Build a 1:22.5-scale drop-bottom hopper car

Plan set #27 reprise

by Ted Stinson | Wiscasset, Maine

This is a reprint of plan set #27, originally published in the February 1997 issue of Garden Railways.

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This is a generic, 1:22.5-scale, drop bottom hopper car. It has no specific prototype but resembles equipment found on narrow-gauge railroads. The model is 11⅝" long x 4" wide, which should allow it to fit in well with other large-scale equipment.

Construction

The model can be built from materials available in many hobby shops. As an alternative, the stripwood can be cut on a table saw.

Begin construction with the frame. This is made of stripwood cut to the sizes called out on the plan. Build the frame over the plan. Protect the plan with waxed paper. When assembled, drill holes for the truss rods, which are made of 1/16" dia. rod. Finally, add the nut and washer details, using short pieces of 1/16"-dia. rod to represent the truss rod ends.

Using stripwood, make up two of the hopper car sides. Drill 3/64"-dia. pilot holes for the escutcheon pins.

Now make up a pair of vertical braces and a pair of angled braces using 3/16" sq. stripwood. Again, drill pilot holes for the escutcheon pins. Cut two angled bottom pieces from ⅛" x 3½" x 4 1/16" plywood. Assemble the sides, the braces, and the bottom pieces onto the frame. Refer to the INTERIOR CROSS SECTION drawing. Now cut, fit, and glue a ½" triangular piece on the top of the ¼" x ¾" frame member.

Make up two hopper doors using ⅛" x 1⅛" x 3¼" plywood and 1/16"-dia. rod. Fit these in place on the bottom. Make up 4 "U" brackets to act as hinge points. Drill 3/64"-dia. pilot holes for the brackets. Fit the brackets and doors in place, making sure that they swing open freely. Set these aside for final assembly after painting.

Now finish detailing the car. The stake pockets and grab-iron ends should be cut from cardstock that has been sealed with cyanoacrylate glue first. If flat wire is not readily available, small pieces can be cut from soft aluminum or copper flashing.

After painting the body of the car and the hopper doors, assemble the car. The rod that runs across the middle of the car should not be glued in place since it must be removed to access the rubber bands that hold the doors closed. To finish your car properly, add lettering of your choice, then trucks (we suggest NENG #3A or Kadee #830) and couplers.

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This reprint is an online supplement to the June 2010 issue of *Garden Railways* magazine. To purchase previously published paper plans, see the list of those available at www.sidestreet.info

A kit for the drop-bottom hopper is available from Northeast Narrow Gauge for $60, less trucks and couplers, + $7 s&h (via priority mail to the US). Order from Northeast Narrow Gauge, PO Box 191, Wiscasset ME 04578. Web site: www.nemodel.com

