



\$300 pool table for \$107

By JOHN CAPOTOSTO
Technical art by Fred L. Wolff

A POOL TABLE is an expensive item to buy, but if you are good at making things, you can save almost \$200 by building this beauty. I spent about \$107 to build it, and that includes everything—even balls and cues. Such hard-to-get items as billiard cloth, cushion rubber and foam padding come in a kit (a source for which is given at the end of the article).

The table features a sturdy pedestal base, plastic-laminated aprons, drop pockets which simplify the construction, and padded rails—an extra usually found only on the more expensive tables.

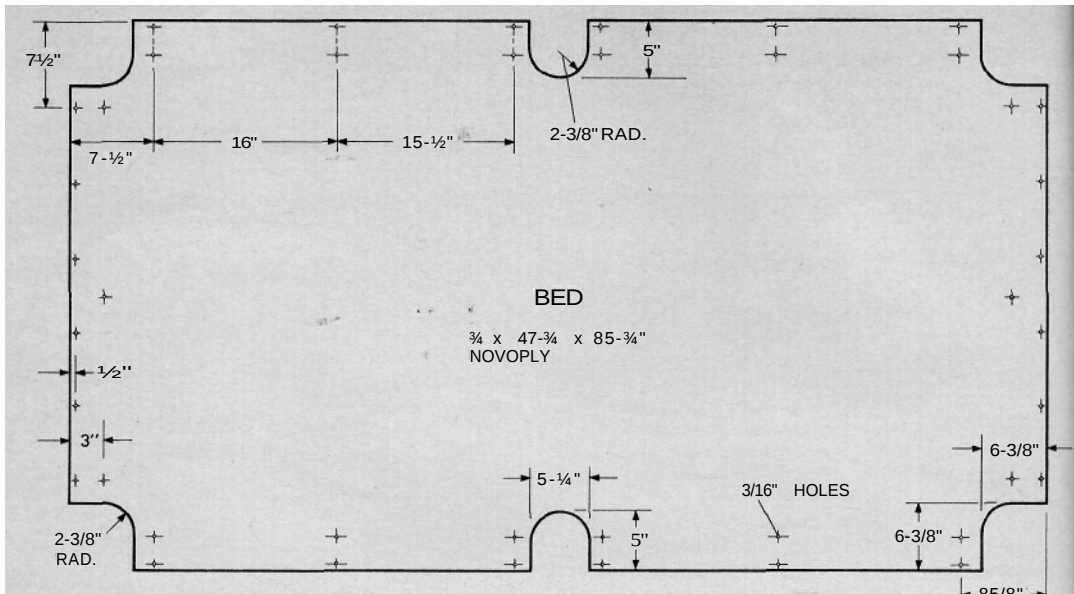
The table is standard size ($3\frac{1}{2} \times 7$ ft.) and uses $2\frac{1}{4}$ -in. balls.

• Base. All materials used in the table

are readily available. Except where noted, $\frac{3}{4}$ -in. plywood is used. Even the pedestal legs and base are made of plywood, using box-type construction which adds much to rigidity and sturdiness. Leg uprights are rabbeted to minimize edge grain, and base sections are butt-joined.

To insure accuracy and to simplify assembly, the uprights should be temporarily mounted to the pedestal *before* the scallop at the bottom of the pedestal is cut. Mount the uprights individually before they are "boxed." You will note in the material list that extra length has been allowed for this reason.

Miter the uprights at 76° top and bottom, then at the center of the pedestal



mark two lines 8.938 " apart. Align the uprights on these marks, keeping the bottom even with the bottom edge of the pedestal. Tack the pieces in place with $1\frac{1}{4}$ -in. brads, then drill pilot holes for the screws. Use four screws in each upright. Once located, you can remove the uprights and cut the scallop in the pedestal to match the scallop. Uprights now may be permanently glued. The leg filler pieces are rabbeted, leaving $.125$ " of stock as indicated. These are glued just short of the top and extend slightly into the base.

