

can be pumped up fully before starting and the supply of fuel regulated by means of this valve.

After the lamp, the next consideration is the hearth or fire-brick backing to support the work and to confine and concentrate the heat upon the joint to be brazed. With a small lamp this is more important than with a large one.

A Brazing Hearth

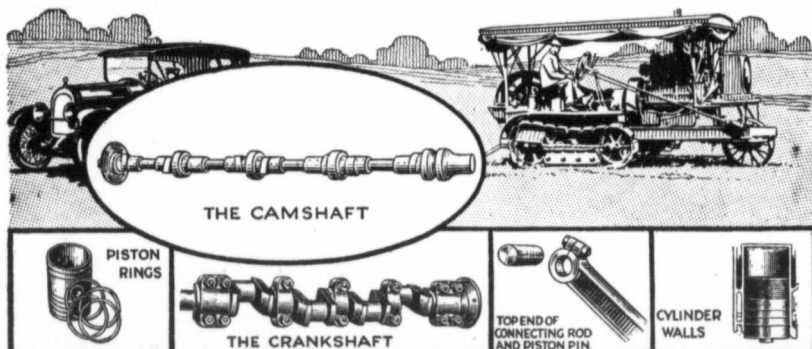
Any iron tray will serve to hold the fire bricks—an old tea-tray at a pinch; but there must be an ample fire brick for the bottom and another for the back. Fire bricks can be bought in many sizes at the builders or ironmongers. For a small hearth, such as would be used by an amateur, the bottom brick may be 1 ft. square and 1 in. thick, and the back of the same size. This is stood on its edge toward the further side of the bottom brick. To these should be added two pieces to form movable sides, as shown last month. Pieces of an ordinary brick broken in half are about right. When the full intensity of the flame is required to beat upon a job another piece of fire brick can be laid across the tops of the side pieces to make a chamber that is practically a small furnace. A few broken pieces of fire brick should be bought also, as they are useful for piling round a long or oddly shaped job to confine the heat to the part required.

In making up the hearth for brazing, the work should rest in the angle formed by the floor and back, and if the two large pieces cannot be used for the sides the broken fire brick must be built up as neatly as possible round the work, leaving only the joint exposed for the flame to play on.

The solder is sold in the form of wire—usually square—and may be had of two sorts, hard and soft. The hard quality requires a higher temperature, approaching a yellow heat, and is employed for iron and steel. This is the sort used by cycle agents for brazing up frames, and can be easily obtained of them or any large ironmongers.

Soft Brazing Solder

The soft quality melts at a lower temperature, not much more than a low red, and is used for joints in copper and brass, where the work itself would be melted if the hard kind were used. It is, however, not so generally stocked, and has often to be specially ordered by one's retailer from his wholesale house. On account of this little difficulty in getting it it is advisable to have a little always at hand. In a good-sized provincial town the writer had to hunt all one morning to get some, finally running it



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