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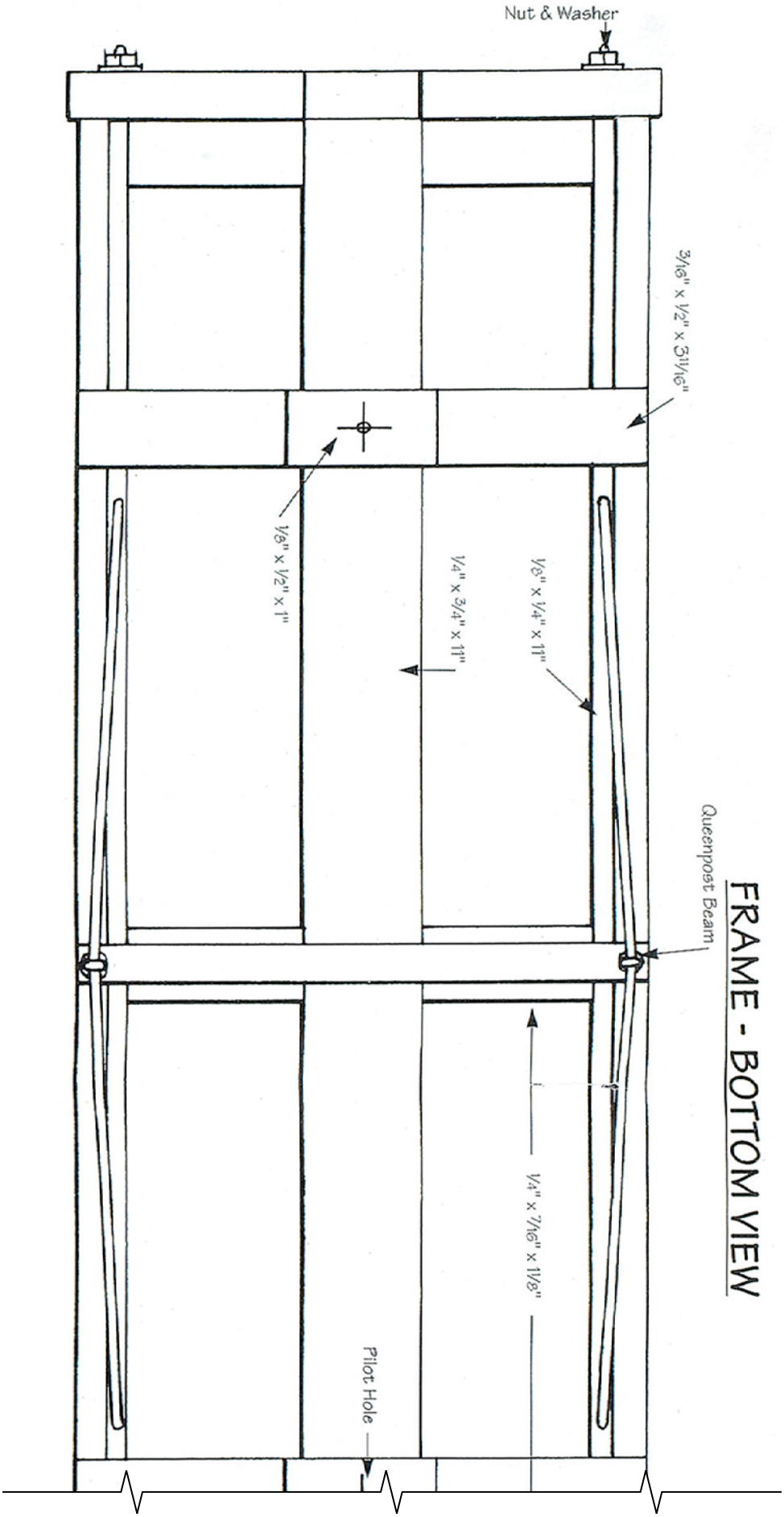
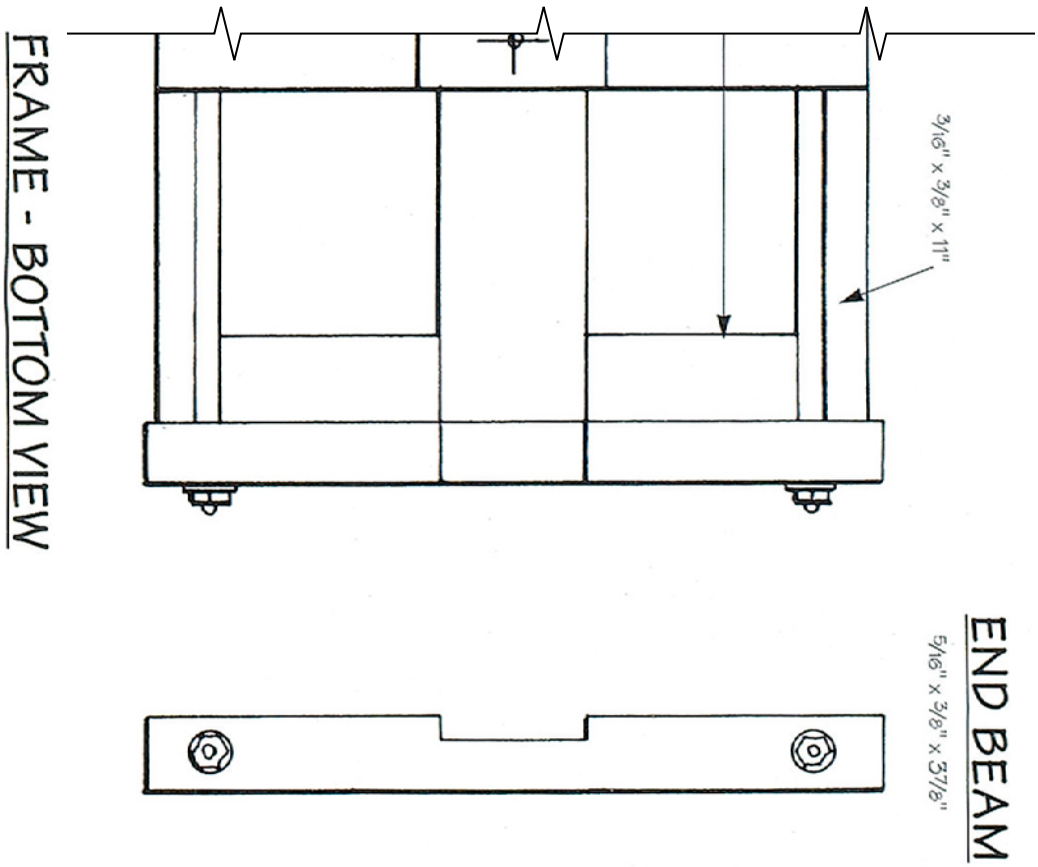
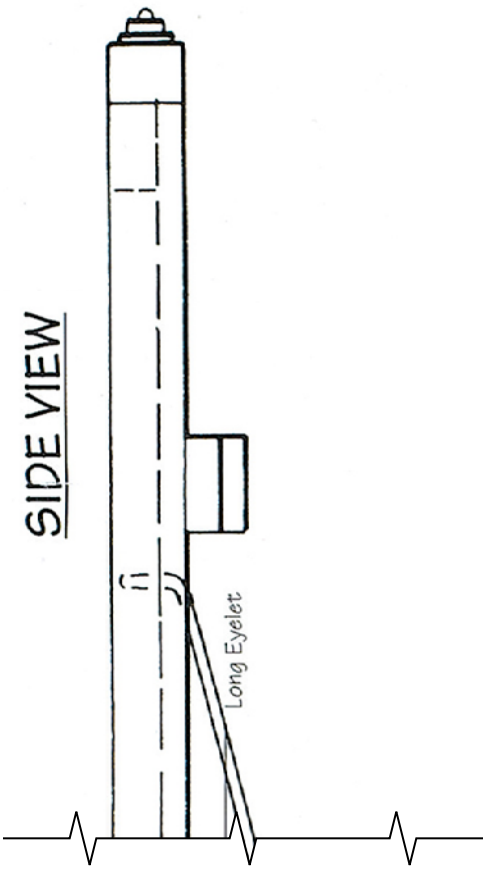
Are you working in a different scale?

