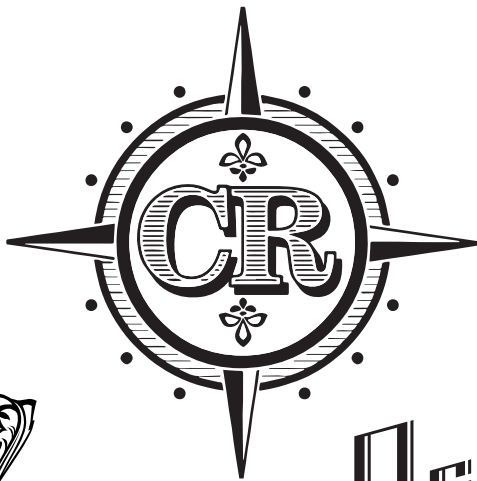
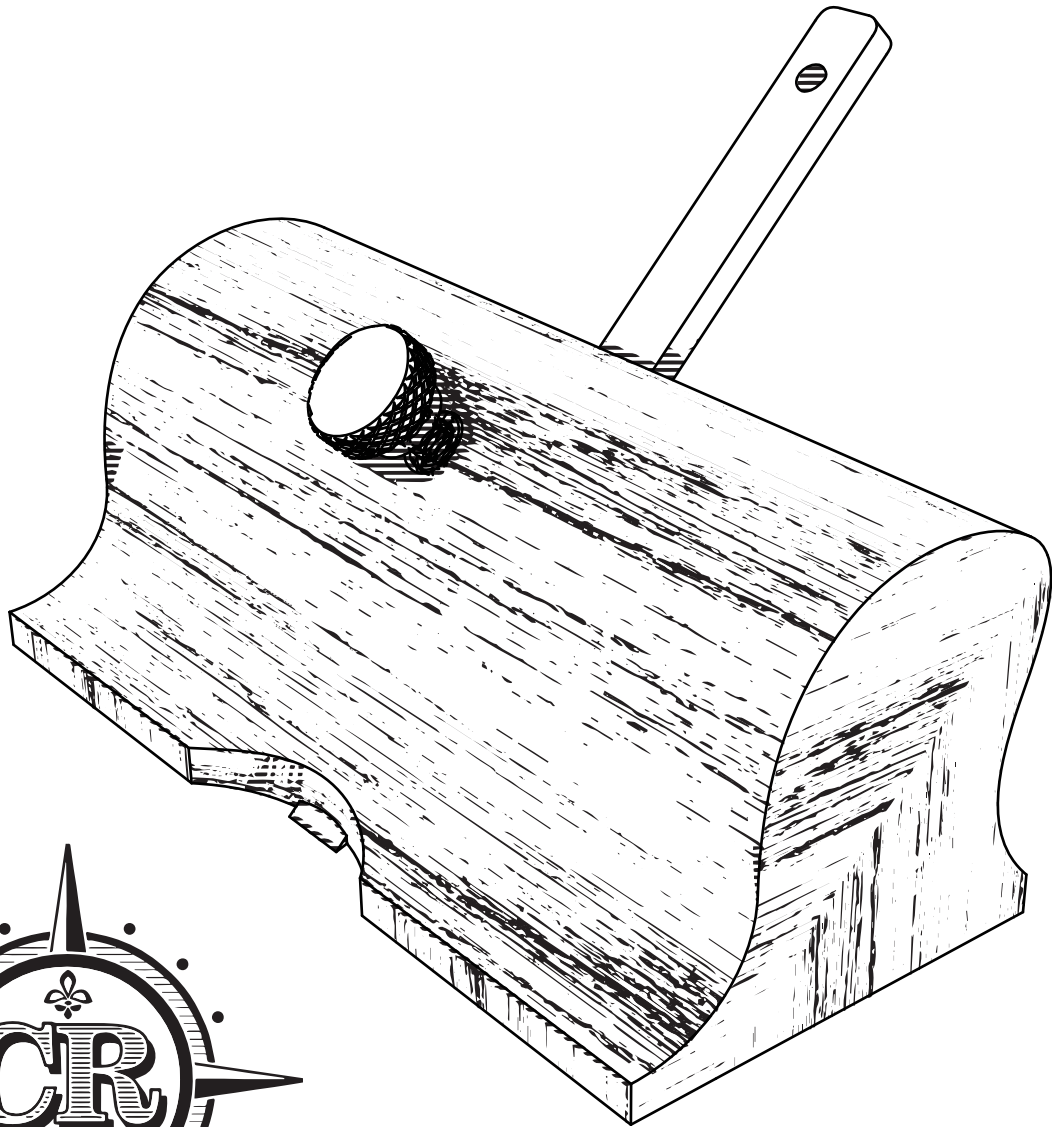

