

the curved projecting piece is provided to facilitate the insertion and withdrawal of the plate.

*Bending Stick* (c).—Used for bending pipes.

*Bobbins*.—Sizes from 1 to 4½-in. ; used in conjunction with the metal *weight* or *follower* for bending pipes.

*Long Dummy* (Y), *hand dummy* (R) and *heel dummy* (P) are used for bending pipes.

The above tools have been referred to on p. 146.

*Turnpin or Turnpin* (E).—Sizes from 1 to 4½-in. diameter at the head ; used for opening ends of pipes (see p. 152).

*Mandril* (T).—Used for similar purpose as bobbins for removing bulges in long pipes.

*Shave Hooks or Scrapers* (G and H).—Used to shave the ends of pipes prior to soldering (see p. 152).

*Hasp* (similar to that shown at 43, Fig. 67).—Used for filing ends of pipes to be soldered, etc. (see p. 152).

*Blowlamp* (A').—This is one of many designs in which either petrol, paraffin or benzoline is used ; capacity for general use varies from ½ to 2-pints ; used for heating solder, etc. (see p. 153).

*Soldering or Plumbing Iron* (Q).—Used for heating solder (especially when jointing large pipes) ; largely replaced by the blowlamp.

*Copper Bit* (N).—Used for forming soldered joints (see p. 153). Developments of this bit are the gas-heated and electric soldering irons.

*Hatchet Bit* (V).—Used for a similar purpose as the copper bit, but generally for lapped joints.

*Melting or Solder Pot* (U).—Sizes vary from 4 to 12-in. diameter ; used to melt solder.

A bent metal rod, called a *quench hook*, is hooked on to the handle of the pot when the latter containing the hot solder has to be lifted. The solder in the pot is heated by a *gas burner* (on the bench) or the *plumber's stove* or the *fire-devil* (a cage for the fuel supported on metal legs).

*Ladle* (M).—Used to apply the solder obtained from the melting pot (see p. 153).

*Wiping Cloth* (Z).—A pad of several folded layers of moleskin in various sizes and used for wiping joints (see p. 153).

*Caulking Tool* (S).—Used for caulking lead and is made of cast steel (see pp. 143 and 154).

*Dot Mould* (B').—Used for forming lead dots (see p. 150).

*Drawing Knife* (W).—Used for cutting sheet-lead ; a *chipping knife*, having a stronger and parallel blade, is used for cutting lead as it is struck with the hammer.

*Bolt* (X).—Used for opening holes in the sides of pipes to receive branch pipes.

Other equipment includes : Fixing points (steel bars, 12 to 18-in. long, with pointed ends which are driven into brickwork, etc., for supporting pipes which are tied to them during the process of jointing), hammers, pliers, screw-drivers, screw-wrench (for turning nuts, etc.), spanners, soil pot (containing soil required for wiped joints—see p. 152), two-foot rule, square, scribing plate (for describing circles on pipes, etc.), copper tube benders and a complete outfit for lead-burning—a process which is being applied by the plumber to an increasing extent.