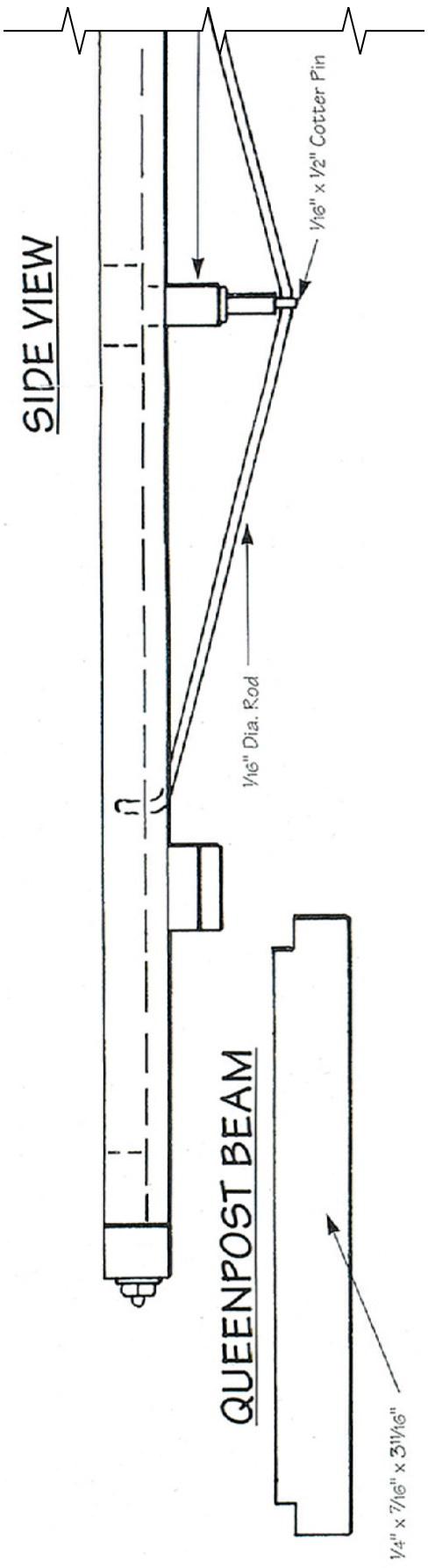
If you are working in 1:24 scale, reduce these drawings to 94%.
If you are working in 1:20.3 scale, enlarge these drawings to 111%.
If you are working in 16mm scale (1:19), enlarge these drawings to 118%.
If you are working in ⅞" scale (1:13.7) enlarge these drawings to 164%.

