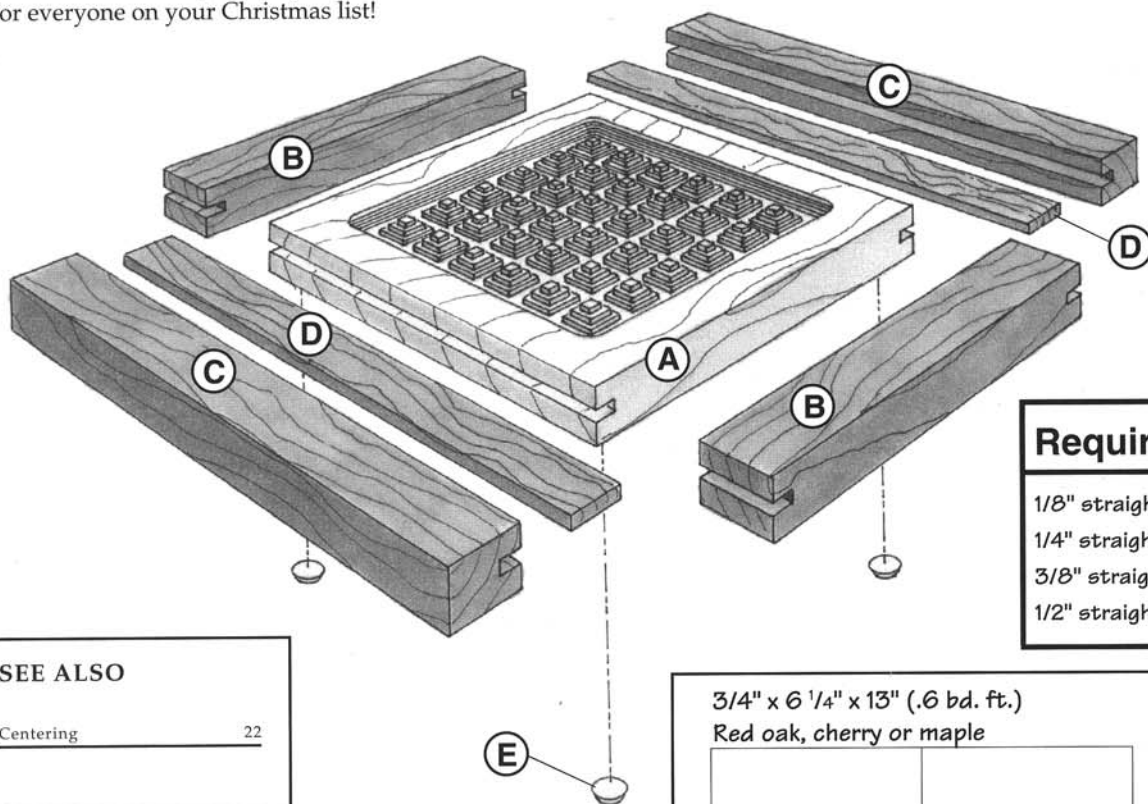
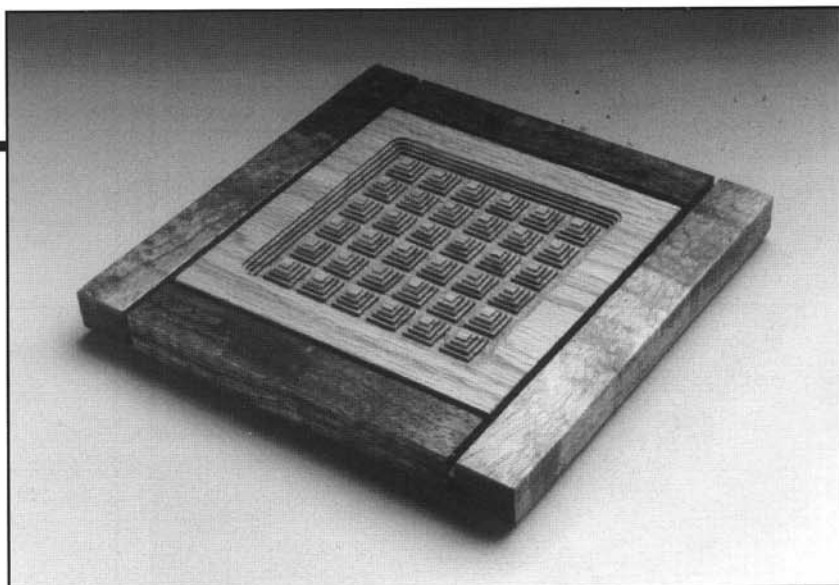


