Draw ogee bracket feet with perfect proportions

NAIL THE DESIGN WITHOUT MATH

BY DAN FAIA

Ogee bracket feet are one of the most recognized forms in period furniture. They are to the Chippendale period what cabriole legs are to the Queen Anne period. The design can trace its roots back to classical Greece, but first appeared on English pieces during the Walnut Period in the late 17th and early 18th centuries.

Their popularity increased with the publication in 1754 of Thomas Chippendale's book, *The Gentleman & Cabinet-Maker's Director*. The new designs were taken up by American

woodworkers, who regularly used the ogee bracket foot as an alternative to the ball-and-claw foot when the furniture forms had shaped drawers and cases.

Making ogee bracket feet is a pretty straightforward process My method combines hand and machine tools (see pp. 76-81). But you need to nail the design first; otherwise, the whole piece metaphorically falls down. The most glaring error is to design the S-curve either too flat or too severe. I'll show you how to avoid those pitfalls using some simple geometry and drafting techniques. With this method, you'll get the ogee shape

Gentle curves are easier on the eyes

The most common design error with ogee bracket feet is making the S-curve too flat or too severe. The view you want to pay the most attention to is the 45° projection of the feet at the corners. From that perspective, the profile becomes more pronounced.

TOO MUCH
This shape looks OK from straight on. But when viewed from 45°, it's too severe.

Viewed from straight on
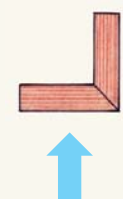
Viewed from 45° angle

Profile viewed from straight on

JUST RIGHT
This shape may look like it doesn't have enough curve when viewed straight on. But from an angle, it's perfect.
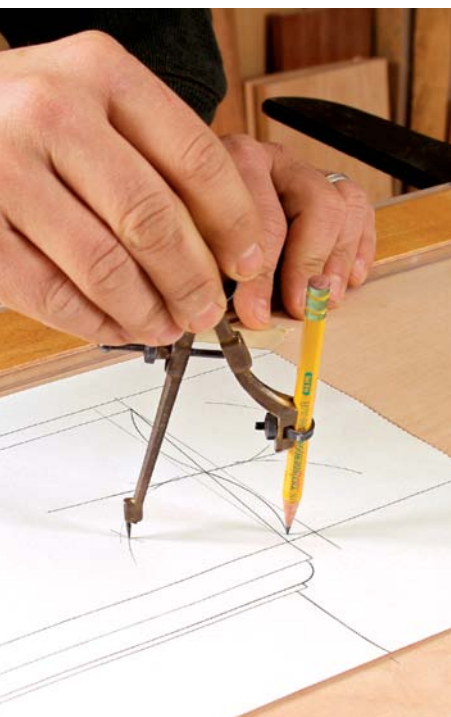
Viewed from straight on

Viewed from 45° angle

Photos: staff

The secret is a series of compass tricks

① LOCK IN THE FOOT HEIGHT AND PROJECTION

The dimensions that guide the design are the overall height of the foot, its projection from the bottom of the case, and the height of the pad. The featured pattern is designed for a chest of drawers. For a smaller foot, scale back the projection and pad height proportionally to the foot height.

Foot projection, ½ in.

Draw diagonal from top of pad to top of foot.

Foot height, 5 in.

Pad, ⅜ in.
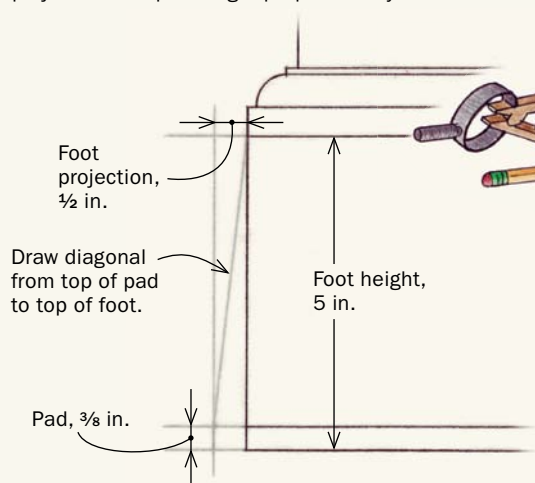
② BISECT THE DIAGONAL— NO MATH NEEDED

