sometimes applied to the fillets or flat bands of cornices, string courses, door and window architraves, etc.

Rock-faced, Rusticated or Pitch-faced (see R, Fig. 19).—After the marginal drafts have been worked (see p. 35), the pitching tool is used to remove certain of the superfluous stone in the centre which is left raised or rough to imitate a rock-like surface. It resembles hammer-dressed work, excepting that it is much bolder and greater care is exercised in obtaining an effective appearance. This dressing is sometimes applied to plinths to give a semblance of strength and solidity.

Scabbled or Scappled.—This is similar to the rock-faced dressing, the scabbling or scappling hammer (shown by broken lines at 29) being used to remove some of the irregularities.

Dragged or Combed.—This finish is given to soft limestones, such as Bath stone, by the application of drags (23). These drags are steel plates (about $\frac{1}{10}$-in. thick) having serrated edges, and graded into " coarse," " second " and " fine," according to the number of teeth per inch ; they are of various shapes and sizes. After the surface of the stone has been brought to the required level by means of the dummy (the head of which is made of zinc or pewter and is shown at 25) and soft stone chisel (19), the coarse drag is dragged backwards and forwards in different directions across the surface until the tool marks have been eliminated ; this is followed by the second drag and finally by the fine drag until all scratches have disappeared.

Vermiculated (see S, Fig. 19).—The face is brought to a level and smooth finish. Marginal drafts are sunk at least $\frac{3}{8}$-in. below this surface, when sinkings are then worked to a depth equal to that of the drafts (see section UU) so as to form a winding snake-like (*verm*inous) ridge which is often continuous (as shown at T) and which has to be carved by means of gouges (13).

Reticulated (see V, Fig. 19).—This is similar to vermiculated, excepting that the ridges or veins are less winding and are linked up to form a network (hence the name) of irregularly shaped sinkings or reticules ; the bottom of these hollows is sometimes sparrow-picked (see p. 36) with a fine point (9) as shown at Y.

Neither vermiculated nor reticulated dressings are applied much to modern work, probably on account of their expense, but they are occasionally adopted for quoins and to decorate and emphasize horizontal courses. They are examples of rusticated work which are supposed to resemble decayed or " worm-eaten " stonework. They must be done with great care and to a bold scale if they are to be effective.

> Although the whole of the above surfaces may be done by hand, economy in labour and cost results if certain of the intermediate operations (such as sawing and rubbing) are performed by machinery.

Chisel Drafted Margins.—Besides marginal drafts which vary from $\frac{3}{4}$ to 2-in. and are necessary in the working of a true face (see p. 35), drafts are also used for the sake of appearance and some of these are shown in Fig. 19. These may be pitched (see L), square (N and S) or chamfered (Q and V). Stones which have been hammer-faced must be pitched or roughly trued up at the edges if close-fitting joints are needed. Drafted margins are usually given a boasted finish (N), or the surfaces may be rubbed (S) or tooled (R). Quarry-pitched walling must have drafts (called *angle drafts*) worked on both sides of the arris of each quoin stone and on jambs of door and window openings (see B, Fig. 20). This is to permit the use of the plumb rule and line to ensure plumb and accurate walling during its construction, the face of the drafts giving the line of the wall.

Tools.—A few of the many tools used by the mason have been referred to on the foregoing pages and illustrated in Fig. 19. Chisels are struck either with the mallet (24)—which is made of hardwood such as beech or hickory—or the hammer. The striking ends of mallet-headed chisels are broader (see 5, 9 and 13) than those which are hammer-headed (*e.g.*, 1 and 6) so as to prevent the mallet from being damaged. Cutting tools which have to withstand heavy impacts are usually made entirely of cast steel, others used for the dressing of soft stones may have wood handles (19) and these are struck with the dummy (25) which has a zinc or pewter head. Other tools, such as the trowel, square, line and pins, bevel, etc., have been described on p. 29.

Natural Bed.—Sedimentary rocks, such as limestones and sandstones, are stratified or laminated (due to the deposition of successive layers or laminæ during the formation of the stone) and occur in beds of varying thickness. The layers are usually parallel to the bed and the term " natural bed " is applied to the surface of the stone which is parallel to these layers or bedding planes.

> The beds are generally more or less horizontal, although in some quarries they are inclined (see A, Fig. 68). Some stones show the laminations very clearly and there is no difficulty in ascertaining the natural bed ; in other varieties it can only be detected with the aid of the microscope. The direction of the natural bed of certain sandstones is indicated by an examination of the small embedded flakes of mica (a silicate of a shining dark hue) which lie flat and parallel to the bed, and that of some limestones by the position of the minute shells which lie flat in the direction of the bedding planes. The trained mason can usually ascertain the lie of the bed on working the stone, it being easier to dress it in the direction of the planes. In order to prevent mistakes, it is the practice in some quarries to mark the direction of the natural bed on each stone before dispatch.

It is important that the stone shall be built in the correct position in relation to the natural bed, otherwise serious defects may occur. Thus for :

(*a*) General walling, the stone should be bedded on the natural bed as in this position the laminations of the stone are horizontal and at right angles to the pressure and thus the stone is better able to support the superimposed weight. This position is indicated by thin parallel lines at 1′, Fig. 24.

> A wall should *never* be constructed of stones which are " face-bedded," *i.e.*, with the laminæ vertical and *parallel* to the face of the wall, for in this position the action of the weather may cause decay along the edges of the stone, and, in extreme cases the exposed layer may separate and flake off.