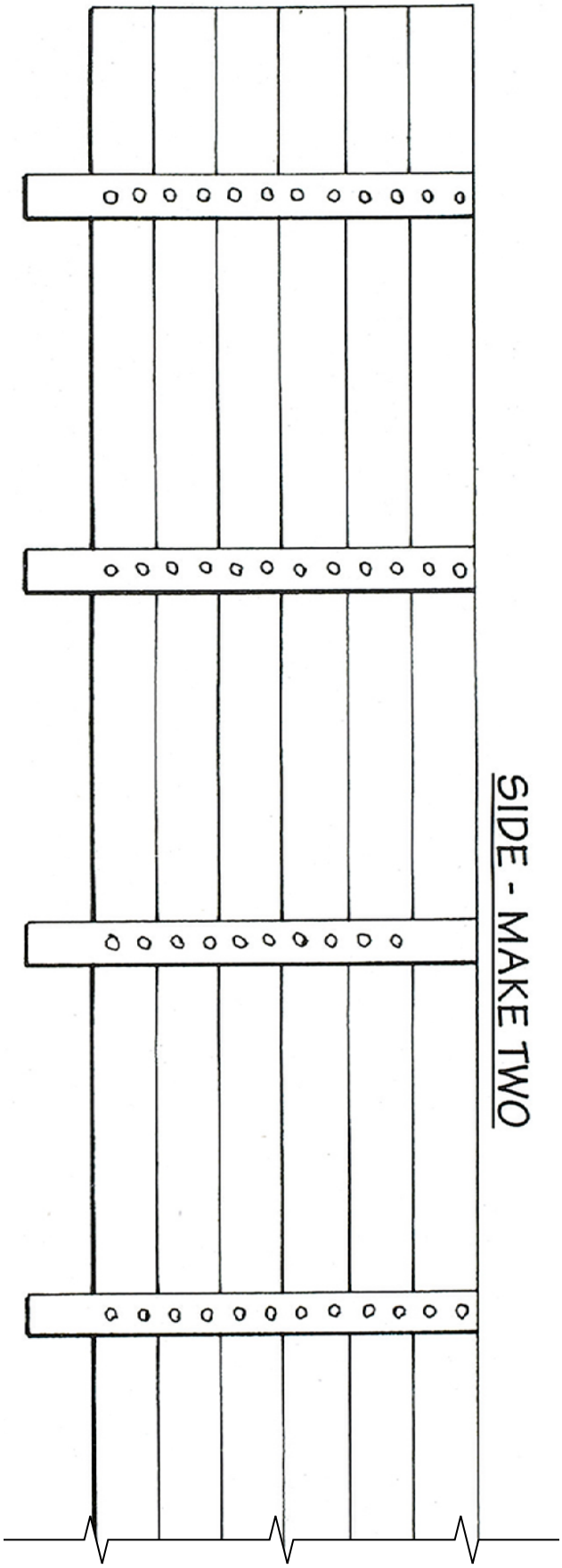


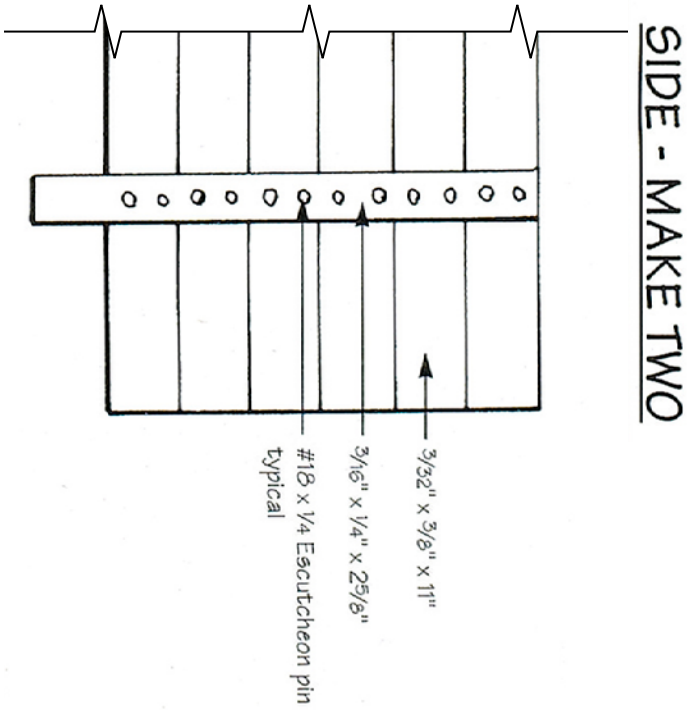
