

Many buildings are marred by unsightly chimney stacks which penetrate the roofs at random. As a rule, stacks should be of simple design. A frequent mistake is to complete stacks with *cappings* of oversailing courses with excessive projections. The coarse finish which these give is shown at y, where the capping and necking courses are given a 2¼-in. projection. Ugly chimney pots are common. Tall chimney pots are unnecessary, unless the flues are short or have been improperly constructed, or high trees and buildings are in such close proximity as to produce down-draughts. An unobtrusive but effective finish may be obtained if the chimney pots (or short lengths of drain pipes) are caused to project not more than 1-in. above the flaunching; this is usually sufficient to prevent eddies of wind which may be created if the top surfaces of the stacks were flat.

Two simple designs are shown at u and v. The former stack is constructed of standard 3-in. bricks with an oversailing course having a small projection. The stack at v is built of 2-in. bricks, and is finished with a brick-on-edge course set back ¾-in.; part section and the plan are shown at w and x. The appearance of a chimney stack is much improved if thin bricks are employed. The leadwork conforms with the details shown in Fig. 73, Vol. I.

HEARTHES.—These must be of incombustible materials and securely supported. The *back hearth* (that within the fireplace recess) is bedded on the walling of the breast (see c) or as shown at z. The *front hearth* must have a minimum thickness of 6-in. (see A), a minimum extension beyond the opening at each end of 6-in. (see R), and a minimum projection from the breast of 1-ft. 4-in., as shown at R. The support and trimming of front hearths are illustrated in Figs. 32, 33 and 34, Vol. I; the section at z shows an alternative treatment of a ground floor hearth. The bye-laws state that no woodwork shall be built in under a fireplace opening within 10-in. of the upper surface of the back hearth.

Additional bye-laws designed to prevent fires include the following:—

The external face of a chimney forming part of an *internal* wall less than 8½-in. thick shall be rendered with cement or lime mortar (not less than ½-in. thick) up to the roof. Similar rendering must be applied if woodwork (as at floors and roofs) is placed within 2-in. of walls of flues and fireplace openings which are less than 8½-in. thick.

Woodwork (such as joists) shall not be built in a wall or chimney breast within 9-in. of a flue or fireplace opening.

Wood plugs shall not be driven into a wall or chimney breast within 6-in. of a flue or fireplace opening.

Fires have been caused by plugs (used for fixing skirtings, picture rails, grounds for panelling, etc.) which have been driven through joints and actually penetrated flues. It is therefore important that joiners should know of the position of flues when fixing wood members round chimney breasts.

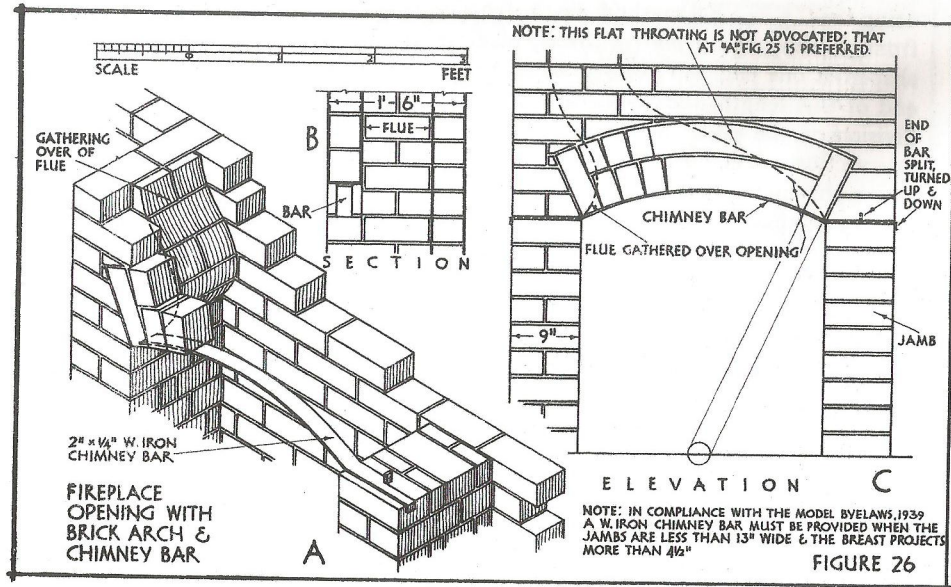
Metal fastenings, such as nails, screws and holdfasts, shall not be placed within 2-in. of a flue or fireplace opening.

Holes in a chimney for the insertion of ventilating outlets or pipes from a heating stove shall not be made within 9-in. of any timber.

FIRE INTERIORS.¹—Details of a simple fire interior, suitable for the ground floor opening at A, are shown at z. This consists of a fireclay block with base,

¹ These are more fully described in Vol. IV.

inclined back and splayed sides or *cheeks*, a metal (cast iron) grate, metal (stainless steel, etc.) angle frame, and a surround of 4-in. square glazed tiles. The fireclay block is bedded on mortar and backed solidly with concrete or brick in cement. The upper surface of this backing should be sloped as shown to prevent soot from accumulating; if left square, as is sometimes advocated, the large accumulation of soot will be blown into the room in the event of down-draughts. The tiles are bedded on the cement rendering. The tiles and simple kerb forming the front hearth are bedded in cement mortar. The back of the block is inclined forward and its sides are splayed in order to throw the maximum heat into the room.



SETTING OUT

A brief description of the construction of walls is given on p. 31, Vol. I. Prior to the commencement of building operations the site must be surveyed and any differences in level of the surface obtained by means of an instrument called a *dumpy level*. The trenches to receive the foundations must be first *set out* or *pegged out* before their excavation is begun. If the site is sloping, and before the trenches are set out, it may be necessary to level the surface by excavating the higher parts and removing the soil to the lower portions as required. *Boning rods*, as described on p. 75, are used for levelling.

The first line to be set out is generally that of the main frontage of the building. As a linen tape stretches and is unreliable, a steel tape is used to