Compass Rose Toolworks

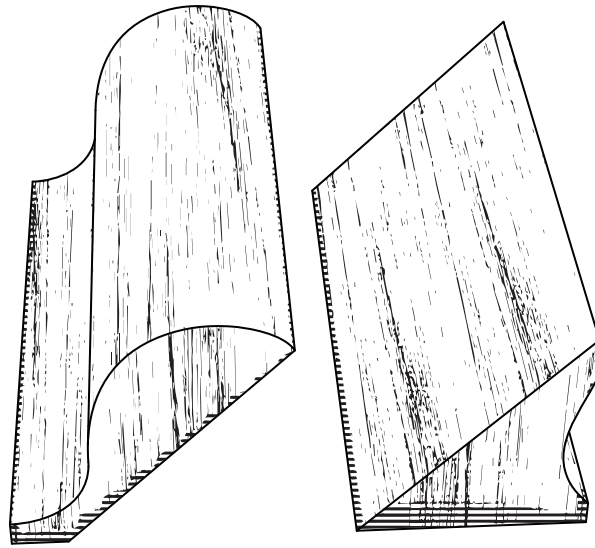
Design and Plans: R. Krueger | Modeling & Drafting: L. Dunn

Router Plane



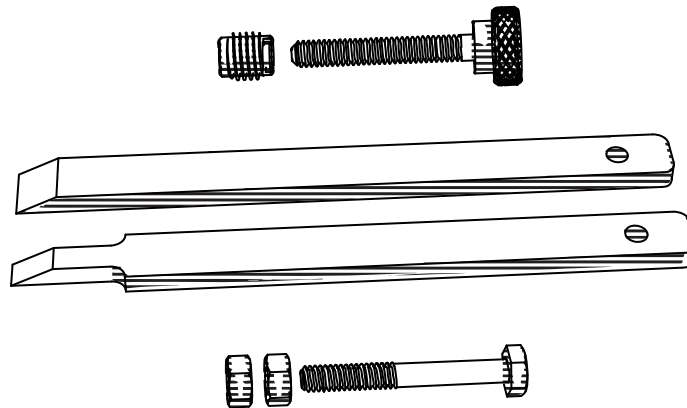
Assembly Guide

Parts List



Front

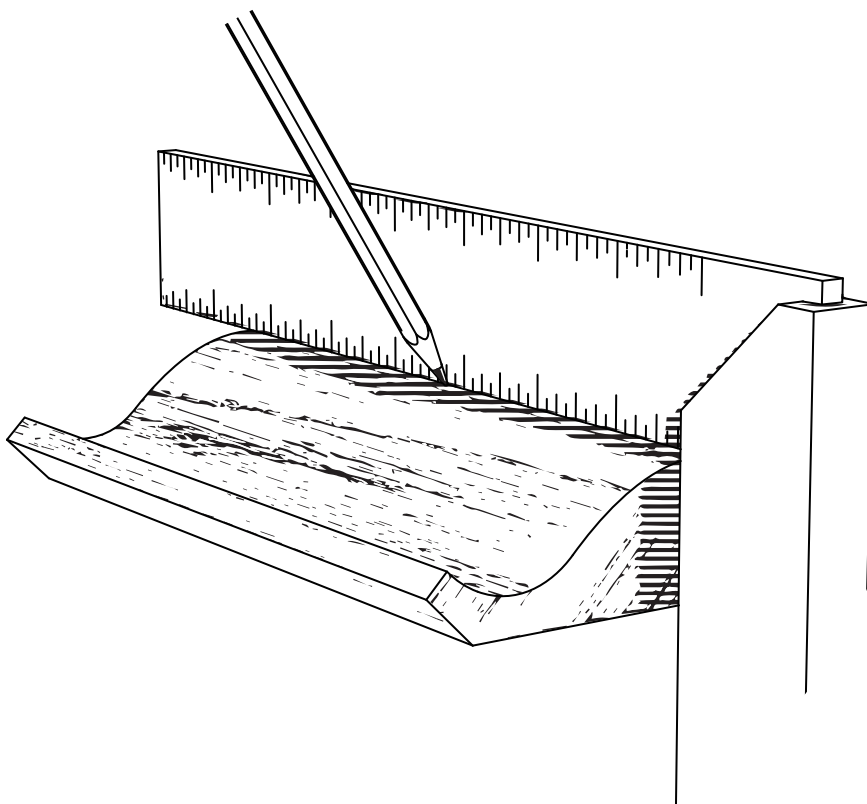
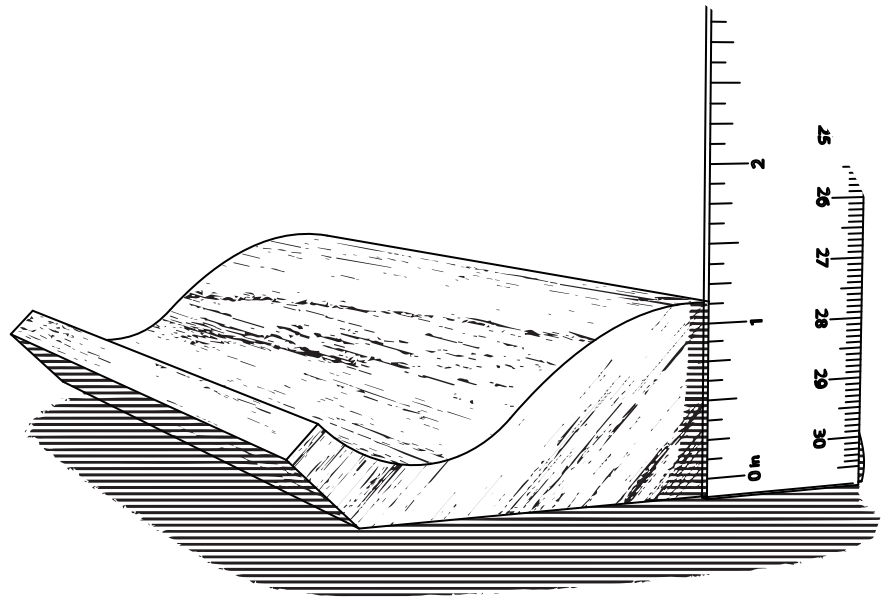
Rear/Bed