FRAME - BOTTOM VIEW

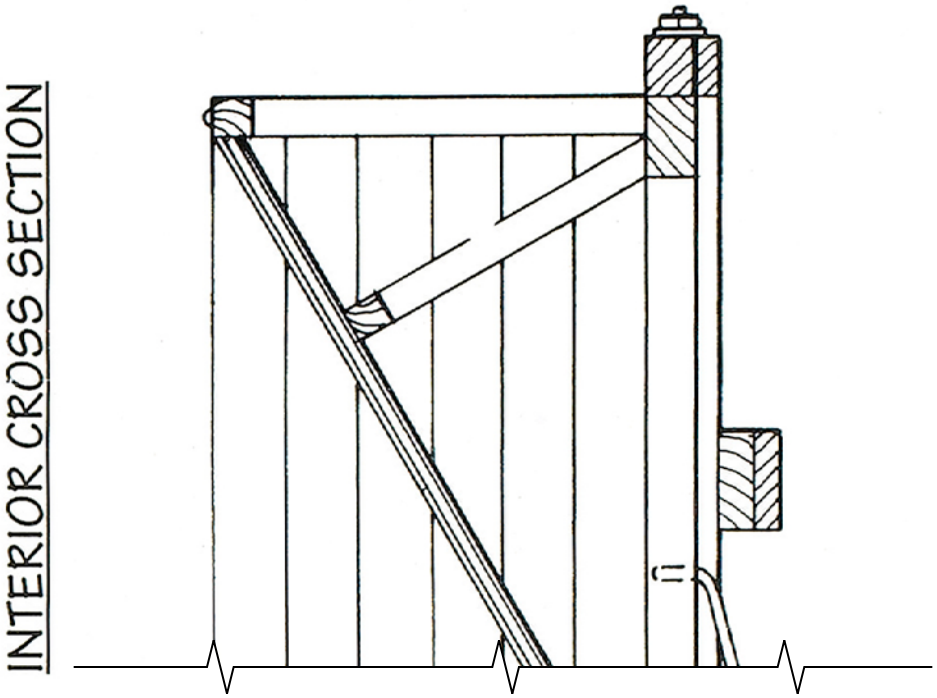


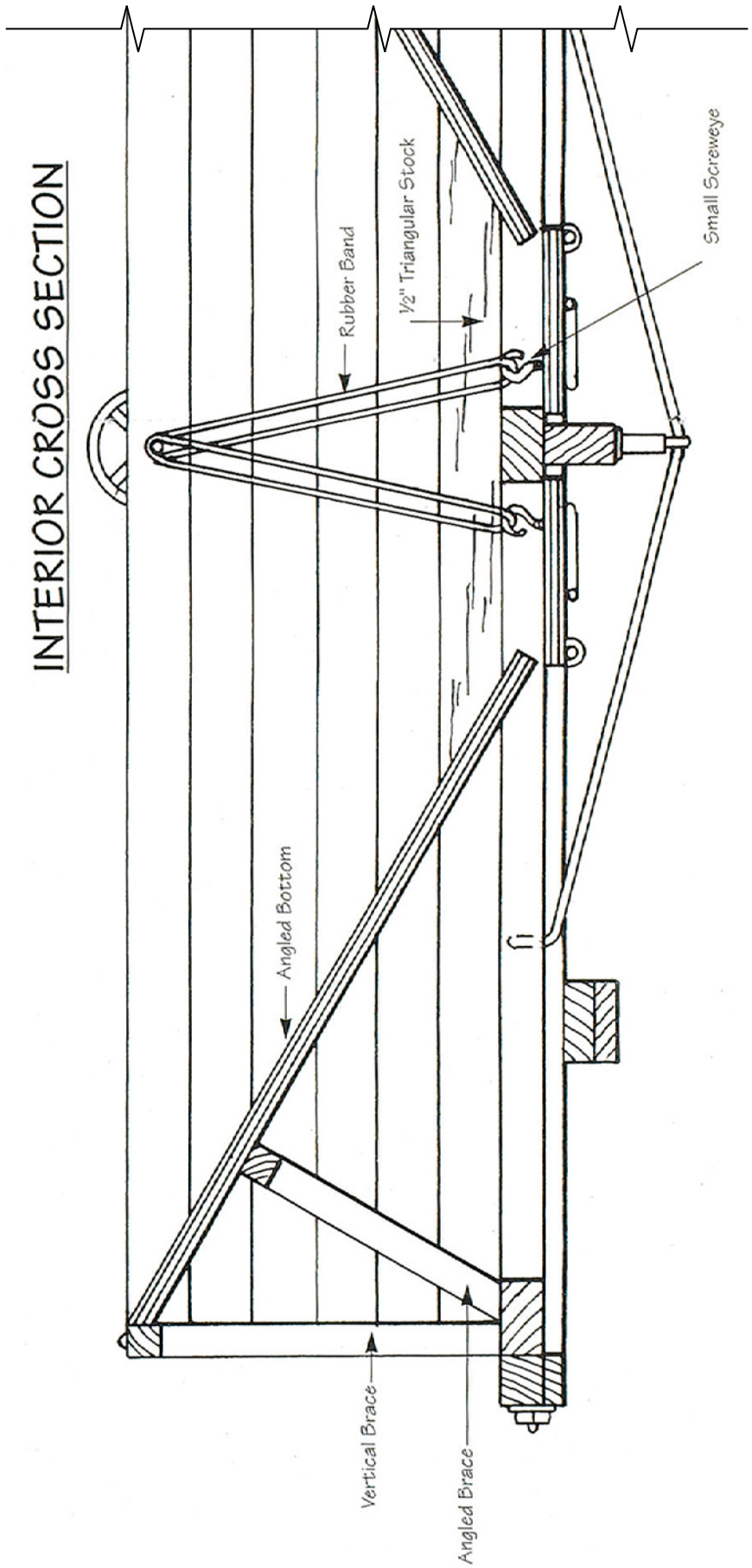




