THE MOORSTONE AGE

QUARRYING for granite was almost unknown on Dartmoor earlier than the opening years of the nineteenth century; then, at Heytor in Ilsington, and Foggintor in Walkhampton, quarries were opened from which large quantities of stone were ultimately taken. But surface granite, undressed, was already in use during the Early Bronze Age. And stone cut and dressed from surface blocks was in use before the Norman Conquest.

It must not be thought that these surface blocks necessarily yielded stone of poor quality; the larger masses are but superficially affected by weathering, and in some localities, such as Foggintor and Hentor, the stone is so far unaffected by exposure that the edges of the blocks are still sharply angular.

There were two excuses for the use of surface stone; the right to take stone did not extend to a right to quarry, also, the cost of quarrying was avoided. There was another good reason for its use—in the main it proved a durable material.

There were, however, rare instances of bad selection; for example there is in Harford Churchyard an altar tomb bearing the date April 1633. The inscription is in raised letters, and is now almost illegible. Three hundred and seven years after the erection of the tomb it was with great difficulty, and only under the most favourable conditions of lighting, that I was able to decipher the inscription.[1] By way of contrast the inscription, also in relief, from the Old Town Conduit in Plymouth, erected in 1598, is still perfectly clear; so much depends on selection.

Surface stone is still used for local purposes, and even at times in the making of granite setts for carriageways in towns. An interesting note on its use is to be found in the *Gentleman's Magazine* (1849, Part II,

[1] It may be well to preserve the matter of this inscription:

HERE LY(ETH)
IOAN THE WIFE
OF RICHARD
PREDIOX WHO
DIED THE XI OF
APRILL 1633
AND THOMAS
THERE SONNE
WHO DIED THE
XIX OF APRILL
1633

p. 494) where, writing of the danger to the *Men Skrifa* (Madron, Cornwall) which had fallen, a writer says that it had been re-erected some twenty years earlier, but had again fallen, adding: "At that period (the period of its re-erection) the act of raising it was simply one of laudable reverence, for, whether standing or prostrate, its situation in an out-of-the-way croft seemed to promise it a sufficient security from injury. The case is, however, widely different now, when there is such a demand for our granite; and as the surface blocks are specially coveted, not only because they are more durable than the quarried material, but also because they are cheaper—leave being readily obtained for their removal, which renders the land available for tillage—it is much to be feared that the inscribed stone, no longer distinguished by its upright position, will be treated with as little ceremony as the nameless ones amongst which it lies."

Such were the conditions in west Cornwall a hundred years ago, and on Dartmoor matters were certainly no better; indeed they are still very unsatisfactory.

So far as they gave it any thought it must have comforted the conscience of the stone-mason, and reassured his customers, to believe in the superiority of surface stone. At least it usually proved a sufficient and satisfactory material.

For this rock the constant name was *moorstone*; the word *granite* was foreign to the western vocabulary prior to the advent of the systematic geologist. A kindred material, the felsite which occurs as a dyke on Roborough Down (South Devon) was known as *Roborough Stone*. The quarries on the course of this dyke could not have yielded as much of this rock as is known to have been used, largely in ecclesiastical buildings; and much must have been derived from surface blocks. Roborough Stone was favoured by the church-builders of the Perpendicular Period. It was also in use for domestic utensils, such as mortars and troughs. Richard Strode, in his will, 12th October 1464, directs that a new window of "Rowburgh-stone" shall be placed in the chapel of the Guild of St. Catherine in the church of Plympton St. Mary and that, in an arch under this window, his tomb shall be constructed, "fact' de petra vocat' vulgariter Bere Stone vel alias de petra vulgariter vocat' Rowburgh Stone". In the event Roborough Stone was used for the window, and Bere Stone for the tomb.

In the following notes I give some account of the many uses to which Moorstone and Roborough Stone were applied.

GATE AND DOOR HANGERS

Certain holed stones, often found in use as gate-posts, have puzzled western antiquaries. One such stone, from the head of Portland Lane, Sheepstor, now serves as a gate-post of an adjacent field (Fig. 102, 1; Pl. 72B). Alike in Devon, where the holes more usually extend but

WOOD-AND-STONE GATES.

