LAPPING
bores and shafts

While the cylinder is still gripped, the chuck can be removed and plugged from the back. The bed of the lathe should always be well covered with several sheets of newspaper.

The lap should be turned almost to size, and then smoothed by filing and tapered at the end for the cylinder to push on. With abrasive smeared on the lap, it may be too large, so that further filling is necessary to get the initial fit. Back gear may be used for a start, followed by normal drive as the bore enlarges. Paraffin and thin oil help to speed and regulate cutting; and final smoothing can be done with thin oil.

Since a lap wears in use, adjustment is usually necessary. On a cylinder lap, B, it can be done by slitting with a hacksaw and fitting two screws, one Y to expand the lap, the other Z to keep it parallel. A short lap for a blind bore, C, can be adjusted by a single screw. Such a lap, used in a drilling machine, is extremely useful for sizing the inner end of a bore which cannot be reached by a reamer owing to the taper.

Other laps can be made and adjusted as at D. A short bush (1) can be slit and used on a rod; a small lap can be drilled, slit, and then expanded by a taper pin (2), or slit and expanded by a flat wedge (3).

A shaft lap can be made by drilling and reaming a single piece of flat stock, E, and drilling and slitting for a bolt. For a crankpin, a lap can be made by bolting up two pieces of flat stock and drilling and reaming, F. A very simple type consists of a half bush on a bar.

by GEOMETER

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