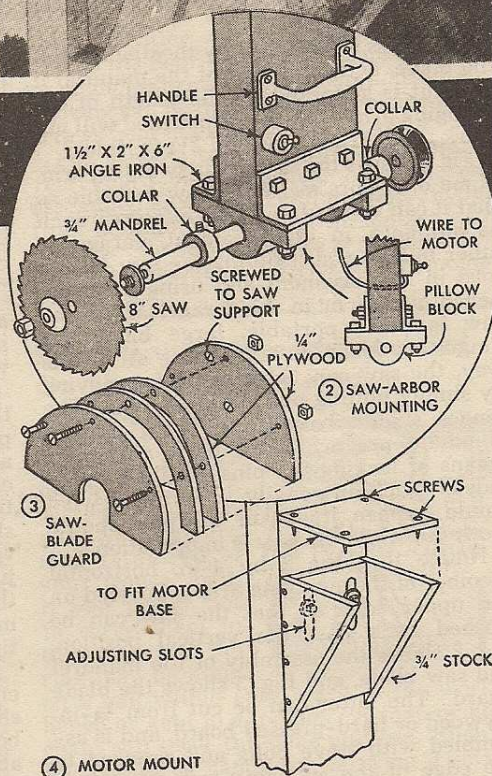
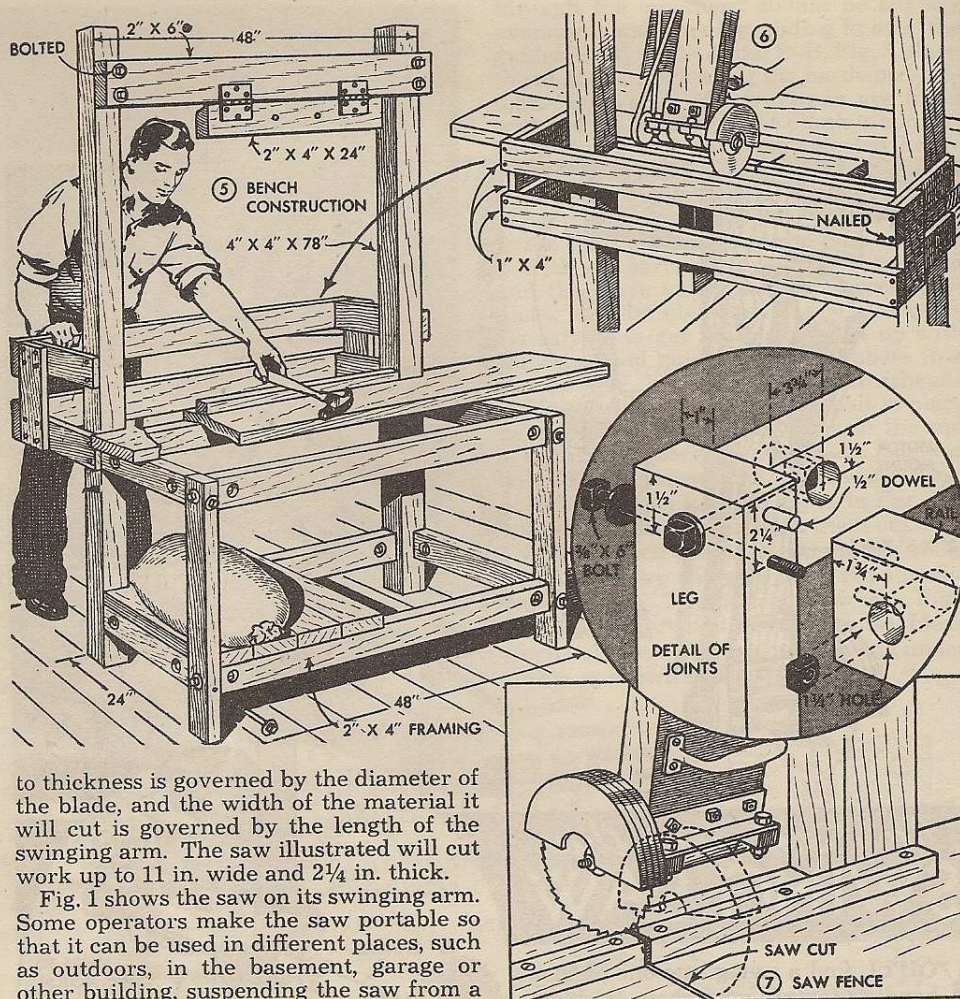


You can make this SWING SAW

YOU'LL find a swing saw one of the handiest tools in your shop. Besides taking care of practically all sawing operations usually done on a small bench saw, it will handle wide or long work. With one hand pulling the saw and the other holding the work firmly against the fence, there is no reason for having your hands near the cutting edge. Also, the saw is safe in that it swings away from the operator by its own weight when released.

You can do crosscutting, mitering or ripping, Figs. 7, 8 and 9, by simply screwing suitable fences to the table. In ripping, the saw is locked in a vertical position with a suitable fence fastened to the bench to guide the work. Metal cutting is easily accomplished by using a cutting disk in place of the saw blade. Likewise, a sanding disk may be used on the mandrel for many disk-sanding operations. The capacity of the saw as





to thickness is governed by the diameter of the blade, and the width of the material it will cut is governed by the length of the swinging arm. The saw illustrated will cut work up to 11 in. wide and $2\frac{1}{4}$ in. thick.