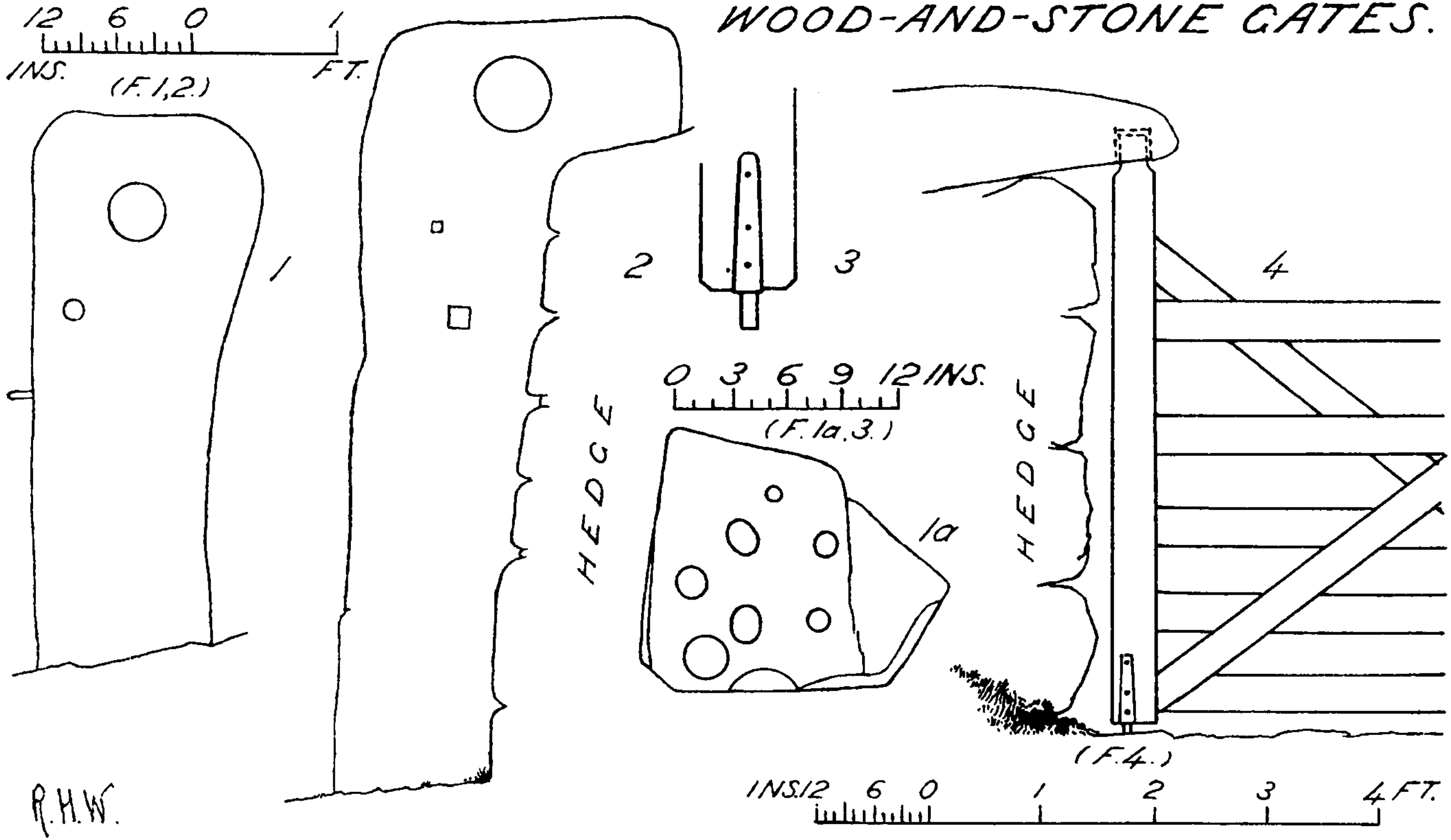


FIG. 102.

1, 1*a*. Near Portland Lane, Sheepstor. 2. Longstone. 3. Wormhill, pin. 4. Wormhill, complete gate-hanger.

partly through the stone, and in Cornwall, where they more usually pierce the stone, they have been regarded as of prehistoric origin. In the Isles of Scilly where, on Tresco, there is a stone pierced with two such holes, the idea is accepted that lovers, standing one on either side, passed their hands through the holes, and, clasping hands, plighted their troth. The impossibility of their clasping hands under such conditions is not regarded as relevant evidence to the contrary.