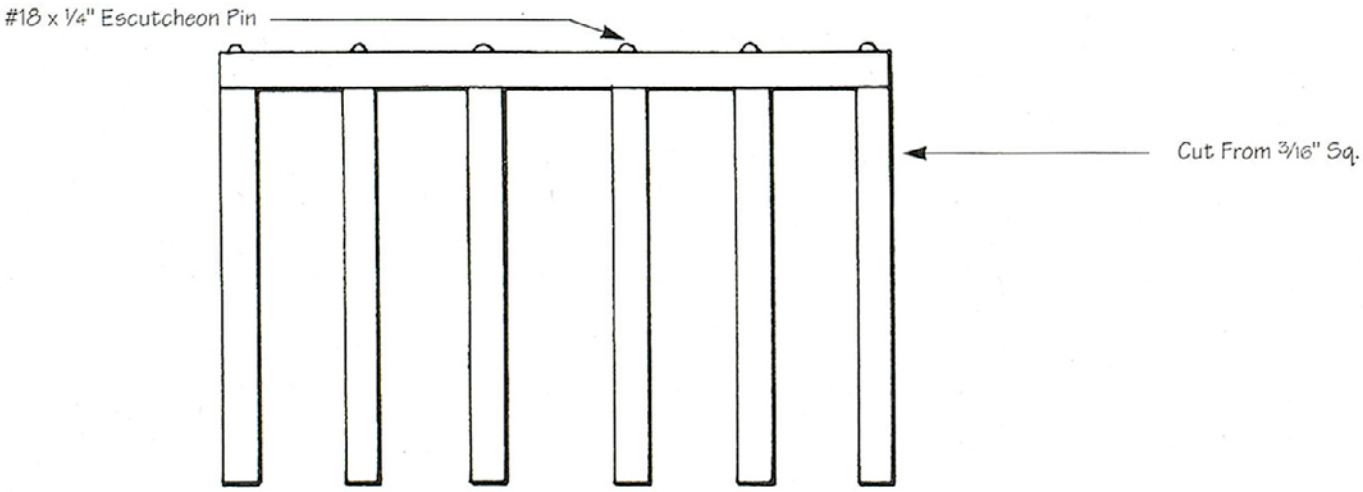








VERTICAL BRACE



ANGLED BRACE