

## MAKING MITERS

I saw an article in a wood-working magazine that showed an idea like this, but I felt it needed refinement. Here's my version of it.

The whole idea of the method is to let the miter align itself, so making the miter cut accurately is imperative.

Clamping aids are made so they hook on the miter bars with a "hook" block which is clamped (or fastened in any other way) on the sidebars and a clamp pulls the "clamp blocks" against the side of the two mitered frame bars. A moment's study will reveal the beautiful simplicity of the idea.

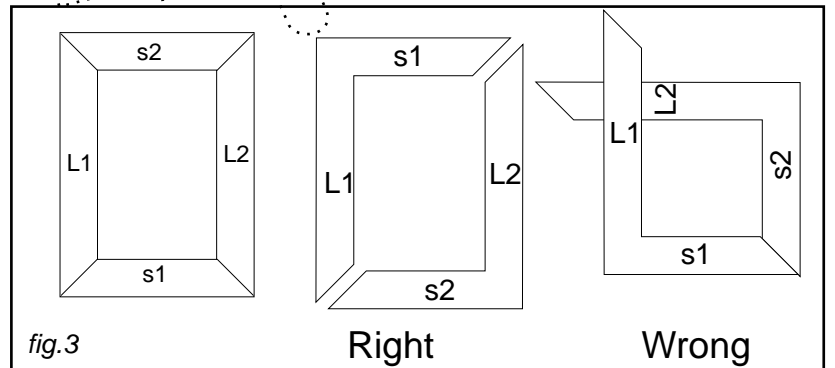
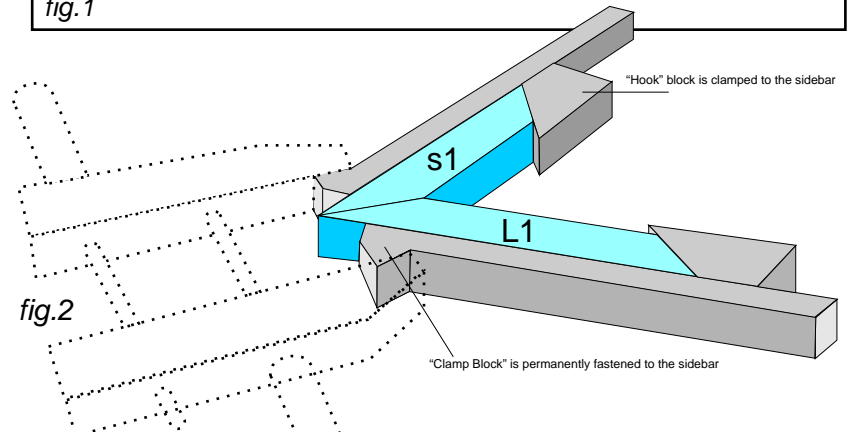
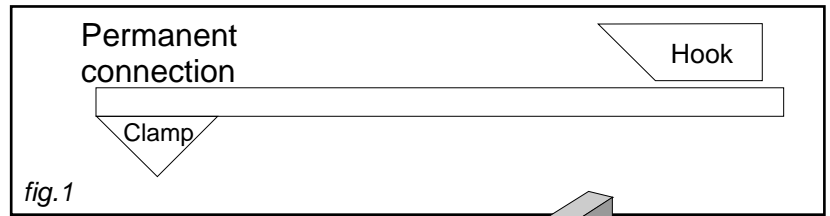
In the drawing the darker parts are the clamping bars, the blue parts are the workpieces.

Make four of these bars so you can make a whole frame. Follow this procedure:

First put two of the adjacent sides together with two of the clamp bars. Make sure you have the parts properly oriented before fastening. Leave them in the clamping setup and make up the remaining two frame parts exactly the same way.

They should be the same, not mirror images. The figure above right shows how it should (and should not) be. The rule is: If L1 is the right leg in the first assembly, L2 must also be the right leg in the second assembly.

See how the bar hooks over the mitered workpiece? When clamp pressure is applied as shown, the bar presses the whole workpiece against the other, with the pressure at 90° to the mitered cuts.

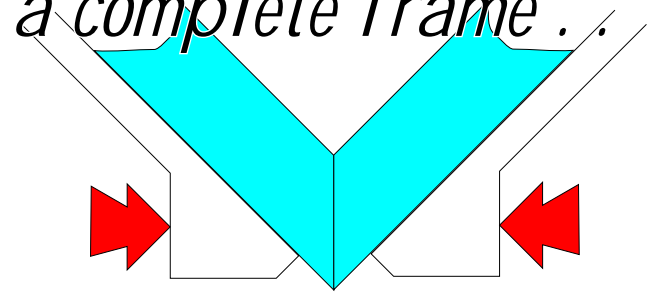


*Here's a another way to look at clamping miters and making figures with three, four or more sides without making or buying special clamping forms.*