There is no call for ingenious speculation. The Rev. S. Rowe, writing from personal observation (1848, p. 89), says: "The primitive contrivance for hanging gates of the moorland crofts and commons, may be seen employed in this neighbourhood (Chagford). No iron hinge of any kind, nor gate-post, is employed. An oblong moorstone block, in which a socket is drilled, is built into the wall, from which it projects sufficiently to receive the back stancheon of the gate, while a corresponding socket is sunk in a similar stone fixed in the ground below, unless a natural rock should be found *in situ*, which is frequently the case. The gate, thus secured, swings freely, swivel-like, in these sockets; and thus, from materials on the spot, without the assistance of iron, a simple, durable and efficient hinge is formed by the rural engineer."

I doubt the strict accuracy of a part of this description. A wooden stanchion turning in a hole in granite, set at ground-level, and often filled with water mingled with sand from the adjacent track, would be fretted away and worn out in short time.

With one possible exception, near Lydgate, Buckfastleigh, I have found no trace of lower sockets in any way comparable to the upper. The bottom of the stanchion has always been armed with an iron pin, fitting into a small hole in a stone at or slightly above ground-level. The bed-stone of the gate-hanging at Portland Lane (Fig. 102, 1*a*) was not in granite, but in altered slate, and had been used for a sufficiently long time for the pin on the gate to wear a number of successive sockets until each in turn became too deep for convenience. There is one other correction to be made: the holed-stone, the upper socket, was rarely built into the hedge but more usually laid upon the top of it.

The holed-stones, a term which I confine to the upper hangers, varied in size. They had to be sufficiently heavy to resist the pull of the gate, and sufficiently long to balance securely on the top of the hedge. It must be remembered that, when they were in general use, few gates much exceeded five and a half feet in length, yet some of the stones were sufficient and adequate to be retained in use in days when eight-, or even nine-feet gates had come into favour. Many of the holed-stones were fitted by size and shape for use as gate-posts of the modern type, and many were ultimately so used, remaining thus on their original sites.

The combined gate and hanger were usually called a 'wood-and-stone' gate, a term frequently corrupted to 'wooden stone'.

There is a wood-and-stone gate on Peck Farm, in the parish of Lustleigh (Pl. 72A), at the point where the track from South Harton to Peck enters the enclosures of the latter farm (6 inch O.S., sheet c, NE., lon. 3°-44′-58″, lat. 50°-37′-47½″); and another gate at Wormhill (Fig. 102, 3 & 4; Pl. 73A) in the parish of North Bovey, 350 ft east of the entrance to Wormhill, and on the north side of the Tavistock—Moretonhampstead road (6 in. O.S., sheet xc, SW., lon. 3°-48′-54″, lat. 50°-38′-53″). Originally this was a six-foot gate, but at the time the photograph was taken it had been enlarged to ten feet, an alteration which overtaxed the capacity of the holed-stone, and eventually led to the use of the modern type of gate-hanging. Here, as is frequent, the pin on the bottom of the hanging style of the gate had occupied a succession of sockets in the foot-stone, a new socket being formed when its predecessor became unduly worn.

There is a wood-and-stone gate at Cockstor in the parish of Petertavy, at the east end of the Cockstor moor-lane (6 in. O.S., sheet cvi, NW., lon. 4°-5′-15″, lat. 50°-33′-46½″).

Of the three gates mentioned above, that at Peck Farm was in decay when last I saw it; I do not know whether it has been restored, nor whether the restoration has been on the old lines. The gate at Wormhill was a ten-foot gate hung on a holed-stone originally intended to take a six-foot gate; when last I saw it the attempt to hang the longer gate in this manner had been abandoned, and a gate-post of modern type has been substituted: this example was thus lost. As to the gate at Cockstor, Mr. Bellamy tells me that, as long as he occupies the farm, no change will be made, beyond necessary repair and renewal; for that determination we are grateful to him. Cockstor affords one of the few Devonshire examples of a holed-stone in which the hole completely pierces the stone. I know of but one other instance, and that disused, built into the western hedge of the track leading from Merrivale to Davytown, at a point 450 ft north of the Davytown court-gate: Walkhampton parish (6 in. O.S., sheet cvi, SE., lon. 4°-2′-51″, lat. 50°-32′-29½″). On this same track there is, near Little Wonder Bridge, over the Pila Brook, a holed-stone of ordinary type, which has been broken and built into a wall; and at Hucken Tor, worked in rock *in situ*, at road level, are the marks left by the iron pin which shod the hanging style of a former gate.