- **Two-Piece Hardwood Body**
- **1/4"/20 Brass Knurled Bolt**
- **1/4"/20 Brass Threaded Insert**
- **1/2" Wide Blade**
- **1/4" Wide Blade**
- **1/4"/20 Steel Hex Bolt**
- **1/4"/20 Steel Hex Nuts**

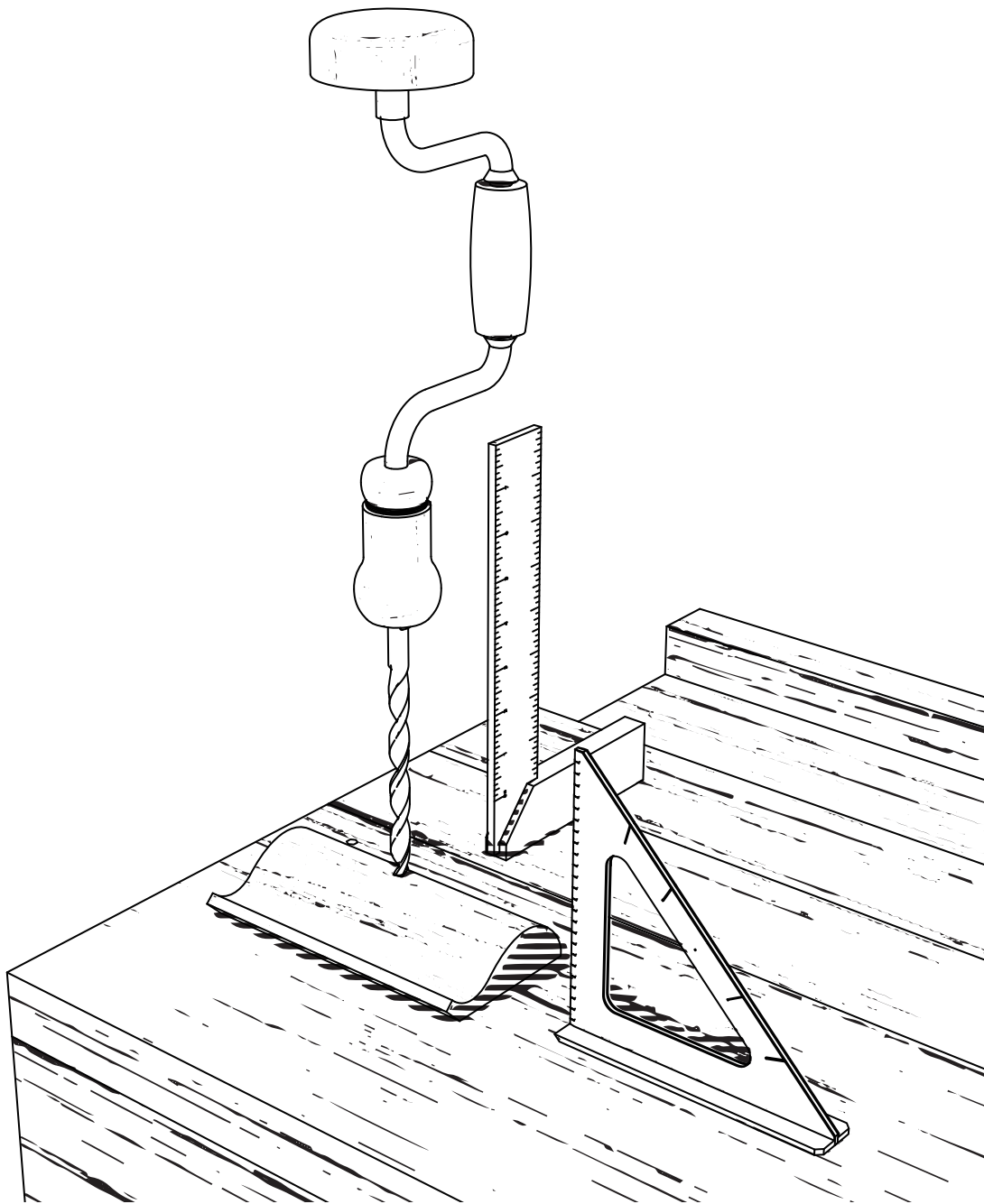
Find the Center

Use a ruler to find the center of the front half of the body. The center is the highest part of the curve.



Carry your center line across the front of the body and mark the center-point $3 \frac{1}{4}$ " (82mm) from the edge.

