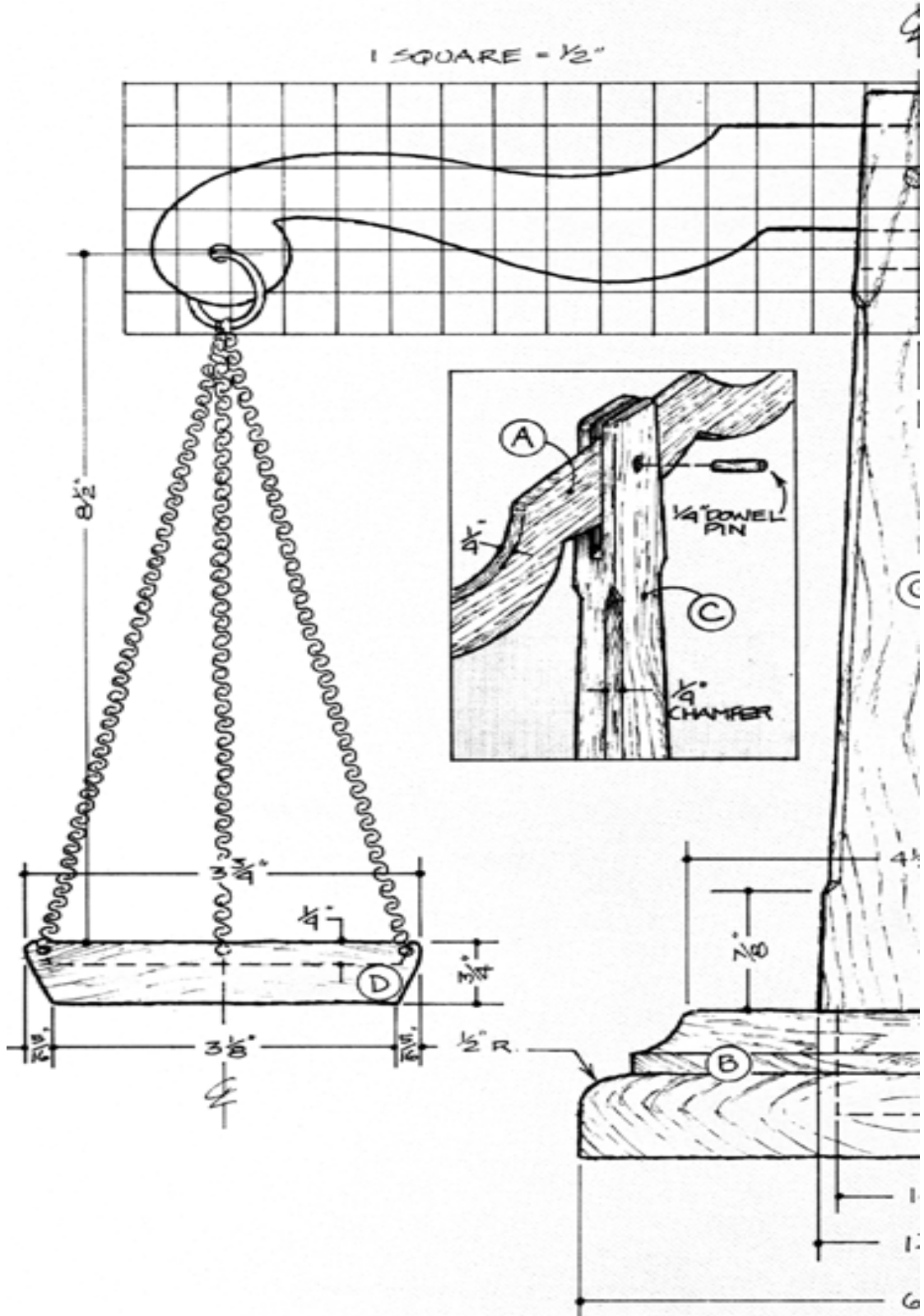


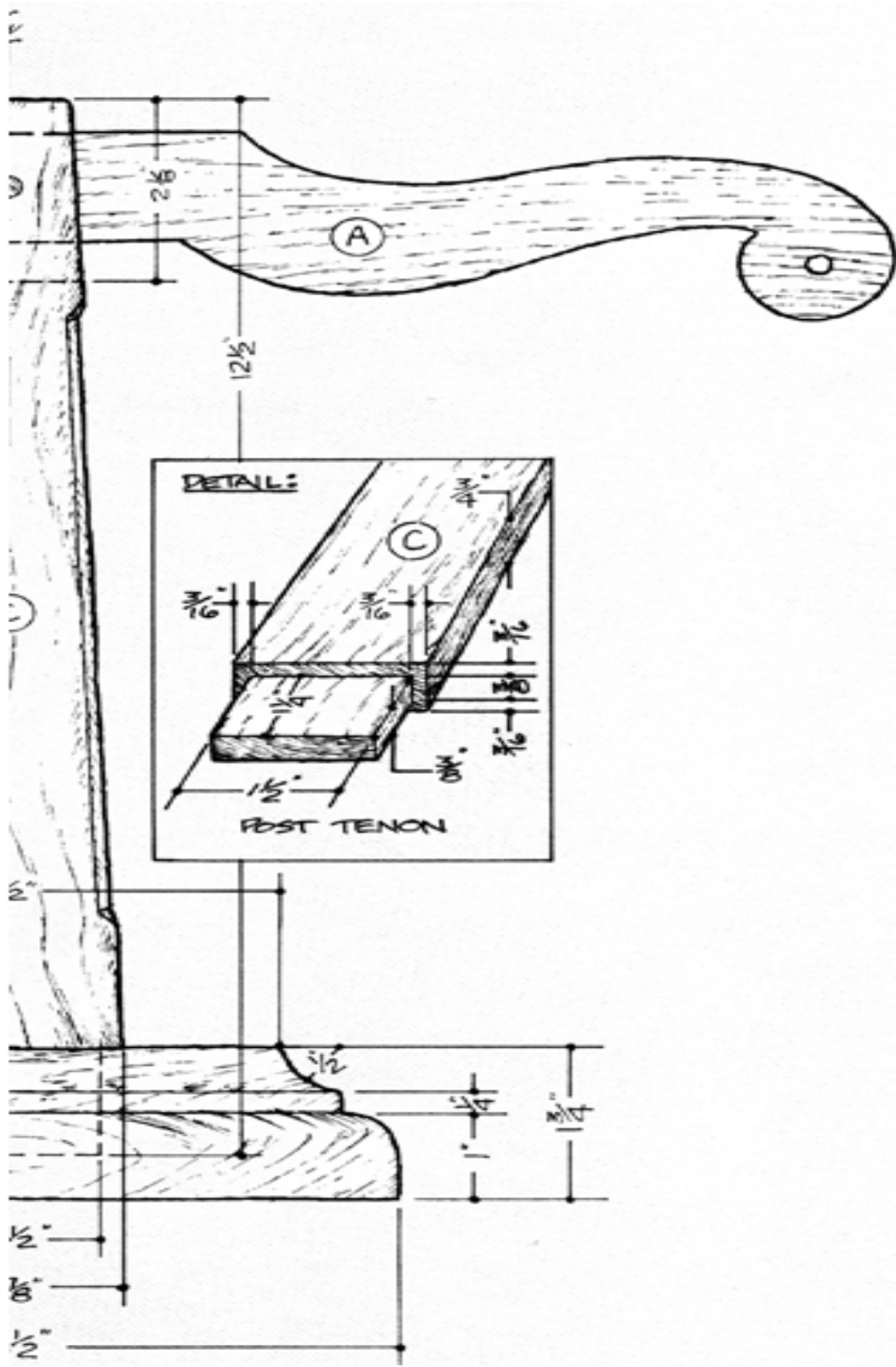
# Project 12715EZ: Balance



*Occasionally it's fun to make something that doesn't really have a function other than to be purely decorative. Undoubtedly, this project falls into that category. However, we've found one thing it can do, and that is generate quite a bit of conversation. More than likely you'll be asked if it actually works. If made carefully, the answer is yes — it's a reasonably accurate balance.*

