

hold on until the fall of darkness or a favorable turn in the situation develops.

(3) Intrenching is resorted to only when necessary. Troops who have intrenched themselves under fire are moved forward again with difficulty.

237. Supports and reserves occupying intrenchments vacated by the firing line should improve them, but they must not be held back or diverted from their true missions on this account.

238. Paragraphs 100 to 108, inclusive, deal more in detail with the conduct of the fire attack.

THE CHARGE.

239. (1) Fire superiority beats down the enemy's fire, destroys his resistance and morale, and enables the attacking troops to close on him, but an actual or threatened occupation of his position is needed to drive him out and defeat him.

(2) The psychological moment for the charge cannot be determined far in advance. The tactical instinct of the responsible officer must decide.

240. (1) The defenders, if subjugated by the fire attack, will frequently leave before the charge begins. On the other hand, it may be necessary to carry the fire attack close to the position and follow it up with a short dash and a bayonet combat. Hence the distance over which the charge may be made will vary between wide limits. It may be from 25 to 400 yards.

(2) The charge should be made at the earliest moment that promises success; otherwise the full advantage of victory will be lost.

241. (1) The commander of the attacking line should indicate his approval, or give the order, before the charge is made. Subordinate commanders, usually battalion commanders, whose troops are ready to charge signal that fact to the commander. It may be necessary for them to wait until other battalions or other parts of the line are ready or until the necessary reserves arrive.

(2) At the signal for the charge the firing line and near-by supports and reserves rush forward. See paragraphs 109 and 110.

(3) The charge is made simultaneously, if possible, by all the units participating therein, but, once committed to the assault, battalions should be pushed with the utmost vigor and no restraint

placed on the ardor of charging troops by an attempt to maintain alignment.

242. Before ordering the charge the commander should see that enough troops are on hand to make it a success. Local reserves joining the firing line in time to participate in the charge give it a strong impetus. Too dense a mass should be avoided.

243. The line should be strengthened by prolongation, if practicable, and remaining troops kept in formation for future use; but rather than that the attack should fail, the last formed body will be sent in, unless it is very apparent that it can do no good.

244. To arrive in the hostile position with a very compact firing line and a few formed supports is sufficient for a victory, but an additional force kept well in hand for pursuit is of inestimable value.

245. A premature charge by a part of the line should be avoided, but if begun, the other parts of the line should join at once if there is any prospect of success. Under exceptional conditions a part of the line may be compelled to charge without authority from the rear. The intention to do so should be signaled to the rear.

246. Confidence in their ability to use the bayonet gives the assaulting troops the promise of success.

247. If the enemy has left the position when the charging troops reach it, the latter should open a rapid fire upon the retreating enemy, if he is in sight. It is not advisable for the mixed and disordered units to follow him, except to advance to a favorable firing position or to cover the reorganization of others.

248. (1) The nearest formed bodies accompanying or following the charge are sent instantly in pursuit. Under cover of these troops order is restored in the charging line. If the captured position is part of a general line or is an advanced post, it should be intrenched and occupied at once.

(2) The exhaustion of officers and men must not cause the neglect of measures to meet a counter-attack.

249. If the attack receives a temporary setback and it is intended to strengthen and continue it, officers will make every effort to stop the rearward movement and will re-establish the firing line in a covered position as close as possible to the enemy.

250. If the attack must be abandoned, the rearward movement should continue with promptness until the troops reach a feature of the terrain that facilitates the task of checking and reorganizing them. The point selected should be so far to the rear as to prevent interference by the enemy before the troops are ready to

resist. The withdrawal of the attacking troops should be covered by the artillery and by reserves, if any are available.

See Night Operations.

PURSUIT.

251. To reap the full fruits of victory a vigorous pursuit must be made. The natural inclination to be satisfied with a successful charge must be overcome. The enemy must be allowed no more time to reorganize than is positively unavoidable.

252. (1) The part of the reserve that is still formed or is best under control is sent forward in pursuit and vigorously attacks the enemy's main body or covering detachments wherever found.

(2) The artillery delivers a heavy fire upon the retreating enemy; the disordered attacking troops secure the position, promptly re-form, and become a new reserve.

253. If the captured position is a section of the general line, the breach should be heavily occupied, made wider, and strongly secured by drawing on all reserves in the vicinity.

254. After the pursuit from the immediate battle field, pursuit by parallel roads is especially effective where large commands are concerned.

255. Artillery and cavalry are very effective in pursuit.

ATTACK OF FORTIFICATIONS.

256. Few modifications enter into the problem of attacking fortifications. Such as are to be considered relate chiefly to the greater time and labor of advancing, the more frequent use of darkness and the use of hand grenades to augment the fire.

257. If the enemy is strongly fortified and time permits, it may be advisable to wait and approach the charging point under cover of darkness. The necessary reconnaissance and arrangements should be made before dark. If the charge is not to be made at once, the troops intrench the advanced position, using sand bags if necessary. Before daylight the foreground should be cleared of obstacles.

258. If the distance is short and other conditions are favorable, the charge may be made without fire preparation. If made, it should be launched with spirit and suddenness at the break of day. (See Night Operations.)

259. In siege operations troops are usually advanced to the charging point by sapping. This method, however, presupposes

that an early victory is not necessary or that it is clearly inadvisable to attempt more direct methods.

HOLDING ATTACK.

260. (1) The holding attack must be vigorous enough to hold the enemy in position and must present a front strong enough to conceal the secondary nature of the attack.

(2) The holding attack need have comparatively little strength in rear, but conceals the fact by a firing line not distinguishable from that of a decisive attack.

261. Supports and reserves are kept at short distances. Their strength is less if the object is merely to hold the enemy fast than if the object is, in addition, to compel him to use up reserves.

262. Holding attacks which may later develop into decisive attacks should be correspondingly strong in rear.

263. All feint attacks should employ dense firing lines. Their weakness is in rear and is concealed.

DEFENSE.

POSITIONS AND INTRENCHMENTS.

264. (1) The first requirement of a good position is a clear field of fire and view to the front and exposed flanks to a distance of 600 to 800 yards or more. The length of front should be suitable to the size of the command and the flanks should be secure. The position should have lateral communication and cover for supports and reserves. It should be one which the enemy cannot avoid, but must attack or give up his mission.

(2) A position having all these advantages will rarely, if ever, be found. The one should be taken which conforms closest to the description.

265. (1) The natural cover of the position should be fully utilized. In addition, it should be strengthened by fieldworks and obstacles.

(2) The best protection is afforded by deep, narrow, inconspicuous trenches. If little time is available, as much as practicable must be done. That the fieldworks may not be needed should not cause their construction to be omitted, and the fact that they have been constructed should not influence the action of a commander, if conditions are found to be other than expected.

266. (1) When time and troops are available the preparations include the necessary communicating and cover trenches, head cover, bombproofs, etc. The fire trenches should be well supplied with ammunition.

(2) The supports are placed close at hand in cover trenches when natural cover is not available.

267. Dummy trenches frequently cause the hostile artillery to waste time and ammunition and to divert its fire.

268. The location, extent, profile, garrison, etc., of fieldworks are matters to be decided by the infantry commanders. Officers must be able to choose ground and properly intrench it. (See Intrenchments.)

269. In combat exercises, when it is impracticable to construct the trenches appropriate to the exercise, their trace may be outlined by bayonets, sticks, or other markers, and the responsible officers required to indicate the profile selected, method and time of construction, garrisons, etc.

DEPLOYMENT OF DEFENSE.

270. The density of the whole deployment depends upon the expected severity of the action, the character of the enemy, the condition of the flanks, the field of fire, the terrain, and the available artificial or natural protection for the troops.

271. (1) If exposed, the firing line should be as dense in defense as in attack. If the firing line is well intrenched and has a good field of fire, it may be made thinner.

(2) Weaker supports are permissible. For the same number of troops the front occupied on the defensive may therefore be longer than on the offensive, the battalions placing more companies in the firing line.

272. If it is intended only to delay the enemy, a fairly strong deployment is sufficient, but if decisive results are desired, a change to the offensive must be contemplated and the corresponding strength in rear provided. This strength is in the reserve, which should be as large as the demands of the firing line and supports permit. Even in a passive defense the reserve should be as strong as in the attack, unless the flanks are protected by other means.

273. Supports are posted as close to the firing line as practicable and re-enforce the latter according to the principles explained in the attack. When natural cover is not sufficient for the purpose, communicating and cover trenches are constructed. If time does not permit their construction, it is better to begin the action with a very dense firing line and no immediate supports than to have supports greatly exposed in rear.

274. (1) The reserve should be posted so as to be entirely free to act as a whole, according to developments. The distance from firing line to reserve is generally greater than in the attack. By reason of such a location the reserve is best able to meet a hostile enveloping attack; it has a better position from which to make a counter-attack; it is in a better position to cover a withdrawal and permit an orderly retreat.

(2) The distance from firing line to reserve increases with the size of the reserve.

275. When the situation is no longer in doubt, the reserve should be held in rear of the flank which is most in danger or offers the best opportunity for counter-attack. Usually the same flank best suits both purposes.

276. In exceptional cases, on broad fronts, it may be necessary to detach a part of the reserve to protect the opposite flank.

This detachment should be the smallest consistent with its purely protective mission.

277. The commander assigns to subordinates the front to be occupied by them. These, in turn, subdivide the front among their next lower units in the firing line.

278. (1) An extended position is so divided into sections that each has, if practicable, a field of fire naturally made distinct by the terrain.

(2) Unfavorable and unimportant ground will ordinarily cause gaps to exist in the line.

279. The size of the unit occupying each section depends upon the latter's natural strength, front, and importance. If practicable, battalions should be kept intact and assigned as units to sections or parts of sections.

280. Where important dead space lies in front of one section, an adjoining section should be instructed to cover it with fire when necessary, or machine guns should be concealed for the like purpose.

281. Advanced posts, or any other form of unnecessary dispersion, should be avoided.

282. Unless the difficulty of moving the troops into the position be great, most of the troops of the firing line are held in rear of it until the infantry attack begins. The position itself is occupied by a small garrison only, with the necessary outguards or patrols in front.

283. Fire alone cannot be depended upon to stop the attack. The troops must be determined to resort to the bayonet, if necessary.

284. If a night attack or close approach by the enemy is expected, troops in a prepared position should strengthen the outguards and firing line and construct as numerous and effective obstacles as possible. Supports and local reserves should move close to the firing line and should, with the firing line, keep bayonets fixed. If practicable, the front should be illuminated, preferably from the flanks of the section.

285. Only short range fire is of any value in resisting night attacks. The bayonet is the chief reliance. (See Night Operations.)

COUNTER-ATTACK.

286. **The passive defense** should be assumed only when circumstances force it. Only the offensive wins.

287. **An active defense** seeks a favorable decision. A favorable decision cannot be expected without counter-attack.

288. A passive defense in a position whose flanks are not protected by natural obstacles is generally out of the question.

289. (1) Where the defense is assumed with a view to making a counter-attack, the troops for the counter-attack should be held in reserve until the time arrives for such attack. The defensive line should be held by as few troops as possible in order that the force for the offensive may be as large as possible.

(2) The force for the counter-attack should be held echeloned in rear of the flank which offers it the greatest advantage for the proposed attack.

290. (1) **The counter-attack** should be made vigorously and at the proper time. It will usually be made:

(2) By launching the reserve against the enemy's flank when his attack is in full progress. This is the most effective form of counter-attack.

(3) Straight to the front by the firing line and supports after repulsing the enemy's attack and demoralizing him with pursuing fire.

(4) Or, by the troops in rear of the firing line when the enemy has reached the defensive position and is in disorder.

291. Minor counter-attacks are sometimes necessary in order to drive the enemy from important positions gained by him.

DELAYING ACTION.

292. (1) When a position is taken merely to delay the enemy and to withdraw before becoming closely engaged, the important considerations are:

(2) The enemy should be forced to deploy early. The field of fire should therefore be good at distances from 500 to 1200 yards or more; a good field of fire at close range is not necessary.

(3) The ground in rear of the position should favor the withdrawal of the firing line by screening the troops from the enemy's view and fire as soon as the position is vacated.

293. (1) A thin firing line using much ammunition will generally answer the purpose. Supports are needed chiefly to protect the flanks.

(2) The reserve should be posted well in rear to assist in the withdrawal of the firing line.

294. Artillery is especially valuable to a delaying force.

MEETING ENGAGEMENTS.

295. Meeting engagements are characterized by the necessity for hasty reconnaissance, or the almost total absence of reconnaissance; by the necessity for rapid deployment, frequently under fire; and usually by the absence of trenches or other artificial cover. These conditions give further advantages to the offensive.

296. The whole situation will usually indicate beforehand the proper general action to be taken on meeting the enemy.

297. Little fresh information can be expected. The boldness, initiative, and determination of the commander must be relied upon.

298. A meeting engagement affords an ideal opportunity to the commander who has intuition and quick decision and who is willing to take long chances. His opponent is likely to be over-cautious.

299. The amount of information that the commander is warranted in awaiting before taking final action depends entirely upon his mission. One situation may demand a blind attack; another may demand rapid, partial deployment for attack, but careful and time-consuming reconnaissance before the attack is launched.

300. A great advantage accrues to the side which can deploy the faster. The advantage of a close-order formation, favoring rapid deployment, becomes more pronounced with the size of the force.

301. The first troops to deploy will be able to attack with longer firing lines and weaker supports than are required in the ordinary case. But if the enemy succeeds in deploying a strong defensive line, the attack must be strengthened accordingly before it is wasted.

302. If the situation warrants the advance, the leading troops seek to deploy faster than the enemy, to reach his flanks, check his deployment, and get information. In any event, they seek to cover the deployment of their own troops in rear—especially the artillery—and to seize important ground.

303. The commander of a long column which meets the enemy should be with the advance guard to receive information promptly and to reconnoiter. If he decides to fight, the advance guard must hold the enemy while the commander formulates a plan of action, issues the necessary orders, and deploys the main body.

Meantime, the column should be closing up, either in mass or to form line of columns, so that the deployment, when determined upon, may be made more promptly.

304. The action of the advance guard, prior to the receipt of orders, depends upon the situation. Whether to attack determinedly or only as a feint, or to assume the defensive, depends upon the strength of the advance guard, the terrain, the character of the hostile force encountered, and the mission and intentions of the commander of the whole.

305. If the enemy is beforehand or more aggressive, or if the advance guard is too weak, it may be necessary to put elements of the main body into action as fast as they arrive, in order to check him. This method should be avoided; it prevents the formation and execution of a definite plan and compels piecemeal action. The best results are obtained when the main body is used as a whole.

WITHDRAWAL FROM ACTION.

306. The withdrawal of a defeated force can generally be effected only at a heavy cost. When it is no longer possible to give the action a favorable turn and the necessity for withdrawal arises, every effort must be made to place distance and a rear guard between the enemy and the defeated troops.

307. Artillery gives especially valuable assistance in the withdrawal. The long-range fire of machine guns should also be employed. Cavalry assists the withdrawal by charging the pursuing troops or by taking flank position and using fire action.

308. (1) If an intact reserve remains it should be placed in a covering position, preferably on a flank, to check the pursuit and thus enable the defeated troops to withdraw beyond reach of hostile fire.

(2) The covering position of the reserve should be at some distance from the main action, but close enough to bring the withdrawing troops quickly under the protection of its fire. It should have a good field of fire at effective and long ranges and should facilitate its own safe and timely withdrawal.

309. (1) If the general line is divided, by terrain or by organization, into two or more parts, the firing line of the part in the least danger from pursuit should be withdrawn first. A continuous firing line, whose parts are dependent upon one another for fire support, should be withdrawn as a whole, retiring by echelon at the beginning of the withdrawal. Every effort must be made to restore the organizations, regain control, and form column of march as soon as the troops are beyond the reach of hostile fire.

(2) As fast as possible without delaying the march, companies, and the larger units should be re-formed, so that the command will again be well in hand.

310. (1) The commander of the whole, having given orders for withdrawal, should go to the rear, select a rendezvous point, and devote himself to the reorganization of his command.

(2) The rendezvous point is selected with regard to the natural channels of movement approximately straight to the rear. It should be distant from the battle field and should facilitate the gathering and protection of the command.

SUMMARY.

311. (1) Avoid combats that offer no chance of victory or other valuable results.

(2) Make every effort for the success of the general plan and avoid spectacular plays that have no bearing on the general result.

(3) Have a definite plan and carry it out vigorously. Do not vacillate.

(4) Do not attempt complicated maneuvers.

(5) Keep the command in hand; avoid undue extension and dispersion.

(6) Study the ground and direct the advance in such a way as to take advantage of all available cover and thereby diminish losses.

(7) Never deploy until the purpose and the proper directions are known.

(8) Deploy enough men for the immediate task in hand; hold out the rest and avoid undue haste in committing them to the action.

(9) Flanks must be protected either by reserves, fortifications, or the terrain.

(10) In a decisive action, gain and keep fire superiority.

(11) Keep up reconnaissance.

(12) Use the reserve, but not until needed or a very favorable opportunity for its use presents itself. Keep some reserve as long as practicable.

(13) Do not hesitate to sacrifice the command if the result is worth the cost.

(14) Spare the command all unnecessary hardship and exertion.

MISCELLANEOUS.

MACHINE GUNS.

312. Machine guns must be considered as weapons of emergency. Their effectiveness combined with their mobility renders them of great value at critical, though infrequent, periods of an engagement.

313. When operating against infantry only, they can be used to a great extent throughout the combat as circumstances may indicate, but they are quickly rendered powerless by efficient field artillery and will promptly draw artillery fire whenever they open. Hence their use in engagements between large commands must be for short periods and at times when their great effectiveness will be most valuable.

314. (1) Machine guns should be attached to the advance guard. In meeting engagements they will be of great value in assisting their own advance, or in checking the advance of the enemy, and will have considerable time to operate before hostile artillery fire can silence them.

(2) Care must be taken not to leave them too long in action.

315. They are valuable to a rear guard which seeks to check a vigorous pursuit or to gain time.

316. In attack, if fire of position is practicable, they are of great value. In this case fire should not be opened by the machine guns until the attack is well advanced. At a critical period in the attack, such fire, if suddenly and unexpectedly opened, will greatly assist the advancing line. The fire must be as heavy as possible and must be continued until masked by friendly troops or until the hostile artillery finds the machine guns.

317. In the defense, machine guns should be used in the same general manner as described above for the attack. Concealment and patient waiting for critical moments and exceptional opportunities are the special characteristics of the machine-gun service in decisive actions.

318. As part of the reserve, machine guns have special importance. If they are with the troops told off to protect the flanks, and if they are well placed, they will often produce decisive results against a hostile turning movement. They are especially qualified to cover a withdrawal or make a captured position secure.

319. Machine guns should not be assigned to the firing line of

an attack. They should be so placed that fire directed upon them is not likely to fall upon the firing line.

320. A skirmish line cannot advance by walking or running when hostile machine guns have the correct range and are ready to fire. Machine-gun fire is not specially effective against troops lying on the ground or crawling.

321. (1) When opposed by machine guns and without artillery to destroy them, infantry itself must silence them before it can advance.

(2) An infantry command that must depend upon itself for protection against machine guns should concentrate a large number of rifles on each gun in turn and until it has silenced it.

AMMUNITION SUPPLY.

322. The method of supply of ammunition to the combat trains must be decided upon beforehand.

323. (1) The combat train is the immediate reserve supply of the battalion, and the bt. c. is responsible for its proper use. He will take measures to insure the maintenance of the prescribed allowance at all times.

(2) In the absence of instructions, he will cause the ammunition party to march immediately in rear of his battalion, and, upon separating from it to enter an engagement, will cause the ammunition therein to be issued. When exhausted, he will direct that the ammunition party proceed to the proper rendezvous for a fresh supply. Ordinarily a rendezvous is appointed for each brigade or smaller unit.

324. When re-supplied the ammunition parties will rejoin their battalions, or, if the latter be engaged, will join or establish communication with the regimental reserve.

325. Company commanders are responsible that the belts of the men in their companies are kept filled at all times, except when the ammunition is being expended in action. In the firing line the ammunition of the dead and wounded should be secured whenever practicable.

326. Ammunition in the bandoleers will ordinarily be expended first. Thirty rounds in the right pocket section of the belt will be held as a reserve, to be expended only when ordered by an officer.

327. (1) When necessary to re-supply the firing line, ammunition will be sent forward with re-enforcements, generally from the regimental reserve.

(2) Men will never be sent back from the firing line for ammu-

nition. Men sent forward with ammunition remain with the firing line.

328. As soon as possible after an engagement the belts of the men and the ammunition parties are re-supplied to their normal capacities. Ammunition which cannot be loaded on wagons will be piled up in a convenient place and left under guard.

MOUNTED SCOUTS.

329. The mounted scouts should be thoroughly trained in patrolling and reconnaissance. They are used for communication with neighboring troops for patrolling off the route of march, for march outposts, outpost patrols, combat patrols, reconnaissance ahead of columns, etc. Their further use is, in general, confined to escort and messenger duty. They should be freely used for all these purposes, but for these purposes only.

330. When infantry is acting alone, or when the cavalry of a mixed command has been sent to a distance, the mounted scouts are of special importance to covering detachments and should be used to make the reconnaissance which would otherwise fall to cavalry.

331. In reconnaissance, scouts should be used in preference to other troops as much as possible. When not needed for mounted duty, they should be employed for necessary dismounted patrolling.

332. Battalion staff officers should be specially trained in patrolling and reconnaissance work in order that they may be available when a mounted officer's patrol is required.

NIGHT OPERATIONS.

333. (1) By employing night operations troops make use of the cover of darkness to minimize losses from hostile fire or to escape observation. Night operations may also be necessary for the purpose of gaining time. Control is difficult and confusion is frequently unavoidable.

(2) It may be necessary to take advantage of darkness in order to assault from a point gained during the day, or to approach a point from which a daylight assault is to be made, or to effect both the approach and the assault.

334. (1) Offensive and defensive night operations should be practiced frequently in order that troops may learn to cover ground in the dark and arrive at a destination quietly and in good order, and in order to train officers in the necessary preparation and reconnaissance.

(2) Only simple and well-appointed formations should be employed.

(3) Troops should be thoroughly trained in the necessary details—e. g., night patrolling, night marching, and communication at night.

335. (1) The ground to be traversed should be studied by daylight, and, if practicable, at night. It should be cleared of hostile detachments before dark, and, if practicable, should be occupied by covering troops.

(2) Orders must be formulated with great care and clearness. Each unit must be given a definite objective and direction, and care must be exercised to avoid collision between units.

(3) Whenever contact with the enemy is anticipated, a distinctive badge should be worn by all.

336. (1) Preparations must be made with secrecy. When the movement is started, and not until then, the officers and men should be acquainted with the general design, the composition of the whole force, and should be given such additional information as will insure co-operation and eliminate mistakes.

(2) During the movement every precaution must be taken to keep secret the fact that troops are abroad.

(3) Unfriendly guides must frequently be impressed. These should be secured against escape, outcry, or deception.

(4) Fire action should be avoided in offensive operations. In general, pieces should not be loaded. Men must be trained to rely upon the bayonet and to use it aggressively.

337. Long night marches should be made only over well-defined routes. March discipline must be rigidly enforced. The troops should be marched in as compact a formation as practicable, with the usual covering detachments. Advance and rear guard distances should be greatly reduced. They are shortest when the mission is an offensive one. The connecting files are numerous.

338. (1) A night advance made with a view to making an attack by day usually terminates with the hasty construction of intrenchments in the dark. Such an advance should be timed so as to allow an hour or more of darkness for intrenching.

(2) An advance that is to terminate in an assault at the break of day should be timed so that the troops will not arrive long before the assault is to be made; otherwise the advantage of partial surprise will be lost and the enemy will be allowed to re-enforce the threatened point.

339. (1) The night attack is ordinarily confined to small forces,

or to minor engagements in a general battle, or to seizure of positions occupied by covering or advanced detachments. Decisive results are not often obtained.

(2) Poorly disciplined and untrained troops are unfit for night attacks or for night operations demanding the exercise of skill and care.

(3) Troops attacking at night can advance close to the enemy in compact formations and without suffering loss from hostile artillery or infantry fire. The defender is ignorant of the strength or direction of the attack.

(4) A force which makes a vigorous bayonet charge in the dark will often throw a much larger force into disorder.

340. (1) Reconnaissance should be made to ascertain the position and strength of the enemy and to study the terrain to be traversed. Officers who are to participate in the attack should conduct this reconnaissance. Reconnaissance at night is especially valuable. Features that are distinguishable at night should be carefully noted, and their distances from the enemy, from the starting point of the troops, and from other important points should be made known.

(2) Preparations should have in view as complete a surprise as possible. An attack once begun must be carried to its conclusion, even if the surprise is not as complete as was planned or anticipated.

341. The time of night at which the attack should be made depends upon the object sought. If a decisive attack is intended, it will generally yield the best results if made just before daylight. If the object is merely to gain an intrenched position for further operations, an earlier hour is necessary in order that the position gained may be intrenched under cover of darkness.

342. (1) **The formation for attack** must be simple. It should be carefully effected and the troops verified at a safe distance from the enemy. The attacking troops should be formed in compact lines and with strong supports at short distances. The reserve should be far enough in rear to avoid being drawn into the action until the commander so desires. Bayonets are fixed, pieces are not loaded.

(2) Darkness causes fire to be wild and ineffective. The attacking troops should march steadily on the enemy without firing, but should be prepared and determined to fight vigorously with the bayonet.

(3) In advancing to the attack the aim should be to get as close as possible to the enemy before being discovered, then to trust to the bayonet.

(4) If the assault is successful, preparations must be made at once to repel a counter-attack.

343. (1) On the defense, preparations to resist night attacks should be made by daylight whenever such attacks are to be feared.

(2) Obstacles placed in front of a defensive position are especially valuable to the defense at night. Many forms of obstacles which would give an attacker little concern in the daytime become serious hindrances at night.

(3) After dark the foreground should be illuminated whenever practicable and strong patrols should be pushed to the front.

(4) When it is learned that the enemy is approaching, the trenches are filled and the supports moved close to the firing line.

(5) Supports fix bayonets, but do not load. Whenever practicable and necessary they should be used for counter-attacks, preferably against a hostile flank.

(6) The defender should open fire as soon as results may be expected. This fire may avert or postpone the bayonet combat, and it warns all supporting troops. It is not likely that fire alone can stop the attack. The defender must be resolved to fight with the bayonet.

(7) Ordinarily fire will not be effective at ranges exceeding 50 yards.

(8) A white rag around the muzzle of the rifle will assist in sighting the piece when the front sight is not visible.

See paragraphs 225, 258, 259, 284, 285.

INFANTRY AGAINST CAVALRY.

344. A cavalry charge can accomplish little against infantry, even in inferior numbers, unless the latter are surprised, become panic-stricken, run away, or cannot use their rifles.

345. (1) A charge from the front is easily checked by a well-directed and sustained fire.

(2) If the charge is directed against the flank of the firing line, the supports, reserves, or machine guns should stop it. If this disposition is impracticable, part of the line must meet the charge by a timely change of front. If the flank company, or companies, in the firing line execute *sections right,* the successive firing lines can ordinarily break a charge against the flank. If the cavalry line passes through the firing line, the latter will be little damaged if the men retain their presence of mind. They should be on the watch for succeeding cavalry lines and leave those that have passed through to friendly troops in rear.

346. Men standing are in the best position to meet a charge, but other considerations may compel them to meet it lying prone.

347. (1) In a mêlée, the infantryman with his bayonet has at least an even chance with the cavalryman, but the main dependence of infantry is rifle fire. Any formation is suitable that permits the free use of the necessary number of rifles.

(2) Ordinarily there will be no time to change or set sights. Fire at will at battle sight should be used, whatever the range may be. It will usually be unwise to open fire at long ranges.

348. (1) An infantry column that encounters cavalry should deploy at once. If attacked from the head or rear of the column, and if time is pressing, it may form a succession of skirmish lines. Infantry, by deploying 50 or 100 yards in rear of an obstacle, may check cavalry and hold it under fire beyond effective pistol range.

(2) In any situation, to try to escape the issue by running is the worst and most dangerous course the infantry can adopt.

349. (1) In attacking dismounted cavalry, infantry should close rapidly and endeavor to prevent remounting. Infantry which adopts this course will not be seriously checked by delaying cavalry.

(2) Every effort should be made to locate and open fire on the led horses.

INFANTRY AGAINST ARTILLERY.

350. (1) A frontal attack against artillery has little chance of succeeding unless it can be started from cover at comparatively short range. Beyond short range, the frontal fire of infantry has little effect against the artillery personnel because of their protective shields.

(2) Machine guns, because their cone of fire is more compact, will have greater effect, but on the other hand they will have fewer opportunities and they are limited to fire attack only.

(3) As a rule, one's own artillery is the best weapon against hostile artillery.

351. Artillery attacked in flank by infantry can be severely damaged. Oblique or flank fire will begin to have decisive effect when delivered at effective range from a point to one side of the artillery's line of fire and distant from it by about half the range. Artillery is better protected on the side of the caisson.

352. Guns out of ammunition, but otherwise secure against infantry attack, may be immobilized by fire which will prevent their withdrawal, or by locating and driving off their limbers.

Or they may be kept out of action by fire which will prevent the receipt of ammunition.

353. (1) Artillery when limbered is helpless against infantry fire. If caught at effective range while coming into action or while limbering, artillery can be severely punished by infantry fire.

(2) In attacking artillery that is trying to escape, the wheel horses are the best targets.

ARTILLERY SUPPORTS.

354. (1) The purpose of the artillery support is to guard the artillery against surprise or attack.

(2) Artillery on the march or in action is ordinarily so placed as to be amply protected by the infantry. Infantry always protects artillery in its neighborhood.

355. (1) The detail of a support is necessary except when the artillery is separated from the main body or occupies a position in which its flanks are not protected.

(2) The detail of a special support will be avoided whenever possible.

356. The formation of an artillery support depends upon circumstances. On the march it may often be necessary to provide advance, flank, and rear protection. The country must be thoroughly reconnoitered by patrols within long rifle range.

357. In action, the formation and location of the support must be such as to gain and give timely information of the enemy's approach and to offer actual resistance to the enemy beyond effective range of the artillery's flanks. It should not be close enough to the artillery to suffer from fire directed at the artillery. In most cases a position somewhat to the flank and rear best fulfils these conditions.

358. The support commander is charged only with the protection of the artillery. The tactical employment of each arm rests with its commander. The two should co-operate.

INTRENCHMENTS.*

(Plate II.)

359. (1) Ordinarily, infantry intrenches itself whenever it is compelled to halt for a considerable time in the presence of the enemy.

(2) Infantry charged with a resisting mission should intrench

* See Field Fortifications.

whenever there is any likelihood that the cover constructed will be of use.

360. (1) Except in permanent fortifications or in fortifications prepared long in advance, the infantry plans and constructs the fieldworks that it will occupy.

(2) When performing their duties in this connection officers should bear in mind that profile and construction are simple matters compared with location and correct tactical use.

361. (1) Intrenchments enable the commander to hold a position with the least possible number of men and to prolong his line or increase his reserve.

(2) They are constructed with a view to giving cover which will diminish losses, but they must not be so built or placed as to interfere with the free use of the rifle. Fire effect is the first consideration.

362. (1) The trace of a fire trench or of a system of fire trenches depends upon the ground and the proposed density of the entire firing line. The trenches are laid out in company lengths, if possible.

(2) Adjoining trenches should afford each other mutual support. The flanks and important gaps in the line should be protected by fire trenches echeloned in rear. (Fig. 6.)

363. (1) To locate the trace, lie on the ground at intervals and select the best field of fire consistent with the requirements of the situation.

(2) A profile should be selected which will permit the fire to sweep the foreground, require the minimum of labor and time, and permit the best concealment. No fixed type can be prescribed. The type must be selected with due regard to the terrain, the enemy, time, tools, materials, soil, etc.

364. Hasty cover. With the intrenching tool, troops can quickly throw up a low parapet about 3 feet thick which will furnish considerable cover against rifle fire, but scarcely any against shrapnel. Such cover is frequently of value to an attack that is temporarily unable to continue. In time, and particularly at night, it may be developed into a deep fire or cover trench.

365. (1) **Fire trenches** should be placed and constructed so as to give a good field of fire and to give the troops protection behind a vertical wall, preferably with some head or overhead cover. They should be concealed or inconspicuous in order to avoid artillery fire or to decrease its accuracy. They should have natural or artificial communication with their supports, but in establishing the trace this is a secondary consideration.

(2) The simplest form of fire trench is deep and narrow and has a flat, concealed parapet. (Fig. 1.) In ordinary soil, and on a basis of two reliefs and tasks of 5 feet, it can be constructed in about two hours with intrenching tools.

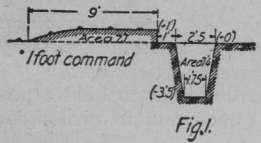

Fig. 1.

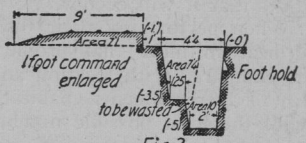

Fig. 2.

Plate II

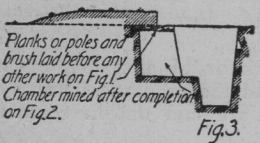

Fig. 3.

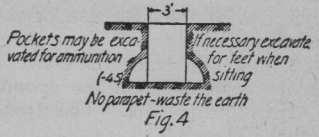

Fig. 4

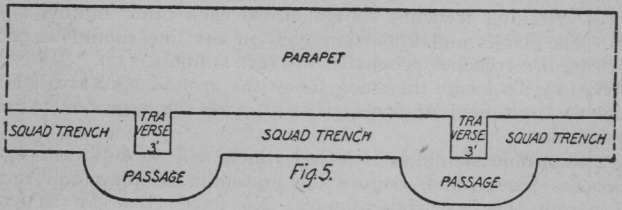

Fig. 5.

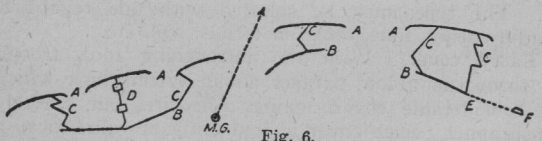

Fig. 6.

Possible arrangement of 2 Bns. of Inf. intrenched (Regimental Reserve of 1 Bn. not shown).
A Firing trenches.
B Cover trenches.
C Communicating trench; D same traversed; E communicating way.
F Closed supporting point for flank protection.
M.G. Possible position for machine guns, concealed from front.

(3) This trench affords fair cover for troops subjected to fire, but not actually firing. When it is probable that time will permit elaboration, the simple trench should be planned with a view to

developing it ultimately into a more complete form. (Figs. 2 and 3.) Devices should be added to increase the security of the trench and the comfort of the men.

(4) Where the excavated earth is easily removed, a fire trench without parapet may be the one best suited to the soil and other conditions affecting the choice of profile. (Fig. 4.) The enemy's infantry, as well as his artillery, will generally have great difficulty in seeing this type of trench.

(5) In very difficult soil, if the time is short, it may be necessary to dig a wider, shallower trench with a higher parapet.

(6) Head cover, notches, and loopholes are of value to troops when firing, but many forms weaken and disclose the location of the parapet. Filled sandbags kept in the trench when the men are not firing may be thrown on the parapet to form notches or loopholes when the troops in the trench open fire and concealment of the trench is no longer necessary or possible.

(7) By the use of observation stations the maximum rest and security is afforded the troops. Stations are best located in the angles of traverses or at the end of the trench.

366. Where the nature of the position makes it advisable to construct traverses at regular intervals it is generally best to construct a section of trench for each squad, with traverses between squads. (Fig. 5.)

367. (1) **Cover trenches** are placed as closely as practicable to their respective fire trenches. Where natural cover is not available, each fire trench should have artificial cover in rear for its support—either a cover trench of its own or one in common with an adjoining fire trench.

(2) The cover trench is simple and rectangular in profile. Concealment is indispensable. It is generally concealed by the contour of the ground or by natural features, but to guard against hostile searching fire overhead cover is frequently advisable.

(3) Cover trenches should be made as comfortable as possible. It will often be advisable to make them extensive enough to provide cooking and resting facilities for the garrisons of the corresponding fire trenches.

368. (1) **Communicating trenches** are frequently necessary in order to connect fire trenches with their corresponding cover trenches where natural, covered communication is impracticable. They are generally rectangular in profile, deep, and narrow. They are traversed or zigzagged to escape enfilade.

(2) Returns or pockets should be provided for use as latrines, storerooms, dressing stations, passing points for troops, etc.

(3) Cover from observation while passing through the trench may insure against loss as effectively as material cover from the enemy's fire.

(4) **Communicating ways,** naturally or artificially screened from the enemy's view, sometimes provide sufficient cover for the passage of troops.

369. (1) **Dummy trenches** frequently draw the enemy's attention and fire and thus protect the true fire trench.

(2) Any type is suitable which presents to the enemy the appearance of a true trench imperfectly concealed.

370. When it is uncertain whether time will permit the completion of all the work planned, work should proceed with due regard to the order of importance of the several operations. Ordinarily the order of importance will be:

(1) Clearing foreground to improve the field of fire and construction of fire trench.

(2) Head or overhead cover; concealment.

(3) Placing obstacles and recording ranges.

(4) Cover trenches for supports, and local reserves.

(5) Communicating trenches.

(6) Widening and deepening of trenches; interior conveniences.

See paragraph 343.

MINOR WARFARE.

371. (1) **Minor warfare** embraces both regular and irregular operations.

(2) **Regular operations** consist of minor actions involving small bodies of trained and organized troops on both sides.

(3) **The tactics employed** are in general those prescribed for the smaller units.

372. (1) **Irregular operations** consist of actions against unorganized or partially organized forces, acting in independent or semi-independent bodies. Such bodies have little or only crude training and are under nominal and loose leadership and control. They assemble, roam about, and disperse at will. They endeavor to win by stealth or by force of superior numbers, employing ambuscades, sudden dashes or rushes, and hand-to-hand fighting.

(2) Troops operating against such an enemy usually do so in small units, such as sections, detachments, or companies, and the tactics employed must be adapted to meet the requirements of the situation. Frequently the enemy's own methods may be employed to advantage.

(3) In general, such operations should not be undertaken hastily; every preparation should be made to strike suddenly and to inflict the maximum punishment.

373. In general, the service of information will be insufficient; adequate reconnaissance will rarely be practicable. March and bivouac formations must be such as to admit of rapid deployment and fire action in any direction.

374. In the open country, where surprise is not probable, troops may be marched in column of squads preceded, within sight, by a squad as an advance party.

375. (1) In close country, where surprise is possible, the troops must be held in a close formation. The use of flank patrols becomes difficult. Occasionally, an advance party—never less than a squad—may be sent out. In general, however, such a party accomplishes little, since an enemy intent on surprise will permit it to pass unmolested and will fall upon the main body.

(2) Under such conditions, especially when the road or trail is narrow, the single or double column of files is a convenient formation, the officers placing themselves in the column so as to divide it into nearly equal parts. If rushed from a flank, such a column will be in readiness to face and fire toward either or both flank, the ranks being back to back; if rushed from the front, the head of the column may be deployed, the rest of the column closing up to support it and protect its flanks and rear. In any event, the men should be taught to take some form of a closed *back-to-back formation.*

376. The column may often be broken into two or more approximately equal detachments separated on the march by distances of 50 to 100 yards. As a rule the detachments should not consist of less than 25 men each. With this arrangement of the column, it will rarely be possible for an enemy to close simultaneously with all of the detachments, one or more being left unengaged and under control to support those engaged or to inflict severe punishment upon the enemy when he is repulsed.

377. The site for camp or bivouac should be selected with special reference to economical and effective protection against surprise. Double sentinels are posted on the avenues of approach and the troops sleep in readiness for instant action. When practicable troops should be instructed in advance as to what they are to do in case of attack at night.

378. Night operations are frequently advisable. With the small forces employed, control is not difficult. Irregular troops rarely provide proper camp protection, and they may frequently be surprised and severely punished by a properly conducted night march and attack.

PART IV
DRILL REGULATIONS FOR ARTILLERY

ORDER OF SUBJECTS

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School of the Battery	294
School of the Battalion	315
Artificial Cover for Field Artillery	324

ARTILLERY.

GENERAL RULES.

1. (1) An artillery section will consist of 3 petty-officers, known as first, second, and third, and 24 men, numbered from 1 to 24, and designated as follows: The *crew,* 1 to 8; the *support,* 9 to 16; the *reserve,* 17 to 24. Artillery sections will be armed as described on page 19, Art. 69.

(2) In general the *crew* handles the piece; the *support,* the limber, and supplies ammunition to the piece; the *reserve* assists at limber or piece as required, or acts as infantry support on the march. When necessary, all in turn man the drags, and assist to transport extra ammunition, if carried. In battery, the *support* and *reserve* may both be used as infantry support to the piece. 24 is the *section scout.* If two are required, 22 will also be detailed.

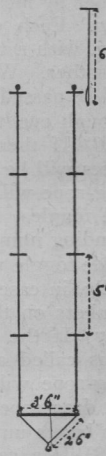


Plate 1. Art. 1 (5). Drags and cross-bar.

(3) The **1 p. o.** will have charge of the *crew.* When acting with a piece having no supply or tool-box, he will carry a pouch containing necessary articles. The **2 p. o.** will have charge of the *support* and limber, or ammunition boxes, and the supply of ammunition to the piece. The **3 p. o.** will have charge of the *reserve,* accompanying it when called away. When the **2 p. o.** is absent with the *support,* the **1 p. o.** will supervise the ammunition supply, in addition to his regular duties.

(4) This organization of the section provides for the service of the 3-inch field-piece, or 30-caliber Gatling, with or without limber, under ordinary conditions of landing. But it is elastic, and will be modified as circumstances may require. If a long or difficult march is in prospect, and no horses are available, an artillery section may man the piece and an infantry section, armed with rifles, the limber; dividing the latter into *crew, reserve,* and *support,* with duties corresponding to those at the piece. As the trail-wheel of piece is small and may catch on stones, or in a soft soil, it may be advisable to limber up as usual and put both sections on drag-ropes of double length. Or, if a full section is not available for the Gatling, the *reserve* may be dropped, retaining *crew* and *support* and using one drag-rope on limber and piece.

(5) Two drag-ropes, a cross-bar and span, and an extension-piece for each drag-rope, will be supplied to each piece and limber. The drag-ropes will be of 2¾-inch, 4-strand manila, each fitted with four toggles, five feet apart, having a thimble spliced in one end, just outside the last toggle, and a thimble with snap-hook in the other, to hook into an eye near each end of the cross-bar, which is to be three feet six inches long. The span, five feet in length, connects the ends of cross-bar with the trail of piece or limber by means of a thimble and snap-hook in the center of the span. Each extension-piece will be of 2-inch manila, six feet long, with a toggle at one end and an eye splice one foot long at the other. When no limber is used, the splice of extension-piece will be passed through thimble in end of drag-rope, and the toggle through eye, thus lengthening drag-rope by one toggle.

(6) If there are four vacancies in the section, the extension pieces will be removed; if there are eight, the end toggle on each drag-rope will be turned back and seized just outside of the second toggle. For other even numbers of men absent, the corresponding number of intermediate toggles will remain unused. An inside toggle will be left unused for an odd number absent. Generally, in case of vacancies, 9 and 10 will be filled, and the other numbers on the drag-ropes equalized.

(7) If the *reserve* is required to transport extra ammunition, or is called away as infantry support on the march, the right drag-rope will be hooked directly to the trail of piece, and the left drag-rope, bar, and span will be secured on top of ammunition boxes until again required.

(8) If a cart is to be used to transport ammunition, and no horses are to be had, the *reserve* may haul the cart, using one drag-rope; or the cart may be connected as a limber to the piece, the section manning the double drag.

(9) When *in battery,* unless otherwise directed, the prone position will be taken by *support* and *reserve* after deployment, upon the order of the C. O. S. If under fire, men at the piece and limber will keep as close to earth as the efficient performance of their duties will permit. When the *support* or *reserve* comes on the firing-line as riflemen, the officer directing the movement will cause them to kneel at once; the prone position will then be taken if the character of the ground and the conditions of fire make it practicable.

(10) Advantage will be taken of inequalities of ground as cover for piece, limber, and men. The distances and intervals laid down in the drill may always be modified for this purpose. But the

supply of ammunition to the piece must never be interrupted, and the *support* and *reserve*, as units, must always be within supporting distance. If there is time, pits for gun and limber will be dug, and light entrenchments thrown up, or other cover improvised for the men. If there is no time to do this, and the section must go into action on a level with no cover, it will be well to dismount the limber, men stationed at it sitting on the parts.

(11) Each limber will be fitted with brackets underneath for *one hand-axe, one spade,* and *one pick-axe.* With those now in service not so fitted, these tools will be becketed to the limber. If the piece is used without the limber, canvas slings will be provided, and 2 will carry the hand-axe, 3 the spade, and 4 the pick-axe.

(12) When the pieces are cast loose for action, they are said to be *in battery.*

(13) After firing, the pieces are always reloaded without command, and the firing will continue until the command or signal, *cease firing,* is given, when charges will be withdrawn.

(14) To interrupt the firing: 1. CEASE FIRING, 2. LOAD. The firing will cease, the pieces will be loaded, and held in readiness to renew the firing when directed.

(15) The charge must be withdrawn before starting the piece on the march.

(16) In all firings, the *objective* and *range* shall be designated in the preparatory commands, thus: 1. *Fire by battery,* 2. *At* (so many) *yards,* 3. *At* (such an object), 4. *Ready,* 5. FIRE.

(17) The *front,* when the drag is manned, is toward the leaders; when *in battery,* it is in the direction in which the guns are pointed.

(18) The *right* and *left* are the right and left of the actual front.

(19) The *dress,* when the drag is manned, is on the leaders; when *in battery,* it is on the axles of the pieces.

(20) For service in boats only, with no probability of landing, the presence of the **3 p. o.** and *reserve* is not necessary.

(21) The **1 p. o.** is the guide of his section.

(22) The drag being manned, the post of the **c. o. s.** is on the left of the **1 p. o.**

(23) Being in *section to the front,* the post of the **c. o. s.** is two paces in front of the center of his section; the distance between ranks is 36 inches.

(24) Being *in battery,* the **c. o. s.** is on the left and in rear of his piece.

SCHOOL OF THE SECTION.

To Sling Arms for Dragmen.

2. The rifle being in any position, at a halt: 1. *Sling,* 2. ARMS.

(1) At the second command, prepare the strap; then arms are slung as explained in the Manual of Arms, except that the odd-numbered men sling arms with the strap resting on the right shoulder, and the even-numbered men with the strap resting on the left shoulder, so that the rifle will be on the off side from the drag.

(2) When the knapsack is not worn, the rifle may be slung diagonally across the back, muzzle up and pointing toward the

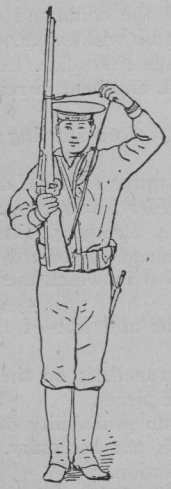


Plate 2. Art. 2 (2).
Diagonal sling (first position).

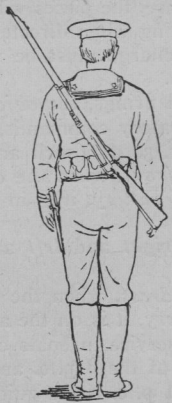


Plate 3. Art. 2 (2).
Diagonal sling.

drag-rope, the odd-numbered men wearing the strap on the left shoulder, and the even-numbered men on the right shoulder. The first command will be: 1. *Diagonal sling,* in order to distinguish it from the infantry sling.

To Unsling Arms.

3. (1) Executed as explained in the Manual of Arms.

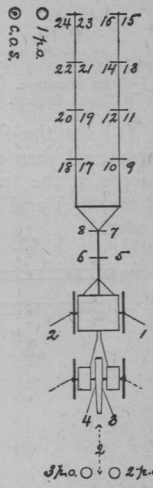
(2) Arms being slung, at a halt, any position in the manual of arms may be taken by command.

(3) Dragmen may be directed to carry their rifles in the free hand, or at the *shoulder* or *slope,* according as they are on the right or left of the drag. Such positions will be found to be more convenient when knapsacks are worn.

To Form the Section.

4. The **1 p. o.** commands: FALL IN AT THE DRAG.

(1) *With limber.*—Arms are slung; 1 and 2 man check-ropes hooked to wheel-lugs of limber; 3 and 4, check-ropes hooked to wheel-lugs of piece, or axle; 5 and 6, upper cross-bar of limber; 7 and 8, lower cross-bar of limber; 9 and 10, the first toggle of right drag; 11 and 12 the second, and so on to 15 and 16, who man the end toggle and are designated the *right leaders.* 17 and 18 man the first toggle of the left drag; 19 and 20 the second, and so on to 23 and 24, who man the end toggle and are designated the *left leaders.* The odd-numbered men are on the right of the piece, limber, and each drag, looking toward the drag-leaders, and the even-numbered men are on the left. If the limber is fitted with one cross-bar, 1 and 2 walk abreast of the trail of piece, and 5 and 6 man the check-ropes hooked to the wheel-lugs of limber.

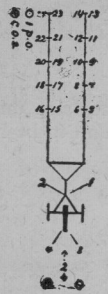


(2) *Without limber.*—Modifications: 1 and 2 man the guide-ropes; 3 and 4, check-ropes in rear of piece; 5 and 6, the first toggle of right drag; and so on, with 13 and 14 at the end toggle; 15 and 16, the first toggle of the left drag; and so on, with 23 and 24 at the end toggle.

(3) The post of the **1 p. o.** is on the left of the left leaders; that of the **2 p. o.** and **3 p. o.,** two paces in rear of 3 and 4, respectively, abreast of each other.

(4) The muster is now held, and, when concluded, the **1 p. o.** reports the result to the **c. o. s.,** who then takes command.

(5) Should it be desirable to form the section as one of infantry before the muster, the **1 p. o.** commands: FALL IN, SECTION TO THE FRONT; at which the men fall in, the odd-numbered men being in the front rank, the even-numbered men in the rear rank, 1 and 2 on the right, 23 and 24 on the left, the **2 p. o.** two paces in rear of the center of the section, the **3 p. o.** on the left of the front rank; *distance between ranks, 36 inches.*



3 *p. o.* 2 *p. o.*

Plate 5. Art. 4 (2). Drag manned. Without limber.

(6) The muster being held and reported, the **c. o. s.** commands: 1. *Man the drag,* 2. MARCH, at which the men take their stations as previously prescribed.

To Form Section to the Front.

5. The drag being manned: 1. *Section to the front,* 2. MARCH.

(1) At the first command, men drop toggles; riflemen unsling arms; all men close on the right and left leaders in *double time,* pieces at the trail; 3 and 4 step ahead of 1 and 2; and 7 and 8, 5 and 6, 3 and 4, 1 and 2, close on the right drag-leaders in this order.

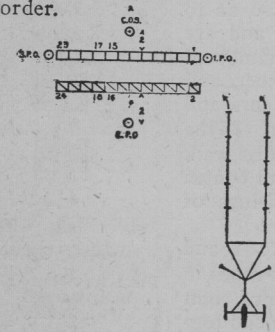


Plate 6. Art. 5 (2). Section to the front.

(2) At the second command, the left leaders change direction to the left, followed by the other numbers in regular order, and when 17 and 18 (or 15 and 16, *without limber*), change direction to the left, they are followed by the right drag-leaders, and so on to 1 and 2, who bring up the rear. The **1 p. o.** stands fast, and when 1 arrives abreast of him, the **c. o. s.** commands: 1. *Section,* 2. HALT, 3. *Right,* 4. FACE, and the **1 p. o.** takes his post in the front rank on the right of 1; the **2 p. o.** takes post two paces in rear of the center of the section, and the **3 p. o.** on the left of 23, in the front rank. The **c. o. s.** dresses the section to the right, if in a single battery; to the center, or toward the colors, if in battalion, and then takes his post, two paces in front of the center of the section.

(3) If in *section to the front,* and the command, *present arms,* is given, the men armed with the pistol stand at attention.

To Man the Drag.

6. The section being to the front: 1. *Man the drag,* 2. MARCH.

(1) At the first command, the **1 p. o.** steps two paces to the front and faces about; the section faces to the right.

(2) At the second command, 1 and 2 change direction to the right in *double time,* along the right drag, and are followed by the other numbers up to and including the right leaders; 17 and 18 (or 15 and 16, *without limber*) change direction to the right along the left drag, and are followed by the remaining numbers, all slinging arms on the march, halt at their stations, face to the front, and pick up the toggles. The **p. os.** take their posts.

To Prepare the Piece for Action.

7. The drag being manned, the piece is first swung with the muzzle pointed in the desired direction: 1. *In battery,* 2. MARCH.

(1) *With limber.*—At the first command, 1 and 2 unhook trail of piece from limber, 3 and 4 assisting; 1 calls "All clear" when trail is unhooked; 5 and 6 place rifles clear of piece, then take left ammunition boxes from piece and place them one pace to left and rear of trail, hinges to the front; 7 and 8 take the right ammunition boxes from piece and place them on limber; **1 p. o.** takes post to right and rear of trail and superintends the working of the piece; the **2 p. o.** proceeds in *double time* to a position twenty paces in rear of the piece to mark the position of the limber; the **3 p. o.** places himself upon the left of 24.

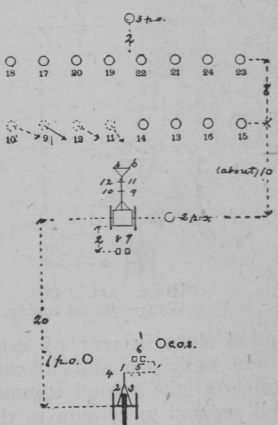


Plate 7. Art. 7 (1).
In battery—with limber.

(2) At the second command, the **3 p. o.** conducts the limber, in *double time,* when practicable, to the rear; the **2 p. o.,** when the limber is in position, commands, 1. HALT, 2. CLOSE UP, and then places himself on the right of the right leader. All drop drags except 9 and 10, who coil them down in two coils, right

and left, end toggles on top, in rear of the cross-bar and span, which 9 unhooks from limber. The *support* and *reserve,* except 9 and 10, close in *double time* upon the right and left leaders, unslinging arms. The **2 p. o.** conducts the *support,* inclining slightly to the left, then column right, halts and faces it to the right, about 10 paces in rear of the limber, dressing on 11, who covers right wheel of limber. The **3 p. o.** conducts the *reserve,* inclining slightly to the left, in *double time,* six paces to the rear of the support; then column right, halts and faces it to the right, dressing with the left of *reserve* covering the left of *support.* 7 and 8 prop up tongue of limber; then place the ammunition boxes taken from piece, hinges to front, 2 paces in front of limber, and take station behind them, kneeling, after placing rifles to one side. 9 and 10, when drags are coiled down, take station at upper bar of limber; the **2 p. o.,** two paces to the left of limber, superintends the supply of ammunition to the piece; the **3 p. o.** is two paces in rear of center of *reserve.*

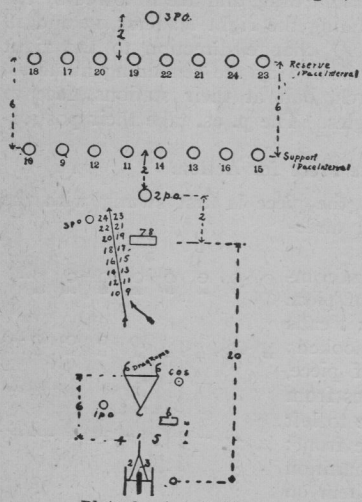


Plate 8. Art. 7 (3).
In battery—without limber.

(3) *Without limber.*—Modifications: At the first command, men drop drags, unsling arms, and close on leaders in double time; 7 and 8 close in rear of *support* and *reserve* with right ammunition boxes; 9 and 10 coil down drags six paces in rear of trail. At the second command, the **3 p. o.** conducts the *reserve* and *support* in column to the rear, inclining slightly to the left; the **2 p. o.,** when 15 and 16 have advanced four paces beyond him, commands, 1. *Support,* 2. *Column right,* 3. MARCH, 4. HALT, 5. *Right,* 6. FACE, and dresses the squad to the right, center covering piece; the **3 p. o.** conducts the *reserve* six paces to the rear of the *support,* then proceeds in the same manner, the *reserve* covering the *support;* 7 and 8 place ammunition boxes in the position established by the 2 p. o., who takes post two paces

in rear of 7 and 8; 9 and 10, when drags are coiled down, take stations on the right of the *support*.

(4) *The Gatling, with limber.*—Modifications: the ammunition boxes on carriage are left in place as a reserve in emergencies; 5 and 6 take a box from limber and place to left of trail, at the first command; 7 and 8 remain at cross-bar of limber; the **2 p. o.** uses as many of the *support* as may be necessary to fill empty cases.

(5) When the *support* and *reserve* have been faced to the front and dressed by the **2 p. o.** and **3 p. o.** respectively, the **c. o. s.** orders the deployment as skirmishers, at one pace interval, the deployment being upon 11 and 19 of the front ranks, the second man from the right in each case, and the base-file. He then gives the command for the prone position, unless it is not practicable.

(6) When **the three-inch field-piece** is prepared for action, the *crew* take their stations, facing to the front, as follows:

1 rear of trail-bar.
2 right of breech.
3 left of breech.
4 one pace to right of trail-bar.
5 in front of boxes, near piece, ready to pass ammunition.
6 kneels behind the boxes, near piece.
7 and 8 kneel behind their respective boxes in rear, ready to pass ammunition to the piece; or they may be directed by the **2 p. o.** to lie down.

(7) When the *Gatling* is prepared for action, the *crew* take their stations, facing to the front, as follows:

1 sitting on trail-seat.
2 at crank, on right of breech.
3 at feed-case, on left of breech.
4 one pace to right of trail.
5 in front of ammunition box, rear piece, ready to pass ammunition.
6 kneels behind ammunition box near piece.