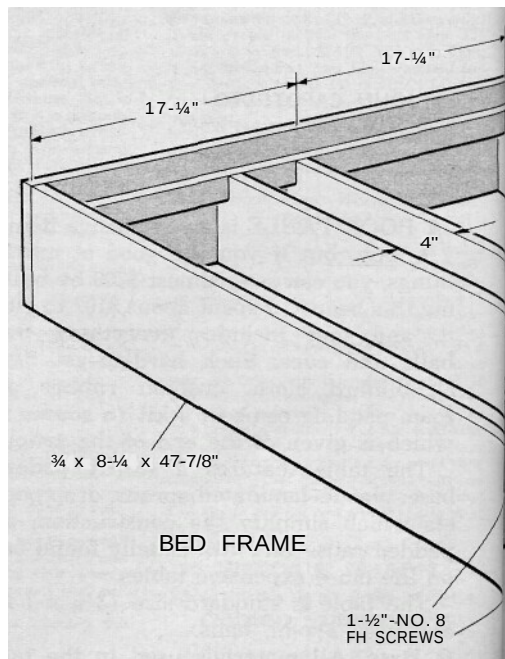
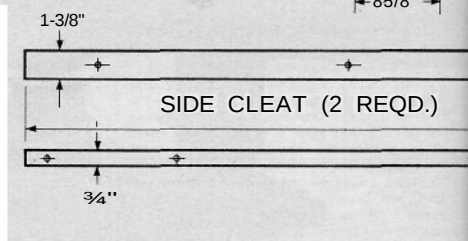
Note: When gluing edge-grain stock, glue-size the edges. Apply thinned glue (thin with water if white glue) to edges and allow to dry before regular application of glue. This seals the edge, preventing excessive absorption of glue which would cause a weak joint.

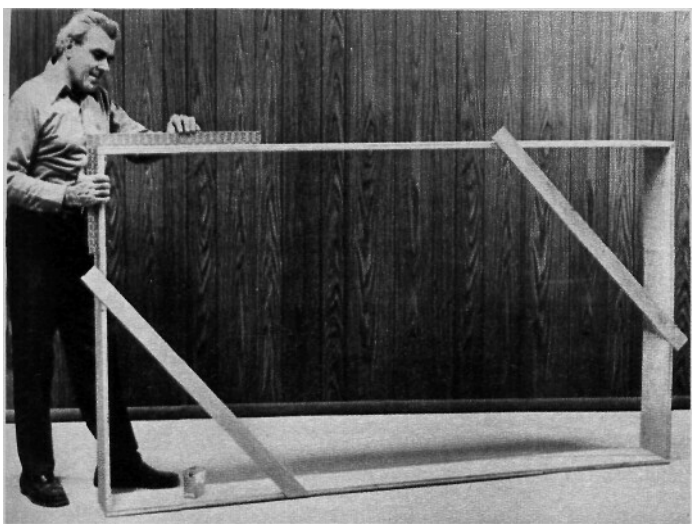
Before installing the base pads to the scallops, drill a $\frac{1}{2}$ -in. hole at the center of each and insert a T-nut. These are for the leveling jacks. The flange of the nut must be to the outside when the pad is mounted.

When the pedestals are completed, add two furring strips to the upper ends; these will help support the table and simplify mounting the pedestal later.

The stretcher can be made now and the two pedestals connected to it. Lagscrews are driven from the inside to join the