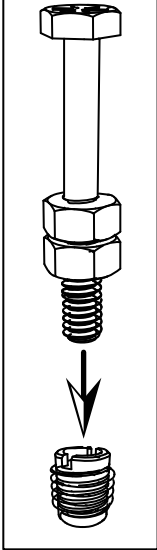
Drill & Countersink



Drill through the front piece with a 13/32 (10mm) bit. Your hole needs to be perpendicular in both directions. Use a pair of squares to keep the drill straight as you drill. Counter-sink/chamfer the finished hole to make the threaded insert easier to install.

Drive Insert

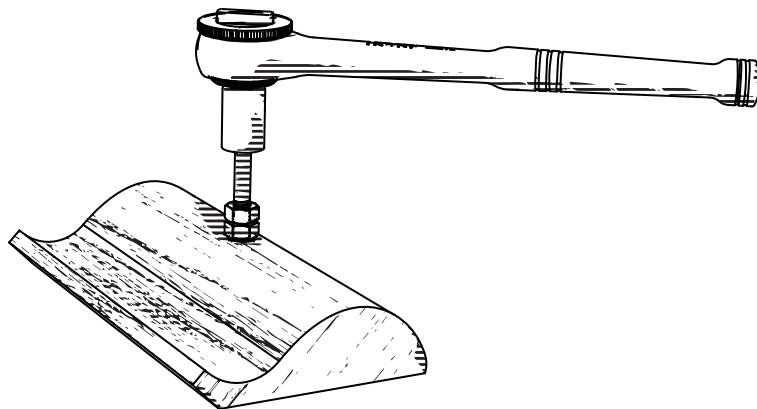
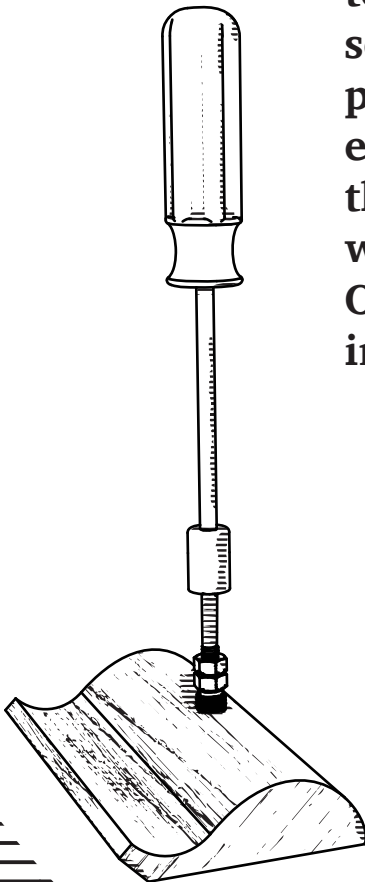
Threaded
Insert
Tool



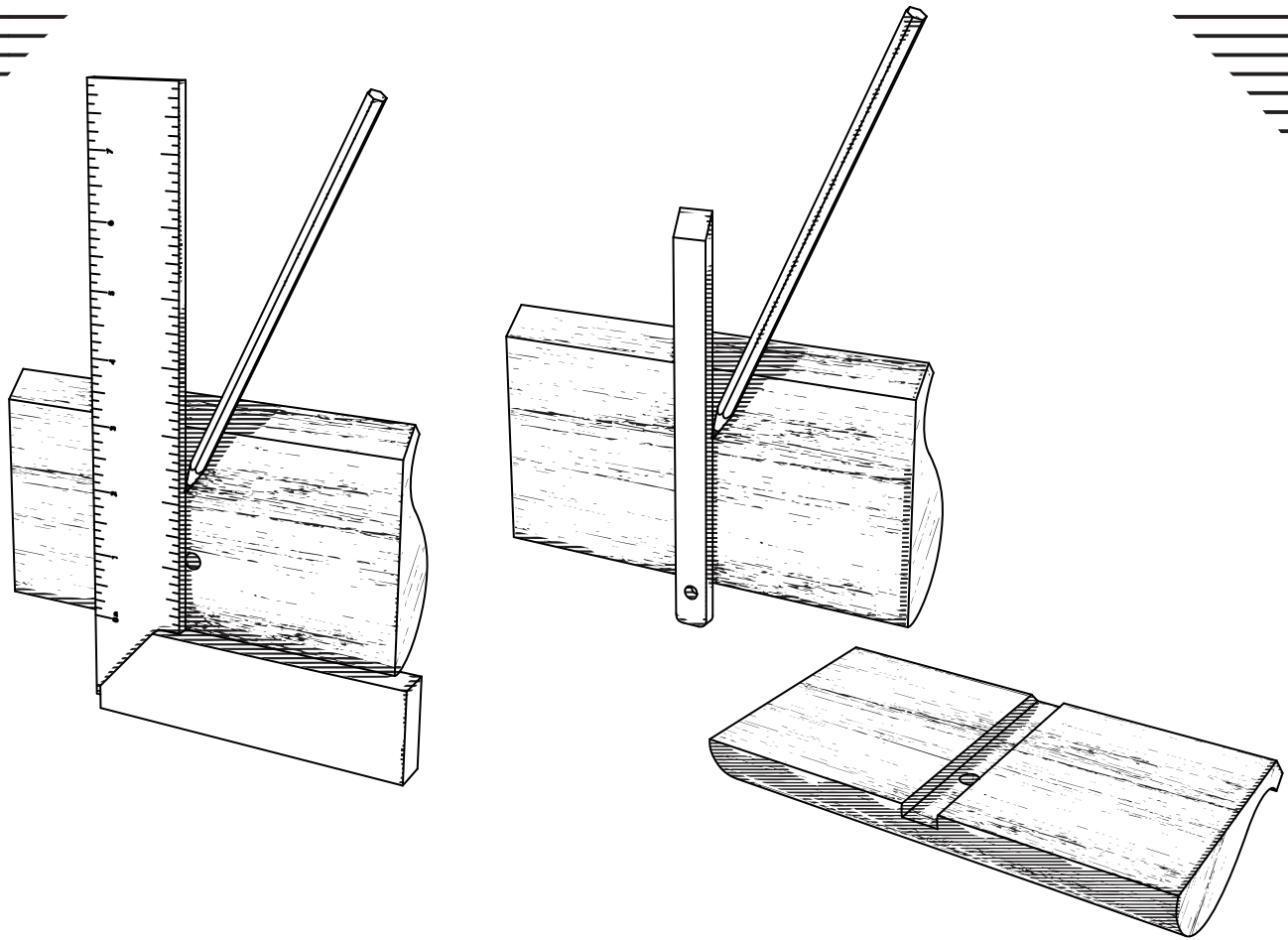
Install the two nuts on the hex-head bolt (included) and tighten them firmly. This tool will help you install the threaded insert.