Trivets

Use these decorative pieces to hold hot pans and dishes off the surface of your kitchen table or breakfast bar. They look nice enough to leave out even when they are not being used. Four different router bits and different depths of cut are synchronized through the use of your INCRA JIG and two INCRA Stops to produce the pyramid shaped motif appearing on the trivets. They're quite easy to make and once you've read through the process, including the design tips on page 90, you'll see that there are many ways to modify the design. The plans call for enough wood to make two trivets, but don't be surprised if you find yourself making more. This is one of those projects you'll want to make for everyone on your Christmas list!



SEE ALSO

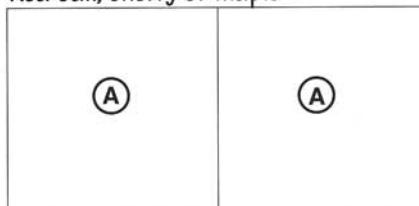
Centering

22

Required Bits

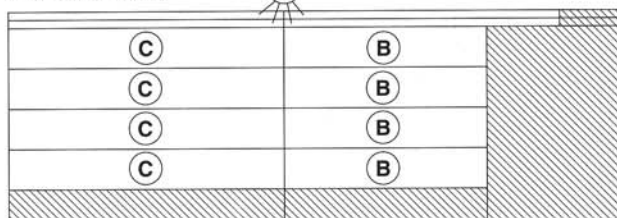
1/8" straight bit
1/4" straight bit
3/8" straight bit
1/2" straight bit

3/4" x 6 1/4" x 13" (.6 bd. ft.)
Red oak, cherry or maple



Cutting Diagram (makes 2 trivets)

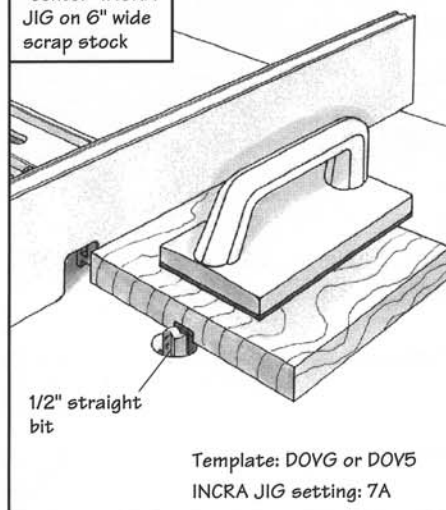
3/4" x 6 1/2" x 19" (.8 bd. ft.)
Walnut or koa



Materials List		T x W x L			Material
A	Trivet base	3/4"	6"	6"	Cherry
B	Frame	3/4"	1"	6"	Walnut (2 reqd.)
C	Frame	3/4"	1"	8 1/4"	Walnut (2 reqd.)
D	Spline	1/8"	3/4"	8 1/4"	Walnut (2 reqd.)
E	Rubber bumpers	(4 reqd.)			