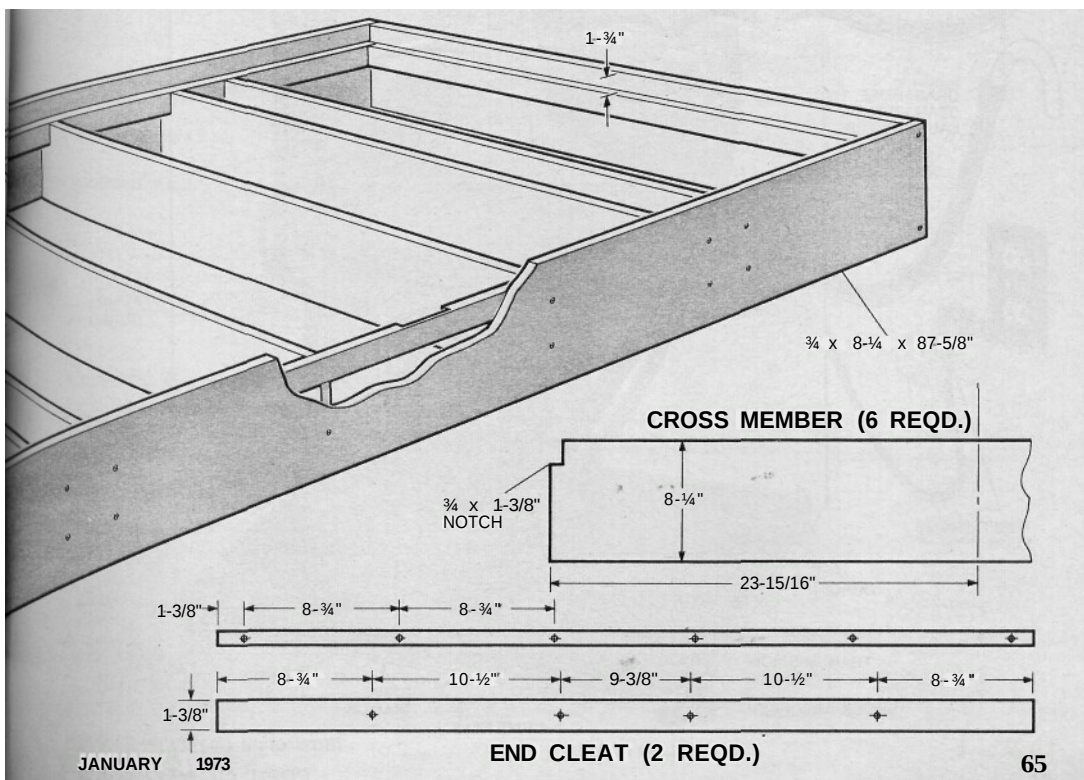
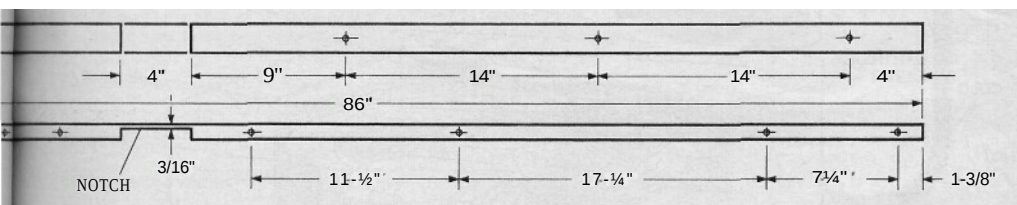
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APRON ASSEMBLY is squared up with temporary diagonal braces of scrap placed across two corners

SCREWDRIVER BIT in a variable-speed drill makes quick work of driving home the many screws needed

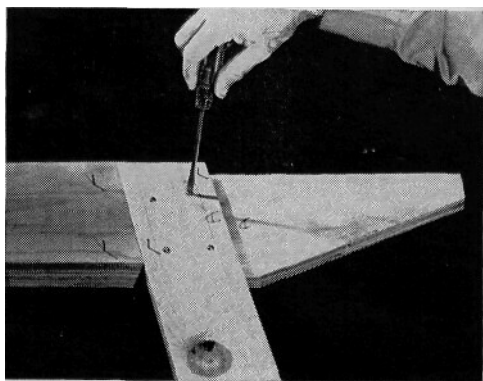
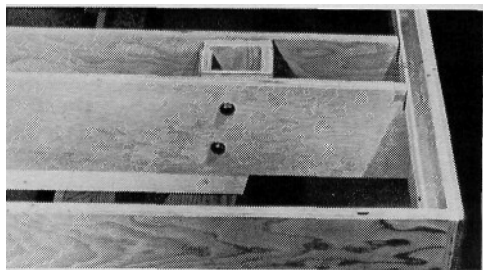