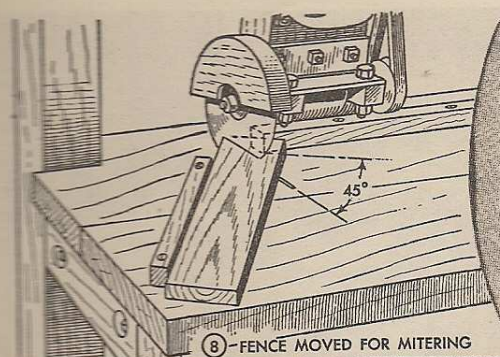
Fig. 1 shows the saw on its swinging arm. Some operators make the saw portable so that it can be used in different places, such as outdoors, in the basement, garage or other building, suspending the saw from a joist in the basement and using a special bench outside or in the garage. When the saw is made portable, large butt door hinges are ideal for suspending it. In this way, the saw can be released for moving by simply pulling out the hinge pins. The hinges should have snug-fitting pins to eliminate practically all play, and some means of locking the pins should be provided. You can readily understand what would happen if one of the pins should work out while the saw is in operation.

Notice that the 2 by 4-in. horizontal member of the swinging arm is beveled on the upper edge so that the saw can be pushed back past the vertical position. Fig. 2 shows the assembly of the mandrel and saw blade, and Fig. 3 shows the blade guard. The latter can be cut from $\frac{1}{4}$ -in. plywood or hard-pressed board, and is assembled with stove bolts and screwed to the edge of the swinging arm. A toggle

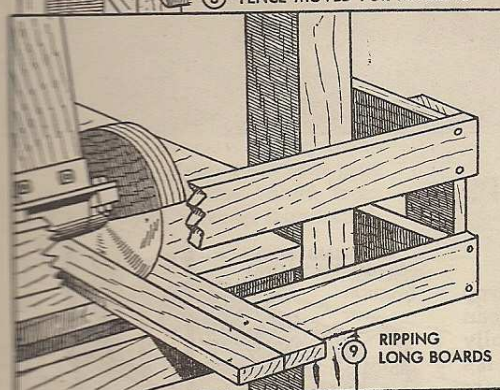
switch is placed close to the handle on the arm so that the motor can be controlled without releasing the arm.

To prevent any possibility of injury from the belt, a sheet-metal guard should be provided. This can be shaped and attached as in Fig. 1. Whether or not the belt is crossed as shown will depend on the direction in which the motor rotates. Fig. 4 shows the motor mount. This is adjustable vertically for tightening the belt, the adjusting being done by loosening two bolts that slide in slots in the mount. After making an adjustment be sure the bolts are tight before operating the saw.

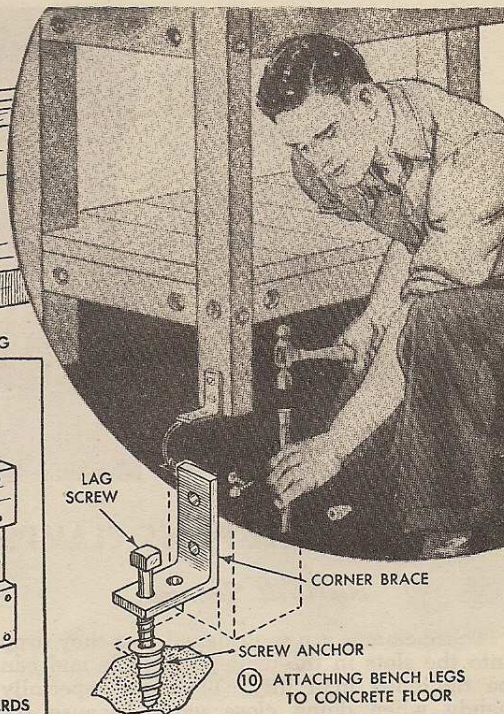
Construction of the special bench is given in Fig. 5. The circular detail at the right shows how the joints are assembled with bolts. This type of construction is desirable because bolts can be tightened to compensate for wood shrinkage, thus as-



8—FENCE MOVED FOR MITERING



9 RIPPING LONG BOARDS



10 ATTACHING BENCH LEGS TO CONCRETE FLOOR

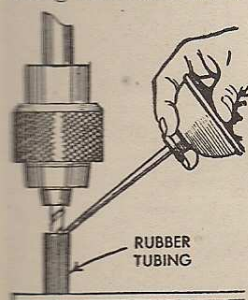
suring a rigid bench at all times. Although over-all width of the bench is given as 4 ft., it can be made any size desired. If you want to use the saw for cutting large sheets of plywood, make the bench accordingly, allowing room to install suitable fences. To prevent creeping or tipping, it may be necessary to provide some means of holding the bench. If it is desired to have the bench portable, a couple of large sandbags will do. But, where portability is not a require-

ment, a better way is to fasten the front legs to the floor by means of corner braces or angle brackets. On a concrete floor, anchoring can be done as in Fig. 10, using lag screws held in expanders.

For safety's sake be sure to provide a rear guard on the bench. A simple one assembled as in Fig. 6 will prevent anyone from accidentally coming in contact with the saw. Be sure to locate it so that work can slide between the strips when ripping.

Lubricating High-Speed Drill

Many times the life of a high-speed drill is shortened because it was improperly lubricated. If a length of loose-fitting rubber tubing is placed over the drill when it is being used and oil is applied through the tubing, the drill will last longer.



RUBBER TUBING

The lubricant that ordinarily is thrown off the drill by centrifugal force will drain down the inner wall of the tubing and flood the work at the point where it is needed.

Small Ignition Wrenches Carried On Shower-Curtain Ring

Sets of small combination wrenches for ignition work are carried easily on a shower-curtain ring attached to your trouser belt. If you prefer not to carry them in this manner, the ring may be hung on a nail within easy reach of the workbench or kept in a toolbox. A snap or key chain will serve the same purpose. Such a holder also is handy for carrying a small assortment of washers or nuts.



SHOWER-CURTAIN RING