FIG. 1

"Center" INCRA JIG on 6" wide scrap stock

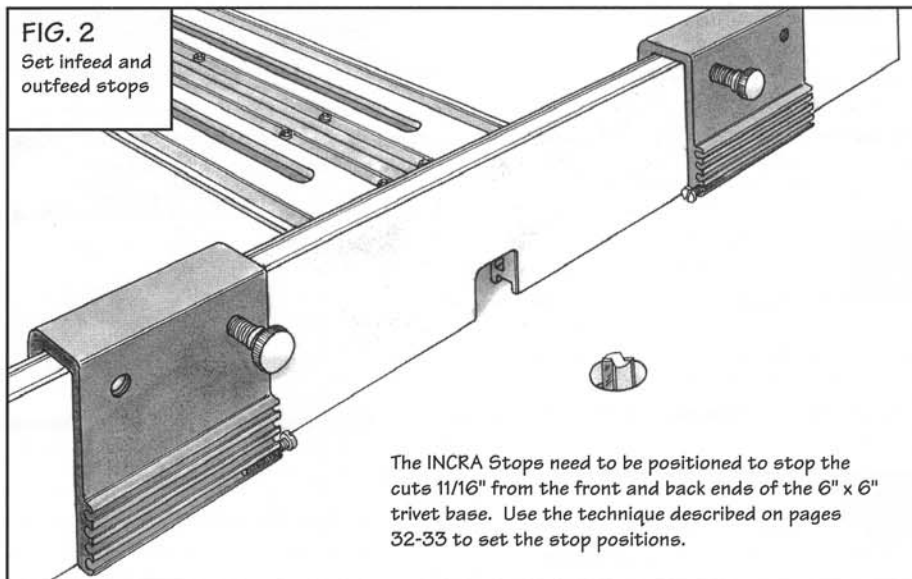


1/2" straight bit

Template: DOVG or DOV5
INCRA JIG setting: 7A

FIG. 2

Set infeed and outfeed stops



The INCRA Stops need to be positioned to stop the cuts 11/16" from the front and back ends of the 6" x 6" trivet base. Use the technique described on pages 32-33 to set the stop positions.

The Trivet Base

1 Cut the two base blanks (A) to a finished size of 6" x 6". Also cut a piece of scrap stock to 6" x 6" for the "centering" process.

2 Install a 1/2" straight bit in your router table and set the depth of cut to 1/4". Install the DOVG or DOV5 template in your INCRA JIG and lock the jig to cut 7A on the template.

3 Using the scrap stock cut in Step 1, "center" your INCRA JIG on the stock's width (Fig. 1). When finished with the centering process, your INCRA JIG should still be locked to cut 7A and the 1/2" bit should be in the center of your stock's width.

4 Set the infeed and outfeed stop positions (Fig. 2) as described on pages 32-33. The cuts need to be stopped 11/16" from the ends of the stock, so 11/16" is the dimension you'll need to know for measurements A and B as defined in Fig. 7 on page 32. 6" is the dimension needed for measurement C.

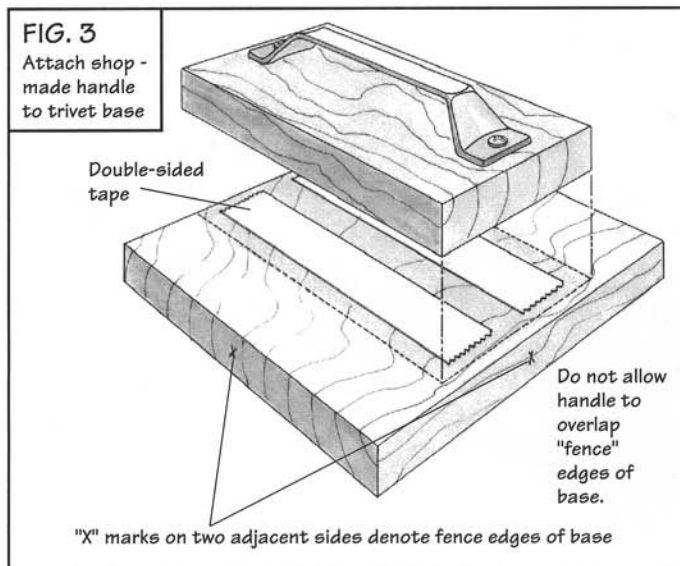
5 The tip on page 33 describes a shop-made handle that you should prepare and attach to the back side of the 6" x 6" trivet base (A). You'll need to make two such handles if you want to cut both trivet bases with a single setup. Mark two adjacent sides of the trivet base with an "X". These marked sides of the base will be placed against the fence during the various cuts, so it is important that the handles'

placement does not interfere with this contact. See Fig. 3.

Each of the steps to follow use the same method of cutting. Install the bit and set the depth of cut as described. Turn on the router and, with the marked "fence" edge of the stock against the fence and the back end of the stock against the infeed stop, lower the board onto the spinning bit, then move the board forward to contact the outfeed stop, Fig. 4. Do not force the stock into the outfeed stop. When the cut is complete, slide the stock back to the infeed stop and, using the attached handle, carefully lift the front end of the board off the bit. Move your INCRA JIG to the next template position and repeat the process.

