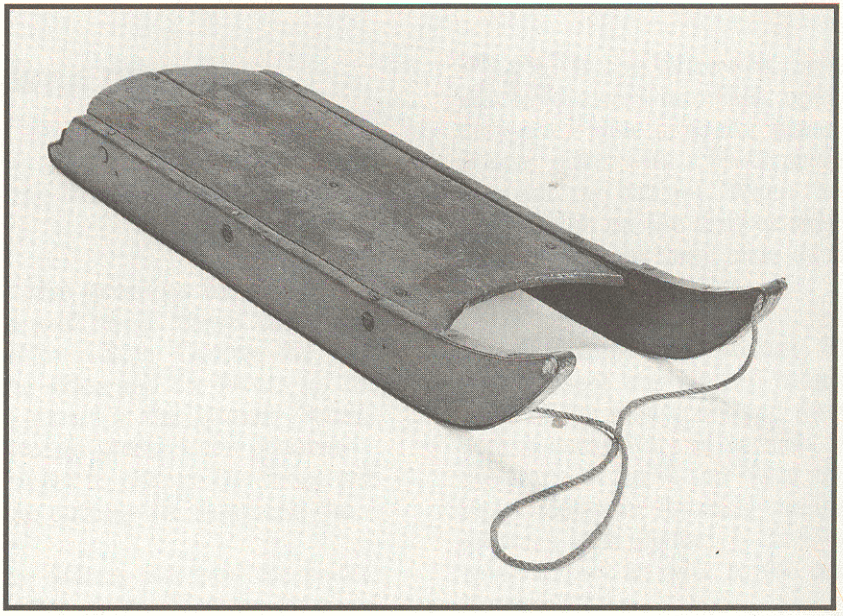
COUNTRY SLED

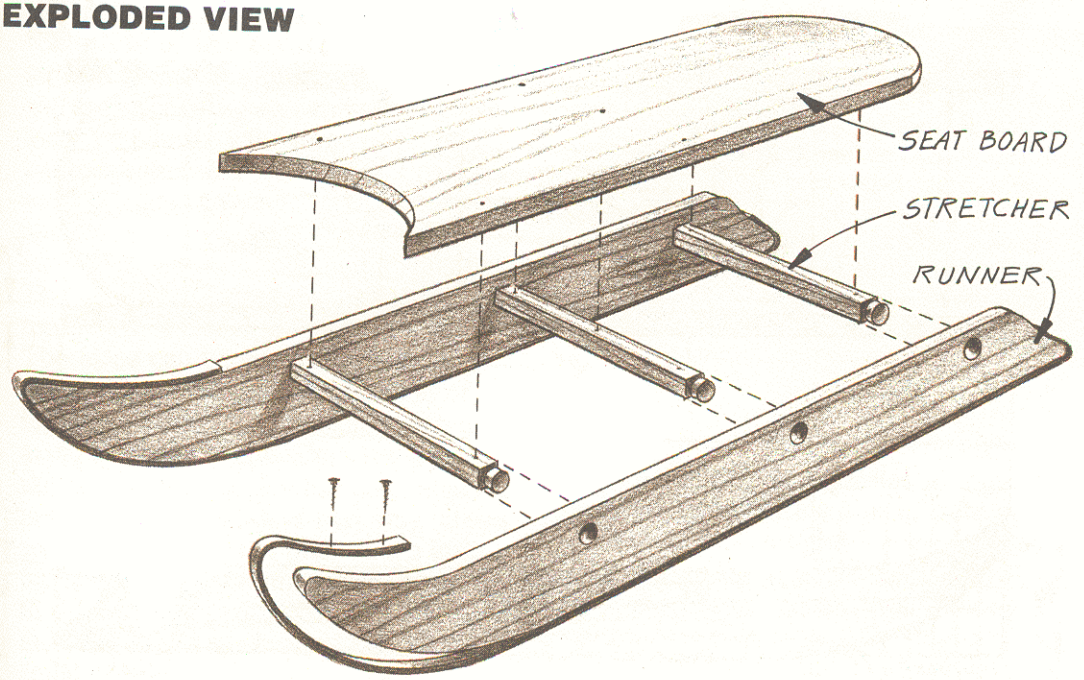
This sled is a gem. It could easily fit right into a Currier and Ives print or Norman Rockwell painting. It could just as easily fit right into a den, large mudroom, or recreation room as a purely decorative item. But most easily of all, it could race down a snow-covered hill with a couple of screaming kids on board. The cheerful red paint of the original is well worn and the sled shows other signs of hard use, yet it's still serviceable—a testament to its design.

The sled should be made from strong, straight-grained, knot-free wood but not a wood that is too heavy. You want the sled to be light enough that the kids can pull it back up the hill by themselves. The original is pine. Poplar and basswood are also good choices. The runners have bands of steel that reinforce the front ends and eliminate wear on the bottom edges.