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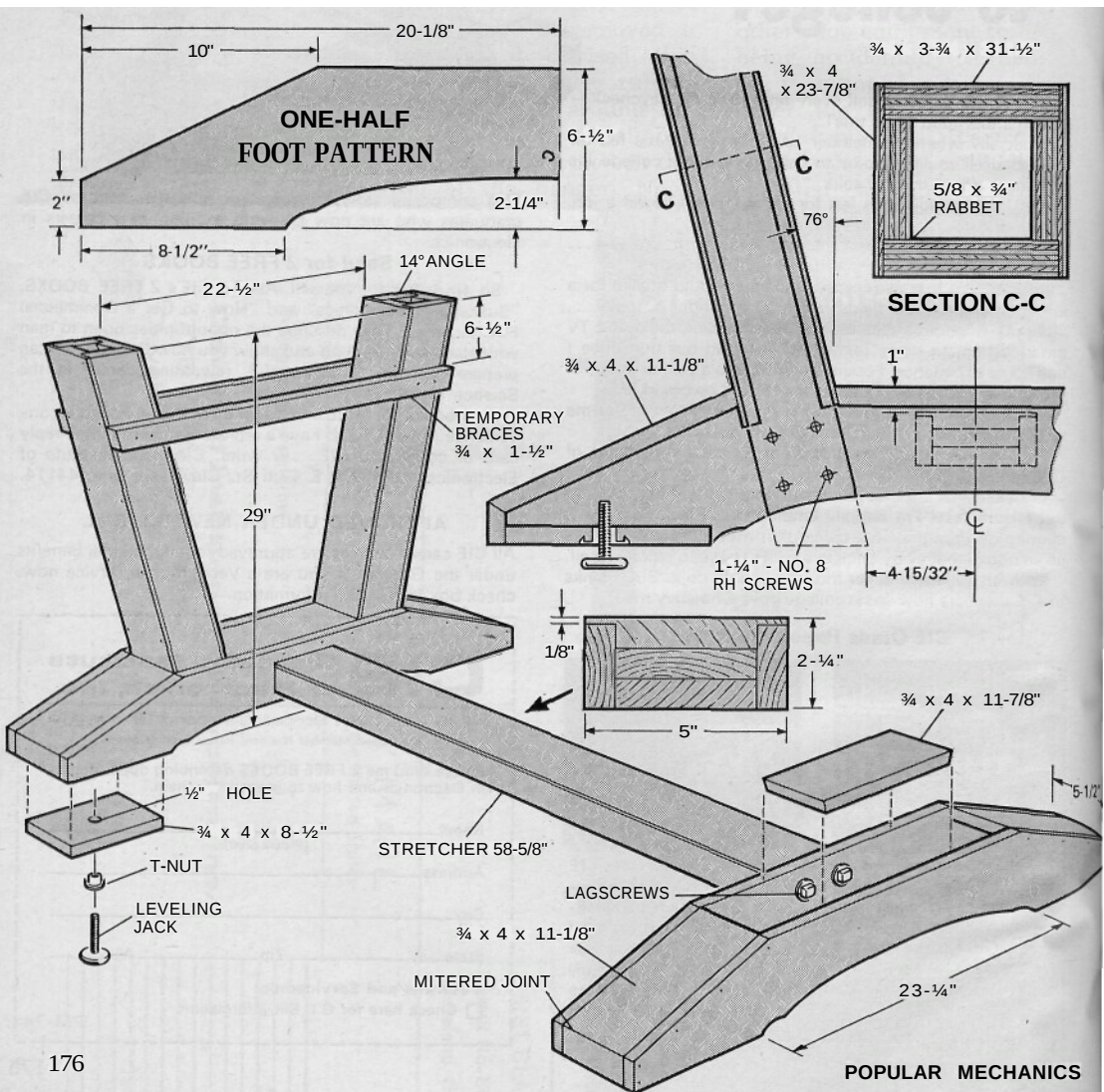
pedestals. Do not use glue as you may need to disassemble the table to move it to its final destination.

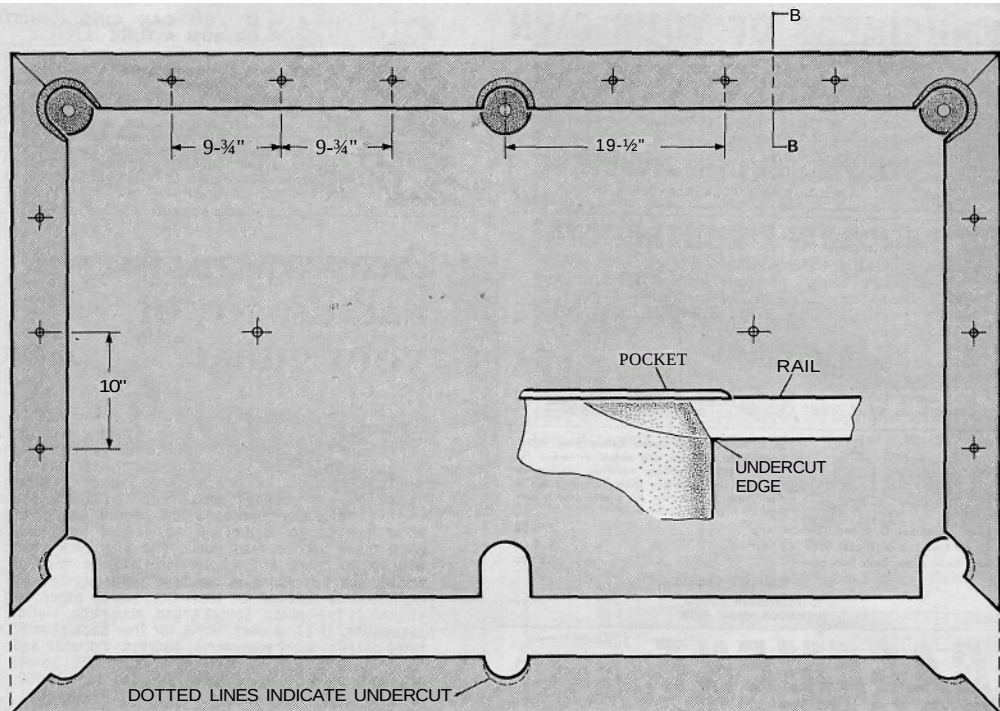
- **Apron.** The apron consists of a rectan-
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TEMPORARY JIG nailed between uprights of base assure accuracy during assembly. Forget glue for now