FIG. 3

Attach shop-made handle to trivet base



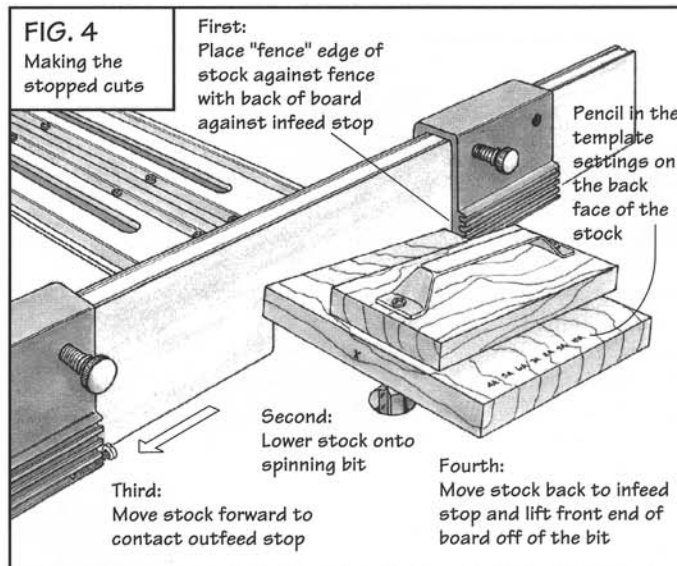
Double-sided tape

Do not allow handle to overlap "fence" edges of base.

"X" marks on two adjacent sides denote fence edges of base

FIG. 4

Making the stopped cuts



First: Place "fence" edge of stock against fence with back of board against infeed stop

Pencil in the template settings on the back face of the stock

Second: Lower stock onto spinning bit

Third: Move stock forward to contact outfeed stop

Fourth: Move stock back to infeed stop and lift front end of board off of the bit

Important: To avoid unnecessary splintering, always make the series of cuts in each step across the grain first. To do this, the end grain of the stock should be against the fence. After the cross-grain cuts, repeat the series of cuts with the grain.

6 Lower the depth of cut to $\frac{1}{16}$ ". Make cuts at template locations 4A, 5A, 6A, 7A, 8A, 9A, and 10A across the grain first, then repeat the cuts with the grain. Remember to place only the marked "fence" edges of the stock against the fence for each of the cuts.

TIP To help in remembering the various INCRA JIG template settings, pencil them in on the back of the stock you are cutting as shown in Fig. 4.

7 Remove the $\frac{1}{2}$ " straight bit and install a $\frac{3}{8}$ " straight bit. Set the depth of cut to $\frac{1}{8}$ ". Make cuts at template locations 4A, 5A, 6A, 7A, 8A, 9A, and 10A. Make the cross grain cuts first, then repeat the cuts with the grain.

8 Remove the $\frac{3}{8}$ " straight bit and install a $\frac{1}{4}$ " straight bit. Set the depth of cut to $\frac{3}{16}$ ". Make cuts at template locations 4A, 5A, 6A, 7A, 8A, 9A, and 10A. Make the cross grain cuts first, then repeat the cuts with the grain.

9 Remove the $\frac{1}{4}$ " straight bit and install a $\frac{1}{8}$ " straight bit. Set the depth of cut to $\frac{1}{4}$ ". Make cuts at template locations 4A, 5A, 6A, 7A, 8A, 9A, and 10A. Again, make the cross grain cuts first, then repeat the cuts with the grain.

Well, you've finished the cuts to produce the pyramid-shaped motif. You can rout the pattern on both faces of the base blank if you like, but remember, if you attach the rubber bumpers (feet) shown in the exploded view, the bottom of the trivet will seldom see the light of day. After you've made a few of these, you'll realize that you can precisely reproduce this intricate pattern without ever looking at the face of the stock you are cutting. If you experience any fraying of the wood fibers where the bit penetrates the bottom of the previous cut, it can be "shaved" off using an X-acto® knife.

Design Tip

The technique you've just used can be manipulated to produce some interesting results. For example:

Repeat the steps using cuts 5A, 6A, 7A, 8A, and 9A (see photo)

Repeat the steps using cuts 4A, 6A, 7A, 8A, and 10A (one of my favorites)

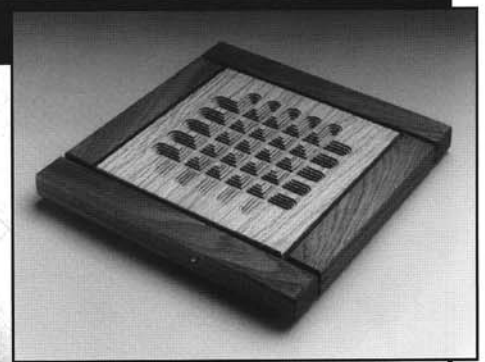
Repeat the steps using cuts 5A, 6A, 8A, and 9A

Try some different bit profiles: a core box bit, plunge ogee, or V-groove bit, to name a few

Experiment with different cut spacing using the fixed increment templates included with the Master Template Library

Experiment with different INCRA Stop positions

Glue a contrasting sheet veneer to the face of your base blank stock before trimming to the final 6" x 6" size.