Although usually lying free on the hedge-top, holed-stones were at times built into masonry. Thus, at Forder in the parish of Gidleigh (6 in. O.S., sheet lxxxix, NE., lon. 3°-52′-53″, lat. 50°-41′-24″) one side of the entrance to the yard is formed by the quoin of a building, and built into that quoin is a holed-stone, at 7 ft above ground level, which once formed the upper socket in which turned the yard gate or door (Fig. 103).

Holed-stones were also used as hangers for barn doors. Examples can

be seen at Foxworthy in the parish of Lustleigh (6 in. O.S., sheet c, NE., lon. 3°-45′-21″, lat. 50°-37′-28½″), and at Peck, in the same parish (6 in. O.S., sheet c, SE., lon. 3°-45′-14″, lat. 50°-37′-52″).

In the old house at Yardworthy, in the parish of Chagford (6 in. O.S., sheet lxxxix, SE., lon. 3°-52′-9½″, lat. 50°-39′-2″) there are two interesting examples of this type of hanging. In the stone which forms the roof of the porch is a hole 2¾ in. deep and 2¾ in. in diameter which formed the upper hanging of the entrance door; the sill has been lost, and with

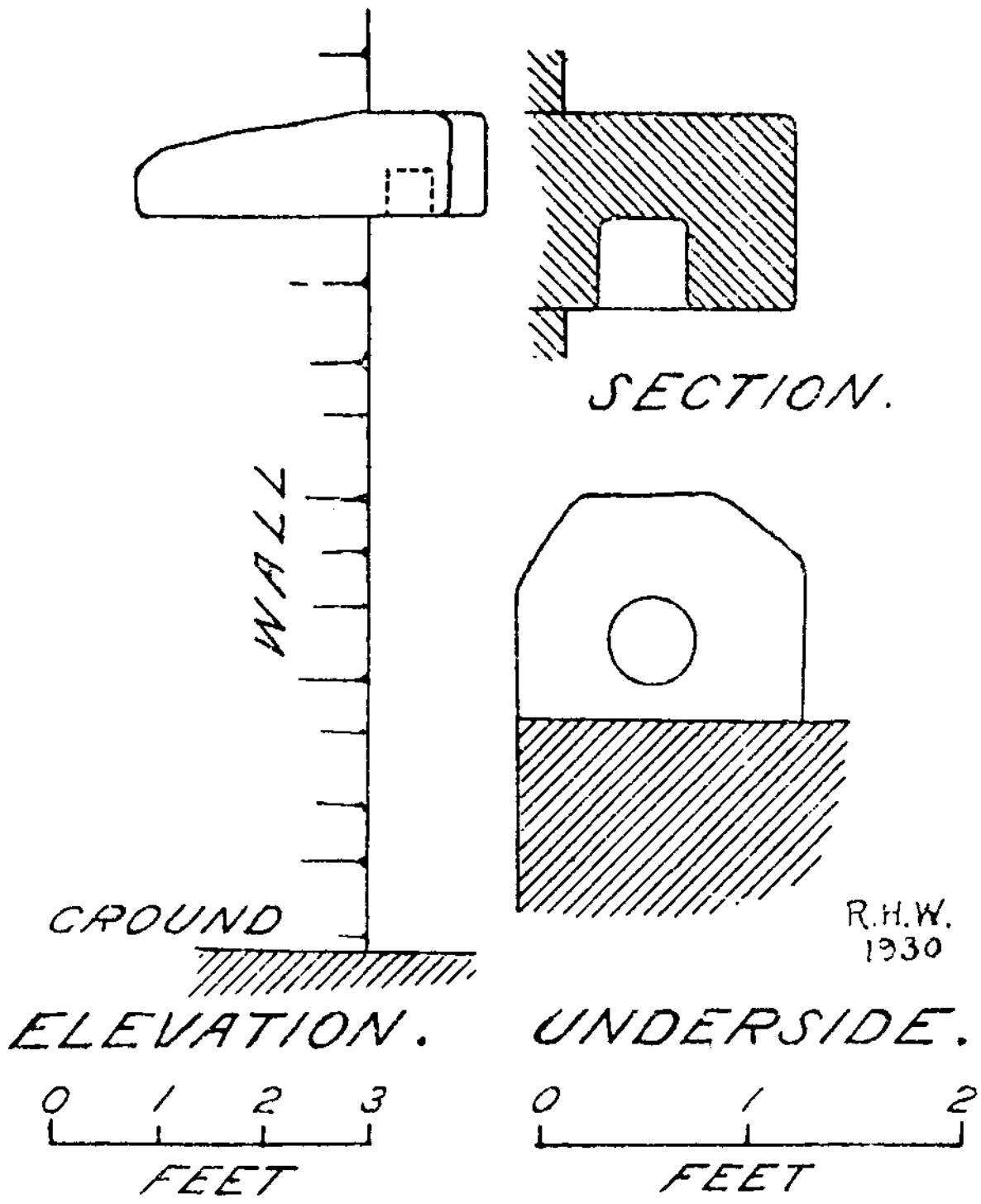


FIG. 103. Holed stone forming the upper socket of a yard gate, Forder (Gidleigh).

it the bearing of the lower hanging. There is, however, a window opening, which was never glazed but was closed with a shutter, the upper hinge of which was formed by a hole in the lintel, 2 in. in diameter and 2 in. in depth. The lower hinge was formed by a slight hole in the sill; the dimensions of this hole are sufficiently small to indicate that an iron spill must have been used at this bearing. I regard the building as being fourteenth-century work (see p. 403).

As to dimensions I have taken the figures for the first twenty-two

holed-stones which I have listed. I find the mean diameter of the holes to be 4·92 in., and the mean depth 4·24 in.; with the following extremes: diameters, greatest 7½ in., least 2½ in.: depths, greatest 6 in., least 2¼ in.. But, if we omit the two least diameters and the two least depths, we get ranges of: diameters, 7½ in. to 4 in.; depths: 6 in. to 3 in.; and these are more representative figures.

In general the holed-stones have much the same size and proportions as modern gate-posts, except that their width is somewhat greater as compared with their thickness. It is, however, true that some few are irregular in form, subject always to there being at least one flat face to rest on the hedge.

