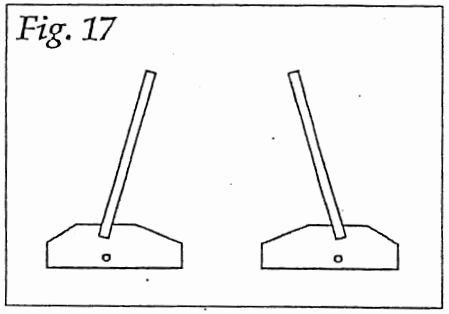
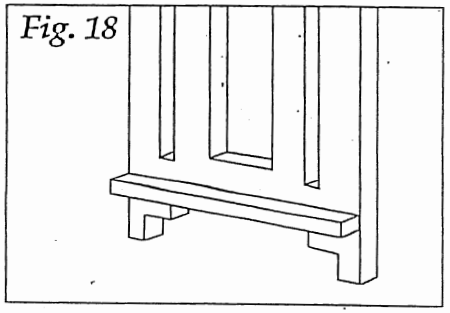
keel is properly positioned, tighten it into place.

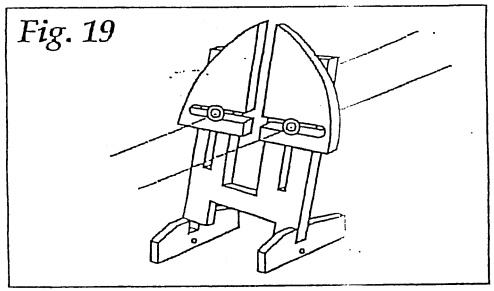
Do the same with the tailstock. When all is tightened, your false keel will be square and ready for its bulkheads. Use the sliding alignment head (also fully adjustable) to square each bulkhead as it is glued into place. When the bulkheads are finished, you can set the head and tailstocks along with the alignment head. aside, and use the baseboard as a keel clamper for further work on your ship model

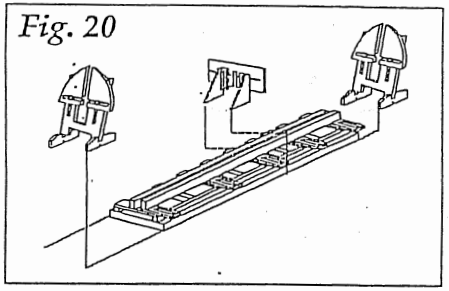
20) If you wish, you can use the small holes in the sides of the headstock to secure them to the baseboard. You can do this by simply running a small wood screw through the holes into the baseboard edge, being careful not to over-tighten the screws.

21) The notches on the sides of the headstock and tailstock jaws ran be used. to exert additional pressure on the false keel by looping rubber bands from one side to the other. This might prove helpful if the false keel is warped.









LIST OF PARTS

Part No.	Measurement & Material	Number Supplied
No. 1	1/2 x 4 x 24” Basswood Baseboard	1
No. 2	3/16 x 3/16 x 24” Basswood	3
No. 3	3/16 x 1 x 1-1/2” Laser Cut Support	4
No. 4	3/16 x 1 x 3” Laser Cut Slotted Side	7
No. 5	1/4 x 1/2 x 24” Basswood Rail	1
No. 5A	1/4 x 5/16 x 24” Basswood Rail	1
No. 6	3/16 x 1 x 1-1/2 Laser Cut Slotted Side	5
No. 7	3/16 x 3-1/2 x 8” Laser Cut Alignment Head	2
No. 8	3/16” Laser Cut Alignment Head Support	2
No. 9	3/16” “H” Shaped Laser Cut Head and Tailstock Heads	2
No. 10	3/16” Laser Cut Head and Tailstock Feet	4
No. 11	3/16” Laser Cut Jaws	11
No. 12	1” No. 8 Bolts	11
No. 13	3/8” Washers	22
No. 14	Wing Nuts	11

FAIR-A-FRAME®
Building Jig

By Model Shipways
a division of Model Expo

Assembly Instructions

1. Begin by drawing a center line the length of the baseboard (Part No. 1). This line should be 2" from either edge of the baseboard.

