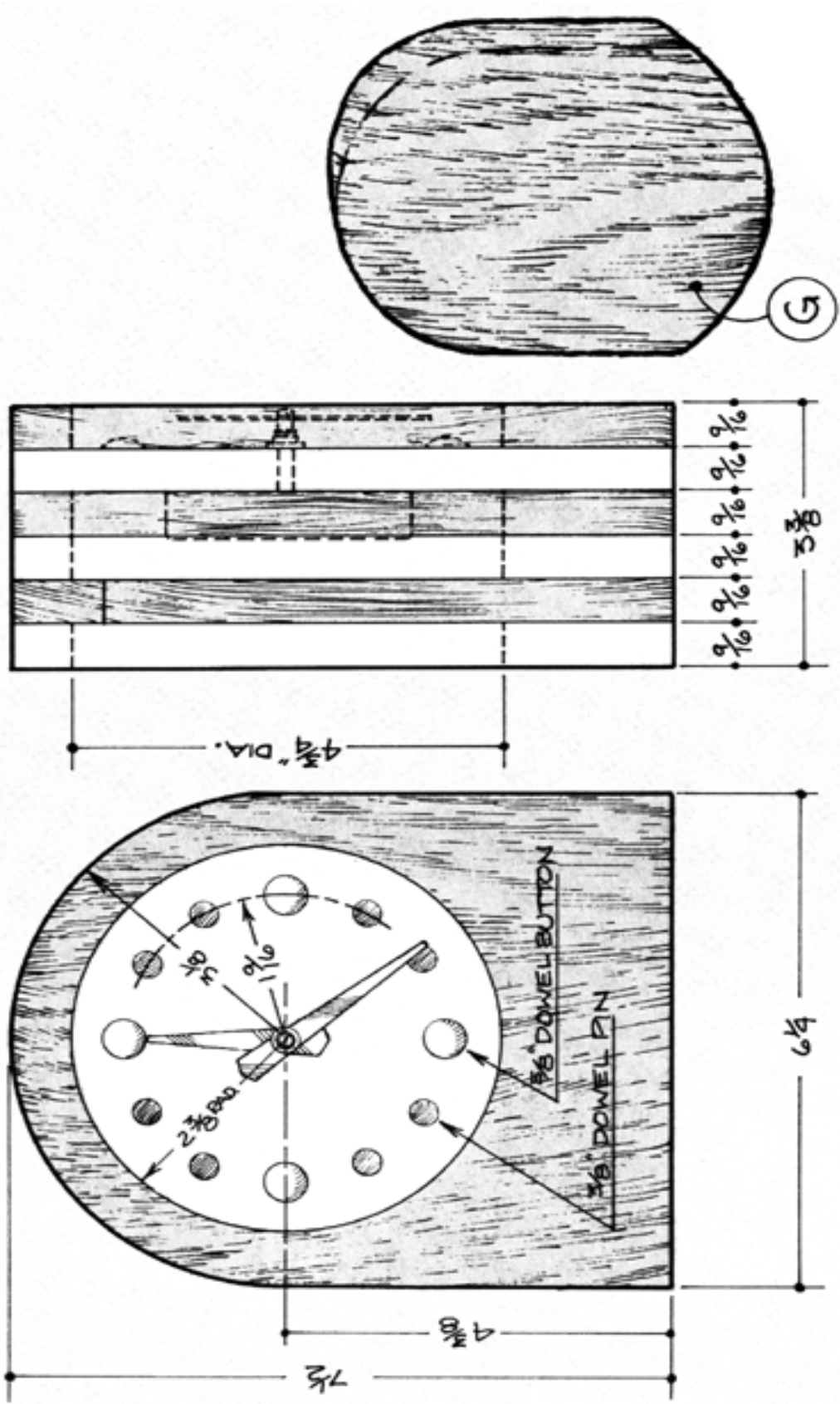