# Balance Complete Schematic





# Balance Step-by-Step Instructions

1. Select cherry or maple stock to make all the parts. **NOTE: Cherry and maple both make for easy lathe-turning of the scales and base.**
2. Cut 1-3/4" stock to 7" square to begin making the base (B).
3. Scribe corner-to-corner diagonal lines to locate the centerpoint.
4. Start at this centerpoint and use a compass to scribe three circles, the first to match the diameter of your faceplate, the second to 6-1/2" diameter, and the third to 6'-3/4" diameter.
5. Use a band or saber saw to cut the stock to the 6-3/4" diameter circle.
6. Use the scribed circle as a centering guide, and screw the faceplate to the stock.
7. Attach the entire unit to the lathe.
8. Use the gouge to true up the stock, turning it down to the scribed 6-1/2" diameter circle.
9. Keep the lathe turning while you use a pencil to mark a line one inch from the faceplate.
10. Keep this one inch thickness and use the parting tool to make a 1/2" deep cut.
11. Work left to right and continue making 1/2" deep cuts until a 3/4" wide step is formed.
12. Use a pencil to mark a line establishing the 1/4" step for the 1/2" radius cove.
13. Use a gouge or round-nose scraper to form the cove.
14. Use a skew to apply the 1/2" outside radius.
15. Keep the stock in the lathe while you give it a thorough sanding, beginning with 100-grit aluminum oxide paper to remove any rough turning marks.
16. Follow the 100-grit paper with 150-grit, then 220-grit.
17. Remove the base from the faceplate.
18. Fill the screw holes with wood filler.
19. Lay out and mark the location of the 3/8" thick x 1-1/2" wide x 1-5/16" deep mortise on the top surface of the base.
20. Drill a series of holes with a 3/8" drill bit to cut out most of the mortise.
21. Use a sharp chisel to remove the remaining stock. **NOTE: The mortise is cut slightly deeper than the tenon length to allow room for any excess glue.**
22. Cut 3/4" thick stock to 4-1/2" square to begin making the scales (D).
23. Scribe corner-to-corner diagonal lines to locate the centerpoint of each scale.

24. From this centerpoint use a compass to scribe two circles on one of the scales, the first circle measuring 3-3/4" diameter, the other measuring 4" diameter.
25. Use a band or saber saw to cut out to the 4" diameter.
26. Repeat the process for the other scale.
27. Cut a backing block for each scale from 3/4" thick stock to 3-1/2" square to attach to each scale so that you can turn them without having to drill unsightly screw holes.
28. Scribe diagonal lines to locate the center of each backing block.
29. Use the compass to scribe two circles on one of the backing blocks, the first to match the diameter of your faceplate, the second to 3-1/4" diameter.
30. Scribe the same circles on the other backing block.
31. Use the band or saber saw to cut both pieces of backing block stock to the 3-1/4" diameter.
32. Scribe a 3-1/4" diameter circle on each piece of scale stock to aid when centering them on the backing blocks.
33. Drive two small brads into each piece of scale stock, then clip off the heads so about 1/8" is exposed.
34. Place glue on each backing block and each piece of scale stock.
35. Place a piece of brown grocery bag paper in between each backing block and scale and fasten them together, taking care to center the scribed circle.
36. Allow the glue to dry.
37. Screw the faceplate to one of the backing blocks.
38. Attach the entire unit to the lathe.
39. Use a gouge to true up the backing block as you turn it to the scribe 3-1/4" diameter.
40. Arrange the tool rest so that it faces the face surface of the stock.
41. Use a pencil to mark a 3-3/8" diameter to establish the dished-out area of the scale..
42. Use this line as a guide as you use a parting tool to make a 1/4" deep cut.
43. Work toward the center from this groove.
44. Use a 1/2" gouge to remove the remaining material.
45. Sand completely using the same procedure as was used for the base.
46. Remove the stock from the lathe.
47. Remove the faceplate.
48. Use a chisel and mallet to knock off the backing block.
49. Sand off the remaining paper.
50. Drill three 1/8" chain holes located 120 degrees apart.

51. Repeat the process for the other scale.
52. Cut the post (C) to 1-7/8" wide x 12-1/2" long
53. Use the dado-head in conjunction with the table saw to cut the tenon.
54. Set the table saw blade for a height of 2-1/8" and, using a tenon jig, make three or four passes over the blade to cut the 1/4" wide notch for the beam (A).
55. Use a ruler to scribe the top to bottom taper, then a smooth or jack plane to cut to shape.
56. Use a file or drawknife to add the 1/4" chamfer.
57. Resaw thicker stock to obtain the 1/4" thickness required to make the beam (A).
58. Transfer the grid pattern shown to the stock.
59. Cut the profile to shape.
60. Add a 1/8" ring hole at each end of the beam.
61. Sand part A so that it pivots freely in the post notch.
62. Glue a 1/4" dowel pin in place to hold the beam.
63. Sand the dowel flush with the surface.
64. Final sand all parts.
65. Finish with a quality penetrating oil.
66. Attach the scales with brass cafe curtain rings and light brass chain.
67. Glue a piece of felt to the bottom of the base to complete the project.

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