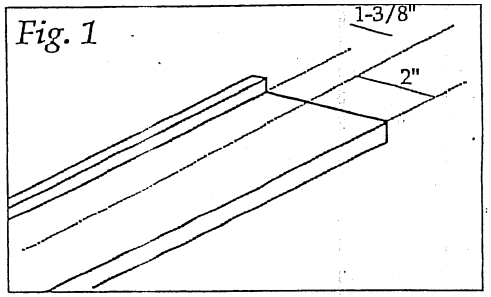
2. Next, draw two lines parallel to the center line 1-5/16" from the center line (figure 1). 1his will align the 3/16" square outside rails. Glue two 3/16" square x 24" rails (Part No. 2) to the baseboard using the lines you've drawn as a guide. The inside edge of each rail will sit on the line. Your rails must be parallel, 2-5/8" apart

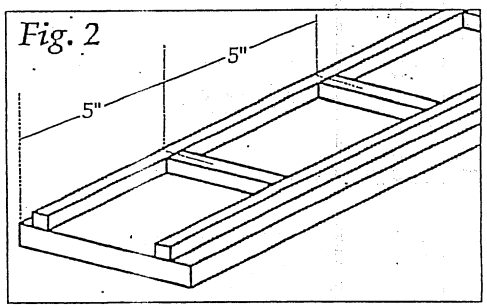
3. From another piece of 3/16" square stock, cut four 2-5/8" long pieces. Take the baseboard, and from one end· make a line on the support rail every 5" (figure 2). Repeat the marks on the other rail. At each set of marks, position one of the short 3/16" square pieces you've just cut, and glue into place. These cross-pieces must be square to the side rails and positioned every 5” on center (figure 3).

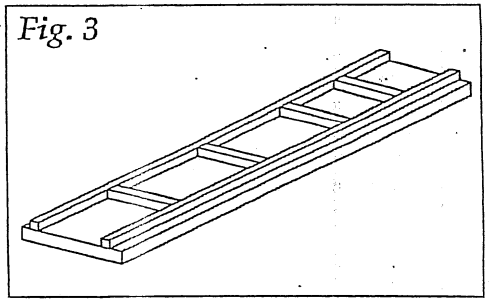
4. Next, locate the 1/8 x 1 x 1-1/2" supports (Part No. 3). There. are four of them in the kit. Refer to figure 4 and glue each of the supports into place on top of the 3/16" cross members. The supports should be flush with the outside edge of the side rail and squarely on top of the cross member. Glue all supports to the left hand rail only.

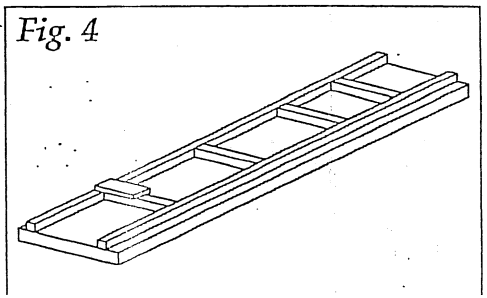
5. Locate the 1/8 x 1 x 3" slotted slide supports (Part No. 4). There are five of them in the kit. Take the baseboard, and as you did before, begin at one end of a side rail and mark a center reference line every 6" (figure 5). Repeat the process on the other rail. Next, mark a center line on each of the slides. Before gluing these slides in place, take 5 of. the 1” long bolts and five washers from the hardware bag. Slide a washer on each bolt and place each bolt through the slot on a slide – one bolt per slide.

6. With the bolt head down, glue the slides to the side rails, making sure that your









center marks are lined up. The. bolt heads should be resting on the baseboard, the threaded end protruding through the slot. Make sure that all the slots are on the right-hand side of the baseboard (fig. 6). When you're done, your baseboard should look like fig. 7 with the threaded end of a bolt sticking up through each slot.

7) Locate the 1/4 x 1/2 x 24" clamping rail (Part No. 5). You'll glue the inside edge of the rail to each of the cross members exactly 1-7/8" from the outside edge of the baseboard – make sure you measure from the edge of the baseboard and not from the edge of the rail. The narrow side (1/4") of the rail should be glued down. Make sure it is straight and square (fig. 8).