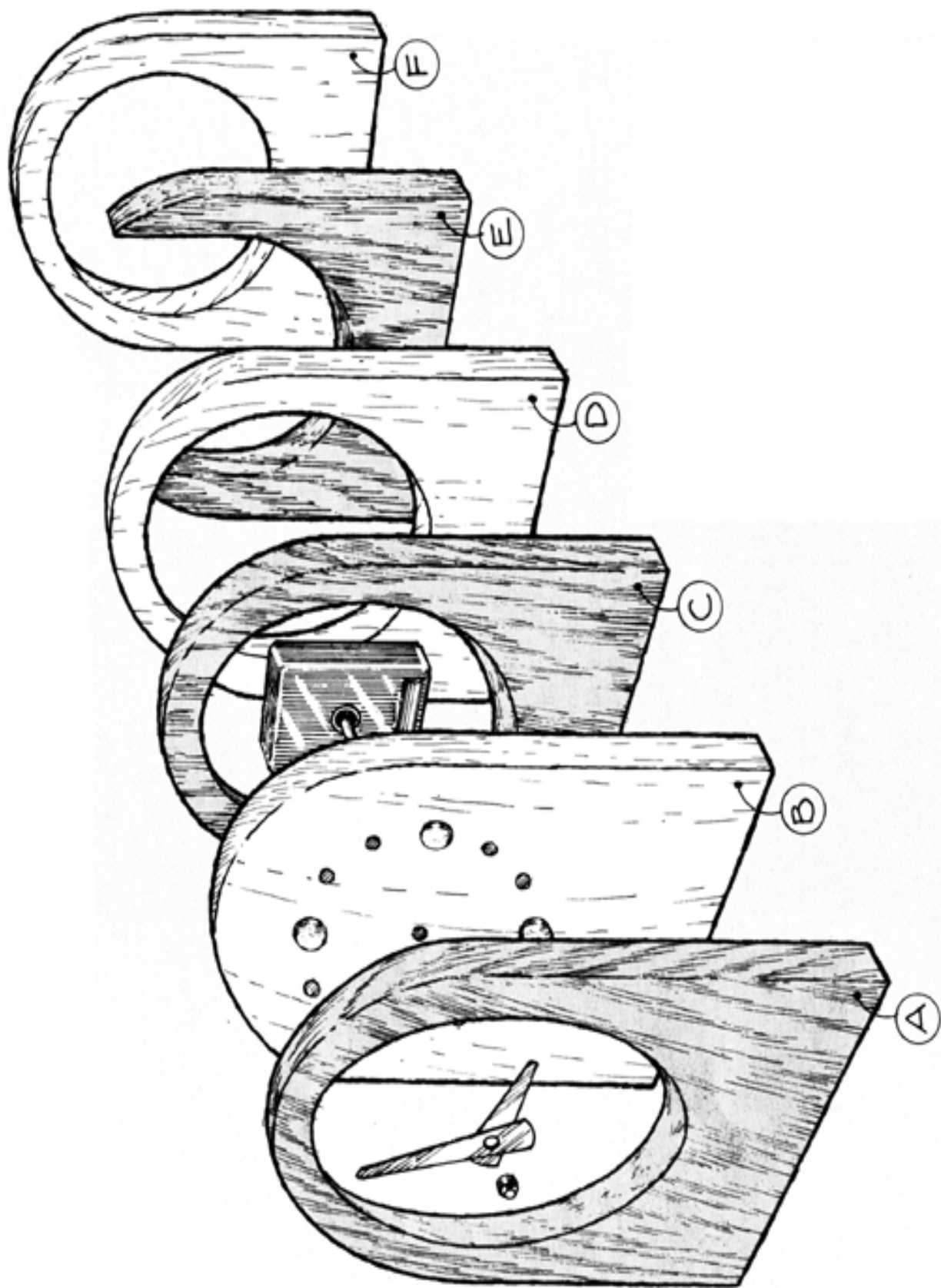