LAGSCREWS attach the table to base. But do not use glue here so the table can be dismantled for moving





SIDE RAIL 3/4 x 4-5/16 x 87-1/2" (2 REQD.)



END RAIL 3/4 x 4-5/16 x 49-3/8" (2 REQD.)

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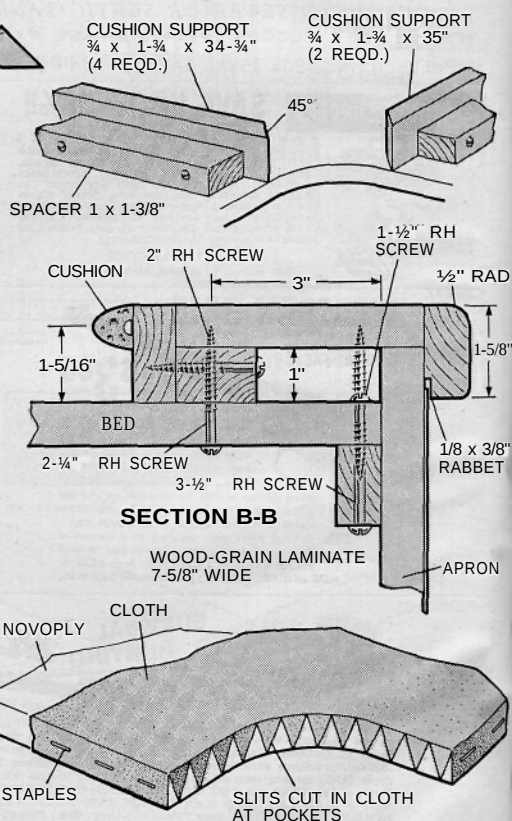
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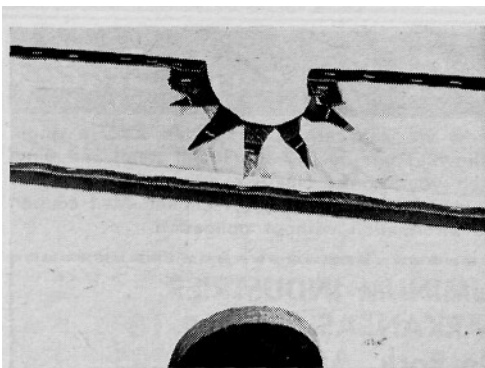
gular frame to which the bed, cleats and cross members are attached with screws. To maintain accuracy of the frame, use diagonal strips while the glue sets.

The bed support cleats are drilled for screws before mounting. Locate the holes as indicated and drill the holes straight and square. The two side cleats must be notched to allow clearance for the side pockets. The notch may be made with a router or by several overlapping passes on the radial-arm saw. Install cleats exactly 1 3/4 in. down from the apron's top. A scrap strip of wood 1 3/4 in. wide will aid in installing cleats. Temporarily nail the strip even with the top edge, then butt cleat to it and screw in place after gluing. Top edge of the six cross members must be flush with top edge of the bed support cleats as shown.