Screw the threaded insert onto the bolt, place the whole assembly in the hole you just drilled, and rotate to the right with firm downward pressure until the threads of the insert are seated. A nut-driver is good for starting the threads. Its length makes it easy to keep perpendicular.

Once the threads are started, you may need to switch to a wrench for more torque. A socket wrench is preferred, but even an inexpensive adjustable wrench will work. Tighten the threaded insert until it sits just below the surface of the wood, then reverse the wrench and remove the installation tool. Optionally, you can wax the threads of the insert to make installation easier.



Locate Blade Slot

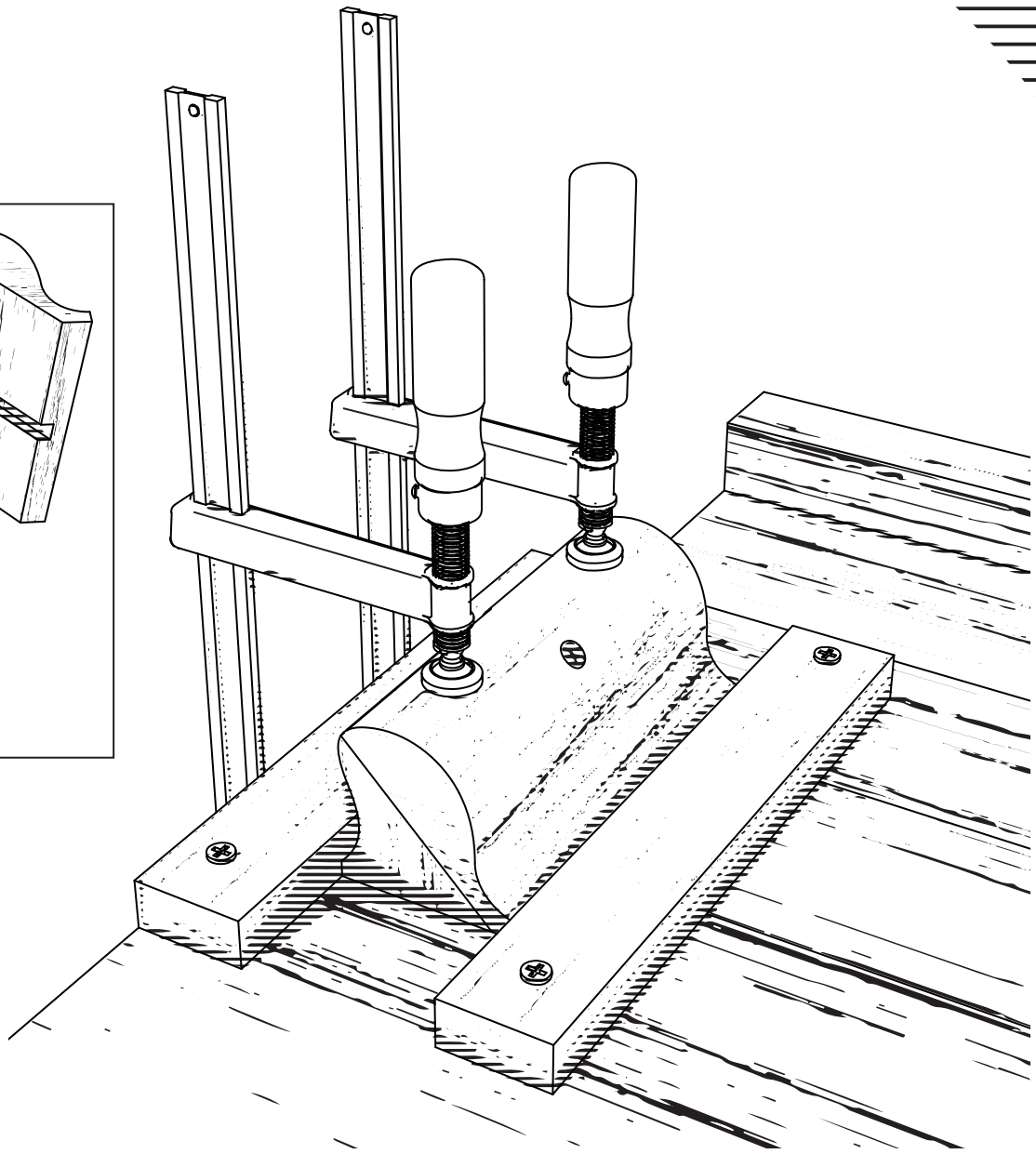
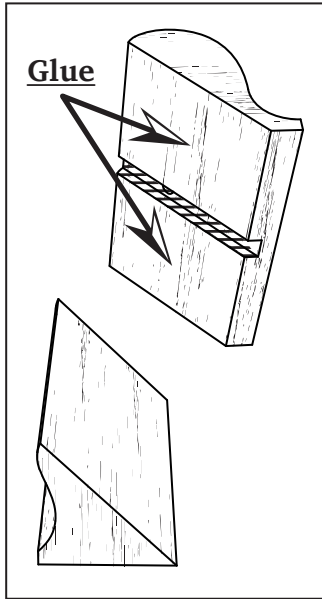


