

Gear up for glue-ups

KEEP THE RIGHT STUFF ON HAND AND GET BETTER RESULTS

BY MICHAEL FORTUNE



As I say in “Great Glue-Ups, Guaranteed” (p. 44), glue is a slippery film. And as you’ll see in that article, I use a few types of clamps and a wide variety of cauls to put pressure right where I want it and to keep parts in place. That article covers a variety of specific situations; this one covers the glue-up gear I keep on hand. The beauty of these basic cauls and supplies is that they will handle the vast majority of work you will encounter.

I use common types of clamps. Instead of spending your money on a pricey parallel-jaw models, buy more of the low-tech kind. Then spend your time making cauls. I use a bunch of custom cauls in my work, made from whatever hardwood I can spare, but I keep a variety of common sizes in buckets.

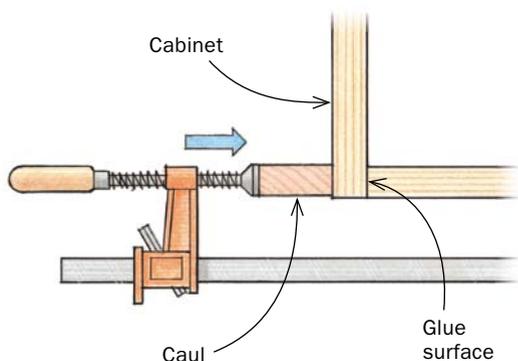
When clamping pieces that are prefinished or will be hard to sand or repair later, I use small pads under the clamp heads. If the jaws don’t have pads already, I tape pieces of wood to the workpiece. You don’t want to be wrestling with little wood pads as you try to position the clamps perfectly and tighten them. I keep a pile of these pads on hand, made from basswood and poplar—softer than the furniture woods I use but strong enough to stand up to the pressure. As for glue, some people pour it into little dishes before spreading it, but I almost always apply it right out of the bottle, and I use my finger, wiping it clean on one of the world’s crustiest aprons.

Michael Fortune is a contributing editor.

How clamps and cauls team up

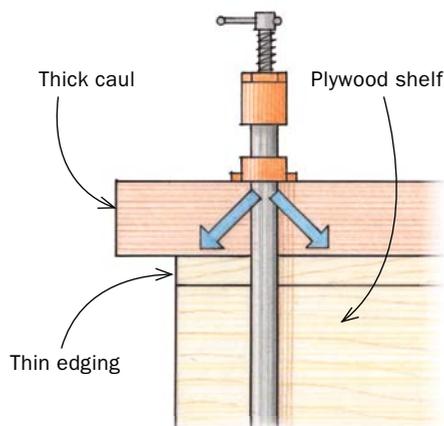
DIRECT

Pressure needs to be centered on a joint, so Fortune prefers clamps that focus their force. Cauls add insurance.



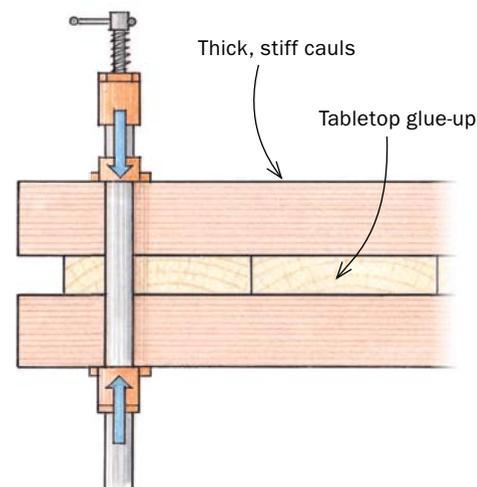
SPREAD

Just as pressure needs to be centered in one direction, it often needs to be spread in the other. Cauls handle that, too.



CONSTRAIN

Even if the pressure is centered, pieces can shift. Cauls keep them perfectly in line.





Pipe clamps

There is no better and more affordable way to reach long distances than with pipe clamps, in both the 3/4-in. and 1/2-in. sizes. The larger ones are stronger; the smaller, more nimble. He sometimes uses plastic jaw protectors (available online) on these.

Clamps

Fortune keeps a wide variety of clamps on hand, and none are high-tech. His favorites are Jorgensen F-style bar clamps, because you can align the deep clamp heads precisely on almost any joint. When F-clamps fall short, he turns to Jorgensen pipe clamps. He finds parallel-jaw clamps to be heavy and imprecise.



F-style clamps

Fortune has Jorgensen F-style bar clamps in many sizes and lengths, and most have little plastic jaw protectors.



Edge clamps

Although he could get by without them, Fortune really likes these specialty clamps (Grip 32106 Small Edge Clamps, \$20 each at ToolKing.com).



Targeted pressure. With edge clamps, you don't need to reach long clamps across a panel. You still need a caul, though.

Accessories



You can keep it simple with the glue, too. Simple PVA (yellow) glues are super-strong, and the best spreader is your finger, though Fortune also uses cheap brushes and sticks.

Glue

Fortune almost always uses Titebond III, which has 20 to 25 minutes of working time. It leaves a tan glueline, so for the whitest woods he uses Titebond I, which sets up a bit faster.

Spreaders

To get glue into crannies like mortises and dovetails, Fortune uses popsicle sticks, trimmed square, and cheap brushes, which he takes a moment to fine-tune.



Brush trick. As is, cheap flux brushes are too floppy and tend to drop bristles into the glue. So hammer the ferrule to tighten up the bristles, and trim off some of the length.



Cauls

Fortune keeps a few types of hardwood caul in buckets, always ready to go. He prefers to use packing tape to prevent glue from sticking, but for two-sided cauls with one edge curved and one straight, he waxes both faces,

as clamps would tear up the tape. A marker line, straight or curvy, shows which face goes against the glue-up.



How to make a curved caul



Simple setup. Mark the midpoint of the caul, and set up a stop block on the jointer so that point will drop right at the leading edge of the outfeed table. Set the jointer for a $\frac{1}{32}$ -in.-deep cut.



Drop and go. Put the caul against the stop block with a push stick hooked on that end, and lower the caul onto the cutterhead. Then push it forward. Do the same to the other end to create a gentle camber.



$\frac{1}{32}$ in. is enough camber for an 18-in.-long hardwood caul.



Long and strong

In one bucket, Fortune keeps long cauls for larger glue-ups. These are roughly $\frac{7}{8}$ in. thick by $1\frac{3}{4}$ in. wide by 18 in. long. Several are slightly cambered so when clamps are applied at the ends, pressure is exerted in the middle.

TIP

KEEP GLUE FROM STICKING



Tape or wax. The tape lasts indefinitely, but the paste wax needs to be refreshed from time to time.

Short and flat

In the other bucket, he keeps 20 short cauls, each roughly $\frac{7}{8}$ in. by $1\frac{1}{2}$ in. by 6 in. long. He uses most of them flat side down, where they have more surface area and are more stable. That said, half have their packing tape wrapped around the edge. He uses them that way for the added stiffness and better visibility.