8) Take the 1/4 x 5/16 x 24" clamping rail (Part No. 5A). Beginning at one end, draw a centerline every 6" (see fig. 9). Take the small slides 1/8 x 1 x 1-1/2 (part 6) and draw a center line on each. Matchup the centerlines and glue them to the rail Make sure they are square and that the slots line up· exactly with the slotted pieces you've already glued onto the baseboard.

9) You should now have two separate assemblies as shown in fig. 10.

10) Place the clamping rail you just made on the baseboard, making sure that the screw heads come through each slot (fig. 11). The moveable rail should slide back and forth easily. If doesn't, sand out the slots a bit. When you're satisfied with the movement, put a washer on each bolt and finish it off with a wingnut. Your baseboard should now look just like fig. 12.

11) Next, find the two large basswood alignment heads (parts 7 & 7A). Glue them squarely together, damp, and set aside to dry (fig. 13).

12) Find the two triangular shaped basswood supports (part 8) and the two remaining slides. Glue the slides to the supports as shown in fig. 14. Then strengthen the joint by gluing a piece of 3/16" square basswood stock in place as shown.

Fig. 5

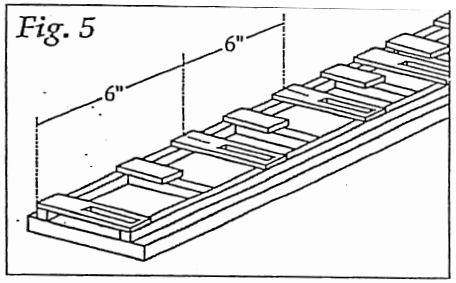


Fig. 6

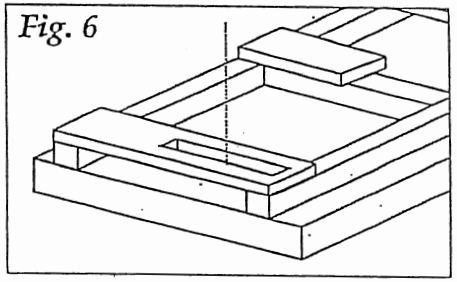


Fig. 7

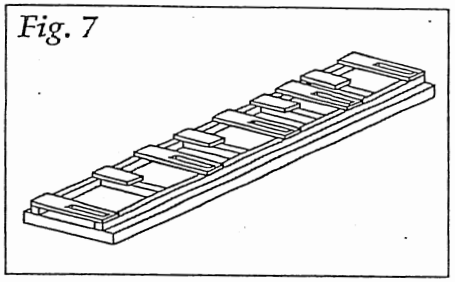


Fig. 8

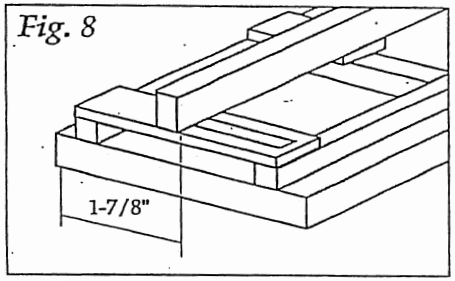


Fig. 9

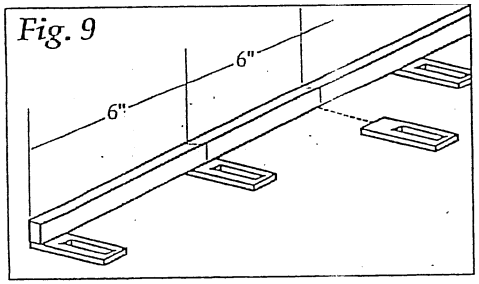
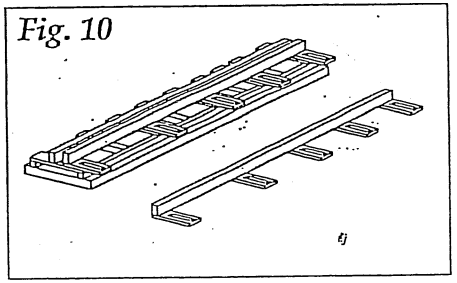


Fig. 10



Chamfer the exposed corner in order to clear the wing nut. Repeat the process for the other support.