1. Set the compass by eye beyond the center point of the diagonal.

2. With the same compass setting, swing intersecting arcs on each side of the diagonal.
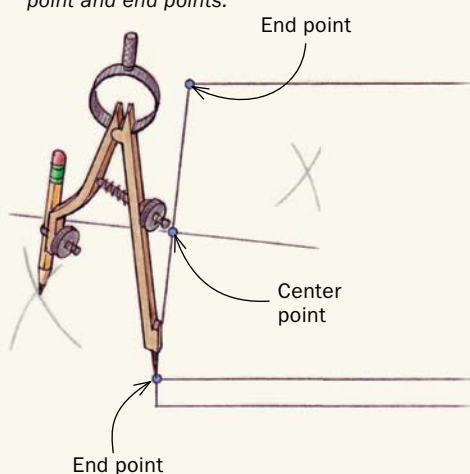
3. Connect those intersecting points to bisect the diagonal.
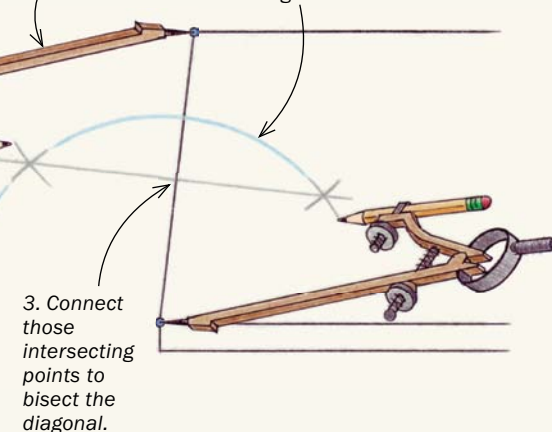
③ SET IT AND FORGET IT

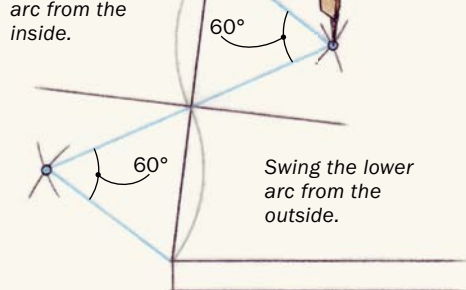*Set the compass from the end point to the center point. You won't need to adjust it again.*

Center point
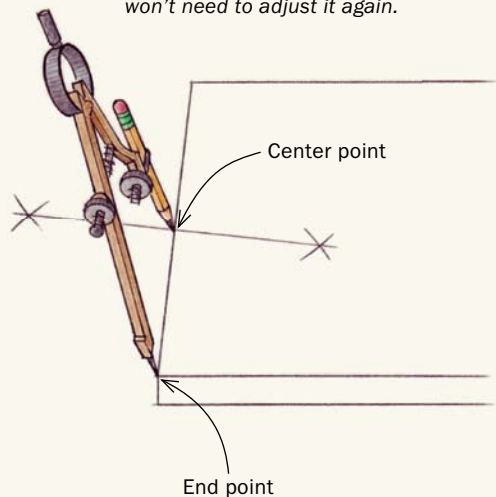
End point

④ ESTABLISH ARC CENTERS

Swing intersecting arcs from the center point and end points.

End point

Center point

End point

⑤ DRAW THE ARCS

60° arcs are based on the isosceles triangle.

Swing the top arc from the inside.

60°

60°

Swing the lower arc from the outside.

and proportions right every time, no matter what size foot you're making.

Divide and conquer

The key to getting the shape and proportions correct is using a compass to make a pattern with 60° equal arcs. Lay out the height and projection of the foot from the bottom of the case. Draw a line parallel to the baseline, indicating the height of the flat area, or pad, of the foot.

Draw a diagonal line from the top of the foot to the top of the pad. Use a compass to divide that diagonal in half (see drawing) and then set the compass to that distance. This setting will result in arcs of equal length and shape. Swing intersecting arcs from each end point and from the center point. Now, without resetting the compass, use those intersecting points to swing arcs for the ogee curve on the face of the foot. That's it. The result is a pleasing curve of good proportion that flows across the pattern.

Same technique for the inside curve

With the face of the foot drawn out, use those proportions to set the width of the foot and the inside curve.