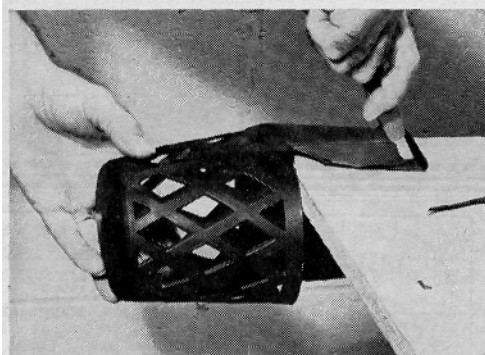
I covered the aprons on my table with an inexpensive, wood-grained laminate called Conolite, which is applied with

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FABRIC IS SLIT at drop-pocket cutouts and stapled to underside of the rail, then along the rail edges



POCKETS ARE TRIMMED TO FIT—differently at the sides than at the corners. See drawing, above right

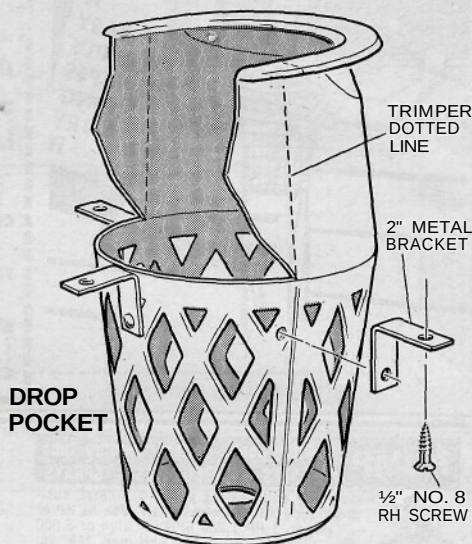
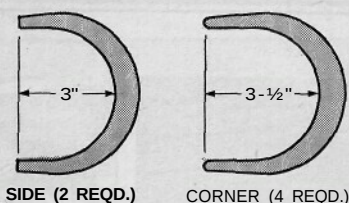
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contact cement. It's offered in rolls 36 in., wide and sold by the foot. Various colors, patterns and grains are available. It can be cut with scissors, but you may find it easier to score the surface with an awl and snap it along the scored line.

Cut the laminate slightly oversize and apply contact cement to it and to the wood surface. Allow the cement to dry until it loses its tackiness, then apply carefully. Once in place, it cannot be moved. The top edge of the laminate is set .688" below the top edge of the apron. The sides and bottom should overhang slightly. Trim excess with a router fitted with a laminate trimmer or by hand with a plane. Cover the end aprons first, then the longer sides.

- **Bed.** The bed is cut from a sheet of $\frac{3}{4}$ -in. particleboard. Notice that $\frac{1}{4}$ in. is trimmed from the 48-in. dimension. The length of the bed is 85 $\frac{3}{4}$ in. The material is dense and tough, but it is easily cut with ordinary tools such as a portable



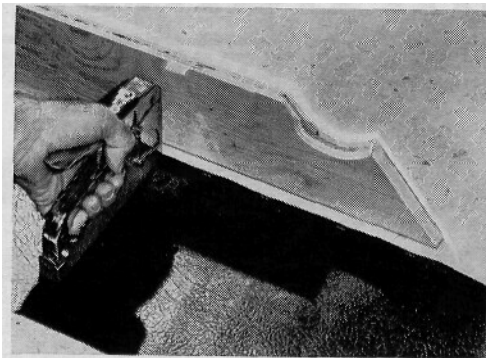
METAL ANGLE BRACKETS are used to attach drop pockets in table cutouts after pockets are trimmed

saw, sabre saw, or even a handsaw. Lay out the corner and side-pocket cutouts according to the diagram. After cutting, break all sharp edges with sandpaper. Drill the mounting holes, then cover with billiard cloth. The cloth is stapled to the underside of the bed. Do the long sides first, then the ends. Slit the cloth at the pockets, stopping the slits just short of the cutouts. Pull the cloth evenly around the pockets and staple to the underside of the bed. (Before installing the cloth remove wrinkles with a steam iron).

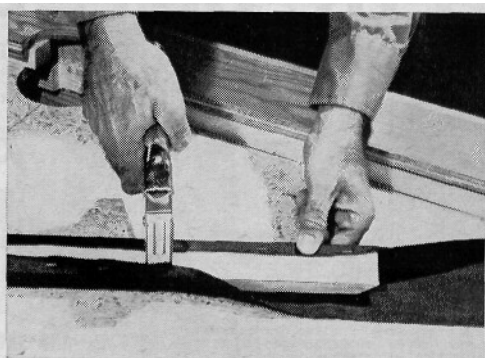
- **Rails.** The rails require some tricky sabre-saw cutting. Cut the sections to size and miter the ends 45°. Place the four pieces on a flat surface and lay out the 4.125"-dia. cutouts. If you want full-size patterns for the pockets, we will send them free. Write Pool Table, Popular Mechanics, 224 West 57th St., New York, N.Y. 10019 and be sure to include a self-addressed, stamped envelope.

