



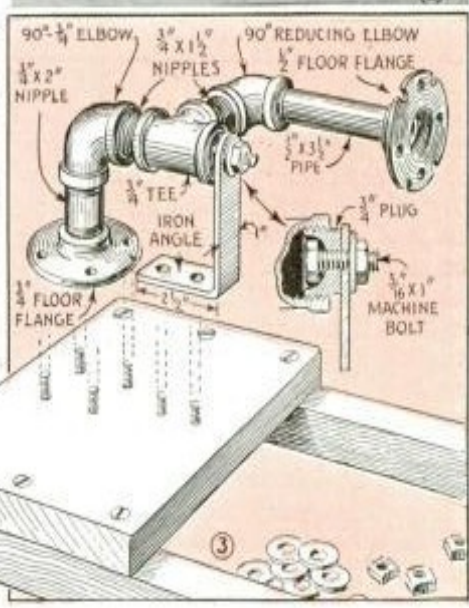
SHOP NOTES

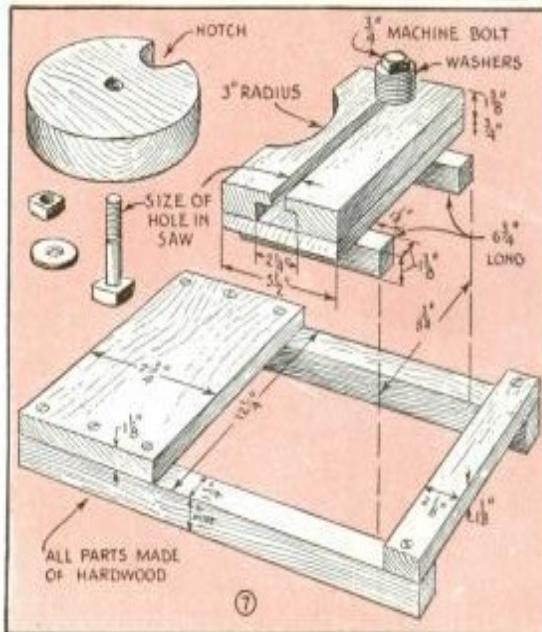
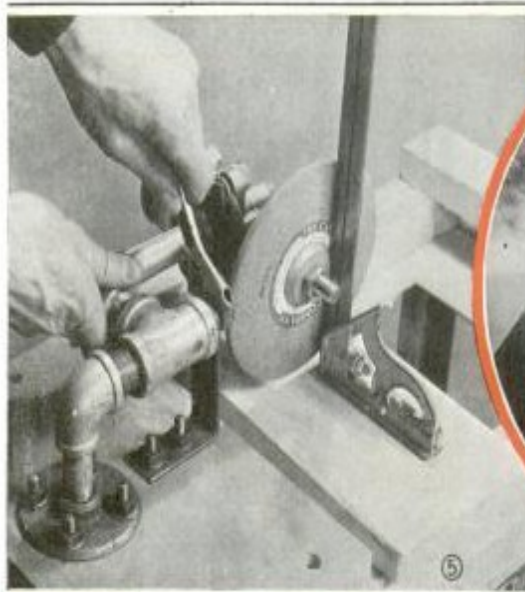
Uniform teeth on circular-saw blades by using this tilting-arbor grinder

SHARP SAWS

By
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WHETHER it is used for cutting heavy material or accurate miters, the speed and accuracy of the workshop saw will depend almost entirely upon the condition of the saw blade. On some types of combination blades the teeth can be sharpened completely on a grinding wheel mounted on a tilting arbor. The latter can be made from an old polishing head and standard pipe fittings. The arbor and pipe supports, Fig. 4, are mounted on a





pair of wooden rails which are fastened together with a heavy wooden piece which forms the base for the tilting arbor, Fig. 3. The sliding support which holds the saw blade is made as shown in Fig. 7. A T-slot on the top allows the setting stake and blade support to be fastened in place. A notch should be cut in the rim of the disk to allow the setting stake to be located directly under the teeth. The bolt that holds the supporting block to the sliding carriage is the same size as the hole in the saw blade. The setting stake is a $\frac{3}{4}$ -in. machine bolt shimmed with washers to bring the head of the bolt flush with the top of the wooden disk. A corner of the bolt head is filed to the correct angle for the set of the saw teeth.

Make a paper pattern of the blade before you sharpen it. The depth of the gullet as well as the angle of the front and back of the tooth should be shown. Jointing the teeth is done by reversing the blade on the arbor and raising the saw table. An oilstone is placed over the slot and the table is lowered, with the motor running, until the teeth strike the oilstone. The blade is then fastened on the wooden disk of the sliding carriage, Fig. 2. When much material is to be removed from the teeth it is best to sharpen them first and set them afterward. Otherwise it is best to set them first, Fig. 6.

The grinding wheel is set at right angles to the bed of the machine as in Fig. 5. The disk is fastened in the correct position to grind the

gullets and a stop block for the carriage is provided to limit the cut. After the first gullet is ground the carriage is moved back and the blade is turned slightly to grind the next. Using the same method the front and back of the teeth may be ground. Of course, the wooden disk must be adjusted to secure the correct angle. When the teeth are beveled the wheel is tilted at an angle as shown in Fig. 1. The front or back of the tooth may be beveled in this manner. The best results will be obtained by allowing the wheel to enter the gullet and then revolving the blade to move the tooth against the wheel. Very little grinding is required and the tooth should barely touch the wheel.