NOTE.—5 and 6 *may* be utilized as sharpshooters near piece, 4 at box passing ammunition to 3 at the feed-case.

3-INCH R. F. G.

8. Special Duties in the Service of the Piece:

(1) 1 commands; takes lanyard from tool-box; inspects chamber and bore, and directs the latter to be sponged, if necessary.

2 removes pin with right hand, then opens breech and wipes out chamber with an oiled rag, if necessary; inspects

plug and lock, sees all clear of dust and dirt, then closes breech; tests elevating gear, and levels piece.

3 unhooks bucket, and places it two paces to the left of carriage in line with axle; takes down sponge, uncaps it, places sponge-head on bucket with staff to the rear; puts on the left brake.

4 takes down trail-bar and inserts it in socket on the trail; puts on the right brake.

5 in front of ammunition boxes, near piece, to pass charges to 3. Also assists 4 to adjust trail in training, and to bed the spade.

(2) If the elevating and training-wheels are on the left of gun, as in the issue of 1903, they are worked by 3.

(3) If piece is used without limber, 2 unbolts trail-wheel.

9. Smokeless powder being used in the 3-inch R. F. G., no sponging is necessary, except in the case of dust or dirt being discovered in the bore before firing. Upon the conclusion of firing, the bore should be thoroughly sponged and cleaned. To sponge the bore: 3 holds the short sponge while 4 screws on the trail-bar, then wets sponge and passes the staff through the bore to 4 at the muzzle, who draws the sponge through, 3 assisting, if necessary; the trail-bar is then unscrewed, 3 replacing the sponge on bucket, and 4 replaces trail-bar.

10. LOAD:

2 opens breech and closes it after insertion of charge.

3 receives charge from 5 or 6; places in gun; then attends elevating and training-wheels, if on left of breech.

4 adjusts trail and beds spade.

5 passes ammunition to 3; assists 4 to adjust trail and bed the spade; assists 6 to adjust fuses.

6 in charge of ammunition supply; adjusts fuses; closes lid of box after issue of ammunition.

2 hooks lanyard when passed up by 1.

11. (1) The objective and range are designated:

1 steps back to the full length of the lanyard, sees the piece trained laterally, then kneels on right knee with eye ranging over sights.

2 (or 3) adjusts sights, then elevating gear, if on right of breech.

3 at training and elevating gear, if on left of breech; then changes the position of bucket and sponge, if necessary.

4 and 5 attend at trail-bar and guide-ropes for lateral train.

6 changes the position of boxes, keeping them in position to the left and rear of piece.

3 and 4 see the brakes on.

(2) After training laterally, the spade should be bedded as deeply as practicable by 4 and 5.

12. READY:

2 steps one pace to the right.

4 steps one pace to the right.

3 and 5 step one pace to the left.

13. (1) FIRE. 1 cocks the piece and pulls the lanyard.

(2) The spade and brakes will probably hold the piece in position, but should there be any recoil, the *crew* will run the piece forward to its former position.

(3) After firing, 2 opens breech smartly, leaving the lanyard hooked and loose over the lever; 3 withdraws empty case and places it on the ground to his left, and turns to 5 for new charge which is passed up at once from box by 6.

(4) When a box is exhausted, 6 cries SHELL; 7 and 8 then bring up a full box from the rear and remove the empty box.

14. (1) CEASE FIRING. If the gun be loaded, 2 unhooks lanyard, then carefully opens the breech; 3 removes the charge and passes it to 5 or to 6 to be replaced in box.

(2) 5 and 6 collect the empty cases and place them in an *empty box,* never in a partly filled box.

GATLING.

Special Duties in the Service of the Piece.

15. 1 commands; places sight; tests breech-mechanism; sees gear and implements in place for service of the gun.

2 sees crank clear; revolves box-rest; adjusts seat.

3 sees gun clear for feed.

4 chocks wheels, if necessary, on an incline.

16. LOAD:

3 receives feed-case from 5 and places it on the piece, or in hopper.

5 passes feed-cases to 3; receives them from 6.

6 takes feed-cases from box and passes to 5.

4 stands by to relieve other numbers.

NOTE.—If 5 and 6 are employed as sharpshooters, 4 performs their duties.

17. The objective and range are designated.

1 adjusts sight; places shoulder against directing-bar.

2 loosens training and elevating-clamps.

4 and 5 tend trail for training.

18. COMMENCE FIRING:

1 points and commands.

2 turns crank; re-sets sight, if required.

3 tends feed.

5 supplies ammunition to 3.

4 relieves 5, if 5 and 6 are required to provide extra ammunition from the rear.

7 and 8 provide ammunition from limber when 6 calls "SHELL;" 9 and 10, with such numbers of the support as may be necessary, refill empty cases, under supervision of the 2 p. o.

19. CEASE FIRING. 2 secures crank, and places firing-pin out of action. If the command, *load,* be not given, 3 removes feed case; 2 throws back saddle, turns crank backward, and withdraws cartridges.

COLT-AUTOMATIC GUN ON FIELD-CARRIAGE.

20. This piece may be landed and worked by a *crew* of 4 men, whose duties in action would be similar to those laid down for the first four numbers at the Gatling in the absence of 5 and 6, 4 performing the duties of both numbers. If the piece is to be landed for distant duty, either the *crew* of 8 men or the *crew* and *support* of 16 men, according to circumstances, may be sent, manning a single drag hooked to the piece, each man transporting, in a bag or case supplied for the purpose, a reserve supply of ammunition. The rifles carried by the *support* and four members of the *crew* would be valuable in case of jams or accidents to the piece.

THE 3-INCH, 50-CAL. R. F. G.

21. This piece will be supplied to the larger vessels, and will have a field-carriage and limber to be used in shore operations, for fire of position principally. Horses will be used in transportation, if obtainable. In extreme cases, the gun, carriage, and limber may be moved short distances on good ground by the regular artillery sections—detailing a section to the gun and another to the limber—with additional infantry sections, if necessary, manning drag-ropes fitted with the requisite number of toggles. On the march, the limber follows the piece, coming into action in rear of it, and under cover, if practicable. The piece and limber are handled by their respective sections as prescribed for the

3-inch R. F. G. *without limber,* making the necessary modifications entailed by the increased sizes and weights. Going into action, each section similarly forms "in battery," one in rear of piece, the other in rear of limber; but to lessen the depth of formation, the *support* and *reserve* of limber may form in its rear at ten paces, the *reserve* following the *support* at column right, instead of passing beyond it. Then the *support* and *reserve* are deployed as two infantry squads and lie down. With horses, it will be practicable to handle both piece and limber with one artillery section; the *crew* and *support* at the piece, and the *reserve* at the limber. For this work, men should be selected who understand the care and management of horses.

CASUALTIES.

22. Leading numbers performing important specific duties will not "move up" generally, in case of casualties. One vacancy should require but one change of duties. 1 should be the best marksman at the piece, and 4 the second best. 4 will replace 1, or any other number of the *crew.* Further vacancies will be filled first by 13 and 14, then by 15 and 16 of the *support.* These numbers should be especially drilled to replace any numbers at the piece. 9, 10, 11, and 12 directly handle the limber *in battery;* 11 and 12 replace 9 and 10 with the drags; any of these four numbers may be replaced by men detailed from the *reserve.* If vacancies occur while on the march, the men on the drags will be equalized as far as practicable; the men taking up their new duties as above, when the piece is placed *in battery.*

To Secure the Piece.

23. Being in battery: SECURE.

(1) Each number returns or secures the articles which he removed or cast loose; 9 and 10 place drag-ropes on top of ammunition boxes. The **2 p. o.** assembles the *support,* and proceeds with it to the front, to a position six paces in rear of the trail, its center being opposite the trail; the **3 p. o.,** obliquing to the left, places the *reserve* on the left of the *support;* the *crew* fall in on the right of the *support,* facing to the front; the **p. os.** take their posts as in *section to the front.*

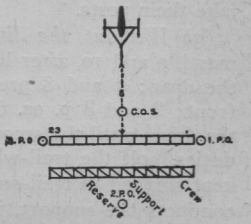


Plate 9. Art. 23.
Secure.

(2) The *secure* is used when the pieces are to be left in position on the field, the section falling out. It is then the assembly formation for muster. The pieces are manned, *in battery,* at the command: 1. *Stations,* 2. MARCH. Or, they may be prepared for the road by the command, 1. *Man the drag,* 2. MARCH. In either case, commands are executed in *double time.*

To Man the Drag.

24. Being in battery: 1. *Man the drag,* 2. MARCH.

(1) *With the limber.*—At the first command, the *support* and *reserve* rise, sling arms, and assemble; 9 and 10 hook on the span and lead out the drags, then man lower cross-bar of limber and secure prop; 7 and 8 place the ammunition boxes on limber, then keep them in place while they man the wheel-drags; 2 and **3 p. os.** face *support* and *reserve* to the right and conduct them in *double time* along drags; the men halt at their stations and man toggles, facing toward limber. At the piece, 1 lowers sight, replaces lanyard in tool-box, and secures trail-wheel for hooking on; 2 puts in lever-pin, if used, and secures trail-wheel for hooking on; 3 secures bucket and sponge and takes off left brake; 4 secures trail-bar and takes off right brake; 5 and 6 place left ammunition boxes on piece.

(2) At the second command, 7 and 8, 9 and 10, assisted if necessary by 11 and 12, move the limber by hand to the piece; or, over difficult ground, the limber may be turned right about, moved to the piece, and then may be backed into position for hooking on; 3 and 4 lift trail; 1 and 2 hook on; 7 and 8 place right boxes, from the limber, on the piece; 5, 6, 7, 8 take stations on the cross-bars of limber; 9, 10, 11, 12 man the right drag; **p. os.** take their posts.

(3) *Without the limber.*—Modifications: At the first command, 9 and 10, after leading out the drags, take their stations at the drag; 7 and 8 prepare ammunition boxes for going to the front; 2 and **3 p. os.** do not conduct the *support* and *reserve* to the drags until the second command; 1 and 2, after finishing other duties, bolt the trail-wheel; 4 secures trail-bar, if it is not to be kept shipped in trail-socket. At the second command, the **2 p. o.** conducts the support, in *double time,* column left, to its station at the drag; the **3 p. o.** follows with the reserve, in a similat manner; 7 and 8 carry ammunition boxes to the front and place them on the piece; the crew take their stations for manning the drags and guide-ropes, and the **p. os.** take their posts.

(4) *The Gatling with limber.*—Modifications: 7 and 8 are at the cross-bar of limber and assist to move it to the front; 1 and 2 secure the piece; 3 returns cartridges to ammunition box; 5 and 6 replace ammunition box on limber when it arrives from the rear; the crew take their stations for manning the drag; the **p. os.** take their posts.

25. Note for the use of the *3-inch R. F. G., without the limber.*—When marching over rough roads or maneuvering in rough country, the trail-bar should be kept in its socket, 1 or 2 lifting the trail to clear the wheel from the ground in all changes of direction. The trail-wheel may be easily bent or broken by the dragmen pulling laterally on the trail when the wheel is not clear of the ground, the trail being too high to permit its being readily lifted by means of the guide-ropes. Under no circumstances shall 3 and 4 bear down on the muzzle to assist in turning the piece.

NOTE.—When going in battery, and when manning drags, 5, 6, 7, 8 place rifles aside and resume them again, as is most convenient. In the discretion of the **c. o. s.**, these men may be permitted to becket their rifles to the limber.

To Fire to the Rear, Right, or Left.

26. Being in battery: 1. *Action rear* (*right* or *left*), 2. MARCH.

(1) *With limber.*—At the first command, 1, 2, 3, and 4 prepare to turn the piece in the new direction—if to the rear, to the right-about; 5 and 6 prepare to transport left ammunition box or boxes, and assist at piece; 7 and 8 place right ammunition boxes on limber; 9 and 10 place cross-bar and drags on limber; 7 and 8 man wheel-drags and steady ammunition boxes in place; 9, 10, 11, 12 man the cross-bars; **2** and **3 p. os.** assemble *support* and *reserve*, pieces at a trail.

(2) At the second command, the piece is turned in the designated direction by the *crew;* 3 moves the bucket and sponge; 5 and 6 the ammunition boxes. The men should not pass in front of muzzle. 7, 8, 9, 10, 11, and 12 move the limber to the new rear, in *double time*, if practicable; the remainder of the *support* follows the limber, and the **3 p. o.** conducts the *reserve* to its new position. *Support* and *reserve* are then deployed and disposed as before by the **2** and **3 p. os.**

(3) If the ground is difficult, and the distance that the piece is to be moved considerable (as with pieces on the flank of a battery or battalion changing front), at the first command 7 and 8 place right ammunition boxes on limber and man wheel-drags as be-

fore; 9 hooks the right drag to the limber, and the *support* man it; 10 secures the cross-bar on the limber and hooks the left drag to the trail of piece; 1 and 2 bolt trail-wheel; 5 and 6 place the left ammunition box or boxes on the piece; 3 picks up bucket and sponge; the *reserve,* brought up at once by the **3 p. o.,** and the *crew* man the left drag. At the second command, the change of front is executed in *double time;* the piece is placed *in battery,* and the *support* and *reserve* are deployed and disposed as before by the **2** and **3 p. os.**

(4) *Without limber.*—Modifications: At the first command, **7** and 8 prepare to move right ammunition boxes; 9 and 10 pick up drags and cross-bar. Over difficult ground, or under the conditions enumerated in (3), 5, 6, 7, 8 place the left and right ammunition boxes on the piece; then assist upon the guide-ropes and wheel or rear drags in turning the piece and transporting it; or, 10 hooks the left drag to trail of piece; 9 carries right drag and cross-bar; the *support* mans the left drag. At the second command, the change of front is executed.

NOTE.—If the ground is especially difficult, 7 and 8 may more conveniently carry the right ammunition boxes; or they may be placed in position on the piece.

To March to the Front.

27. The drag being manned: 1. *Forward,* 2. MARCH.

At the second command, all step off to the front; the **1 p. o.** on the left of the leaders, guides the march; 3 and 4 on the wheel or rear-drags check the piece when necessary.

To March to the Rear.

28. The drag being manned: 1. *Right* (or *Left*) *about,* 2. MARCH.

(1) *With limber.*—At the second command, the leaders, followed by the other numbers, turn to the right (or left) in *double time,* gaining ground so that the piece turns in a circle of 3 yards radius, so as not to jam the wheel of limber against the trail of piece. When the change of direction is 180 degrees, the leaders move forward again in quick time if they were moving in quick time before the turn.

(2) *Without limber.*—Modifications: The leaders, followed by dragmen, turn sharply to the right (or left) in *double time,* until they change direction 180 degrees, when they move forward in *quick time;* 1 and 2 raise the trail clear of the ground by the

guide-ropes and trail-bar, and assist in turning the piece sharply to the right (or left).

To Move the Piece a Short Distance to the Rear.

29. The drag being manned: 1. *Rear by hand,* 2. MARCH.

At the second command, all the men face to the rear; those at the piece and limber pushing and hauling them backward until the command, *halt,* is given, when all face to the front. If necessary, men from drags may be detailed to assist on wheel-drags of piece and limber.

30. Being in battery: 1. *Front* (or *Rear*) *by hand,* 2. MARCH.

At the second command, the *crew* move the piece, and 9, 10, 11, 12 the limber as directed until the command, *halt,* is given; 5, 6, 7, 8 move the ammunition boxes to new position. On difficult ground, the right drag and *support* may be used upon the limber, and the left drag, manned by the *crew* and the *reserve,* upon the piece. The 2 and 3 **p. os.** conduct the *support* and *reserve* to their new positions.

To Halt.

31. Being in march: 1. *Section,* 2. HALT.

At the first command, the section halts, 1, 2, 3, 4, at the wheel-drags of limber and rear-drags of piece, holding back as may be necessary. Drag leaders stretch taut the drags.

The Rests.

32. Being at a halt, to rest the men: FALL OUT, or REST, or AT EASE.

The same instructions are followed as are given in the Drill Regulations for Infantry.

To Change Direction.

33. The drag being manned, marching or at a halt: 1. *Right* (or *Left*) *turn* (or *half turn*), 2. MARCH.

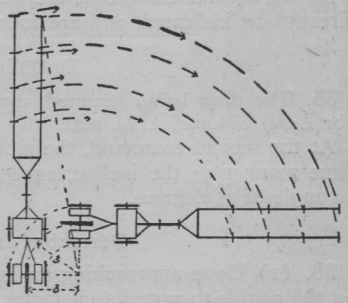


Plate 10. Art. 33 (1).
Change of direction, with limber.

(1) *With limber.*—At the second command, the leaders turn to the right (or left), in *double time,* gaining ground so that the piece turns in a circle of 3 yards radius; the other men so regu-

late their step as to complete the movement in the same time as the leaders.

(2) If the command, *halt,* is not given upon the completion of the turn, the men take up the march in the new direction in *quick time,* if they were moving in quick time before the turn.

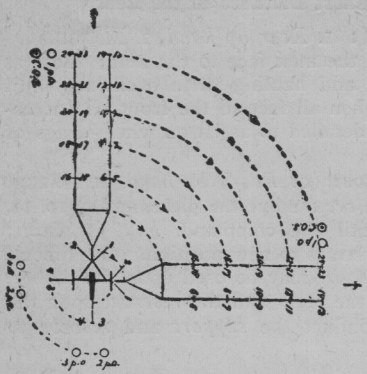


Plate 11. Art. 33 (3).
Change of direction, 90 degrees, without limber.

(3) *Without limber.*— Modifications: The leaders turn sharply to the right (or left) in *double time,* keeping the drags taut; other numbers so regulate their step as to complete the movement with the leaders; 1 and 2 raise the trail until the trail-wheel is well clear of the ground; 3 and 4 haul the rear-drags sharply to the left (or right).

To Make a Slight Change of Direction.

34. Being in march: 1. *Incline to the right* (or *left*), 2. MARCH.

At the second command, the guide and leaders take the new direction as indicated, and are followed by the other numbers.

To Oblique.

35. The drag being manned, marching or at a halt: 1. *Right* (or *Left*) *oblique,* 2. MARCH.

At the second command, the movement will be executed in the same manner as the incline, except that the new direction is at an angle of 45 degrees.

Descent of Inclines.

36. (1) Upon approaching an incline, the **1 p. o.** goes forward *on the double* to note its character.

(2) *Moderate incline.* 1. HALT, 2. REVERSE DRAGS. At the second command, 9 steps to the rear of cross-bar and unhooks it from limber; the leaders followed by the other numbers on the drags, double back to the right; 9 hooks the cross-bar to the drag-hook or eye on axle of piece; 3 and 4 shift rear-drags to the wheel-lugs

of piece. At the command, WALK BACK, 5, 6, 7, 8 guide the limber; 1, 2, 3, 4 assist on wheel-drags; men on the drags take the weight of piece and limber. On arriving at the bottom: 1. HALT, 2. REVERSE DRAGS; the cross-bar is again hooked to the tongue of limber; numbers resume original stations.

(3) *With a less incline,* it may only be necessary for 3 and 4 to put on brakes without reversing drags. With a greater incline, the drags may be reversed as in (2), and the brakes may also be used.

(4) *A very steep incline.* Unlimber; reverse the drags on the limber, then the piece, sending each down separately. Where the declivity is rough and the trail-wheel apt to catch, hook the drags to the trail of piece and walk back.

(5) *If the declivity is especially difficult,* unlimber, hook the left drag to the right, and the right drag to the tongue of limber; then to the trail of piece, sending limber and piece down separately, all numbers manning the long single drag and walking back. Or, dismount limber and piece; lower all parts by the drags and remount at the bottom. In all doubtful cases, remove the ammunition boxes and pass them down separately.

Disabled Wheel.

37. If a wheel be broken: SHIFT RIGHT (OR LEFT) WHEEL.

(1) 1, 2, 3, 4 raise the axle of piece; 5 and 6 remove wheel, and if fit for further use, carry to the rear and place on limber; 9, 10, 11, 12 raise axle of limber; 7 and 8 remove wheel, carry it to the front and place in position on the piece.

(2) A wheel, over rough ground, is most easily transported by two men, taking hold by opposite spokes near tire. When the ground is smooth, it may sometimes be rolled.

(3) The wheel of *Gatling,* or *Gatling limber,* may be handled easily by one man; 5 or 6 at the piece, 7 or 8 at the limber.

To Dismount the Piece.

38. The drag being manned at a halt, or being in battery: 1. *Prepare to dismount,* 2. DISMOUNT.

(1) *3-inch R. F. G., 1897—If in battery.*—At the first command the **3 p. o.** conducts the *reserve,* in double time, to the piece, and rifles are placed on the ground well clear of the carriage. The **1 p. o.** is in charge of dismounting gun; 1 removes sight and places it in tool-box; 2 elevates breech, passes dismounting strap around gun just in rear of recoil-cylinder; 3, 4, throw back cap-squares;

3 places dismounting-mat; 4 passes trail-bar through bight of strap, and twists bar until strap is tight; 5, 6, prepare wheels for coming off; 1, 2, 3, 4, 21, 22, 23, 24, man the trail-bar and gun; **3 p. o.** in charge of dismounting carriage; 17, 18, 19, 20, at the trail ready to lift. At the limber, **2 p. o.** in charge; 9, 10 in front of axle; 11, 12 in rear; 7, 8 prepare wheels for coming off.

(2) At the second command, 17, 18, 19, 20 raise trail of carriage until muzzle takes the ground; 1, 2, 3, 4, 21, 22, 23, 24 raise the gun until vertical on its muzzle, then lower carefully to the ground, breech to the rear; trunnions horizontal, sight-mass up; when gun is clear, 17, 18, 19, 20 lower trail, and these numbers, with 5, 6, run carriage three paces to the rear; then 17, 18 in front, 19, 20 in rear of axle, raise carriage; 5, 6 remove wheels, lowering them with inner sides up; 17, 18, 19, 20 lower carriage, axle resting on wheels. At the limber, 9, 10, 11, 12 raise limber; 7, 8 remove wheels, lowering them with inner sides up; 9, 19, 11, 12 lower limber, axle on wheels. At piece and limber, men lie down at stations.

(3) *Drag manned.*—Modifications: At the first command, the piece is unlimbered, and the limber moved three yards to the front; 5, 6, 7, 8 remove ammunition boxes from piece; those stationed in (1) to dismount piece, carriage, and limber, place rifles to one side and take stations; remaining numbers of *support* (and of *reserve* for Gatling) form in one rank in line with leaders, facing the limber, pieces at an order. These numbers are to be used as occasion requires and the **c. o. s.** directs.

(4) *3-inch R. F. G., 1903.*—Modification: At the first command, 1 removes sight; 2 elevates the breech until muzzle takes dismounting-mat; 1 and 2 disconnect training and elevating gear; 3, 4 cover up nuts on axle bearing for piece; 1 and 2, or 3 and 4, according to which finishes assigned work first, passes dismounting strap and adjusts it and trail-bar for dismounting. In dismounting, at the second command, it is not necessary to raise the carriage-trail. In lowering the piece, slue it, so the piece will rest with breech to the rear, on its side. Otherwise, the axle-bearing will take the ground first and may be injured. It is well to have a small square of canvas, carried in the tool-box, to protect this part in dismounting and transportation.

(5) For dismounting, a small mat should be used, to be placed under the muzzle. The mat prevents slipping, also prevents the muzzle from penetrating soft earth or from being injured on hard ground. The mat and strap will be carried in the tool-box.

(6) Care should be taken not to raise the trail higher than is necessary to rest the muzzle on the ground; otherwise, the wheels will be lifted off the ground, causing the weight of the carriage and piece to be concentrated on the muzzle. Proceed carefully to clear the trunnions from their seats. The piece should not be lowered until it is perpendicular, and the six men stationed on the trail-bar are ready to lower together; otherwise, the gun may fall during the last two or three feet of lowering, causing it to slue and injure the breech-lever. Too much haste in competitive drills may result in striking the lever against the carriage before it has been run back clear of the piece, rendering serious damage probable.

To Dismount the Gatling.

39. (1) *If in battery.*—At the first command, 17, 18, 19, 20 proceed in double time to the piece, place rifles well clear of carriage, then take stations at trail; 1 removes sight; 2 disconnects elevating gear; 3, 4 raise cap-squares; 5, 6 prepare to remove wheels. At the limber, 9, 10 in front of axle, 11, 12 in rear; 7, 8 prepare to remove wheels.

(2) At the second command, 1, 2, 3, 4 raise gun clear of carriage and lower to ground; 17, 18, 19, 20 run carriage three yards to the rear; then 17, 18 in front of axle; 19, 20 in rear, raise carriage while 5, 6 take off wheels and lower them, inner sides up; 17, 18, 19, 20 lower carriage, axle resting on wheels. At the limber, 9, 10, 11, 12 raise axle; 7, 8 remove wheels and lower them, inner sides up; 9, 10, 11, 12 lower limber, axle resting on wheels. All lie down at stations.

(3) *If the drag is manned,* unlimber first and move limber three yards to the front. The procedure is then the same as in Par. (1) and Par. (2). Numbers of the *support* and *reserve* not stationed, form in one rank, in one squad, in line with the leaders, facing the limber.

40. On the march, the piece may be dismounted in order to pass an obstacle or narrow defile. The gun may be lashed to a boat-spar, or a suitable piece of timber may be cut for the purpose, using the wheel or rear-drags for lashings. 1, 2, 3, 4, 23, 24 carry the gun; 17, 18, 19, 20, 21, 22, the carriage and ammunition boxes; 5, 6 the wheels; 9, 10, 11, 12, 13, 14, 15, 16 the limber and ammunition boxes; 7, 8, the wheels. 9, 10 becket the drags and cross-bar on limber.

To Disable the Piece.

41. (1) Detach and carry off the lock from the breech-plug of the 3-inch R. F. G., or bend the barrels of Gatlings; break one or both wheels.

(2) To disable the piece temporarily, the **c. o. s.** commands: DISPERSE; the men disperse, carrying off all movable parts, including wheels and ammunition boxes. The command to disperse is usually given after dismounting.

To Assemble.

42. The section being dispersed: ASSEMBLE.

The men return to the piece with the articles they carried off, replace them, and take position according as the piece was *mounted* or *dismounted*.

To Mount the Piece.

43. The piece being dismounted: 1. *Prepare to mount,* 2. MOUNT.

(1) At the first command, all the men rise; numbers stationed at the piece, get it upright on muzzle, except Gatling, which is lifted horizontally; numbers stationed at limber and carriage raise them and put on wheels.

(2) At the second command, the carriage is run up, the gun mounted, ammunition boxes returned to place, and the original formation resumed.

44. (1) In mounting the 3-inch R. F. G., 1897, when the gun has been raised on its muzzle, slue the gun so that the elevating-arc is square to the rear and toward the carriage. The gun, when lowered to the ground in dismounting, will always slue a little, because the arc projects considerably and takes the ground first. The carriage must be run up squarely, and the trail lifted to the same height as in dismounting, then lower the gun slowly, moving the carriage slightly forward or back or laterally, as may be necessary. It is useless to attempt to mount unless the gun and carriage are faced squarely to each other, as the clearance between the recoil cylinder and the carriage is not over ⅛ inch, so that any forcing of the gun into place may result in marring either the elevating-worm or arc.

(2) The 3-inch R. F. G., 1903, may be mounted without raising the carriage-trail, although this may be done to facilitate the work. The carriage should be run up squarely from the rear,

and great care must be exercised not to bruise the axle-bearing. No *forcing* must be done.

To Dismiss the Section.

45. The piece being parked or housed, the section is formed *to the front;* the **c. o. s.** inspects the piece and section, and then directs the **1 p. o.** to dismiss.

SERVICE OF THE PIECE IN BOATS.

3-INCH R. F. G.

46. (1) If the piece is to be used on a boat-mount, and then transported to the beach for service on shore, it is dismounted on board ship, lowered into the boat and placed upon the boat-mount by the *crews,* assisted by such members of the section as the means at hand render necessary. The carriage and limber are then dismounted and stowed aft in the boat, or the limber may go in a second boat, as is most convenient for handling the oars and for the service of the piece. If a large sailing launch is used, it may be practicable to place carriage and limber therein without dismounting them, using modifications of the methods which follow to get all ashore.

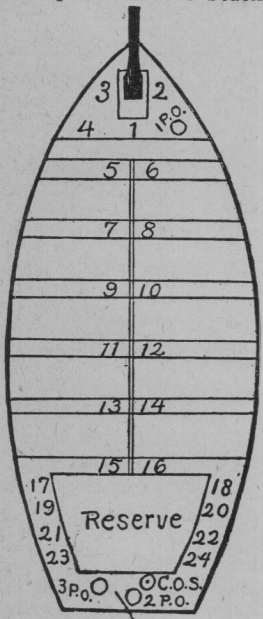


Plate 12. Art. 46 (2). Service of the piece in boats.

(2) The oars are manned by the *support* as follows: 15 the port stroke oar, 16 the starboard stroke oar, and so on from aft, the forward oars being manned by the higher numbers of the *crew* as necessary.

(3) The **1 p. o.** takes his station forward, and has charge of the service of the piece.

(4) The **2 p. o.** acts as coxswain.

(5) The **3 p. o.** with the *reserve,* if present for landing, act as riflemen in the stern sheets. Or, with heavy boats, the *reserve* may be used to double bank the thwarts.

47. Special duties at the command: MAN THE PIECE.

5 and 6, 7 and 8, if at the oars, trail oars; 1, in rear of the gun, superintends; prepares sight for use; receives lanyard from tool-box; 2, right of breech, opens breech; inspects bore, chamber and mechanism; closes breech; tests elevating-gear; tends training-clamps, if on the right of mount. 3, left of breech, sees sponge and bucket at hand; tends training and

elevating-gear if on left of mount; 5 and 6, ammunition passers.

6 at ammunition boxes, to pass ammunition to 4 and 5; sees that box-lid works freely. The ammunition boxes will be placed where best adapted to the ready service of the gun.

48. LOAD:

2 opens breech, and closes it after the insertion of charge; hooks lanyard for the first fire.

3 inserts charge after breech is opened by 2.

4 and 5, alternately, pass charges to 3.

6 takes charge from box, cuts the fuse, and passes to 4 or 5, and when box near gun is nearly empty, cries: SHELL.

7 and 8 then bring forward a full box from the stern sheets, and remove empty box.

49. The objective and range are designated.

2 tends elevating-gear, and assists in training by pushing breech to port.

3 tends training-clamp, and assists in training by pushing breech to starboard.

The helm is used if necessary.

50. READY.—1 gives the command: 2 (or 3) sets up the training clamp.

51. FIRE.—1 gives the command, and fires, when sights are on the target.

52. CEASE FIRING:

2 unhooks lanyard; opens breech carefully.

3 withdraws charge and passes it to 4 or 5.

4 or 5 passes charge to 6, who replaces it in box.

If necessary, the gun should be sponged from the breech.

THE GATLING AND COLT-AUTOMATIC GUNS.

53. These guns, if on boat-mounts until the beach is reached, then to be landed as part of landing-force, will be worked as directed in the shore drills, the *crews, support,* and *reserve,* if used, taking boat stations as in Art. 47.

DRILL OF 1-PDR. R. F. GUN (AS MOUNTED IN A BOAT).

54. (1) The crew of a 1-pdr. R. F. gun, mounted in a boat, will consist of five men, and will have the same titles and stations as the crews of 1-pdr. R. F. guns on board ship.

(2) The pointers should be selected from the pointers of

regular secondary guns. The other members of the gun's crew need not be members of regular secondary guns on board ship.

(3) When the boat is called away, the first and second pointers and the plugman will provide the gun and saddle; the loader provides the boat cage-mount.

(4) The method of providing the gun and mount, and mounting the same in the boat, must necessarily be left to the direction of the officer in charge of boat, and will be different in different ships. If possible, other men should be detailed to assist the gun's crew in mounting the gun in the boat.

(5) Plugman also provides and examines reserve box, containing accessories; bristle bore-sponge handle (bristle bore-sponge is in the reserve box).

(6) Loader provides bucket containing fresh water; one hand-swab, one gun-swab, wet; and ammunition.

(7) Shellman provides ammunition.

(8) The amount of ammunition to be provided will be regulated by the commanding officer, and will depend upon the requirements at the time. In the absence of orders one box will be supplied.

Commands (For Working Gun in Boat).

(9) CAST LOOSE AND PROVIDE; LOAD; (designating object and range); COMMENCE FIRING; CEASE FIRING; UNLOAD; SECURE.

Cast Loose and Provide!

(10) *First pointer* removes gun-cover (if on); sees tompion out, tests breech-mechanism; sees gun in working order; and examines bore. When ready takes station at shoulder-piece, after reporting to boat officer.

(11) *Second pointer* removes sight-cover; places sight; and sees all in working order.

(12) *Plugman* sees in place the reserve-box; bristle bore-sponge and handle; takes station at breech, operating lever.

(13) *Loader* places bucket containing fresh water and hand-swab to rear and clear of the gun; places gun-swab under the breech of the gun; takes station on left of gun at the breech.

(14) *Shellman* places box of ammunition in rear of gun and takes station at the ammunition.

(15) The duties of the crew at the commands for the service of the piece are the same as at the 1-pdr. R. F. guns mounted on board ship.

TO DISEMBARK.

3-inch R. F. G.

55. (1) If there is much surf, or the landing has been found, by previous reconnaissance, to be difficult, the following method may be employed. More time is consumed, but the landing of gun and mount in condition for immediate service is better assured than with the method of Art. 58.

(2) A suitable spar, about twelve feet long, must be provided for transporting the gun from the boat to the shore. Two grommets are fitted to the spar with which to toggle it to the gun, one forward of the recoil-cylinder, the other abaft. The grommets should be firmly fixed in position on the spar in order to prevent any longitudinal motion. In securing the spar to the gun, the toggles must be twisted tight. If the surf be heavy, or the landing especially difficult, extra lashings should be passed around spar and gun.

(3) In the event of a regular transporting-spar not being provided, a boat's mast may be used in its place, and the gun lashed to the mast by means of the halliards or sheets, or other gear at hand.

56. On reaching the shore; LAND THE PIECE.

(1) 1, 2, 3, 4 secure the transporting-spar to the gun.
1 removes the sight and places it in tool-box.
2 sees that the lever-pin is in.
3 and 4 unkey the cap-squares.

(2) The *reserve* will deposit their rifles in the stern sheets, then pass forward, jump over the bows, and man the forward end of the transporting-spar. 1, 2, 3, 4, 11, 12 in the boat, man the after end of spar, 3 and 4 raise the cap-squares. All the men on the spar lift the gun clear of mount, passing it forward carefully over the bow, then the inner end of spar is rested on the gunwale, attended by 7 and 8, while 1, 2, 3, 4, 11, 12 jump overboard, and again man the rear end of spar, carrying the gun to the beach. 5, 6, 7, 8 carry the wheels on shore. 13, 14, 15, 16 raise the carriage from the stern sheets, and get it over the gunwale in the most convenient manner, then carry it to the position of the gun, where the carriage is assembled and the gun mounted. 5, 6, 7, 8, 13, 14, 15, 16 return to the boat for ammunition boxes, and drag-ropes, and the *support* and *reserve* return for their rifles, sling arms, and the drag-ropes are manned, or the piece placed *in battery* according to circumstances.

(3) If there should be much surf, or a lateral current, an anchor should be gotten out astern immediately on striking the beach, in order to hold the boat "bows on" to the shore.

(4) If the gun is to be landed, with no intention of using it in the boat, it will be found more convenient to secure the transporting-spar to the gun on board ship, and whip both together into the boat, securing the gun amidships, fore and aft, between the oarsmen, spar on top; the carriage, wheels, and boxes being stowed in the stern sheets.

57. When the limber is used with either 3-inch R. F. G. or the Gatling, it may be stowed in the boat and handled like the carriage. In landing, the carriage follows the gun out of the boat; then the *support* and *reserve* return for the limber and ammunition boxes. Gun, carriage, and limber may be transported to shore in a sailing launch, towed by a steamer; the gun amidships, fore and aft, carriage and limber dismounted and stowed aft, while the men of the section man thwarts amidships. If the gun is to be mounted in a cutter, *crew* and *support* manning the oars, it will be well to transport limber in a second boat with the *reserve*.

58. (1) If the sea is smooth, the landing easy and protected, and it is necessary to get the pieces quickly on shore and into action, the following method is preferable. Provide four planks ten feet long, about one foot wide and two inches thick, fitted with two-inch ledges or combings on either side. Two of these may be placed fore and aft in the boat, the width of the tread of piece, with the forward ends blocked up in the bows to the height of the gunwale; or, the planks may be blocked up when the shore is reached. Land the gun and carriage intact, except ammunition boxes, muzzle forward, at the after ends of the tracks or skids, and secure in place. The limber may be placed abaft of the gun, or transported in another boat. Boats transporting guns will usually be towed nearly to the beach. Beach the boat, bows on; place the second two planks as continuations of those in the boat to the shore, securing the inner ends by lashings to the rowlock pins, if a launch; or to the thwarts, if a cutter. Get the gun along the skids and over the bows muzzle first, then ease out with one drag, hooked to the trail. A short plank, or spar, placed across the skids, first inboard, then across those leading ashore, just forward of the trail-wheel, and held in place by a man on either side, will take the weight of the trail and slide down, following the gun.

(2) If the boat is narrow, and the stem would take the axle and prevent the gun going over the bows easily, or there would be difficulty in securing the shore skids to the gunwale forward; land the gun, muzzle aft, limber forward of it; place the boat skids with after ends blocked up to the height of the stern sheets; back the boat in, holding or anchoring the boat, stern on to the beach; place the shore skids over the stern, and proceed as before, getting the gun ashore.

(3) A modification of this method may be used with the boat well listed broadside on to the beach, the gun and carriage being skidded bodily ashore upon the planks provided.

59. Under most weather conditions, the *9-pdr. R. F. G.* and *limber,* or *the Gatling and limber* may be gotten ashore as described in **58,** (1), (2) or (3). The 9-pdr. R. F. G. may be landed in the stern sheets of a large cutter.

60. The usual ship methods of handling heavy weights in boats must be employed in transporting the *3-inch, 50-cal. gun, carriage,* and *limber* ashore, rigging a derrick of coaling booms, lower booms, or other available timber, if necessary. None of the present ship's boats are large enough to carry them intact; so they must be dismounted on board, the parts stowed in the boat, or boats, and gotten ashore, there assembled, using a modification of the methods of Arts. **55, 56, 57,** and **58.** If flat-boats, scows, or floats are available, the gun and carriage, and limber, may be landed intact and then skidded ashore as in Art. **58,** using heavier skids than are there suggested.

SCHOOL OF THE BATTERY.

General Rules.

61. (1) A battery consists, normally, of two platoons of two sections each; but a particular service may make it advisable to have three, five or six sections in a battery.

(2) The guide of a battery, or a platoon, in column, is the guide of the section on its right or left.

(3) In maneuvering the battery, officers, whose posts are changed, move by the shortest line to their new posts.

(4) The normal interval between sections in all formations is equal to the length of the double drag-ropes, the piece, and the short drag, plus four paces.

(5) In all changes of direction, when in line or in column of platoons, intervals are preserved from the pivot.

(6) In successive formations, the subdivisions are moved by command of their respective chiefs, and in forming line from column, successively, the subdivisions will be aligned toward the *pivot* or *point of rest,* immediately upon arriving on the line.

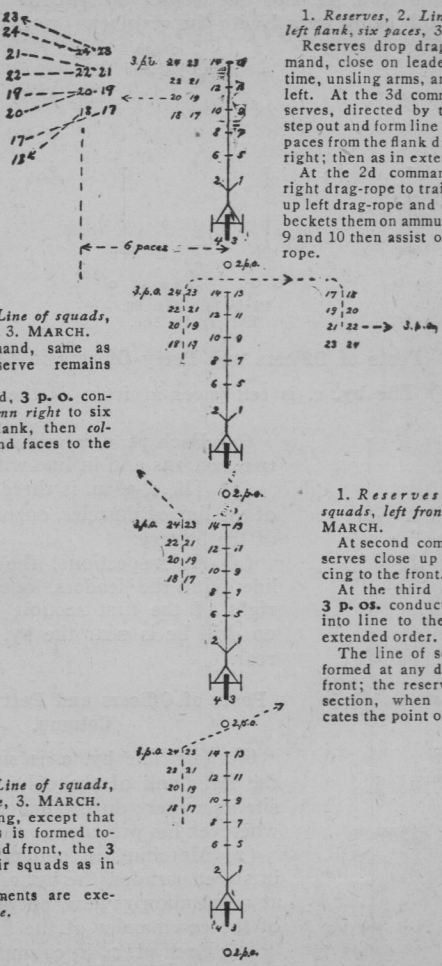
(7) In whatever direction the battery may be facing, the sections and platoons are designated numerically from right to left in line, and from head to rear in column. The first and second sections form the first platoon, the third and fourth sections the second platoon.

(8) When the *reserve* of each section is called away for infantry duty, the chief of the second section, second platoon, will command the consolidated *reserve;* and when the *support* is called away, the chief of the second section, first platoon, will command the consolidated *support.* The *reserve* will habitually be called away before the *support.*

(9) The *support* and *reserve,* being both called away for duty at a considerable distance from the battery to protect either flank, or the rear, the chief of the second platoon will command the consolidated squads.

(10) The *reserve* on the march, and the *support* and *reserve* when *in battery,* will be prepared to be called away at any time, in any direction, and to perform all the movements required of the *squad in extended order.*

(11) The signals with the sword, arm, or whistle, as specified in the Drill Regulations for Infantry, may be used for the artillery as far as applicable.



1. *Reserves*, 2. *Line of squads, right flank*, 6 *paces*, 3. MARCH.

At second command, same as above except reserve remains faced to front.

At third command, **3 p. o.** conducts reserve, *column right* to six paces from right flank, then *column right* again, and faces to the left.

1. *Reserves*, 2. *Line of squads, left flank, six paces*, 3. MARCH.

Reserves drop drags at 2d command, close on leaders in double time, unsling arms, and face to the left. At the 3d command the reserves, directed by the **3 p. os.**, step out and form line of squads six paces from the flank dressing to the right; then as in extended order.

At the 2d command, 9 hooks right drag-rope to trail; 10 gathers up left drag-rope and cross-bar and beckets them on ammunition boxes. 9 and 10 then assist on right drag-rope.

1. *Reserves*, 2. *Line of squads, right front into line*, 3. MARCH.

Same as preceding, except that the line of squads is formed toward the right and front, the **3 p. os.** leading their squads as in extended order.

All these movements are executed in *double time*.

1. *Reserves*. 2. *Line of squads, left front into line*, 3. MARCH.

At second command, the reserves close up as before, facing to the front.

At the third command, the **3 p. os.** conduct their squads into line to the front, as in extended order.

The line of squads can be formed at any distance to the front; the reserve of the first section, when halted, indicates the point of rest.

Plate 13. Art. 61 (10).
Reserves to the front, or flank, in line of squads.

(12) One **c. g. m.** and one bugler will be detailed for each battery, both being armed with the revolver.

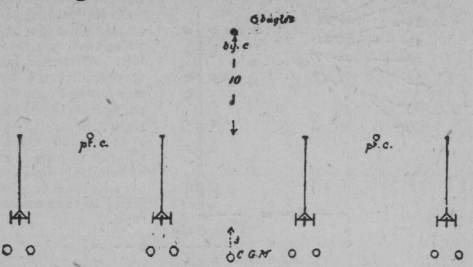


Plate 14. Art. 62.
Battery in line.

Posts of Officers and Petty-Officers in Line.

62. (1) The **by. c.** is ten paces in front of the center of the battery.

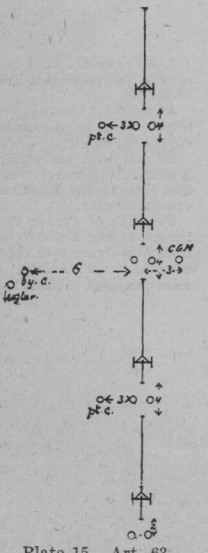


Plate 15. Art. 63.
Battery in column of sections.

(2) Each **pt. c.** is midway between his two sections and in line with the leaders.

(3) The **c. g. m.** is three paces in rear of the line of muzzles, opposite the center of the battery.

(4) At inspections, the bugler is in line with the leaders, one pace to the right of the first section, first platoon; on drill he is near the **by. c.** and in his rear.

Posts of Officers and Petty-Officers in Column.

63. (1) The **by. c.** is six paces from the left flank of the column, and opposite its center; during maneuvers he goes wherever his presence is required.

(2) Marching in column of platoons in street parades, the **by. c.** takes post as at a battalion review, six paces in front of the commander of the first platoon.

(3) Each **pt. c.**, in column of platoons, is midway between his two sections, and in line with the leaders; in column of

sections, opposite the center of his platoon, and three paces from the left flank.

(4) The **c. g. m.** is three paces from the right flank, opposite the center of the battery. In street parades, his post is three paces in rear of the rear subdivision.

(5) The bugler is near the **by. c.**, and in his rear.

Posts of Officers and Petty-Officers in Battery.

64 (1) The **by. c.** is opposite the center of the battery, half-way between the line of pieces and ammunition boxes in rear, but goes wherever his presence is required.

(2) Each **pt. c.** is opposite the center of his platoon half-way between the line of pieces and ammunition boxes in rear.

(3) The **c. g. m.** is opposite the center of the battery in line with the *support*.

(4) The bugler accompanies the **by. c.**

To Form the Battery.

65. (1) At the *assembly*, the sections are formed, as prescribed in the "School of the Section"; the **cs. o. s.** report to the **pt. c.**, who inspects his platoon.

(2) At the **adj.'s** *call*, the drags are manned and the line formed; **pt. cs.** then report in succession from right to left: (such) *platoon in order, sir;* but if anything be missing or out of order, they will state it.

To Align the Battery.

66. (1) The **by. c.** causes one of the flank sections to move forward about three paces, and commands: 1. *Right* (or *Left*), 2. DRESS, 3. FRONT.

(2) The **pt. cs.** repeat the first and second commands. At the second command, the other sections move forward, preserving their intervals; the leaders turn their heads and eyes to the right and dress on the leaders of the piece already established.

(3) The **by. c.** places himself on the right flank, in line with the leaders, and, facing to the left, superintends the alignment. At the third command, given when the battery is aligned, the **by. c.** takes his post.

(4) Instead of establishing a section as a base, the **by. c.**, having seen that the piece on the flank toward which he wishes to dress, is in the proper position, may give the same commands as before; the leaders dress as just explained, moving

forward or back so as to put themselves in line. In all alignments, the drag-ropes must be kept taut.

To Form Sections to the Front.

67. Being in line: 1. *Sections to the front,* 2. MARCH.

(1) The **cs. o. s.** verify the alignment of the sections to the right.

(2) The **pt. cs.** take post one pace in front of the line of **cs. o. s.**

NOTE.—This distance *one* pace will put **pt. cs.** in line with **c. cs.** of infantry.

(3) The **by. c.** takes post ten paces in front of, and opposite, the center of the battery.

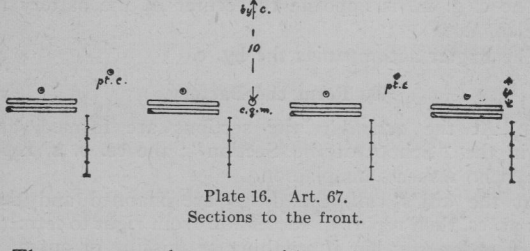


Plate 16. Art. 67.
Sections to the front.

(4) The **c. g. m.** takes post midway between the platoons and in line with the front rank.

(5) The bugler takes post one pace to the rear and left of the **by. c.**

(6) Being in *sections to the front,* the movements are the same as explained in the "School of the Section."

To Form Column of Sections to the Right or Left.

68. Being in line: 1. *Sections,* 2. *Right* (or *Left*) *turn,* 3. MARCH.

Cs. o. s. repeat the second and third commands; at the latter, each section turns to the right, and the march is continued unless the command, *halt,* be given when the column is formed.

To Form Column of Platoons to the Right or Left.

69. Being in line: 1. *Platoons,* 2. *Right* (or *Left*) *turn,* 3. MARCH, 4. *Guide right* (or *left*); or, 4. HALT.

The **pt. cs.** repeat the second and third commands; at the latter, each platoon turns to the right, the section opposite the pivot describing a quarter circle, in *double time,* and resuming *quick time* when the column is formed.

To March to the Front in Column of Sections or Platoons.

70. Being in line: 1. *Right* (or *Left*) *by sections* (or *platoons*), 2. MARCH.

(1) At the second command, the first subdivision marches straight to the front; the others stand fast. The first having advanced half subdivision distance, the second takes up the march to the front, and, after advancing half distance, inclines to the right and enters the column by the shortest line.

(2) The other subdivisions execute the movement as explained for the second.

(3) If marching in *quick time,* the subdivisions to the left of the first are halted at the second command.

(4) If the movement be executed in *double time,* the subdivisions to the left of the first take the *quick time* at the second command, and, successively, take the *double time* when inclining to the right.

(5) If the formation to the front be in column of platoons, the guide is announced by the **by. c.**

To Change Direction in Column of Sections or Platoons.

71. Being at a halt: 1. *Forward,* 2. *Column right* (or *left*); or, 2. *Column half right* (or *half left*), 3. MARCH.

(1) At the second command, the chief of the leading subdivision commands: *Right turn,* or *right half turn,* and repeats the command, *march,* at which the leading subdivision turns to the right or half right; the march being taken up at the same time by the column, and each subdivision successively turns upon the same ground as the first.

(2) If the column be in march, the first command is omitted.

(3) If in column of platoons, the guide is announced by the **by. c.**

To Make a Slight Change of Direction.

72. Being in column and marching: 1. *Incline to the right* (or *left*), 2. MARCH.

The leading subdivision takes the direction indicated, followed by the other subdivisions, each changing direction in succession upon the same ground as the first.

To Oblique.

73. Being in line or column: 1. *Right* (or *Left*) *oblique*, 2. MARCH.

(1) Both commands are repeated by the **pt. cs.**

(2) At the second command, the leaders of each section incline to the right at an angle of 45 degrees; if in line, the guide of the right section is the guide of the battery; if in column of sections, the guide of the leading section is the guide of the battery; if in column of platoons, the guide of the right section of the leading platoon is the guide of the battery.

To Form Column of Platoons from Column of Sections.

74. Being at halt: 1. *Platoons*, 2. *Left* (or *Right*) *front into line*, 3. MARCH.

(1) At the second command, the chief of the leading section of each platoon commands: *Forward;* the chief of the rear section commands: *Left oblique.*

(2) At the third command, repeated by the **pt. cs.** and **cs. o. s.,** the leading section of each platoon moves forward, and the rear section obliques to the left until the proper interval is obtained, then moves forward and halts when in line with the first section of its own platoon. The leading section of the leading platoon halts when it has advanced platoon distance, and the leading section of the rear platoon halts when it has its distance.

(3) If marching in *double time,* or in *quick time,* and the command be *double time,* the leading sections continue the march in *quick time,* the rear sections taking the *double time* until in line with their leading sections, when *quick time* is resumed.

(4) The column of platoons is the habitual column formation of maneuver.

To Form Column of Sections from Column of Platoons.

75. Being at a halt: 1. *Right* (or *Left*) *by sections*, 2. MARCH.

(1) At the first command, the chief of the right section of each platoon commands: *Forward.* At the second command, repeated by the **pt. cs.,** the right section of each platoon moves forward; the left section remains halted until the right section has advanced half section distance, when it inclines to the right and enters the column, following the right section.

(2) If marching in *quick time,* the right sections continue the march and the left sections halt by command of their chiefs; the movement is then executed as explained.

(3) If marching in *double time,* the left sections take the *quick time,* at the command, *march,* and resume the *double time,* so as to follow at the proper distance in column.

To Form Column of Platoons to the Right or Left, from Column of Sections.

76. Being in column of sections: 1. *Column of platoons,* 2. *First platoon,* 3. *Sections right* (or *left*) *turn,* 4. MARCH, 5. *Guide right* (or *left*).

(1) At the fourth command, the two sections forming the first platoon simultaneously turn to the right, and continue the march.

(2) When the second platoon, in column of sections, has advanced to the turning point, the **pt. c.** commands: 1. *Sections,* 2. *Right* (or *Left*) *turn,* 3. MARCH; and the movement is then performed as described for the first platoon, the command for the guide being repeated.

To Form Column of Sections to the Right or Left from Column of Platoons.

77. Being in column of platoons: 1. *Column of sections,* 2. *First platoon,* 3. *Sections right* (or *left*) *turn,* 4. MARCH.

(1) At the fourth command, the two sections forming the first platoon simultaneously turn to the right, and continue the march.

(2) When the second platoon has advanced to the turning point, the **pt. c.** commands: 1. *Sections,* 2. *Right* (or *Left*) *turn,* 3. MARCH; and the movement is then performed as described for the first platoon.

To Halt the Column, and Put it in March.

78. Being in column of platoons: 1. *Battery,* 2. HALT.

To resume the march: 1. *Forward,* 2. *Guide right* (or *left*), 3. MARCH.

(1) The guide maintains the direction, the sections preserving the interval and distance.

(2) Being in column of sections, the battery is halted by the same commands as for the column of platoons, but to resume the march, the command for the guide is omitted.

(3) To insure the execution of the halt by all the pieces at the same time, whenever the **by. c.** gives the command, *halt,* he raises his arm and sword to the full extent; if the sword is not drawn, the motion is made with the right arm.

The About.

79. Being in line or column, marching or at a halt: 1. *Sections,* 2. *Right* (or *Left*) *about,* 3. MARCH.

(1) Both commands are repeated by the **cs. o. s.** At the second command, the sections execute the *about* simultaneously.

(2) If marching in column of platoons or in line, the command for the guide is given; if at a halt, and in line, the command for the dress is given.

To Close or Extend Intervals.

80. Being in line, or column of platoons, marching: 1. *On* (such) *section,* 2. *To* (so many) *paces close* (or *extend*) *intervals,* 3. MARCH.

(1) At the third command, the designated section continues the march; the other sections obtain the required interval by increasing the pace and inclining to the right or left, then resuming the original direction and pace, each by command of its own chief.

(2) Being at a halt, the designated section stands fast; the other sections turn to the right or left according as they are on the left or right of the section designated, and by command of their respective chiefs resume the original front when each attains the specified interval.

To Close or Extend Distances.

81. Being in column, marching: 1. *On the first section* (or *platoon*), 2. *To* (so many) *paces extend* (or *close*) *distance,* 3. MARCH.

At the third command, the first subdivision continues the march; the others halt until the distance is taken, then resume the march in succession. In closing distance, they increase the pace until the required distance is gained, then successively resume the cadenced step.

To March by the Flank.

82. Being in line or column, and wishing to gain ground to the right or left: 1. *Sections,* 2. *Right* (or *Left*) *turn,* 3. MARCH.

(1) **Cs. o. s.** repeat the second and third commands, and at the latter, each section turns to the right.

(2) The desired distance being gained, the original direction is resumed by the commands: 1. *Sections,* 2. *Left* (or *Right*) *turn,* 3. MARCH.

To Form Line from Column.

83. To the front: 1. *Right* (or *Left*) *front into line,* 2. MARCH.

(1) At the second command, the first subdivision advances platoon distance and halts, dressing to the left. The other subdivisions oblique to the right until opposite their positions in line, then move to the front, halt, and dress on the first subdivision.

(2) If marching in *quick time,* and the command be *double time,* the chief of the first subdivision cautions: *Continue the march;* the other subdivisions take the *double time* until they arrive on the line, and then resume *quick time.*

(3) If marching in *double time,* the first subdivision takes the *quick time,* and the line is formed as previously explained.

(4) If immediate action is required, the subdivisions shall be placed *in battery,* and commence firing in succession as they arrive upon the line. This rule applies to all successive formations.

84. To the right or left: 1. *Sections* (or *Platoons*), 2. *Right* (or *Left*) *turn,* 3. MARCH, 4. *Guide right* (or *left*); or, 4. HALT, 5. *Right* (or *Left*), 6. DRESS.

The second and third commands are repeated by the **pt. cs.** At the third command, the sections or platoons form line by turning to the right, the interval being carefully preserved.

85. On the right or left: 1. *On right* (or *left*) *into line,* 2. MARCH.

(1) At the first command, the chief of the leading subdivision commands: *Right turn;* the other chiefs command: *Forward.* At the second command, repeated by all the chiefs of subdivisions, the leading subdivision turns to the right, and having advanced platoon distance, is halted by command of its chief; the other subdivisions take up the march, and having passed section distance beyond the point where the preceding one turned, successively turn to the right.

(2) If marching, the command, *forward,* is omitted.

To Change Front.

86. Being in line, marching or at a halt: 1. *Battery,* 2. *Right* (or *Left*) *turn* (or *half turn*), 3. MARCH, 4. *Guide right* (or *left*); or, 4. HALT.

At the third command, the pivot section turns to the right; the other sections take the *double time* incline to the right, and arrive upon the new line in succession. If the battery be march-

ing in *double time,* the pivot section takes the *quick time,* at the command, *march.*

Passage of Obstacles.

87. (1) If, during the march in line, any obstacle presents itself in front of a platoon, its commander, without waiting for orders, gives the necessary commands according to the nature of the obstacle, either to break the platoon into column of sections, to close the interval, or to halt and form it in column behind the adjoining platoon.

(2) As soon as the obstacle is passed, the platoon takes its place in line by increasing the pace, and reversing the movement by which it left its place in line.

To Form in Battery.

88. Being in line, the sections form *in battery* as prescribed in the "School of the Section."

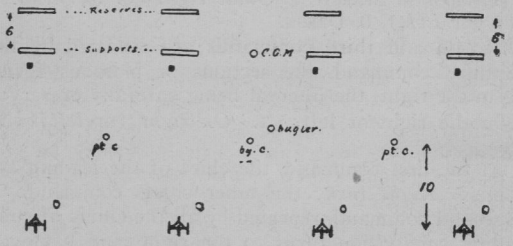


Plate 17. Art. 88.
In battery.

To Change the Fire to the Rear.