1 Select the stock and cut the parts. The runners and stretchers are ⅞ inch thick, finished dimension. The seat board is ½ inch thick. Have your supplier plane stock to these thicknesses if you don't have your own planer. Saw the parts to the dimensions specified by the Cutting List. If necessary, edge-glue narrower boards to get the required width of the seat board. (For more information on edge-gluing see page 6.) The stretchers have round



EXPLODED VIEW

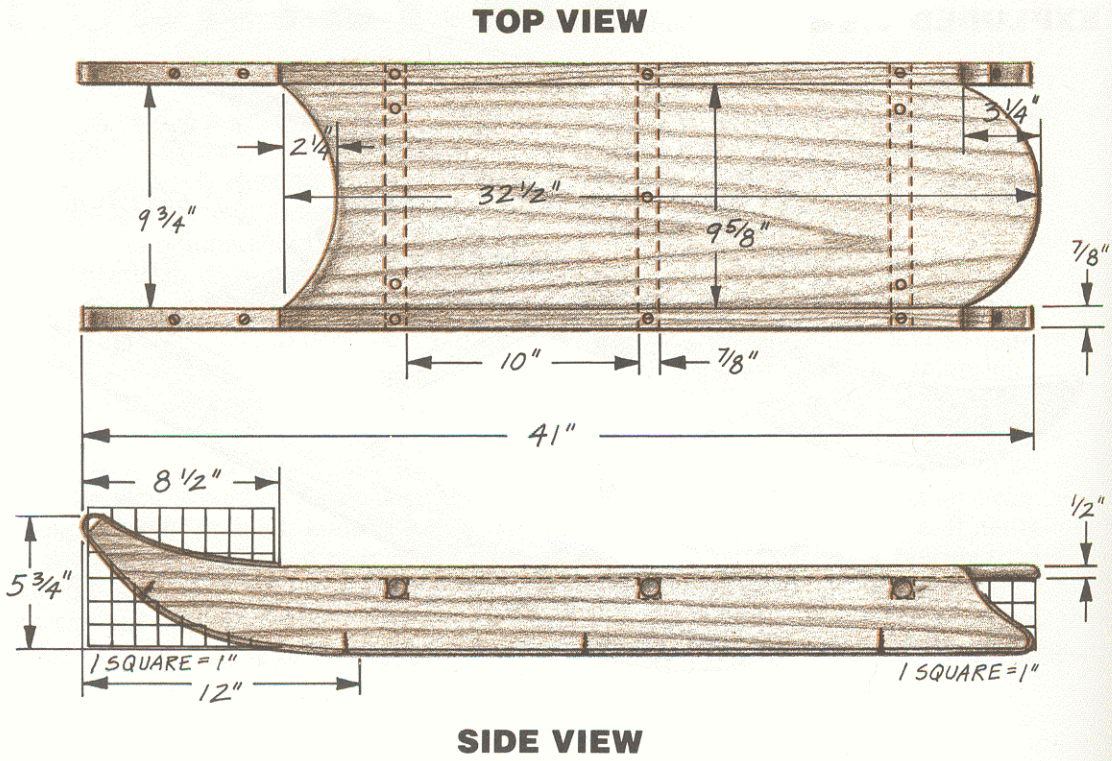


CUTTING LIST

Part	Dimensions
Runners (2)	7/8″ × 6″ × 41″
Stretchers (3)	7/8″ × 7/8″ × 11½″
Seat board	½″ × 9⅝″ × 32½″

Hardware

2 metal bands, 3/32″ × 7/8″ × 55½″
6 flathead wood screws, #10 × 1¾″ *or* 6 dowels, 3/16″ dia. × 2″
Five 5d common nails with 3/8-inch O.D. washers, *or* 5 roundhead machine screws, 10-32 × 1½″, with washers
14 flathead wood screws, #8 × 1″
Pull rope to suit user



tenons on both ends. If you intend to turn these on a lathe, leave the blanks longer so you can cut off the marks left by the head and tailstock.

2 Saw out the sled runners. Lay out the shape of the runner as shown in the *Side View* on one of the runner blanks. At the front of the runner, lay out the full, rounded tip; don't cut it off square to provide a rope hole yet. Saw out the profile with a coping saw, jigsaw, or band saw. If you're using a band saw, cut out both runners together, as one, by taping the two blanks together. If you're sawing them out separately, trace the first one onto the second blank, then saw out the second one. Remove the saw marks with a plane, spokeshave, and rasp.

3 Bore stretcher tenon holes in the runners. Lay out the ⅞-inch-diameter holes in the runners shown in the *Side View.* Back up the runners with scrap where the drill bit will exit and drill the holes completely through the runners. You can clamp the runners together and drill both at the same time if you prefer.

