

Holders for polishing

MANY polishing operations and light facing operations can be performed with simple equipment which is a substitute for something specialised or expensive.

A flat surface on work can be polished by holding it to a rotating disc which is dressed with fine abrasive. The face of the disc must be soft to contain the abrasive, but the backing should be firm so as not to deform. These conditions are met with a wood disc, faced with thin felt or flannel, stuck on with Bostik.

With the disc mounted in the chuck or screwed to the faceplate, the lathe should be run at a fast speed. It is advisable to cover bed and slides with paper or a sheet, although surplus drops of liquid metal polish, which is normally used, are flung off in line with the face of the disc.

For light grinding, a disc can be faced with emerycloth or emery-paper, which can be stuck to its face, like the felt or flannel for polishing. And

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so, by using several discs, each with a finer grade of abrasive, you can begin a job as a grinding operation and end by polishing the work. Standardised holders enable discs to be changed quickly; a type for mounting in the independent chuck is as at A. Two pieces of angle iron are riveted together, and the disc is attached by four countersunk screws and nuts. The heads of the screws should be flush with the face of the disc, or the holes should be filled with plastic wood, to give a smooth surface.

To be certain that discs are flat, they should be trued with facing cuts before they are stuck on the emerycloth or felt; to keep these flat while the adhesive is drying, discs can be clamped or weighted to boards or other flat surfaces.

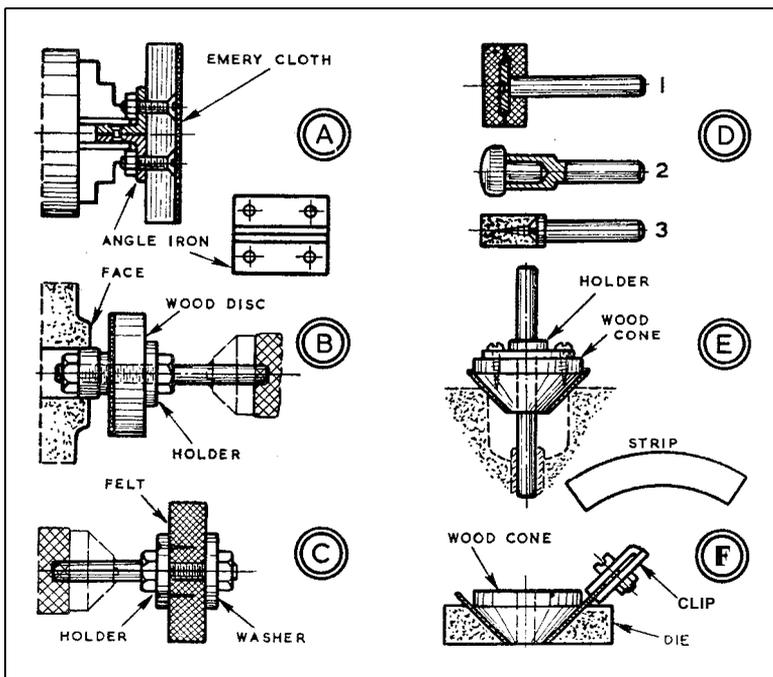
A light facing operation on metal can be performed with the tool shown at B. A wood disc carries a disc of emerycloth and is mounted on a holder so that it can be turned with a hand drill or electric drill. The operation is sometimes necessary on the body of an impeller water pump where the

seal is made by a rubber cup and a carbon ring—the ring rubbing at the end of the body, which eventually becomes lightly scored. When that happens, a new seal is not fully effective—or not durable—unless the body is faced.

The holder consists of threaded rod, two nuts, a washer and a guide to locate in the pump body. The emerycloth should fully cover the face which is to be trued, and so the guide should be turned with a step, as shown. It

of sizes on the principle depicted at C. The holder can again be threaded rod and nuts, with a pair of large washers gripping the felt. The one on the shank of the holder should be drilled for four small nails to provide drive to the felt, all then being soldered together—shank, nut, washer and nails.

Diagram D1 shows how a small felt bob can be made with a washer riveted or brazed to a rod to form a shank, after which a felt disc and



can be brass or duralumin. You can make the hole in the emerycloth with a punch of sharpened steel tube or by a piece of drilled rod—if you have no proper punch. The outside can be trimmed with old scissors after the emerycloth has been stuck to the wood disc.

A similar tool can be used to true and smooth a corroded seating face in the filler of a car radiator which is fitted with a pressurised cap.

Felt bobs can be made in a variety

of this flange. With a long shank protected by rubber tubing, dirty shot gun barrels can be polished. A wood-faced lap can be made as at D2, and a small leather lap as at D3, a wood screw being soldered or brazed to a shank to take the leather.

Diagram E illustrates a tool for polishing a pitted valve seat, using a strip of emerycloth. This is curved, as at F, and is clipped and placed in a die for sticking to the cone. □