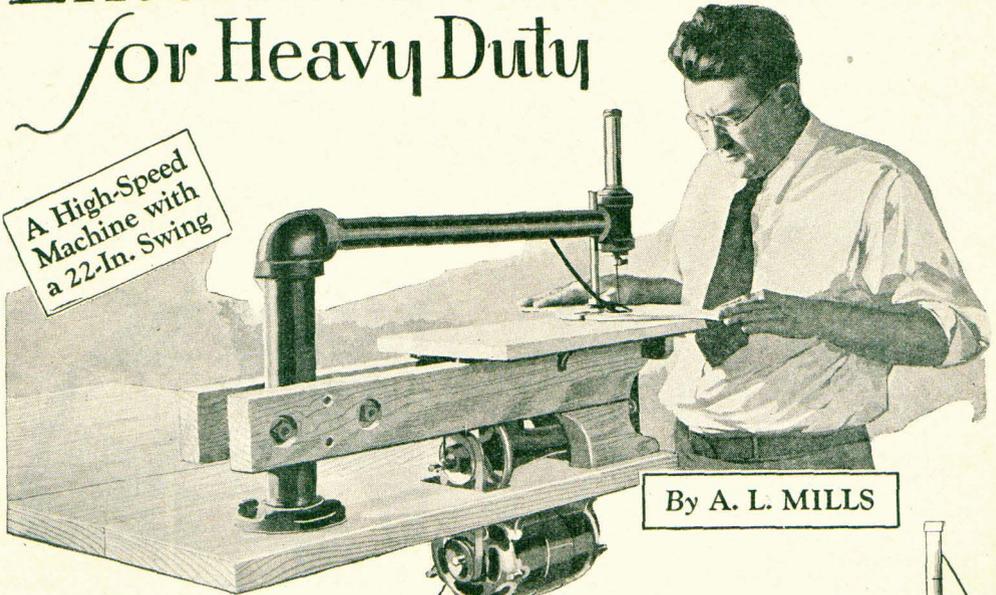


Efficient SCROLLSAW for Heavy Duty

A High-Speed
Machine with
a 22-In. Swing



By A. L. MILLS

THIS powerful scroll saw cuts 1½-in. stock with ease at 1,400 strokes per minute, and is designed to be used with either the heavy saber-type of blades or the finest jewelers' blades. If you have an old sewing-machine head and a ¼-hp. motor, the total cost should not exceed \$5.

The sewing-machine head is adapted to its new use by first removing the needle shaft and holder and substituting a blade holder. The head is then inverted and securely bolted between two lengths of 2 by 4-in. maple which are supported on two hardwood blocks bolted either to a separate base or directly to the bench top. Due to variations in the size and needle stroke of different types of sewing-machine heads, slight alterations may be found necessary when assembling, and for this reason some of the dimensions have been omitted as they depend on the particular installation you will use.

Pipe and fittings are used for the frame. When assembling it, the joints should be turned in as tightly as possible. The flange is securely bolted to the base. A saw