13) When all is dry, assemble the alignment head as shown in fig. 15. Make sure that the heads of the bolts are on the side of the basswood with the bigger slot – this way the head of the bolt and the washer will be recessed. Finish the assembly with washers and wing nuts on the other side.

14) You now have two large 'H' shaped basswood pieces left in the kit (Part No. 9). Take them and the 4 basswood feet (Part No. 10) and glue them together as shown in fig. 16. Make sure that the toe and heel of the feet are square and exactly 4" apart so they can slide along the baseboard. Don't worry that they seem to be sitting on an angle – they're designed to face each other (fig. 17).

15) Glue a scrap piece of 3/16" square stock to the face of each support you just made (fig. 18) and glue laser cut rectangles marked 'R' to the outside of each leg. These are designed to stiffen the support, so it doesn't flex during clamping.

16) Next, take the 4 rounded basswood jaws (part 11) and using a bolt, two washers (one on each side) and a wing nut, secure them to the supports (fig. 19).

17) You should now have four assemblies as in fig. 20. The headstock and tailstock will sit at either end of the baseboard. They will be tilted toward each other. The alignment head will slide up and down the baseboard as needed.

18) To use the Fair-A-Frame, clamp your false keel to the baseboard using the damping rails...push the moveable rail toward the false keel until it's snug. Then tighten each of the wing nuts. Be careful not to over-tighten!

19) Set the headstock at one end and adjust the moveable jaws up, down or sideways to accommodate the front of the false keel. Once the

Fig. 11

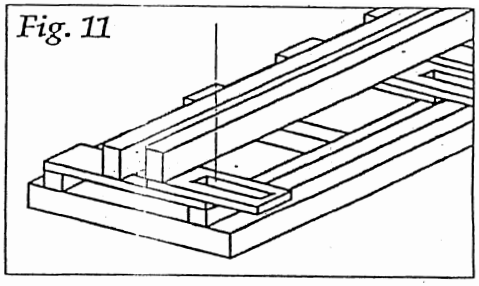


Fig. 12

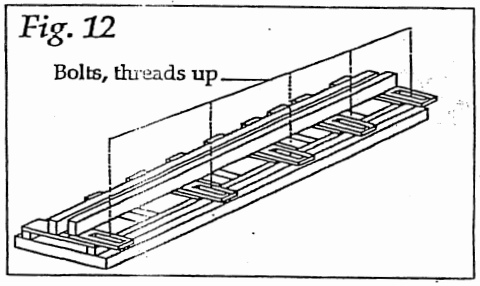


Fig. 13

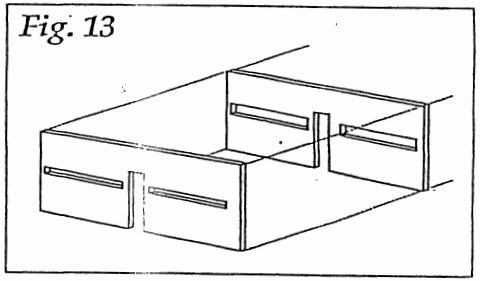


Fig. 14

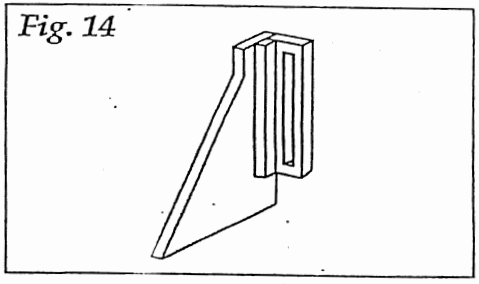


Fig. 15

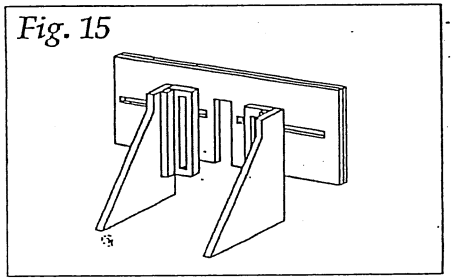


Fig. 16