*Make these clamping accessory bars out of your scrap bin!*

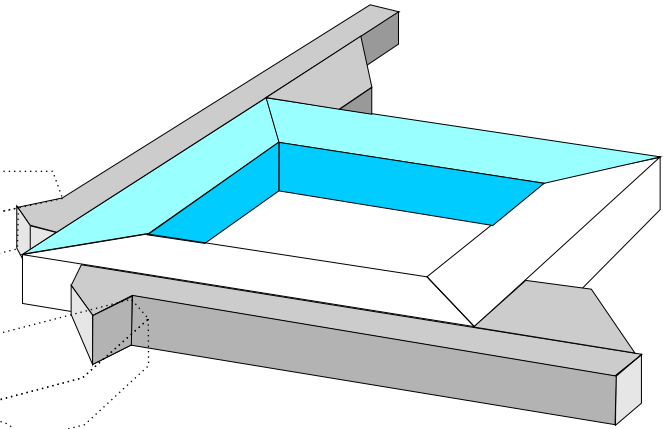
# *So now we want to make a complete frame . . .*

Notice how the ends of the clamp bars are cut so there's room to put brads or whatever in the miter joint. When the two "L" shaped parts are glued and dry, take the clamps and bars off.



Clamping force is at 90° to the faces of the miter

Remove the hook blocks and turn them so the square end is against the frame when used. For clarity, the first two assemblies are shown, one in blue, the other in white. Make the third joint as shown and when the glue is cured turn the assembly around and make the last corner.

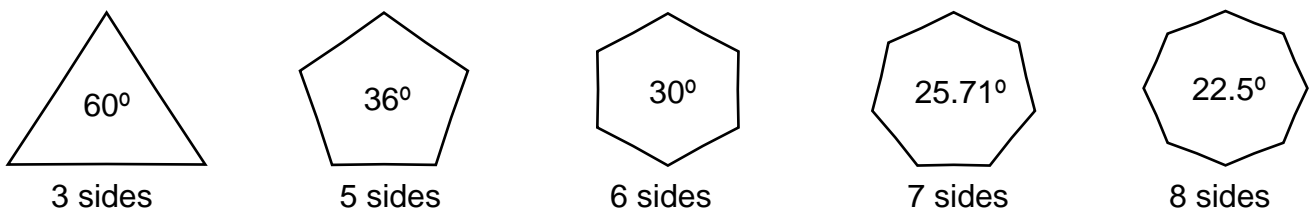


Hook blocks turned so the square ends are against the corners of the frame. A little sandpaper glued on these ends will prevent slippage.

Here's where you'll learn, if you didn't already check, whether your miter cuts are accurate. If the final joint stands open a little, the material will tolerate being flexed a little. the same rule applies if it's a little off in the other direction, but the pressure will be applied when the third joint is made.

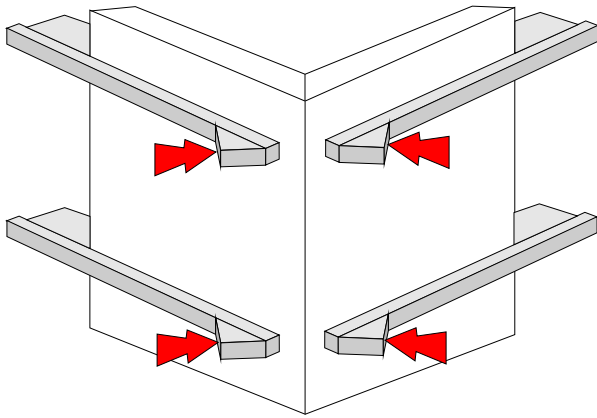
If that's the case, you may have to apply the glue to corner #4 at the same time you clamp the third one. It will be nearly impossible to open the joint and get glue in the miter joint after corner #3 is made. A little practice on scrap will help in making decisions.

## *What about other shapes with different angles?*



The figure above shows various shapes with the number of sides and the angle of the miter cut. These are all shapes having the same length on all sides. Divide 360° by the number of sides and then divide that by 2. Example: 5 sided figure - 360° divided by 5 = 120°, divided by 2 = 60° (or 360 divided by 10). The angle on the miter should be the angle on the hook block and the clamp block for any given miter angle.

# *Make more of 'em!*



For chests and boxes, valence assemblies and other deep shapes, make as many as you need to apply even pressure across the miter joint.

After all, you're finally using up some of those "scraps" you've been piling up!

Can this technique be used for compound miters such as used in picture frames?

**Sure, but you'll need to make some fancy adjustments to the shapes and placements of the clamping bars and blocks.**

We interrupt this broadcast for an important announcement!

**Be sure to make miter assemblies on a good, solid, flat surface so the corners don't skew. If you choose to use a metal table like your nice table saw, tape down some plastic film so glue squeeze-out doesn't get on the table.**

**Finally, you may have noticed the absence of dimensions. That's because you can make these bars any size you want. When the job is done drill a hole in them and hang 'em up. They'll come in handy again.**

*That's the whole idea in a nutshell. Take these techniques and run with 'em. Share the results with your fellow woodworkers, too. That's what makes for good community.*

*Best wishes and regards,*

# *Don*