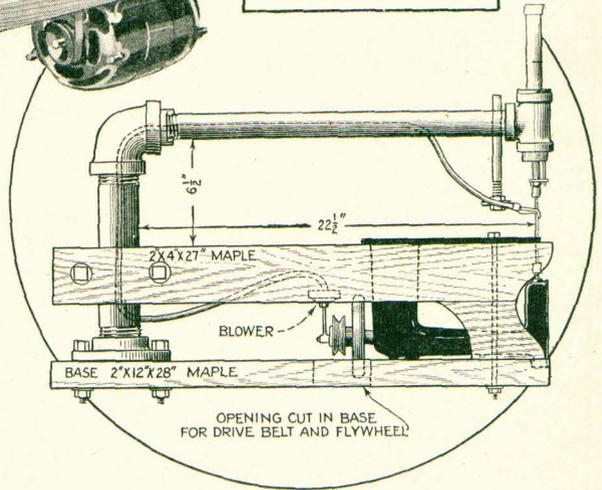
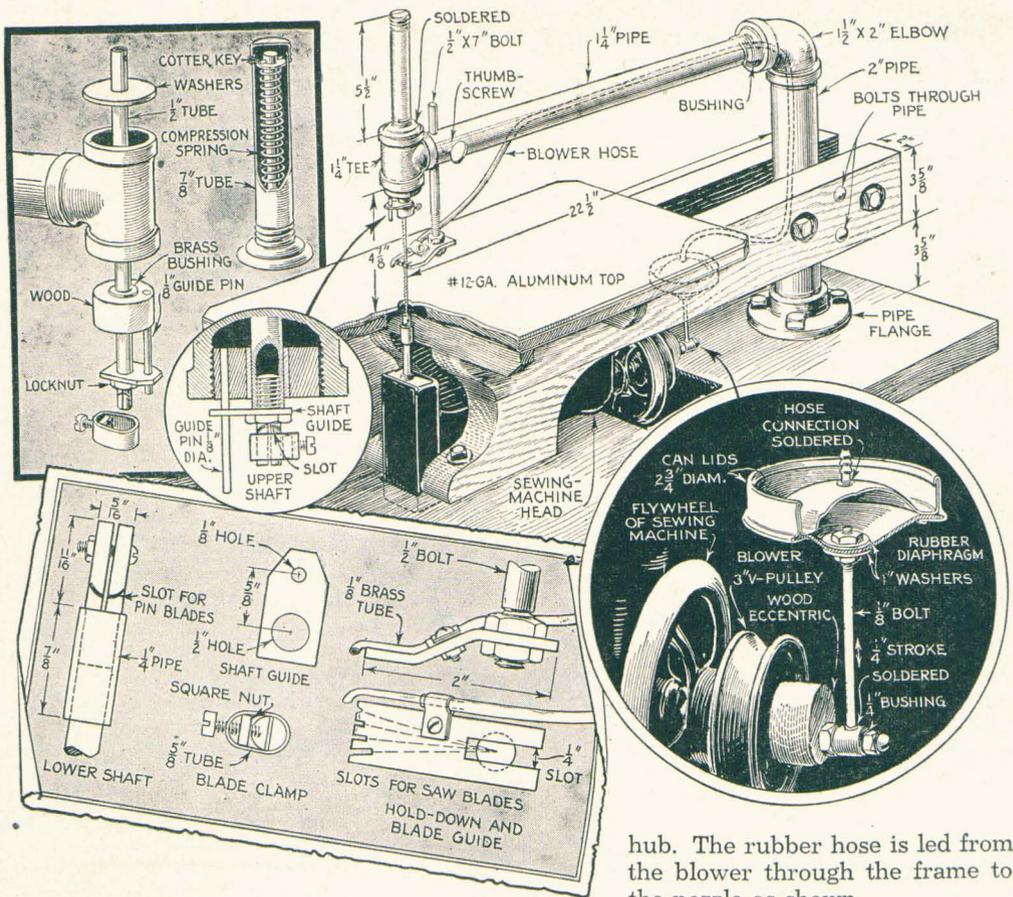


table of 7/8-in. hardwood is made to fit over and around the base of the sewing-machine head. It is covered with a 10 by 20-in. plate of No. 12-gauge aluminum. A ½-in. hole is drilled in the plate to form an opening for the blade. The upper slide shaft, or plunger, is made from a 9-in. length of ½-in. seamless-steel or brass tubing. The lower end is bushed with a piece of brass tubing soldered in place and tapped to take a 1½-in. length of 3/8-in. bolt. The shaft guide is then drilled as shown. It is held against the end of the tubing with a thin nut. A wooden disk,



hub. The rubber hose is led from the blower through the frame to the nozzle as shown.

bushed with brass to fit the plunger, carries the lower end of the latter and also the metal guide pin which prevents the plunger from turning. The wooden disk is turned into the lower end of the pipe tee.

Other details of the upper-plunger assembly are shown in the drawing.

The combination blade guide and hold-down is made by first sawing the head from a 1/2 by 8-in. carriage bolt and filing two 1/8-in. grooves in the threaded end at right angles to the length. The end of the hold-down is slotted to fit the grooves and is held with two nuts as shown. Narrow slots are filed in the opposite end of the hold-down to serve as guide slots for the various sizes of blades. The blower nozzle is formed by bending a short length of 1/8-in. tubing to an elbow. A blower is easily made from tin-can lids and is driven by means of a wooden eccentric attached to the outer end of the V-pulley

Stepped Bushing Driver Handy For Various Sizes

Sawed from a piece of flat steel, this simple bushing driver is made easily in any size desired. One end is shaped to provide a handle and the other end is sawed in steps, progressively smaller in size. These should be uniform on both sides, and each succeeding step should be about 3/16 in. smaller than the preceding one. The spacing can be varied, of course, to suit work that occurs most frequently.