The blade slot is cut in the front half of the body. Use a square to strike a line on one side of the hole you just drilled, then place one of the included blades against the line and trace the opposite side with a pencil.

Make sure your layout lines are centered on the hole, and then cut them with a marking knife and square. It helps to cut the blade slot slightly oversized ($1/32''/ 1\text{mm}$), so move one of your lines slightly before knifing it.

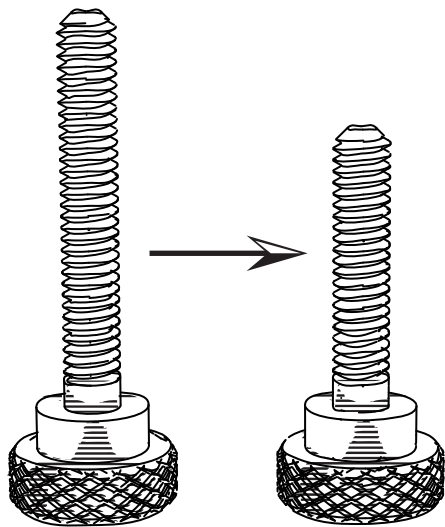
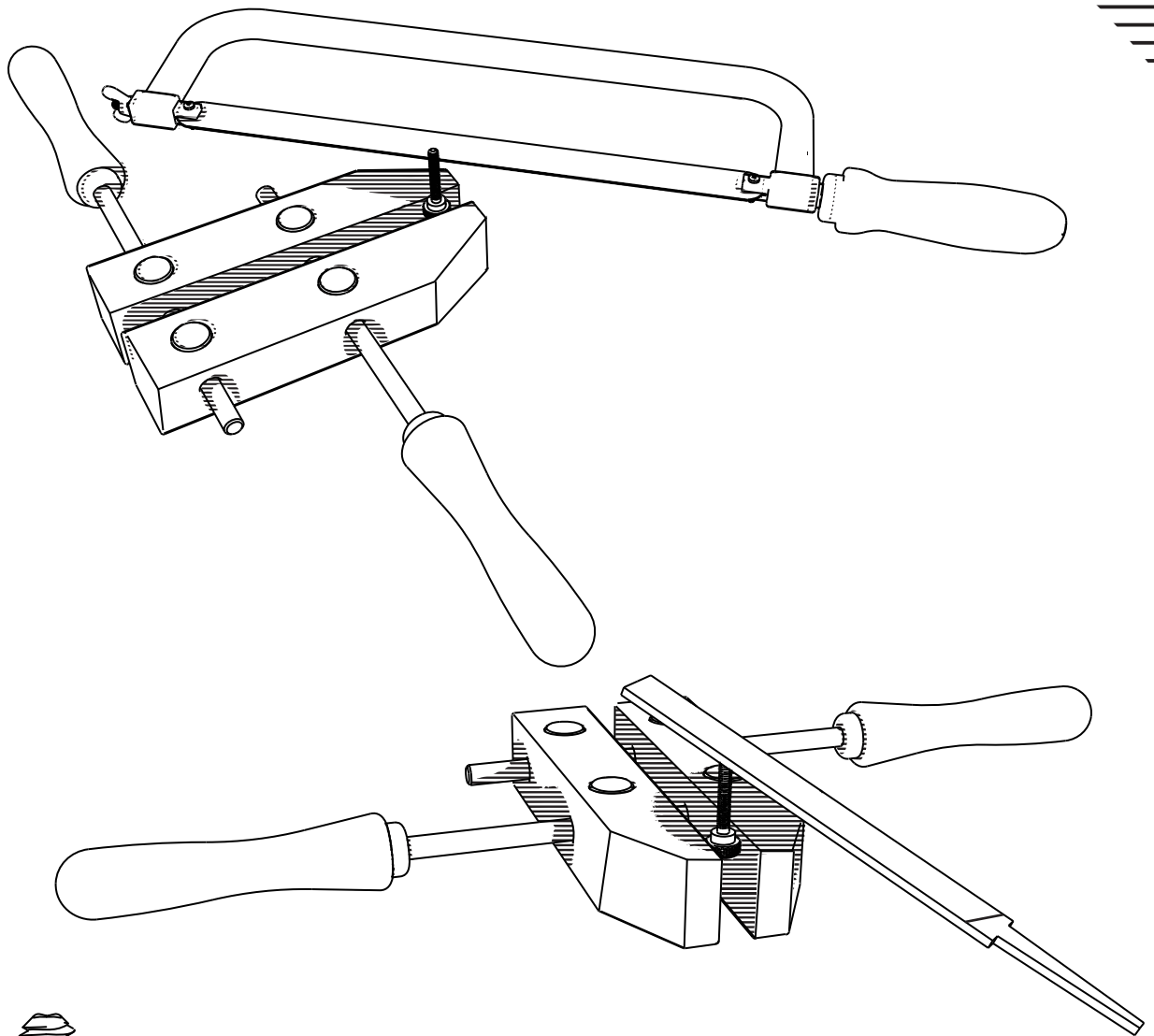
Saw down your layout lines with a fine-tooth saw and chisel out the waste between them. The completed slot should be slightly deeper than the thickness of blade and the blade should slide easily in and out of the slot.