89. Being in battery: 1. *Action rear,* 2. MARCH.
Executed as in "School of the Section," Art. **26.**

To Change the Fire to the Right or Left, by the Front.

90. Being in battery: 1. *Action right* (or *left*), 2. *Change front forward on the right* (or *left*) *piece,* 3. MARCH.

(1) All preparations for the movement are made at each piece at the *second command.* At the *third command,* the movement is executed. (See Art. **26,** "School of the Section.")

(2) If the ground be favorable, the battery may be turned by hand; if not, the drags of the left (or right) platoon will be manned to the front, the pivot platoon being moved by hand.

(3) On the completion of the change of front, the CS. O. S. turn their pieces so as to point in the required direction, and then go *in battery.*

To Change the Fire to the Right or Left, by the Rear.

91. Being in battery: 1. *Action right* (or *left*), 2. *Change front by the rear on the left* (or *right*) *piece,* 3. MARCH.

(1) All preparations are made at each piece at the second command. At the third command, the movement is executed.

(2) The designated piece is turned in the new direction; the other pieces are moved by the rear to the new line, and then go *in battery.*

(3) This movement may be executed by hand, if the nature of the ground will permit, or the drags of the right (or left) platoon may be manned.

To Change the Fire to the Right or Left, on the Center.

92. Being in battery: 1. *Action right* (or *left*), 2. *Change front on the right-center* (or *left-center*) *piece,* 3. MARCH.

This movement is a combination of the two movements prescribed in the two preceding articles. It may be executed by hand, or circumstances may require that certain drags, those on the flanks, be manned.

To Fire by Section.

93. Being in battery: 1. *Fire by section,* 2. *At* (so many) *yards,* 3. *At* (such an object), 4. COMMENCE FIRING.

At the fourth command, the right piece is fired, followed by the next, and so on in succession. After the first fire, the firing is kept up *at will.*

To Fire by Platoon.

94. Being in battery: 1. *Fire by platoon,* 2. *At* (so many) *yards,* 3. *At* (such an object), 4. COMMENCE FIRING.

At the fourth command, the commander of the first platoon commands: 1. *First platoon,* 2. READY, 3. FIRE; followed by the next platoon, and the fire is continued alternately.

To Fire by Battery.

95. Being in battery: 1. *Fire by battery,* 2. *At* (so many) *yards,* 3. *At* (such an object), 4. READY, 5. FIRE.

To fire another volley: 1. READY, 2. FIRE.

To Fire at Will.

96. Being in battery: 1. *Fire at will,* 2. *At* (so many) *yards,* 3. *At* (such an object), 4. COMMENCE FIRING.

Each section will fire and load as rapidly as possible, consistent with deliberate aim.

97. (1) While in action, the battery may be advanced or retired short distances by the commands: 1. CEASE FIRING, 2. *Front* (or *Rear*) *by hand,* 3. MARCH, 4. HALT, 5. COMMENCE FIRING.

(2) Intervals may also be extended or closed, as previously explained, the drags being manned if necessary.

98. The riflemen of the battery are maneuvered as squads of infantry, *in extended order,* being deployed on the line of pieces; or on, or in advance of, one or both flanks, under command as prescribed by rules 8 and 9, Art. **61.**

ECHELON.

99. Movements in echelon for firing are useful, as the battery is then in position to most quickly change front in any desired direction. When going *in battery* in echelon, or when changing front in echelon, care must be taken by **2 p. os.** to keep the limber, or ammunition boxes, of their respective sections in rear of the pieces, and dressed on the axle of the next piece on the flank, when in battery.

To Form Echelon to the Front.

100. Being in battery; or in line, marching or at a halt: 1. *By section from the right* (or *left*) *front into echelon,* 2. MARCH, 3. HALT.

(1) If in line; at the second command, the right section moves forward; the next section moves forward when the axle of the right piece arrives on a line with its leaders, and the remaining sections commence the movement, in succession, as prescribed for the second.

(2) Being at a halt; the third command is given when the section next to the left has gained its distance; being in march, the third command is omitted.

(3) If marching in *quick time,* the sections to the left of the first are halted at the second command. If marching in *double time,* or if the command be *double time,* the sections to the left of the first take the *quick time* until their distance is gained, when they take the *double time.*

(4) If in battery: the pieces may be moved forward by hand, the ground being favorable; otherwise the drags of the pieces to the right of the center will be manned at the first command, and the movement executed at the second.

To Form Echelon to the Rear.

101. (1) Echelon will be formed to the rear whenever it is desirable to avoid gaining ground to the front.

Being in battery; or in line, marching or at a halt: 1. *By section from the right* (or *left*) *to the rear into echelon,* 2. MARCH.

(2) If in line: at the second command, the left section stands fast; the other sections execute the *about* and march to the rear, the one next to the left section halting at echelon distance, and executing the *about* a second time, the leaders finding themselves on a line with the axle of the left section. The remaining sections perform, in succession, the movements prescribed for the second.

(3) If in battery: the pieces may be moved to the rear by hand, the ground being favorable; otherwise, the drags of the pieces to the right of the center will be manned at the first command, and the movement executed at the second.

To Form Line from Echelon.

102. To the front: 1. *Front into line,* 2. MARCH.

(1) If marching in *quick time,* the advanced section halts at the second command, and the remaining sections halt on arriving in line.

(2) If marching in *double time,* or in *quick time* and the command be *double time,* the advanced section takes the *quick time* at the second command, and the remaining sections do the same upon arriving on the line.

(3) If at a halt: the advanced section stands fast; the others halt on arriving in line and dress to the right or left.

(4) If in battery: the advanced section stands fast; the others are moved forward by hand, or the drags of the rear sections are manned at the first command. and the pieces hauled into line at the second.

103. To the rear: 1. *Rear into line,* 2. MARCH.

(1) At the second command, the rear section stands fast; the remaining sections form line to the rear.

(2) If in battery: the pieces may be moved by hand, or the drags may be manned, according to the nature of the ground.

104. (1) In echelon, the pieces may be fired to the right or left, or in both directions, by giving the command to certain sections or platoons to fire to the right or left.

(2) Ammunition boxes and limbers will be moved out of the line of fire of adjoining pieces.

To Protect the Flanks in Column.

105. (1) When passing through the streets of a hostile town, and it becomes necessary to protect the flanks, the following numbers of the *support* and *reserve* are detailed as the regular flankers of each piece: *Right flankers,* 9, 11, 13, in charge of the **2 p. o.** *Left flankers,* 20, 22, 24, in charge of the **3 p. o.**

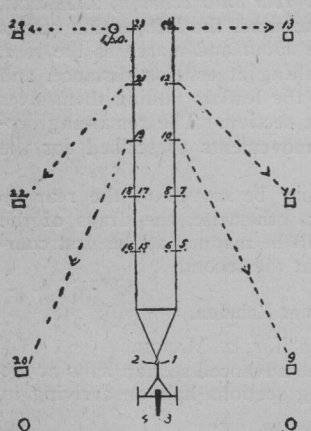


Plate 18. Art. 105.
Flankers.

(2) Being in column of sections: 1. *Right and left flankers,* 2. *At three* (or so many) *paces interval,* 3. MARCH.

(3) At the third command, the flankers unsling arms, take the position of the *port,* and place themselves at the interval designated from the drag-rope, as follows: The leading flankers abreast of the leaders, the middle flankers abreast of 7 and 18 respectively, the rear flankers abreast of the trail, and the **2 p. o.** and **3 p. o.** abreast of 3 and 4, in column with the flankers, and rifles at the *port.*

(4) The right flankers watch the windows and roofs of houses on the left side of the street, and the left flankers those on the right side.

(5) If flankers are required on one side only, the right or left flankers will be designated in the first command.

(6) If marching in column of platoons, the right flankers of

the right section, and the left flankers of the left section only will deploy.

(7) Scouts may be detailed, under the command of an officer or **p. o.**, to precede the column at a designated distance.

(8) At the command: 1. *Flankers,* 2. POSTS, the flankers sling arms and resume their toggles. The **2 p. o.** and **3 p. o.** resume their posts.

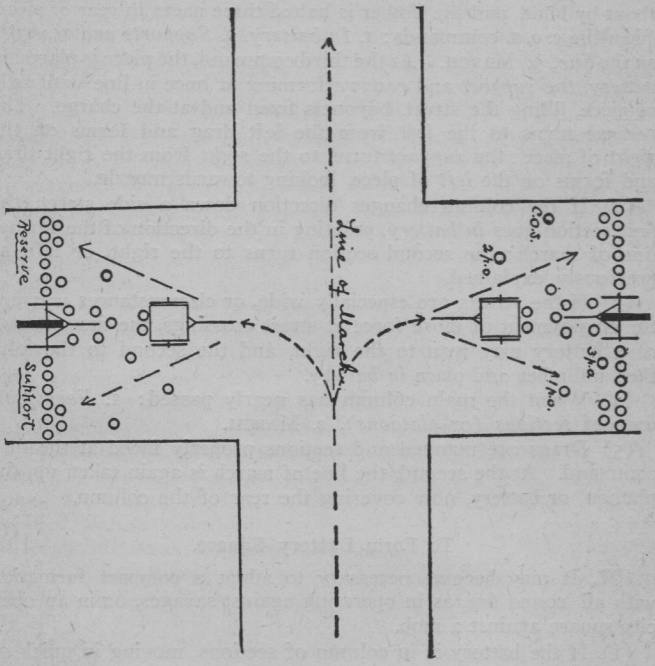


Plate 19. Art. 106.
Protection of flanks at street crossings.

To Protect the Flanks at Street Crossings.

106. Being in column of sections or platoons: When the first platoon reaches the crossing: 1. *Street crossing,* 2. *First platoon, sections right and left turn,* 3. MARCH.

(1) At the third command, the first section turns to the right,

and the second section, when it has advanced to the proper turning point if in column of sections, turns to the left. When the piece is about thirty paces up the side street, the **c. o. s.** commands: 1. HALT, 2. UNLIMBER, 3. *Sections,* 4. *Right about,* 5. MARCH. Dragmen countermarch to the right at the fourth command; men at the limber, after unlimbering, move it to the right sufficiently to clear the piece. The members of *crew* turn the piece to the right about by hand, and the limber is halted three paces in rear of piece. Then the **c. o. s.** commands: 1. *In battery,* 2. *Supports and reserves on the line,* 3. MARCH. At the third command, the piece is placed in battery, the *support* and *reserve* forming at once in line with axle of piece, filling the street, bayonets fixed and at the charge. The *reserve* turns to the *left* from the left drag and forms on the *right* of piece; the *support* turns to the *right* from the right drag and forms on the *left* of piece, looking towards muzzle.

(2) If the column changes direction down a side street, the first section goes *in battery,* pointing in the direction of the former line of march; the second section turns to the right, or left, as previously explained.

(3) If the streets are especially wide, or circumstances warrant the employment of more force at street crossings, the first platoon of a battery may turn to the right, and the second to the left; then unlimber and place *in battery.*

(4) When the main column has nearly passed: 1. *Form column of sections* (or *platoons*), 2. MARCH.

(5) Drags are manned and sections properly faced at the first command. At the second, the line of march is again taken up, the platoon, or battery, now covering the rear of the column.

To Form Battery Square.

107. It may become necessary to adopt a compact formation with all 'round fire, as in operating against savages, or in an open city square against a mob.

(1) If the battery is in column of sections, moving in quick or double time, and ground may be gained to the front: 1. *Form battery square,* 2. MARCH. At the second command, the first section continues to the front in *quick time;* the second section obliques to the right, section distance, in *double time* and then goes to the front, drag leaders dressing on axle of first piece; the third section obliques to the left, section distance, and goes to the front in *double time,* drag leaders dressing on axle of first piece. The fourth section closes in *double time,* drag leaders on a line be-

tween second and third pieces. Ground may now be gained in any desired direction.

(2) *To go in battery.*—1. HALT, 2. UNLIMBER, 3. *In battery,* 4. *Supports and reserves on the line of pieces,* 5. MARCH. All halt at the first command; unlimber at the second. At the third command, the first section goes *right about,* the second *left turn,* the third *right turn,* and the fourth stands fast. At the fifth command, the pieces are placed *in battery,* limbers three yards in rear; *supports* and *reserves* on the line of pieces, filling spaces between them if practicable, bayonets fixed and at the charge; *reserves* on the right, *supports* on the left of their respective pieces, at intervals of one yard, unless otherwise directed.

(3) *Without the limber,* the command to *unlimber* is omitted. **Cs. o. s.** in all cases give the necessary orders for pointing guns in the desired directions, when the command, *in battery,* is given by the **by. c.**

(4) If in column of sections, and ground may not be gained to the front: 1. HALT, 2. *Form battery square,* 3. MARCH. All halt at the first command; at the second, the first section stands fast; the second section goes *right turn* in *double time,* gains section distance to the right, and halts; the third section obliques to the left in *double time,* gains section distance to the left of first piece, and halts abreast the second piece; the fourth section closes up, leaders in line with axles of second and third pieces. From this position the square may be placed *in battery* as in (2); or ground may be gained in any direction desired.

(5) *To again form column of sections.*—1. *Man the drag,* 2. MARCH, 3. *Form column of sections,* 4. MARCH. At the first command, pieces are secured. At the second command, limbers are hooked up, and drag manned. At the third command, the **by. c.** indicates the leading section and the direction of march; at the fourth command, the section indicated executes *right about;* the section to the right obliques to the right, and the section to the left obliques to the left, coming into column in this order. The remaining section moves to the front, bringing up the rear.

(6) *Battery square* may be formed at once from column of platoons, sections making a half turn when going *in battery,* so that pieces will point outward from center of square.

Rally on the Pieces.

108. (1) Being in battery: 1. *Rally on the pieces,* 2. MARCH. At the second command the *supports* and *reserves* move straight to

the front in *double time* and form circles from axles of the pieces around in rear of the trails, kneeling and at a *ready* with bayonets fixed. 9 and 10 bring in the drag-ropes, and 7 and 8 the rear boxes. Circles compact, with room enough inside for officers and for the crew to work the piece.

(2) Being at the rally: 1. *Action rear* (*right* or *left*), 2. MARCH. At the first command the *supports* and *reserves* rise and face to

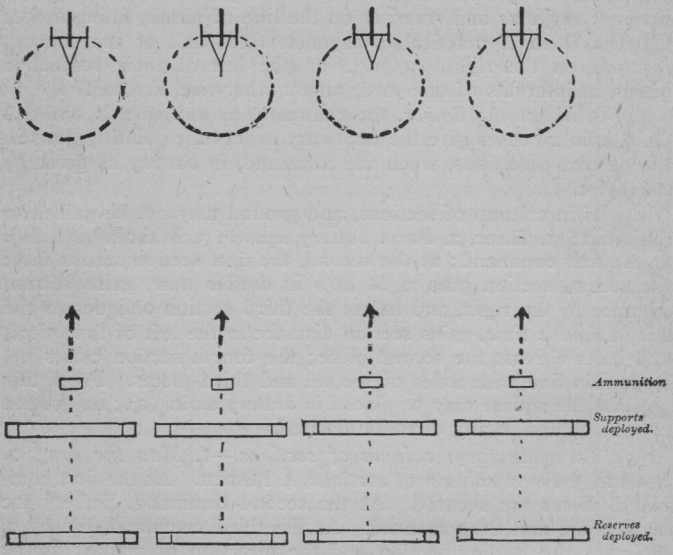


Plate 20. Art. 108.

the right. At the second command the piece is turned through 180 degrees, or 90 degrees, to the right, the *supports* and *reserves* moving round to the right and forming circle as before.

(3) If it be desired to open heavy fire to the front from the rally: 1. *Supports and reserves on the line,* 2. MARCH. At the first command the *supports* and *reserves* rise. At the second command those to the right of the piece turn to the left and those to the left turn to the right, forming on the line of pieces.

(4) The drags may be manned from any position: 1. *Man the drags,* 2. MARCH; or, 1. *Supports man the drags,* 2. MARCH. In

the latter case the *supports* man the single drag and move the piece as directed, the *reserves* remaining as riflemen and keeping up the fire.

NOTE.—(1) This movement may be useful against a cavalry charge, or against savages when the pieces are surrounded, either acting singly or in groups, a single section, a platoon, a battery, or battalion. It may also be executed in battery or battalion square, the *supports* and *reserves* falling back from their positions on the line of pieces, and forming circle, as shown, to the rear. This would be done if the square were broken by a charge.

(2) If limbers are used, they may be run close up in rear of pieces, and circles formed as before. In firing to the right, left, or rear, the *support* moves limber to the new rear.

Route Marches.

109. (1) The column of sections is the habitual column of route, though the column of platoons may be taken when that formation can be maintained.

(2) To march in the route step: 1. *Route step,* 2. MARCH.

(3) To resume the cadenced step: 1. *Battery,* 2. ATTENTION.

(4) In the route march, the **by. c.** is usually at the head of the column, in advance of the leaders of the first section; he is followed by the bugler, who marches in his rear. To avoid dust, the **by. c.** may direct the officers and **p. os.** to change to the right flank of the column, if it be to windward.

To Rest the Battery.

110. Being at a halt: 1. *Battery,* 2. FALL OUT, or REST, or AT EASE.

To resume attention: 1. *Battery,* 2. ATTENTION.

To Dismiss the Battery.

111. As soon as the pieces are parked or housed, each **c. o. s.** makes a minute inspection of his section, and reports all losses or injuries to his **pt. c.** The **pt. cs.** report in succession: (Such) *platoon in order, sir;* but if anything be missing or out of order, they will state it. All reports having been made, the **by. c.** gives such instructions as may be necessary, and commands: *Dismiss the sections;* each **c. o. s.** dismisses his section.

INSPECTION OF A BATTERY.

112. The battery being in line, the **by. c.** commands: 1. *Sections to the front,* 2. MARCH, 3. *Open ranks,* 4. MARCH, 5. FRONT.

(1) At the fourth command, the ranks are opened; the **by. c.** verifies the alignment of the officers and ranks, then takes his post facing the battery and commands: 1. *Present,* 2. ARMS.

(2) He then faces about, salutes the inspecting officer, and when the salute is returned, again faces the battery and commands: 1. *Order,* 2. ARMS, 3. *Close ranks,* 4. MARCH, 5. *Man the drags,* 6. MARCH.

(3) The drags being manned, the **by. c.** commands: 1. *Prepare for inspection,* 2. *Right about,* 3. MARCH, 4. HALT, 5. *In battery,* 6. MARCH.

(4) The *support* and *reserve* will remain at their stations in rear of the boxes, in close order and standing, arms at the *order.* The pieces, boxes, and riflemen being aligned, and all the numbers at their stations, 6, 7, 8 stand behind their respective boxes, lids opened, the **by. c.** faces the inspecting officer, salutes, and reports: *Sir, the battery is ready for inspection;* the salute being returned, the **by. c.** returns his sword and joins the officer making the inspection.

(5) The inspecting officer, accompanied by the **by. c.,** inspects the pieces and their *crews,* beginning on the right, being met on the right of each platoon by its commander; returning from the left, he inspects the support and reserve, and boxes and limbers. Each **pt. c.** returns his sword and accompanies the inspector during the inspection of his platoon, and then returns to his post and draws his sword.

(6) The inspection being completed, the **by. c.,** upon an intimation from the inspector, mans the drag, forms line or column, marches to the park and dismisses the battery.

(7) When limbers are used, 9, 10, at limber, open ammunition boxes, if required by the inspecting officer.

SCHOOL OF THE BATTALION.

General Rules.

113. (1) A battalion of artillery consists of two or more batteries. During the exercises, the **by. cs.** repeat such of the instructor's commands as are to be immediately executed by their batteries.

(2) The staff of a battalion of artillery is the same as that of a battalion of infantry, and will take the same posts in line, in column, and at inspections and reviews.

(3) In a battalion of artillery acting alone, the band, pioneers, signalmen, ammunition-party, commissariat, and ambulance-party, will be organized in the same manner, and will take the same posts in line and column as in a battalion of infantry.

(4) In successive movements, each **by. c.** gives the commands necessary to insure the execution of the movement by his own battery at the proper time.

(5) In field practice and in actual service, the extent of ground occupied by the battalion may present obstacles which will prevent exact conformity to the means prescribed for the execution of the various maneuvers. In such cases, the normal methods prescribed in the Drill-Regulations should be followed as closely as possible, each **by. c.** conducting his command by the simplest means, and by the shortest practicable route, to its place in the new formation.

(6) Batteries will take their places in line from right to left, according to the rank of the **by. cs.** In the field, this order may be changed at the discretion of the **bt. c.**

(7) In whatever direction the battalion faces, the batteries are designated numerically, from right to left in line, and from head to rear in column, *first battery, second battery,* and so on.

(8) The normal interval between batteries in line is equal to the normal interval between sections plus ten paces.

(9) When the *supports* and *reserves* of all the batteries are called away for infantry duty as a body, in the same general direction, the senior **pt. c.** detailed to go with them will be in command of the whole.

(10) One gunner will be detailed for every battalion of artillery. On the march and at all ceremonies, he will take post on the left of the staff. When in battery, he will take post near the **c. g. m.** of the center, or right-center battery, and be prepared

to go wherever his services may be required. The gunner will have charge of the spare ammunition, and will exercise direct supervision over repairs to disabled guns and carriages.

(11) When artillery is maneuvered in line with infantry, the axles of the pieces are dressed on the front rank of the infantry.

(12) In rendering honors, the leaders at the drags may be in line with the front rank of the infantry, or the artillery may be formed *sections to the front,* in which formation the **pt. cs.** place themselves on the line of company officers, *i. e.,* 3 paces to the front of sections.

(13) In *line,* the infantry is on the right; in *column,* at the head.

(14) The formation of batteries without pieces is precisely the same as for a battalion of infantry, the platoons taking the place of companies.

(15) Parades, reviews, and inspections of batteries or battalions of artillery, without pieces, are the same as prescribed for a battalion of infantry. The parades are always without pieces.

Posts of Officers, Petty-Officers, and Field-Music in Line.

114. (1) The **bt. c.** is twenty paces in front of the center of the battalion; he is accompanied by a bugler who takes post in his rear.

(2) The **adj.** is in line with the leaders, and three paces to the right of the first battery.

(3) The **c. p. o.** is in line with the leaders, and three paces to the left of the left battery.

Posts of Officers, Petty-Officers, and Field-Music in Column.

115. (1) The **bt. c.** is twenty paces from the left flank of the column and opposite its center; he is accompanied by a bugler who marches in his rear.

(2) The **adj.** is on the left flank, in line with and six paces from the leaders of the leading subdivision.

(3) The **c. p. o.** is similarly posted in reference to the rear subdivision.

Posts of Officers and Petty-Officers in Battery.

116. (1) The **bt. c.,** accompanied by a bugler, takes post in rear of the center of the battalion.

(2) The **bt. sf.,** band, and special details take such posts as may be assigned by the **bt. c.**

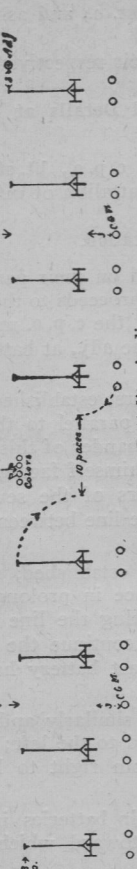


Plate 21. Art. 114. Battalion in line.

NOTE.—Posts of staff, band, and special details as in battalion of infantry.

Plate 22. Art. 115. Battalion in column.

NOTE.—Posts of staff, band, and special details as in battalion of infantry.

NOTE.—In street parades the **bt. c.**, **adj.**, and **c. p. o.** will take the same positions as in a battalion of infantry.

(3) The **adj.** acts as aide to the **bt. c.**

(4) The **c. p. o.** acts as aide to the **bt. c.**, and assumes general charge of the ammunition supply.

(5) The battery buglers report to their respective **by. cs.**

Posts of Officers, Band, and Special Details at Sections to the Front.

117. The posts of the **bt. c.**, **adj.**, **c. p. o.**, **bt. sf.**, band, and special details, are the same as for a battalion of infantry in line.

To Form the Battalion.

118. (1) The batteries being formed on their parade grounds, **adj.'s** *call* is sounded, at which the **adj.** proceeds to the point where the battery first established is to form; the **c. p. o.** marches on his left, and is posted on the line, facing the **adj.**, at battery distance; the **adj.** and **c. p. o.** then draw swords.

(2) The right-center battery is the first established and is conducted so as to arrive from the rear, parallel to the line established by the **adj.** and **c. p. o.** The commander of this battery halts it two paces from the line, then places himself facing to the front, near the **c. p. o.** and dresses the leaders of the several sections composing his battery to the left, on the line between the **adj.** and the **c. p. o.**

(3) The right-center battery being established, the **adj.** and **c. p. o.** face about, move battery distance in prolongation of the line, then face about again, thus marking the line for the next succeeding battery in each wing, and continue the prolongation of the line in like manner until the last battery has arrived in position.

(4) The batteries of the right-wing similarly and successively form from left to right, and are dressed to the left; the batteries of the left-wing form successively from right to left, and are dressed to the right.

(5) The **by. cs.**, when dressing their batteries in line, place themselves on the line, on the flank toward which they dress, facing to the front.

(6) Each **by. c.**, after dressing his battery, commands: FRONT, and takes his post.

(7) When the flank batteries have been aligned, the **adj.** and **c. p. o.** take their posts.

(8) The field-music takes its post in line.

(9) The line being formed, the **bt. c.** takes post facing the battalion, twenty paces in front of the center.

(10) The **adj.** moves parallel to, and three paces in front of the line of **pt. cs.** to a point midway between the **bt. c.** and the line of **by. cs.**, faces the battalion, halts, and commands.

(11) 1. *Present,* 2. SWORDS; at which all officers salute.

(12) The **adj.** then faces about, salutes, and reports: *Sir, the battalion is formed.*

(13) The **bt. c.** returns the salute and directs the **adj.**: *Take your post, sir,* then draws his sword. The **adj.** faces about and returns to his post.

The Color-Guard.

119. (1) The color-guard, consisting of one **p. o.** and two men, is always formed in single rank, and is governed in other respects by the same general rules as for a color-guard in a battalion of infantry. When a squadron or battalion color is paraded, a **p. o.** is detailed to carry it, and he will be posted habitually on the left of the **p. o.** carrying the national colors.

(2) The original right-center battery is the color-battery.

(3) In all formations, the color-guard is posted midway between the sections, platoons, or batteries at or nearest the center of the line or column.

(4) When *in battery,* the color-guard takes post six paces in rear of the line of the *reserve.*

To Align the Battalion.

120. Being at a halt, to rectify the alignment: RECTIFY THE ALIGNMENT.

(1) The **by. cs.** in the right wing dress their batteries successively to the left, each as soon as the **by. c.** next on his left commands: FRONT. The **by. cs.** in the left wing dress their batteries similarly to the right.

(2) The center batteries are dressed first, without waiting for each other.

Battalion Movements.

121. (1) The battalion may execute any movement prescribed in the "School of the Battery," and by the same commands and means, substituting *battalion* for *battery,* wherever the latter word occurs.

(2) Similarly, movements executed by a battalion of infantry may be executed by a battalion of artillery, making the slight

changes in commands required by the different designations of subdivisions.

To Form Line from Column.

122. To the front. Being at a halt: 1. *Right* (or *Left*) *front into line,* 2. MARCH.

(1) If, in column of sections or platoons, the leading battery executes *right front into line.* At the first command, the **by. cs.** in rear of the leading battery command: *Right oblique,* and repeat the second command, at which their respective batteries oblique to the right; each subdivision in column, when opposite its place in line, is conducted to the front by its chief, is halted on the line, and the batteries are dressed to the left.

(2) If marching in *quick time,* and the command be *double time,* or if marching in *double time,* the leading subdivision marches in *quick time,* and the rear subdivisions take the *quick time* when they arrive upon the line.

(3) If in column of batteries, at a halt, at the first command, the commander of the leading battery commands: *Forward,* and repeats the second command, at which his battery marches platoon distance to the front, is halted, and dressed to the left.

(4) If marching in column of batteries, the commander of the leading battery omits the command, *forward.*

(5) If immediate action is required, the **bt. c.** commands: 1. *Action front* (or *rear*), 2. *In battery,* 3. MARCH, when the leading battery arrives upon the line, and then commands: COMMENCE FIRING. The other batteries, if moving in *quick time,* will take the *double time,* and when upon the line will go at once *in battery,* and commence firing *at will,* in succession, by command of their respective commanders. This rule applies to all successive formations.

123. (1) To the right or left. Being in march, or at a halt: 1. *Sections* (*Platoons* or *Batteries*), 2. *Right* (or *Left*) *turn,* 3. MARCH, 4. *The second* (or *such*) *the base battery;* or, 4. *Battalion,* 5. HALT, 6. *Right* (*Left* or *Center*), 7. DRESS.

(2) In forming line to the right or left, great care will be observed in maintaining the proper intervals between sections and batteries.

124. On the right or left. Being in march or at a halt: 1. *On right* (or *left*) *into line,* 2. MARCH.

(1) At the second command, the leading subdivision turns to the right, and, having advanced platoon distance, is halted.

(2) The remaining subdivisions are put in march, or continue the march, and successively turn to the right when they have passed subdivision distance beyond the one that preceded them in column, and are halted upon arriving on the line. The batteries are dressed to the right.

To Form Column of Batteries to the Right or Left, from Column of Sections or Platoons.

125. Being in column of sections or platoons: 1. *Column of batteries,* 2. *First battery,* 3. *Sections* (or *platoons*) *right* (or *left*) *turn,* 4. MARCH, 5. *Guide right* (or *left*).

(1) At the fourth command, the sections or platoons of the first battery simultaneously turn to the right, and continue the march.

(2) When the second battery, in column of sections or platoons, has advanced to the turning point, the **by. c.** commands: 1. *Sections* (or *Platoons*), 2. *Right* (or *Left*) *turn,* 3. MARCH; and the movement is then performed as described for the first battery, the command for the guide being repeated.

To Form Column of Sections or Platoons to the Right or Left from Column of Batteries.

126. Being in column of batteries: 1. *Column of Sections* (or *Platoons*), 2. *First battery,* 3. *Sections* (or *Platoons*) *right* (or *left*) *turn,* 4. MARCH.

(1) At the fourth command, the sections or platoons of the first battery simultaneously turn to the right, and continue the march. If in column of platoons, the guide will be announced by the **bt. c.**

(2) When the second battery has advanced to the turning point, the **by. c.** commands: 1. *Sections* (or *Platoons*), 2. *Right* (or *Left*) *turn,* 3. MARCH; and the movement is then performed as described for the first battery. If in column of platoons, the command for the guide will be repeated by the **by. c.**

REVIEW OF A BATTALION.

127. (1) The review is conducted in accordance with the general rules prescribed for a battalion of infantry.

(2) The battalion being in line, the **bt. c.** in front of, and facing, the center, commands:

1. *Prepare for review,* 2. *Sections to the front,* 3. MARCH.

(3) The **adj.** superintends the alignment of the battery officers, the ranks, and the line of file-closers.

(4) The **adj.,** seeing the ranks aligned, moves to the front and center and takes post on the right of the staff. The **bt. c.** commands: FRONT; and faces about. The reviewing officer now approaches a few paces toward the **bt. c.** and halts, when the latter faces about and commands:

1. *Present,* 2. ARMS.

(5) At the second command, the officers, the *support,* and the *reserve* present arms; the color also salutes, should the rank of the reviewing officer entitle him to it, in which case the band, buglers, or field-music, sound a march, flourishes, or ruffles, according to his rank; arms having been presented, the **bt. c.** faces about and salutes.

(6) The reviewing officer having acknowledged the salute, the **bt. c.** faces about and brings the battalion to the *order.* He then joins the reviewing officer, who proceeds to the right of the line, passes in front of the **by. cs.** to the left, and returns to the right, passing in rear of the pieces and inspects their condition.

(7) The reviewing officer, having returned to his post, the **bt. c.,** in front of, and facing the center, commands:

1. *Man the drags,* 2. MARCH.

(8) The battalion now being in line, drags manned, facing to the front, the **bt. c.** commands: 1. *Sections right turn,* 2. MARCH, 3. *Battalion,* 4. HALT.

(9) At the second command, the battalion breaks into a column of sections.

(10) The **bt. c.** then commands:

1. *Pass in review,* 2. *Forward,* 3. MARCH.

The column moves off, the band playing; the column changes direction at the points indicated, and column of platoons is formed successively to the left at the second change of direction; the

by. cs. place themselves at the head of their batteries, six paces in front of the commander of the first platoon.

(11) The column passes in review, the officers and colors saluting, and the men executing *eyes right,* as prescribed for a battalion of infantry. The review terminates when the rear platoon has passed, and the **bt. c.** rejoins the battalion.

(12) The **bt. c.** then executes such maneuvers as the reviewing officer may direct.

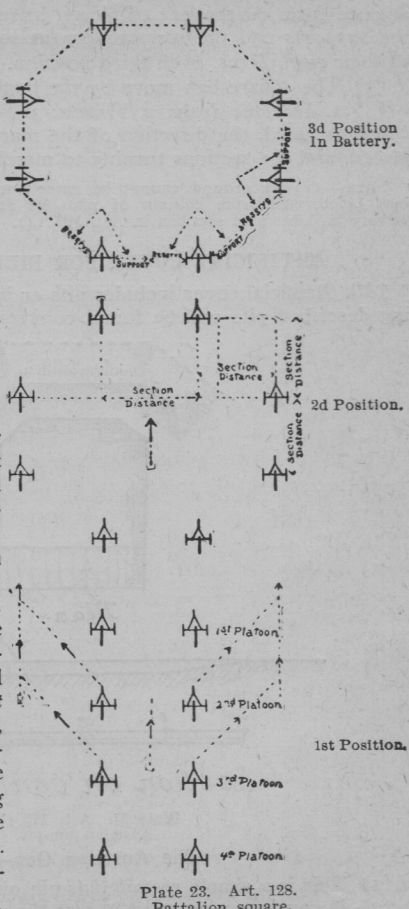


Plate 23. Art. 128. Battalion square.

BATTALION SQUARE.

128. In the following plate, begin with the "1st Position," at the bottom of the plate, and read upward.

(1) Being in column platoons: 1. *Form battalion square,* 2. MARCH. The first sections of the 2d and 3d platoons execute *right oblique,* and the second sections *left oblique* in double time, forming as in second position (Plate 23). The leaders of the leading flank pieces dress on the axles of the first platoon.

(2) 1. *Halt,* 2. *In battery,* 3. MARCH.

At second command, sections of 1st platoon *right about;* 1st sections of 2d and 3d platoons *left turn;* and 2d sections of 2d and 3d platoons *right*

turn. At third command all execute *in battery* as usual except that boxes are kept in rear of trails, and the *supports* and *reserves* at once form on the line of pieces, kneel, and come to the *ready,* the *supports* and the *reserves* on the left and right, respectively, of their own pieces, as in third position.

(3) The square can move by the flank, oblique, or to the rear.

(4) 1. *Man the drags,* 2. MARCH, 3. *Forward,* 4. MARCH. Executed as usual, the direction of the march being indicated by the sword, and the sections turning to march in the desired direction.

NOTE.—(1) If ground cannot be gained to the front, battalion square may be formed from column of platoons at a halt, as described for a battery in column of sections in Art. **107** (4).

ARTIFICIAL COVER FOR FIELD ARTILLERY.

140. Artificial cover includes pits or intrenchments; the following described pits will be found convenient in construction:

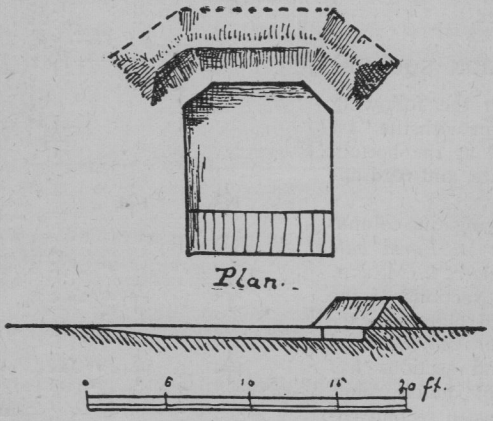


Plate 24. Art. 140 (1).
Austrian gun-pit.

The Austrian Gun-Pit.

(1) This is a simple rectangular pit, one and one-half feet deep.

(2) It can be constructed in less than half an hour, and while affording no special cover to the artillerymen, does not present a conspicuous target.

(3) This pit has the further advantage of affording very rapid cover and of being capable of transformation into any desirable intrenchment, if there be sufficient time.

(4) The epaulement is formed like an ordinary glacis.

(5) The earth from the pit is thrown to the front.

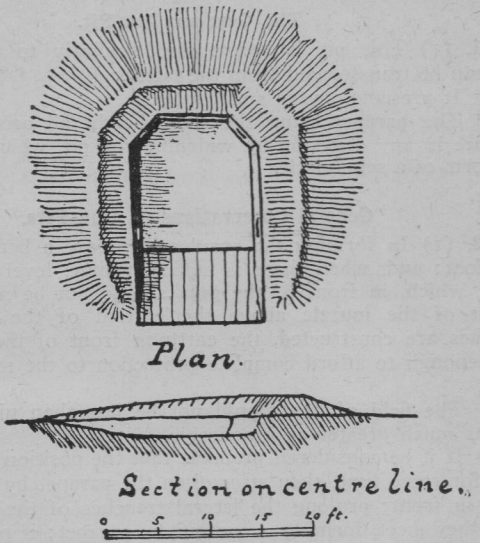


Plate 25. Art. 141.
German gun-pit.

(6) Lay off a line four yards in length, perpendicular to the direction of the line of fire, and at each extremity lay off side lines, four yards in length, perpendicular to the original.

(7) From the vertices of the right angles thus formed, lay off one yard on both the front and side lines, and mark with stakes the four points thus determined, also the rear extremities of the sides.

(8) If on soft ground, it will be found to be more expeditious to use shovels exclusively; if on hard ground, three picks and five shovels will be necessary for each detachment of eight men. The men with picks should commence by breaking ground along

the interior slope; having picked a breadth of about two feet, they face about and advance toward the rear of the pit. As soon as there is room, the shovels follow the picks.

(9) In picking, the men should be instructed to strike together, in order to avoid accident.

The German Gun-Pit.

141. (1) This pit is constructed similarly to the Austrian, and can be transformed from the latter.

(2) It presents a very small target.

(3) The parapet being the same height all around, the gun can fire in any direction by widening the pit, which would take the form of a semi-circle.

General Observations on Gun-Pits.

142. (1) In forming the epaulement, leave a berm of at least one foot; and, when there is sufficient time, level and ram the earth, which, in front of the gun, should not be more than the height of the muzzle above the bottom of the pit. If side trenches are constructed, the earth in front of them should be high enough to afford complete protection to the men occupying them.

(2) The field of fire should not be less than ninety degrees, and as much greater as practicable.

(3) If it be considered probable that the position will be occupied for some time, then strengthen the parapet by earth from a ditch in front; prolong the lateral trenches of the adjacent pits until they meet, forming a continuous parapet; if possible, plank or macadamize the bottom of the pit.

(4) In order to conceal the parapet, cover the fresh earth with boughs, sod, or top-soil of the prevailing color of the vicinity; if in winter, use snow for this purpose. A very effective plan is to dig a small trench, or parapet, from fifty to seventy-five yards in front of the real pits, thus deceiving an enemy as to the position from which the real fire comes.

PART V

SMALL-ARMS FIRING REGULATIONS U. S. NAVY, 1917

NAVY DEPARTMENT,

Washington, June 15, 1916.

The following Small-Arms Firing Regulations are adopted for the U. S. Navy and Marine Corps and the Naval Militia to take effect July 1, 1916, and will then supersede the Firing Regulations for Small-Arms, U. S. Navy, 1916.

FRANKLIN D. ROOSEVELT,

Acting Secretary of the Navy.

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TROPHIES.

The three silver cups heretofore offered by the department as trophies for excellence in small-arms marksmanship—one in the Atlantic Fleet, one in the Pacific Fleet, and one in the Asiatic Fleet—to the vessel in each fleet having the highest final merit in small-arms practice will be awarded hereafter in the respective fleets to the winning vessel in fleet matches whenever a fleet match is held under the direction of a commander-in-chief of a fleet, provided that four or more teams compete in a regular ships team competition held under the provisions of the Small-Arms Firing Regulations, U. S. Navy. The cups will be transferred upon the completion of such matches.

Beginning with the year ending June 30, 1917, the department will offer three trophies for general excellence in small-arms practice—one for the battleship and armored-cruiser class, one for the cruiser and gunboat class, and one for destroyers and divisions of submarines. This classification is analogous to the classification for other gunnery trophies, except that divisions of submarines which are considered separate from their tenders are added to the destroyer class. These trophies will be awarded in each class annually to the vessel or division of submarines attaining the highest final merit, provided that the award of trophies may be withheld if, in the opinion of the department, the final merit of any vessel is not sufficiently high to make appropriate the award of a trophy.

If a vessel carrying a trophy goes out of commission, or one to which a trophy has been assigned is placed out of commission before the trophy is received on board, it will be retained by the commander-in-chief of the fleet to which the vessel is attached.

The name of the winning vessel and the year in which won shall be engraved on a trophy as soon as practicable after its receipt aboard. The cost of this engraving will be charged to the appropriation "Gunnery Exercises" for the current year and the department will be promptly informed of the amount expended for this purpose.

INTRODUCTORY.

General Features.

1. These regulations are designed to furnish systematic and progressive instruction, with due regard to the conditions prevailing in the naval service, to adaptability to existing range facilities, to convenience and expediency, to economy in time, ammunition, and effort commensurate with the results expected to be obtained, and, by relative standing and competition, rather than by stringent requirements, to promote among all grades of naval personnel interest and effort in overcoming difficulties which interfere with opportunities for practice.

Methods of Instruction.

2. These regulations are intended to be used as a text for the instruction of men in squad or division schools, and to be issued to men for self-instruction.

3. A copy of these regulations may be issued without charge to every man who will fire, and a sufficient number of copies for issue will be furnished on application to the Secretary of the Navy (Office of the Director of Gunnery Exercises and Engineering Performances).

4. Range work is expedited when men are instructed before their arrival on the range, and before going to the range men should be familiar with Chapter II, Preliminary Instructions. Petty officers of the seaman branch and men who are to act as coaches should be instructed in the entire regulations, and, to prepare men for these grades and duties and to promote general knowledge, interest, and efficient service, all men, if time and opportunity permit, should be instructed in the entire subject.

5. Before a man fires, he must understand how to set the sights, how to aim, how to operate the parts of the rifle, how to hold the rifle in each position, how to squeeze the trigger, and the other general principles of firing. A good coach can give him this instruction on the range, but better results will be accomplished, and the work will proceed more expeditiously, if the firer has been previously instructed. If he has not been instructed, and has no coach to supply the deficiency, it is better that he should not shoot, because practice without the benefit of any instruction is worse than useless; wrong habits are acquired, men do not improve, and it becomes more difficult to teach them.

6. The development of a trained class of coaches is necessary for progress. Coaching is permitted in all firing, and the employment of coaches in the individual courses will be required if circumstances permit. Even when men have been carefully in-

structed before coming to the range, a coach should be present to see that the instructions are carried out and proper methods used, to assist and teach the firers, to assist in the conduct of the practice, and to guard against accident and delay.

Gallery Practice.

7. **Gallery practice with reduced charges** and practice with sub-target gun machines or other mechanical devices are not required under these regulations. If held, they are a continuation of the preliminary training of holding and aiming. The interest of men under instruction soon diminishes with no other stimulant than simulated fire or snapping. The possibility of recording results of instruction by the hit carries the interest further; it incites competition and exposes inattention; it gives the instructor further opportunity to observe the individual and to correct his faults in detail; it records certain faults such as incorrect understanding of the line of sight, canting the rifle, and faulty trigger squeeze.

8. **Careless gallery practice** may do injury, for with the lack of recoil in the reduced charges men may acquire habits of holding which are all right for the reduced charge, but which will be faulty and make them gun-shy when they advance to the service load. All gallery practice should be under a competent instructor at each firing point, who must be sure that careless habits of holding are not formed.

9. **Gallery practice having for its object** only a means of teaching the elementary principles, nothing is gained by requiring it to be done at more than one distance. Fifty feet is the maximum distance at which the hit is plainly visible to the firer. Practice at longer distances, with reduced charges, introduces inconveniences and delays without offering any benefit in return. All the different positions and holds can be practiced from one point quite as well as from several. The sights of each rifle should be correctly set and tested by the instructor. The course and the methods to be used are left to the discretion of the commanding officer or officer charged with the preparation of the men for the range. No report of gallery firing with reduced charges is required, except when the firing is for prizes and credits.

CHAPTER I.

GENERAL REGULATIONS.

Rules and Decisions.

10. The purpose of all firing is to promote the art of using arms, to develop methods for improving that art, and to promote the development of small-arms material.

11. All rules and decisions which do not tend to these purposes, or to expediency, and which uselessly annoy, restrict, or inconvenience, are forbidden.

Flags and Other Aids to Firers.

12. The use of flags to indicate force and direction of wind, wind clocks, orthoptics, or other aids to firers, is permitted.

Sights and Alteration of Material.

13. Any kind of sight, peep, open, telescope, or other improvised sight may be used in all firing, and the alteration or substitution of sights, or other accessories to the rifle, with a view to making it more accurate and efficient, is permitted and encouraged, but improved arrangements or modifications shall only be tried when the arrangement as supplied is not altered and can be restored if necessary. Reports upon experiments with sights and other material are desired.

Parapets and Posts.

14. Parapets and posts will be provided on the firing lines on ranges on which the sharpshooter course is to be fired, as follows: At 500 yards a parapet 12 inches high for the prone position, at 400 yards a parapet 24 inches high for the sitting position, at 300 yards a parapet 30 inches high for the kneeling position, at 200 yards posts at least 5 feet above the ground and of a suitable diameter, the larger the better, for the standing position.

15. The firer's position is behind the parapet or post, and the hand, arm, or rifle, must touch the parapet or post.

16. There may be trenches behind the parapet, in which event the height of the top of the parapet above the bottom of the trench or berm where the firer kneels, sits, or rests his elbows, will be as prescribed above.

17. The parapet need not be continuous; spaces in the line will facilitate exit from the trenches and movement forward.

18. Until Navy ranges are provided with parapets and posts, and on ranges not belonging to the Navy where these cannot be pro-

vided, the firing may be held from the prescribed positions without the rests.

Allowance and Issue of Ammunition.

19. **The allowance of small-arms ammunition** is unlimited.

20. **No sighting or trial shots are allowed** except as authorized in the machine gun course.

21. **To p event carelessness in taking care of ammunition issued,** officers in charge of practice may, in their discretion, prohibit the issue of ammunition to replace lost ammunition and assign a zero value in the score to each shot thus forfeited.

Definitions and Equivalents.

22. **A naval station** (not including organized regiments or battalions serving thereat, or the marine barracks), a regiment, or battalion of naval personnel or marines, a marine barracks (not including regiments or battalions stationed thereat), a destroyer or other vessel except auxiliaries with civilian crews and submarines, and a division of submarines, are, so far as these regulations are concerned, considered the equivalent of a ship, and all regulations herein applicable to ships are likewise applicable to the equivalents.

23. **A detachment of marines, a company, or a submarine,** and the officers and men not attached to divisions, are likewise the equivalent of a division.

24. **The small-arms year** is from July 1 to June 30.

25. **Annually** means the period included in the small-arms year.

26. **Current enlistment** includes extension to enlistment periods.

Naval Militia.

27. **These regulations apply** to the Naval Militia.

28. **The allowance of ammunition and the payment of prizes** from appropriations available for the Naval Militia will be regulated from time to time by the department.

29. **Reports of practice from the Naval Militia** will be submitted to the Secretary of the Navy (Division of Naval Militia Affairs), and will be referred by the Division of Naval Militia Affairs to the Director of Gunnery Exercises and Engineering Performances, to be included in the reports of that office.

Marines.

30. **Officers and men of the Marine Corps** afloat and ashore will be governed by these regulations in like manner as officers and men of the Navy.

31. **Reports of practice of detachments afloat** will be made in like manner as divisions of the Navy afloat, and in addition thereto

commanding officers of detachments afloat will submit to the Major General Commandant copies of all reports.

32. **Reports of practice of officers and men attached to shore stations** will be made to the Major General Commandant only.

33. **Nothing in these regulations revokes** the provisions of the Navy Regulations and Naval Instructions concerning firing under the Army courses.

34. **Firing under the Army courses and the qualifications attained thereunder** are separate and distinct from the firing and qualifications in the Navy courses, and marines afloat should be given an opportunity to fire the Army courses.

35. **Reports of practice under the Army courses by detachments afloat** will be made to the Major General Commandant.

Who Will Fire.

36. **When attached to ships in commission, or to divisions, companies, or detachments at stations or barracks ashore,** unless circumstances render it impracticable, all officers of the line of the Navy and of the Marine Corps below the rank of lieutenant commander, and all men of the seaman branch of the Navy, and of the Marine Corps, should be required to fire the courses as prescribed.

37. **All other officers and men of the line or staff** are authorized to fire the courses as prescribed whenever circumstances permit, and when firing is done by officers and men not required to fire the ship or division to which they are attached will receive credit for the firing in determining the relative standing.

38. **A man who reenlists** begins his firing anew, and as an unqualified man; and even though he may have fired any course previously during the year, he is again eligible to compete for prizes.

39. **An officer's qualification** does not expire.

40. **An enlisted man's qualification** extends until his enlistment is terminated.

41. **Officers who have previously qualified, and enlisted men who have qualified** during current enlistment as marksman or sharpshooter, do not fire those courses for credits or for individual competition. Officers and men may fire for credits and men for individual competition the expert rifleman course each year while attached to each division or equivalent until they requalify.

Payment of Prizes.

42. **The commanding officer will direct the payment of prizes** without delay after the day's firing.

43. When organization commanders render and subscribe pay rolls upon which prizes are awarded, the entry of the prize upon the pay roll thus:

Prize—Marksman, $1.
Prize—Ships (or station, barracks, regimental, battalion, etc.) team, $5.

when the pay roll is approved by the commanding officer, is sufficient to authenticate the award of prize.

44. The method of preparing order for award of prizes is shown below.

[No blank forms are furnished for this order.]

(Ship or Station)

To: Commanding officer. (Date)
Subject: Small-arms prizes.

The following-named men have been awarded (date), under the authority of Small-Arms Firing Regulations, United States Navy, 1917, the prizes set opposite their respective names:

Pay No.	Name.	Rate.	Division.	Kind of prize.	Value.
	Black, A. B...	Sea.	2	Marksman.....	$ 1 00
	Brown, C. D..	O. S.	2	Sharpshooter..	2 00
	Blue, E. F. ...	M. A. A. 2cl.	3	Expert rifleman.....	3.00
	White, G. H...	B. M. 1cl.	4	Individual general.....	1.00
	Green, M. M..	Sea.	6	Pistol.....	1 00
	Green, M. M..	Sea.	6	Machine gun.....	1.00
	Green, M. M..	Sea.	6	Collective fire.....	2.00
	Gray, K. L....	C. B. M.	5	Division team.....	5.00
	Red, O. P.....	O. S.	7	Primary team	1.00
	Purple, R. S..	Sea.	1	Ships team	20.00

——— ———, U. S. N.,
Gunnery Officer.[1]

Forwarded, approved, to the pay officer, who is authorized to pay without delay to the above-mentioned men the prizes so awarded them.

——— ———, U. S. N.,
Commanding.

NOTES.—The values of collective fire, division team, and ships team prizes vary.

The pay numbers are inserted by the pay officer.

When men to whom prizes are to be awarded are carried on separate pay rolls, prepare a separate order for the men carried on each pay roll.

When organization commanders render and subscribe pay rolls, approved by the commanding officer, this order is not needed as a voucher to support the credit for prizes, but serves as authority for the immediate payment.

45. Prizes to enlisted men of the Navy are paid from the appropriation "Gunnery Exercises."

[1] Or the officer having possession of the range records.

46. Prizes to enlisted men in the Marine Corps are paid from appropriation "Pay, Marine Corps."

47. Prizes to enlisted men of the Naval Militia may be paid from such appropriation as may be allotted for that purpose.

48. Money prizes for firing under these regulations shall not be paid to officers.

Record of Qualification.

49. All qualifications as marksman, sharpshooter, and expert rifleman, and all requalifications as expert rifleman with score, the date attained, the range upon which qualification was attained, the ship to which attached, and all credits which contribute to qualification of expert team rifleman will be entered in the service record, thus:

Marksman (245) 1-31-15, Guantanamo, U. S. S. Florida.

Member of team representing the U. S. Navy (or Marine Corps or State, etc.) in National Team Match (date), (location of range).

Member of ships (or division) team standing first (or second, etc.) in team competition with (number) teams competing (date), (location of range), (where attached).

50. Evidence of qualification is complete when so entered. A man becomes qualified immediately upon making the requisite score. No further formality is required to effect it.

51. The score sheets may be posted on a protected bulletin board, and when this is not done, the list of qualifications with scores, the standing of teams with individual and team total scores, and the award of all individual and team prizes should be posted on the bulletin board after each day's firing.

Insignia.

52. No medals will be awarded for qualification in the Navy qualification courses.

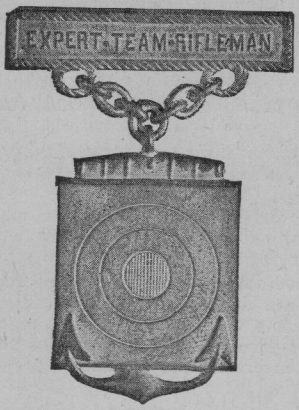
53. Enlisted men of the Navy and Marine Corps and the Naval Militia qualifying as expert rifleman will wear upon the right sleeve of coat, overshirt, jumper, and flannel shirt, about half way between the wrist and the elbow, a distinguishing mark embroidered in white on blue for blue clothing, and in blue on white for white clothing, and in gray on olive drab (or other color) for olive drab (or other color) clothing as follows: The sides of a square, each side one inch long, inclosing a circle three-quarters of an inch in diameter, a circle one-half of an inch in diameter, and a bull's-eye one-quarter of an inch in diameter, the lines to be of narrow width.

54. These distinguishing marks will be drawn in the same manner as other distinguishing marks from clothing and small stores.

55. Expert riflemen will wear the distinguishing mark from the date of qualification to the end of their enlistments or extended enlistments. Failure to requalify in succeeding years of current enlistment does not remove qualification.

Expert Team Riflemen.

56. In order to encourage team competitions and to distinguish a class of officers and men who have shown superior skill in team competitions, the qualification *expert team rifleman* is established, and a medal will be awarded for the qualification.



57. The requirements for the qualification are qualification as expert rifleman in two separate small-arms years and three team credits acquired by membership on an officers' team representing a ship (or equivalent), a division team or a ships' team standing first in a competition with four or more, second with eight or more teams competing, etc., adding one place for each four teams competing or by membership on any team in a National Team Match.

58. This qualification is awarded only on application of the officer or man claiming eligibility. Applications should be made to the Secretary of the Navy (Office of Director of Gunnery Exercises and Engineering Performances), or, in case of Marines, to the Major General Commandant, and should state clearly the facts upon which the claim to eligibility is based, giving for each qualification and team credit claimed the approximate date and

the ship or station to which the applicant was attached. Commanding officers in forwarding applications will furnish such information from the service and small-arms records as will aid in verifying the claims.

59. Only one expert team rifleman medal will be issued to any officer or man. Lost medals may be replaced at the cost of $21 each.

Credits to Divisions and Ships.

60. The following credits are assigned:

To Divisions and Equivalents of Divisions.

For each officer or man authorized to fire the course for credits who, during the year and while attached—

(*a*) Finally qualifies as marksman and no higher	2
(*b*) Finally qualifies as sharpshooter and no higher	3
(*c*) Finally qualifies or requalifies as expert rifleman	5

(For those who fail to advance in qualification or to requalify as expert riflemen none of the above credits are assigned.)

(*d*) Fires the pistol course	1
(*e*) Fires the machine gun course	1
(*f*) Fires in individual competition general	1
(*g*) Fires in a collective fire squad	1

For each team—

(*h*) Entered in a primary team competition	4
(*i*) Entered in a division team competition	8
(*j*) Winning $2 prizes in a division team competition in addition to the credits for entering	16
(*k*) Winning $5 prizes in a division team in addition to the credits for entering	40

To Ships and Equivalents of Ships.

The aggregate of credits to divisions or equivalents of divisions increased by the following team credits:

For each team—

(A) Entered in a ships team competition	40
(B) Winning $5 prizes in a ships team competition in addition to the credits for entering	40
(C) Winning $10 prizes in a ships team competition in addition to the credits for entering	80
(D) Winning $20 prizes in a ships team competition in addition to the credits for entering	160

Figure of Merit.

61. The sum of credits of a division divided by the total number of officers and men in the allowed complement of the division at the end of the year or at the time the report is submitted, whether there are officers or men in excess of, or short of, the complement, is the figure of merit of the division.

62. The sum of all credits of all divisions plus the sum of all credits on account of officers and men not attached to divisions (except flag personnel) plus the sum of all credits on account of ships teams divided by the total number of officers and men (exclusive of flag personnel) in the ships allowed complement whether there are officers and men in excess of, or short of, the complement, is the figure of merit of the ship.

Relative Standing.

63. Relative standing is determined by the figure of merit, and the following relative standings will be published:

Vessels of the Navy arranged in classes.
Shore stations of the Navy.
Marine barracks, regiments, battalions, etc.
Organizations of the Naval Militia.
A number of divisions of the Navy, Marine Corps and Naval Militia having high figures of merit.

Forms and Range Records.

64. The Office of the Director of Gunnery Exercises and Engineering Performances will furnish loose-leaf binders for use of score takers on the range, and for filing records and forms, and the following forms:

Range record for individual courses.
Range record for team competition.
Individual small-arms record.
Division annual report of small-arms practice.
Annual report of small-arms practice.

