

32, Fig. 19) or the improvised tool shown at v, Fig. 17; the thickness of the rubber should be equal to that of the joint. The rubber accommodates itself to any irregularities of the brick edges as it is pressed into the joint and worked to and fro until the mortar is removed and the depression formed as shown. That shown at v is suitable for the bed joints, a similar but shorter tool being used for the vertical joints. The bricks must be hard and durable, otherwise any water collecting on the ledges may become frozen and cause pieces of brick to flake off.

Keyed Joint.—Such joints give an appearance to the brickwork which is distinctly attractive.

It may be formed with either the convex rounded jointer (see above) or the wood jointer shown at w, Fig. 17, which varies in thickness with that of the joint. The vertical joints are formed first, followed by the bed joints. The latter are formed by using the jointer in conjunction with the pointing rule (see 18, Fig. 19); the rule is usually held by two men against the wall with the bevelled edge uppermost on the same level as and parallel to the lower edge of the joint; the jointer, resting upon it, is pressed into the soft mortar and passed along several times in both directions until the required depth is obtained, the surplus mortar falling between the distance pieces of the rule. The vertical joints should have a slightly less impression than the bed joints.

Vee-joint (see broken lines at z).—Its effect is to give the appearance of narrow joints, especially if the colour of the mortar resembles closely that of the bricks. It is not recommended. The joint is made as described for the keyed joint and with a steel jointer having its lower edge suitably shaped.

Projecting Joint.—As stated in the footnote on p. 31, the inside faces of walls which are to be plastered (in addition to external surfaces which are to be rough-cast) are left with the mortar projecting. This gives a good key for the first coat of plaster, as shown. Another good key is afforded if the joints are raked out to a depth of about $\frac{1}{2}$ -in. before the mortar has set.

In addition to its form, consideration should be given to the colour and texture of the joint. Bricks of various colours and textures are now obtainable, and it is very important that the colour of the mortar should conform with that of the bricks. Thus, mortar composed of lime and *yellow* sand is very suitable for certain sand-faced bricks.

POINTING AND RE-POINTING.—It has been stated that pointing is the method of finishing the joints after the whole of the brickwork has been completed. It may be applied to a new building just before completion, or it may be used on existing buildings when the joints have become defective and, if not attended to, may result in dampness and the reduction of brickwork to a dilapidated condition.

The first operation in pointing is the removal of the mortar for a depth of $\frac{1}{2}$ -in. in order to give an adequate key for the fresh mortar, after which the face is brushed down with a bass broom to remove pieces of mortar and dust and finally well drenched with water. The material used for refilling the joints may be either lime mortar or cement mortar and the colour should conform

with the brickwork (cement can now be obtained in a variety of colours for this purpose).

Waterproofed lime and Portland cement mixtures are now extensively used for pointing; the former mixture may consist of 1 part lime to 3 parts sand gauged with a solution of 1 part waterproof compound to 15 parts water, and the latter mixture may be composed of 1 part waterproofed cement (containing 2 per cent. of the waterproofing compound) to 3 parts sand.

The form of joint to be used for pointing or re-pointing depends a good deal upon the condition of the brickwork. If the edges of the bricks are true and in good condition the joints may be selected from the struck, flush, recessed or keyed varieties described above; if the edges are damaged, the mortar should be finished with the flush form of joint.

Tuck Pointing, as illustrated at t, is occasionally adopted where the jointing material has become defective and the brickwork at the joints has become ragged. Generally it is only used when an alternative flush joint would cause the joints to appear excessively wide.

Tuck pointing is done in the following manner: The joints are raked out, brushed and watered as before described. Coloured cement may be used to match the colour of the existing brickwork and this is trowelled with a flush joint and rubbed as described for flush jointing—a small trowel being used together with a hawk (see p. 29) to hold the mortar. A $\frac{1}{8}$ or $\frac{1}{4}$ -in. wide by $\frac{1}{8}$ -in. deep groove is immediately and carefully formed along the centre of each joint. With the aid of the pointing-rule and a flat edged jointer (32, Fig. 19) the groove is filled or "tucked in" (hence the name given to the pointing) with *putty lime* (see p. 24) to which a small amount of silver sand has been added. The putty is given a maximum projection of $\frac{1}{8}$ -in. and both top and bottom edges are neatly cut off by means of the frenchman (see p. 29), the bent pointed end of which removes the surplus material as the knife is drawn along the edge of the rule. The bed joints are formed first, in about 8-ft. lengths (when two men are working together), followed by the vertical joints.

Tuck pointing gives a neat and attractive appearance to a building—the shadows cast by the projecting putty assist in producing the illusion of narrow joints—but the band of putty is not durable, and in course of time becomes defective.

Bastard Tuck Pointing.—This is an imitation of tuck pointing and is formed entirely of the infilling mortar. The profile of the joint is similar to that of tuck pointing but the band which projects consists of the pointing material. Whilst this does not look so well as the true tuck pointing, it is more durable, although its durability is uncertain as the projecting mortar is apt to become affected by weather action.

Another form of pointed joint which projects is known as a *beaded joint*. This is indicated by broken lines at y, Fig. 17. It is formed, in conjunction with the pointing rule, by a jointer having a concave edge. It is liable to be damaged and is not recommended.