The Frame

The trivet's frame has several design features worth pointing out. First, the frame's design allows for expansion and contraction of the trivet base panel you've just made. The gaps between the trivet base and frame (see photo above) give the effect of a floating interior panel and the dark shadows created by this gap serve to further highlight the panel. Last, but not least, the frame design is simple, both visually, so as not to steal the show, and mechanically, since it does not require the elusive 45° miter cut.

10 At the table saw, rip the two $\frac{1}{8}$ " strips off of the outside of the walnut stock using the method described on pages 41-42. Crosscut the resulting strips into four pieces (D), each 8 $\frac{1}{4}$ " long. You'll only need two of these

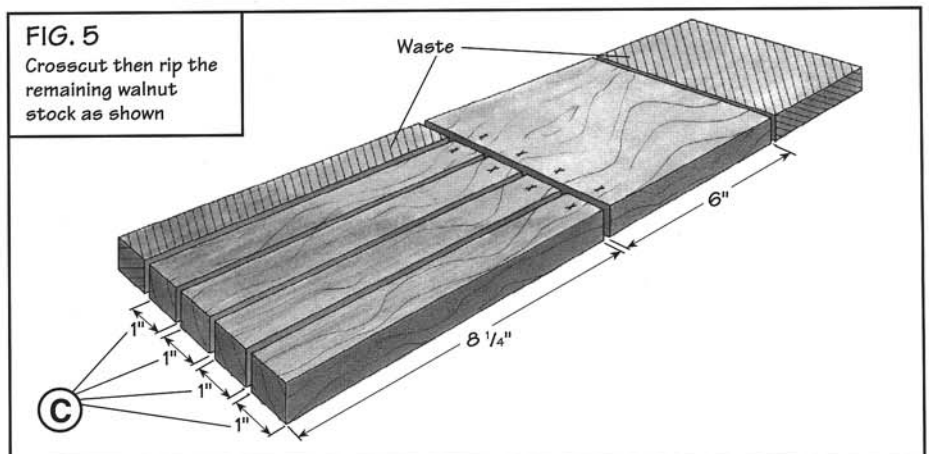
splines for each trivet. Retain the short cutoff pieces for use as a spacer in Step 18.

11 Crosscut the remaining walnut stock to two pieces, one 6" long and the other 8 $\frac{1}{4}$ " long. Rip the 8 $\frac{1}{4}$ " long piece into four pieces (C), each 1" wide. Do not rip the 6" long piece at this time, Fig. 5.

12 Place "X" marks on one face of all of the pieces cut in Step 11. See Fig. 5. Place (4) Xs on the 6" long piece in anticipation of the (4) strips to be ripped from it later on. This marked face will be placed against the fence during the cuts to follow. The marked face will also be placed face up during assembly.

FIG. 5

Crosscut then rip the remaining walnut stock as shown



13 At the table saw, set the depth of cut to $\frac{5}{16}$ ". Set the fence to blade distance at $\frac{5}{16}$ ". With the routed face of the trivet base against the fence, cut a groove across the grain on both ends of the trivet, Fig. 6. Repeat this grooving operation on both ends of the 6" long piece of walnut, placing the marked face against the fence.

14 With the marked face of the 1" wide strips (C) against the fence, cut a groove with the grain on one edge of each strip, Fig. 7.

15 Rip the 6" long piece of walnut into four pieces (B), each 1" wide, see Fig 8.

16 Finish sand the trivet base (A) and the frame members (B) and (C). Don't sand the face with the "X" marks yet.

17 Glue the splines (D) into the grooves cut in the 1" x $8\frac{1}{4}$ " frame pieces (C).

18 Using the scrap $\frac{1}{8}$ " pieces retained from Step 10 as spacers, rubber band the 6" long frame members in place to the trivet base as shown in Fig. 9. **Do not** glue the spacers in place; they will be removed later on. The "X" marked faces of the frame members should be face up.

19 Place glue in the middle 1" of the groove cut in the trivet base. Also place glue in the grooves cut on the ends of the shorter frame members, Fig. 9. Now press the splined frame members into place as shown. Again, make sure the marked sides are face up. When the glue has set, remove the two $\frac{1}{8}$ " spacers.