65. Where division commanders are the custodians of the service records of their men the range records will be held in their custody, otherwise they will be filed in the custody of the gunnery officer or other custodian of gunnery or small-arms records.

66. When one officer keeps the range records of several divisions he will file them so that the records of each division will be separate, and shall also keep separately the records containing credits which accrue to the ship only.

67. When detachments are sent to distant ranges individual small-arms records will accompany them. After firing, their range records will be forwarded to their proper stations for award of

prizes, record of qualification, entry of qualification in service record, and other information, and for file. The prizes are paid or credited on the rolls at the ship or station to which the men are attached. No other evidence than that shown on the range record is required.

68. **Range records of officers not attached to ships or stations** may be sent to the Secretary of the Navy (Office of Director of Gunnery Exercises and Engineering Performances), or, in case of marine officers, to the Major General Commandant. Range records of men not attached to ships or stations are sent to costodians of their service records.

69. **The record sheets are not submitted with reports** from divisions or ships, but are retained. Two years from the end of the small-arms year in which the records were made they may be destroyed. When a ship goes out of commission or an organization is disbanded, the records not destroyed as above prescribed, together with all binders and forms, will be forwarded to the Navy Department (Office of Director of Gunnery Exercises and Engineering Performances), or, in case of marines, to the Major General Commandant.

70. **The Director of Gunnery Exercises and Engineering Performances is authorized to call,** at any time, for the record sheets not authorized to be destroyed.

Individual Small-Arms Record.

71. **An individual small-arms record** will be prepared for each officer and man who fires. All entries on the range records will be entered in the individual small-arms record. The individual small-arms record will not accompany a man's service record on transfer, but will be retained for use in preparing annual reports.

When men are sent to distant ranges individual small-arms records accompany them to indicate what courses each is authorized to fire.

Annual Reports.

72. **An annual report for each division** and for the officers and men not attached to divisions will be prepared in duplicate by the custodian of the range records; one copy is retained, and one copy accompanies the ship's annual report. Each report will contain a list of officers and men who fired during the year, showing data of the courses fired.

73. **An annual report for each ship** will be prepared in duplicate from the data contained in the annual reports of divisions and of officers and men not attached to divisions, by the gunnery officer, or other custodian of gunnery or small-arms records. One copy of this report is retained.

74. Annual reports will be submitted not later than 10 days after the end of the small-arms year (June 30) and when ships go out of commission. They may be submitted before the end of the small-arms year when it is evident that there will be no more practice before the end of the year. A report must be submitted by each ship and equivalent. If no practice has been held the fact must be reported.

CHAPTER II.

PRELIMINARY INSTRUCTION.

The Rifle.

75. The instructor should explain the use of the rear sight and of the principal operating parts, such as the bolt and the magazine mechanisms, especially the safety lock and magazine cut-off, how to remove the bolt and floor plate. He should dismount, clean, and reassemble all parts carried in the bolt and magazine, and require each man to do the same; point out and name the principal parts and cause the men, first, to point out each part as it is named; second, to name each part as it is pointed out.

76. The principal parts are:

Bolt and its mechanism, handle, firing pin with striker and cocking piece or comb or knob of firing pin, extractor, safety lock.

Magazine and its mechanism, floor plate, floor plate catch, magazine spring follower, ejector, chamber of bore, cut-off.

Front sight, rear sight with leaf, drift slide with peep, slide with binding screw, windage screw.

Stock, balance, grooves, hand guard, small of stock, comb of stock, butt, toe of butt, heel of butt.

Butt plate, butt plate cap opened with the flange of cartridge case. Oiler and thong case, thong and thong brush.

Upper band, bayonet stud, stacking swivel.

Lower band, lower band swivel.

Butt swivel, trigger, trigger guard.

Bayonet, grip, pommel, guard, scabbard catch, bayonet catch.

77. Precautions.—Unless the bolt is drawn fully back the ejector will fail to work, and in magazine fire it will cause a jam.

When a misfire occurs, press the bolt handle well down, pull the cocking piece to the rear, and try again. Unless the bolt

handle is fully down the firing pin does not strike with full force. Almost all misfires are due to this fault.

For practicing the motions of rapid fire with the rifle unloaded, turn the cut-off down or "off," otherwise the bolt cannot be worked back and forth.

Cleaning and Care of the Rifle.

78. The bore should not be cleaned from the muzzle end. Remove the bolt and clean from the breech end.

79. The fouling, if left in the bore after firing, will rust and injure the bore. After the day's firing clean the bore by using a cleaning rod and small pieces of cloth about 1½ inches square, then lightly oil the bore by using an oiled rag. The metal and working parts are also cleaned by using dry rags, and then oiling with a slightly oiled rag to prevent rusting and to lubricate working parts.

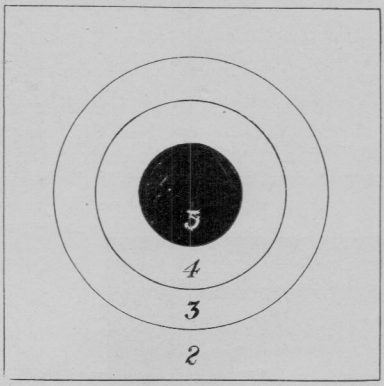
80. No more oil than this light oiling should be used, because any surplus oil makes the rifle disagreeable to handle, collects dirt and grit, finds its way into and around the bolt mechanism and often flies back into the firer's face and eyes when he fires. The bolt handle should be dry and entirely free from oil, otherwise in operating the bolt it is difficult to grasp firmly.

81. Cosmoline, machine oil, or any other oil which will not rust the metal is suitable for oiling rifles. Never use emery or any other material which will scratch metal in cleaning rifles. When a rifle is to be laid away it must be cleaned daily for several days. Powder gases are forced into the texture of the steel, the bore will sweat, and daily cleanings must be continued until the first rags run through the bore come out with no rust on them. Otherwise a bore is sure to rust no matter how much oil is put in it. When it is stored it should be thoroughly and heavily coated with oil.

The Target.

82. **Target "B"** is a square target 6 feet by 6 feet with a bull's-eye 20 inches in diameter, an inner ring 37 inches in diameter, and an outer ring 53 inches in diameter. It is used for all range firing.

Target B



Nine-inch rule: The rings are 9 inches apart. This is not exact, but it is easy to remember.

83. **The value of a hit** in all cases is: In the bull's-eye, 5; within the inner ring, 4; within the outer ring, 3; on the remainder of the target, 2.

84. **The white disk marks a 5; the red, a 4; the white and black, a 3; the black, a 2.** Place the center of the disk over the shot hole. A miss is signaled by moving a red disk or flag across the target and back. A shot hole just touching the outside edge of the bull's-eye or a ring receives the same value as if it struck inside.

85. **When a target is used with areas for the respective scoring values smaller** than those of the prescribed target, qualification in small-arms courses may be awarded, provided no allowance factor is made to compensate for the lesser scoring areas.

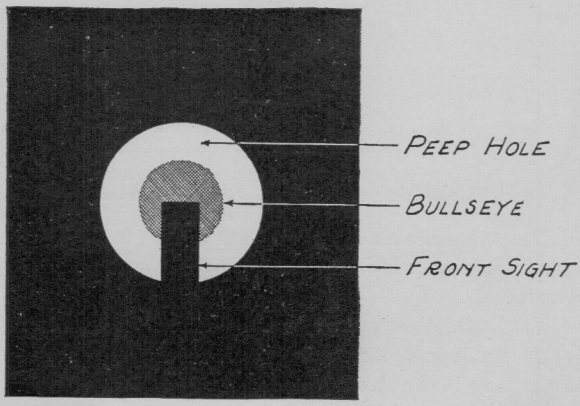
86. The expression "o'clock" is used for convenience in describing the location of hits. For example, a 4 at 12 o'clock is above the bull's-eye; a 5 at 9 o'clock is in the left side of the bull's-eye.

Aiming.

87. There are several different open sight notches on the rear sight, but **the peep sight is recommended for all firing.**

NOTE.—There are three sizes of peeps—Nos. 4, 5, and 6. The largest size, No. 6, is the best. It is easier to see through a large peep, and it is just as easy to center the top of the front sight and bull's-eye in it.

88. In aiming, the eye should be held as close as possible to the peep; that is, almost up to the comb of the firing pin. Then aim so that the bull's-eye is exactly in the center of the peep hole and the top of the front sight in the center of the bull's-eye.



Appearance of front sight and bull's-eye through the peep hole.

89. If the sights are bright there will be a glimmer about them which interferes with accurate aiming. They should be a dead black. The sights are blackened by smoking them. A candle is the best thing; a match will do. Oiled rags which have been used to clean rifles make excellent smoke for blackening sights.

Blacken both the front and rear sights. The black will not take on greasy metal.

90. In addition to explaining to men how to aim, instructors should show men the way to aim by placing the rifle on a rest and aiming it at a circular object which represents a bull's-eye, and let each man examine the aim. Then cause each man to aim, and finally inspect the aim to see that it is correct.

Sight Setting.

91. The marks opposite the peep indicate where the sight is to be set. The numbers on the sight leaf refer to the marks *below* the numbers; for example, the figure 6 is *above* the 600-yard mark. Changes in elevation of 25, 50, and 75 yards have to be made, and when there are no marks for these settings they have to be estimated, and with great care, for a slight inaccuracy makes a big difference in the point of hit.

92. The marks on the wind gauge are points, and changes in windage of quarter points have to be made.

93. The bullet is carried in the same direction that the sights are moved; for example, if shots strike above and to the right of the bull's-eye the elevation should be lowered, and the windage moved to the left. Winds carry the bullet to the right or left with the wind, therefore the windage is set to the windward.

94. The elevation is not always set at exactly the actual range from which the firing takes place. With some rifles the elevation is set above the range, and with others below it, and all rifles are not exactly true for windage.

95. Coaches at the firing point should inform inexperienced firers what windage is required and what changes to make in elevation and windage, and should inspect the sights every time they are set or changed.

96. To teach sight setting it is not sufficient to explain it to men. They must be practiced in it. The following exercises will qualify a man in sight setting:

Require the peep sight to be set at a number of different elevations, as 600, 200, 1000, 250, 575, 625, and the wind gauge to be set at zero, 1 right, 2 left, 1½ right, ¾ left, and inspect the setting each time.

Ask questions similar to these—

Your wind gauge is set at ¼ right; you wish it moved toward the left the amount of ¾ of a point; where will it then be set?

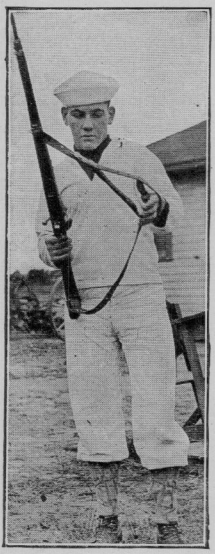
Your elevation is 625 yards, windage ¼ left; your hit is high and to the right and you wish to change elevation 50 yards and windage ½ point; where will your sights then be set?

Holding the Rifle.

97. It is presumed that **the rifle will be shot from the right shoulder.** Men should not be permitted to fire left handed. The rifle is made to be used right handed and left-handed men can acquire the habit of shooting right handed. Left-handed shooters interfere with their neighbors on a firing line.

The Sling.

98. The sling should be used in all positions. There are no restrictions as to its use. Any efficient method of attaching it to the rifle or person may be used. The method shown here is suitable for all firing. The bight of the loop is even with the comb of the stock. Inexperienced men will claim that this is too short, but it will become easy after practice. Short or fat arms require a longer sling than long or slender arms. If the sling is too long the rifle will not be firmly held, and a kick from the recoil will be felt.



Showing how the sling is attached and how the left hand is inserted from the right side of the sling.

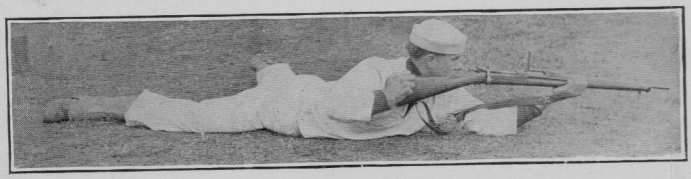
98a. Slip the left hand well under the rifle and all the way up to the lower swivel. That part of the sling which bears against the hand should be clear of the metal nibs and of the keepers, because they will cut into the hand and cause pain. The pressure of the hand against the swivel causes a little pain at first, but it soon disappears, and a man should not resist it or try to pull his left hand away from it. The rifle

The sling is well in the arm pit; left hand over sling, well under stock, and well out to lower band swivel.

rests hard in the flat of the hand and not on the fingers. The left hand and the fingers of the left hand do no work at all.

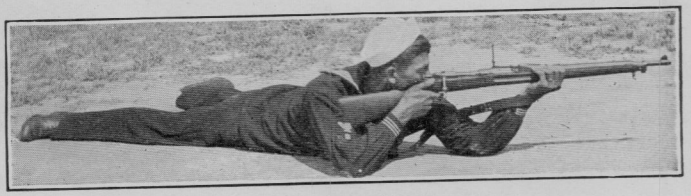
The Prone Position.

99. Lie flat down at an angle of about 45 degrees to the firing line, spread the legs wide apart, and turn the heels inboard. Flatten the middle parts close to the ground. Place the point of the left elbow to the front, and well to the right, then raise the right shoulder and placing the right hand on the butt plate put the



Placing the butt of the rifle in the shoulder.

butt of the rifle in the shoulder, and flatten out again. Put the cheek or jaw hard against the small of the stock, the thumb of the right hand along and not across the stock, and the right eye right up to the firing pin, as close to the peep sight as possible. Let the right elbow spread out, and drawing the body back, get the chest and whole body as flat on the ground as possible. The left elbow must be directly under the rifle. The right elbow is moved *out* to raise and *in* to lower the muzzle. Now the rifle cannot kick. The only recoil will be of the whole body, which will not be felt.



The prone position.

100. In rapid fire keep the butt in the shoulder. To load, lower the muzzle to the right and work the bolt, being careful to draw it fully back, so it will eject the empty shell and not cause a jam. It will become easy after practice.

101. In firing prone on hard ground the elbows will become sore and painful. To prevent this, elbow padding is worn. When pads are not worn on the clothing, pads or some material to protect the elbows may be placed on the ground. Padding should also be used for the shoulder. It may be secured in the clothing or a towel or empty bandoleer or some other material may be temporarily placed in the shoulder beneath the clothing.

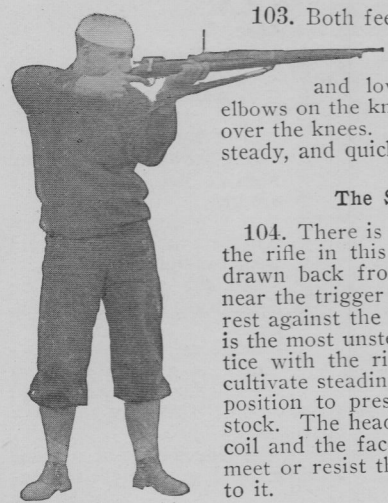
The Kneeling Position.

102. The right knee points directly to the right, that is, along the firing line. The point of the left elbow is over the knee. There

The squatting position. The kneeling position.

is a flat place under the elbow which fits a flat place on the knee and makes a solid rest. Lean the body well forward. After practice the position ceases to be uncomfortable.

The Squatting Position.



The standing position.

103. Both feet are flat on the ground and the buttocks clear of the ground. Bend the knees and lower the body, resting both elbows on the knees, the points of the elbows over the knees. This position is comfortable, steady, and quickly taken.

The Standing Position.

104. There is a variety of ways of holding the rifle in this position. The left hand is drawn back from the lower band swivel to near the trigger guard. The left arm should rest against the body. The standing position is the most unsteady position and much practice with the rifle unloaded is necessary to cultivate steadiness. Do not be afraid in this position to press the jaw hard against the stock. The head then goes back with the recoil and the face is not hurt. Do not try to meet or resist the recoil. Let the body yield to it.

The Sitting Position.

105. The sitting position is useful in outpost service. There are several varieties of the sitting position; every man must find the one which fits him best. Inexperienced men sometimes find difficulty in adjusting themselves to this position, but with practice it becomes comfortable and steady. The legs must be at rest and the leg muscles not strained when aiming. Lean the body well forward and find a steady rest on the knees for both elbows.

Sitting with the legs crossed. Both elbows are inside the knees.

General Principles for Firing in All Positions.

106. Press the cheek hard against the stock. Thumb is along, and not across, the stock.

Sitting with the left heel braced in the right instep. The right elbow is inside the right knee and the left elbow is over the left knee.

Never cant the rifle. Keep it plumb. If it is canted the least bit the bullet will strike in the direction of the cant.

Breathe out naturally and then do not breathe while aiming.

If you aim too long you will become unsteady and your eyesight will get bad. Take the rifle from the shoulder, rest, and aim again.

Squeeze the trigger.—There is a little slack in the trigger. When aiming take this up with the finger so that when you wish to fire you have only to increase the pressure of the finger.

Before firing, cock the rifle, and with the rifle unloaded squeeze the trigger. This will steady you down and get you better acquainted with your trigger pull.

Do not yank or pull the trigger; squeeze gently the whole small of the stock with the right hand. Let the trigger off as easy as you can, and keep up the aiming while the gun is being discharged, then you can tell where you are aiming when the bullet left the rifle.

Call the shot.—As soon as you have squeezed the trigger, and before the target is marked, "call the shot," that is, call out loud where you were aiming when the trigger was squeezed, and when the bullet left the rifle. Say something like this, "good," "bad," "right," "left and low," or call the o'clock of the target where you expect the hit to be, as "5 o'clock" for low and right. Be sure to say something at once, and if you have no coach, say it aloud to yourself. A man who intends to call the shot will not shut his eyes when he

Sitting with the feet spread apart. The elbows are below the knees.

squeezes the trigger; he will not quit aiming while he is squeezing the trigger. He will not flinch. Calling the shot is the best cure for flinching. Make up your mind to continue aiming while the piece is being fired. Calling the shot will help you do all these things. It is very important and the habit should never be neglected, not even in rapid fire.

107. When on the range the bolts of all rifles must be drawn fully back and the chambers kept open at all times when the firer is not at the firing point, and the rifle must not be loaded until immediately before it is to be fired.

Never point or aim a rifle, loaded or unloaded, except when on the firing line fully abreast of the firers and then only in the direction of the targets.

Take men individually and put each of them into the different positions. Many men are hard to get into proper position, especially the prone position, and firm persistence on the part of the instructor is required.

After men have been put into each position individually they should frequently be practiced with unloaded rifles in both slow and rapid fire in all positions, and at a definite target or object.

Watch them carefully and see that the thumb is along the stock, jaw hard against stock, rifle not canted, the trigger squeezed properly, the shot called even in snapping at both slow and rapid fire, and that in rapid fire the butt of the rifle remains in the shoulder.

CHAPTER III.

COURSES AND COMPETITIONS.

THE KINDS OF FIRE DESCRIBED.

Slow Fire.

108. The target is marked after each shot.

109. Hits made on the wrong target are scored as misses.

110. There is no time limit, except that to prevent delay the officer in charge of the competition may impose a time limit for the remaining shots after notice of time limit is served of not less than an average of 1 minute per shot per target, and in his discretion may penalize teams by assigning zero value to all shots not fired within the time limit.

111. In the butts the marker must watch the target closely; when it is hit, pull it and place a spotter in the shot hole. If the hit is in or touching the bull's-eye, use the white side of the spotter; if not a 5, use the black. Paste up the shot hole from which the spotter was removed. Shove up the target and place the center of the disk showing the proper value over the center of the spotter. A ricochet hit is indicated by disking in the usual manner and then moving the same disk across the target and back. Before signaling a miss, or when a request to re-examine a target comes from the firing line, call the officer or petty officer in charge of the party to inspect the target.

Rapid Fire.

112. The time limit in all rapid fire and skirmish fire when five shots are to be fired at a target during an exposure is, for rifle fire, 30 seconds, and for pistol fire, 15 seconds, measured at the butts from the command or signal "up" to the command or signal "down." Any faster rate of firing is unprofitable.

113. When all targets have been marked, the command **FILL MAGAZINES, LOAD AND LOCK** is given, when the "Ready in the butts" signal appears, the commands **READY ON THE RIGHT, READY ON THE LEFT** are given. The safety locks are then turned to "ready." If any man is not ready, he reports "Not ready on number —." Those who are ready remain silent. When

all is ready, the message or signal "Ready on the firing line" is given to the butts. When the "Ready in the butts" disk disappears, the caution **STAND BY** is given on the firing line. The firers await the appearance of the targets in position and may place the rifle in the shoulder when the first command for ready is given. When the targets appear, each firer fires five shots at his own target.

114. Any unfired cartridges count as misses, unless the fault is clearly not that of the firer, in which case the officer in charge of the party may authorize another string. Misfires and jams are usually the fault of the firer, due to careless manipulation of the bolt. To ascertain whether a misfire is the fault of the firer, due to a failure to completely close the bolt, the cartridge will be tested by attempting again to fire it, and if it then fails to fire, another string is allowed.

115. Hits made on the wrong target count as misses for the firer. If there are more than five hits on a target, the score is not recorded and another string is fired.

116. The target is marked after each string of five shots.

117. The firing of delayed strings will be postponed so that until the end of the regular sequence all men will be firing from the same position.

118. In the butts, the "Ready in the butts" signal is given by displaying a red disk well above the butts at a designated target. When notified "Ready on the firing line" the command "Stand by" is given. The "Ready in the butts" disk is withdrawn. About 5 seconds later the command "up" is given. About 25 seconds after "up" "Stand by" is given, and 30 seconds after the command "up" the command "down" is given. Two strokes on a gong or two blasts on a whistle for "Stand by" and one stroke or blast for "up" or "down" may be used instead of the command.

119. The targets are divided into blocks of targets. Supervisors assigned to each block visit their targets in turn, beginning with the targets with the smallest numbers, and supervise the disking. As soon as the supervisor has located the hits the target is shoved up and disked.

120. Fives are disked first, then fours, then threes, then twos, and the red disk or flag is waved across the target and back once for each miss. The target is then withdrawn, the shot holes pasted, and the target is half-masted.

121. **The supervisor then inspects the targets** of his group to see that all shot holes are pasted. The "Ready in the butts" signal is now displayed again.

122. **Spotters are not used in rapid fire.** In disking care should be taken to place the center of the proper disk accurately over each shot hole.

123. **Before the firing is begun** an opportunity should be afforded the butts to operate the targets for practice at least once. Dummy practice—that is, practice with the rifle unloaded—may be held while this is done.

124. **When a target not susceptible of disappearing is used,** the represented appearance and disappearance of the target may be indicated on the firing line by a bell, gong, whistle, command, or other appropriate method. When a target with an electrical device to signal the value of hits is used, this may be supplemented by turning on and off the current at the proper times.

Skirmish.

125. Targets are exposed for 30 seconds for each range, and the interval from the disappearance of the target for one range to its appearance for the next range is 1 minute and 30 seconds.

126. **The entire advance** from range to range on skirmish is at double time.

127. After the firing is finished at 500, 400, and 300 yards, while refilling magazines and until the command "Forward," the firers remain in the position from which they fired. The setting of the sights for next range should be delayed until orders for sight setting at that range are received.

128. **Coaches should accompany skirmishers** on the skirmish run until the run is finished at 200 yards.

129. **The skirmish** begins at 500 yards. Form the skirmishers in line in rear of the firing line, each with 20 rounds (4 clips) of ammunition. Assign each man to a target. Take a record showing the number of the run, the names of the men, and the number of the target assigned to each man. Command **FILL MAGAZINES, LOAD AND LOCK. CALL OFF.** Each man in turn calls off the number assigned to him. Then, when the "Ready in the butts" signal appears at the butts, **FORWARD, MARCH.** When at the firing line, **HALT, LIE DOWN, 500 YARDS, WINDAGE —, SET YOUR SIGHTS, UNLOCK PIECES, FIVE ROUNDS WHEN THE TARGETS APPEAR.** Then inform the butts "Ready on

the firing line." When the targets disappear, command **FILL MAGAZINES, LOAD AND LOCK.** Then when all rifles seem to be loaded and locked, **FORWARD, DOUBLE TIME, MARCH.** When arrived at the 400-yard range, command **HALT, SIT OR SQUAT, 400 YARDS, WINDAGE —, SET YOUR SIGHTS, UNLOCK PIECES, FIVE ROUNDS WHEN THE TARGETS APPEAR;** similarly advance to 300 yards and **KNEEL,** and then to 200 yards and **STAND, USE POST REST.** When finished at 200 yards, command **PORT ARMS, OPEN CHAMBERS, LEAVE YOUR CHAMBERS OPEN.** The firers are then marched back to the starting point.

130. When ready in the butts display the disk at a designated target. When notified "Ready on the firing line," **STAND BY** is given, the disk is withdrawn, and about five seconds later start the stop watch or note the time, and give the commands or signals, and the directions, at the time shown below, assuming the second hand to start from 0.

0 **UP.**	2.25 **STAND BY.**	4.30 **DOWN.**
25 **STAND BY.**	2.30 **DOWN.**	5.55 **STAND BY.**
30 **DOWN.**	3.55 **STAND BY.**	6.00 **UP.**
1.55 **STAND BY.**	4.00 **UP.**	6.25 **STAND BY.**
2.00 **UP.**	4.25 **STAND BY.**	6.30 **DOWN.**

131. The scores are taken in the butts at the end of the run. They should be communicated promptly to the firing line and there bulletined. The totals should be placed upon the score boards.

132. When there are more than 20 hits on any skirmisher's target, his run is void and must be repeated.

133. As the shot holes are counted a small circle should be made around each shot hole with a pencil, preferably a red one. This also facilitates counting the hits and prevents counting them again in case the pasters fall off.

When the score has been taken, the markers paste and half-mast the targets, and an officer or petty officer inspects them to see that all the holes are pasted.

Changing Positions Fire.

134. For each string each target is exposed five times and the firer fires one shot at each exposure. The target is exposed for five seconds, and five seconds elapse from its disappearance to its appearance again.

135. **The sequence of positions is:** Prone—Kneeling—Squatting—Kneeling—Prone. After firing the first shot in the prone position, the firer kneels for the second shot, squats for the third, kneels for the fourth, and lies down for the fifth. At the successive disappearances of the target, the commands or cautions **KNEEL—SQUAT—KNEEL—LIE DOWN** may be given. The firers may change position immediately after firing without waiting for the command or caution.

136. The officer in charge of the firing line may, in his discretion, deduct 5 points from the score for each shot fired in the wrong position, or, if he believes the fault was not deliberate, he may caution the firer without deducting from his score.

137. Except as prescribed above, the procedure on the firing line is the same as in rapid fire.

138. **In the butts** the requirements and procedure are the same as at rapid fire, except that five seconds after the first command or signal "up" the command or signal "down" is given. Then five seconds later "up" is given, five seconds later "down," and so forth until the targets have been displayed for five shots. One shot is fired on each appearance.

139. On ranges where, for considerations of safety, it is necessary that all firing be from rifles held in devices which prevent their being used in changing positions fire, in lieu of changing positions fire the same number of strings of rapid fire may be substituted in addition to any other rapid fire included in the course.

Firing at Ranges Longer than the Prescribed Ranges Authorized.

140. In any course for any kind of firing except skirmish, the prescribed firing at any range may be substituted by like firing under like conditions at a longer range than the range prescribed in the course.

Ties.

141. **In individual competitions** ties will be decided by the total score at the ranking class of fire. If still a tie, by the total score at the next ranking class of fire, and so forth. If still a tie, the sum of prizes to be awarded to the competitors who tie will be evenly divided among those competitors.

142. In team competitions ties will be decided by the team total score at the ranking class of fire. If still a tie, by the team total at the next ranking class of fire, and so forth. If still a tie, by the highest individual total score at the ranking class of fire. If still a tie, by the next highest individual total score at the ranking class of fire, and so forth.

143. The order of rank of the different classes of fire is as follows:

In all courses except the sharpshooter course:

1. Changing positions fire.
2. Skirmish.
3. Rapid fire.
4. Slow fire.

In the sharpshooter course:

1. Skirmish.
2. Slow and rapid fire at 500 yards.
3. Slow and rapid fire at 400 yards.
4. Slow and rapid fire at 300 yards.
5. Slow and rapid fire at 200 yards.

Individual Prizes.

144. When the marksman, sharpshooter, expert rifleman, pistol, and machine gun courses or the individual competition general are fired, individual prizes will be awarded the enlisted men making the highest aggregate scores among those in their own division or class who are entitled to compete.

145. The number of individual prizes to be awarded in each course and for each class will be determined by the number of times 8 is contained in the number of men in the division or class completing the course who are entitled to compete.

146. No man will be awarded a prize in the marksman, sharpshooter, or expert rifleman courses unless he makes a qualifying score in the competition.

147. Men of a division will generally compete among themselves, and not with men of other divisions, for individual prizes, provided that when detachments are formed to fire on distant ranges, and also in cases of men not attached to divisions, and also, when commanding officers consider this requirement inexpedient, it may be disregarded, and in these cases classes may be organized as circumstances permit.

Men of a division may be further divided into separate classes of not fewer than eight men, in which event due information should be given to the firers.

148. It is required in all competitions that all competitors be then and there present together. When practicable classes competing for prizes should complete each course before leaving the range. When this is not done men who have not fired the entire course together will not be included in the same class for prizes.

149. A separate record will be made of the firing of each class in each course, and the award of prizes will be based upon that record.

150. The announcement of the award of prizes will be made, subject to correction, before the firing party is dismissed, and the payment of prizes should be made as early as possible after the completion of the day's firing.

Marksman Course.

151. Officers who have never, and men who during current enlistment have not, qualified as marksmen fire the marksman course.

152. The course may be repeated as often as practicable until qualification is attained.

153. All firing in this course is at 200 yards.

154. No rest is used.

155. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 standing.	Total, 20 shots.
Rapid fire: 5 prone—5 kneeling—5 squatting—5 standing.	Total, 20 shots.
Changing positions fire: Four strings of 5 shots each.	Total, 20 shots.
Aggregate number of shots (1 bandoleer)	60
Possible aggregate score	300
Aggregate score necessary to qualify as marksman	225
Or a total score in changing positions fire of	75

Provided that the changing positions fire must have been fired as a part of the complete course.

156. Those who fail to qualify as marksman are *unqualified*. There are no classes below marksman.

157. Only men who during current enlistment have not qualified as marksman or higher are eligible to compete for prizes in the marksman course.

158. Men who have fired the course previously and failed to qualify may compete for prizes.

159. The value of a prize in the marksman course is $1.

Sharpshooter Course.

160. Officers who have previously and men who during current enlistment have qualified as marksmen, and no higher, fire the sharpshooter course.

161. The course may be repeated as often as practicable until qualification is attained.

162. All firing in this course is from a rest. The arm, hand, or rifle must touch the parapet or post. (See paragraph 18.)

163. The course is as follows:

Range.	Position.	Number of shots.		
		Slow fire.	Rapid fire.	Skirmish.
200	Standing, post rest	5	5	5
300	Kneeling, either or both knees, parapet rest	5	5	5
400	Sitting or squatting, parapet rest	5	5	5
500	Prone, parapet rest	5	5	5
	Total number of shots	20	20	20
	Possible score	100	100	100

Aggregate number of shots (1 bandoleer)	60
Possible aggregate score	300
Aggregate score necessary to qualify as sharpshooter	225
Or a total score on skirmish of	75

Provided that the skirmish must have been fired as a part of the complete course.

164. In slow and rapid fire the sequence of ranges is not material. Rapid fire will follow slow fire at each range.

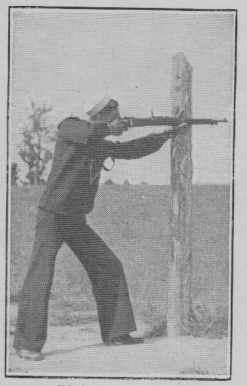
165. Only men who, during current enlistment, have qualified as marksmen, and no higher, are eligible to compete for prizes in the sharpshooter course.

166. Men who have fired the course previously and failed to qualify may compete for prizes.

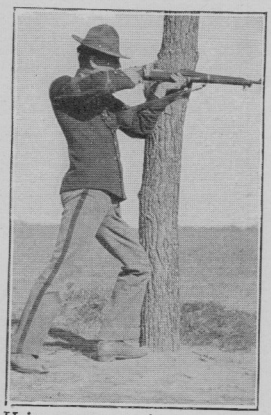
167. The value of a prize in the sharpshooter course is $2.

Positions Used in the Sharpshooter Course.

168. At 200 yards, stand and use post rest. Shoot from the right of the post, resting either the rifle or arm against the post. Some men also rest the left knee against the post.



Using post rest.



Using post rest; knee against post.

169. At 300 yards, kneel on either right or left knee or on both knees. When the left knee is on the ground the right elbow may be supported on the right knee; this with the rifle resting on the parapet gives excellent and steady support. Very short men may find that they can more easily accommodate themselves to the height of the parapet by kneeling on both knees.

Kneeling behind parapet.

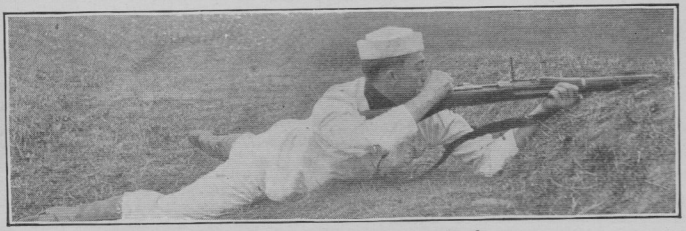
170. At 400 yards, sit down or squat. In the sitting position the buttocks, or the hip, must be on the ground. The knees may be drawn up and furnish rests for the elbows. When this is done,

Sitting behind parapet.

find a position so that the leg muscles are at rest and are not strained in order to hold up the rifle; lean the body well forward and find good steady rests for the elbows.

171. At 500 yards, lie down. In reloading prone with the rifle resting on a parapet and without removing the butt from the shoulder raise the right elbow well above the ground. It requires practice to do this conveniently.

Prone behind parapet.



Raising the right elbow to reload.

Notes on Winds.

172. The direction of winds is expressed by use of the word "*o'clock*." A wind coming directly from the target is a 12 o'clock wind. A wind blowing directly toward the target is a 6 o'clock wind. Both 12 and 6 o'clock winds, also winds from about 11, 1, 5, and 7 o'clock are called *fish-tail winds*. Winds from the firer's right as he faces the target are 3 o'clock winds, and from the left 9 o'clock winds. Both 3 and 9 o'clock winds and also 2, 4, 8, and 10 o'clock winds are called *cross winds*.

173. At the shorter ranges winds do not affect the bullet much. The direction of winds is never steady, and at the longer ranges the slightest change in direction of fish-tail winds causes great effect in lateral deviation of the bullet. At 500 yards a change in direction of a fish-tail wind so slight as to be hardly noticed will carry a shot well out of the bull's-eye. Considerable change in direction of cross winds causes very little effect in lateral deviation of the bullet, and even if they are strong winds they are favorable conditions for shooting. Scores will be low at 500 yards and longer ranges with even a light fish-tail wind.

174. Force of wind is expressed in miles per hour.

Zero of Rifle.

175. When there is no wind some rifles require that the windage be set to the right or to the left in order to hit the object aimed at. For instance, when there is no wind, and in order to hit the point aimed at the windage of the rifle is set at ½ right, it is said to have a zero of ½ right, and in setting the sight for windage this has to be taken into consideration. Suppose the zero of the rifle is ½ right and a wind requires 1 point right windage, then set the windage at 1½ right; or if the wind requires 1 point left windage, set the windage at ½ left. Learn the zero of the rifle by asking an experienced man what windage the wind requires and then find by firing the rifle where the windage must be set. The difference will be the zero of the rifle; check it up by comparing it with the windage used by other men shooting at the same time.

Beginners need not worry about the zero of the rifle, because they will hit the target without knowing the zero, and they can correct for windage after the target is hit. The zero of most rifles is at zero, and it is seldom over ½ right or left and is not enough to make any great difference at short range; but for accurate work at 500 yards the zero should be known.

Usually the zero is the same at all ranges. Five hundred yards is the best range to determine the zero, and the best time is when the sun is not shining.

In slow fire after the target is hit the windage can be changed so as to bring the other shots toward the bull's-eye, but in rapid fire and skirmish if the sight is set wrong at first all the shots will be bad.

Examples: With a rifle whose zero is ½ right how would the windage be set when other conditions called for ½ right? (Ans. 1 right.) For ¾ left? (Ans. ¼ left.) For ¼ left? (Ans. ¼ right.) Suppose that conditions called for ¼ left, but the rifle required ¾ left, what would be the zero of the rifle? (Ans. ½ left.) Suppose conditions called for ¼ right, but the rifle required ¼ left, what would be the zero of the rifle? (Ans. ½ left.)

The Windage Rule.

(How to calculate the windage required.)

176. Range times velocity divided by 10 = number of quarter points of windage required for 3 or 9 o'clock winds. Winds 1 hour away from 3 or 9 o'clock—that is, 2, 4, 8, and 10 o'clock winds—require only slightly less windage; winds 1 hour away from the 12 or 6 o'clock line—that is, 11, 1, 5, and 7 o'clock winds—require about half as much windage as the 3 or 9 o'clock winds.

Example: When shooting at 600 yards call the range 6, and if the wind is blowing 5 miles per hour, call the velocity 5, then range times velocity is 6 times 5 or 30; this divided by 10 gives 3; then the windage required for a 3 o'clock wind would be 3 quarters right windage and for a 9 o'clock wind 3 quarters left.

Another example: At 500 yards a 16-mile wind would require $\frac{5 \times 16}{10} = 8$ quarters or 2 points for a 3 o'clock wind (right windage) or 9 o'clock wind (left windage). If the wind were from 2 to 4 o'clock, it would require about 1¾ right, and if from 8 or 10 o'clock, about 1¾ left. If it were from 1 or 5 o'clock it would require 4 quarters or 1 point right windage, and if from 7 or 11 o'clock, 1 point left windage.

If trees or other objects obstruct the wind the effect of the wind on the bullet is less than if the wind is unobstructed, and this must be allowed for in estimating windage.

The simplest rule for a beginner is to ask an experienced man what windage is required.

The Quarter Point Rule for Changing Windage.

(How to change windage in slow fire after hitting the target.)

177. Changing the windage ¼ point moves the bullet 1 inch for every 100 yards of range. For example:

¼ point at 200 yards moves the bullet 2 inches on the target.
¼ point at 300 yards moves the bullet 3 inches on the target.
¼ point at 400 yards moves the bullet 4 inches on the target.
¼ point at 500 yards moves the bullet 5 inches on the target.
¼ point at 1000 yards moves the bullet 10 inches on the target.

The Square Rule for Changing Elevation.

(How to change in elevation after hitting the target.)

178. Changing the elevation 100 yards at any range gives change on the target equal to the number of inches in the square of the range.

Example: At 200 yards changing the elevation 100 yards gives 4 inches change on the target; at 300 yards, 9 inches; 500 yards, 25 inches; 600 yards, 36 inches; 1000 yards, 100 inches. Changing 50 yards gives half as much, and changing the elevation 25 yards gives one-quarter as much. For example: When shooting at 600 yards changing elevation 25 yards gives a change of 9 inches on the target.

This rule is not exact, but is close enough for all purposes.

179. Do not make changes in windage or elevation boldly. Make a little less change than what the rules would call for. In practice, changes seem to carry the bullet more than expected. Change cautiously. In case of doubt favor the smaller change, and unless quite sure of the hold or pull, or unless changes in conditions suggest it, do not change for one shot a little off.

When a change in wind or other conditions is observed, or when several shots have grouped off the bull's-eye, do not hesitate to change the sights.

Always aim the same way and control the point of hit by changing elevation and windage.

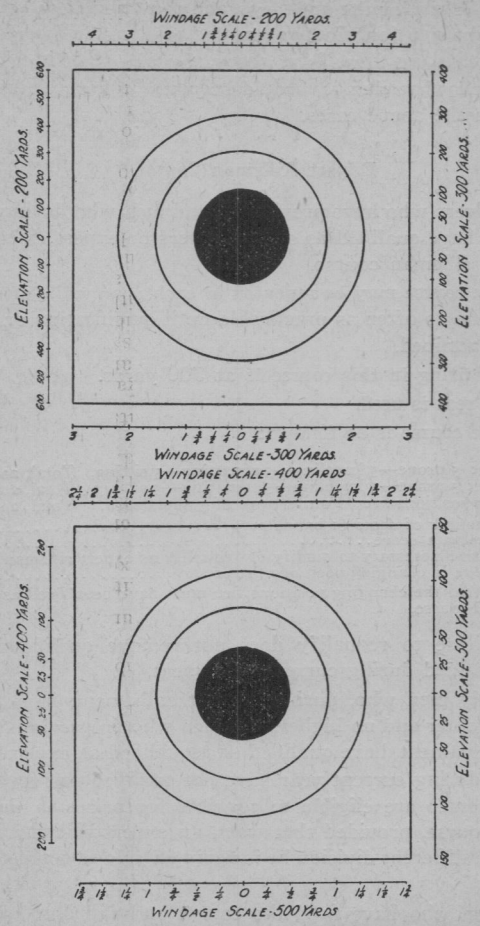
Examples: Refer to the 500-yard scales and notice the elevation marks on the side and the windage marks on the bottom of the target. (In all these examples when in doubt give the smaller change.) A bullet strikes at the top of the target (a 2 at 12 o'clock). How much change in elevation is required for next shot? For a 3 at 12 o'clock? For a 4 at 6 o'clock? Suppose the dirt just under the target is hit, how much change?

How much change in windage is required for a 2 at 3 o'clock? For a 3 at 9 o'clock? For a 4 at 3 o'clock? How many points windage in the entire width of the target? How many points wide is the bull's-eye?

What changes are required for a 2 at 10 o'clock? A 2 at 7 o'clock? A 3 at 5 o'clock? A 3 at 2 o'clock? A 4 at 1 o'clock? A 4 at 8 o'clock?

Try similar examples for the other ranges.

Now use a B target or a representation of a B target with its bull's-eye and rings. Remember the dimensions of the target,



Scales showing effect of changes in elevation in yards and windage in points and quarter points.

especially the size of the bull's-eye, and the "9-inch rule," and the quarter-point rule for windage and the square rule for elevations.

Assume that the firing is at 500 yards, and without looking at the scale tell what changes would be made in both elevation and windage in the above cases.

Expert Rifleman Course.

180. Officers who have previously, and men who during current enlistment have qualified as sharpshooters or expert riflemen, fire the expert rifleman course.

181. The course may be repeated in each year while attached to each division as often as practicable until qualification or requalification is attained.

182. All firing in this course is at 500 yards.

183. No rest is used.

184. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Rapid fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Changing positions fire: Four strings of 5 shots each.	Total, 20 shots.
Aggregate number of shots (1 bandoleer)	60
Possible aggregate score	300
Aggregate score necessary to qualify or requalify as expert rifleman	210
Or a total score in changing positions fire of	70

Provided that the changing positions fire must have been fired as a part of the complete course.

185. Failure to requalify does not remove qualification previously attained during current enlistment.

186. Only men who, during current enlistment, have qualified as sharpshooter and no higher, and men who, in previous years of current enlistment, have qualified or requalified as expert riflemen and who, during current year have not qualified or requalified as expert riflemen are eligible to compete for prizes in the expert rifleman course, provided that when an expert rifleman is transferred to a different division he is again eligible to compete during the year.

187. Men who have fired the course and failed to qualify or requalify may compete for prizes.

188. The value of a prize in the expert rifleman course is $3.

Information for Expert Riflemen.

189. The Navy courses do not include firing beyond 500 yards, because all the principles of firing at longer ranges can be taught at 500 yards, and it is difficult to provide range facilities permitting firing at longer ranges than 500 yards in the time that can be devoted to small-arms practice in the naval service.

190. Naval personnel compete with other riflemen in matches at long ranges, and reference is made in these instructions to fire at longer ranges than is included in Navy courses.

191. The following information is for those who have become familiar with the elementary essentials and who have acquired skill in practice.

The Micrometer or Vernier.

192. The micrometer or vernier is an instrument for making very small and accurate changes in elevation. It is constructed so that a movement of one of its divisions makes a change on the target equal to 1 inch for each 100 yards of range. For example: A change of one division, called minutes, on the micrometer at 200 yards gives a change of 2 inches on the target; 600 yards, 6 inches; 1000 yards, 10 inches, and so forth for every range. The best way to learn to set and read a micrometer is to get an experienced man to show you. The instrument is very simple and convenient. Some sights are made with the micrometer readings marked on the sight.

A minute gives the same amount of change in elevation as a quarter of a point gives in windage.

Weather Conditions.

193. There are two conditions which considerably affect elevations at long range; they are light and what is called by riflemen mirage.—Their effect is not noticeable at short ranges, and is small at mid ranges (500 and 600 yards), but is considerable at long ranges (800 and 1000 yards). The effect on elevations of head and tail winds is noticeable at 1000 yards and strong winds require an allowance of not over 25 yards at 1000 yards. Higher elevation is required for head winds and lower elevation for tail winds.

194. Mirage.—What is called *mirage* by riflemen is not true mirage, but is the heat waves often noticed with the naked eye, but

more clearly seen with the telescope. It is really the air traveling on the range. It is the best guide for windage, because as seen through the telescope directed at the target it is the actual air through which the bullet travels, while flags may show currents of air moving in other directions. When the mirage and flags do not agree, which is often the case on the range, the mirage is the true guide.

The ability to see clearly the correct movement of the mirage and estimate its rate of speed and to see it stop and change direction comes only by practice and study. The beginner can easily see the disturbance of the air, but at first is usually unable to tell whether it is moving to the right or to the left, or to detect slight changes in its speed. The best way to acquire ability to skillfully use the mirage is to constantly study it through the telescope while shooting, and get help from some experienced "wind doper."

The ability to use the mirage skillfully in shooting is what distinguishes the real long range match rifleman from the novice. Strong winds dispel mirage. The information obtained from the mirage is more valuable when the wind is light, and especially when it is fish-tailing; that is, shifting from one side to the other. Track of the direction of the fish-tail winds cannot be reliably kept by the flags, but the mirage will tell exactly. Any good holder can make a good score in a cross wind, but the real test comes when handling fish-tail winds.

195. Heavy mirage calls for higher elevation.—A heavy mirage causes a wavy appearance of the target, making the bull's-eye appear to be drawn out and down, and consequently higher elevation is required.

When the wind is fish-tailing the mirage changes direction; that is, sometimes moves to the right, and sometimes to the left. When there is no movement to the right or left, the wind is either still for the moment or the wind is carrying the mirage directly toward or from the target. The mirage then appears to rise, and is said to be "boiling." Try to avoid shooting in a "boil," for this is when the elevations are more disturbed and you are liable to get a miss (below the target). This accounts for some misses which inexperienced shooters are apt to call "unaccountables." The mirage "boils" just as it changes direction from right to left or from left to right. Wait for the mirage to take a movement to the right or left; it never "boils" long. A light mirage which is not in a "boil" does not appreciably affect elevation.

196. A telescope is needed for mid and long range firing. The telescope is placed on a rest so that you can easily place the eye to the telescope while watching the mirage, and just after shooting so that you can see the spotter. A camp stool upside down is a fine telescope rest.

197. Light.—A change in conditions from bright light (sunshine) to dull light (cloudy) requires changes in both elevation and windage.

If you are shooting in a dull light and the sun comes out, your shots will then strike low, and if the sun is to the right your shots will also strike to the left, or, if the sun is to the left, your shots will also strike to the right.

The effect of light must therefore be compensated for, and the rule is to move your sight into the sun both for elevation and windage. In other words, if shooting in a dull light and the sun comes out raise your elevation and move the windage to the right if the sun is to the right or to the left if the sun is to the left.

The amount of change to make for sunlight has been found by practical experience to be from ¼ to ½ point of windage and about 25 yards in elevation.

A good plan for mid and long range slow fire, when shooting in changing lights, is to wait as much as possible and try to fire your shots under the same light conditions.

198. The best condition for shooting to determine the zero of a rifle is a dull light or a cloudy day; 500 yards is the best range for determining the zero; at shorter ranges a change of a quarter of a point gives too small a change (at 200 yards it is only 2 inches) on the target and at ranges longer than 500 yards the trajectory begins to get unsteady and unreliable. Bear the sun rule in mind and the rifle will not seem to change its zero so often.

Finding the Target.

199. If the target is not hit by the first shot the trouble is probably in elevation, because any error in estimating the windage should not be sufficient to carry the shot off the target. To find the target, make changes in elevation of 50 yards at a time. Often misses are the result of neglecting to set the sight or of the sight slipping down. First examine the sight and see that the windage has been set on the correct side, and then if you have made no mistakes you should begin by coming down at long range 50 yards, then if you miss again come up 50 yards from the original elevation, and so on until you find the target.

Machine Gun Course.

200. This course is for any machine gun or automatic rifle issued to the service for use with small-arms ammunition.

201. **Each officer and man may fire this course** once per year while attached to each division.

202. **The course may be fired at any range.**

At Guantanamo the 300-yard range will generally be available for this course.

203. **The course is 60 shots for each firer.**

Possible score 300.

204. Not over 5 extra shots may be fired slow fire fashion preliminary to each course. These shots are not counted in the score.

205. After each string of 60 shots the score is taken in the butts and communicated, preferably by telephone, to the firing line and there bulletined for the information of the competitors.

206. **The classes for prizes** are composed of the enlisted men who fire the gun. The coaches and helpers are not included in classes for competition except when they fire the gun.

207. All the members of a class of competitors may fire the same gun, or they may fire different guns.

208. **The value of a prize in the machine gun course is $1.**

209. **When on the range and not in use machine guns must be kept on the firing line with the muzzles elevated and pointed to the front.**

210. **Under no circumstances should anyone be allowed to pass in front of the muzzle of the gun whether the gun is loaded or not.**

211. **A reliable man must be in charge of each gun and he must be present with it at all times and not allow anyone to handle it except under his supervision.**

212. **Greatest care should be taken to make sure that the gun is unloaded when not being made ready to be fired. The gas lever of the Colt's automatic rifle should be operated several times after firing has ceased.**

Individual Competition General.

213. In addition to the prizes awarded in connection with the qualification courses an individual competition general for prizes is authorized. Each officer and man may fire this course for credits once each year while attached to each ship or station.

214. The firing may be at any range and a target of any size may be used. Reduced charge or small caliber ammunition may be used, provided it is fired from the service rifle.

215. No rest is used.

216. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Changing positions fire: Two strings of 5 shots each.	Total, 10 shots.
Aggregate number of shots	30

217. This course is separate and distinct from qualification practice and no part of the firing done as qualification practice will be included in its scores, nor will any firing done in this competition be included in qualification scores.

The course will serve as a preparation and try out for primary and division team competitions. It is also intended for practice on ranges where the arrangements do not accommodate the qualification courses and in galleries, and it permits the holding of primary and division team competitions with these facilities.

At Guantanamo it will be found convenient to utilize the 300-yard range for this course when other parts of the range are occupied with qualification courses.

218. All men are eligible to compete for this prize once per year while attached to each division or equivalent. The arrangement of men into classes according to their qualification is suggested.

219. The value of a prize in the individual competition general is $1.

Team Competitions.

220. Primary team competitions, division team competitions, and ships team competitions are authorized. Not more than two officers may fire on a team, but no money prizes will be paid to officers, nor will the prize to enlisted members of the team be increased by reason of prizes not paid to officers.

Practice in preparation for these competitions is authorized; no record is kept of such practice.

221. In division team competitions and in ships team competitions the teams competing at the same time may be divided into separate competitions beforehand, or the same number and character of prizes may be awarded according to standing in whole list as if such division had been made.

Teams from the Navy, Marine Corps and Naval Militia may compete for prizes and credits with teams from the Coast Guard, Army and National Guard and with civilian or other teams, but

prize money from Navy Department appropriations available to Navy, Marine Corps or Naval Militia teams cannot be paid to other teams.

222. **A copy of the range record** of each division team winning first place with four or more teams competing and of each ship's or officers' team winning first place with four or more, second place with eight or more teams competing, etc., adding one place for each four teams competing, showing the team totals and aggregates of the other teams competing, will be furnished the Director of Gunnery Exercises and Engineering Performances (or Major General Commandant, or Division of Naval Militia Affairs) by commanding officers as soon after the competition as practicable for the verification of data in requests for qualification as expert team rifleman.

Primary Team Competition.

223. **Two or more teams from the same division,** each team to consist of four firing members, will compete. Each officer and man is authorized to fire in one primary team competition annually.

224. **The course to be fired** by each member of the team is the course prescribed for the individual competition general.

225. **The value of the prize** is $1 to each man of the team making the highest aggregate team score.

Division Team Competition.

226. **Teams for a division team competition** will consist of one team of eight firing members for each division competing.

227. **Each division may enter one team** in two competitions for prizes and credits annually. Not more than one of these competitions may be arranged with similar teams of other ships or shore stations or with other teams.

228. **Ships whose personnel is not organized into divisions** may enter one team in two division team competitions for prizes and credits annually with other teams.

229. **The course to be fired** by each member of a team is the course prescribed for the individual competition general.

230. **When fewer than four teams compete,** the value of the prize is $2 to each man of the team making the highest aggregate team score. When four or more teams compete, the value of the prize is $5 to each man on the team making the highest aggregate team score.

Ships Team Competition.

231. Teams for a ships team competition will consist of eight firing members from each ship competing.

232. Each ship is authorized to enter one team in two competitions for prizes and credits annually.

233. When a number of ships are in company and have access to a range, and the circumstances permit, a competition for all ships which have not already entered two ships competitions since the beginning of the target year, should be held under the direction of the senior officer present. Fleet matches are held under the above provisions.

234. Commanding officers are authorized to arrange for competitions whenever the circumstances permit.

235. The course to be fired by each member of the team is the expert rifleman course plus a skirmish run. The skirmish run should be fired after the rapid fire and before the changing positions fire, but the officer in charge of the competition may change the order of firing for reasons of expediency.

236. In team competitions, in each skirmish run, there will be an equal number of skirmishers from each team, and in the commands for the run the announcement of windage will be omitted. Not more than one representative or member of a team may accompany each of its skirmishers in each run and coach them.

237. When fewer than four teams compete, the value of the prize is $5 to each man of the team making the highest aggregate team score. When four or more teams compete, the value of the prize is $10 to each man on the team making the highest aggregate team score. When eight or more teams compete, the value of the prize is $20 to each man on the team making the highest aggregate team score and $10 to each man on the team making the second highest aggregate team score.

Collective Fire Course.

238. The object of this course is to give officers and petty officers experience in controlling and directing fire, and to give officers and men experience in fire discipline. The skirmish runs of the sharpshooter course afford experience in delivering fire with mounted cartridges. The collective fire course is designed to afford experience in delivering volleys.

239. Collective fire will be held by squads of exactly eight firers, each squad commanded by an officer or enlisted man, or by groups

of such squads firing simultaneously. When the firing party consists of more than one squad the commands for firing may be given by the commander of the whole, or by the squad commanders, as the officer in charge directs. Squad commanders will be charged with maintaining in their respective squads the discipline of the firing line. Squad commanders will not be armed with rifles.

240. One target will be provided for each squad.

241. The course will consist of the same number of shots for each man at the same ranges and from the same positions as for the skirmish. The firing will be by volleys. Thus at each range five volleys will be fired. There is no time limit.

245. Form the squads in line of skirmishers, each man with 20 rounds of ammunition (four clips). Assign each squad to one target. Take a record showing the names of men in each squad, the name of the squad commander, and the number of the target assigned to each squad. The targets should now be exposed and ready to fire upon. Command **FILL MAGAZINES, LOAD AND LOCK, FORWARD MARCH, HALT, LIE DOWN, 500 YARDS, WINDAGE —, SET YOUR SIGHTS, UNLOCK PIECES, AT YOUR OWN TARGET, SQUAD (SECTION OR COMPANY) AIM, FIRE, SQUAD (SECTION OR COMPANY) AIM, FIRE,** etc., until five volleys have been fired. After each volley the firers reload from magazines without command. Then **FILL MAGAZINES, LOAD AND LOCK,** then **FORWARD, DOUBLE TIME, MARCH,** etc. When finished at 200 yards, command **PORT ARMS, OPEN CHAMBERS, LEAVE YOUR CHAMBERS OPEN.** Then march the squads off the range. The advance from range to range will be in double time, and the same rests will be used as in the skirmish.

246. Collective fire can be conducted along with skirmish runs. A convenient time to hold collective fire is immediately following the skirmish runs of the sharpshooter course.

247. Regular values are assigned to the hits.

248. The target is not marked until the end of the run. The scores should then be telephoned to the firing line and there bulletined for the information of the competitors.

249. Each officer and man may fire in one collective fire squad per year when attached to each division.

250. When two or more squads which are present together on the range fire the collective fire course a prize will be awarded to each enlisted man firing in the winning squad. Officers may fire in the squads, but no prize money will be paid to officers.

251. When practicable squads should be composed of men from the same division, and when two or more squads are present from a division they will compete together and not with squads from other divisions, except that a single squad may be added if there is no other way to include it in a competition.

252. The value of a prize to each man of the winning squad in the collective fire course is 50 cents times the number of squads competing.

The Pistol Course.

253. Each officer or man may fire the pistol course for credits once per year while attached to each division.

254. The firing in the pistol course may be done at any range.

255. Any target may be used.

256. The course is as follows:

Position.	Slow fire.	Rapid fire.
Prone	5 shots	1 string of 5 shots.
Kneeling	5 shots	1 string of 5 shots.
Squatting	5 shots	1 string of 5 shots.
Standing	5 shots	1 string of 5 shots.
Total number of shots	20	20

Aggregate number of shots	40
Possible aggregate score	200

257. All men are eligible to compete for prizes in this course once per year while attached to each division.

258. The value of a prize in the pistol course is $1.

259. When scoring in the pistol courses, in order to prevent the markers from knowing the names of the individuals who are firing, the name of the firer will not be announced by the scorer, but the number of the target he fires upon will be substituted for his name.