Make cutouts in the usual manner using a sabre saw. After all corner and side-

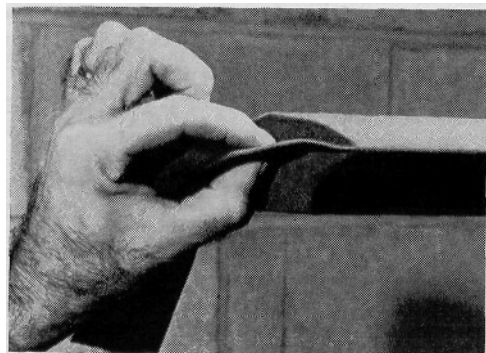
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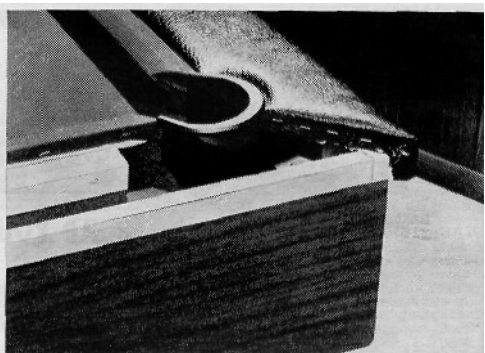
FABRIC-BACKED VINYL is stapled to underside of rails with .312" staples spaced about 1 in. apart



CUSHIONS ARE COVERED with 5-in.-wide strips of billiard cloth, pulled taut and stapled to rear side



ENDS OF CUSHIONS are glued as shown, then cloth is pinched and finally trimmed neatly with razor blade



HERE'S HOW A DROP POCKET fits corner hole. The front padded rail has been removed for sake of clarity

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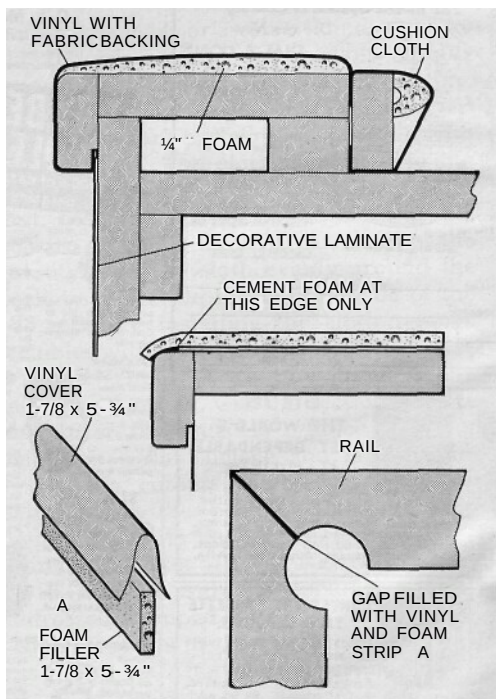
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pocket cutouts have been made, tilt your saw's base to 30° and recut the section of the cutout from points A and B. Undercutting is needed to clear the drop pockets.

The outer edging for the rails is cut and rabbeted as in the drawing. Two passes on the table saw will form the rabbet—or use a router. Round off top and bottom edges, miter the ends, then nail and glue edge pieces to the four rails.

Padding the rails is not too difficult. Glue a 5-in.-wide strip of foam to the rear edge of the rail just before the round starts. Use rubber cement or Pliobond *only*. Contact cement, white glue and animal glues destroy the foam. If you use rubber cement (sold at stationery and art stores), apply it to both surfaces and let it air-dry about five minutes before joining the parts. Apply a narrow strip of cement about ½ in. wide.

Cover the rails with a strip of fabric—
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backed vinyl. This is upholstery material; two well-known trade names are Naugahyde and Boltalex. Cut it in 9-in.-wide strips and let the ends overhang the rails slightly. Staple one edge of the vinyl to the rabbeted part of the rail back. Pull this taut toward the front of the rail and staple it again on the front edge, with staples about 1 in. apart. At the cutouts, slit material and staple it to the underside as shown on page 180. At the ends of the rails, trim the excess and where impractical to staple, use cement.

When all rails are covered and mounted to the table, there will be a slight gap at the miters. This is rectified by inserting corner fillers made by folding a piece of vinyl over a foam strip. Insert in corners before permanently mounting the rails.