20 Finish sand the marked faces left unsanded earlier, then apply a non-toxic salad bowl finish. Use a small paint brush to get the finish into all of the nooks and crannies. Attach the four rubber bumpers to the underside of the trivet base.

FIG. 6
Cut grooves on both ends of trivet base and the 6" walnut piece

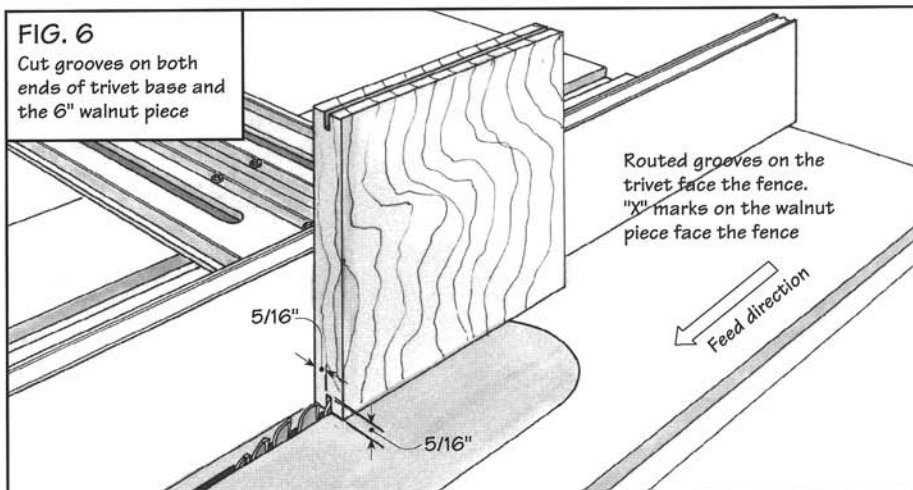


FIG. 7
Cut grooves on edge of 1" strips

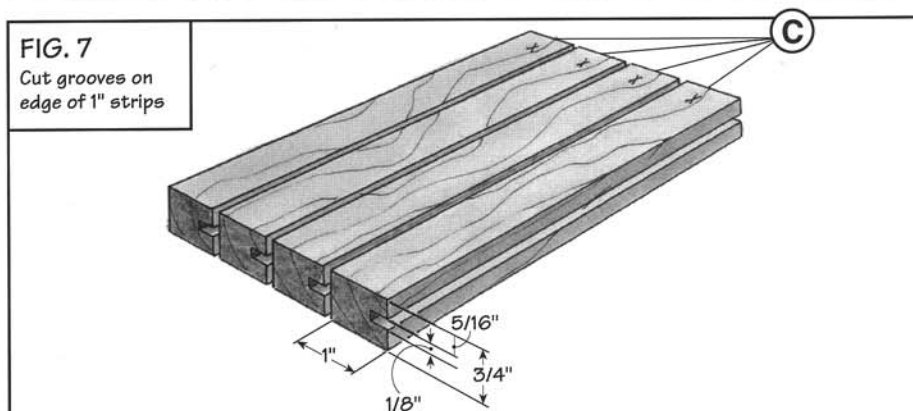


FIG. 8
Rip 6" long walnut piece into (4) 1" strips

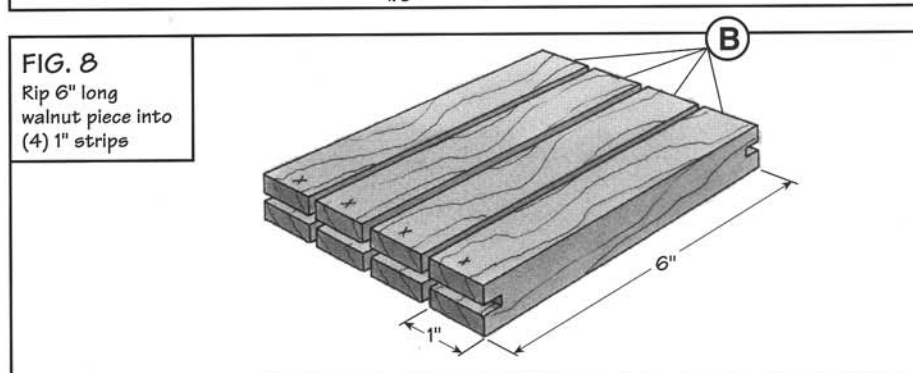


FIG. 9
Assembly