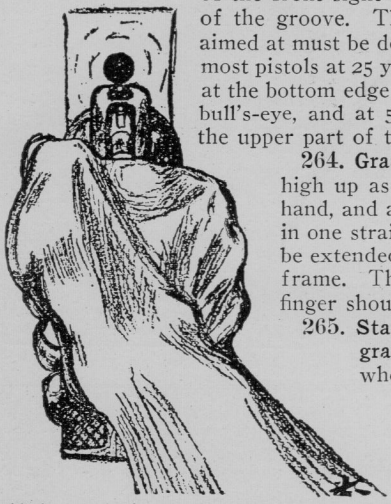
260. Before automatic pistols are brought to a range, the magazines should be removed and kept removed at all times except while the pistol is in actual use at the firing point.

261. Under no circumstances should any one handle a pistol, loaded or unloaded, except when he is on the firing line fully abreast of the firers, and the pistol should never be pointed in any other direction than the front.

Notes on Pistol Practice.

262. When a pistol is first taken in hand it should be examined to make sure that it is not loaded.

263. Both the front sight and the rear sighting groove should be blackened. When the pistol is aimed the front sight should be seen through the middle of the rear sighting groove and the top of the front sight should be flush with the top of the groove. The part of the target to be aimed at must be determined by practice. With most pistols at 25 yards the aim is usually taken at the bottom edge or in the bottom part of the bull's-eye, and at 50 yards in the center or in the upper part of the bull's-eye.



Aiming at the bottom edge of the bull's-eye. The point aimed at varies with the pistol and with the range.

264. Grasp the stock of the pistol as high up as you can so that the barrel, hand, and arm are as nearly as possible in one straight line. The thumb should be extended along the upper part of the frame. The second joint of the forefinger should be on the trigger.

265. Start with a light grip and gradually squeeze with the whole hand, the trigger finger squeezing gradually back as the grip is tightened, and continue squeezing without a jerk until the pistol fires. Decide to call the hold and to keep the right eye open.

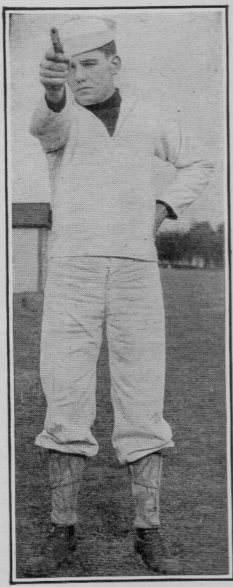
Prone with the pistol.

Kneeling on right knee. Kneeling on left knee. Squatting.

266. If the hits are bunched to one side they can be moved to the right by increasing the pressure of the thumb against the left side of the pistol or to the left by decreasing the pressure.

267. Snapping—that is, aiming and squeezing the trigger with the pistol not loaded—is most valuable practice. No man should load and fire until he has snapped several times to get acquainted with the trigger pull of the pistol. Expert pistol shots do a great deal of snapping instead of a great deal of firing. Steady holding can be acquired only by much snapping practice.

268. In the prone position the right elbow has excellent support on the ground. In the kneeling position the firer may kneel on either knee. Kneeling on the left knee affords an excellent rest on the right knee for the elbow. In the squatting position both elbows rest on the knees. In the standing position face the target squarely, or nearly so. Stand upright, not craning the head forward, and extend the arm to its full stretch.



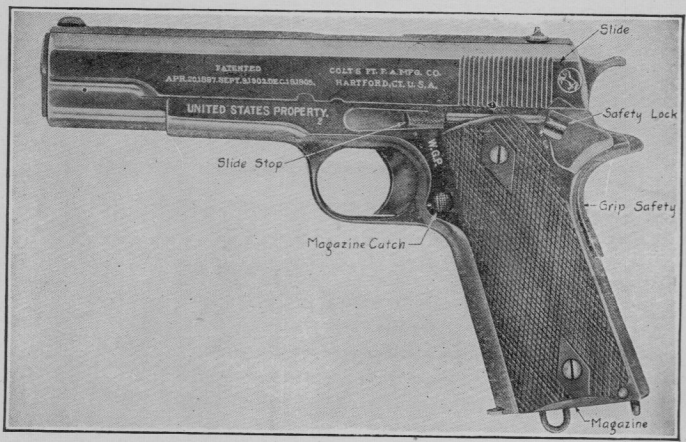
Facing the target squarely; arm extended to full stretch.

269. A coach should be at each firing point. In addition to the general duties of a coach, his specific duties in pistol practice are: (1) to stand slightly behind the right

side of the firer in order to prevent the pistol being pointed away from the front, (2) to see that the pistol is not loaded until the proper time, (3) to require the firer to explain the line of sight, (4) to see that the firer takes the proper position and holds the pistol properly, (5) to require the firer to snap several times and to call the hold, (6) to see that the firer loads properly, and (7) to see that the pistol is unloaded before it leaves the firer's hands.

Mechanism of the Pistol.

270. To thoroughly familiarize men with the mechanism of the pistol they should be required to dismount and assemble its parts; squad classes under an instructor should be used for this purpose.



Automatic pistol, caliber .45.

271. When the slide is in its forward position and the hammer is full cocked, push the safety lock up to lock the hammer.

272. The grip safety at all times automatically locks the trigger unless the grip safety is pressed in by firmly grasping the handle as in the firing position.

When the slide is drawn fully back to its rear position, if the magazine is empty the slide stop automatically locks the slide in

its open position; if the magazine is not empty, and there is no jam, the slide when released will spring to its forward position unless it is locked by pressing the slide stop up into the recess on the slide.

When the pistol is fired and the slide remains open. it indicates either that the magazine is empty or that there is a jam.

273. To relieve a jam it is often necessary to remove the magazine.

274. To remove the magazine, press the magazine catch.

275. To load, charge the magazine with any number of cartridges from one to seven (with five for a string in the Navy courses); insert the magazine into the hollow of the handle with a quick continuous movement until the click of the magazine catch is heard; then draw the slide fully back and release it, thus cocking the pistol and bringing the first cartridge into the chamber. The pistol is now ready for firing.

276. With the magazine empty, the pistol can be used as a single loader by drawing back the slide, inserting a cartridge in the chamber, and pressing down the slide stop to release the slide.

As a safety precaution, with inexperienced firers, the pistol should be used as a single loader in slow fire, the coach keeping the ammunition in his possession and inserting single cartridges in the pistol for the firer.

277. After the pistol is single loaded (and locked as a safety precaution), a filled magazine may be inserted; the pistol then carries eight cartridges ready for use.

It is dangerous, however, to carry the pistol thus loaded, and, except in emergencies, the pistol should be carried with the chamber empty. When cartridges are in the magazine, to cock, load the chamber, and fully prepare the pistol for use it is only necessary to draw the slide fully to the rear and release it.

278. Pressure must be entirely relieved from the trigger after each shot in order that the trigger may reengage the sear.

279. To inspect a pistol to see that it is unloaded, or to unload it, draw the slide to the rear and release it as often as is necessary until it automatically remains in the open position. If loaded, each time the slide is drawn to the rear a cartridge will be ejected.

280. With the revolver, to load, unload, or inspect it to see whether it is loaded hold the revolver in the left hand, cylinder in the palm of the hand, muzzle pointing to the front or in a safe

direction; unlatch and open the cylinder. In closing the cylinder press it home smartly until it clicks, and then verify latching by pressing against the right side of the cylinder. The revolver is injured and often disabled by attempting to operate the trigger or hammer when the cylinder is not fully home and latched. With the revolver always, even in rapid fire, use the single action; that is, cock it before firing each shot. The trigger pull of the double action is so heavy that it is impossible to keep the aim in using it. It can be easily cocked by removing the finger from the trigger, raising the muzzle to the right, moving the right hand up on the stock, and placing the thumb across the hammer. This should be practiced until it can be done readily.

CHAPTER IV.

THE CONDUCT OF RANGE PRACTICE.

The Officer in Charge of the Range.

281. The officer in charge of the use of the range or his representative will be present upon the firing line. He will assign parties to targets, provide the firing line with score boards, chalk, telephones, and other necessary and convenient equipment, see that proper safety precautions are taken, and facilitate the use of the range.

Permanent Range Details.

282. During target practice periods there should be assigned to duty under the officer in charge of the range a permanent detail of officers and men to provide and keep the range and its equipment ready for use, so that they will become accustomed to the duties and familiar with the equipment. This permanent detail should include an officer in charge of each firing line; an officer in charge of each butts; men to perform telephone service on firing line and in the butts; men to repair and provide targets, spotters, pasters, paste, paste brushes, marking disks, chalk, etc., in the butts; and men to provide and police the firing lines and gather empty cartridge cases, etc. Only experienced range men can give good telephone service, and good telephone service is indispensable. It is not economical to have large firing parties delayed because equipment is not readily provided and prepared. Transient parties cannot give efficient service. A few men can gather the empty cartridge cases, etc., and police the range very quickly after firing parties have left.

283. These permanent details should be quartered on the range.

284. After firing parties are clear, range details should police the firing lines, and gather empty cartridge cases, empty packing

boxes, bandoleers, and brass clips to be stored on the range, and be disposed of as required in Naval Instructions.

Organization of Parties for the Range.

285. An officer should be in charge of the entire party from each ship. When the party is large, he should provide himself with a megaphone. When there are parties from several divisions of the ship, an officer should be in charge of all the ship's butt details. He should provide himself with a watch, preferably a stop watch.

286. With the party from each division there will be an officer or petty officer in charge who will take the scores of the division, unless a special score taker is included in the party; a petty officer or selected man for telephone duty on the firing line and one in the butts, unless the telephones are manned by permanent details; and a petty officer or selected man in charge of the butt detail.

287. In addition to the above details, for each target there will be required in all courses one marker for duty in the butts and one coach for each firing point.

288. In individual courses the firers score for each other while waiting their turn to fire.

289. In team matches, in addition to the above, each team of eight men should provide a scorer. The scorers in team matches will be assigned to firing points of other teams.

Time Required to Fire the Courses.

290. In the marksman, sharpshooter, and expert rifleman courses four firers per target can complete each course in a half day. In the individual competition, general, primary team, division team, and pistol courses eight men per target can complete each course in a half day. If necessary, four men per target can fire the ship's team course in a long half day, but it is preferable to use a whole day for this course, and, if necessary, eight men can then fire on one target. If a machine gun works smoothly, the machine gun course can be fired by half of the men in a division in a half day.

Collective fire squads can fire in from 10 to 20 minutes. They may accompany skirmish runs.

291. In courses where slow, rapid, and changing positions fire are fired, each firer should complete all his slow fire, before the next firer begins; then, when all have completed slow fire, the same procedure should be taken with the other kinds of fire. Confusion results when the various elements of a firing line take up the different kinds of fire at different times. All should operate together on the same command. Changes from one kind of fire to another should not be made by smaller elements than a whole ship's party, and in team competitions all teams should begin each kind of fire at the same time.

The Officer in Charge of the Firing Party.

292. The officer in charge of the firing party will see that the officers or petty officers in charge of each division party perform the following duties: Before the firing party leaves ranks at the range, form and move off butt details; arrange the firers in squads for each firing point; assign the coaches and squads to firing points; announce in individual courses whether or not men of a division are further subdivided into classes for prizes; attend to the issue of ammunition and of chalk for scoring; see that the score taker has a correct list of the classes; require the chambers to be opened; and caution the men to habitually keep the chambers open, and never to put the rifle in the shoulder, or point it at anything in the rear of the firing points. Before firing begins, the names of all the firers are written on the score board. Before the party is dismissed after the firing is completed, the chambers will be opened, inspected, and closed, and the announcement of award of prizes will be made.

Coaches.

293. In all courses there should be a coach at each firing point. **The coaches will** see that all requirements are carried out and will guard against accident and delay. In individual courses the coach will be on the firer's right. He requires the firer to explain

the line of sight, or how he is going to aim; sees that the sights are set properly; requires the firer to take the proper position and to hold the rifle properly, especially with the sling the proper length and properly adjusted, the jaw hard against the stock, thumb not across the stock; coaches the firer to squeeze the trigger properly; requires the firer to call the shot immediately; inspects the sights each time they are changed; watches every detail carefully; corrects all faults; gives necessary instruction; sees that the rifle is unloaded and the chamber left open before the firer leaves the firing point; supervises the scorers; and requires them to announce the score correctly and in proper language.

Firing Singly.

294. In all firing, men will fire singly and not in pairs. A coach cannot supervise properly more than one man at a time. If men are in pairs and fire alternately, it is irritating to wait for their turns to fire, and confusion in scoring results.

Buzzers.

295. Buzzers are not necessary on ranges. They are misused by being pressed before the bullet reaches the target at long range and they make the markers inattentive. It is better for the markers to watch their targets; then they will keep alert. If buzzers are provided, do not permit their use without permission each time from a coach or range official, and never press a buzzer to have a target re-examined because the target will then be pulled and a miss signaled.

Telephones.

296. One telephone to a group of from 10 to 15 targets is sufficient. Messages to butts should be brief and explicit. If the target is to be pulled and marked, say, "Mark number ——." If it has been pulled, and it is to be pulled, re-examined, and marked again, say "Re-examine number ——." When the hit is to be disked, or disked a second time, without the target being pulled down, say "Disk number ——." Angry and irritating messages to butts only result in still poorer service. If a certain target gives consistently bad service call to the telephone the one in charge of the markers and explain definitely the trouble.

The service in the butts is much improved when with each telephone man there is an experienced messenger to deliver messages received and to supervise their execution.

Overhead telephone wires, besides being less expensive to install, are preferable to buried or conduit systems. Faults in the overhead system can easily be located and corrected.

Necessity for Correct Marking and Scoring.

297. All firing in the Navy courses is strictly competitive. There is no incentive for fraud, because when men do improper marking or scoring they merely injure each other, and when improper scoring is done it will be in the presence of the men who are defrauded. There can be no interest in shooting unless the marking and scoring is efficient. Improper marking and scoring are easily detected. Firers want correct marking so that they can know how to fire the following shots. The use of spotters insures correct marking in slow fire, and no target should be marked in rapid or changing position fire, except in the presence of an officer or petty officer or other competent supervisor.

Scoring.

298. **All scoring** should be done on a blackboard in plain view of all bystanders. When everyone can see all the scores interest is excited. Scores should not be erased until it is necessary to do so. Scorers will not erase any score until orders to erase are given. When a target is marked the scorer should announce the score loud enough to be heard by the firer and bystanders, recording each shot as he announces it. The form of announcing is as follows:

In slow fire: "Seaman ....., first shot prone a five," or "Seaman ....., fifth shot kneeling a miss."

In rapid fire and changing positions fire: "Target number ....., Seaman ....., one four, two fours, one three, one miss, two misses."

In pistol practice, slow fire: "Target number ....., first shot prone a three." Rapid fire: "Target number ....., one five, one four, one three, one two, two twos."

NOTE.—Use expression "five" instead of "bull's-eye," and "miss" instead of slang expression.

299. **In skirmish, machine gun, and collective fire** the scores should be communicated without delay to the firing line and there bulletined for the information of the competitors.

300. **Scorers must be stationed** in line in rear of their firing points and must confine their language to their strict duties.

301. **Hits made on the wrong targets** are scored as misses.

302. **Firers should examine their scores and totals** on the score board. After leaving the range the totals on the record sheets will not be questioned.

Specimen Score Board Used in Marksman and Expert Rifleman Courses.

(A black board with white letters and lines.)

TARGET NO. *41.* *Second* DIVISION, U. S. S. *Alaska.* COACH, *Gray.*																							
NAME	RATE	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	TOTAL	AGGREGATE
White	*Sea*	4	3	4	5	5	5	5	4	5	4	5	4	4	5	5	3	5	5	5	4	89	
		5	5	4	4	0	5	5	4	3	2	5	5	5	4	4	5	4	4	4	3	80	
		5	4	4	3	3	5	5	4	4	4	5	5	4	3	3	4	4	4	3	3	79	248
Black	*Cox*	3	4	4	5	4	5	4	4	4	4	3	5	5	4	5	4	3	4	2	5	81	
		5	4	4	4	0	5	4	4	4	0	0	0	0	0	0	4	4	3	0	0	45	
		5	4	4	4	4	5	4	3	3	3	4	4	4	4	4	4	4	3	2	0	72	198
Green	*O. S.*	3	3	4	4	5	4	3	4	4	3	2	4	4	3	4	2	3	3	4	4	70	
		5	4	3	0	0	4	4	3	2	2	5	5	4	4	2	4	3	3	3	2	62	
		4	4	4	3	0	5	4	4	2	2	4	4	3	3	0	4	4	3	2	2	61	193
Brown	*G. M. 2 Cl.*	4	5	5	5	5	5	4	4	5	5	5	4	4	5	5	3	5	3	5	4	90	
		5	5	4	4	3	5	4	4	4	4	5	5	5	3	3	4	4	4	3	0	78	
		5	4	4	4	4	5	5	4	3	3	5	5	4	4	4	4	4	4	3	2	80	248

NOTE.—A board is permanently fixed in rear of each firing point where there are no firing lines in rear.

Specimen Score Board Used in the Sharpshooter Course.

Showing scores during the 500-yard firing, S. S. course.

(A black board with white letters and lines.)

TARGET *16.* *Second* DIVISION. U. S. S. *Alaska.* COACH, *Gray.*																
NAME	RATE	1	2	3	4	5	6	7	8	9	10	TOTAL 200	TOTAL 300	TOTAL 400	TOTAL 500	TOTAL SK	AGGREGATE
White	*Sea*	3	4	5	4	4	5	5	3	3	0	35	40	38	36		
Black	*Cox*	3	3	4	5	4	5	4	4	3	2	30	34	33	37		
Brown	*G. M. 2 Cl.*	4	5	4	3	4						36	37	35			
Blue	*B. M. 1 Cl.*	4	4	5	4	4						27	42	41			

NOTE.—This board is carried from range to range. At each range erase the scores of the previous range, but do not erase the names and totals.

The Record.

303. **Only the totals** of each class of fire (in the sharpshooter course the aggregate of the slow and rapid fire at each range) are recorded on the record sheets by the score taker. As the score taker records each total on his record sheet he indicates it by causing a line to be drawn through the total on the score board.

304. **The totals are aggregated and the announcement of award of prizes,** subject to later correction, will be made before the party is dismissed.

305. **The record sheets** are then delivered to the custodian of small-arms records. They are then examined, and checked, and the order for prizes is drafted.

Service in the Butts.

306. **In team competitions** markers should be assigned to targets without reference to what teams are firing upon the targets. No one in the butts should know to which targets the various teams are assigned. In individual courses the markers should be assigned to the targets used by their own divisions.

307. **One man is sufficient to handle a target.** The work will keep him busy, but if he has a helper there is not sufficient work to keep the two employed, and an argument will arise as to who is to do the work, resulting in its being poorly done.

308. **Inexperienced markers require close supervision.** The man in charge of each party of markers should be one familiar with the work and capable of instructing and controlling the markers.

309. **Each party should be drilled in operating the targets** before rapid fire, skirmish, and changing positions fire.

Single Targets.

310. **Single targets are preferable** in every respect to double targets, and all targets equipped with a front and rear carriage will be used single target fashion. The rear carriage will carry a weight for a counterbalance, and if a target is used for a counterbalance it will be faced to the rear.

Spotters.

311. **Spotters should be used** in all slow fire. They inform the firer exactly where his shot struck. They prevent careless and inaccurate marking of targets because the disking of the value must agree with the location of the spotter. They minimize fraud because it is too much trouble for a busy marker to punch and paste an extra hole in the target when the bullet hole is there ready to receive the spotter.

EXPLANATION OF RECORDS AND REPORTS.

312. Range records of individual courses should show the course fired, the division to which attached, the location of the range and the date, and after the name and rate of each firer the total score of each kind of fire, with aggregate score, qualification and prize due. The record is signed by the officer in charge of the party and is delivered to the custodian of small-arms records.

313. Range records of team competitions should show kind of competition, the division or ship represented by the team, the location of the range and date and after the name and rate of each firer the total score of each kind of fire and aggregate score, the team totals at each kind of fire and team aggregate score. The record is signed by the score taker and also by the team captain. The officer in charge of the competition will enter on the record of each team the team totals and aggregates of the other teams competing and their final order of standing and the amount of prize due each man of the team, sign the completed record, and transmit it to the custodian of small-arms records of the ship concerned.

314. The individual small-arms record for each officer or man who has fired will be prepared from the range records and will show the division to which attached, the small-arms year, the qualification at beginning of small-arms year (July 1) or on joining division, each individual or team course fired, with aggregate individual score (and qualifying score if qualification was attained by changing positions fire or skirmish and not by aggregate), the value of prize if any (in case of officers, if on a prize winning team, the value of prize to enlisted men), and date and each time firing member of collective fire squad, prize if any and date.

315. When an officer or man is changed from one division to another a separate individual small-arms record will be prepared for his firing in each division.

316. Individual small-arms record sheets of officers and men are not attached to annual reports. They are forwarded to the department only when the firer's name will not be included in any annual report.

317. The names of men who have not fired during the year are not shown on any records or reports.

318. Division annual reports are prepared from the individual small-arms records.

319. Following the date (end of small-arms year) and name or number of the division and of the ship, the names of the division officers concerned, with practice and the location of the ranges and the months in which practice was held, are stated.

320. This report contains a list of officers and men who fired while in the division during the small-arms year. Arrange the names in the following order of arrangement, alphabetically in each group, and in columns as indicated in parentheses:

(1) Indicate before each name by the letters shown the final qualification attained while in the division during the year:

E. Expert riflemen who qualified or requalified during the year.
Expert riflemen firing any course who did not requalify as expert riflemen.

S. Sharpshooters who qualified during the year.
Sharpshooters firing any course who did not advance in qualification.

M. Marksmen who qualified during the year.
Marksmen firing any course who did not advance in qualification.
Unqualified officers or men firing any course.

(2) Place surname first, followed by the initials of given names. Names of men who fired while in the division and who were discharged and who reenlisted and then fired any course are shown twice in this report. Indicate them by (X).

(3) State rank or rate at end of the year or when separated from division.

(4) State rifle qualification (U, M, S, or E) at beginning of year or on joining division.

(5) For the marksman, (6) sharpshooter and (7) expert rifleman courses enter the qualifying score.

When the qualification is attained not by aggregate score, but by score in changing positions fire or in skirmish, enter qualifying score in parentheses, thus: (75). If course was fired and no qualification is attained indicate by X. Note the value of prize won in (8) marksman course, (9) sharpshooter course and (10 expert rifleman course.

For the (11) pistol course, (12) machine gun course, (13) individual competition general, (14) collective fire, (15) primary team competition, and (16) (17) each division team competition, state value of prize won. In case of officers indicate in parentheses ( ) value of prizes awarded to enlisted men of team. If course is fired and no prize won indicate by X.

(18) State total credits for division earned by each officer and man.

(19) (20) State value of prize won in each ships team competition. In case of officers indicate in parentheses ( ) value of prize won by men of team.

(21) State total amount of prize money awarded to each enlisted man.

321. The summaries show the total number firing each course, the total number qualifying as marksman, as sharpshooter, and as expert rifleman, including requalifications as expert rifleman, the total number of final qualifications in each grade (the number qualifying in each grade and no higher), the total number of credits earned in each course with the aggregate number of credits, the total value of prizes awarded to enlisted men in each course, with the aggregate value of prizes paid, the complement of division, including officers, and the figure of merit to two decimal places.

322. Commanding officers of ships or equivalents determine, unless it is otherwise fixed, the allowed complement of divisions or equivalents. When the strength of divisions is intended to be variable and is not susceptible of having a fixed complement assigned, no figure of merit will be assigned.

323. The report is signed by the division officer and by the custodian of small-arms records.

324. The annual report of small-arms practice, after the name of the ship, division of submarines, station, regiment, battalion, or marine barracks, etc., and the year for which submitted shows the standing and data of divisions and equivalents (including officers and men not attached to divisions) arranged in order of figure of merit. The following data is shown for each division (including the flag personnel): figure of merit; complement; total number of credits; amount of prize money paid to enlisted men; total number firing courses, viz.: marksman, sharpshooter, expert rifleman, pistol, machine gun, collective fire, individual competition general, primary team, and two division teams; total number qualifying as marksman, as sharpshooter, and as expert rifleman; total number of final qualifications as marksman (and no higher), as sharpshooter (and no higher) and as expert rifleman; together with the aggregates for all divisions (excluding flag personnel). The number of credits for entering teams in ships team competitions, for winning prizes of $5 per man, $10 per man, and $20 per man in ships team competitions are indicated and the final aggregate of all credits, the allowed complement (including officers, but excluding all flag personnel), and the figure of merit (to three decimal places) are shown.

325. The report is signed by the custodian of small-arms records, submitted to the commanding officer and forwarded by him (showing date) to the department (Director of Gunnery Exercises and Engineering Performances) via the regular channels.

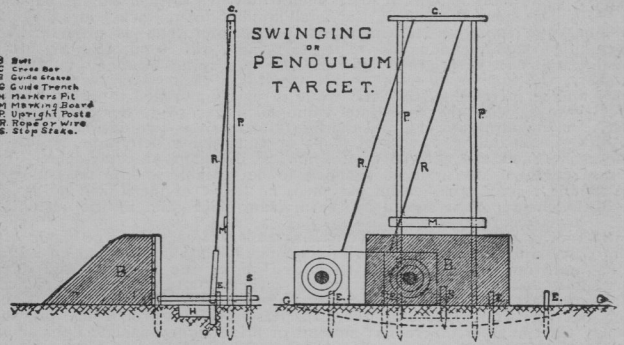
326. The report is accompanied by one copy of each division annual report. Copies of the individual small-arms records of officers are not required. The records of the officers are included in the regular division annual reports.

327. Comments or recommendations may be submitted by any officer and should be in duplicate.

328. Special reports are desired explaining arrangements made to use ranges other than Navy or Marine Corps ranges and describing location and character of improvised ranges.

THE SWINGING TARGET.

On temporary ranges or when there is no time or means to instal regular target carriers, the swinging or pendulum target can be quickly prepared from the materials usually at hand and with unskilled labor. Hammer, saw and spades are all the tools required, and nails, rope (or wire), and some timber from woods or boards such as are usually found nearby in any locality are all the materials required. A party of men can put up the target described in a few hours. It is easy of operation, fast and generally satisfactory for temporary use. Moreover, it never gets out of repair. The ropes (or wire) on which the target frame is suspended are sometimes cut by a bullet, but if double ropes (or wires), each pair a few inches apart, are used where single ropes are shown in the diagram, this cutting of one of them will not interfere with the operation of the target. In practice a rope is rarely cut, and little inconvenience is experienced from this cause.



The upright posts (P) are either of round timber cut from the woods, or they may be 4″ x 4″ lumber. They should be at least 25 feet above the ground. The higher they are the more easily the target is operated. Cleats should be nailed on the rear side of one of them to facilitate climbing when it is necessary to fix the ropes. These posts may be guyed with wire to make them steadier, but if planted deep enough in the ground it is not necessary to guy them. These posts are planted 8 feet apart.

The butt should be about 16 feet wide and 8 feet high. It is made of earth revetted preferably with boards 2 inches thick, as shown in the diagram. The posts which support the board revettment may be round timber and should be deeply planted in the ground. At the top of the butt the earth should be no less than 4 feet thick. The sides of the butt should be revetted.

The markers' pit (H) should be about 18 inches deep, so that the markers may use the surrounding ground as a seat. The markers' pit is about 8 feet long and 4 feet wide. This gives a margin of safety behind the butt of 4 feet on each side. Markers, although allowed to sit on the edge of the pit, should be cautioned not to step outside of it during range firing.

The guide trench (G) is a narrow trench which guides the target frame as it swings from one side to the other, and keeps the ropes clear of the upright posts. The depth of the trench is determined by experiment after

the target frame is attached to the ropes. Guide stakes (E) may be used in the rear in addition to the guide trench.

To determine proper length of ropes place the target in the position in which it will be fired upon, then fasten the ropes to the frame.

The target is pushed out and held in place by a man standing in the middle of marker's pit. He uses a stick and holds one end of it while the other end is held in place by a stake (S) driven in the ground. When he releases the target it swings with slight assistance to the other side of the butt, and the target which appears on that side is then in position. The *value* of the hit on the target now behind the butt is disked by a second man. He places the proper disk on the marking board (M) and thus does not interfere with the firer about to fire on the target in position. The *location* of the hits is shown by the use of spotters placed in the shot holes by a third man who also pastes the holes as soon as he removes the spotters. One man, if necessary, can perform the service in the pit, but three men give faster and more satisfactory service as fast as the firers can shoot.

The target frame contains two targets. It is 16 feet long, and is made of rough boards 3 inches or more wide. The frame should be a few inches wider than 6 feet so that when targets are pasted on there will be a part of the board frame below the target, and in the guide trench to prevent the wind from disturbing the target.

PART VI

INFANTRY

DRILL REGULATIONS*

(CLOSE ORDER)

UNITED STATES NAVY

REVISED, 1912

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*Taken mainly from the Infantry Drill Regulations, U. S. Army, 1911. Modified to suit naval conditions.

CLOSE ORDER.

DEFINITIONS.

Alignment.—A straight line upon which several elements are formed, or are to be formed; or the dressing of several elements upon a straight line.

Base.—The element on which a movement is regulated.

Battle sight.—The position of the rear sight when the leaf is laid down.

Center.—The middle point or element of a command.

Column.—A formation in which the elements are placed one behind another.

Deploy.—To extend the front. In general to change from column to line, or from close order to extended order.

Depth.—The space from head to rear of any formation, including the leading and rear elements. The depth of a man is assumed to be 12 inches.

Distance.—Space between elements in the direction of depth. Distance is measured from the back of the man in front to the breast of the man in rear. The distance between ranks is 36 inches in both line and column.

Element.—A file, squad, section, platoon, company, or larger body, forming part of a still larger body.

File.—Two men, the front-rank man and the corresponding man of the rear rank. The front-rank man is the *file leader*. A file which has no rear-rank man is a *blank file*. The term *file* applies also to a single man in a single-rank formation.

File closers.—Such officers and petty officers of a company as are posted in rear of the line. For convenience, all men posted in the line of file closers.

Flank.—The right or left of a command in line or in column; also the element on the right or left of the line.

Formation.—Arrangement of the elements of a command. The placing of all fractions in their order in line, in column, or for battle.

Front.—The space, in width, occupied by an element, either in line or in column. (The front of a man is assumed to be 22 inches.) Front also denotes the direction of the enemy.

Guide.—An officer, petty officer, or man upon whom the command or elements thereof regulates its march.

Head.—The leading element of a column.

Interval.—Space between elements of the same line. Between companies, squads, etc., it is measured from the left elbow of the left man or guide of the group on the right, to the right elbow of the right man or guide of the group on the left.

Left.—The left extremity or element of a body of troops.

Line.—A formation in which the different elements are abreast of each other.

Order, close.—The formation in which the units, in double rank, are arranged in line or in column with normal intervals and distances.

Order, extended.—The formation in which the units are separated by intervals greater than in close order.

Pace.—Thirty inches; the length of the full step in quick time.

Point of rest.—The point at which a formation begins. Specifically, the point toward which units are aligned in successive movements.

Rank.—A line of men placed side by side.

Right.—The right extremity or element of a body of troops.

GENERAL PRINCIPLES.

1. Commanding officers are accountable for the proper training of their respective organizations within the limits prescribed by regulations and orders.

2. Simple movements and elastic formations are essential to correct training for battle.

3. (1) The Drill Regulations are furnished as a guide. They provide the principles for training and for increasing the probability of success in battle.

(2) In the interpretation of the regulations, the spirit must be sought. *Quibbling over the minutiæ of form is indicative of failure to grasp the spirit.*

4. Drills executed at *attention* and the ceremonies are *disciplinary exercises* designed to teach precise and soldierly movement, and to inculcate that prompt and subconscious obedience which is essential to proper military control. To this end, smartness and precision should be exacted in the execution of every detail. Such drills should be frequent, but short.

GENERAL RULES FOR DRILLS AND FORMATIONS.

Commands and Movements.

5. When the *preparatory* command consists of more than one part, its elements are arranged as follows:

(1) For movements to be executed successively by the sub-divisions or elements of an organization: (*a*) Description of the movement; (*b*) how executed, or on what element executed.

(2) For movements to be executed simultaneously by the sub-divisions of an organization: (*a*) The designation of the sub-divisions; (*b*) the movement to be executed.

6. Movements that may be executed toward either flank are explained as toward but one flank, it being necessary to substitute the word "left" for "right," and the reverse, to have the explanation of the corresponding movement toward the other flank. The commands are given for the execution of the movements toward either flank. The substitute word of the command is placed within parentheses.

7. Any movement may be executed either from the halt or when marching, unless otherwise prescribed. If at a halt, the command for movements involving marching need not be prefaced by *forward,* as 1. *Column right* (*left*), 2. MARCH.

8. (1) Any movement not specially excepted may be executed in double time.

(2) If at a halt, or if marching in quick time, the command *double time* precedes the command of execution.

9. In successive movements executed in double time the leading or base unit marches in *quick time* when not otherwise prescribed; the other units march in *double time* to their places in the formation ordered and then conform to the gait of the leading or base unit. If marching in double time, the command *double time* is omitted. The leading or base unit marches in *quick time;* the other units continue at double time to their places in the formation ordered and then conform to the gait of the leading or base unit.

10. To hasten the execution of a movement begun in quick time, the command: 1. *Double time,* 2. MARCH, is given. The leading or base unit continues to march in quick time, or remains at halt if already halted; the other units complete the execution of the movement in double time and then conform to the gait of the leading or base unit.

11. To stay the execution of a movement when marching, for the correction of errors, the command: 1. *In place,* 2. HALT, is given. All halt and stand fast, without changing the position of the pieces. To resume the movement the command: 1. *Resume,* 2. MARCH, is given.

12. To revoke a preparatory command, or, being at a halt, to begin anew a movement improperly begun, the command, As YOU WERE, is given, at which the movement ceases and the former position is resumed.

The Guide.

13. (1) Unless otherwise announced, the guide of a company or sub-division of a company in line is *right;* of a battalion in line or line of sub-divisions or of a deployed line, *center;* of a rank in column of squads, toward the side of the guide of the company.

(2) To march with guide other than as prescribed above, or to change the guide: *Guide* (*right, left,* or *center*).

(3) In successive formations into line, the guide is toward the point of rest; in sections or larger sub-divisions it is so announced.

(4) The announcement of the guide, when given in connection with a movement, follows the command of execution for that movement. Exception: 1. *As skirmishers, guide right* (*left* or *center*), 2. MARCH.

(5) In column of sub-divisions the guide of the leading sub-division is charged with the step and direction; the guides in rear preserve the trace, step, and distance.

The Turns.

14. (1) *The turn on the fixed pivot* by sub-divisions is used in all formations from line into column and the reverse.

(2) *The turn on the moving pivot* is used by sub-divisions of a column in executing changes of direction.

Partial Changes of Direction.

15. Partial changes of direction may be executed:

(1) By interpolating in the preparatory command the word *half* as *Column half right* (*left*), or *Right* (*left*) *half turn.* A change of direction of 45 degrees is executed.

(2) By the command: INCLINE TO THE RIGHT (LEFT). The guide, or guiding element, moves in the indicated direction and the remainder of the command conforms. This movement effects slight changes of direction.

Formations and Distances.

16. (1) The men in a rank preserve a light touch of the elbow; the distance between ranks is thirty-six inches in both line and column.

(2) The allowance for the front of a man is taken at about twenty-two inches; the depth, about twelve inches.

NOTE.—The Army Drill Regulations provide for an interval of four inches between men in a rank, and a distance of forty inches between ranks. Owing to lack of space on board ship for all ordinary formations and drills, the light touch of the elbow in each rank and the distance of thirty-six inches between ranks are prescribed for the Navy. Whenever the nature of the equipment or the conditions of service on shore render it necessary, the Army Regulations in this respect may be followed.

17. The designations *line of sections, line of companies, line of battalions,* etc., refer to the formations in which the sections, companies, battalions, etc., each in column of squads, are in line.

18. Full distance in column of sub-divisions is such that in forming line to the right or left the sub-divisions will have their proper intervals.

19. In close order, all details, detachments, and other bodies of troops are habitually formed in double rank. When desirable small detachments may be formed in single rank.

Officers and Petty Officers. Posts, Salutes, etc.

20. (1) The posts of officers, **p. os.**, special details, etc., in the various formations of the company, battalion, or regiment, are shown in plates.

(2) In all changes from one formation to another involving a change of post on the part of any of these, posts are promptly taken by the most convenient route as soon as practicable after the command of execution for the movement; officers and **p. os.** who have prescribed duties in connection with the movement ordered, take their new posts when such duties are completed.

(3) As instructors, officers and **p. os.** go wherever their presence is necessary. As file closers it is their duty to rectify mistakes and insure steadiness and promptness in the ranks.

21. (1) General, field, and staff officers are habitually mounted. The staff of an officer forms in single rank 3 paces in rear of him.

(2) When not otherwise prescribed, staff officers draw and return sword with their chief.

22. (1) In making the about, an officer, mounted, habitually to the left.

(2) When the commander faces to give commands, the staff, flag, and orderlies do not change position.

23. At all military formations an officer salutes before making a report; the officer to whom the report is made acknowledges, by saluting, that he has received and understood the report. The salute is made with the sword if drawn; otherwise with the hand.

24. In all formations and movements a **p. o.** commanding a section or company carries his piece as the men do, if he is so armed, and takes the same post as an officer in like situation. When the command is formed in line for ceremonies, a **p. o.** commanding a company takes post on the right of the right guide after the company has been aligned.

ORDERS, COMMANDS, AND SIGNALS.

25. **Commands** only are employed in drill at attention. Otherwise either a *command, signal,* or *order* is employed, as best suits the occasion, or one may be used in conjunction with another.

26. Signals should be freely used in instruction, in order that officers and men may readily know them. In making arm signals the sword, rifle, or headdress may be held in the hand.

27. Officers and men fix their attention at the first word of command, the first note of the bugle or whistle, or the first motion of the signal. A signal includes both the preparatory command and the command of execution; the movement commences as soon as the signal is understood, unless otherwise prescribed.

28. (1) Except in movements executed at *attention,* commanders or leaders of sub-divisions repeat orders, commands, or signals whenever such repetition is deemed necessary to insure prompt and correct execution.

(2) Officers should be equipped with whistles. Guides and musicians assist by repeating signals when necessary.

29. (1) Prescribed signals are limited to such as are essential as a substitute for the voice under conditions which render the voice inadequate.

(2) Before or during an engagement special signals may be agreed upon to facilitate the solution of such special difficulties as the particular situation is likely to develop, but it must be remembered that simplicity and certainty are indispensable qualities of a signal.

Orders.

30. (1) In these regulations an *order* embraces instructions or directions given orally or in writing in terms suited to the particular occasion and not prescribed herein.

(2) **Orders** are employed only when the *commands* prescribed herein do not sufficiently indicate the will of the commander.

(3) Orders are more fully described in paragraphs 152 to 157, inclusive, Extended Order.

Commands.

31. In these regulations a *command* is the will of the commander expressed in the phraseology prescribed herein.

32. There are two kinds of commands:

(1) The *preparatory* command, such as *forward,* indicates the movement that is to be executed.

(2) The command of *execution,* such as MARCH, HALT, or ARMS, causes the execution

(3) *Preparatory* commands are distinguished by *italics,* those of *execution* by SMALL CAPITALS.

(4) Where it is not mentioned in the text who gives the commands prescribed, they are to be given by the commander of the unit concerned.

(5) The *preparatory* command should be given at such an interval of time before the command of *execution* as to admit of being properly understood; the command of *execution* should be given at the instant the movement is to commence.

(6) The tone of command is animated, distinct, and of a loudness proportioned to the number of men for whom it is intended.

(7) Each *preparatory* command is enunciated distinctly, with a rising inflection at the end, and in such manner that the command of *execution* may be more energetic.

(8) The command of *execution* is firm in tone and brief.

33. Bt. cs. and commanders of units larger than a battalion repeat such commands of their superiors as are to be executed by their units, facing their units for that purpose. The battalion is the largest unit that executes a movement at the command of execution of its commander.

34. (1) When giving commands to troops it is usually best to face toward them.

(2) Indifference in giving commands must be avoided as it leads to laxity in execution. Commands should be given with spirit at all times.

SCHOOL OF THE RECRUIT.

INSTRUCTION WITHOUT ARMS.

35. (1) Generally, p. os. are the instructors, under the supervision of an officer, but the c. c. occasionally requires the cs. o. s. to act as instructors.

(2) The instructor briefly explains each movement, at first executing it himself if practicable.

(3) He requires the recruits to take by themselves the proper positions and does not touch them for the purpose of correcting them, except when they are unable to correct themselves. He avoids keeping them too long at the same movement, although each should be understood before passing to another. He exacts by degrees the desired precision and uniformity.

(4) As the instruction progresses the recruits are grouped according to proficiency, in order that all may advance as rapidly as their abilities permit. Those who lack aptitude and quickness are separated from the others and placed under experienced drill-masters.

(5) A few recruits, usually not exceeding four, are placed in a single rank, facing to the front, and arranged according to height, the tallest man on the right.

(6) When the recruits have learned how to take their places, the instructor commands: FALL IN.

(7) They assemble rapidly, as above prescribed, at *attention.*

Position of Attention.

36. (1) Heels on the same line and as near each other as the conformation of the man permits.

(2) Feet turned out equally and forming with each other an angle of about sixty degrees.

(3) Knees straight without stiffness.

(4) Body erect on the hips, inclined a little forward; shoulders square and falling equally.

(5) Arms and hands hanging naturally, backs of the hands outward; thumbs along the seams of the trousers; elbows near the body.

(6) Head erect and square to the front, chin slightly drawn in without constraint, eyes straight to the front.

The Rests.

37. (1) Being at a halt, the commands are: FALL OUT; REST; AT EASE; and 1. *Parade*, 2. REST.

(2) At the command *fall out*, the men may leave the ranks, but remain in the immediate vicinity. They resume their former places, at *attention*, at the command *fall in*.

(3) At the command *rest*, each man keeps one foot in place, but is not required to preserve silence or immobility.

(4) At the command *at ease*, each man keeps one foot in place and preserves silence, but not immobility.

Parade Rest.

38. 1. *Parade*, 2. REST. Carry the right foot six inches straight to the rear, left knee slightly bent; clasp the hands, without constraint, in front of the center of the body, fingers joined, left hand uppermost, left thumb clasped by thumb and forefinger of right hand; preserve silence and steadiness of position.

Plate 1. Art. 38. Parade rest.

39. (1) To resume the attention: 1. *Squad*, 2. ATTENTION.

(2) The men take the position and fix their attention.

Eyes Right or Left.

40. 1. *Eyes*, 2. RIGHT (LEFT), 3. FRONT.

(1) At the command *right*, turn the head to the right so as to bring the left eye in a line about two inches to the right of the center of the body, eyes fixed on the line of eyes of the men in, or supposed to be in, the same rank.

(2) In executing the marching salute officers and men will distinctly turn the head and eyes, glancing directly toward the person or colors saluted and in passing they will continue to turn the face as long as practicable.

(3) At the command *front*, turn the head and eyes to the front.

Facings.

41. To the flank: 1. *Right* (*Left*), 2. FACE.

(1) Raise the right heel and left toe and face to the right, turning on the left heel, at the same time place the right foot by the side of the left.

(2) The facings to the left are also executed upon the left heel.

(3) 1. *Right (Left) half,* 2. FACE. Similarly executed facing 45 degrees.

To Face in Marching.

42. *To face in marching* and advance, turn on the ball of either foot and step off with the other foot in the new line of direction; to face in marching without gaining ground in the new direction, turn on the ball of either foot and mark time.

About Face.

43. 1. *About,* 2. FACE.

At the first command, carry the toe of the right foot about eight inches to the rear, and three inches to the left of the left heel, without changing the position of the left foot. At the second command, turn upon the left heel and right toe, face to the rear and re-place the right heel by the side of the left.

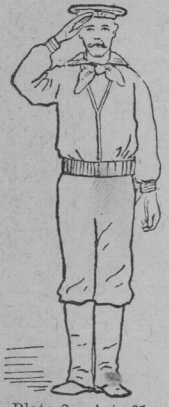


Plate 2. Art. 21. Hand salute.

Salute with the Hand.

44. 1. *Right (Left) hand,* 2. SALUTE.

(1) Raise the right hand smartly till the tip of forefinger touches the lower part of the headdress above the right eye, thumb and fingers extended and joined, palm to the *left,* forearm inclined at about forty-five degrees, hand and wrist straight. (Two) Drop the arm smartly by the side.

(2) The salute for officers is the same.

(3) *The left hand is used only when the right is engaged.*

(4) Officers and men, when saluting, turn the head and eyes toward the person saluted.

(5) The salute should be rendered at six paces before passing, or being passed by, an officer, unless the nearest point reached be greater than six paces, and not more than thirty paces, in which case salute at the point nearest the officer.

(6) The salute being returned, or the officer passed and the salute being unobserved, drop the hand quickly by the side.

(7) For rules governing salutes, see Honors, and U. S. Navy Regulations.

STEPS AND MARCHINGS.

Quick Time.

45. The length of the full step in quick time is thirty inches, measured from heel to heel, and the cadence is at the rate of one hundred and twenty steps per minute.

46. To march in quick time: 1. *Forward,* 2. MARCH.

(1) At the command *forward,* throw the weight of the body upon the right leg, left knee straight.

(2) At the command *march,* move the left foot smartly, but without jerk, straight forward thirty inches from the right, measuring from heel to heel, sole near the ground; straighten and turn the knee slightly out; at the same time throw the weight of the body forward and plant the foot without shock, weight of body resting upon it; next, in like manner, advance the right foot and plant it as above; continue the march.

(3) The cadence is at first given slowly, and gradually increased to that of quick time.

(4) The arms hang naturally, the hands moving about six inches to the front and three inches to the rear of the seam of the trousers.

47. The instructor, when necessary, indicates the cadence of the step by calling *one, two, three, four;* or, *left, right,* the instant the left and right foot, respectively, should be planted.

Double Time.

48. The length of the full step in double time is thirty-six inches; the cadence is at the rate of one hundred and eighty steps per minute.

49. (1) Being at halt, or in march in quick time, to march in double time: 1. *Double time,* 2. MARCH.

(2) If at a halt, at the first command shift the weight of the body to the right leg. At the command *march,* raise the forearms, fingers closed, to a horizontal position along the waist line; take up an easy run with the step and cadence of double time, allowing a natural swinging motion to the arms.

(3) If marching in quick time, at the command *march,* given as either foot strikes the ground, take one step in quick time, and then step off in double time.

To Resume Quick Time.

50. (1) To resume the quick time: 1. *Quick time,* 2. MARCH.

(2) At the command *march,* given as either foot strikes the

ground, advance and plant the other foot in double time, resume the quick time, dropping the hands by the sides.

Instruction.

51. (1) Recruits are also exercised in running, the principles being the same as for double time.

(2) When marching in double time and in running, the men breathe as much as possible through the nose, keeping the mouth closed.

(3) Distances of one hundred, and one hundred and eighty yards, are marked on the drill ground, and men are practiced in keeping correct cadence and length of pace in both quick and double time.

To Halt.

52. To arrest the march in quick or double time: 1. *Squad,* 2. HALT.

(1) At the command *halt,* given as either foot strikes the ground, advance and plant the other foot; place the foot in rear by the side of the other. If in double time drop the hands by the sides.

(2) The halt, while *marking time,* and marching at the *half step, side step,* and *back step,* is executed by the same commands.

To Mark Time.

53. Being in march: 1. *Mark time,* 2. MARCH.

At the command *march,* given the instant either foot is coming to the ground, mark the cadence without gaining ground, by alternately advancing each foot about half its length, and bringing it back on a line with the other.

The Half Step.

54. 1. *Half step,* 2. MARCH.

Take steps of 15 inches in quick time, 18 inches in double time.

55. (1) **Forward, half step, halt,** and **mark time** may be executed one from the other in quick or double time.

(2) To resume the full step from half step or mark time: 1. *Forward,* 2. MARCH.

Side Step.

56. Being at a halt or mark time: 1. *Right (Left) step,* 2. MARCH.

(1) Carry and plant the right foot 10 inches to the right; bring the left foot beside it and continue the movement in cadence of quick time.

(2) The side step is used for small intervals only and is not executed in double time.

Back Step.

57. Being at a halt: 1. *Backward,* 2. MARCH.

(1) At the command *march,* step back with the left foot 15 inches straight to the rear, then with the right, and so on, the feet alternating.

(2) At the command *halt,* bring back the foot in front to the side of the one in rear.

(3) The back step is used for short distances only, and is not executed in double time.

To March by the Flank.

58. Being in march or *marking time:* 1. *By the right (left) flank,* 2. MARCH.

At the command *march,* given as the right foot strikes the ground, advance and plant the left foot, then *face to the right in marching* and step off in the new direction with the right foot.

To March to the Rear.

59. Being in march: 1. *To the rear,* 2. MARCH.

(1) At the command *march,* given as the right foot strikes the ground, advance and plant the left foot; then, turning on the balls of both feet, face to the *right about* and immediately step off with the left foot.

(2) If marching in double time, turn to the right about, taking four steps in place, keeping the cadence, and then step off with the left foot.

Change Step.

60. Being in march: 1. *Change step,* 2. MARCH.

(1) At the command *march,* given as the right foot strikes the ground, advance and plant the left foot, plant the toe of the right foot near the heel of the left and step off with the left foot.

(2) The change on the right foot is similarly executed, the command *march* being given as the left foot strikes the ground.

THE MANUAL OF ARMS.

INSTRUCTION WITH ARMS.

General Rules.

61. (1) The recruit, as soon as possible, is taught the use, nomenclature, and care of his rifle; when fair progress has been made in the instruction without arms, he is taught the *manual of arms;* instruction without arms and that with arms alternate, and embrace both close and extended order.

(2) The manual is taught at a halt and the movements are, for the purpose of instruction, divided into motions and executed in detail; in this case the command of *execution* determines the prompt execution of the first motion, and the commands, TWO, THREE, FOUR, that of the other motions.

(3) To execute the movements in detail, the instructor first cautions: *By the numbers;* all movements divided into motions are then executed as above explained until he cautions: *Without the numbers;* or commands movements other than those in the manual of arms.

(4) The cadence of the motions is that of quick time; the recruits are at first required to give their whole attention to the details of the motions, the cadence being gradually acquired as they become accustomed to handling their pieces. The instructor may require them to count aloud in cadence with the motions.

(5) Open and close chamber, sling arms, secure arms, fix and unfix bayonet, stack and take arms, and movements relative to the cartridge and sight, are executed with promptness and regularity, but not in cadence.

(6) Before requiring recruits to take a position or execute a motion for the first time, the instructor executes the same for illustration; after which he causes them to execute it individually, then to execute it together at command.

(7) In the instruction of the recruit, to prevent interference with or apprehension by the man on his left, especially when bayonets are fixed, care is taken in coming to the position of *port arms*, and like positions of the piece, that the muzzle be not swung to the rear nor dropped farther to the left than necessary for taking the position.

General Rules for the Manual of Arms.

62. (1) *Fall in*, is executed with pieces at the *order*.

(2) *Fall out*, *Rest*, and *At ease*, are executed as without arms. On resuming *attention* the position of *order arms* is taken.

(3) If at the *order,* bring the piece to the *trail* at the instant of taking up the march, in the absence of any other command.

(4) The piece is brought to the *order* on halting. The execution of *order* begins when the halt is completed.

(5) When the facings, side step, back step, alignments, open and close ranks, taking intervals or distances, and assembling from bayonet exercise, are executed from the *order,* raise the piece *to the trail while in motion,* and resume the *order* on halting.

(6) The bayonet is not fixed except for instruction in the manual, in street riot formations, in bayonet exercise, on guard duty, or for combat.

(7) A disengaged hand in *double time* is held as when without arms.

(8) In all positions of the left hand at the balance (center of gravity, bayonet unfixed) the thumb clasps the piece except in *present arms* and *load,* in which two positions the thumb is extended along the stock; the sling if attached is included in the grasp of the hand.

(9) In the battle exercises, or whenever circumstances require, the regular positions of the manual of arms and the firings may be ordered without regard to the previous position of the piece.

Position of Order Arms.

63. The butt rests evenly on the ground, arms hanging naturally, elbows near the body, the right hand holding the piece between the thumb and fingers, first two fingers in front, the others in rear; the barrel to the rear, the toe of the piece touching and on a line with toe of the right shoe.

From Order to Present.

64. Being at the order: 1. *Present,* 2. ARMS.

Without changing the position of the fingers, carry the piece in front of the center of the body with the right hand, barrel to the rear and vertical, grasp it with the left hand at the balance, thumb extended along the barrel, the forearm horizontal and resting against the body. (*Two*) Grasp the small of the stock with the right hand.

From Present to Order.

65. Being at the present: 1. *Order,* 2. ARMS.

(1) Let go with the right hand and re-grasp the piece with all the fingers of the right hand just above the lower band, back of the hand to the right; let go with the left hand, carry the piece

with the right to the right side, barrel to the rear, hand near the thigh, butt about three inches from the ground, left hand steadying the piece above the right, fingers extended and joined, forearm and wrist straight and inclined downward. (*Two*) Lower the piece *gently* to the ground with the right hand, drop the left quickly by the side, and take the position of *order arms*.

Plate 1. Art. 63. Order arms.

Plate 2. Art. 64. Present arms.

Plate 3. Art. 65. Coming to the order.

Plate 4. Art. 66. Port arms.

(2) Allowing the piece to drop through the right hand to the ground, or other similar abuse of the rifle to produce effect in executing the manual, is prohibited.

From Order to Port.

66. Being at the order: 1. *Port*, 2, ARMS.

Without changing the position of the fingers, with the right hand raise and throw the piece diagonally across the body, grasp it smartly with both hands, the right, palm down, at the small of the stock; the left, palm up, at the balance, thumb clasping the piece, barrel up, sloping to the left and crossing opposite the junction of the neck with the left shoulder; right forearm horizontal; left forearm resting against the body; the piece in a vertical plane parallel to the front.

From Port to Order.

67. Same as from *present* to *order;* two motions.

To Open and Close Chamber.

68. Being at the port: 1. *Open,* 2. CHAMBER, 3. *Close,* 4. CHAMBER.

(1) At the first command, turn the *safety-lock* to the *left,* if the piece is locked, and the cut-off *up* and seize the bolt-handle with the thumb and forefinger of the right hand. At the second command, turn the handle up, draw the bolt back and glance at the chamber and magazine to see that they are empty.

(2) At the third command, seize the bolt-handle with the right hand.

(3) At the fourth command, push the bolt forward, turn the bolt-handle down, pull the trigger, turn the cut-off *down,* and carry the right hand to the small of the stock.

(4) The right hand will be held at the bolt-handle except when otherwise engaged.

Plate 5. Art. 68. Open and close chamber.

From Port to Present.

69. Being at the port: 1. *Present,* 2. ARMS.

Carry the piece to a vertical position in front of the center of the body, barrel to the rear, and take the position of *present arms.*

From Present to Port.

70. Being at the present: 1. *Port,* 2. ARMS.

Carry the piece diagonally across the body and take the position of *port arms.*

Plate 6. Art 71. Shoulder arms.

From Order to Shoulder.

71. Being at the order: 1. *Shoulder,* 2. ARMS.

(1) Take the position of *port arms.* (*Two*) Carry and place the piece on the right shoulder and at the same time change the right hand to the butt, barrel up, trigger and guard just below the hollow of the shoulder, heel of the butt between the first and second fingers of the right hand, thumb and fingers closed on the stock; elbow near the body, hand directly in front of the elbow, left hand at the small of the stock. (*Three*) Drop the left hand by the side.

(2) Care should be taken in the instruction of recruits that in the position of *shoulder arms,* the right hand is kept directly in front of the elbow, which insures steadiness of the piece on the shoulder, sufficient elevation of the muzzle to prevent interference with the men in the rear rank, and uniformity of appearance in the position of the piece.

From Shoulder to Order.

72. Being at the shoulder: 1. *Order,* 2. ARMS.

Press the butt down quickly with the right hand and throw the piece diagonally across the body, grasp it with the left hand at the balance, change the right hand to the small of the stock, and take the position of *port arms.* (*Two*) Same as the first motion from the *port* to the *order.* (*Three*) Same as the second motion from the *port* to the *order.*

From Order to Slope.

73. Being at the order: 1. *Slope,* 2. ARMS.

Plate 7. Art. 73. Slope arms.

Take the position of *port arms.* (*Two*) Carry and place the piece on the left shoulder, and at the same time change the left hand to the butt, barrel up, trigger and guard just below the hollow of the shoulder, heel of the butt between the first and second fingers of the left hand, thumb and fingers closed on the stock, elbow near the body, hand directly in front of the elbow, right hand remaining at the small of the stock. (*Three*) Drop the right hand by the side.

From Slope to Order.

74. Being at the slope: 1. *Order,* 2. ARMS.

Press the butt down quickly with the left hand, grasp the piece at the small of the stock with the right hand, and take the position of *port arms.* (*Two*) Same as the first motion from the *port* to the *order.* (*Three*) Same as the second motion from the *port* to the *order.*

From Shoulder to Slope.

75. Being at the shoulder: 1. *Slope,* 2. ARMS.

Press the butt down quickly with the right hand and bring the piece to the position of *port arms.* The second and third motions are the same as from the *order* to the *slope.*

From Slope to Shoulder.

76. Being at the slope: 1. *Shoulder,* 2. ARMS.

Press the butt down quickly with the left hand, and bring the piece to the position of *port arms.* The second and third motions are the same as from the *order* to the *shoulder.*

From Shoulder to Port.

77. Being at the shoulder: 1. *Port,* 2. ARMS.

Press the butt down quickly with the right hand and throw the piece diagonally across the body, grasp it with the left hand at the balance, and change the right hand to the small of the stock, and take the position of *port arms.*

From Port to Shoulder.

