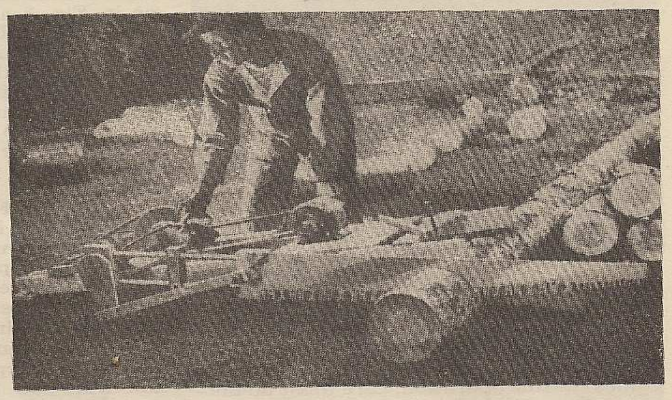
POWER DRAG SAW

A small electric motor drives blade 100 strokes per minute, cutting logs up to 24 in. in diameter

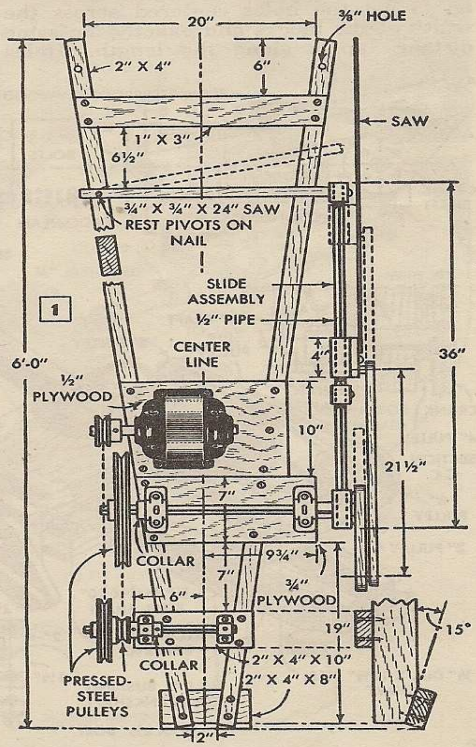
By Edward R. Lucas



BUCKING LOGS and large limbs into cordwood or stovewood lengths by any hand method is a hard, time-wasting job no modern farmer or woodsman likes to think about. A power drag saw like the one pictured will do this work in less than half the time, and the only labor involved is moving the unit from one cut to the next.

The simple A-frame, Figs. 1 and 4, is made of 2 by 4-in. pine. Also, the base for the jackshaft and the foot at the narrow end of the frame are of the same material. Lower ends of the long frame members are cut at an angle of 15 deg. so that when attached, the foot will rest squarely on the ground. Both the crankshaft and jackshaft run in ordinary pillow-block bearings, and the shafts are held in position with collars. Construction of the pitman-drive assembly is detailed in Figs. 3 and 5, and side and top views are supplemented by sectional details A-A, B-B and C-C, which show the inner construction at various points. The crosshead carriage must be of the floating type to allow the saw blade free movement up and down. Crosshead guides are cut from ½-in. black pipe, this grade being used because it is easier to polish than galvanized pipe. Polishing is done by clamping the length of pipe in a vise—being careful not to crush it out of round—and first cutting off the paint and surface irregularities with a coarse abrasive cloth. Loop a strip of the cloth over the pipe and pull it back and forth. Polish in the same manner with a fine-grit abrasive strip 1 in. wide. Light oil makes abrasive cut cleaner.

Make the pivot block, section C-C, of



hardwood such as oak and fit it with a ¾-in. bronze bushing, which should be a drive fit and located as in Fig. 5. Then make duplicate spacers of hardwood, Fig. 5, and drill these and the pivot block to take the pipe guides. In this operation, care must be taken to get the holes centered across the width of the blocks and exactly the same distance apart along the length. Holes through the crosshead should be slightly oversize to give an easy, sliding fit over the guides. Sections A-A and B-B, Fig. 3, show the method of mounting the hardwood pitman. Both ends of the pitman are fitted with bronze bushings. The crank is laid out as in Fig. 3 and cut from selected hardwood. It is flange-mounted as in Fig. 4, section C-C, using a 4-in. V-pulley as the flange. Note that the pulley hub is pinned to the shaft with a transverse pin.

With all parts of the frame assembled and the drive and crosshead assembly in place, bolt the saw blade to the crosshead. Be careful to get the blade lined up with the crosshead guides so that it moves in a straight line. Finally, locate the crosshead-guide spacers in the clear and bolt in place as in Fig. 5. Drill a ⅜-in. hole near the end of each frame piece to take a ⅜-in. machine bolt. When the saw is set up for work, these bolts are driven into the log as in Fig. 2 to hold the unit in place. Back them out with a wrench when the cut is completed. Keep the blade sharp and give the teeth a medium-wide set. The pivoted saw rest, Figs. 1 and 4, is provided to support the blade when not in use. This is cut to swing under a hook as shown in Fig. 4.