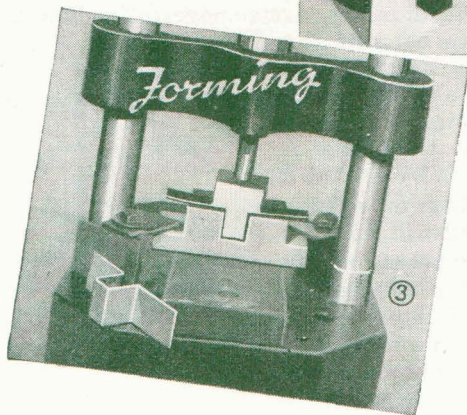
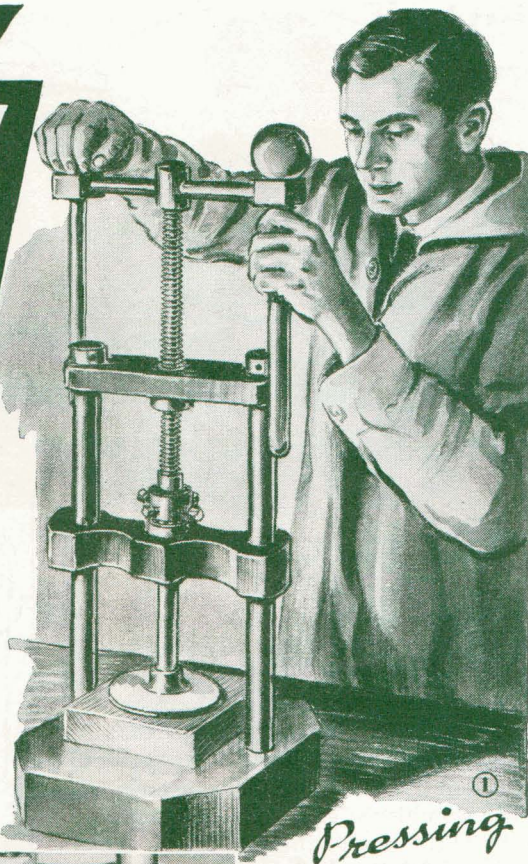


Two-ton SCREW PRESS *from scrap parts*

By H. J. CHAMBERLAND

CAPABLE of exerting a pressure of 4,000 lbs., this husky little screw press can be put to a number of uses in the small machine shop. Besides being useful as an arbor press as shown in Fig. 1, it also can be used for forming and for stamping medium-gauge sheet metal, using special-shaped dies as in Figs. 2 and 3.

Dimensions for the various parts are given in Figs. 4, 5 and 6. Holes in the base, ram and beam of the press must register accurately. To drill these in line, the ram, which rides the vertical posts, is clamped temporarily to the top surface of the base. Locations of the three holes are prick-punched, center-



drilled and bored through into the base with a 1/2-in. bit. Then the ram is removed and clamped to the beam, which is the crosspiece at the upper end of the posts, and holes are duplicated in this, using the holes in the ram as a guide. This should give you three accurately

aligned holes in each of the three parts. Next, the outer holes in the base are drilled out to 3/64 in. and tapped to receive the threaded ends of the posts, Fig. 5. The center hole in the base is enlarged to 1 in.

The holes in the ram are likewise bored out, using a 5/8-in. bit in the post holes. The center hole is enlarged to receive the casehardened tool-shank adapter, while the center hole in the beam is bored on the lathe to receive tightly the 1 3/8-in. screw-housing bushing, shown in section in Fig. 6. Both the tool-shank



Most of the parts are machined from standard cold-rolled steel. The shape of the ram and base is optional

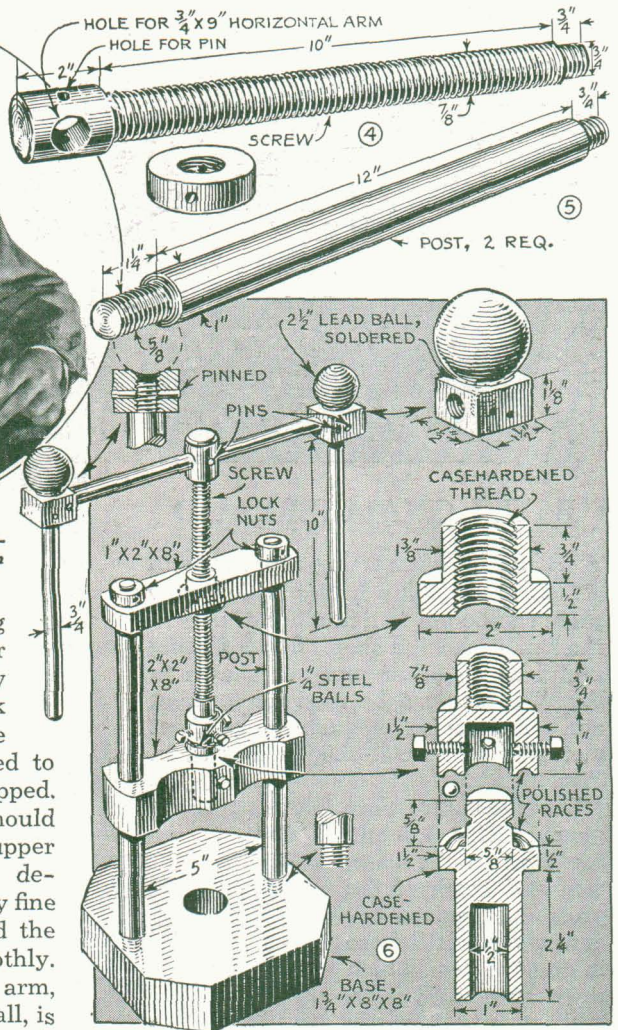
adapter, and the screw-housing bushing are force fitted. The latter should be tapped to thread snugly on the screw. The two 1/4-in. lock nuts which hold the beam to the upper end of the posts are pinned to prevent the threads from being stripped. The shouldered end of the screw should fit tightly also in the end of the ball-bearing race, detailed in Fig. 6. In assembling, apply fine lapping compound to the ram and the screw to make them operate smoothly.

The horizontal screw-actuating arm, which measures 3/4 by 10 in. over-all, is equipped with a cast-lead ball at each end to accelerate the screw for rapid adjustment. These are flattened and soldered to squared blocks which in turn are pinned to the threaded ends of the two vertical arms. In place of the lead balls, steel or cast-iron blocks having a corresponding weight can be substituted, attaching them by allowing the tenoned end of the vertical arms to pass completely through the end blocks and into the ball.

Compass Helps Locate Switch Box

When a wall-switch box has been plastered over, I find its exact location with a small compass. This is moved along the wall and when the compass passes over the box the needle will deflect strongly.

—Robert K. Urie, Enumclaw, Wash.



Twist Handle Loosens Star Drill

If you are often annoyed by having a star drill wedge in the hole so that it is difficult to loosen or remove, drill a hole in the end of the shank and insert a hook bent from 1/2-in. steel rod about 8 in. long. A rubber band slipped over the drill will hold the rod out of the way when not needed, and the rod may be swung out quickly to horizontal position.