78. Two motions; same as second and third motions from *order* to *shoulder.*

From Shoulder to Present.

79. Take the position of *port.* (*Two*) Second motion same as from *port* to *present.*

From Present to Shoulder.

80. Take the position of *port.* The second and third motions the same as from *port* to *shoulder.*

From Slope to Present.

81. Take the position of *port.* (*Two*) Same as from *port* to *present.*

From Present to Slope.

82. Take the position of *port.* Second and third motions same as from *order* to *slope.*

From Slope to Port.

83. Being at the slope: 1. *Port,* 2. ARMS.

Press the butt down quickly with the left hand, grasp the small of the stock with the right hand, change the left hand to the balance and take the position of *port arms.*

From Port to Slope.

84. Two motions. Same as second and third motions from *order* to *slope.*

Parade Rest.

85. Being at the order: 1. *Parade,* 2. REST.

Carry the right foot six inches straight to the rear, left knee slightly bent, shoulders square to the front; at the same time carry the muzzle in front of the center of the body, barrel to the left, the piece turning on the heel of the butt, grasp the piece with the left hand just below the sight (the upper stacking-swivel for army rifle), and place the right hand below and against the left. This movement should be executed in one motion and *very quickly.*

Fig. 1.—Krag rifle.

Fig. 2.—Army rifle.

Plate 8. Art. 85.
Parade rest.

To Resume Attention.

86. Being at parade rest: 1. *Squad,* 2. ATTENTION.

Resume the order in one motion, turning the piece on the heel of the butt and dropping the left hand quickly by the side.

The Bayonet.

87. Being at order arms: 1. *Fix,* 2. BAYONET.

(1) If the bayonet scabbard is carried on the belt: Execute parade rest; grasp the bayonet with the right hand, back of hand toward the body; draw the bayonet from the scabbard and fix it on the barrel, glancing at the muzzle; resume the order.

(2) If the bayonet is carried on the haversack: Draw the bayonet with the left hand and fix it in the most convenient manner.

88. Being at order arms: 1. *Unfix,* 2. BAYONET.

(1) If the bayonet scabbard is carried on the belt: Execute parade rest; grasp the handle of the bayonet firmly with the right hand, pressing the spring with the forefinger of the right hand; raise the bayonet until the handle is about 12 inches above the muzzle of the piece; drop the point to the left, back of the hand toward the body, and, glancing at the scabbard, return the bayonet, the blade passing between the left arm and the body; regrasp the piece with the right hand and resume the order.

(2) If the bayonet scabbard is carried on the haversack: Take the bayonet from the rifle with the left hand and return it to the scabbard in the most convenient manner.

(3) If marching or lying down, the bayonet is fixed and unfixed in the most expeditious and convenient manner and the piece returned to the original position.

(4) Fix and unfix bayonet are executed with promptness and regularity but not in cadence.

From Order to Trail.

89. Being at order arms: 1. *Trail,* 2. ARMS.

(1) Grasp the piece with all the fingers of the right hand without changing its position, raise the piece slightly, right arm slightly bent, and incline the muzzle forward so that the barrel makes an angle of about thirty degrees with the perpendicular.

(2) When it can be done without danger or inconvenience to others, the piece may be grasped at the balance and the muzzle lowered until the piece is horizontal; a similar position in the left hand may be used. This position will be known as the *horizontal trail.*

(3) The piece should be brought to the *trail* on coming indoors.

Plate 9. Art. 89. Trail arms.

From Trail to Order.

90. Being at the trail: 1. *Order,* 2. ARMS.

Lower the piece with the right hand and take the position of *order.*

The Trail.

91. (1) The trail is ordinarily used on covered decks, in taking up the march on drill, *and for short distances only during company and battalion maneuvers from the halt to avoid unnecessary movement of the piece.*

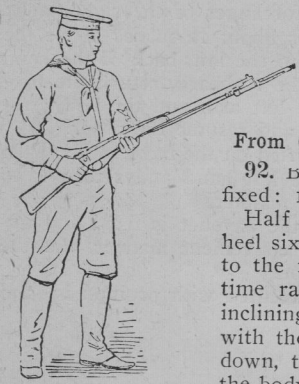


Plate 10. Art. 92. Charge bayonet.

(2) The position of *trail* may be taken from any position in the same general manner as in coming to the *order,* omitting the last motion.

From Order or Trail to Charge Bayonet.

92. Being at the order or trail, bayonet fixed: 1. *Charge,* 2. BAYONET.

Half face to the right, carry the right heel six inches to the rear and three inches to the right of the left heel, at the same time raise the piece with the right hand, inclining the barrel to the front, grasp it with the left at the balance, back of hand down, thumb clasping piece, elbow against the body; grasp the small of the stock with the right hand and bring the point of the bayonet to the height of the chin, right hand supporting the stock firmly against the front of right hip, the body inclining slightly forward, left knee slightly bent.

From Charge Bayonet to Order or Trail.

93. Being at charge bayonet: 1. *Order* (*Trail*), 2. ARMS.

Face to the front, at the same time let go the piece with the right hand and bring it to the right side and vertical with left hand, re-grasp it with the right just above the lower band, back of hand to the right, and lower the piece to the *trail* in one motion, or to the *order* in two motions as from *port arms.*

From Port or Present to Charge Bayonet.

94. Being at the port or present, bayonet fixed: 1. *Charge,* 2. BAYONET.

Half face to the right and take the position of *charge bayonet* in one motion.

From Charge Bayonet to Port or Present.

95. Being at charge bayonet. 1. *Port* (*Present*), 2. ARMS.
Executed in one motion.

From Shoulder or Slope to Charge Bayonet.

96. Being at the shoulder or slope: 1. *Charge*, 2. BAYONET.
Take the position of *port*. (*Two*) Same as from *port*.

From Charge Bayonet to Shoulder or Slope.

97. Being at charge bayonet: 1. *Shoulder* (*Slope*), 2. ARMS.
Take the position of *port*. Second and third motions as from *port arms*.

Plate 11. Art. 98.
Sling arms.

Sling Arms.

98. 1. *Sling*, 2. ARMS.
(1) The right arm is passed between the rifle and the sling which rests upon the shoulder, piece in rear of shoulder, muzzle up and barrel to the rear; right hand steadying the piece.
(2) The piece may be slung on either shoulder.
(3) The gun-sling should never be so tightly drawn that it cannot be readily adjusted. Arms are slung only on route marches.
(4) To prevent the sling slipping from the shoulder, the right hand may be shifted to the sling near the armpit.
(5) Arms being slung, any position may be taken by command, the piece being shifted in the most convenient manner.

Secure Arms.

99. 1. *Secure*, 2. ARMS.
The piece is held in the right hand at the balance, barrel down, sloping downward and to the front; right hand supported against the right hip, thumb along the barrel, upper arm against the stock. A corresponding position in the left hand may be used. Secure arms is used only in inclement weather.

Plate 12. Art. 99.
Secure arms.

Rifle Salute.

100. Being at the shoulder or slope: 1. *Rifle,* 2. SALUTE.

(1) Carry the left (right) hand smartly to the small of the stock, forearm horizontal, palm of the hand down, thumb and fingers extended and joined, forefinger against the piece. (*Two*) Drop the left (right) hand by the side.

(2) The first motion of the salute is made six paces before passing the officer, holding the hand at the small of the stock, and glancing toward him until the salute is acknowledged or the officer passed.

(3) Being at the order or trail: 1. *Rifle,* 2. SALUTE.

Carry the left hand smartly to the right side, forearm horizontal, or nearly so, palm of the hand down, thumb and fingers extended and joined, fore-

Plate 13. Art. 100.
Rifle salute, at shoulder.

Plate 14. Art. 100 (3).
Rifle salute.

finger against muzzle of piece. (*Two*) Drop the left hand by the side.

(4) The *rifle salute* is prescribed for individual men with arms, out of ranks.

To Stack Arms.

101. Being at the order: 1. *Stack,* 2. ARMS.

(1) At the command *stack,* each even number of the front rank raises his piece with the right hand, grasps it with the left at the upper band, and rests the butt between his feet, barrel to the front, muzzle inclining slightly to the front and opposite the center of the interval on his right, the thumb and forefinger raising the stacking swivel; each even number of the rear rank then passes his piece, barrel to the rear, to his file-leader, who grasps it between the bands with his right hand and throws the butt about twenty-four inches in advance of his own and opposite the middle of the interval, the right hand slipping to the upper band, the thumb and forefinger raising the stacking swivel, which he engages with that of his own piece; each odd number of the front rank raises his piece with the right hand, carries it well forward, barrel to the front, the left hand guiding the stacking swivel, engages the lower hook of the swivel of his own piece with the free hook of that of the even number of the rear rank; he then turns the barrel outward into the angle formed by the other two pieces and holds the butt about four inches above the ground and six inches in front of the line of toes.

(2) At the second command, each odd number of the front rank lowers the butt of his piece to the ground, being careful to turn the piece to the front and to land the butt in such manner as not to injure the sight by bringing it in contact with the piece of the even number.

(3) The stacks being formed, the pieces of the odd numbers in the rear rank are passed to the even numbers in the front rank, who lay them on the stacks. The pieces of the guides and the file-closers are laid on the stacks at the same time.

(4) Three pieces only are used in making a stack; pieces not so used are, in this connection, termed *loose pieces.*

(5) Each man, on finishing handling pieces, takes the position of *attention.*

(6) The instructor may then rest or dismiss the squad, leaving the arms stacked.

(7) On assembling, the men take their places in rear of the stacks.

To Take Arms.

102. Arms being stacked: 1. *Take,* 2. ARMS.

(1) At the command *take,* the loose pieces are returned by the

even numbers; each even number of the front rank then grasps his own piece with the left hand, the piece of his rear-rank man with his right hand, grasping both between the bands; each odd number of the front rank grasps his piece in the same way with the right hand.

(2) At the command *arms,* each odd number of the front rank disengages his own piece by raising the butt from the ground and then turning the piece to the right, detaching the piece from the stack; each even number of the front rank disengages and detaches his piece by turning it to the left, and then passes the piece of his rear-rank man to him, and all resume the *order.*

(3) Unless care is taken by the odd number to hold and place the butt of his piece properly in front of the line of the toes, there is danger that the front sight will be caught and bent by the piece of the even number on turning the piece to make or break the stack.

(4) Should any squad have numbers *two* and *three* blank files, number *one* rear rank will take the place of number *two* rear rank in making and breaking the stack; the stacks made or broken, he resumes his post.

POSITIONS KNEELING AND LYING DOWN.

103. Being at the order: KNEEL.

All half face to the right, carry the right toe about ten inches to the rear and ten inches to the left of the left heel; kneel on right knee, bending the left, left toe slightly inclined to the right, right leg pointing directly to the right; weight of body resting on right heel; place left forearm across left thigh, hand hanging naturally; the piece remains in the position of *order arms,* right hand grasping it above the lower band. *This is the position of order kneeling.*

Plate 15. Art. 103. Order kneeling.

From the Order Kneeling to Rise.

104. Being at the order kneeling: RISE.

Rise without moving the butt of the piece or the left heel and take the position of *order arms.*

From the Order Kneeling to Lie Down.

105. Being at the order kneeling: LIE DOWN.

Place the right knee against the left heel. (*Two*) Draw back the left foot and place the left knee on the ground beside the right; place the left hand well forward on the ground and lie flat on the belly, thus inclining the body about thirty-five degrees to the right; the piece is lowered at the same time with the right hand, toe resting on the ground, barrel up, muzzle off the ground,

Plate 16. Art. 105.
Lying down.

left hand at the balance, left elbow on the ground, right hand at the small of the stock opposite the neck. *This is the position lying down.*

From Lying Down to Kneel.

106. Being in the position lying down: KNEEL.

Place the left hand on the ground and raise the body on the knees; draw up and place the left foot to the left and in front of the right knee as in kneeling, raise the piece and assume the position of *order kneeling.*

From Order to Lie Down.

107. Being at the order: LIE DOWN.

Take the position of *order kneeling,* except that the right knee is placed against the left heel. (*Two*) Complete the movement as from *kneel.*

From Lying Down to Rise.

108. Being in the position lying down: RISE.

Place the left hand on the ground and raise the body on the knees; draw up and place the left foot by the side of the right knee, raise and place the piece in the position of the *order kneeling.* (*Two*) Rise and take the position of *order arms.*

Kneeling and Lying Down Without Arms.

109. If unarmed, the movements kneeling, lying down, and rising, are executed as with arms, except that in the position kneeling the right hand rests on the right thigh, and in moving to and from the lying position the right hand is placed on the ground; in the position lying down the forearms are against each other on the ground, left arm in front.

Plate 17. Art. 109.
Lying down without arms.

Kneeling and Lying Down in Extended Order.

110. In extended order the men kneel, lie down, and return to the kneeling and standing positions in the most convenient manner.

Inspection of Arms.

111. The instructor opens the ranks and commands: 1. *Inspection,* 2. ARMS.

(1) Each man as the inspector approaches him executes *port arms* and *open chamber.*

(2) The inspector takes the piece, grasping it with his right hand just above the rear sight (the man dropping the hands by the sides), inspects it, and, with the hand and piece in the same position as in receiving it, hands it back to the man who takes it with the left hand at the balance, resumes the *port,* and then executes *close chamber* and *order arms.*

(3) As the inspector returns the piece, the next man executes *port arms* and *open chamber,* and so on through the squad.

(4) Should the piece be inspected without handling, the man executes *close chamber* and *order arms* as soon as the inspector has passed the next man.

(5) The inspection of arms is from right to left.

(6) Upon completion of the inspection the instructor closes ranks.

To Unsling and Open Packs.

112. The instructor causes the detachment to stack arms, to march backward until four paces in rear of the stacks and to take intervals. He then commands: 1. *Unsling equipment,* 2. OPEN PACKS.

(1) At the first command each man unslings his equipment and places it on the ground at his feet, haversack to the front, end of the pack one foot in front of toes.

(2) At the second command, pack carriers are unstrapped, packs removed and unrolled, the longer edges of the pack along the lower edge of the cartridge belt. Each man exposes shelter-tent pins; removes meat can, knife, fork, and spoon from the meat-can pouch, and places them on the right of the haversack, knife, fork, and spoon in the opened meat can; removes the canteen and cup from the cover and places them on the left side of the haversack; unstraps and spreads out haversack so as to expose its contents; folds up the carrier to uncover the cartridge pouches; opens same; unrolls toilet articles and places them on the outer flap of the haversack; opens first-aid pouch and exposes contents to view; each man then resumes the attention.

(3) When the rations are not carried in the haversack the inspection proceeds as described, except that the toilet articles and bacon and condiment cans are displayed on the unrolled packs.

To Close Packs and Sling Equipment.

113. Equipment being inspected, the instructor commands: CLOSE PACKS.

(1) Each man rolls up his toilet articles, straps up his haversack and its contents, replaces the meat can, knife, fork, and spoon, and the canteen and cup; closes cartridge pockets and first-aid pouch; rolls up and replaces pack in carrier, and, leaving the equipment in its position on the ground, resumes the position of attention.

(2) All equipment being packed, the instructor commands: SLING EQUIPMENT.

(3) The equipments are slung and belts fastened.

(4) The instructor then causes the detachment to assemble and take arms.

To Dismiss the Squad with Arms.

114. Being at a halt: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. DISMISSED.

LOADINGS AND FIRINGS.

General Rules.

115. The post of the instructor is three paces in rear of the squad, but in actual firing he places himself where he can best make himself heard and at the same time observe the effect of the

fire. The objective should be in plain view and so designated as to be easily distinguished by all.

116. (1) **The commands** for loading and firing are the same whether standing, kneeling, or lying down. The firings are always executed at a halt.

(2) When kneeling or lying down in double rank, the rear rank does not load, aim, or fire.

(3) The instruction in firing will be preceded by a command for loading.

(4) **Loadings** are executed in line and skirmish line only.

117. Pieces having been ordered loaded are kept loaded without command until the command *unload, open chamber,* or *inspection arms,* fresh clips being inserted when the magazine is exhausted.

118. **The aiming point or target** is carefully pointed out. This may be done before or after announcing the sight setting. Both are indicated before giving the command for firing, but may be omitted when the target appears suddenly and is unmistakable; in such case battle sight is used if no sight setting is announced.

119. (1) **The target** or aiming point having been designated and the sight setting announced, such designation or announcement need not be repeated until a change of either or both is necessary.

(2) Troops are trained to continue their fire upon the aiming point or target designated, and at the sight setting announced, until a change is ordered.

120. If the men are not already in the position of load, that position is taken at the announcement of the sight setting; if the announcement is omitted, the position is taken at the first command for firing.

121. **When deployed,** the use of the sling as an aid to accurate firing is discretionary with each man.

Precautions.

122. The following rules must be carefully observed:

(1) The piece is not carried with cartridges in either the chamber or the magazine, except when specifically ordered. When so loaded, or supposed to be loaded, it is habitually carried locked; that is, with the *safety lock* turned to the "safe." At all other times it is carried unlocked, with the trigger pulled.

(2) Whenever troops are formed under arms, pieces are immediately inspected for cartridges.

(3) A similar inspection is made immediately before dismissal.

(4) If cartridges are found in the chamber or magazine they are removed and placed in the belt.

(5) The cut-off is kept turned "off" except when cartridges are actually used.

To Load.

123. Being in line or skirmish line at halt: 1. *With dummy (blank or ball) cartridges,* 2. LOAD.

(1) At the command *load* each front-rank man or skirmisher faces half right and carries the right foot to the right, about one foot, to such position as will insure the greatest firmness and steadiness of the body; raises, or lowers, the piece and drops it into the left hand at the balance, left thumb extended along the stock, muzzle at the height of the breast, and turns the cut-off up. With the right hand he turns and draws the bolt back, takes a loaded clip and inserts the end in the clip slots, places the thumb on the powder space of the top cartridge, the fingers extending around the piece and tips resting on the magazine floor plate; forces the cartridges into the magazine by pressing down with the thumb; without removing the clip, thrusts the bolt home, turning down the handle; turns the safety lock to the "safe" and carries the hand to the small of the stock. Each rear-rank man moves to the right front, takes a similar position opposite the interval to the right of his front-rank man, muzzle of the piece extending beyond the front rank, and loads.

Plate 19. Art. 123.

(2) A skirmish line may load while moving, the pieces being held as nearly as practicable in the position of load.

(3) If kneeling or sitting, the position of the piece is similar;

if kneeling, the left forearm rests on the left thigh; if sitting, the elbows are supported by the knees. If lying down, the left hand steadies and supports the piece at the balance, the toe of the butt resting on the ground, the muzzle off the ground.

(4) For reference, these positions (standing, kneeling, and lying down) are designated as that of *load.*

124. For instruction in loading: 1. *Simulate,* 2. LOAD.

(1) Executed as above described except that the cut-off remains "off" and the handling of cartridges is simulated.

(2) The recruits are first taught to *simulate* loading and firing; after a few lessons dummy cartridges may be used. Later, blank cartridges may be used.

125. The rifle may be used as a single loader by turning the magazine "off." The magazine may be filled in whole or in part while "off" or "on" by pressing cartridges singly down and back until they are in the proper place. The use of the rifle as a single loader is, however, to be regarded as exceptional.

To Unload.

126. The command *unload* is used when it is desirable, or necessary, to *completely free the piece* of cartridges; it includes *draw cartridge* and *empty magazine.*

127. (1) Being in any position: UNLOAD. Take the position of *load,* turn the safety lock up and move bolt alternately backward and forward until all the cartridges are extracted.

(2) The pieces being completely freed, each man, *leaving the bolt back,* takes the position of *port arms,* if standing, and remains in that position until the instructor, by inspection or otherwise, assures himself that the pieces are empty. The instructor then commands: 1. *Close,* 2. CHAMBER, 3. *Order,* 4. ARMS. At the second command, close the bolt, pull the trigger, turn the *cut-off down;* at the fourth command, take the position of *order arms.*

(3) The instructor may open the ranks for inspection if necessary, the men still holding their pieces at the *port.*

(4) Men should be taught to draw the bolt backward so carefully that the cartridges may be picked out of the magazine one at a time and returned to the belt without dropping them to the ground.

(5) After the last cartridge is extracted and the inspection

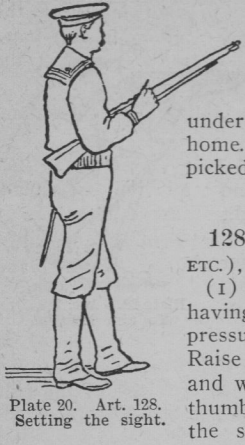


Plate 20. Art. 128. Setting the sight.

completed the chamber is closed by first thrusting the bolt slightly forward to free it from the stud holding it in place when the chamber is open, pressing the follower down and back to engage it under the bolt and then thrusting the bolt home. If any cartridges are dropped they are picked up, cleaned, and returned to the belt.

To Set the Sight.

128. RANGE, ELEVEN HUNDRED (EIGHT-FIFTY, ETC.), or BATTLE SIGHT.

(1) Being at the position of *load* and the range having been designated, steady the piece with pressure of the right arm against the stock. Raise the sight at an angle of about 45 degrees, and with the thumb of the left hand, and the thumb and forefinger of the right hand, place the sliding-leaf at the proper mark. Then raise the sight to a vertical position or lay it down according to the range.

(2) The instructor explains and verifies sight settings.

To Fire by Volley.

129. 1. READY, 2. AIM, 3. *Squad*, 4. FIRE.

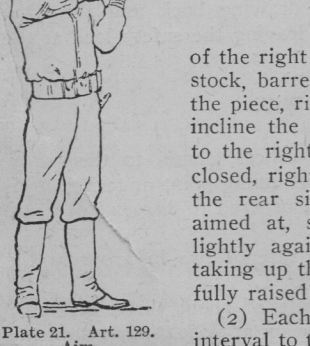


Plate 21. Art. 129. Aim.

(1) At the command *ready* turn the safety lock to the "ready"; at the command *aim* raise the piece with both hands and support the butt firmly against the hollow of the right shoulder, right thumb clasping the stock, barrel horizontal, left elbow well under the piece, right elbow as high as the shoulder; incline the head slightly forward and a little to the right, cheek against the stock, left eye closed, right eye looking through the notch of the rear sight so as to perceive the object aimed at, second joint of forefinger resting lightly against the front of the trigger and taking up the slack; top of front sight is carefully raised into, and held in, the line of sight.

(2) Each rear-rank man aims through the interval to the right of his file leader and leans

slightly forward to advance the muzzle of his piece beyond the front rank.

(3) In aiming kneeling, the left elbow rests on the left knee, point of elbow in front of kneecap. In aiming sitting, the elbows are supported by the knees.

(4) In aiming lying down, raise the piece with both hands; rest on both elbows and press the butt firmly against the right shoulder.

(5) At the command *fire* press finger against the trigger; fire without deranging the aim, lower the piece to the position of load and load.

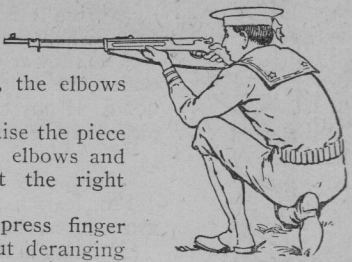


Plate 22. Art. 129 (3). To aim kneeling.

Plate 23. Art. 129 (4). To aim lying down.

130. To continue the firing: 1. AIM, 2. *Squad*, 3. FIRE.

Each command is executed as previously explained. *Load* (from magazine) is executed by drawing back and thrusting home the bolt with the right hand, leaving the safety lock at the "ready."

To Fire at Will.

131. FIRE AT WILL.

Each man, independently of the others, comes to the *ready*, aims carefully and deliberately at the aiming point or target, *fires*, *loads*, and continues the firing until ordered to *suspend* or *cease firing*.

132. To increase (decrease) the rate of fire in progress the instructor shouts: FASTER (SLOWER).

Men are trained to fire at the rate of about three shots per minute at effective ranges and five or six at close ranges, devoting

the minimum of time to loading and the maximum to deliberate aiming. To illustrate the necessity for deliberation, and to habituate men to combat conditions, small and comparatively indistinct targets are designated.

To Fire by Clip.

133. CLIP FIRE.

Executed in the same manner as *fire at will*, except that each man, after having exhausted the cartridges then in the piece, *suspends firing*.

To Suspend Firing.

134. (1) The instructor blows a *long blast* of the whistle and repeats same, if necessary, or commands: SUSPEND FIRING.

(2) Firing stops; pieces are held, loaded and locked, in a position of readiness for instant resumption of firing, rear sights unchanged. The men continue to observe the target or aiming point, or the place at which the target disappeared, or at which it is expected to reappear.

(3) This whistle signal may be used as a preliminary to *cease firing*.

To Cease Firing.

135. CEASE FIRING.

(1) Firing stops; pieces not already there are brought to the position of load; those not loaded, are loaded; sights are laid, pieces are locked and brought to the order.

(2) **Cease firing** is used for long pauses, to prepare for changes of position, or to steady the men.

136. Commands for suspending or ceasing fire may be given at any time after the preparatory command for firing whether the firing has actually commenced or not.

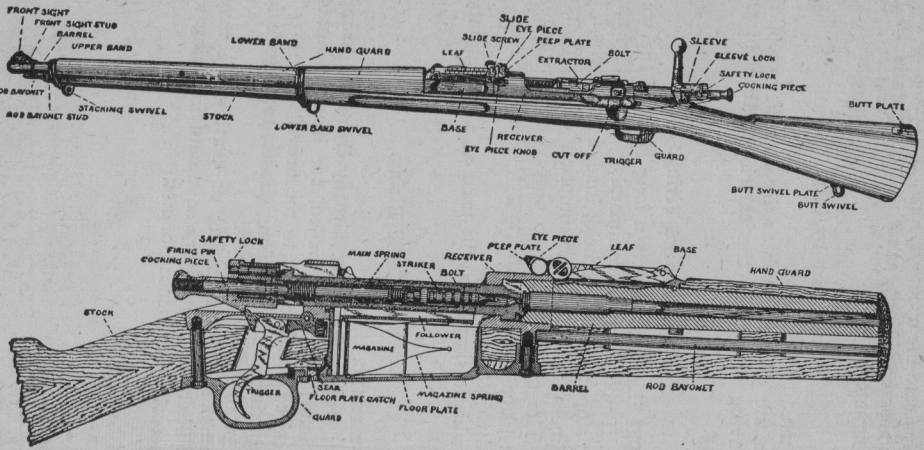


Plate 24. Art. 1.
U. S. Army rifle.

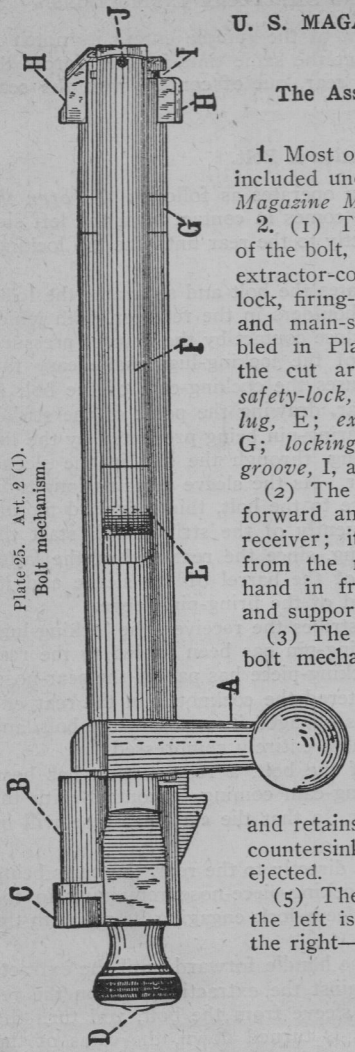


Plate 25. Art. 2 (1).
Bolt mechanism.

U. S. MAGAZINE RIFLE, MODEL OF 1903.

The Assembled Parts and their Operations.

1. Most of the operating parts may be included under the *Bolt Mechanism* and *Magazine Mechanism.*

2. (1) The *Bolt Mechanism* consists of the bolt, sleeve, sleeve-lock, extractor, extractor-collar, cocking-piece, safety-lock, firing-pin, firing-pin-sleeve, striker, and main-spring. It is shown assembled in Plate 25. The parts shown in the cut are: *Handle,* A; *sleeve,* B; *safety-lock,* C; *cocking-piece,* D; *safety-lug,* E; *extractor,* F; *extractor-collar,* G; *locking-lugs,* H; *extractor-tongue-groove,* I, and *gas-escape hole,* J.

(2) The bolt moves backward and forward and rotates in the well of the receiver; it carries a cartridge, either from the magazine, or one placed by hand in front of it, into the chamber, and supports its head when fired.

(3) The sleeve unites the parts of the bolt mechanism, and its rotation with the bolt is prevented by the lugs on its sides coming in contact with the receiver.

(4) The hook of the extractor engages in the groove of the cartridge-case and retains the head of the latter in the countersink of the bolt until the case is ejected.

(5) The safety-lock when turned to the left is inoperative; when turned to the right—*which can only be done when*

the piece is cocked—the point of the spindle enters its notch in the bolt and locks the bolt; at the same time its cam forces the cocking-piece slightly to the rear, out of contact with the sear, and locks the firing-pin.

Operation of Bolt.

3. (1) The bolt mechanism operates as follows: *To open the bolt,* raise the handle until it comes in contact with the left side of the receiver, and pull directly to the rear until the top locking-lug strikes the cut-off.

(2) Raising the handle rotates the bolt and separates the locking-lugs from their locking-shoulders in the receiver, with which they have been brought into close contact by the powder pressure. Cams on the rear surfaces of the locking-lugs make easy this separation. This rotation causes the cocking-cam of the bolt to force the firing-pin to the rear, drawing the point of the striker into the bolt, rotation of the firing-pin being prevented by the lug on the cocking-piece projecting, through the slot in the sleeve, into its groove in the receiver. As the sleeve remains longitudinally stationary with reference to the bolt, this rearward motion of the firing-pin, and consequently of the striker, will start the compression of the main-spring, since the rear end of the latter bears against the front end of the barrel of the sleeve and its front end against the rear end of the firing-pin-sleeve.

(3) When the bolt-handle strikes the receiver, the locking-lugs have been disengaged, the firing-pin has been forced to the rear until the sear-notch of the cocking-piece has passed the sear-nose, the cocking-piece-nose has entered the cocknotch in the rear end of the bolt, the sleeve-lock has engaged its notch in the bolt, and the main-spring has been almost entirely compressed.

(4) During the rotation of the bolt, a rear motion has been imparted to it by its extracting-cam coming in contact with the extracting-cam of the receiver, so that the cartridge-case will be started from the chamber.

(5) The bolt is then drawn directly to the rear, the parts being retained in position by the cocking-piece-nose remaining in the cocknotch and locked by the sleeve-lock engaging its notch in the bolt.

4. To close the bolt, push the handle forward until the extracting-cam on the bolt bears against the extracting-cam on the receiver, thereby unlocking the sleeve from the bolt, and turn the handle down. As the handle is turned down, the cams of the

locking-lugs bear against the locking-shoulders in the receiver, and the bolt is forced slightly forward into its closed position. As all movement of the firing-pin is prevented by the sear-nose engaging the sear-notch of the cocking-piece, this forward movement of the bolt completes the compression of the main-spring, seats the cartridge in the chamber, and, in single-loading, forces the hook of the extractor into the groove of the cartridge-case. In loading from the magazine, the hook of the extractor, rounded at its lower edge, engages in the groove of the top cartridge as it rises from the magazine under the action of the follower and magazine-spring.

5. **To pull the trigger,** the finger-piece must be drawn to the rear until contact with the receiver is transferred from its bearing to the heel, which gives a creep to the trigger, and then until the sear-nose is withdrawn from in front of the cocking-piece.

General Remarks.

6. Just before the bolt is drawn fully to the rear, the top locking-lug strikes the heel of the ejector, throwing its point suddenly to the right, in the lug-slot. As the bolt moves fully to the rear, the rear face of the cartridge-case strikes against the ejector-point and the case is ejected, slightly upward and to the right, from the receiver.

7. Double-loading from the magazine is prevented by the extractor engaging the cartridge-case as soon as it rises from the magazine and holding its head against the face of the bolt until ejected.

8. It will be noted that in this system of bolt mechanism, the compression of the main-spring, the seating of the cartridge in and the starting of the empty case from the chamber, are entirely done by the action of cams.

9. The piece may be cocked, either by raising the bolt-handle until it strikes the left side of the receiver, and then immediately turning it down, or by pulling the cocking-piece directly to the rear.

10. In firing, unless the bolt-handle is turned fully down, the cam on the cocking-piece will strike the cocking-cam on the bolt, and the energy of the main-spring will be expended in closing the bolt, instead of on the primer; this prevents the possibility of a cartridge being fired until the bolt is fully closed.

11. The opening and closing of the bolt should each be done by one continuous motion.

Magazine Mechanism.

12. (1) The **magazine mechanism** includes the floor-plate, follower, magazine-spring, and cut-off.

(2) Plate 26 represents a cross-section through the ejector with the magazine loaded. The parts shown are: *receiver,* A; *bolt,* B; *firing-pin,* C; *ejector,* D; *clip-slots,* E; *bolt locking-lug channels,* F; *magazine,* G; *follower,* H; *magazine-spring,* I; and *floor-plate,* J.

(3) Plate 27 shows a cross-section through the magazine with the magazine empty, with cut-off "on," shown in projection. The parts are: *receiver,* A; *bolt,* B; *firing-pin,* C; *cut-off,* D; *rear lug-slot,* E; *bolt locking-lug channels,* F; *magazine,* G; *follower,* H; *magazine-spring,* I; and *floor-plate,* J.

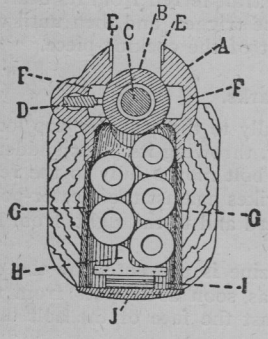


Plate 26. Art. 12 (2).

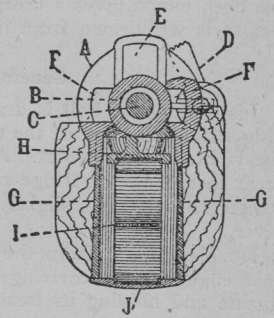


Plate 27. Art. 12 (3).

13. (1) **To charge the magazine,** see that the cut-off is turned up showing "on," draw the bolt fully to the rear, insert the cartridges from a clip or from the hand, and close the bolt. To charge the magazine from a clip, place either end of a loaded clip in its seat in the receiver and, with the thumb of the right hand, press the cartridges down into the magazine until the top cartridge is caught by the right edge of the receiver. The manner in which the cartridges arrange themselves in the magazine and the position of the follower and compressed magazine-spring are shown in Plate 26. The cartridge-ramp guides the bullet and cartridge-case into the chamber. The magazine can be filled, if partly filled, by inserting cartridges one by one.

(2) Pushing the bolt forward, after charging the magazine, ejects the clip.

The Cut-off.

14. (1) **When the cut-off is turned down,** the magazine is "off." The bolt cannot be drawn fully back, and its front end projecting over the rear end of the upper cartridge, holds it down in the magazine below the action of the bolt. The magazine mechanism then remains inoperative, and the arm can be used as a single loader, the cartridges in the magazine being held in reserve. The arm can readily be used as a single loader with the magazine empty.

(2) **When the cut-off is turned up,** the magazine is "on"; the bolt can be drawn fully to the rear, permitting the top cartridge to rise high enough to be caught by the bolt in its forward movement. As the bolt is closed, this cartridge is pushed forward into the chamber, being held up during its passage by the pressure of those below. The last one in the magazine is held up by the follower, the rib on which directs it into the chamber.

15. In magazine fire, after the last cartridge has been fired and the bolt drawn fully to the rear, the follower rises and holds the bolt open to show that the magazine is empty.

Precautions.

16. (1) If it is desired to carry the piece cocked, with a cartridge in the chamber, the bolt mechanism should be secured by turning the *safety-lock* to the *right.* Under no circumstances should the firing-pin be let down by hand on a cartridge in the chamber.

(2) To obtain positive ejection, and to insure the bolt catching the top cartridge in magazine, when loading from the magazine, the bolt must be drawn fully to the rear in opening it.

(3) When the bolt is closed, or slightly forward, the cut-off may be turned up or down as desired. When the bolt is in its rearmost position, to pass from loading *from the magazine* to *single loading,* it is necessary to force the top cartridge or follower below the reach of the bolt, to push the bolt slightly forward, and to turn the cut-off down, showing "off."

(4) In case of a *misfire* it is unsafe to draw back the bolt immediately, as it may be a case of *hang-fire.* In such cases the piece should be cocked by drawing back the cocking-piece.

(5) *It is essential for the proper working and preservation of all cams that they be kept lubricated.*

DISMOUNTING AND ASSEMBLING.

17. The bolt and magazine mechanism can be dismounted without removing the stock. The latter should never be done except for making repairs, and then only by some selected and instructed man.

To Dismount Bolt Mechanism.

18. (1) Place the cut-off at the center notch; cock the arm

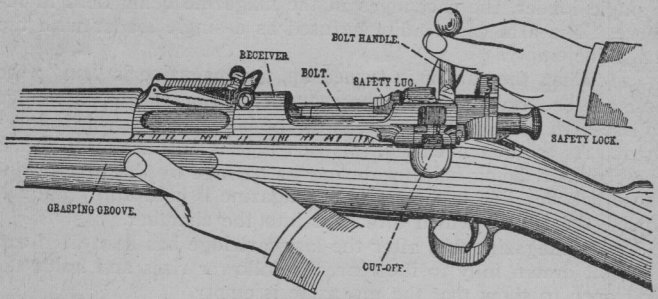


Plate 28. Art. 18 (1).

and turn the safety-lock to a vertical position, raise the bolt-handle and draw out the bolt (Plate 29).

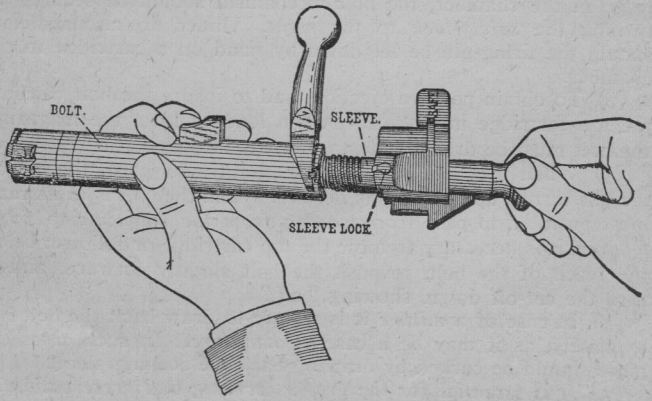


Plate 29. Art. 18 (2).

(2) Hold bolt in left hand, press sleeve-lock in with thumb of right hand to unlock sleeve from bolt and unscrew sleeve by turning to the left (Plate 29).

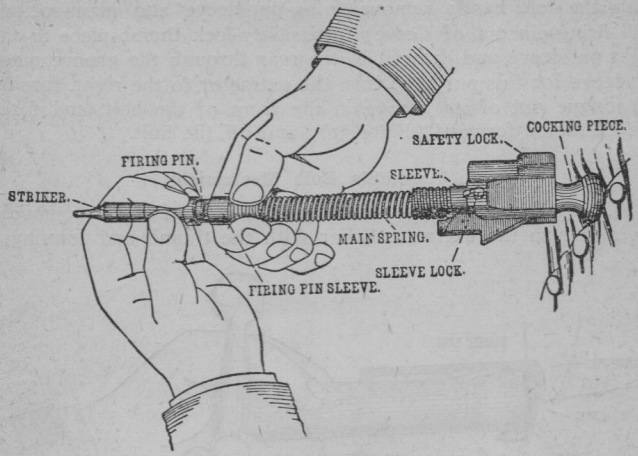
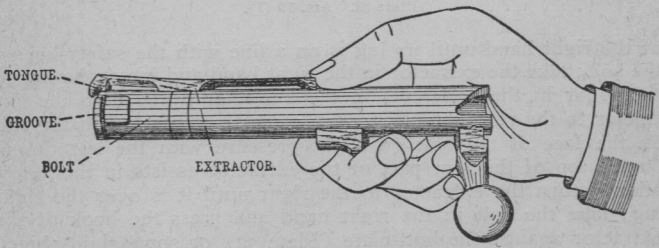


Plate 30. Art. 18 (3).

(3) Hold sleeve between forefinger and thumb of the left hand, draw cocking-piece back with middle finger and thumb of



TO ASSEMBLE BOLT MECHANISM.

Plate 31. Art. 18 (3).

right hand, turn safety-lock down to the left with the forefinger of the right hand, in order to allow the cocking-piece to move forward in sleeve, thus partially relieving the tension of main-

spring; with the cocking-piece against the breast, draw back the firing-pin-sleeve with the forefinger and thumb of right hand and hold it in this position (Plate 30), while removing the striker with the left hand; remove firing-pin-sleeve and main-spring; pull firing-pin out of sleeve; turn safety-lock thumb-piece to the right on sleeve and draw it to the rear through the groove made in sleeve for this purpose; turn the extractor to the right, forcing its tongue out of its groove in the front of the bolt, and force the extractor forward (Plate 31), and off the bolt.

To Assemble Bolt Mechanism.

19. (1) Grasp with the left hand the rear of the bolt, handle up, and turn the extractor-collar with the thumb and forefinger

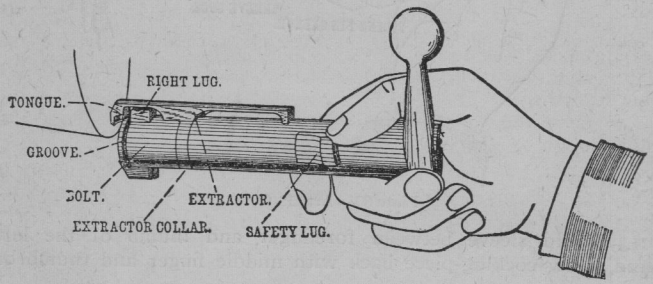


Plate 32. Art. 19 (1).

of the right hand until its lug is on a line with the safety-lug on the bolt; take the extractor in the right hand and insert the lug on the collar in the undercuts in the extractor by pushing the extractor to the rear until its tongue comes in contact with the rim on the face of the bolt (a slight pressure with the left thumb on the top of the rear part of the extractor assists in this operation); turn the extractor to the right until it is over the right lug; take the bolt in the right hand and press the hook of the extractor against the butt-plate (Plate 32) or some rigid object, until the tongue on the extractor enters its groove in the bolt

(2) Place the safety-lock, through the dismounting groove, into position on the sleeve and turn it down to the left so as to permit the firing-pin to enter the sleeve as far as possible; place the cocking-piece against the breast and put on main-spring, firing-pin-sleeve, and striker (see Plate 30). Holding the cock-

ing-piece between the thumb and forefinger of the left hand, draw the cocking-piece back with thumb and middle finger of the right hand, and turn the safety-lock to a vertical position with the forefinger of the right hand; insert the firing-pin in the bolt and screw up the sleeve (by turning it to the right) until the sleeve-lock enters its notch on the bolt.

(3) See that the cut-off is at the center notch; hold the piece under floor-plate in the fingers of the left hand, the thumb extending over the left side of the receiver; take bolt in right hand with safety-lock in a vertical position and safety-lug up; press rear end of follower down with left thumb and push bolt into the receiver; lower bolt-handle; turn safety-lock and cut-off down to the left with right hand.

To Dismount Magazine Mechanism.

20. (1) With the bullet end of a cartridge, press on the floor-plate catch (through the hole in the floor-plate), at the same time drawing the bullet to the rear; this releases the floor-plate.

(2) Raise the rear end of the first limb of the magazine-spring high enough to clear the lug on the floor-plate and draw it out of its mortise; proceed in the same manner to remove the follower.

(3) To assemble magazine-spring and follower to floor-plate, reverse operation of dismounting.

(4) Insert the follower and magazine-spring in the magazine, place the tenon on the front end of the floor-plate in its recess in the magazine, then place the lug on the rear end of the floor-plate in its slot in the guard, and press the rear end of the floor-plate forward and inward at the same time, forcing the floor-plate into its seat in the guard.

SCHOOL OF THE SQUAD.

General Principles.

1. (1) Men are grouped into squads for purposes of discipline, control, and order in quarters and camp, at drill, on the march, and in battle.

(2) The squad proper consists of a **p. o.** and eight men. The **p. o.** is the squad leader and when absent is replaced by a designated man. If no man is designated, the senior in length of service acts as leader.

(3) When the recruits have received a few preliminary lessons, they are divided into groups of eight, thus forming temporary squads.

(4) These squads are placed under **p. os.**, who, under the supervision of officers, gain the necessary experience to qualify them as squad leaders, while teaching the recruits the movements in close and extended order.

(5) Men are taught the necessity of remaining with their squad, and, in case their own squad is broken up or they are unavoidably separated therefrom, to place themselves under the nearest leader and to remain with his squad as if it were the one to which they originally belonged.

(6) In battle, officers and **p. os.** endeavor to preserve the integrity of squads; they designate new leaders to replace those disabled, organize new squads when necessary, and see that every man is placed in a squad.

(7) The squad executes the *halt, rests, facings, steps* and *marchings,* and the *manual of arms* as explained in the School of the Recruit.

To Size the Squad.

2. (1) The instructor arranges the men according to height in column at facing distance, tallest man in front, and commands: 1. *In two ranks form squad,* 2. MARCH, 3. FRONT.

(2) At the command *march,* the first man faces to the left; the second man places himself in the rear rank covering the first at a distance of thirty-six inches; the other men close in quick time, and form alternately in front and rear rank, as explained for the first two, each man facing to the left upon arriving at his proper place, then dressing to the right, preserving a light touch of elbows.

(3) All the men having formed, the instructor commands: FRONT. Each man turns his head and eyes to the front.

(4) The squad having been sized, the men are cautioned to take the same relative positions when the squad is formed thereafter.

To Form the Squad.

3. (1) To form the squad, the **p. o.** places himself three paces in front of where the center is to be formed, and commands: FALL IN.

(2) The men assemble at *attention* in their proper places in double rank, arms at the *order*.

(3) The instructor then commands: COUNT OFF.

(4) At this command, all except the right file execute *eyes right* and beginning on the right the men in each rank count *one, two, three, four;* each man turns his head and eyes to the front as he counts.

(5) The instructor next commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. *Order,* 8. ARMS.

(6) In case the examination reveals the presence of cartridges, the man removes them without further instruction.

Alignments.

4. (1) The instructor establishes one or more files as a base, and commands: 1. *Right* (*Left*), 2. DRESS, 3. FRONT.

(2) At the second command, the men turn the head and eyes slightly to the right, and simultaneously move forward or backward, halting a little in rear of the line; each man then moves up in rapid succession, taking steps of two or three inches, places his elbow *lightly* against that of the man on his right and brings his shoulders and eyes in line with those of the men on his right. The rear-rank man conforms to the movement of his file-leader. At the third command, the men stand fast and look to the front.

5. When the squad has learned to dress quickly and well, the guide alone is first established; the two or three files on the flank are accurately aligned as promptly as possible to afford a base for the remainder of the squad.

6. To preserve the alignment when marching: GUIDE RIGHT (LEFT).

(1) The men preserve their intervals from the side of the guide, yielding to pressure from that side and resisting pressure from the opposite direction; they recover intervals, if lost, by gradually opening out or closing in; they recover alignment by

slightly lengthening or shortening the step; the rear-rank men cover their file leaders at 36 inches.

(2) In double rank, the front-rank man on the right, or designated flank, conducts the march; when marching faced to the flank, the leading man of the front rank is the guide.

To Take Intervals.

7. Being in line at a halt: 1. *To the right (left) (so many paces) take intervals,* 2. MARCH, 3. *Squad,* 4. HALT.

(1) At the first command, the rear rank steps back to four paces distance from the front rank; at the command *march,* all face to the right and the leading man of each rank steps off; the other men step off in succession so as to follow the preceding man at the designated interval.

(2) At the command *halt,* given when all have their intervals, all halt and face to the front.

(3) When not specified in the command, the interval will be four paces.

To Assemble.

8. 1. *To the right (left) assemble,* 2. MARCH.

The front-rank man on the right stands fast, the rear-rank man on the right closes to thirty-six inches. The other men face to the right, close by the shortest line and face to the front.

To Take Distances.

9. Being in line at a halt and having counted off: 1. *Front (so many paces) take distance,* 2. MARCH, 3. *Squad,* 4. HALT.

(1) At the command *march,* number one of the front rank moves straight to the front; numbers two, three, and four of the front rank, and numbers one, two, three, and four of the rear rank move in the order named straight to the front, each stepping off so as to follow the preceding man at the designated distance. The command *halt* is given when all have their distances.

(2) In case more than one squad is in line, each squad executes the movement as above and each rank of numbers guides on its right number.

(3) When not specified in the command, the distance will be four paces.

To Assemble.

10. 1. *Assemble,* 2. MARCH.

Number one of the front rank stands fast; the other numbers move forward to their proper places in line.

To Assemble to the Rear.

11. 1. *To the rear, assemble,* 2. MARCH.

Number four, rear rank, stands fast; the other numbers face about at the first command, and, at the command *march,* move to the rear, taking their proper places in ranks, and then facing to the front.

The Oblique March.

12. For the instruction of recruits, the squad being in column or correctly aligned, the instructor causes the squad to face half right or half left, points out to the men their relative positions, and explains that these are to be maintained in the oblique march.

13. 1. *Right (Left) oblique,* 2. MARCH.

(1) Each man steps off in a direction 45 degrees to the right of his original front. He preserves his relative position, keeping his shoulders parallel to those of the guide (the man on the right front of the line or column), and so regulates his steps that the ranks remain parallel to their original front.

(2) At the command *halt* the men halt faced to the front.

(3) To resume the original direction: 1. *Forward,* 2. MARCH.

(4) The men half face to the left in marching and then move straight to the front.

(5) If at *half step* or *mark time* while obliquing, the oblique march is resumed by the commands: 1. *Oblique,* 2. MARCH.

TURNINGS.

To Turn on Moving Pivot.

14. Being in line: 1. *Right (Left) turn,* 2. MARCH.

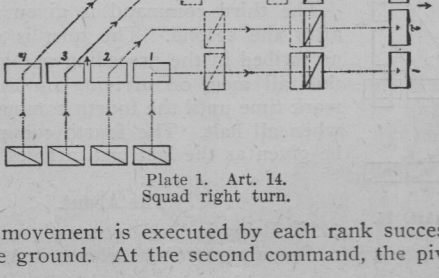


Plate 1. Art. 14.
Squad right turn.

(1) The movement is executed by each rank successively and on the same ground. At the second command, the pivot man of

the front rank faces to the right as in marching and takes the half step; the other men of the rank oblique to the right until opposite their places in line, then execute a second right oblique and take the half step on arriving abreast of the pivot man. All glance toward the marching flank while at half step and take the full step without command as the last man arrives on the line.

(2) *Right (Left) half turn* is executed in a similar manner. The pivot man makes a half change of direction to the right and the other men make quarter changes in obliquing.

To Turn on Fixed Pivot.

15. Being in line, to turn and march: 1. *Squad right (left),* 2. MARCH.

At the second command, the right-flank man in the front rank faces to the right in marching and marks time; the other front-rank men oblique to the right, place themselves abreast of the pivot, and mark time. In the rear rank the third man from the right, followed in column by the second and first, moves straight to the front until in rear of his front-rank man, when all face to the right in marching and mark time; the other number of the rear rank moves straight to the front three paces and places himself abreast of the man on his right. Men on the new line glance toward the marching flank while marking time and, as the last man arrives on the line, both ranks execute *forward, march,* without command.

NOTE.—The plate shows the movements of the rear-rank men; numbers 3 and 4 march straight to the front, while 2 and 1 incline sharply to the left and follow behind 3 in the order named.

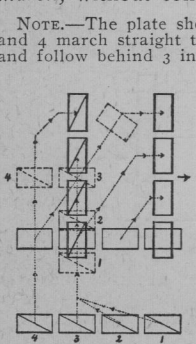


Plate 2. Art. 15.
Squad right.

16. Being in line, to turn and halt: 1. *Squad right (left),* 2. MARCH, 3. *Squad,* 4. HALT.

The third command is given immediately after the second. The turn is executed as prescribed in the preceding paragraph except that all men, on arriving on the new line, mark time until the fourth command is given, when all halt. The fourth command should be given as the last man arrives on the line.

The About.

17. Being in line, to turn about and march: 1. *Squad right (left) about,* 2. MARCH.

At the second command, the front rank twice executes *squad right,* initiating the second *squad right* when the man on the marching flank has arrived abreast of the rank. In the rear rank the third man from the right, followed by the second and first in column, moves straight to the front until on the prolongation of the line to be occupied by the rear rank; changes direction to the right; moves in the new direction until in rear of his front-rank man, when all face to the right in marching, mark time, and glance toward the marching flank. The fourth man marches on the left of the third to his new position; as he arrives on the line, both ranks execute *forward, march,* without command.

18. Being in line, to turn about and halt: 1. *Squad right (left) about,* 2. MARCH, 3. *Squad,* 4. HALT.

The third command is given immediately after the second. The turn is executed as prescribed in the preceding paragraph except that all men, on arriving on the new line, mark time until the fourth command is given, when all halt. The fourth command should be given as the last man arrives on the line.

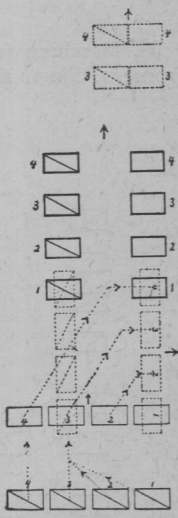


Plate 3. Arts. 19 and 20. To reduce the front in column of squads.
1. Squads right.
2. By the left flank.
3. Ranks closed.

Being in Column of Squads, to Reduce the Front.

19. These movements should never be used except *to reduce the front in order to pass a defile or through a door or over a gangway;* the original formation is resumed *as soon as the defile is passed,* and in such manner as not to invert the numbers of the squad.

20. (1) 1. *Squads right (left),* 2. MARCH, 3. *By the left (right) flank,* 4. MARCH.

(2) Line is formed as in Art. **15** and then marched by the flank.

(3) The front may be still further reduced, the rear-rank men closing on their front-rank men.

Marching by the Flank in Two Ranks to Change Direction.

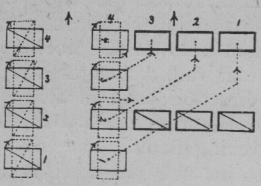


Plate 4. Art. 22.
Marching by the flank in two ranks to form column of squads. *Right flank, squads left.*

21. Executed by the same commands and in the same manner as a column of squads.

Marching by the Flank in Two Ranks, to Form Column of Squads.

22. (1) 1. *By the right (left) flank, squads left (right),* 2. MARCH. (2) At the command *march,* line is formed, and then, *without pause,* column of squads is formed.

To March in Single File.

23. Marching faced to the flank, in two ranks, to reduce the front: 1. *Single file,* 2. MARCH.

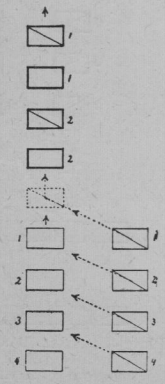


Plate 5. Art. 23.
Single file from double rank. Marching by the flank.

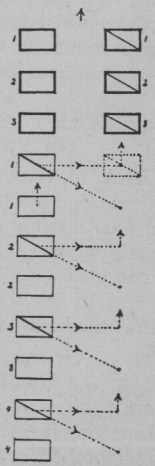


Plate 6. Art. 24.
Double rank from single file.

(1) Each rear-rank man places himself in front, or in rear, of his file-leader according as the right or the left is in front, the men in rear marking time and following at facing distance, thus forming in "single file" with the men in the same relative order as when in *single rank* or in the skirmish line.

(2) The single file changes direction and inclines by each man making the *face in marching* on the same ground as the leading man, all maintaining the *full step*.

To March in Double Rank from Single File.

24. (1) Being in single file, marching, or at a halt: 1. *Form double rank,* 2. MARCH.

(2) Each rear-rank man places himself abreast his file-leader, and both ranks close to facing distance, the men in rear increasing the pace if necessary until closed.

NOTE.—The foregoing articles provide for reducing the front from four men to a single file, and for re-forming the column of squads or the double rank, by simple tactical methods previously explained. These methods were devised specially to meet naval and ship conditions. The necessity for the "column of twos" and for all movements by "twos" no longer exists, and these movements are abolished for the Navy as being undesirable.

To Form Single Rank from Double Rank.

25. Being in line, in double rank, at a halt: 1. *Single rank,* 2. MARCH, 3. FRONT.

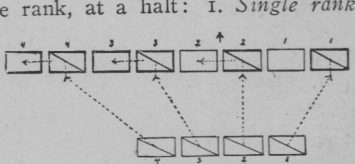


Plate 7. Art. 25.
Form single rank at a halt.

(1) At the second command the file-leader on the right stands fast and his rear-rank man steps into the front rank on the right of the squad, and No. 2 rear rank moves straight to the front. The other men execute *eyes right,* move quickly to the left, by the *side step,* and the rear-rank men place themselves on the line to the right of their file-leaders, each, when there is interval, and preserve a light touch of elbows to the right.

(2) If marching the movement is executed upon the right file-leader as a base in the same general manner as in the deployment of a squad as skirmishers, the third command being *guide right.*

To Form Double Rank from Single Rank.

26. Being in line, in single rank, at a halt: 1. *Double rank,* 2. MARCH, 3. FRONT.

(1) The original rear-rank men move quickly thirty-six inches to the rear, and both ranks then face and close in, forming in double rank on the original right file-leader as a base.

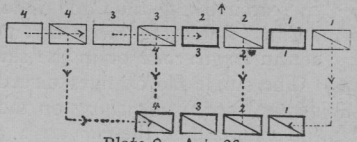


Plate 8. Art. 26.
Form double rank at a halt.