Drawings: Vince Babak

Inside profile repeats the process
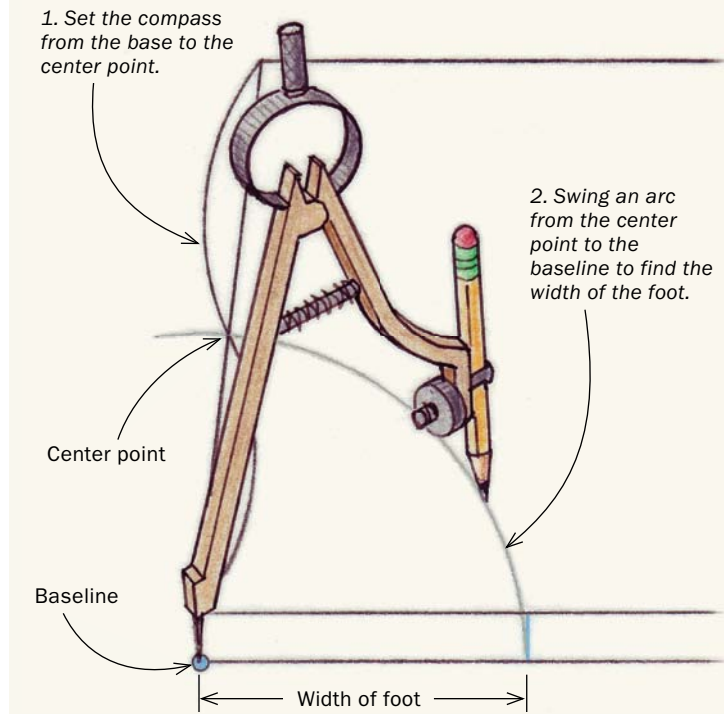
Start with the width. Set the compass equal to the distance from the outside corner of the base of the foot to the center point of the diagonal you drew earlier. Swing an arc from the corner down to the baseline. This defines the width of the foot. From this point, draw a square line up to the top of the foot.

To make the inside curve, use the same compass tricks used to draw the ogee shape on the face of the foot. Start with a layout line angled ½ in. from the vertical line you just drew. That line is equal to the projection of the foot from the base of the case.

Bisect that line and set the compass to that distance. Swing intersecting arcs from the bottom of the diagonal and from the center point. Now use that intersection point to swing an arc to draw the inside curve, which will be perfectly parallel to the outside curve.

Now you can blend the top of this arc into the pattern that defines the top portion of the inside of the foot. The pattern shown here is classic, but you can alter it as you wish.

Once you have a full-size sketch of the foot, create two patterns on ⅛-in.-thick plywood: one for the face cuts and one for the end cuts. Make sure the lines on the patterns are smooth because these are going to guide you as you start the shaping process (see p. 76). ☐

Dan Faia runs the Cabinet and Furniture Making Program at North Bennet Street School.
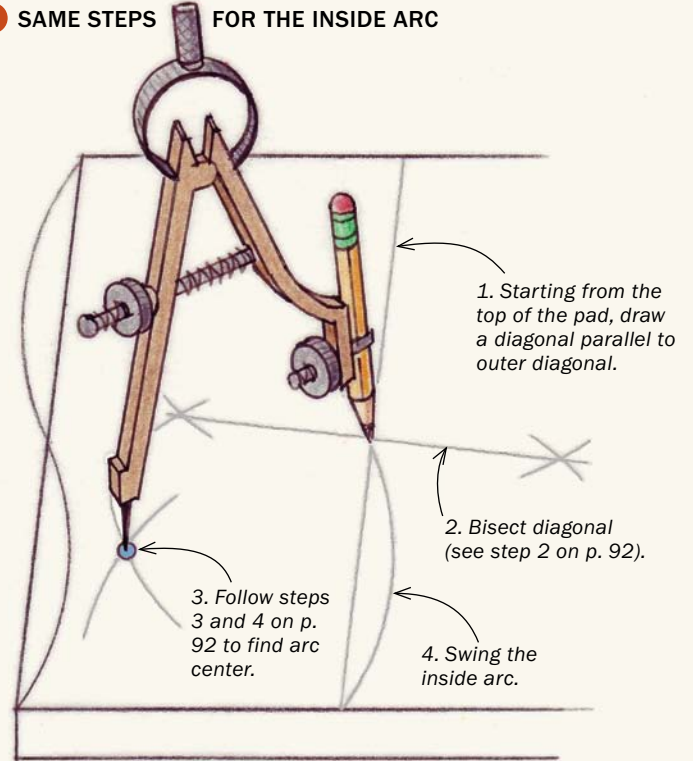
③ FINISH THE PROFILE

Once you nail down the ogee shape and the overall proportions of the foot, the inside scrolled pattern and how it transitions into the foot are ultimately the designer's choice.

Arcs are parallel.