At Longstone, by Burrator Reservoir, Sheepstor, a holed-stone reused as a gate-post stands 5 ft 5 in. out of the ground, and measures 2 ft 1 in. in width at the top (Fig. 102, 2). At Fernworthy, in Lydford parish, there were three holed-stones, two of which were used as gate-posts. One, at the court gate, stood 3 ft 5 in., was 27 in. at its greatest width, and 13 in. thick. Another, at the moor gate, still stands 5 ft 5½ in. high; and the third, built into a wall, is 5 ft 6 in. in length, 23 in. in width at one end, and 18 in. at the other. There is built into the boundary wall of Natsworthy Manor, Widecombe-in-the-Moor, a holed-stone, 6 ft 9 in. in length, 13 in. wide at one end, 2 ft 3 in. at the other, and with a least thickness of 9 in.; longer stones are known.

The general principle of the wood-and-stone gate was probably in early use; it has certainly not been confined either to Dartmoor or the British Isles, and it is known in China. In our local form it may be primitive, but it is not the simplest device which has been used. It has disadvantages; it needs a real gate, a piece of carpentry; the head of the hanging style must of necessity become worn by the friction of the stone in which the hole is formed; the iron pintle at the foot of the hanging style is probably but slowly affected, but it wears the socket in the foot-stone, and a new socket is then necessary. Against these disadvantages it has one quality which specially suited it for certain positions; it can be easily and quickly opened and closed. A man on horseback can open the gate, ride through, and then close the gate behind him without dismounting. The slip-bar gate, described below, involved that the rider should dismount, tether his horse, take down the bars, lead his horse through, replace the bars, and remount. Hence it came that the wood-and-stone gate was rarely used except at the entrances to courts or yards, or across accommodation roads, or public roads where these needed to be closed, as at moor gates; while slip-bar gates were never used in such places, but were essentially field-gates.

SLIP-BAR GATES

Slip-bar gates are found in four variants.

(*a*) *Double Slot gates*. Two granite posts are each vertically slotted at

intervals, the spaces between the slots being the same in both. The slots in one post are made twice the depth of those in the other. These posts are set vertical. Then, if a clear opening of, say, 6 ft is required, the posts are set at that distance apart; in one the slots will be 2 in. in depth, in the other 4 in.

Bars or poles of 6 ft 4 in. in length are then inserted in the deeper slots, and pushed well home; the free end of the bar is brought opposite the shallower slot in the other post, and again pushed well home, being thus partly withdrawn from the deeper slot. There is left a bar 6 ft 4 in. in length, spanning the 6 ft space between the posts, and resting 2 in. at either end in the slots. A peg put through the bar against the post with the deeper slots fastens it securely.