Build Cradle, Glue, & Clamp



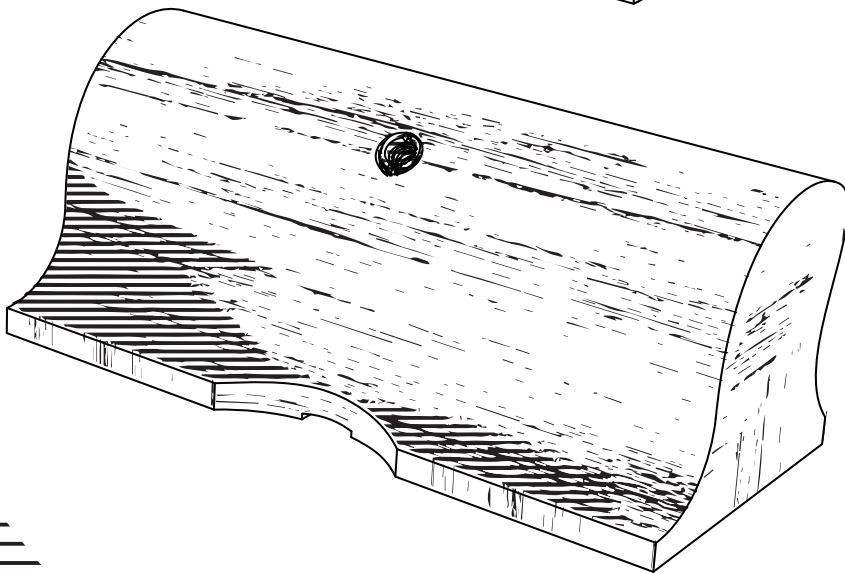
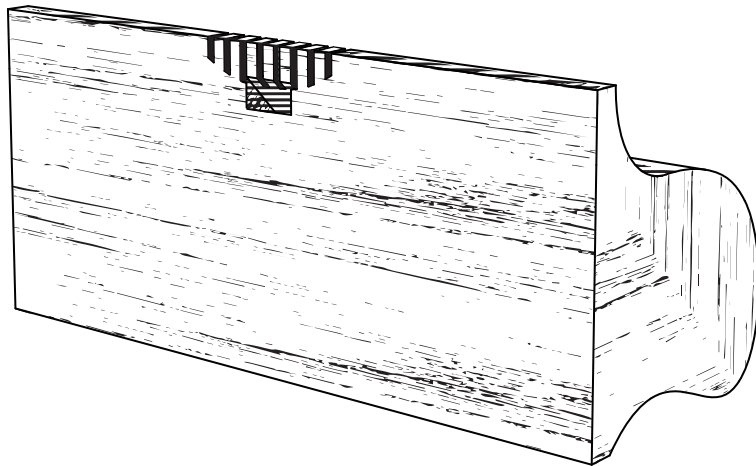
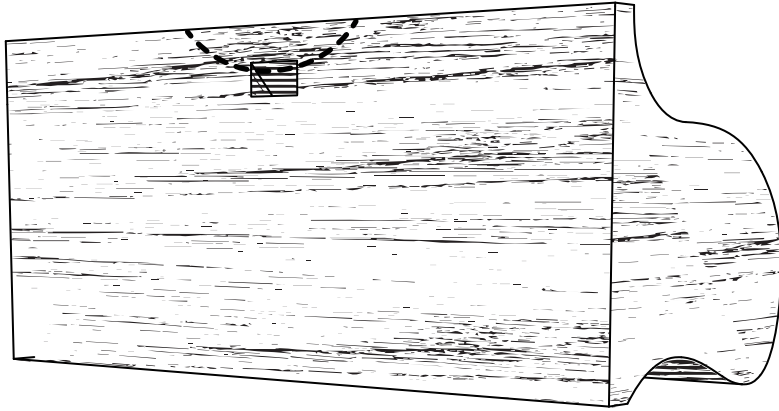
Screw two pieces of wood to a flat surface. This “cradle” will let you clamp the tool together without the pieces sliding around. The two halves of the router should be held firmly with no wiggle. Apply glue to the front half of the body only and clamp it in place. Only two clamps should be necessary. Practice clamping the pieces before adding glue.

