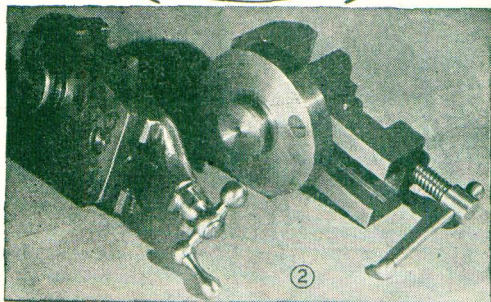
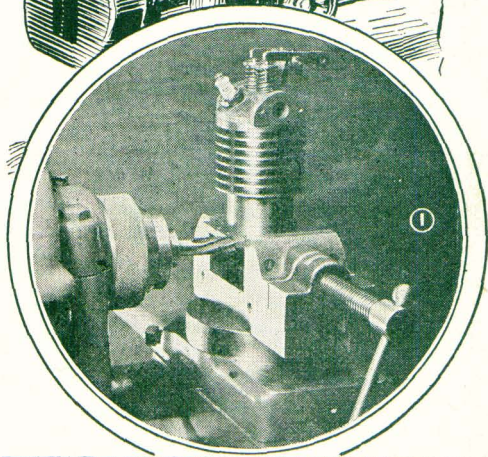


Drill-Vise MILLING UNIT *on small lathe*

Just mount it on the cross slide
and do keyway cutting, end
milling and surfacing

THIS handy milling unit for small metal-turning lathes consists simply of a drill-press vise mounted on the cross slide of the carriage. The vise is mounted on a disk similar to the index disk of the compound rest, Figs. 1 and 2. Thus you utilize both the lateral and traverse feeds and the depth of the vise jaws gives a considerable range of vertical adjustment. Also the unit can be swiveled to any degree desired to handle angular work. Figs. 1 and 3 show typical operations on parts of small models. Milling cutters should be held in a collet chuck but if the lathe is not fitted with chuck and suitable collets, you can grip the cutters in a three-jaw scroll or center chuck and, by working carefully, get very good results on light work.

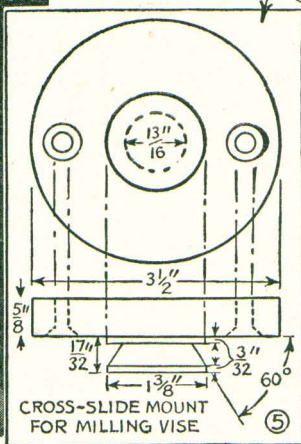
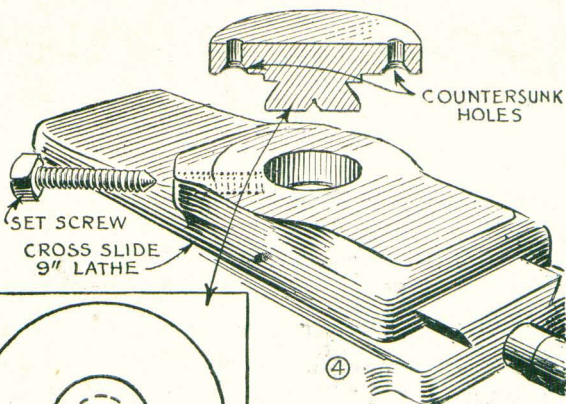
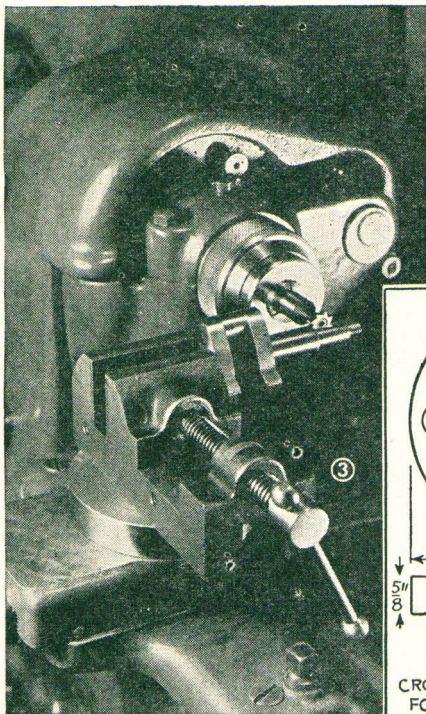
Figs. 4 and 5 show the base or pad on which the drill-press vise is mounted. It is turned from a single piece of cold-rolled steel and all the dimensions given adapt it to use on a well-known make of home workshop metal-turning lathe. Notice in Fig. 4 that the base is held in place with a hardened pointed setscrew bearing against the beveled projection on the underside of the disk. The setscrew lock is regular equipment on this particular lathe and the beveled projection on the vise mounting simply duplicates that on the regular compound supplied with the lathe as you see in Fig. 2, where the two parts are shown



Soldering With a Lead Pencil

For small soldering jobs, you can effectively use an automatic lead pencil. Wire the metallic part of the pencil to the negative pole of a 6-volt storage battery, and connect the positive pole to the work to be soldered. Then, touching the

point of the lead to the spot you wish to solder and then drawing it away slowly, will create a tiny arc. Use hard lead in the pencil, which should be a handle of bakelite or other heat-proof material.
—Charles A. Younger, Somerville, N. J.



appearance tap holes in the vise are stopped, that is, not drilled clear through and are threaded with a bottom tap. To take full advantage of the accurately milled surfaces of the vise it is necessary to use care in machining the base so that it will furnish flat parallel surfaces, top and bottom.

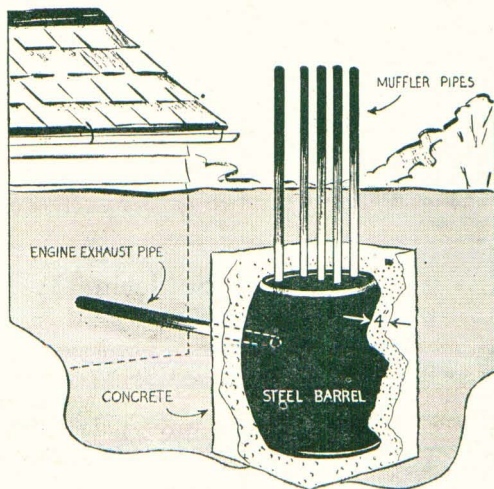
for comparison. Mounting on any other small lathe will, of course, require some alteration in the size and shape of the duplicate.

The base is drilled for 1/4-in. No. 20 flat-head screws, and registering holes are drilled and tapped in the vise. For neat

Then provide an assortment of blocks of varying thicknesses cut from steel bar stock for use in blocking work to the required height in the vise. With this equipment at hand you can handle most any milling job on model parts that does not require use of a vertical feed.

Improved Underground Muffler for Light-Plant Engines

So efficient is this muffler for a lighting-plant or other small engine that it cannot be heard at a distance of 150 ft. Instead of a single large pipe running up from a sunken barrel, which is usually found on mufflers of this type, there are five small pipes, each allowing a small portion of the exhaust gases to escape with a noise not much louder than a sigh. The barrel is encased in concrete 4 in. thick, the concrete assuring a good muffler long after the thin sides of the barrel have rusted away.



When you want a smooth, polished finish on wood turnings such as tool handles, first sand them carefully and then hold an oiled strip of cloth or leather against the work as it rotates in the lathe.