(2) If marching, the movement is executed upon the original right file-leader as a base, and in the same general manner as in assembling a squad of skirmishers, the third command being *guide right.*

(3) In case the original formation was in single rank, and having counted off, to form double rank; the movement is executed in the same manner both at a halt and if marching, the odd numbers dropping to the rear to form the rear rank, and the command *count off* is again given when the double rank is formed.

NOTE.—It will be noted, that, for the sake of simplicity, the methods of forming "single rank" or "single file," from "double rank" and the reverse, are assimilated to the methods used in deploying and assembling a squad in extended order. *Thus the front and rear-rank men will always stand in the same relative position in both close and extended order, whether in double or single rank.*

SCHOOL OF THE COMPANY.

Posts of Officers, Petty Officers, and Field-Music.

1. (1) The post of the **c. c.** is three paces in front of the center of the company.

(2) The post of a **c. o. s.** is two paces in rear of the center of his section.

(3) The **1 p. o.** is in the front rank on the right of the first section; he is the right guide of this section and also of the company.

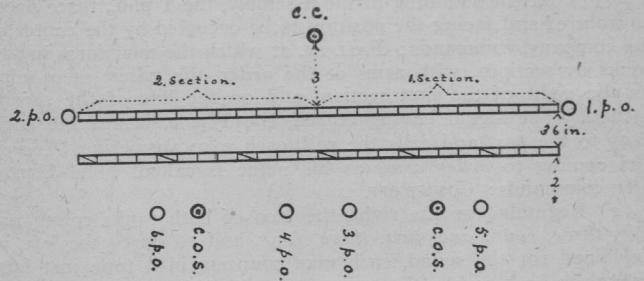


Plate 1. Art. 1.
Company in line.

(4) The **2 p. o.** is in the front rank on the left of the second section; he is the left guide of this section and also of the company.

(5) The **3 p. o.** is two paces in rear of the left of the first section; he is the left guide of the first section.

(6) The **4 p. o.** is two paces in rear of the right of the second section; he is the right guide of the second section.

(7) The **5 p. o.** is two paces in rear of the left of the first squad of the first section.

(8) The **6 p. o.** is two paces in rear of the right of left squad of the second section.

(9) **P. os.** in excess of six, present for duty with the company, will be posted in the front rank.

(10) **P. os.,** having occasion to change position when the company is at the *order,* will carry their pieces at the *trail.*

(11) The field-music, when not united in the battalion, is in the line of file-closers, on the right of the **5 p. o.**, and will conform to all movements of the file-closers. On the march, when required to play, the position of the field-music is at the head of the column.

(12) Absent officers and **p. os.** will be replaced by those next in rank or grade.

(13) Whenever the flanks become the center, the **1 p. o.** and **2 p. o.** take posts in the line of file-closers prescribed for the **3 p. o.** and **4 p. o.**, each with his own section; the **3 p. o.** and **4 p. o.** take the posts prescribed for the **1 p. o.** and **2 p. o.**

To Form the Company.

2. (1) At the sounding of the assembly, the **1 p. o.**, three paces in front of and facing the position to be occupied by the center of the company, commands: FALL IN, at which the men form in two ranks by sections, with arms at the *order*, the tallest men being on the right of the first section, and on the left of the second section. The signal having ceased, the **1 p. o.** brings the company to the *port* and calls the roll, each man answering, *"Here,"* and coming to *order arms* as his name is called. The **1 p. o.** then commands: COUNT OFF.

(2) Beginning on the right, the men of both ranks count *one, two, three, four; one, two, three, four,* and so on to the left, as explained for the squad, each man counting in a tone just loud enough to be heard by the man next on his left, *and no louder.*

(3) If the squad on the left consists of less than four men, they are assigned to other squads and placed in the line of file-closers, each in rear of the center of the squad to which assigned. If the squad on the left consists of four, five, or six men, it is filled up to seven men (number *three* being a blank file) by taking number *three* (rear rank) from the necessary number of squads next to the right of the left squad. Should it be expedient to increase the front of the company, all the numbers *three* may be blank files; and, if still further to increase the front of a company, number *two* of as many squads as necessary, beginning with the left squad, may also be left blank files.

(4) If the two sections are not of normal size, owing to absentees or supernumeraries, the **1 p. o.**, after completing the left squad, will divide the company into sections of equal size if possible, the division falling between two squads. If there should be an odd number of squads, the right section shall be the stronger.

(5) The company being formed, and at the *order,* the **1 p. o.,** at his post in front of the center, commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. *Order,* 8. ARMS, faces about, salutes the **c. c.** from the *order,* reports: *Sir, all present or accounted for;* or, the names of the unauthorized absentees, and without command takes his post on the right of the front rank.

(6) The **c. c.** places himself six paces in front of the center of and facing the company, in time to receive the report of the **1 p. o.,** whose salute he returns, and then draws sword.

(7) **Cs. o. s.** take their posts and draw swords, assuming the *order,* as soon as the **1 p. o.** makes his report.

(8) At the formation of the company, the sections and squads are numbered consecutively from right to left; these designations are permanent and do not change when, by any movement, the right becomes the left of the line, or the head becomes the rear of the column.

(9) For convenience in giving commands and for reference, the additional designations *right, left,* when in line, *leading, rear,* when in column, are applied to sections; *right, center, left,* when in line, *leading, center, rear,* when in column, are applied to squads; the center squad is the original left squad of the first section; the designations *right, left, leading, rear,* apply to the actual right or left, head or rear, in whatever direction the company is facing.

Alignments.

3. (1) The alignments are executed as prescribed in the School of the Squad, the guide being established instead of the base-file. The first two or three files are accurately aligned as quickly as possible, to afford a base for the remainder of the company.

(2) At each alignment, the **c. c.,** before **giving his commands,** places himself in prolongation of the line, two paces from and facing the flank toward which the dress is made.

(3) This rule applies to all chiefs of sub-divisions in column.

(4) In column, whenever a sub-division is dressed, its chief, after commanding *front,* takes his post.

(5) Guides marking an alignment, stand at the *order;* at the command *front,* they take their posts in *double time,* pieces at the *trail,* if not already there. This rule applies also to guides of sections in company drill, and, in battalions, to guides of sub-divisions in column.

To Open Ranks.

4. (1) Being in line at a halt: 1. *Open ranks,* 2. MARCH, 3. FRONT.

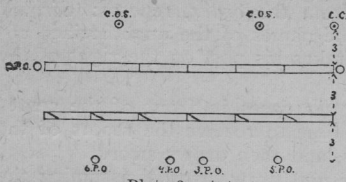


Plate 2. Art. 4.
Open ranks.

At the first command, the officers *carry sword;* the right and left guides step three paces to the rear to mark the new alignment of the rear rank; the **cs. o. s.** place themselves on the right and left of the front rank, swords retained at the *carry;* the other file-closers step back three paces in rear of the line of guides; the **c. c.** goes to the right flank and sees that the guides are on a line parallel to the front rank, then places himself facing to the left, three paces in front of and two paces to the right of the company, and commands: MARCH; at this command the **cs. o. s.** move forward three paces, face to the center in marching, and, upon arriving opposite their posts, halt, face to the front, and dress to the right; the front rank dresses to the right; the rear rank steps backward, halts a little in rear of the line established by the guides, and then dresses to the right on that line; the file-closers dress to the right.

(2) The **c. c.** aligns the officers and the front rank; the right guide, the rear rank; the **c. c.** verifies the alignment of the rear rank and of the file-closers; the officers and file-closers turn their heads and eyes to the front as soon as their alignment is verified.

(3) At the command *front,* the **cs. o. s.** bring their swords to the *order;* the guides resume their posts in the front rank; the **c. c.** gives the command, *front,* from a position three paces in front of the position of the right guide when in line, facing to the left; he then faces to the front and brings his sword to the *order.*

To Close Ranks.

5. Being at open ranks: 1. *Close ranks,* 2. MARCH.

At the first command, the **cs. o. s.** carry sword. At the command *march,* they face outward and resume their posts in line, moving parallel to the front of the company; the rear rank closes to thirty-six inches, each man covering his file-leader; the file-

closers close to two paces from the rear rank; the C. C. takes his post.

General Rules, Manual of Arms, etc.

6. (1) The company executes the *halt, rests, facings, physical exercises, steps, marchings, manual of arms, loadings* and *firings, takes intervals* and *distances, assembles, increases* and *diminishes intervals,* resumes *attention, obliques, kneels, lies down, rises, stacks* and *takes arms,* as explained in the Schools of the Recruit and the Squad, substituting in the commands, *company* for *squad.*

(2) The same rule applies to sections, detachments, details, etc., substituting their designation for *squad* in the commands.

(3) In *taking intervals and distances,* unless otherwise directed, the right and left guides, at the first command, place themselves in the line of file-closers, and, with them, take a distance of four paces from the rear rank. In taking intervals, at the command *march,* the file-closers face to the flank and step off with the files nearest them.

(4) In *assembling,* the guides and file-closers resume their positions in line.

(5) In the different firings, at the first command for loading or firing, the C. C. places himself three paces in rear of the file-closers, opposite the center of the company. After the command *cease firing,* the C. C. returns to his post in line.

(6) Enlisted men in the line of file-closers do not execute the loadings or the firings.

(7) Guides and enlisted men in the line of file-closers execute the manual of arms during the drill unless specially excused, when they remain at the *order.* During ceremonies they execute all movements.

7. (1) The guides of a column of squads place themselves on the flank opposite the file-closers. To change the guides and file-closers to the other flank, the C. C. commands: 1. *File-closers on left (right) flank;* 2. MARCH. The file-closers dart through the column; the C. C. and guides change.

(2) In column of squads, each rank preserves the alignment toward the side of the guide.

8. In movements executed simultaneously by sections (as *sections right,* or *sections, column right*), section leaders repeat

the preparatory command (*section right,* etc.), applicable to their respective sections. The command of execution is given by the **c. c.** only.

To Dismiss the Company.

9. Being in line at a halt, the **c. c.** directs the **1 p. o.**: *Dismiss the company,* and returns his salute. The officers fall out; the **1 p. o.,** at the *order,* salutes, steps three paces to the front, faces to the left, and commands: 1. *Port,* 2. ARMS, 3. *Open,* 4. CHAMBER, 5. *Close,* 6. CHAMBER, 7. DISMISSED.

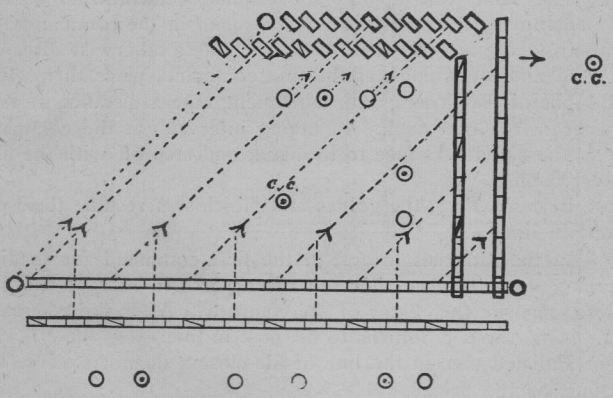


Plate 3. Art. 10.
Company right.

Movements on the Fixed Pivot.

10. Being in line, to turn the company: 1. *Company right (left),* 2. MARCH, 3. *Company,* 4. HALT; or 3. *Forward,* 4. MARCH.

(1) At the second command the right-flank man in the front rank faces to the right in marching and marks time; the other front-rank men oblique to the right, place themselves abreast of the pivot, and mark time; in the rear rank the third man from the right, followed in column by the second and first, moves straight to the front until in rear of his front-rank man, when all face to the right in marching and mark time; the remaining

men of the rear rank move straight to the front three paces, oblique to the right, place themselves abreast of the third man, cover their file-leaders, and mark time; the right guide steps back, takes post on the flank, and marks time.

(2) The fourth command is given when the last man is one pace in rear of the new line.

(3) The command *halt* may be given at any time after the movement begins; only those halt who are in the new position.

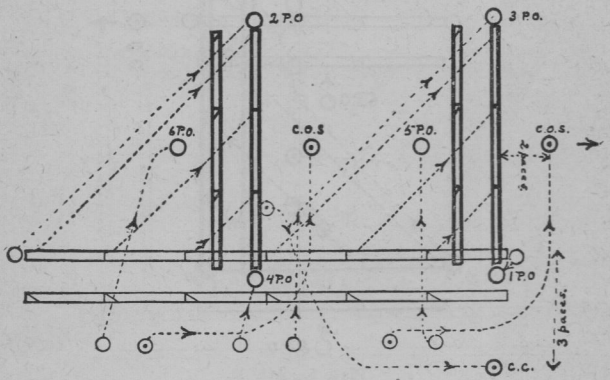


Plate 4. Art. 11.
Sections right (from line).

Each of the others halts upon arriving on the line, aligns himself to the right, and executes *front* without command.

To Form Column from Line and the Reverse.

11. Being in line, to form column of sections, or the reverse: 1. *Sections right (left)*, 2. MARCH, 3. *Company*, 4. HALT; or, 3. *Forward*, 4. MARCH.

(1) Executed by each section as described for the company.

(2) Before forming line the C. C. sees that the guides on the flank toward which the movement is to be executed are covering. This is effected by previously announcing the guide to that flank.

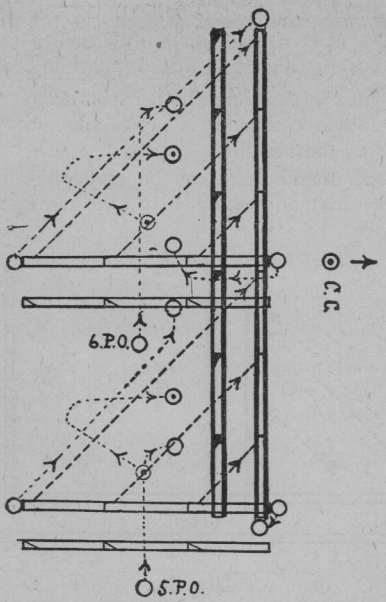


Plate 5. Art. 11.
Sections right (from column).

12. Being in line, to form column of squads, or the reverse; or, being in line of sections, to form column of sections, or the

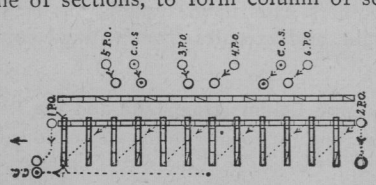


Plate 6. Art. 12.
Squads right.

reverse: 1. *Squads right* (*left*), 2. MARCH; or, 1. *Squads right* (*left*), 2. MARCH, 3. *Company*, 4. HALT.

(1) Executed by each squad as described in the School of the Squad.

(2) If the company or sections be formed in line toward the side of the file-closers, they close in to the flank of the column at the first command and dart through the column and take posts in rear of the company at the second.

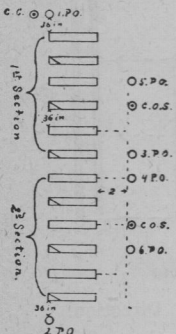


Plate 7. Art. 12.
Column of squads.

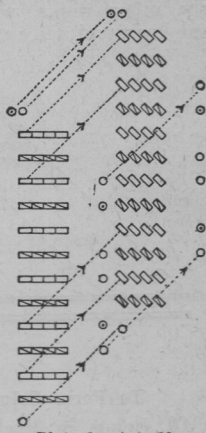


Plate 8. Art. 12.
Right oblique.

MOVEMENTS ON THE MOVING PIVOT.

To Change Direction in Column.

13. Being in line, to change direction: 1. *Right (Left) turn,* 2. MARCH, 3. *Forward,* 4. MARCH.

Executed as described in the School of the Squad, except that the men do not glance toward the marching flank and that all take the full step at the fourth command. The right guide is the pivot of the front rank. Each rear-rank man obliques on the same ground as his file-leader.

14. Being in column of sections, to change direction: 1. *Column right (left),* 2. MARCH.

At the first command the chief of the leading section commands: *Right turn.* At the command *march* the leading section turns to the right on moving pivot; its chief commands: 1. *Forward,* 2. MARCH, on completion of the turn. The rear section marches squarely up to the turning point of the leading section and turns at command of its chief.

15. Being in column of squads, to change direction: 1. *Column right (left)*, 2. MARCH.

At the second command the front rank of the leading squad turns to the right on moving pivot as in the School of the Squad; the other ranks, without command, turn successively on the same ground and in a similar manner.

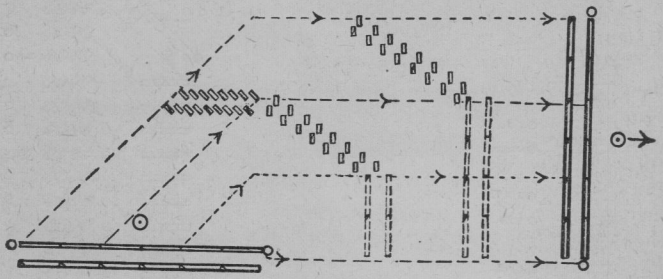


Plate. 9. Art. 13.
Company right turn.

To Form Column of Squads and Change Direction.

16. Being in line, to form column of squads and change direction: 1. *Squads right (left), column right (left)*, 2. MARCH; or, 1. *Right (left) by squads*, 2. MARCH.

(1) In the first case the right squad initiates the *column right* as soon as it has completed the *squad right.*

(2) In the second case, at the command *march,* the right squad advances four paces to clear the second squad, and then takes eight short steps. The remainder of the company executes *squads right, column left,* and follows the right squad. The guide takes post in front of the right squad in double time.

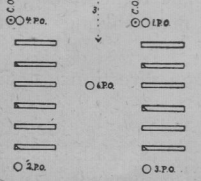


Plate 10. Art. 17.
Line of sections.

Line of Sections.

17. Being in column of squads, to form line of sections or the reverse: 1. *Sections, column right (left)*, 2. MARCH.

Executed by each section as described for the company.

18. Being in line, to form line of sections: 1. *Squads right*

(left), sections, column right (left), 2. MARCH; or *Sections right (left) by squads,* 2. MARCH.

Executed by each section as described for the company in article 16.

To Form Column of Sections to the Front from Line.

19. Being in line at a halt: 1. *Right (Left) by sections,* 2. MARCH, 3. *Guide left (right).*

(1) At the first command, the **cs. o. s.** pass in *double time* to their posts in front of the sections, the chief of the right section commands: *Forward;* the chief of the left section commands: *Right oblique.*

(2) At the second command, the right section advances, the chief repeating, *guide left.* The chief of the left section commands: MARCH, the instant his section is disengaged; at which the section obliques to the right, the chief commanding: 1. *Forward,* in time to add: 2. MARCH, 3. *Guide left,* the instant the left guide arrives in the trace of the guide of the leading section.

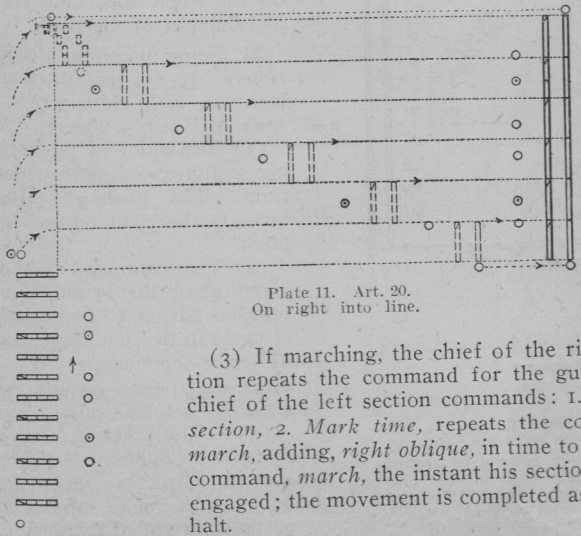


Plate 11. Art. 20.
On right into line.

(3) If marching, the chief of the right section repeats the command for the guide; the chief of the left section commands: 1. *Second section,* 2. *Mark time,* repeats the command, *march,* adding, *right oblique,* in time to give the command, *march,* the instant his section is disengaged; the movement is completed as from a halt.

On Right Into Line from Column of Squads.

20. Being in column of squads: 1. *On right (left) into line,* 2. MARCH, 3. *Company,* 4. HALT, 5. FRONT.

(1) At the command *march,* the leading squad executes *right turn* on moving pivot; each rank takes the *full step,* without command, when the man on the marching flank is abreast of the pivot; the leading guide posts himself on the right of the squad.

(2) Each of the other squads moves forward until opposite its place in the new line, when it changes direction as explained for the leading squad; the rear guide takes his place on the left when the rear squad arrives on the line.

(3) At the command *halt,* given when the leading squad has advanced the desired distance in the new direction, it halts and dresses to the right; the other squads successively halt and dress upon arriving in line.

(4) The command *front* is given when all are aligned.

(5) If the movement is executed toward the side opposite the file-closers, each follows the squad nearest him, passing in front of the following squad.

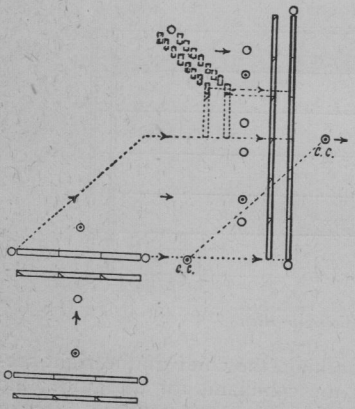


Plate 12. Art. 21.
On right into line.

NOTE.—In column of sections the **5 p. o.** and **6 p. o.** will take post two paces in rear of the center of the first and second sections, respectively.

On the Right into Line from Column of Sections.

21. Being in column of sections: 1. *On right (left) into line,* 2. MARCH, 3. *Company,* 4. HALT, 5. FRONT.

(1) The chief of the leading section commands: *Right turn.* The leading section turns to the right on moving pivot.

(2) The command *halt* is given when the leading section has advanced the desired distance in the new direction; its chief commands: *Right dress,* and passes around the right flank to his *post.*

(3) The rear section marches straight to the front, changes direction by command of its chief when opposite the right of its place in

line, and, when the right file has arrived on the line, is halted by its chief, who also commands: *Right dress,* and passes around the left flank to his post.

(4) The C. C. verifies the alignment and commands: FRONT.

Front Into Line from Column of Squads.

22. Being in column of squads: 1. *Right (Left) front into line,* 2. MARCH, 3. *Company,* 4. HALT, 5. FRONT.

(1) At the command *march* the leading squad moves to the front, dressing to the left; the guide in front places himself on its left; the other squads oblique to the right until opposite their places in line, when each marches to the front.

(2) At the command *halt,* given when the leading squad has advanced the desired distance, it halts and dresses to the left. The other squads halt and dress to the left upon arriving in line; the rear guide takes his place on the right when the rear squad arrives on the line.

(3) The command *front* is given when all are aligned.

(4) If the movement is toward the side of the file-closers, they dart through the column as the oblique commences.

(5) If marching in double time, or in quick time and the command be *double time,* or being at a halt and the command be *double time,* the C. C. commands: *Guide left,* immediately after the command *march;* the leading squad moves to the front in quick time; the other squads move in double time, each taking the quick time and dressing to the left upon arriving in line.

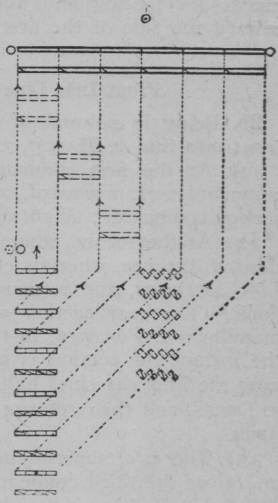


Plate 13. Art. 22.
Right front into line.

23. In all movements where the leading squad or sub-division must move a certain distance and then halt, circumstances will determine when the command *halt* should be given.

24. Being in column of squads to form column of sections, or being in line of sections, to form the company in line: 1.

Sections, right (left) front into line, 2. MARCH, 3. *Company,* 4. HALT, 5. FRONT.

(1) Executed by each section as described for the company. In forming the company in line, the dress is on the left squad of the left section. If forming column of sections, **cs. o. s.** verify the alignment before taking their posts; the **c. c.** commands *front* when the alignments have been verified.

(2) When *front into line* is executed in double time the commands for halting and aligning are omitted and the guide is toward the side of the first unit in line.

Front Into Line from Column of Sections.

25. Being in column of sections at a halt: 1. *Right (Left) front into line,* 2. MARCH, 3. FRONT.

(1) At the first command, the chief of the leading section commands: 1. *Forward,* 2. *Guide left;* the chief of the rear section commands: *Right oblique.*

(2) At the second command, the leading section advances the desired distance, when its chief commands: 1. *Section,* 2. HALT, 3. *Left,* 4. DRESS, and returns to his post, passing around the left flank. The rear section obliques to the right, its chief commanding: 1. *Forward,* in time to add: 2. MARCH, 3. *Guide left,* the instant the section is opposite its place in line; on arriving near the line, the chief halts the section and commands: 1. *Left,* 2. DRESS, and then returns to his post, passing around the right flank.

(3) The **c. c.** superintends the alignment from the left flank, and gives the third command upon its completion.

(4) If marching in *quick time,* the chief of the leading section commands: *Guide left,* and the movement is completed as just explained.

(5) If marching in *quick time,* and the command be *double time,* the **c. c.** commands: *Guide left* (or *right*) immediately after the command *march;* the chief of the leading section cautions it to advance in quick time, and commands: *Guide left;* the chief of the rear section commands: *Double time,* and when the section is abreast of the leading section, commands: 1. *Quick time,* 2. MARCH; the sections having united, the chiefs pass around the flanks to their posts.

(6) If marching in double time, the chief of the leading section, at the first command of the **c. c.,** commands: *Quick time.*

Facing or Marching to the Rear.

26. Being in line, line of sections, or in column of sections or squads, to face or march to the rear: 1. *Squads right (left) about,* 2. MARCH; or, 1. *Squads right (left) about,* 2. MARCH, 3. *Company,* 4. HALT.

(1) Executed by each squad as described in the School of the Squad.

(2) If the company or sections be in column of squads, the file-closers face about in marching, close toward the column, and take their posts; if in line, each darts through the nearest interval between squads.

27. To march to the rear for a few paces: 1. *About,* 2. FACE, 3. *Forward,* 4. MARCH; or, 1. *To the rear,* 2. MARCH.

If in line, the guides place themselves in the rear rank, now the front rank; the file-closers, on facing about, maintain their relative positions. No other movement is executed until the line is faced to the original front.

To Move a Few Paces by the Flank.

28. The company in any formation marching or at a halt may be moved a short distance by the flank by the commands: 1. *Right (Left) flank,* 2. MARCH; or, 1. *Right (Left) face,* 2. *Forward,* 3. MARCH.

Being in Line, to March by the Flank in Two Ranks or in Single File.

29. The company in line, marching or at a halt, may be marched by the flank in *two ranks* and then in *single file,* and the line re-formed by the commands and means prescribed for a squad.

General Remarks on Company Movements.

30. (1) In the preceding paragraphs, four different formations of the company are described: 1. The line; 2. The column of squads; 3. The column of sections; 4. The *line of sections.*

(2) The column of sections, and the line of sections are maneuvered and are marched in any direction by the same commands and means as prescribed for the company in line or for the column of squads.

(3) It is recognized as a principle *that complete mobility and freedom of movement are permissible when in any formation,* and that any one of the four formations may be taken from the

others either directly or by a combination of the movements and tactical principles herein prescribed. It is unnecessary to illustrate or give the commands for all such movements.

To March in Route Step and at Ease.

31. The *column of squads* is the habitual column of route.

(1) 1. *Route step,* 2. MARCH.

(2) The officers carry their swords at will or in the scabbard; the men carry their pieces at will keeping the muzzles elevated; they are not required to preserve silence nor keep the step. The ranks cover and preserve their distance.

(3) To resume the march at attention: 1. *Company,* 2. ATTENTION.

(4) At the command *attention,* the pieces are brought to the shoulder and the cadenced step in quick time is resumed.

(5) The company in line or in column of sections may march in route step.

(6) If halted when in route step, the men come to the *rest.*

32. To march at ease: 1. *At ease,* 2. MARCH.

(1) The company marches as in route step, except that silence is preserved.

(2) To resume the march at attention: 1. *Company,* 2. ATTENTION.

(3) If halted when at ease, the men remain *at ease.*

SCHOOL OF THE BATTALION.

RULES.

33. (1) The battalion being purely a tactical unit, the duties of the **bt. c.** are primarily those of an instructor in drill and tactics and of a tactical commander. He is responsible for the theoretical and practical training of the battalion. He supervises the training of the companies of the battalion with a view to insuring the thoroughness and uniformity of their instruction.

(2) In the instruction of the battalion as a whole, his efforts will be directed chiefly to the development of tactical efficiency, devoting only such time to the mechanism of drill and to the ceremonies as may be necessary in order to insure precision, smartness, and proper control.

34. The movements explained herein are on the basis of a battalion of four companies; they may be executed by a battalion of two or more companies, not exceeding six.

Arrangement and Designation of Companies.

35. (1) The companies are generally arranged from right to left according to the rank of the **c. cs.** present at the formation. The arrangement of the companies may be varied by the **bt. c.**

(2) After the battalion is formed, no cognizance is taken of the relative order of the companies.

36. (1) In whatever direction the battalion faces, the companies are designated numerically from right to left in line, and from head to rear in column, *first company, second company,* etc.

(2) The terms *right* and *left* apply to actual right and left as the line faces; if the about by squads be executed when in line, the right company becomes the left company and the right center becomes the left center company.

(3) The designation center company indicates the right center or the actual center company according as the number of companies is even or odd.

Commands.

37. (1) **C. cs.** repeat such preparatory commands as are to be immediately executed by their companies, as *forward, squads right,* etc.; the men execute the commands *march, halt,* etc., if applying to their companies, when given by the **bt. c.** In movements executed in route step or at ease the **c. cs.** repeat the command of execution, if necessary. **C. cs.** do not repeat the commands of the **bt. c.** in executing the manual of arms, nor those commands which are not essential to the execution of a movement by their companies, as *column of squads, first company, squads right,* etc.

(2) In giving commands or cautions **c. cs.** may prefix the proper designations of their companies, as *First Company,* HALT; *Second Company, squads right,* etc.

38. At the command *guide center* (*right* or *left*), **c. cs.** command: *Guide right* or *left,* according to the positions of their companies. *Guide center* designates the left guide of the center company.

Movements.

39. The battalion being in any formation executes *squads right* (*left*), *squads right* (*left*) *about, route step,* and *at ease,* and *obliques,* moves by the flank and to the rear and resumes the *direct march,* as explained in the School of the Company.

40. The battalion in column of companies, sections, squads, or files changes direction; in column of squads forms column of files and re-forms column of squads, as explained in the School of the Company.

41. When the formation admits of the simultaneous execution by companies or sections of movements in the School of the Company the **bt. c.** may cause such movement to be executed by prefixing, when necessary, *companies* (*sections*) to the commands prescribed therein: as 1. *Companies, right front into line,* 2. MARCH. To complete such simultaneous movements, the commands *halt* or *march,* if prescribed, are given by the **bt. c.** The command *front,* when prescribed, is given by the **c. cs.**

Manual of Arms, Facings, Etc.

42. The battalion executes the *halt, rests, facings, steps* and *marchings, manual of arms,* resumes *attention, kneels, lies down,*

rises, stacks, and *takes arms,* as explained in the Schools of the Recruit and Squad, substituting in the commands *battalion* for *squad.*

Loadings and Firings.

43. (1) In the loadings and firings, the post of the **bt. c.** is twenty paces in the rear of the center of the battalion.

(2) The battalion as a unit executes the loadings and firings only in firing saluting volleys and for purposes of necessary instruction. The commands are as for the company, substituting *battalion* for *company.*

(3) At the first command for loading or firing, the **c. cs.** take post three paces in rear of the file-closers, opposite the centers of their companies. After firing ceases, the **bt. c.** commands: POSTS; the **bt. c.** and **c. cs.** return to their posts in line.

(4) On other occasions, when firing in close order is necessary, it is executed by company or other sub-division under instructions from the **bt. c.**

FORMATIONS IN MASS.

Close Column.

44. The distance between companies in close column is eight paces.

(1) The **c. cs.** are two paces in front of their companies; they resume their posts when full distance is taken.

(2) Whenever a company takes its place in mass, the file-closers close to one pace from the rear rank; they fall back to two paces when full distance is taken.

Close Line.

45. (1) Close Line is the same as Line of Companies, except that the interval between companies is seven paces.

(2) The file-closers close to one pace from the flank.

Color-Guard.

46. (1) The color-guard consists of the two **p. os.** who are the color-bearers, and two experienced men. The senior **p. o.** carries the National Color; the junior **p. o.** carries the Battalion Color. The Battalion Color, when paraded, is always on the left of the National Color, in whatever direction the battalion faces.

(2) The colors are escorted to and from the color-company by the color-guard, which is formed and marched in one rank, the color-bearers in the center.

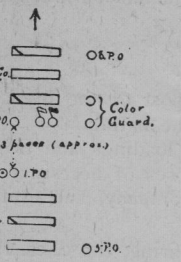


Plate 14. Art. 46.
Color-guard in column of squads.

NOTE.—The distance between the rear guide of the color-company and the leading guide of the next company, when there are two color-bearers, should be about three paces; when there is but one color-bearer the distance should be about two paces.

(3) The color-guard, by command of the senior **p. o.**, presents arms on receiving and parting with the colors. After parting with the colors, the color-guard is brought to *order arms* by command of the senior **p. o.**

(4) At drills and ceremonies, the color, if present, is received by the color-company after its formation. The word *color* implies the National Color and includes the Battalion Color when both are present.

(5) The formation of the color-company completed, the **c. c.** faces to the front; the color-guard, conducted by the senior **p. o.**, approaches from the front and halts at a distance of ten paces from the **c. c.**, who then faces about, brings the company to the *present*, faces to the front, salutes, again faces about, and brings the company to the *order*. The color-guard comes to the *present* and *order* at the command of the **c. c.**, and is then marched directly to its post on the left of the color-company.

Position of the Color.

47. (1) The color-company is the left company of the right wing; the color-guard remains with it unless otherwise directed.

(2) In line, the color is between the inner guides of the right and left wings; the other members of the guard are in the line of file-closers in rear of the color.

(3) In line of columns, the color-guard, in one rank, is midway between the wings and on line with the **c. cs.**

(4) In column of companies or sections, the color-guard, in one rank, is midway between the wings and equidistant from the flanks of the column.

(5) In column of squads, the color is between the wings, abreast of the guide of the color-company, in front or in rear of the file or files next the file-closers; the other members of the guard retain their places in the line of file-closers.

(6) If by movements of the battalion, the color-guard finds itself not between the wings, it takes post there as soon as practicable.

(7) The color-guard does not execute the *loadings, firings,* nor *fix bayonet.* In rendering honors, and on drill, it executes all other movements in the *manual* except when specially excused.

Posts of Officers and Petty Officers in Line.

48. (1) In line, the post of the **bt. c.** is twenty paces in front of the center of the battalion; the **adj.** and **c. p o.** are opposite the right and left of the battalion, six paces in rear of the file-closers.

(2) The staff officers, except the **adj.,** in order of rank, the senior on the right, take post at one pace apart, three paces in rear of the **bt. c.;** if but one staff officer is present, he takes post three paces to the rear and one pace to the right of the **bt. c.**

(3) The **sf. p. os.,** except the **c. p. o.,** take post at one pace apart, in order of rank, senior on the right, six paces to the left of the battalion and in line with the front rank.

(4) During maneuvers, the staff and **sf. p. os.** will take posts designated by the **bt. c.**

49. In *line of columns,* the positions are the same except that the **adj.** and **c. p. o.** are in line with and six paces from the right and left, respectively, of the front rank or leading squad, each in his own wing.

Posts of Officers and Petty Officers in Column.

50. (1) The **bt. c.** is on the side of the guide and twenty paces from the flank, opposite the center.

(2) The **adj.** and **c. p. o.** are on the side of the guide, opposite, and six paces from, the head and rear of the column respectively, each in his own wing.

(3) The staff officers take post as in line.

(4) The **sf. p. os.** take post six paces in rear of the file-closers of the rear sub-division.

Posts at Reviews and Street Parades.

51. (1) At reviews and street parades in column the **bt. c.** takes post midway between the rear rank of the band and the chief of the leading sub-division *or detachment.*

(2) The staff takes post three paces in rear of the **bt. c.**

(3) The **adj.** and **c. p. o.** take posts on the right of the staff and **sf. p. os.** respectively.

Posts of Band, Pioneers, and other Detachments in Line or Line of Columns.

52. (1) The band is posted with the left of its front rank twenty-four paces to the right of, and in line with, the front rank, or leading squad.

(2) The *buglers,* if not with their companies, form in rear of the band. If the band be not present, the buglers may be united and take the post prescribed for the band.

(3) The *pioneers, signalmen, ammunition-party, messmen,* and *ambulance-party,* are posted in the order named from right to left, twelve paces in rear of the center of the battalion, with an interval of one pace between detachments.

53. The *special details* will not be present at ceremonies, except reviews and inspections. During maneuvers they will take posts designated by the **bt. c.**

Posts of the Band, Pioneers, and other Detachments in Column.

54. (1) The *band* takes post at the head of the column with its rear rank thirty paces in front of the leading company.

(2) The *signalmen* are six paces in front of the chief of the leading sub-division.

(3) The *pioneers* are three paces in front of the signalmen.

(4) The *ammunition-party* is at the rear of the column, three paces in rear of the **sf. p. os.,** and is followed by the *messmen* and *ambulance-party,* in the order named, with a distance of three paces between detachments.

(5) When the battalion wheels about by squads, all detachments *about face,* or execute *to the rear.*

(6) In mixed forces, the *ammunition-party, messmen,* and *ambulance-party* march in rear of the column.

55. If any detachment be absent, distances and intervals are measured from the detachment or sub-division next toward the center of the line or column.

To Form the Battalion.

56. (1) The companies having been formed on their parade grounds, *adjutant's call* is sounded, and the **adj.** proceeds to the point where the base-company is to form; the **c. p. o.** reports to

him and is posted on the line facing the **adj.** at a little more than company distance; the **adj.** then draws sword.

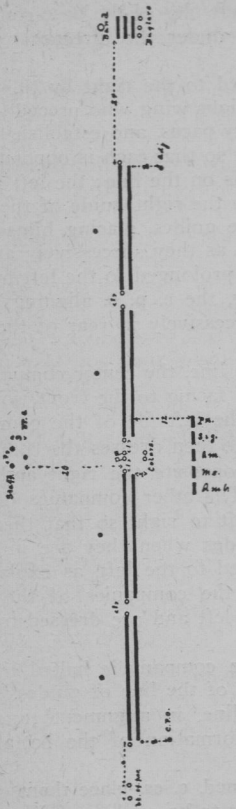


Plate 15. Art. 48.
Battalion in line.

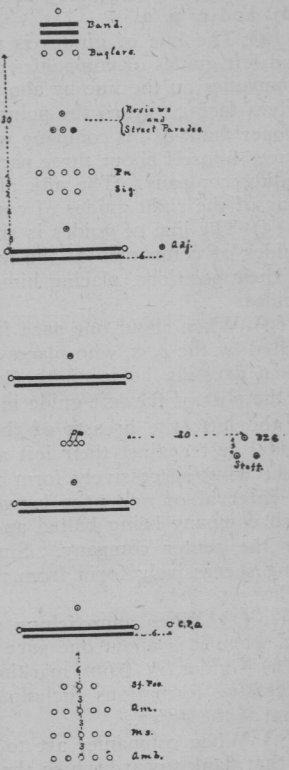


Plate 16. Art. 50.
Battalion in column.

(2) If dismounted, the **adj.,** accompanied by the **c. p. o.** on his left, marches to the point described and posts the **c. p. o.**

(3) The center company is conducted by its **c. c.** so as to arrive from the rear, parallel to the line; its right and left guides pre-

cede it on the line by about twenty paces, taking post facing to the left (point of rest) *at order arms*, so that their elbows are against the breasts of the right and left files of the base-company when it is dressed; they are posted under the direction of the **adj.** and **c. p. o.**

(4) The line of guides is prolonged to the right by the right and left guides of companies of the right wing who precede their companies on the line by about twenty paces, and establish themselves facing toward the point of rest so that each is opposite the proper flank of his company when it is on the line; the left guide places himself about three paces from the right guide of the preceding company. The **adj.** aligns the guides, placing himself in rear of the right guides of companies as they successively arrive.

(5) The line of guides is similarly prolonged to the left by the guides of companies of the left wing, the **c. p. o.** aligning them in their positions, placing himself successively in rear of the left guides.

(6) When about one pace from the line, the center company is halted by the **c. c.**, who places himself facing to the front, so that when dressing he is on the left of the left file of the company at the post of the left guide in line; he then dresses the company to the left; the breasts of the men opposite the right and left guides rest against their left arms. The other companies of the right wing successively form from left to right so that there is an interval of one pace between guides when they are in line, each company being halted and dressed to the left, as explained for the center company. Similarly, the companies of the left wing successively form from right to left and are dressed to the right.

57. (1) When approaching a line, a company is halted by its **c. c.** when it is about one pace in rear of the line of guides.

(2) Guides in front marking the line, in alignments and in successive formations including the formation of the battalion, stand at the *order*.

(3) When companies are to be aligned, **c. cs.** place themselves on that flank toward which the dress is to be made as follows:

(4) In line, at the post of the guide, and facing to the front.

(5) In column, two paces from the guide, in prolongation of and facing toward the line.

(6) Each **c. c.**, after dressing his company, commands: FRONT, and takes post.

58. Before *adjutant's call* is sounded the band takes a position

designated by the **adj.** and marches at the same time as the companies to its position in line.

59. The **bt. c.** places himself facing the line, at a distance in front of the center of the battalion about equal to half its front.

60. (1) The **adj.**, from his post on the right of the battalion, having assured the positions of the guides of the right company, moves at a trot (if dismounted, in quick time) by the shortest route to a point midway between the post of the **bt. c.** and the center of the battalion, faces the latter, and, when all parts of the line have been correctly aligned and the officers, band, and others have reached their posts, commands: 1. *Guides*, 2. POSTS.

(2) At the command *posts*, the **c. p. o.** and guides take their posts in line; the **sf. p. os.** take their posts.

(3) The **adj.** then commands: 1. *Present*, 2. ARMS. He then turns about, salutes the **bt. c.**, and reports: *Sir, the battalion is formed;* the **bt. c.** returns the salute with the right hand, directs the **adj.**: *Take your post, sir;* draws sword, and brings the battalion to the *order*.

(4) The **adj.** turns about and takes his post in line, moving by the shortest route and by the same gait as described above; if the battalion is placed in march he moves promptly to his post in the new formation.

61. The battalion may be formed in line on the right or left company on the same principles, the guides being posted facing the point of rest.

62. (1) For drill and for purposes other than ceremonies: The battalion may be formed in column of squads. The companies having been formed, the adjutant posts himself so as to be facing the column, when formed, and six paces in front of the place to be occupied by the leading guide of the battalion; he draws sword; *adjutant's call* is sounded or the adjutant signals *assemble*.

(2) The companies are formed, at attention, in column of squads in their proper order. Each **c. c.** after halting his company, salutes the adjutant; the adjutant returns the salute and, when the last **c. c.** has saluted, faces the **bt. c.** and reports: *Sir, the battalion is formed.* He then takes his post.

To Dismiss the Battalion.

63. DISMISS YOUR COMPANIES.

(1) The color-guard escorts the color.

(2) The staff and the staff **p. os.** fall out.

(3) Each **c. c.** marches his company to its parade ground and dismisses it.

To Open Ranks.

64. Being at a halt: 1. *Open ranks,* 2. MARCH, 3. FRONT.

(1) At the first command, the **adj.** places himself facing to the left, three paces to the right and three paces to the rear of the front rank.

(2) The **cs. o. s.,** right and left guides, and the file-closers, of each company, take posts as at the command *open ranks* in the School of the Company.

(3) The **adj.** aligns the right and left guides, and then places himself facing to the left, in line with the **c. cs.,** three paces from the right flank.

(4) At the command *march,* the **c. cs.** carry swords and dress to the right; **cs. o. s.** place themselves on the line of **c. cs.** opposite their posts in line and dress to the right; all officers turn head and eyes to the front as soon as their alignment is verified; they bring their swords to the order at the command *front.* The **sf. p. os.,** if present, and the front rank, dress to the right; the men in the rear rank step back a few inches in rear of the line marked by the guides, halt, and dress on the right guides, who align the men in their respective companies.

(5) The guides who mark the line of the rear rank remain in their positions, after the alignment by the **adj.,** until the command *front.*

(6) The color-bearers remain in place; the other members of the color-guard step back with the file-closers.

(7) The **c. p. o.** takes post three paces to the left of and in line with the front rank.

(8) The band takes three paces between ranks, the alignment being verified by the drum-major from the right.

(9) The **adj.** verifies the alignment of the officers, both ranks and file-closers; the last are aligned on the left file-closer who posts himself accurately three paces in rear of the line of guides; the **adj.** then takes post, facing to the front, three paces to the right of the front rank, in line with the officers.

(10) The command *front* is given by the **bt. c.** when the **adj.** takes his post; the guides and drum-major then return to their posts in line.

To Close Ranks.

65. 1. *Close ranks,* 2. MARCH.

Each company closes ranks as prescribed in the School of the Company: the two members of the color-guard close with the file-closers; the band closes ranks.

NOTE.—In the Army Drill Regulations the ranks of the battalion, when in line, are not opened. They are opened, however, at company inspection, and at inspection of a battalion in column. It will be noted that ranks are not opened at reviews and parades.

Provision is made in these regulations for opening ranks in line in order to meet the routine requirements at the Naval Academy, and upon occasions when it is not possible to form the battalion in column for inspection. At other times the ranks of the battalion should not be opened.

Alignments.

66. Being at a halt, to rectify the alignment: *Rectify the alignment.*

(1) The **c. cs.** in the right wing dress their companies successively to the left, each as soon as the **c. c.** next on his left commands *front;* the **c. cs.** in the left wing dress their companies similarly to the right. The commanders of the center companies dress them without waiting for each other, being careful to preserve the interval of one pace.

(2) When both colors are present, the adjacent guides step back to the line of the rear rank; at the command *front,* they resume their positions in the front rank.

(3) To give the battalion a general alignment: 1 *Guides center* (*right* or *left*) *company on the line,* 2. *Guides on the line,* 3. *Center* (*right* or *left*), 4. DRESS, 5. *Guides,* 6. POSTS.

(4) At the first command, the designated guides place themselves on the line facing the center (right or left); the **bt. c.** establishes them in the direction he wishes to give the battalion.

(5) At the second command, the guides of the other companies take the same posts as in forming the battalion.

(6) At the command *dress,* each **c. c.** dresses his company to the flank toward which the guides face.

(7) At the command *posts,* the guides return to their posts.

To Rectify the Column.

67. (1) Being in column of companies, or in close column, at a halt, if the guides do not cover or have not their proper distances, and it is desired to correct them, the **bt. c.** commands: 1. *Right* (*left*), 2. DRESS.

(2) **C. cs.** in rear of the first place their right guides so as to cover at the proper distance; each **c. c.** aligns his company to the right and commands: FRONT.

To Pass Obtacles.

68. When marching in line or in column, **c. cs.** without command of the **bt. c.,** conduct their companies so as to pass obstacles with the greatest facility, and then resume the original formation.

General Rules for Successive Formations.

69. (1) Successive formations include formations, either into line or column, in which the several sub-divisions arrive in their places successively.

(2) In all successive formations into line, the guides of the company first to arrive are posted on the line, opposite the right and left files of the company and facing toward the point of rest. These guides are posted by either the **adj.** or **c. p. o.**, according to which is nearest the head of the column or the point of rest.

(3) The line is prolonged as in forming the battalion; the guides are assured by the **adj.** or **c. p. o.** nearest the point of rest, or by both if the formation be central.

(4) Companies are halted one pace from the line of guides, and immediately dressed up to them toward the point of rest.

(5) The **bt. c.** commands: 1. *Guides*, 2. POSTS, at the completion of all successive formations into line.

Plate 17. Art. 70.
On right into line from column of squads.

On Right (Left) into Line from Column of Squads.

70. Being in column of squads: 1. *On right (left) into line*, 2. MARCH, 3. *Battalion*, 4. HALT.

(1) At the first command, the commander of the leading company commands: *Squads right.* If at a halt each **c. c.** in rear commands: *Forward.* At the second command the leading company marches in line to the right; the companies in rear continue to march to the front and form successively on the left, each, when opposite its place, being marched in line to the right.

(2) The fourth command is given when the first company has advanced the desired distance in the new direction; it halts and is dressed to the right by its commander; the others complete the movement, each being halted one pace in rear of the line established by the first company, and then dressed to the right.

NOTE.—In contracted spaces, and whenever it is desirable to avoid inverting squads in the companies, the line may be formed on the right (left) by the commands: 1. *Form line,* 2. *First company, on right (or left) into line.* 3. MARCH.

The first company executes *on right into line* as in the School of the Company; the other companies continue the march and successively execute *on right (left) into line,* each on the left (right) of the preceding company.

On Right (Left) Into Line from Column of Companies.

71. Being in column of companies: 1. *On right (left) into line,* 2. MARCH, 3. *Battalion,* 4. HALT.

(1) At the first command, the commander of the first company commands: *Right turn.* If at a halt, each C. C. in rear commands: FORWARD. Each of the commanders in rear of the leading company gives the command: 1. *Right turn,* in time to add, 2. MARCH, when his company arrives opposite the right of its place in line.

(2) The fourth command is given and the movement completed as explained above.

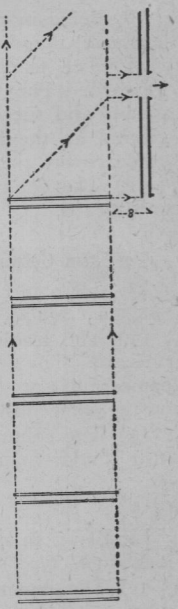


Plate 18. Art. 71.
On right into line from column of companies.

Front Into Line.

72. Being in column of squads or companies: 1. *Right (Left) front into line,* 2. MARCH.

(1) Being in column of squads: At the first command, the commander of the leading company commands: *Column right;* the commanders of the companies in rear, *column half right.* At the second command the leading company executes column right, and, as the last squad completes the change of direction, is formed in line to the left, halted, and dressed to the left. Each of the companies in rear is conducted by the most convenient route to the rear of the right of the preceding company, thence to the right, parallel to and four paces in rear of the new line; when opposite its place, it is formed in line to the left, halted, and dressed to the left.

(2) **Being in column of companies:** If marching, the commander of the leading company gives the necessary commands to halt his company at the second command; if at a halt, the leading company stands fast. At the first com-

mand, the commander of each company in rear commands: *Squads right,* or *Right by squads,* and after the second command conducts his company by the most convenient route to its place in line, as described above.

(3) Whether executed from column of squads or column of companies, each C. C. halts when opposite or at the point where the left of his company is to rest.

To Form Column of Companies or Sections Successively to the Right or Left.

73. Being in column of squads: 1. *Column of companies, first company, squads right (left),* 2. MARCH.

(1) The leading company executes *squads right* and moves forward. The other companies move forward in column of squads and successively march in line to the right on the same ground as the leading company and in such manner that the guide covers the guide of the preceding company.

(2) The column of sections is formed by similar commands and means.

To Form Column of Squads Successively to the Right or Left.

74. Being in column of companies: 1. *Column of squads, first company, squads right (left),* 2. MARCH.

(1) The leading company executes *squads right* and moves forward. The other companies move forward in column of companies and successively march in column of squads to the right on the same ground as the leading company.

(2) The column of squads is formed from column of sections in a similar manner.

To Change Direction.

75. Being in column of companies or close column: 1. *Column right (left),* 2. MARCH.

(1) The commander of the first company commands: *Right turn.*

(2) The leading company turns to the right on moving pivot, the C. C. adding: 1. *Forward,* 2. MARCH, upon its completion.

(3) The other companies march squarely up to the turning point; each changes direction by the same commands and means as the first and in such manner that the guide covers the guide of the preceding company.

76. Being in line of companies or close line: 1. *Battalion right (left)*, 2. MARCH, 3. *Battalion*, 4. HALT.

(1) The right company changes direction to the right; the other companies are conducted by the shortest line to their places abreast of the first.

(2) The fourth command is given when the right company has advanced the desired distance in the new direction; that company halts; the others halt successively upon arriving on the line.

77. Being in column of squads, the battalion changes direction by the same commands and in the manner prescribed for the company.

MASS FORMATIONS.

Close Column and Close Line.

78. Being in line, line of companies, column of companies or column of squads: 1. *Close on first (fourth) company*, 2. MARCH.

(1) If at a halt, the indicated company stands fast; if marching, it is halted; each of the other companies is conducted toward it and is halted in proper order in close column if the indicated company be in line, or in close line if the indicated company be in column of squads.

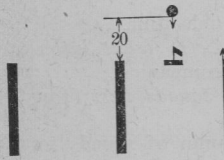


Plate 19. Art. 76.
Line of companies.

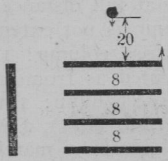


Plate 20. Art. 78.
Close column. (Companies in line.)

Close line. (Companies in column of squads.)

(2) **If the battalion is in line,** companies form successively in *rear* of the indicated company; if in column of squads, companies in rear of the leading company form on the *left* of it.

(3) **In close column** formed from line on the first company, the left guides cover; formed on the fourth company, right guides cover. If formed on the leading company, the guide remains as before the formation. In close line, the guides are halted abreast of the guide of the leading company.

(4) The battalion in column closes on the leading company only.

NOTE.—*If the battalion is in line,* to form *close column,* the company next to the indicated company executes *backward march* a few steps to clear the adjoining companies; then *squads right* (*left*) *about,* and, when opposite its place in the column, *squads left* (*right*). The other companies conform to the movement at the proper distance in column of *squads.*

If the battalion is in line of companies, to form *close line,* all except the indicated company execute *squads right* (*left*), then *right* (*left*) *oblique* a few paces, then *forward,* and, when opposite their places in the new formation, *squads left* (*right*).

To Extend the Mass.

79. Being in close column or in close line: 1. *Extend on first* (*fourth*) *company,* 2. MARCH.

(1) **Being in close line:** If at a halt, the indicated company stands fast; if marching, it halts; each of the other companies is conducted away from the indicated company and is halted in its proper order in line of companies.

(2) **Being in close column,** the extension is made on the fourth company only. If marching, the leading company continues to march; companies in rear mark time or halt according to their distance from the head of the column and successively resume the march in time to follow at full distance. If at halt, the leading company marches; companies in rear successively march in time to follow at full distance.

(3) Close column is not extended in double time.

80. Being in close column: 1. *Right* (*Left*) *front into line,* 2. MARCH. Executed as from column of companies.

81. Being in close column: 1. *Column of squads, first* (*fourth*) *company, squads right* (*left*), 2. MARCH.

The designated company marches in column of squads to the right. Each of the other companies executes the same movement in time to follow the preceding company in column.

82. Being in close line: 1. *Column of squads, first* (*fourth*) *company, forward,* 2. MARCH.

The designated company moves forward. The other companies (marking time or halting if in march) successively take up the march and follow in column.

Route Step and At Ease.

83. (1) The battalion marches in *route step* and *at ease* as prescribed in the School of the Company. When marching in column of companies or sections, the guides maintain the trace and distance.

(2) In route marches the **bt. c.** marches at the head of the column; when necessary, the file-closers may be directed to march at the head and rear of their companies.

Assembly.

84. The battalion being wholly or partially deployed, or the companies being separated: 1. *Assemble,* 2. MARCH.

The **bt. c.** places himself opposite to or designates the element or point on which the battalion is to assemble. Companies are assembled and marched to the indicated point. As the companies arrive the **bt. c.** or adjutant indicates the formation to be taken.

THE REGIMENT.

General Rules.

85. Normally, the regiment consists of four battalions, but these regulations are applicable to a regiment of two or more battalions. Special units, such as band, machine-gun company, and mounted scouts, if present, have special formations for their own use. Movements herein prescribed are for the battalions; special units conform thereto unless otherwise prescribed or directed.

86. The **rg. c.** is responsible for the theoretical instruction and practical training of the regiment as a whole. Under his immediate supervision the training of the units of the regiment is conducted by their respective commanders.

87. Except at ceremonies, or when rendering honors, or when otherwise directed, after the regiment is formed, the battalions march and stand *at ease* during subsequent movements.

Commands.

88. (1) The **rg. c.** either gives his commands or orders orally, by bugle, or by signal, or communicates them by staff officers or orderlies.

(2) The commands *parade rest, attention,* and all commands in the Manual of Arms, whether given by the **rg. c.** or the **rg. adj.** on drill or at ceremonies, are repeated by the **bt. cs.** and are obeyed by their respective battalions in succession from right to left in line or from head to rear in column. See Art. 33, page 397.

(3) Each **bt. c.** gives the appropriate commands or orders, and, in close-order movements, causes his battalion to execute the necessary movements at his command of execution. Each **bt. c.** ordinarily moves his battalion from one formation to another, in column of squads, in the most convenient manner, and, in the presence of the enemy, in the most direct manner consistent with cover.

(4) Commanders of the special units observe the same principles as to commands and movements. They take places in the new formation as directed by the **rg. c.**; in the absence of such directions they maintain their relative positions with respect to the flank or end of the regiment on which they are originally posted.

Designation of Battalions.

89. In whatever formation the regiment may be, the battalions retain their permanent administrative designations of *first, second, third battalion.* For convenience, they may be designated, when in line, as *right, center,* or *left battalion;* when in column, as *leading, center,* or *rear battalion.* These designations apply to the actual positions of the battalions in line or column.

90. The normal interval between battalions in the line and line of masses is twenty-four paces. *The normal distance* between battalions in column of masses is 24 paces. In column of squads or companies the normal distance is such that in forming line to the right or left the battalions will have the proper interval.

To Form the Regiment.