Trim & File Thumb Screw



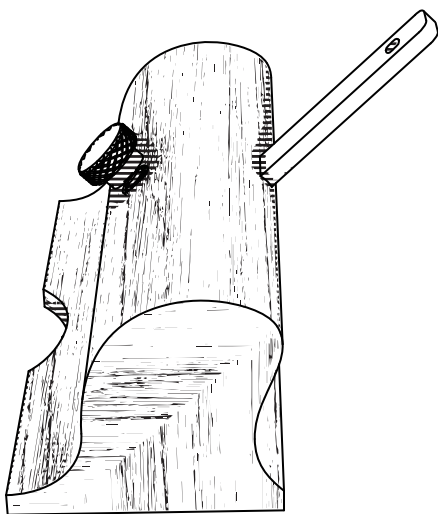
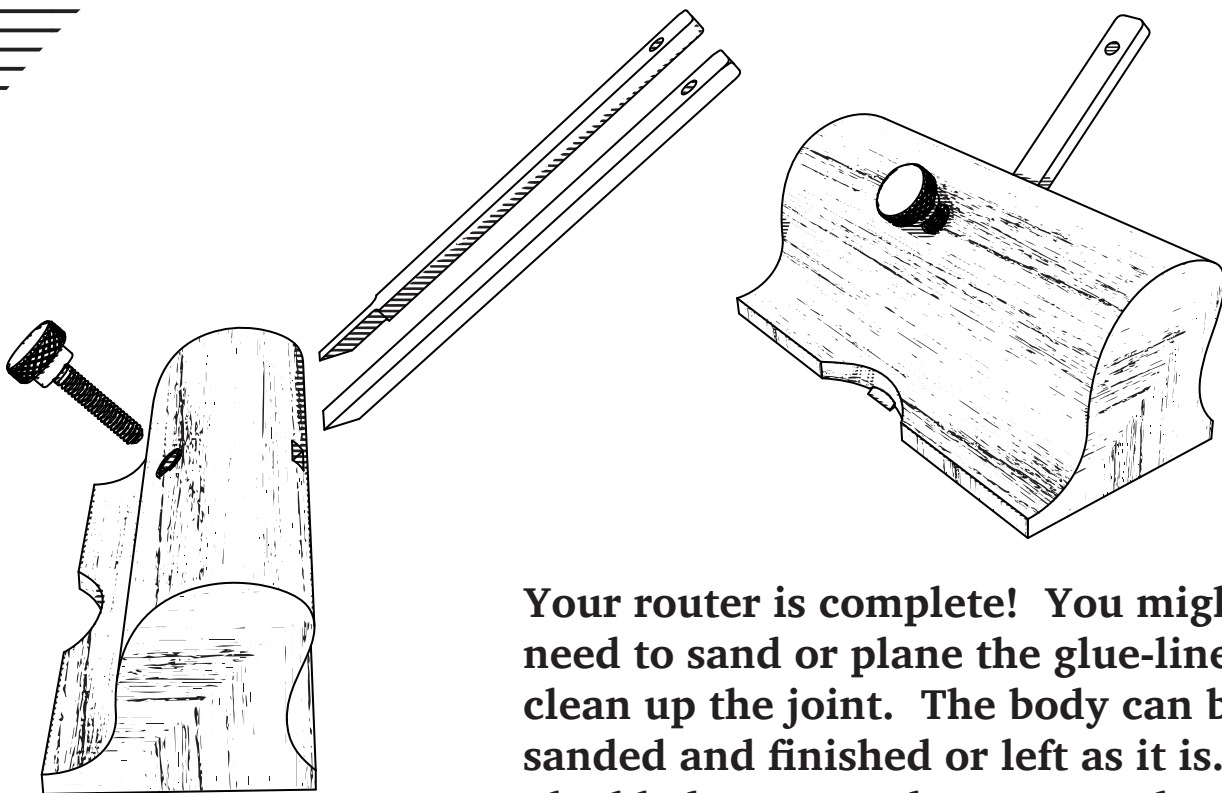
Hold the brass thumb-screw in a clamp or vise and cut off $\frac{1}{2}$ inch (13 mm) from the threaded shaft using a standard hack saw. Smooth and round over the cut end with a file. This step is optional. Letting the screw stick out won't hurt the tool's performance.

Cut Front Radius



Cutting away material in front of the mouth will improve visibility. Trace on a curve that just touches the front of the mouth. You can use any radius you like or use a decorative shape like a lambs-tongue. Saw vertical relief cuts and scoop out the waste with a bevel-down chisel.

Finished Product



Your router is complete! You might need to sand or plane the glue-line to clean up the joint. The body can be sanded and finished or left as it is. The blades are ready to use and are already ground at the correct 25° angle. They just need to be honed. When using the plane, the brass thumb-screw should be tightened firmly, but do not over-tighten. Never grip the thumb-screw with pliers or any other tool. The blade can be advanced by tapping the back gently with a hammer or by releasing the thumb-screw. Keep the blades oiled to prevent rust.

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