PANEL BEATING

Beginner's Workshop

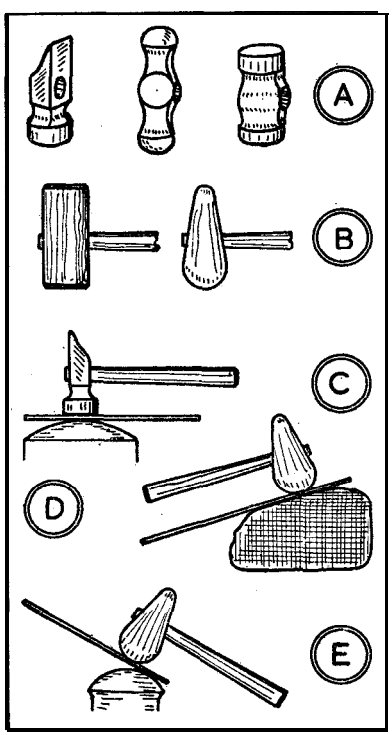
By

Geometer

WHILE commercial panel beating is a highly skilled process demanding years of practice for proficiency, many of its principles are sufficiently easy to assimilate, and by restraining one's ambitions until experience has been gained success in some degree is not too difficult.

Neither are materials-soft aluminium, brass and copper sheet, well annealed and between 1/32in. and 1/16 in. thick-too expensive and tools may already be in the workshop.

Main types of hammers, of which there are numerous variations, are shown at ***A:*** (left) type for general work and stretching and riveting; (centre) type for blocking and hollowing; (right) type for finishing or planishing-removing small dents, irregularities and previous hammer marks. These may be supplemented by wood and rubber mallets, of normal and pear shape, ***B.***



To rest the metal,, a panel beater utilises " stakes " whtch have a lower end tapered to fit a hole in an anvil or block, while the heads are of varying size and shape-flat, round, convex, etc. The amateur, however, may employ pieces of steel bar held in the vice, the ends filed and smoothed to different shapes. A sandbag is always essential.

Kinds **of blow**

Three kinds of blow may be struck. A resilient or elastic blow is when the instrument used is a wood or rubber mallet and the metal is supported on the sandbag, C, as when blocking or hollowing. A metal hammer may also be used but then the blow is harder.

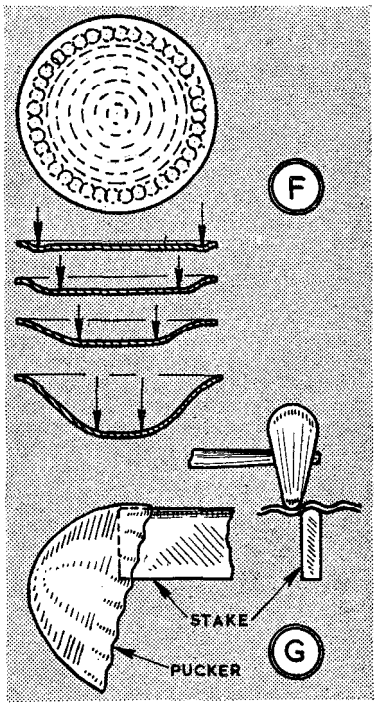
A direct blow, ***D,*** is when a hammer is used and the metal is held up from below on a metal support or stake. This type of blow stretches metal, and is also used in finishing and planishing, when blows are light and adjacent to eliminate previous marks.

A floating or off-support blow, ***E,*** with a hammer or mallet is used in conjunction with a metal support, which, however, is not on the line of impact. This type of blow will also dent and shape metal.

A simple bowl shape commencing as a flat disc is perhaps as good as any for initial practice, and it demonstrates the two methods which may be employed-hollowing and raising. In hollowing, the metal is stretched and thinned; while in raising its thickness remains much the same.

Using a ball-ended hammer, ***A*** (centre), or a pear-shaped mallet, the disc, ***F,*** is held by hand supported on the sandbag, and a circle of closely-spaced blows is struck round just within the periphery. The disc is slowly rotated a little after each blow and the result is a shallow channel.

The first circle of blows is succeeded by another of smaller diameter just touching the first; and the second circle is followed by a third-and so on to the centre. Should the hollowing not then be sufficient, another start is made near the outer edge.



In shaping by raising, the disc is held supported on a round steel or hardwood head, and floating or off-support blows, ***E,*** are struck in circles. The disc tends to pucker round the edge, and each pucker is carefully tapped, a little at a time, out towards the edge of the disc. Attempting to hasten the process may result in the puckers flattening, overlapping, and the metal cracking.

Puckers may be deliberately formed if necessary, and this method employed for raising. A round-edged stake, G, is used to support the edge of the disc, and the metal struck at the side to form each pucker. If this is done on a flat disc, the metal is then driven towards the centre, supporting on a round hardwood head, and employing floating blows. Planishing at the finish is performed with a flat hammer on a round or curved steel head.