91. Unless otherwise directed, the battalions are posted from right to left, or from head to rear, according to the rank of the battalion commanders present, the senior on the right or at the head. A battalion whose commander is in command of the regiment retains its place.

92. (1) For ordinary purposes, the regiment is formed in column of squads or in column of masses.

(2) The adjutant informs the **bt. cs.** what the formation is to be. The battalions and special units having been formed, he posts himself and draws sword. *Adjutant's call* is sounded, or the adjutant signals *assemble.*

(3) If forming in column of squads, the adjutant posts himself so as to be facing the column when formed, and six paces in front of the place to be occupied by the leading guide of the regiment; if forming in column of masses, he posts himself so as to be facing the right guides of the column when formed, and six paces in front of the place to be occupied by the right guide of the leading company. Later, he moves so as best to observe the formation.

(4) The battalions are halted, at attention, in column of squads or close column, as the case may be, successively from the front in their proper order and places. The band takes its place when the leading battalion has halted. Other special units take their places in turn when the rear battalion has halted.

(5) The **bt. cs.** and the commanders of the machine-gun company and mounted scouts (or detachments) each, when his command is in place, salutes the adjutant and commands: *At ease;* the adjutant returns the salutes. When all have saluted and the

band is in place, the adjutant rides to the **rg. c.**, reports: *Sir, the regiment is formed,* and takes his post. The **rg. c.** draws sword.

(6) The formation in column of squads may be modified to the extent demanded by circumstances. Prior to the formation the adjutant indicates the point where the head of the column is to rest and the direction in which it is to face; he then posts himself so as best to observe the formation. At *adjutant's call* or *assemble* the leading battalion marches to, and halts at, the indicated point. The other battalions take positions from which they may conveniently follow in their proper places.

To Form the Regiment in Line.

93. (1) For ceremonies, or when directed, the regiment is formed in line or line of masses.

(2) The adjutant posts himself so as to be six paces to the right of the right or leading company of the right battalion when the regiment is formed and faces in the direction in which the line is to extend. *Adjutant's call* is sounded; the band plays.

(3) The adjutant indicates to the adjutant of the right battalion the point of rest and the direction in which the line is to extend, and then takes post facing the regiment midway between the post of the **rg. c.** and the center of the regiment. Each of the other battalion adjutants precedes his battalion to the line and marks its point of rest.

(4) The battalions, arriving from the rear, each in line or close column, as the case may be, are halted on the line successively from right to left in their proper order and places. Upon halting, each **bt. c.** rectifies the alignment. The battalion adjutant assists in aligning the battalion and then takes his post.

(5) The band, arriving from the rear, takes its place in line when the right battalion has halted; it ceases playing when the left battalion has halted. The machine-gun company and the mounted scouts (or detachments), if present, take their places in line after the center battalion has halted.

(6) The **rg. c.** and those who accompany him take post.

(7) When all parts of the line have been dressed, and officers and all others have reached their posts, the adjutant commands: 1. *Present,* 2. ARMS. The **bt. cs.** in succession from the right bring their battalions to the present. The adjutant then turns about and reports to the **rg. c.**: *Sir, the regiment is formed;* the **rg. c.** directs the adjutant: *Take your post, Sir,* draws sword and brings the regiment to the order. The adjutant takes his post, passing to the right of the **rg. c.**

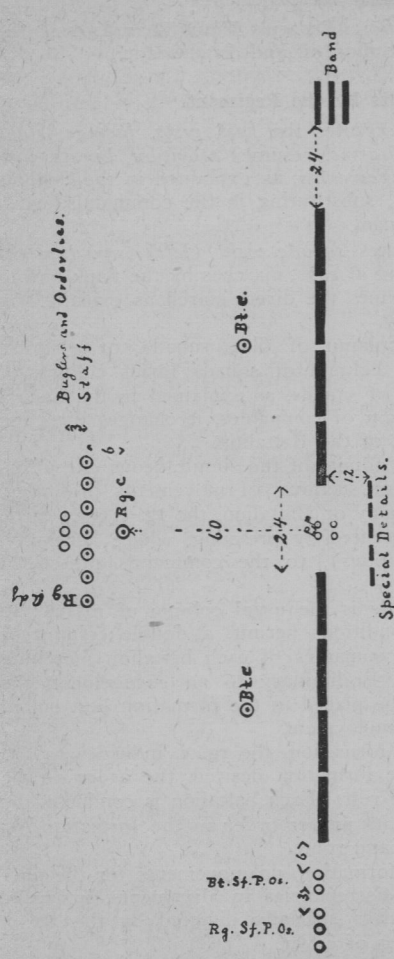


Plate 21. Arts. 101-103.
Regiment in line.

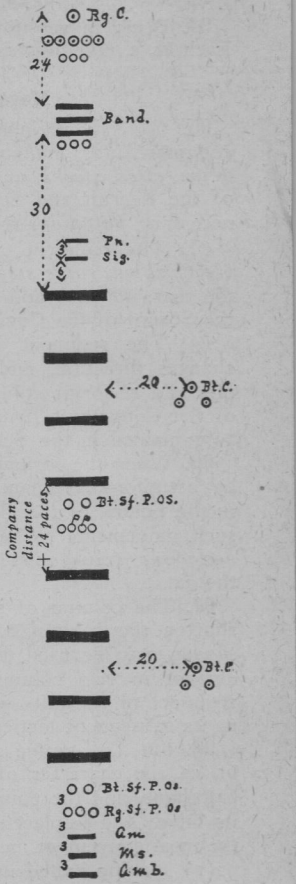


Plate 22. Arts. 101-103.
Regiment in column.

To Dismiss the Regiment.

94. Being in any formation: DISMISS YOUR BATTALIONS. Each **bt. c.** marches his battalion off and dismisses it.

Movements by the Regiment.

95. (1) The regiment executes the *halt, rests, facings, steps* and *marchings, manual of arms,* resumes *attention, kneels, lies, down, rises, stacks,* and *takes arms,* as explained in the Schools of the Recruit and Squad, substituting in the commands, when necessary, *battalions* for *squad.*

(2) The regiment executes *squads right (left), squads right (left) about, route step,* and *at ease,* marches by the flank and to the rear, *obliques* and resumes the direct march as explained in the School of the Company.

(3) The regiment in column of files, squads, or sections, changes direction, and in column of squads forms column of files and re-forms column of squads, as explained in the School of the Company. In column of companies, it changes direction as explained in the School of the Battalion.

96. When the formation admits of the simultaneous execution, by battalions, companies, or sections, of movements prescribed in the School of the Company or Battalion, the **rg. c.** may cause such movements to be executed by prefixing, where necessary, *battalions (companies, sections),* to the commands prescribed therein.

97. The column of squads is the usual column of march; to shorten the column, if conditions permit, a double column of squads may be used, the companies of each battalion marching abreast in two columns. Preliminary to an engagement, the regiment or its units will be placed in the formation best suited to its subsequent tactical employment.

98. (1) To assume any formation, the **rg. c.** indicates to the **bt. cs.** the character of the formation desired, the order of the battalions, and the point of rest. Each battalion is conducted by its **bt. c.,** and is placed in its proper order in the formation, by the most convenient means and route.

(2) Having halted in a formation, no movements for the purpose of correcting minor discrepancies in alignments, intervals, or distances are made unless specially directed by the **rg. c.** or necessitated by conditions of cover.

99. To correct intervals, distances, and alignments, the **rg. c.** directs one or more of the **bt. cs.** to rectify their battalions.

Each bt. c. so directed causes his battalion to correct its alignment, intervals, and distances, and places it in its proper position in the formation.

Simultaneous Movements.

100. The following are a few of the simultaneous movements by companies and battalions:

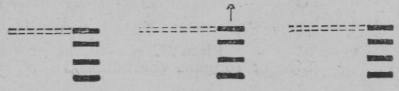


Plate 23.
Line of battalions in mass.

(1) The regiment being in line: 1. *Battalions,* 2. *Close on first companies,* 3. MARCH. Each battalion closes in mass, thus forming a *line of battalions in mass;* when the battalions are closed in to 24 paces the formation becomes a *line of masses.*

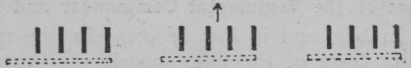


Plate 24.
Line of companies.

(2) The regiment being in line: 1. *Companies,* 2. *Right by squads,* 3. MARCH, thus forming *line of companies.*

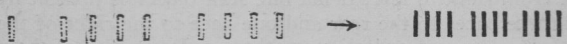


Plate 25.
Battalions closed in mass.

(3) Regiment being in column of companies: 1. *Battalions,* 2. *Close on first (fourth) companies,* 3. MARCH, thus forming *column of battalions in mass;* when the battalions are closed to 24 paces the formation becomes a *column of masses.*

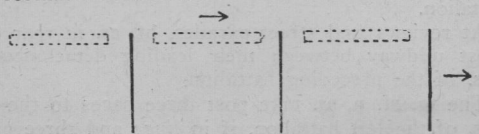


Plate 26.
Column of battalions.

(4) Regiment being in column of squads or companies: 1. *Battalions,* 2. *Right front into line,* 3. MARCH. Each battalion exe-

cutes the movement, thus forming a column of battalions, each battalion being in line.

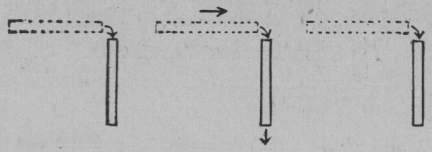


Plate 27.
Line of columns (battalions).

(5) Regiment being in column of squads or companies: 1. *Battalions, 2. Column right* (or *left*), 3. MARCH, thus forming *line of battalions in columns of squads,* or *in columns of companies.*

NOTE.—In connection with these formations, especially as regards *line of masses* and *column of masses,* see Arts. 90, 98, 128, and 135.

Posts of the Regimental Commander and Staff.

101. (1) In *line,* and in *line of columns,* the **rg. c.** is posted sixty paces in front of the line, opposite its center; in *line of masses,* this distance is reduced to thirty paces; in *column* and in route marches, he is twenty-four paces in front of the band.

(2) In all formations the staff and aids are three paces in rear of the **rg. c.**; the **rg. adj.** on the right, the others in order of rank from right to left; if but one staff officer is present he takes post three paces to the rear and one pace to the right of the **rg. c.**

(3) Buglers and orderlies are three paces in rear of the staff.

Posts of Battalion Commanders, Staffs, Special Details, etc.

102. (1) In *line of masses,* the post of a **bt. c.** is twelve paces in front of his leading company.

(2) In other formations the **bt. cs.** take post as in the School of the Battalion.

(3) At reviews and street parades, **bt. cs.** in rear of the first take post midway between their leading detachments and the **sf. p. os.** of the preceding battalion.

(4) The **rg. sf. p. os.** take post three paces to the left of the **sf. p. os.** of the left battalion, if in *line;* and three paces to the rear of the **sf. p. os.** of the rear battalion, if in *column.*

(5) Both in *line* and *column,* the band, pioneers, and other *special details* take the same relative positions in brigade as in battalion formation.

Color-Guard.

103. (1) The color-guard will be assigned to the center battalion if there be an odd number of battalions; if an even number, then to the right-center battalion, the object being to post the colors as near the center of the regiment as practicable.

(2) When between two battalions, the color-guard will take post in the center of the line or column, except at reviews and street parades in column, when it will take post midway between the **sf. p. os.** of one battalion and the **bt. c.** following.

To Open and Close Ranks.

104. Being in line at a halt: 1. *Open ranks, 2.* MARCH.

(1) Each **bt. c.** causes his battalion to open ranks.

(2) To close ranks: 1. *Close ranks, 2.* MARCH.

(3) Each **bt. c.** causes his battalion to close ranks.

NOTE.—The ranks of the regiment in line will not be opened except at inspection and when the conditions are such that column of companies cannot be formed for that purpose.

Alignments.

105. (1) Being in line at a halt, to give a general alignment, the **rg. c.** selects a base-company, causes the guides thereof to be established on the desired line, and commands: *Align your battalions.*

(2) The commander of the base-battalion posts the guides of his remaining companies and aligns his battalion. Each of the other **bt. cs.** posts the guides of the company nearest the base as soon as their position can be determined, and aligns his battalion.

(3) If a battalion be at a considerable distance from or in front of the position it is to occupy, its commander moves it to its proper position for dressing.

THE BRIGADE.

106. The brigade does not engage in prescribed drills. It engages in route marches and battle or other tactical exercises. These are conducted pursuant to commands or orders formulated to suit the conditions of the proposed movement or exercise, and, in general, in accordance with the principles applicable to the regiment.

CEREMONIES.

REVIEWS, PARADES, ESCORTS, INSPECTIONS.

General Rules for Ceremonies.

107. (1) When forming for ceremonies the companies of the battalion and the battalions of the regiment are posted from right to left in line and from head to rear in column, in the order of rank of their respective commanders present in the formation, the senior on the right or at the head.

(2) The commander faces the command; subordinate commanders face to the front.

108. Each staff presents and returns to the carry or order when the command is given by its chief.

109. (1) At the *assembly* for a ceremony companies are formed on their own parades and informally inspected.

(2) At *adjutant's call*, except for ceremonies involving a single battalion, each battalion is formed on its own parade, reports are received, and the battalion presented to the bt. c. At the second sounding of *adjutant's call* the regiment is formed.

REVIEWS—GENERAL RULES.

110. (1) The adjutant posts men or otherwise marks the points where the column changes direction in such manner that its flank in passing will be about twelve paces from the reviewing officer.

(2) The post of the reviewing officer, usually opposite the center of the line, is indicated by a marker.

(3) Officers of the same or higher grade, and distinguished personages invited to accompany the reviewing officer, place themselves on his left; their staffs and orderlies place themselves respectively on the left of the staff and orderlies of the reviewing officer; all others who accompany the reviewing officer place themselves on the left of his staff, their orderlies in rear. A staff officer is designated to escort distinguished personages and to indicate to them their proper positions.

111. While riding around the troops, the reviewing officer may direct his staff, flag and orderlies to remain at the post of the reviewing officer, or that only his personal staff and flag shall accompany him; in either case the commanding officer alone accompanies the reviewing officer. If the reviewing officer is

accompanied by his entire staff, the staff officers of the commander place themselves on the right of the staff of the reviewing officer.

112. When an organization is to be reviewed before an inspector junior in rank to the commanding officer, the commanding officer receives the review and is accompanied by the inspector, who takes post on his left.

Salutes at Review.

113. (1) The reviewing officer and others at the reviewing stand salute the color as it passes; when passing around the troops, the reviewing officer and those accompanying him salute the color when passing in front of it.

(2) The reviewing officer returns the salute of the commanding officer of the troops only. Those who accompany him do not salute.

114. (1) In passing in review, each staff salutes with its commander.

(2) Officers and enlisted men, without arms, mounted or dismounted, or with swords not drawn, salute with the hand.

115. After saluting the reviewing officer, the commanding officer of the troops turns out of the column and takes his post on the right of the reviewing officer, his staff on the right of the reviewing officer's staff. When the rear element of his command has passed, without changing his position, he salutes the reviewing officer and then rejoins his command. The commanding officer of the troops and his staff are the only ones who turn out of column.

116. If the person reviewing the command is not mounted, the commanding officer and his staff on turning out of the column after passing the reviewing officer dismount preparatory to taking post. In such case, the salute of the commanding officer, prior to rejoining his command, is made with the hand before remounting.

117. When the rank of the reviewing officer entitles him to the honor, each color salutes at the command *present arms*, given or repeated by the commander of the battalion with which it is posted; and again in passing in review.

The Band.

118. (1) The band of an organization plays while the reviewing officer is passing in front of and in rear of the organization.

(2) Each band, immediately after passing the reviewing officer,

turns out of the column, takes post in front of and facing him, continues to play until its regiment has passed, then ceases playing and follows in rear of its regiment; the band of the following regiment commences to play as soon as the preceding band has ceased.

(3) While marching in review but one band in each regiment plays at a time, and but one band at a time when within 100 paces of the reviewing officer.

119. In line, when the color salutes, the march, flourishes, or ruffles are sounded by all the field music.

Formations and Movements.

120. The formation for review may be modified to suit the ground, and the *present arms* and the ride around the line by the reviewing officer may be dispensed with.

121. If the post of the reviewing officer is on the left of the column, the troops march in review with the guide left; the commanding officer and his staff turn out of the column to the left, taking post as prescribed above, but to the left of the reviewing officer; in saluting, the **c. cs.** give the command: 1. *Eyes,* 2. LEFT.

122. Except in the reviews of a single battalion, the troops pass in review in quick time only.

123. In reviews of brigades or larger commands, each battalion, after the rear has passed the reviewing officer fifty paces, takes the double time for 100 yards in order not to interfere with the march of the column in rear; if necessary, it then turns out of the column and returns to camp by the most practicable route; the leading battalion of each regiment is followed by the other units of the regiment.

124. In a brigade or larger review a regimental commander may cause his regiment to stand *at ease, rest,* or *stack arms* and *fall out,* and *resume attention,* so as not to interfere with the ceremony.

Battalion Review.

125. (1) The battalion having been formed in line, the **bt. c.** faces to the front; the reviewing officer moves a few paces toward the **bt. c.** and halts; the **bt. c.** turns about and commands: 1. *Present,* 2. ARMS, and again turns about and salutes.

(2) The reviewing officer returns the salute: the **bt. c.** turns about, brings the battalion to order arms, and again turns to the front.

(3) The reviewing officer approaches to about six paces from the **bt. c.**, the latter salutes, takes post on his right, and accompanies him around the battalion. The band plays. The reviewing officer proceeds to the right of the band, passes in front of the **c. cs.** to the left of the line and returns to the right, passing in rear of the file-closers and the band.

(4) On arriving again at the right of the line, the **bt. c.** salutes, halts, and when the reviewing officer and staff have passed moves directly to his post in front of the battalion, faces it, and commands: 1. *Shoulder,* 2. ARMS, 3. *Pass in review,* 4. *Squads right,* 5. MARCH.

(5) At the third command the band changes direction if necessary, and halts or continues the march.

(6) At the fifth command, given when the band has changed direction, the battalion moves off, the band playing; without command from the **bt. c.** the column changes direction at the points indicated, and column of companies at full distance is formed successively to the left at the second change of direction; the **bt. c.** takes his post for review immediately after the second change; the band having passed the reviewing officer, turns to the left out of the column, takes post in front of and facing the reviewing officer, and remains there until the review terminates.

(7) The **bt. c.** and staff salute, turn the head as in *eyes right,* and look toward the reviewing officer when the **bt. c.** is six paces from him; they return to the carry and turn the head and eyes to the front when the **bt. c.** has passed six paces beyond him.

(8) Without facing about, each **c. c.** or special unit commander, except the drum-major, commands: 1. *Eyes,* in time to add, 2. RIGHT, when at six paces from the reviewing officer, and commands FRONT when at six paces beyond him. At the command *eyes* the company officers and **p. os.** armed with the sword execute the first motion of present; at the command *right* all turn head and eyes to the right and the company officers complete *present sword;* at the command *front* all turn head and eyes to the front and resume the carry.

(9) Dismounted **sf. p. os., p. os.** in command of sub-divisions, and the drum-major salute, turn the head and eyes, return to the front, resume the carry or drop the hand, at the points prescribed for the **bt. c.** Officers and dismounted **p. os.** in command of sub-divisions render the rifle or sword salute. Guides charged with the step, trace, and direction do not execute *eyes right.*

(10) If the reviewing officer is entitled to a salute from the color the color salutes when at six paces from him, and is raised when at six paces beyond him.

(11) The **bt. c.** having saluted, takes post on the right of the reviewing officer, remains there until the rear of the battalion has passed, then salutes and rejoins his battalion. The band ceases to play when the column has completed its second change of direction after passing the reviewing officer.

126. (1) When the battalion arrives at its original position in column, the **bt. c.** commands: 1. *Double time,* 2. MARCH.

(2) The band plays in double time.

(3) The battalion passes in review as before, except that in double time the command *eyes right* is omitted and there is no saluting except by the **bt. c.** when he leaves the reviewing officer.

(4) The review terminates when the rear company has passed the reviewing officer; the band then ceases to play, and, unless otherwise directed by the **bt. c.,** returns to the position it occupied before marching in review, or is dismissed; the **bt. c.** rejoins the battalion and brings it to *quick time.* The battalion then executes such movements as the reviewing officer may have directed, or is marched to its parade ground and dismissed.

(5) Marching past in double time may, in the discretion of the reviewing officer, be omitted; the review terminates when the **bt. c.** rejoins his battalion.

127. At battalion review the **bt. c.** and his staff may be dismounted in the discretion of the commanding officer.

Regimental Review.

128. (1) The regiment is formed in line or in line of masses. In line the review proceeds as in the battalion, substituting "**rg. c.**" for "**bt. c.**" and "regiment" for "battalion."

(2) To march the regiment in review, the **rg. c.** commands: PASS IN REVIEW. The band changes direction, if necessary, and halts. Each **bt. c.** then commands: 1. *Shoulder,* 2. ARMS, 3. *Squads right,* 4. MARCH.

(3) The band marches at the command of the **bt. c.** of the leading battalion.

(4) At the second change of direction each **bt. c.** takes post for review.

(5) The rear of the column having passed the reviewing officer, the battalions, unless otherwise directed, are marched to their parades and dismissed.

(6) In line of masses, when the reviewing officer has passed around the regiment, the **rg. c.** commands: PASS IN REVIEW. The band changes direction, if necessary, and halts. The **bt. c.** of the right battalion then commands: 1. *Shoulder, 2:* ARMS, 3. *Column of squads, first company, squads right,* 4. MARCH. At the fourth command the band and the leading company of the right battalion move off. Each company and battalion in rear moves off in time to follow at its proper distance.

129. The review of a small body of troops composed of different arms is conducted on the principles laid down for the regiment. The troops of each arm are formed and marched according to the drill regulations for that arm.

Review of Large Commands.

130. A command consisting of one regiment, or less, and detachments of other arms is formed for review as ordered by the commanding officer. The principles of regimental review will be observed whenever practicable.

131. In the review of a brigade or larger command the *present arms* and the ride around the line by the reviewing officer are omitted. The troops form and march in the order prescribed by the commanding officer.

PARADES—GENERAL RULES.

132. If dismounted, the officer receiving the parade, and his staff, stand at parade rest, with arms folded, while the band is sounding off; they resume attention with the adjutant. If mounted, they remain at attention.

133. At the command *report,* given by a battalion adjutant, the **c. cs.** in succession from the right salute and report: *First* (or *other*) *company, present* or *accounted for;* or, *First* (or *other*) *company, (so many) officers* or *enlisted men absent,* and resume the order sword; at the same command given by the regimental adjutant, the **bt. cs.** similarly report their battalions.

Battalion Parade.

134. (1) At *adjutant's call* the battalion is formed in line but not presented. **Cs. o. s.** take their posts in front of the center of their respective sections at the command for dressing the company on the line. The **bt. c.** takes post at a convenient distance in front of the center and facing the battalion.

(2) The adjutant, from his post in front of the center of the battalion, after commanding: 1. *Guides,* 2. POSTS, adds: 1. *Parade,* 2. REST; the battalion executes parade rest. The adjutant directs the band: SOUND OFF.

(3) The band, playing in quick time, passes in front of the line of officers to the left of the line and back to its post on the right, when it ceases playing. At evening parade, when the band ceases playing, *retreat* is sounded by the field music and, following the last note and while the flag is being lowered, the band plays the *Star Spangled Banner.**

(4) Just before the last note of retreat, the adjutant comes to attention and, as the last note ends, commands: 1. *Battalion,* 2. ATTENTION. When the band ceases playing he commands: 1. *Present,* 2. ARMS. He then turns about and reports: *Sir, the parade is formed.* The **bt. c.** directs the adjutant: *Take your post, Sir.* The adjutant moves at a trot (if dismounted, in quick time), passes by the right of the **bt. c.,** and takes his post.

(5) The **bt. c.** draws sword and commands: 1. *Order,* 2. ARMS, and adds such exercises in the manual of arms as he may desire. Officers, **p. os.** commanding companies or armed with the sword, and the color-guard, having once executed order arms, remain in that position during the exercises in the manual.

(6) The **bt. c.** then directs the adjutant: *Receive the reports, Sir.* The adjutant, passing by the right of the **bt. c.,** advances at a trot (if dismounted, in quick time) toward the center of the line, halts midway between it and the **bt. c.,** and commands: *Report.*

(7) The reports received, the adjutant turns about, and reports: *Sir, all are present or accounted for;* or *Sir, (so many) officers* or *enlisted men are absent,* including in the list of absentees those from the band and field music reported to him by the drum-major prior to the parade.

(8) The **bt. c.** directs: *Publish the orders, Sir.*

(9) The adjutant turns about and commands: *Attention to orders;* he then reads the orders, and commands: 1. *Officers,* 2. CENTER, 3. MARCH.

(10) At the command *center,* the company officers carry sword and face to the center. At the command *march,* they close to the center and face to the front; the adjutant turns about and takes his post.

* If the parade does not take place at evening colors the band will not play the national air.

(11) The officers having closed and faced to the front, the senior commands: 1. *Forward,* 2. MARCH. The officers advance, the band playing; the left officer of the center or right center company is the guide, and marches on the **bt. c.**; the officers are halted at six paces from the **bt. c.** by the senior who commands: 1. *Officers,* 2. HALT. They halt and salute, returning to the carry with the **bt. c.** The **bt. c.** then gives such instructions as he deems necessary, and commands: 1. *Officers,* 2. POSTS, 3. MARCH.

(12) At the command *posts,* company officers face about.

(13) At the command *march,* they step off with guide as before, and the senior commands: 1. *Officers,* 2. HALT, so as to halt three paces from the line; he then adds: 1. POSTS, 2. MARCH.

(14) At the command *posts,* officers face outward and, at the command *march,* step off in succession at four paces distance, resume their posts and order sword; the **cs. o. s.** march directly to their posts in rear of their companies.

(15) The music ceases when all officers have resumed their posts.

(16) The **bt. c.** then commands: 1. *Shoulder,* 2. ARMS, 3. *Pass in review,* 4. *Squads right,* 5. MARCH, and returns sword.

(17) The battalion marches according to the principles of review; when the last company has passed, the ceremony is concluded.

(18) The band continues to play while the companies are in march upon the parade ground. Companies are formed in column of squads, without halting, and are marched to their respective parades by their commanders.

(19) When the company officers have saluted the **bt. c.** he may direct them to form line with the staff, in which case they individually move to the front, passing to the right and left of the **bt. c.** and staff, halt on the line established by the staff, face about, and stand at attention. The music ceases when the officers join the staff. The **bt. c.** causes the companies to pass in review under the command of their **1 p. os.** by the same commands as before. The company officers return sword with the **bt. c.** and remain at attention.

Regimental Parade.

135. (1) The regiment is formed in line or in line of masses; the formation having proceeded up to, but not including the *present,* the parade proceeds as described for the battalion, with the following exceptions:

(2) "Regimental commander" is substituted for "**bt. c.**"

"regiment" for "battalion," in the description, and "battalions" for "battalion" in the commands.

(3) **Cs. o. s.** remain in the line of file-closers.

(4) After publishing the orders, the adjutant commands: 1. *Officers, center,* 2. MARCH.

(5) The company commanders remain at their posts with their companies.

(6) The field and staff officers, form one line, closing on the center. The senior commands: 1. *Forward,* 2. MARCH.

(7) The second **bt. c.** is the guide and marches on the **rg. c.**

(8) After being dismissed by the **rg. c.,** each **bt. c.** moves individually to the front, turns outward, and followed by his staff resumes his post by the most direct line. The **rg. c.** gives the necessary commands for marching the regiment in review.

STREET PARADES.

136. Street parades are ordinarily commanded by a person who is designated as "grand marshal." He appoints a chief of staff and aids, and issues a *general order* giving all necessary directions for the formation, movement, and dismissal of the parade.

137. This order includes:

1st. The names of his staff officers, and when and where they are to report to him.

2d. The assignment of organizations and their order in brigades and divisions, and the names and assignment of **bg. cs.** and marshals of divisions.

3d. The streets upon which the different brigades and divisions form, the direction in which their lines face, where the right rests, and the size of the front of sub-divisions in column.

4th. The time for each division to complete its formation and stand ready to march.

5th. The time at, and place from which the head of the parade will move, and the line of march and the direction of the guide.

6th. Honors to be paid by the troops during the march.

7th. Instructions for the dismissal of the parade.

8th. Instructions regarding uniform.

138. The order of precedence in parade is as follows:*

1. The Regular Army.

2. United States Marines.

* When battalions of West Point Cadets or of Midshipmen from the Naval Academy are present, it is customary to give them the right of the line in the order named.

3. United States Naval Forces.
4. United States Volunteers.
5. Organized Militia, including Naval Reserves.
6. Military organizations, uniformed and armed, not included above.
7. Military Societies.
8. Uniformed organizations of the United States and Municipalities.
9. Civic Societies.

139. The grand marshal marches at the head of the parade; his staff, chief of staff on the right, marches three paces in his rear in one or more ranks. The grand marshal is usually preceded by mounted police and a platoon of dismounted police who clear the way. The marshal of the first division marches twenty-four paces in rear of the staff of the grand marshal. All other officers take post as prescribed for review.

140. Odd-numbered divisions are ordinarily formed in streets to the right of the line of march, the first division nearest the starting point, lines facing opposite the direction of the march, rights resting on the line of march. Even-numbered divisions are similarly formed on the streets to the left. Their lines face in the direction of the march, rights resting on the line of march. The march may be in column of companies, sections, or squads.

141. If the side streets are too narrow to allow the designated formation, divisions march out on the line of march in column of squads and form column of sections, or companies front into line at *double time.*

142. After passing the reviewing stand all organizations take up the *double time* for a hundred yards to clear the way for those following. The grand marshal may review the parade, just prior to its dismissal, at some designated point beyond the reviewing stand.

ESCORTS.

Escort of the Color.

143. (1) The regiment being in line, the rg. c. details a company, other than the color-company, to receive and escort the color to its place in line.

(2) The band moves straight to its front until clear of the line of field officers, changes direction to the right, and is halted; the designated company forms column of sections in rear of the band. the color-guard between the sections.

(3) The escort then marches without music to the office or quarters of the **rg. c.** and is formed in line facing the entrance, the band on the right, the color-guard falls out.

(4) The color-guard preceded by a **c. o. s.** then goes to obtain the color.

(5) When the color-bearers come out, followed by the **c. o. s.** they halt before the entrance, facing the escort; the **c. o. s.** places himself on the right of the color-guard; the escort presents arms, and the field music sounds *to the color;* the **c. o. s.** salutes.

(6) Arms are brought to the order; the **c. o. s.** returns to his post; the company is formed in column of sections, the band taking post in front of the column; the color-guard between the sections; the escort marches in quick time, with guide left, back to the regiment, the band playing; the march is so conducted that when the escort arrives at fifty paces in front of the right of the regiment, the direction of the march shall be parallel to its front; when the color arrives opposite its place in line, the escort is formed in line to the left; the color-guard passing between the sections, advances and halts twelve paces in front of the **rg. c.**

(7) The color-guard having halted, the **rg. c.,** who has taken post thirty paces in front of the center of his regiment, faces about, commands: 1. *Present,* 2. ARMS, resumes his front, and salutes, the field music sounds *to the color;* and the color-bearers execute the color salute at the command *present arms.*

(8) The **rg. c.** then faces about, brings the regiment to the order, at which the color-bearers resume the carry and take their posts with the color-company.

(9) The escort presents arms and comes to the order with the regiment, at the command of the **rg. c.,** after which the **c. c.** forms again in column of sections, and, preceded by the band, marches it to its place in line, passing around the left flank of the regiment.

(10) The band plays until the escort passes the left of the line, when it ceases playing and returns to its post on the right, passing in rear of the regiment.

(11) The regiment may be brought to a rest when the escort passes the left of the line.

144. Escort of the color is executed by a battalion according to the same principles.

ESCORTS OF HONOR.

145. (1) Escorts of honor are detailed for the purpose of receiving and escorting personages of high rank, civil or military. The troops for this purpose are selected for their good appearance and superior discipline.

(2) The escort forms in line, opposite the place where the personage presents himself, the band on the flank of the escort toward which it will march. On the appearance of the personage, he is received with the honors due to his rank. The escort is formed into column of companies, sections, or squads, and takes up the march, the personage and his staff or retinue taking position in rear of the column; when he leaves the escort, line is formed and the same honors are paid as before.

(3) When the position of the escort is at a considerable distance from the point where the personage is to be received, as for instance, where a court-yard or wharf intervenes, a double line of sentinels is posted from that point to the escort, facing inward; the sentinels successively salute as he passes, and are then relieved and join the escort.

(4) An officer is appointed to attend him and bear such communications as he may have to make to the commander of the escort.

FUNERAL ESCORT.

146. (1) The requirements of the Navy Regulations will be strictly observed.

(2) The escort is formed opposite the quarters of the deceased; the band on that flank of the escort toward which it is to march. Upon the appearance of the casket the commander of the escort commands: 1. *Present,* 2. ARMS; the band sounds the march, flourishes, or ruffles, according to the rank of the deceased, and plays an appropriate air; the casket is taken to the flank of the escort opposite the band; arms are then brought to the *order.*

(3) The escort is next formed into column of companies, sections, or squads; if the escort be small, it may be marched in line. The procession being formed, the commander of the escort puts it in march, arms at the *shoulder.*

(4) The procession marches slowly to solemn music, and when the column arrives opposite the grave, line is formed facing it. The casket is then carried along the front of the escort to the grave, arms are presented, the music plays an appropriate air; the casket having been placed over the grave, the music ceases, and arms are brought to the *order.*

(5) The commander of the escort next commands: 1. *Parade,* 2. REST, officers and men inclining the head to the front. When the funeral services are completed, and the casket lowered into place, the escort is brought to *attention,* and three volleys of blank cartridges fired over the grave, the muzzles of the pieces being elevated, after which the *order* is resumed. A bugler then steps to the head of the grave and sounds *taps,* resuming his position at its conclusion.

(6) The escort is formed into column, marched in *quick time* to the place where it was assembled, and dismissed. The band does not begin to play until the escort has cleared the limits of the cemetery.

(7) When the distance to the place of interment is considerable, the escort, after proceeding some distance, may march in *quick time* until it approaches the burial ground when the slow march will be resumed. Pieces may also be shifted from *shoulder* to *slope* and the reverse, by companies in succession, beginning at the head of the column.

(8) When necessary to escort the remains from the quarters of the deceased to the church before the funeral service, arms are presented upon receiving the remains at the quarters, and also as they are borne into the church.

(9) Previous to the funeral, the commander of the escort will give the chaplain, pall-bearers, and undertaker all needed directions.

(10) A funeral procession on shore shall be formed as follows:

1. Band.
2. Escort.
3. Clergy.
4. Body and pall-bearers.
5. Body-bearers.
6. Mourners in inverse order of rank.
   (a) Enlisted men.
   (b) Officers from ship of deceased.
   (c) Other officers.
   (d) Foreign officers.
7. Distinguished persons.
8. Delegations.
9. Societies.
10. Citizens.

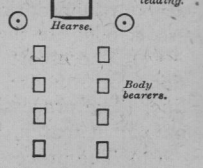


Plate 28. Art. 146.

INSPECTIONS.

Company Inspection.

147. (1) Being in line at a halt: 1. *Open ranks,* 2. MARCH, 3. FRONT, 4. PREPARE FOR INSPECTION.

(2) At the fourth command the **cs. o. s.** carry sword; the **c. c.** returns sword and inspects them, after which they face about, order sword, and stand at ease; upon the completion of the inspection they carry sword, face about, and order sword. The **c. c.** may direct the **cs. o. s.** to accompany or assist him, in which case they return sword and, at the close of the inspection, resume their posts in front of the company, draw and carry sword.

(3) Having inspected the **cs. o. s.,** the **c. c.** proceeds to the right of the company. Each man, as the **c. c.** approaches him, executes *inspection arms.*

(4) The inspection is from right to left in front, and from left to right in rear, of each rank and of the line of file-closers.

(5) Upon completion of the inspection the **c. c.** commands: 1. *Close ranks,* 2. MARCH.

148. (1) If the company is dismissed, rifles are put away. In quarters headdress and accoutrements are removed and the men stand near their respective bunks; in camp they stand covered, but without accoutrements, in front of their tents.

(2) The **c. c.,** accompanied by the **cs. o. s.,** then inspects the quarters or camp. The **1 p. o.** precedes the **c. c.** and calls the men to attention on entering each squad room or on approaching the tents; the men stand at attention, but do not salute.

149. (1) If the inspection is to include an examination of the equipment, the **c. c.,** after closing ranks, causes the company to stack arms, to march backward until four paces in rear of the stacks, and to take intervals. He then commands: 1. *Unsling equipment,* 2. OPEN PACKS.

(2) The **c. c.** then passes along the ranks and file closers as before, inspects the equipments, retires to the right, and commands: 1. CLOSE PACKS.

(3) All equipments being packed, the instructor commands: SLING EQUIPMENTS.

(4) The **c. c.** then causes the company to assemble and take arms. The inspection is completed.

150. (1) Should the inspector be other than the **c. c.,** the

latter, after commanding *front,* adds REST, and faces to the front. When the inspector approaches, the **c. c.** faces to the left, brings the company to attention, faces to the front, and salutes. The salute acknowledged, the **c. c.** carries sword, faces to the left, commands: PREPARE FOR INSPECTION, and again faces to the front.

(2) The inspection proceeds as before; the **c. c.** returns sword and accompanies the inspector as soon as the latter passes him.

Battalion Inspection.

151. (1) If there be both inspection and review, the inspection may either precede or follow the review.

(2) The battalion being in column of companies at full distance, the **bt. c.** commands: 1. *Prepare for inspection,* 2. MARCH.

(3) At the first command, each **c. c.** commands: *Open ranks.* At the second command, the ranks are opened in each company. The buglers join their companies.

(4) The drum-major conducts the band, if not already there, to its position in rear of the column, and opens ranks.

(5) The staff officers form a line equal to the front of the column, fifteen paces in front of the leading company, the **adj.** on the right, the others in the order of rank from right to left, the senior next to the **adj.;** the petty-staff form in a similar manner, six paces in rear of the rear company, the **c. p. o.** on the right; the color-guard marches to the front and takes post three paces in rear of the center of the line of staff officers; the special details take post as in column.

(6) The **bt. c.** takes post in front of the center of the column, three paces in front of the staff.

(7) Field and staff officers senior in rank to the inspector do not take post in front of the column, but accompany him.

(8) After inspecting the **bt. c.** and **bt. sf.,** the inspector, accompanied by these officers, passes down the open column, observing the front and rear of each rank.

(9) The **bt. c.** and staff return swords as soon as inspected.

(10) The **bt. c.** now commands: REST.

(11) The inspector, commencing at the head of the column, proceeds to make a minute inspection of the several companies, color-guard, and special details in succession.

(12) The color-bearer gives the necessary commands for the inspection of the color-guard; **p. os.** in charge of special details give the necessary commands for the inspection of their respective details.

(13) The petty-staff, color-guard, and special details may be dismissed as soon as inspected.

(14) As the inspector successively approaches each company, its commander commands: 1. *Company,* 2. ATTENTION, 3. *Inspection,* 4. ARMS.

(15) The **c. c.,** as soon as inspected, returns his sword and accompanies the inspecting officer; the **cs. o. s.,** when the inspector begins the inspection of the front rank, face about; the arms, accoutrements and dress of each man having been minutely inspected, the **c. c.** closes ranks, stacks arms, then opens ranks, and commands: 1. *Unsling equipment,* 2. OPEN PACKS.

(16) The inspector having inspected the equipment, the **c. c.** commands: 1. CLOSE PACKS.

(17) Equipments being packed, the **c. c.** commands: SLING EQUIPMENT.

(18) The company is then assembled, arms are taken, and, on intimation from the inspector, marched to its parade ground and dismissed.

(19) In a long column, some of the rearmost companies, after the inspection of dress and general appearance, may be permitted to stack arms and fall out until just before the inspector approaches them, when they take arms, and resume their position.

(20) The band plays during the inspection of the companies, ceasing when the rear company has been inspected. The ranks of the band are opened by the drum-major or bandmaster at the approach of the inspector. Each musician, as the inspector approaches him, raises his instrument and reverses it so as to show both sides, and then returns it to its former position.

(21) The first inspection of dress and general appearance may be dispensed with.

Regimental Inspection.

152. (1) The commands, means, and principles are the same as described for a battalion.

(2) The **rg. c.** takes post facing to the front and twenty paces in front of the commander of the leading battalion. His staff takes post as if mounted. The color takes post five paces in rear of the staff.

(3) The inspector inspects the **rg. c.** and, accompanied by the **rg. c.,** inspects the staff officers.

(4) The **rg. c.** then commands: REST, returns sword, and, with the staff, accompanies the inspector.

(5) If the **rg. c.** is the inspector he commands: REST, returns sword, and inspects the staff, all of whom then accompany him.

(6) The inspector, commencing at the head of the column, makes a minute inspection of the color-guard, non-commissioned staff, each battalion in succession, and the band.

(7) On the approach of the inspector each **bt. c.** brings his battalion to attention. Battalion inspection follows.

MUSTER.

Regimental, Battalion, or Company Muster.

153. (1) Muster is preceded by an inspection, and, when practicable, by a review.

(2) The adjutant is provided with the muster roll of the field, staff, and band, the surgeon with the hospital roll; each **c. c.** with the roll of his company. A list of absentees, alphabetically arranged, showing cause and place of absence, accompanies each roll.

154. (1) Being in column of companies at open ranks, each **c. c.,** as the mustering officer approaches, brings his company to port arms, and commands: ATTENTION TO MUSTER.

(2) The mustering officer or **c. c.** then calls the names on the roll; each man, as his name is called, answers *Here* and brings his piece to order arms.

(3) After muster, the mustering officer, accompanied by the company commanders and such other officers as he may designate, verifies the presence of the men reported in hospital, on guard, etc.

155. A company may be mustered in the same manner on its own parade ground, the muster to follow the company inspection.

HONORS AND SALUTES.

Honors for the National Colors and National Air.

156. (1) The national color, uncased, passing an armed body, is saluted, the field-music sounding *to the color.* Officers or enlisted men passing the uncased color render the prescribed salute.

(2) Whenever the national air is played by the band on a formal occasion, or at any place where persons belonging to the military or naval service are present in their official capacity, all officers and enlisted men present stand at *attention.* The same

respect is observed toward the national air of any other country when it is played in the presence of an official representative of such country.

Honors for Troops.

157. The commander of a body of troops salutes all general officers and his regimental, post, battalion or company commander, by bringing his command to attention and saluting in person. The troops are brought to attention in time to permit the salute to be rendered at the prescribed distance; they are held at attention until after the salute has been acknowledged.

158. *Eyes right* and *present arms* are not executed by troops except in the ceremonies, and in saluting the color.

159. (1) When an officer entitled to the salute passes in rear of a body of troops, it is brought to attention while he is opposite the post of commander.

(2) The commander of a body of troops exchanges salutes with the commanders of other bodies of troops; the troops are brought to attention during the exchange, and colors, if carried, are saluted.

(3) The commander of a body of troops salutes in person all other officers senior to him in rank; the troops are not brought to attention except that a petty officer commanding a detachment less than a company will bring it to attention before saluting an officer.

160. (1) An officer commanding a body of troops is saluted by all officers junior to him in rank and by all enlisted men. He acknowledges the salutes in person; the command is not brought to attention.

(2) No honors are paid by troops when on the march or in trenches, except that they may be called to *attention;* no salute is rendered when marching in *double time.*

Personal Salutes.

161. (1) All salutes in passing or approaching are begun first by the junior at six paces distance, or, at six paces from the nearest point of passing; no salutes, except as otherwise prescribed, are made at greater distances than thirty paces.

(2) Officers in civilian's dress are saluted in the same manner as when in uniform.

(3) Officers will at all times acknowledge the salutes of enlisted men.

(4) When several officers are together in uniform, all who are entitled to the salute return it.

(5) An officer or man, mounted, dismounts before addressing a superior, not mounted.

(6) When an officer enters a room where there are men, *attention* is called by someone who perceives him, when all rise, remain standing in the position of *attention,* uncovered, and preserve silence until the officer leaves the room; if at meals, they will not rise.

(7) On official occasions, officers, when indoors and covered, salute with the sword if drawn; otherwise with the hand.

(8) All officers salute on meeting and in making or receiving official reports. Courtesy requires the junior to salute first, but when the salute is introductory to a report made at a military ceremony or formation to the representative of a common superior—as for example, to the **adj.,** officer of the day, etc.—the officer making the report, whatever his rank, will salute first; when not otherwise prescribed in ceremonies, the officer to whom the report is made will acknowledge by saluting, that he has received and understood the report. When under arms the salute is made with the sword if drawn; otherwise with the hand.

Petty Officers and Enlisted Men.

162. (1) **P. os.** and men armed with the rifle, when out of ranks, salute with the *rifle salute* from the *shoulder, slope, trail,* or *order,* according as they are in *march* or at a *halt.*

(2) A **p. o.** or man, with rifle or drawn sword, makes the prescribed salute with the rifle or sword before addressing an officer; he also makes the same salute after receiving the reply. A **p. o.** or man, with sword in the scabbard, and also when unarmed, salutes with the hand; if meeting or passing an officer, he will continue to move on but will make the prescribed salute.

(3) A **p. o.** or man, being seated and without particular occupation, rises on the approach of an officer, faces toward him and salutes; if standing, he faces toward the officer for the same purpose. If the parties remain in the same place or on the same ground, such compliments need not be repeated.

(4) If actually at work, men do not cease their occupation to salute an officer unless addressed by him.

(5) Men at all times, and in all situations, pay the same compliments to officers of the Army, Navy, and Marine Corps, to officers of the Volunteers and Militia in the service of the United States, and to officers of foreign services, as to officers of the command to which they belong.

THE BAND.

163. (1) The band is formed in two or more ranks, with sufficient intervals between the men and distances between the ranks to permit a free use of the instruments.

(2) The field-music, when united, forms with and in rear of the band; when the band is not present, the posts, movements, and duties of the field-music are the same as prescribed for the band.

(3) The bandmaster, or musician in charge, takes post as the right file of the front rank. When the battalion or regiment turns about by squads, the band executes the *countermarch;* when the battalion or regiment executes *right, left,* or *about face,* the band faces in the same manner.

(4) In marching, the different ranks dress to the right.

(5) In executing *open ranks,* each rank of the band takes the distance of three paces from the rank next in front; the drum-major verifies the alignment.

(6) The field-music sounds the *march, flourishes,* or *ruffles,* and *to the color,* at the signal of the drum-major.

Instructions for the Drum-Major.

164. The drum-major is three paces in front of the center of the front rank, and gives the signals or commands for the movements of the band as for a squad, substituting in the commands *band* for *squad.*

Signals of the Drum-Major.

165. (1) Preparatory to a signal the staff is held in the right hand, hand below the chin, back to the front, head of the staff near the hand, ferrule pointing upward and to the right.

(2) *Prepare to play:* Face toward the band and extend the right arm to its full length in the direction of the staff. *Play:* Bring the arm back to its original position in front of the body.

(3) *Prepare to cease playing:* Extend the right arm to its full length in the direction of the staff. *Cease playing:* Bring the arm back to its original position in front of the body.

(4) *To march:* Turn the wrist and bring the staff to the front, the ferrule pointing upward and to the front; extend the arm to its full length in the direction of the staff.

(5) *To halt:* Lower the staff into the raised left hand and raise the staff horizontally above the head with both hands, the arms extended; lower the staff with both hands to a horizontal position at the height of the hips.

(6) *To countermarch:* Face toward the band and give the signal *to march.* The countermarch is executed by each front-rank man to the right of the drum-major turning to the *right about,* each to the left turning *left about,* each followed by the men covering him. The drum-major passes through the center.

(7) *To oblique:* Bring the staff to a horizontal position, the head of the staff opposite the neck, the ferrule pointing in the direction the oblique is to be made; extend the arm to its full length in the direction of the staff.

(8) *To march by the right flank:* Extend the arm to the right, the staff vertical, ferrule upward, back of the hand to the rear.

(9) *To march by the left flank:* Extend the arm to the left, the staff vertical, ferrule upward, back of the hand to the front.

(10) *To diminish front:* Let the ferrule fall into the left hand at the height of the eyes, right hand at the height of the hip.

(11) *To increase front:* Let the ferrule fall into the left hand at the height of the hip, right hand at the height of the neck.

(12) The *march, flourishes,* or *ruffles:* Bring the staff to a vertical position, hand opposite the neck, back of the hand to the front, ferrule pointing down.

(13) *To the color:* Bring the staff to a horizontal position at the height of the neck, back of the hand to the rear, ferrule pointing to the left.

General Rules.

166. (1) When the band is playing in marching, the drum-major beats the time with his staff and supports the left hand at the hip, fingers in front, thumb to the rear.

(2) The drum-major, before making his report at parade, salutes by bringing his staff to a vertical position, head of the staff up and opposite the left shoulder.

(3) The drum-major, marching in review, passes the staff between the right arm and the body, head of the staff to the front, and then salutes with the left hand.

(4) At a halt and the band not playing, the drum-major holds his staff with the ferrule touching the ground about one inch from toe of right foot, at an angle of about sixty degrees, ball pointing upward to the right, right hand grasping staff near the ball, back of the hand to the front; left hand at the hip, fingers in front, thumb to the rear.

MANUAL OF THE SWORD.

To Draw Sword.

1. The sword being sheathed: 1. *Draw,* 2. SWORDS.

At the first command, grasp the scabbard with the left hand at the upper band, turn the guard to the front, seize the grip with the right hand, and draw the blade six inches out of the

Plate 1. Art. 1.
Draw sword,
1st position.

Plate 2. Art. 1.
Draw sword,
2d position.

scabbard, pressing the scabbard against the thigh with the left hand. At the second command, draw the sword quickly, raising the arm to its full extent, at an angle of about forty-five degrees, the sword in a straight line with the arm, edge down, drop the left hand by the side; after a slight pause bring the back of the blade against the shoulder, the blade vertical, back of the grip to the rear, the arm nearly extended, the thumb and forefinger embracing the lower part of the grip, the thumb against the thigh, the fingers joined under the end of the hilt. This is the position of *carry.*

The Carry.

2. The sword will always be brought to the position of *carry* when giving commands to men under arms, at the preparatory command for marching, during alignments, and at the first motion of *about face.*

Mounted Officers.

3. Mounted officers unhook the sword before mounting, and, in the first motion of *draw swords,* reach with the right hand over the bridle hand, and, without the aid of the bridle hand,

Plate 3. Arts. 1 and 2. Carry sword.

Plate 4. Art. 5. Present sword, 1st position.

Plate 5. Art. 5. Present sword, 2d position.

draw the sword as before; the right hand, in the position of *carry,* rests on the right thigh.

The Sword-Knot.

4. (1) When the sword-knot is worn, the right wrist may be placed in it before grasping the grip.

(2) When publishing the orders the sword is held suspended from the right wrist by the sword-knot, which may be placed on the wrist before drawing the sword and taken off after returning it.

The Present.

5. Being at the carry or order: 1. *Present,* 2. SWORDS (or ARMS).

At the first command, carry the sword to the front, point up, edge to the left, raising the hand as high as the neck, and six inches in front of it, the thumb on the left of the grip, elbow close to the body, the blade inclined slightly to the front. At the second command, drop the point of the sword near the ground by extending the arm, so that the right hand may be brought to the side of the right thigh, the thumb on the left of the grip, the blade inclining downward and to the front, edge to the left.

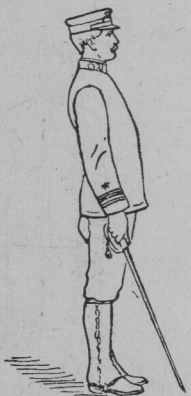


Plate 6. Art. 6.
Order swords.

Plate 7. Art. 7.
Parade rest.

The Order.

6. Being at the carry (or present): 1. *Order,* 2. SWORDS (or ARMS).

At the second command, drop the point of the sword to the front on the ground, edge down, thumb on the back of the grip, the arm hanging naturally by the side.

Parade Rest.

7. Being at the order: 1. *Parade,* 2. REST.

At the second command, carry the right foot six inches straight to the rear, the left knee slightly bent, clasp the hands

on the hilt in front of the center of the body, left hand uppermost, the sword vertical, the point on the ground between the feet, edge to the right.

General Rules.

8. (1) The sword is held at the *carry* while changing position in quick time.

(2) When at the *order,* swords are brought to the *carry* when arms are brought to any position except the present or parade rest.

Plate 8. Art. 8 (4). Double time.

Plate 9. Art. 9. Return sword, 2d position.

(3) When arms are brought to the *order,* the officers or enlisted men with sword drawn execute the *order.*

(4) Marching in *double time,* the sword is carried diagonally across the breast, edge to the front, right forearm horizontal; the left hand steadies the scabbard.

(5) Marching in *route step,* also when the command is not under arms, the sword remains sheathed.

(6) **P. os.** with swords drawn, salute by executing the first motion of *present swords,* as explained for officers. This position is also taken at inspection; when the inspecting officer passes, the wrist is turned outward to show the flat of the sword toward the face.

To Return Sword.

9. Being at the order or carry: 1. *Return*, 2. SWORDS.

(1) At the first command, take the position of the first motion of *present swords*, at the same time grasp the scabbard at the upper band with the left hand and turn it edge to the front. At the second command, lower the blade, the point describing a semi-circle to the left, turn the head slightly to the left, fixing the eyes on the opening of the scabbard, insert the point, guiding it with the thumb and forefinger of the left hand; return the sword quickly, turn the guard to the rear, drop both hands by the sides, and look to the front.

(2) Mounted officers return swords without using the left hand; the sword is hooked up on dismounting.

MANUAL OF THE COLOR.

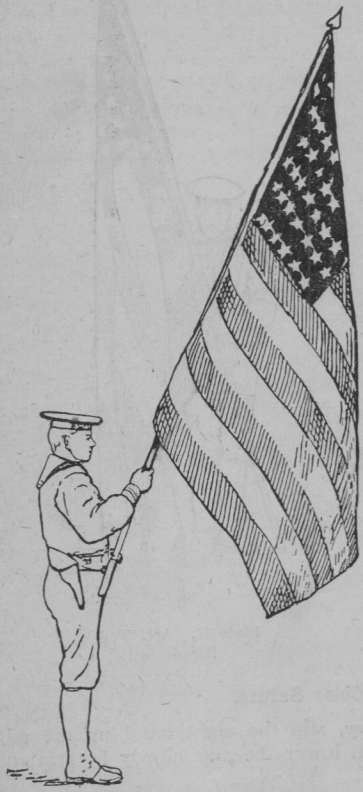


Plate 10. Art. 10 (1).
Carry.

Position of the Pike.

10. (1) At a *carry,* the heel of the pike rests in the socket of the sling at the right hip; the right hand grasps the pike at the height of the shoulder.

(2) At the *order,* the heel of the pike rests on the ground near the right toe, the right hand holding the pike in a vertical position.

(3) At *parade rest,* the heel of the pike is on the ground as at the *order;* the pike is held with both hands in front of the center of the body, left hand uppermost.

(4) The *order* is resumed at the command: ATTENTION.

(5) The left hand assists the right when necessary.

(6) The *carry* is the habitual position when the men are at the *port, shoulder, slope,* or *trail.*

(7) The *carry, order,* and *parade rest* are executed with the men.

(8) In *double time,* the pike is removed from the socket and carried on the right shoulder, inclined to the rear.

(9) During exercises in the *manual of arms,* the color will be held at the *order;* at the preparatory command for marching or saluting, it will be brought to the *carry.*

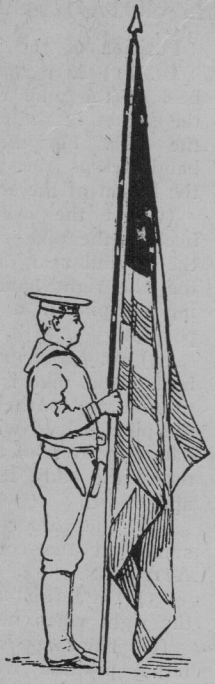


Plate 11. Art. 10 (2).
Order.

Plate 12. Art. 10 (3).
Parade rest.

The Color Salute.

11. (1) Being at the *carry*, slip the right hand up the pike to the height of the eye, then lower the pike slowly by straightening the arm to the front.

(2) The color salutes when saluting an officer entitled to that honor, but in no other case.

(3) If marching, the salute is executed when at six paces from the officer entitled to the salute; the *carry* is resumed when six paces beyond him.

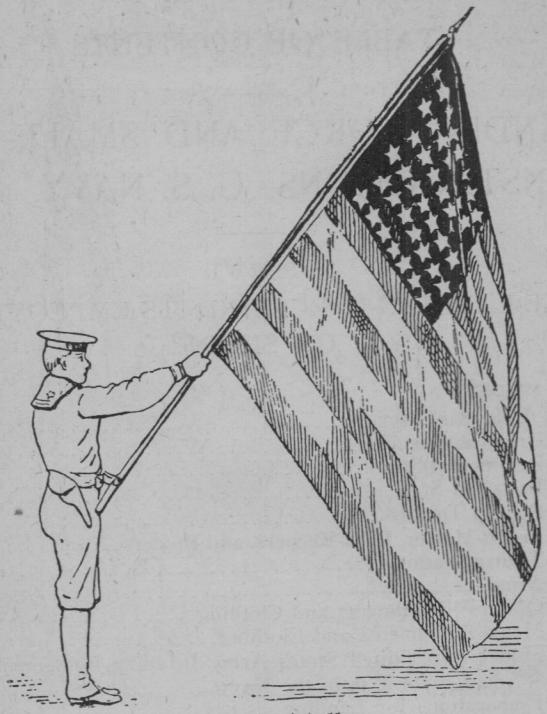


Plate 13. Art. 11.
The color salute.

(4) At a halt, the salute is executed at the second command: 1. *Present,* 2. ARMS, the color having been brought to the *carry* immediately before; the *order* is resumed with the men.

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