There is a pair of posts of type (*a*), now diverted to use as ordinary gate-posts at Cudliptown, in the parish of Petertavy (6 in. O.S., sheet xcviii, SW., lon. 4°-5′-11″, lat. 50°-35′-40½″). Some work was added on conversion to present use. The slots in the right-hand post are 4 in. deep, those in the left-hand post are 2 in. deep (Fig. 104, 1, 2).

(*b*) *Slot-and-L gates.* In this type one post is slotted precisely like the posts with the shallower slots in type (*a*). On the other post, in position corresponding to these slots, a series of grooves is cut, in the form of inverted L's. The horizontal arm of the L forms a notch in one face of the post. In general the slots in the one post, and the grooves in the other, are about 1¾ in. in depth. In these gates the length of the bar should be equal to the distance between the posts, plus the depth of the slot and the groove; the bar cannot be removed by endwise movement. But, at the groove end, with vertical posts, it would be in no wise fixed. It is possible to devise methods of fixing this end, but they would not be simple, and would be tiresome to apply.

Short of absolute security, relative security might serve all practical purposes; and this was accomplished by setting the posts leaning somewhat away each from each. The ends of the bars can then be pressed down in the vertical leg of the L, and thus jammed into position. This was apparently sufficient to meet the difficulty.

At North Creber, in the parish of Gidleigh (6 in. O.S., sheet lxxxix, NE., lon. 3°-53′-47″, lat. 50°-40′-33″) there still stands a gate of this type, complete in all respects, and preserving its original dimensions. Two other posts, one from South Creber and one from Lakeland, both in the parish of Chagford, have been noticed. The stone from South Creber has been shaped by the old method of cleavage, as to which see later. The stone from Lakeland has L-shaped grooves on two adjacent sides, having served two adjoining gateways (Fig. 104, 3; Pl. 73B).

Type (*b*) was the most popular of all, and among the many posts which yet remain some few show divergencies from the type, as, for example, the post from North Creber.

