Workshop Notes and Notions.

Short practical notes of workshop interest are invited for this column. Contributions must be based on the sender’s own experience and should be marked “Workshop Notes” on the envelope. Accepted items are paid for within a few days. Unaccepted notes will be returned if a stamped addressed envelope be enclosed.

A Bell-Chuck from Scrap.

Like most engineers I am very fond of making tools from odds and ends picked out of the scrap-box. The bell-chuck here illustrated and described was made from old bronze motorcycle bearings.

The first stages of construction are shown in the sketches. Fig. 1 shows simply a plain bush screwed to fit the lathe nose. It is necessary to counterbore this to bed well on the mandrel-collar.

When fitted to satisfaction turn down to fit the bore of Fig. 2 which is also a bush, but in this case has a flange. When the flange is finally rounded off as shown in the photo it adds considerably to the appearance of chuck.

After turning the first bush to size, the second, or bell proper, is sweated on and pinned with brass pins driven through both. Drive pins a little below the surface and solder the ends over. It is then put on the nose and turned up in situ. It only remains to drill and tap eight holes for the set-screws. These are 1/4in. Whitworth.-J. A. LLOYD, M.B.A.A.

Square-ending a Drilled Hole.

It occasionally happens that, for some reason or another, a blind hole is required to have a flat bottom instead of the hollow cone as left by the ordinary drill. A method which can be successfully adopted where only one or two holes require such correction is to take a piece of silver steel of diameter equal to that of the hole, and file away half the thickness at the end, leaving a somewhat hooked lip as shown in Fig. 1. The half-diameter remaining must now be slightly backed off, taking care that the edge is kept straight, and at a very slight deviation from the true perpendicular to the axis. On hardening and tempering this to a straw, it can be fed gently into the hole, when it will remove the cone portion, and leave the bottom of the hole nearly flat, really a little higher in the centre. For some purposes, such as valve seats, this is all to the good, and in most cases it is too slight to be of importance. If, however, a dead-flat bottom is desired, all that is necessary is to finish the drill end quite square across, and then remove half the cutting edge altogether to allow for cutting clearance (Fig. 2).-NATHAN SHARPE (Member, S.M. & E.E.).

Countersinking.

When countersinking holes in the drilling machine considerable difficulty is usually caused by the drill chattering and running out, entirely spoiling the appearance of the work.

The following dodge entirely obviates this:—

A piece of old rag is folded over two or three times, and laid over the hole. The drill is then fed down carefully, and as soon as it is felt cutting through the rag, it is withdrawn, a fresh part of the rag placed over the hole, and the process repeated several times.