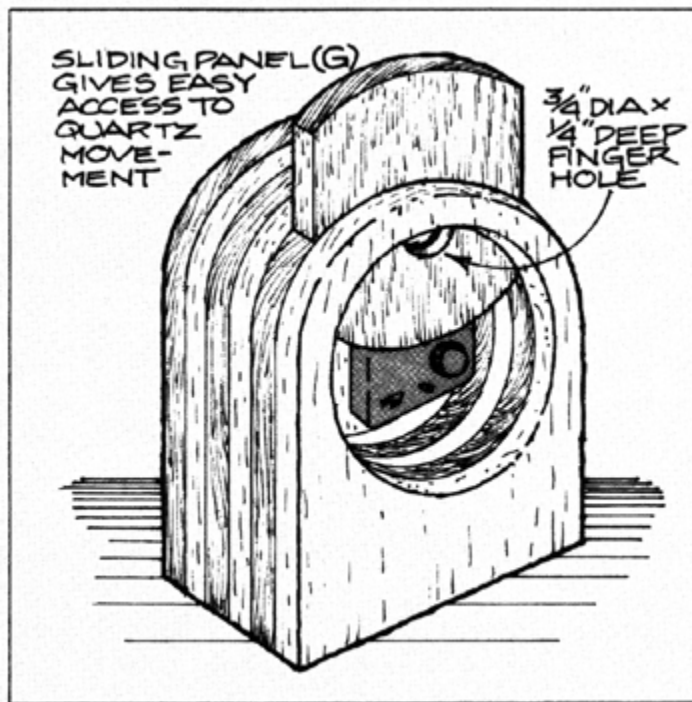
## Project 12297EZ: Laminated Clock

*While it's often argued that modern technology creates as many problems as it solves, the advent of the battery operated quartz movement has been one relatively recent advance, albeit a small one, that has made a great many amateur clockmakers quite happy. These quartz movements are small, light, extremely accurate, and inexpensive—all features that make them very appealing. This eye-catching clock, made from walnut and clear pine, is powered by a 2-1/4" square movement no more than 5/8" thick yet it's accurate to plus or minus one minute annually. The laminations (parts A, B, C, D, E, and F) are all made from 9/16" stock, and since this is not a standard thickness, it will be necessary to plane down heavier material. Check with a local millwork shop, as they will usually plane stock for a nominal charge.*

# Laminated Clock Complete Schematic







## Laminated Clock Step-by-Step Instructions

1. Cut Parts A-F to 6-1/4" wide by 8" long from three pieces each of clear pine and walnut stock.
2. Use a compass set 4-3/8" from the bottom edge and centered along the width to scribe a 3-1/8" radius on each piece (to establish the top curve of the clock).
3. Use the compass set at the same center point to scribe a 4-3/4" diameter circle (2-3/8" radius) on each of the laminate pieces except part B.
4. Use an adjustable circle cutter to cut out each scribed hole.
5. Use a saber saw to cut the top (3-1/8" radius) curve, keeping the blade just outside the marked line.
6. Scribe a vertical line tangent to each side of the 4-3/4" diameter circle on Part E.
7. Extend the line from the circle to the top curve.
8. Use a saber saw to remove the top section.
9. Use a compass set to a 9/16" radius to scribe the time ring circle on Part B.
10. Mark the location of the dowel pins and buttons that represent the hours on Part B.
11. Bore 1/4" deep holes in each location.
12. Cut 3/8" diameter by 5/16" dowel pins.
13. Glue the pins in place.
14. Sand the pins flush with the clock face.

15. Glue the dowel buttons in place as shown.
16. Use glue and clamps to join Part A to B, Part C to D, and Part E to F. **NOTE: Make certain that the side and bottom edges are flush. To prevent slippage when applying clamps, drive two or three small brads into one of the mating parts (before applying glue), then snip the heads off leaving 1/16" protruding.**
17. Use the same method described above to join the three resulting pieces to complete the assembly.
18. Use coarse sandpaper to remove any unevenness between the laminations on the top and side edges of the clock.
19. Use medium and fine grit sandpaper to gradually smooth the top and side edges, using 220 grit for the final sanding.
20. Use a table saw to cross cut the bottom edge for evenness.
21. Make the first cut with the blade set to 1-3/4".
22. Flip the piece over and make the same cut. **NOTE: Make the second cut carefully to ensure it is flush with the first cut.**
23. Sand a piece of 9/16" thick stock so it is slightly thinner (to facilitate sliding of Part G).
24. Cut the stock to fit the cutout in Part E (Part G).
25. Smooth the top curve of Part G until it is flush with the other laminations.
26. Cut a finger hole in Part G to enable raising of the panel.
27. Purchase the battery operated quartz movement, which should include a pair of hands (specify brass).
28. Drill a 5/16" diameter hole in Part B to insert the movement shaft.
29. Use 220 grit sandpaper to sand the entire piece.
30. Apply two coats of oil.
31. Install the movement and hands.

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These plans were originally published in Volume 8, Issue 3 of *The Woodworker's Journal* (Jan/Feb 1984, pages 46-47).