

Drawing an Ellipse or Oval

PROBLEM: I want to make an elliptical coffee table, but don't know how to draw the shape. What's the best technique?

SOLUTION: I've used two different techniques for drawing ellipses, or ovals. The string-and-pins technique requires a deft hand because you have to keep consistent pressure on the pencil as it's guided around a string and two pins. While you can draw the entire ellipse in one continuous motion, it's easy to end up with a slightly lopsided ellipse, and you may or may not notice the slight irregularity until it's too late. Draw a few practice ellipses to get a feel for the tension on the string you're using. File a notch just above the pencil lead so the string won't slip off, and hold the pencil vertically as you draw. The string-and-pins technique is a good choice if precision is not necessary.

For larger ellipses, or when I want greater precision, I use a framing square to draw the shape one quadrant at a time, as shown in *Makeshift Trammel Method*. This technique produces the accuracy of using an ellipse trammel—a mechanical tool that draws (or routs) perfectly symmetrical ellipses—without the trouble of building such a device. It's a makeshift trammel, but it's the best way to draw accurate ellipses.

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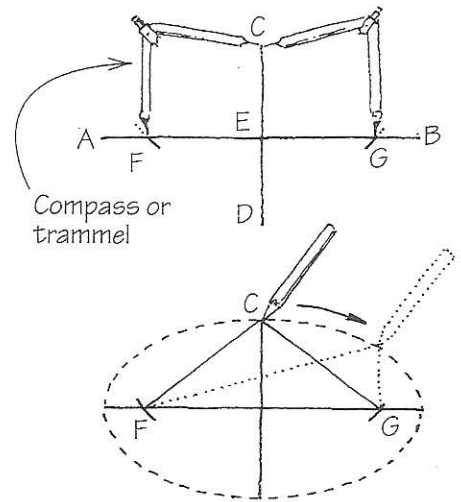
String-and-Pins Technique

Step 1. Draw 2 lines, A-B and C-D, that are perpendicular to each other and that cross at their midpoints, E. The 2 lines define the length and width of the desired ellipse.

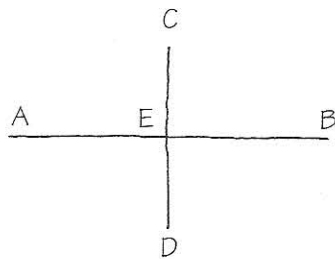
Step 2. Adjust a compass to the distance A-E; then with the compass point at C, mark points F and G.

Step 3. Insert pins at F and G, place a pencil point at C, then tie a piece of string into a loop so that it is taut around both pins and the pencil point.

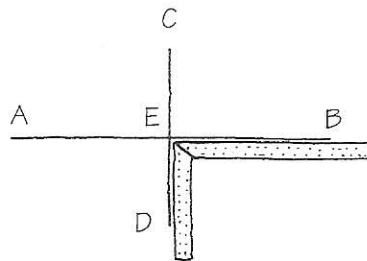
Step 4. Keeping the string taut, draw the ellipse.



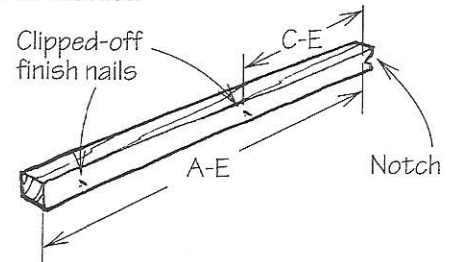
Makeshift Trammel Method



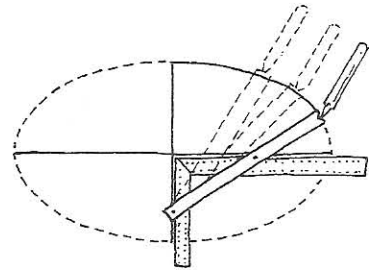
Step 1. Draw 2 perpendicular lines, A-B and C-D, crossing at their midpoints, E. A-B should be the length of the desired ellipse; C-D should be the width.



Step 2. Tack or stick straightedges along E-B and E-D. If your ellipse is small enough, you can stick a framing square to the stock using double-sided tape.



Step 3. In the end of a stick of wood that is an inch or so longer than A-E, cut a shallow notch. Drive fine finish nails through the stick at the positions shown. Clip off the tips of the nails so that they protrude slightly less than the thickness of the straightedges.



Step 4. Holding a pencil in the notch and the protruding nails against the straightedges, draw 1/4 of the ellipse. Reposition the straightedges to draw each of the remaining 3 quadrants of the ellipse.