• **Cushions.** The rubber cushions are cemented to the wood cushion supports with rubber or contact cement. The cushion rubber is not symmetrical, but has a top and bottom. It's mounted right when the nose of the rubber is 1.312" from bottom edge of the support. Miter the supports as indicated, then mount the rubber. Let rubber extend past the miter, then trim it flush with a sharp knife. It's easy to cut if the blade is dipped in water first.

Covering the cushions is next. Cushion cloth in the kit is 10 in. wide, with a small slit at the 5-in. mark. Grasp the cloth at one end and pull apart at the slit into two 5-in.-wide strips. Cover the cushions by stapling the cloth to the rear side, a trifle above center. Pull the opposite end taut and again staple at rear of the support. Work from the center out. Be sure the staples set flush. If not, hammer them all the way home. Do likewise with the rail. Ends of the cushion cloth are cemented. Pull the cloth toward the center, then carefully cut the excess with a razor blade. Pull loose ends to the back and cement.

The support spacer is attached to the cushion support with five 2-in. rh screws in each piece. Drive the screws tightly.

• **Final assembly.** Place the support spacer under the rail and screw rail into place with 3½-in. rh screws. Force the cushion as tight as possible against the rail and attach with the 2¼-in. screws. Have an assistant help you. If you can't get 2¼-in. screws, use 2½-in. ones with

several washers under the heads to keep points from penetrating the nail top.

• **Drop** pockets. The molded-rubber pockets are made slightly oversize so they may be trimmed to fit various tables. Pockets in the kit are cut with a sharp knife or scissors. Three metal brackets hold each pocket in place, using Pop-rivets. The other end of each bracket is attached to the table with a ½-in. screw. Since bracket holes vary, no dimensions are given. If too large or too far in from edge, drill new holes as necessary. Press top of the pocket down firmly against the padded rail when positioning brackets.

Rail markers are .375" pressure-sensitive paper discs available at art and stationery shops. Peel off protective backing and press them in place. Paint the base as desired.

The kit, with four leveling jacks, 22 ft. of cushion rubber, billiard cloth, six drop pockets and a ¼ x 5 x 280-in. urethane-foam strip can be bought from The Armor Co., Box 290, Deer Park, N.Y. 11729. * * *

MATERIAL LIST

Note: Except where indicated, all lumber is fir plywood

No. Size and description—Use

- 2 ¾ x 4.312 x 87½"—Side rails
- 2 ¾ x 4.312 x 49.375"—End rails
- 2 ¾ x 1.625 x 89"—Side-rail back
- 2 ¾ x 1.625 x 50¾"—End-rail back
- 6 1 x 1.375 x 33" pine—Support spacers
- 2 ¾ x 1¾ x 35" pine—End-cushion supports
- 4 ¾ x 1¾ x 34¾" pine—End-cushion supports
- 2 ¾ x 1.375 x 46.375" pine—End bed supports
- 2 ¾ x 1.375 x 85¾" pine—Side bed supports
- 1 ¾ x 47¼ x 85¾" Novaply-Bed
- 2 ¾ x 8¼ x 47.875"—End aprons
- 2 ¾ x 8¼ x 87.625"—Side aprons
- 6 ¾ x 6½ x 47.875"—Cross members
- 2.031 x 7.625 x 52"—End laminate
- 2.031 x 7.625 x 88"—Side laminate
- 4 ¾ x 6½ x 40¼"—Base
- 4 ¾ x 4 x 8½"—Bottom pads
- 4 ¾ x 4 x 2"—Base ends
- 4 ¾ x 4 x 11.125"—Base diagonals
- 2 ¾ x 4 x 11.875"—Base tops
- 8 ¾ x 3¾ x 31½"—Uprights
- 8 ¾ x 4 x 23.875"—Upright fillers
- 4 ¾ x 1½ x 28"—Temporary supports
- 1 ¾ x 5 x 58.625"—Stretcher top
- 1 ¾ x 3½ x 58.625"—Stretcher center
- 1 ¾ x 3½ x 58.625"—Stretcher bottom
- 2 ¾ x 2.125 x 58.625"—Stretcher sides
- 18 2" angle brackets—Pockets
- 18 No. 8 x ½" rh screws with washers—Brackets
- 32 No. 8 x 1¼" fh screws
- 32 No. 8 x 1¼" rh screws
- 18 No. 8 x 1½" rh screws
- 20 No. 8 x 2" rh screws
- 18 No. 8 x 2¼" rh screws
- 28 No. 8 x 3½" rh screws
- 20 .312 x 1½" lagscrews with washers

White glue, contact cement, staples, rubber cement