4 Make the round tenons on the ends of the stretchers. The stretcher tenons on the original sled were whittled by hand and are not perfect. To whittle your own, begin by laying out ⅞-inch-diameter circles on the ends of each stretcher. Scribe the tenon shoulders ⅞ inch from the stretcher ends with a layout knife and a square. The shoulders can be cut with a fine-tooth saw, a chisel, or a utility knife. The sides can be cut with a knife or chisel. Use whatever combination of tools you're most comfortable with but avoid cutting the shoulders too deep or the tenons too small. One good approach is to saw the shoulders part way, chisel away waste from the end, saw a little further, chisel away more, and so on until the tenon is uniformly ⅞ inch in diameter and fits the holes in the runners snugly. If you have a lathe, you can turn the stretcher tenons quite easily. Either way you make the tenons, check the fit regularly in the drilled stretcher holes.

SHOP TIP: If you are turning round tenons on the lathe to fit in a drilled hole, drill a sample hole in a scrap of thin plywood and slip it over the center on the head and/or tailstock of the lathe. When the tenon approaches the desired diameter, turn the lathe off and try the sample hole on the tenon. Turn until you get just the fit you want, all the way up the tenon.

5 Fit the metal bands onto the runners. If you've never before worked with metal, it may be tempting simply to take the runners to your blacksmith the next time your horse needs shoeing. Don't; doing it yourself is not difficult. Mild steel such as you can buy at a good hardware store is easy to work.

Clamp the metal band to the straight bottom surface of the runner. Hold the runner in a vise and bend the band along the bottom edge of the front end of the runner. You can bend it easily with your hands. Continue around the tip. If you have trouble at the tip, tap it with a hard rubber mallet. Another useful trick for getting a nice, tight fit is to first bend it as tightly as you can around the tip of the runner, then remove the band from the runner and hammer it around a pipe of slightly smaller radius than the runner tip. Continue bending the strip into the inside curve on the top of the runner.

Repeat the process on the back end of the runner, then bend the second strip to fit the other runner. Set the bands aside for now.

6 Glue the stretcher tenons into the runner holes. Sand the runners and stretchers. Glue and clamp the stretcher tenons into the drilled holes in the runners. Check with your square to make certain the stretchers are perpendicular to the runners.

The tenons on the original sled are fastened with screws from the top edge of the runners. You can use 1¾-inch #10 wood screws or pin the tenons with 3/16-inch-diameter dowels. If you use screws, drill pilot and shank holes for them and countersink them well. If you

use dowels, cut the dowels 2 inches long, glue them into 1¾-inch-deep holes, then trim them flush with the top edge of the runners.

7 Cut the seat board to shape. Lay out the curves on the front and back edges of the seat board as shown in the *Top View.* If your sled will see real use, eliminate the sharp corners at the front by reversing the curve in the last ½ inch at each side. Saw the seat ends with a coping saw and smooth the edges.

Round-over both top and bottom edges of the front curve, and the top edge of the back curve with a ¼-inch-radius piloted roundover bit in your router.

8 Install the seat board on the stretchers. The original seat board is fastened to the stretchers with nails that are clinched on the underside of the stretchers. Washers, ⅜-inch outside-diameter (O.D.), under the nail heads distribute the stresses. The washers are recessed so the nail heads are flush with the surface of the seat board. If you copy this construction, predrill all the nail holes and fasten the seat board with 5d common nails, clinched below the stretchers. A good alternative is 1½-inch, 10-32 roundhead machine screws with washers under the heads (use brass for class). Again, counterbore so the screw heads don't project above the surface.

Clamp the seat board in position on the stretchers. There should be 1/16-inch clearance between the seat and the runners on each side. Lay out the fastener locations as shown in the *Top View,* then counterbore and drill shank holes as appropriate. Sand the seat board, then bolt or nail it in place.

9 Attach the metal bands to the runners. Saw off just enough of the front tip of each runner to thread a rope behind the metal band (see the *Side View.*) Fit the prebent bands to the runners and clamp them in place. Mark the screw locations shown in the *Top View* and *Side View* with a center punch. Drill 1-inch-deep pilot holes for #8 screws through the bands and into the runners. Countersink the holes so the screw heads will be flush or very slightly below the surface of the bands. Enlarge the top ¼ inch or less of the pilot holes to shank diameter, then screw the bands in place.

10 Complete the country sled. The final step is the finish. The original has bright red paint. Use an exterior trim paint, or milk paint with an overcoat of polyurethane. See page 100 for more information on milk paint.

When the finish is thoroughly dry, tie a stout pulling rope to the loops formed by the bands at the tips of the runners. If you want the sled to show signs of hard usage, give it to a bunch of kids after the next snowstorm.