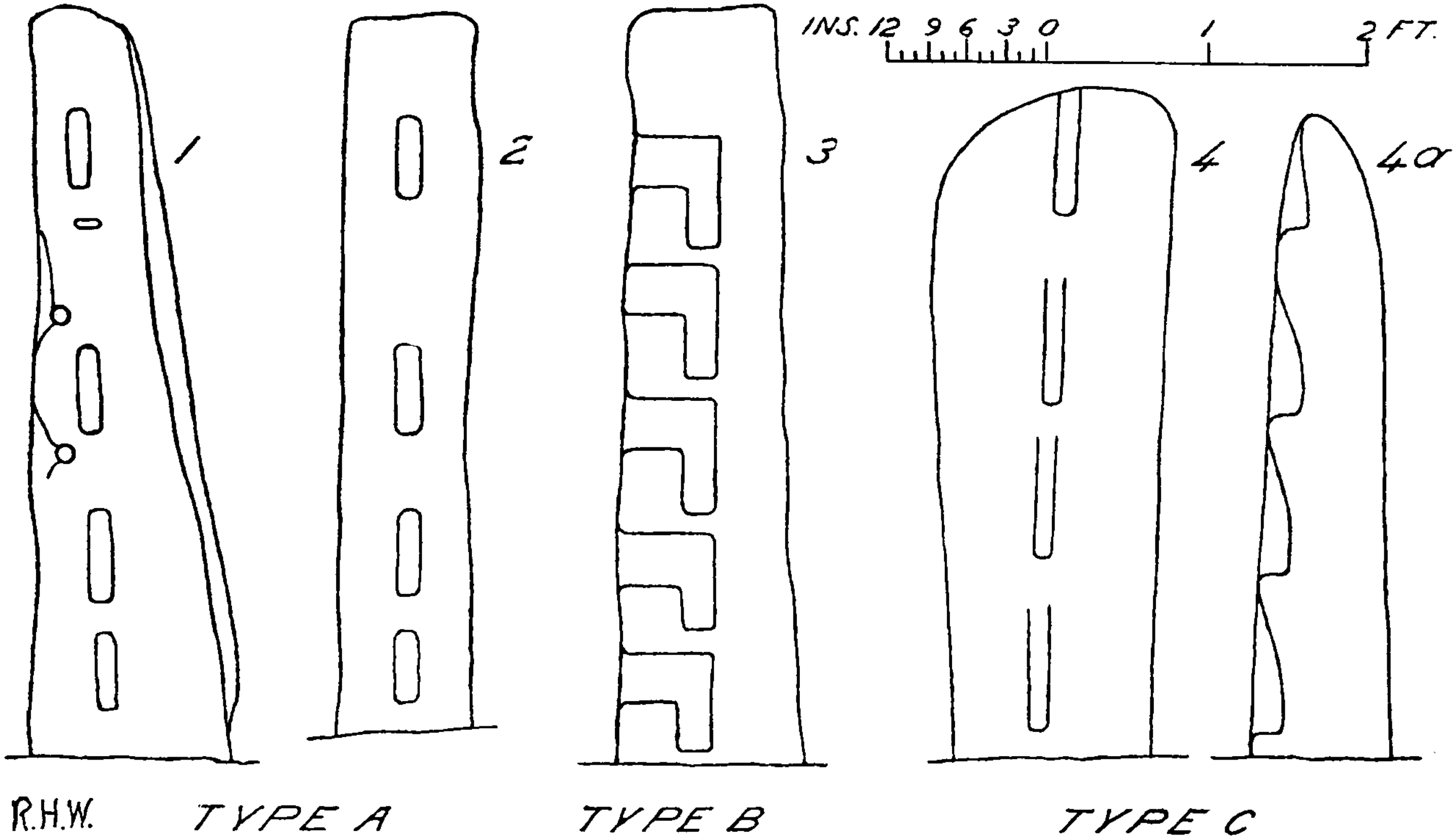


FIG. 104. 1, 2. Cudliptown. 3. Lakeland. 4, 4*a*. Poundsgate.

(*c*) *Slot-and-Arc gates.* This type is rare. One post is of the common slotted type. In the other, in place of slots of even depth throughout, the upper end of the slot starts flush with the surface of the post and then proceeds in a curve, deeper and deeper into the post, reaching at the bottom of the slot the same depth as in the ordinary type. The posts were set slightly farther apart at the top than at the base. The wooden bars were first inserted in the slots of the post with normal slots, and were then dropped vertically into the curved slots of the other, and pressed down. They were thus jammed between the two posts, and held relatively firm.

An example is to be found by the roadside opposite Northaway, in the parish of Widecombe-in-the-Moor (6 in. O.S., sheet c, sw., lon. 3°-48′-12″, lat. 50°-34′-34″). A similar stone is to be found at Poundsgate, in the parish of Widecombe (Fig. 104, 4, 4*a*).

(*d*) *Locked-bar gates.* This is not a common type, but it is less rare than type (*c*). As in all the types, one post is an ordinary slotted stone; the other post has no slots, but cut out from one face of the stone at a corner are rectangular depressions, corresponding in number and in height above the ground to the slots in the former. These depressions are deep enough to take the whole thickness of the bars.

The gate is mounted by placing one end of each bar in a slot of the slotted post, and then bringing the other end, keeping the bar level, to and into a depression in the other post. When all the bars have been so placed the gate has been closed; but the arrangement is unstable; a moderate breeze, or the slightest pressure, displaces the bars. The difficulty is met by placing a slip of wood, set vertical, over the ends of the bars as they lie in the recesses, and securing the wood to the post by an iron eye, set in the moorstone and passing through a slot in the wood, through which eye a wooden wedge is passed. A similar device is that used for simultaneously locking a set of drawers in a cabinet. Thus types (*a*) and (*d*) are the two in which positive locks hold the bars.

There is a recessed post which stands at Cudliptown in the parish of Petertavy (6 in. O.S., sheet xxxviii, SE., lon. 4°-5′-49½″, lat. 50°-35′-11″) (Fig. 105, 1). A similar gate is still in use at the entrance to the field in which lies Puggiestone, in the parish of Chagford (6 in. O.S., sheet lxxxix, NE., lon. 3°-51′-32½″, lat. 50°-40′-21½″).

The distribution of these gate-hangers and posts is interesting. I have specifically mentioned but few out of many. They are most frequent on the east of Dartmoor, and especially around Chagford, in an area extending west of the town to the unenclosed moorland. There are three holed-stones at Fernworthy, and several slotted posts. In Widecombe, Manaton, North Bovey and Moretonhampstead parishes, to the west and south, holed-stones and slotted posts are common. In the Ancient Tenements of the Dart Valley these relics are less frequent, but far from rare; while, to the south-west, there are two holed-stones

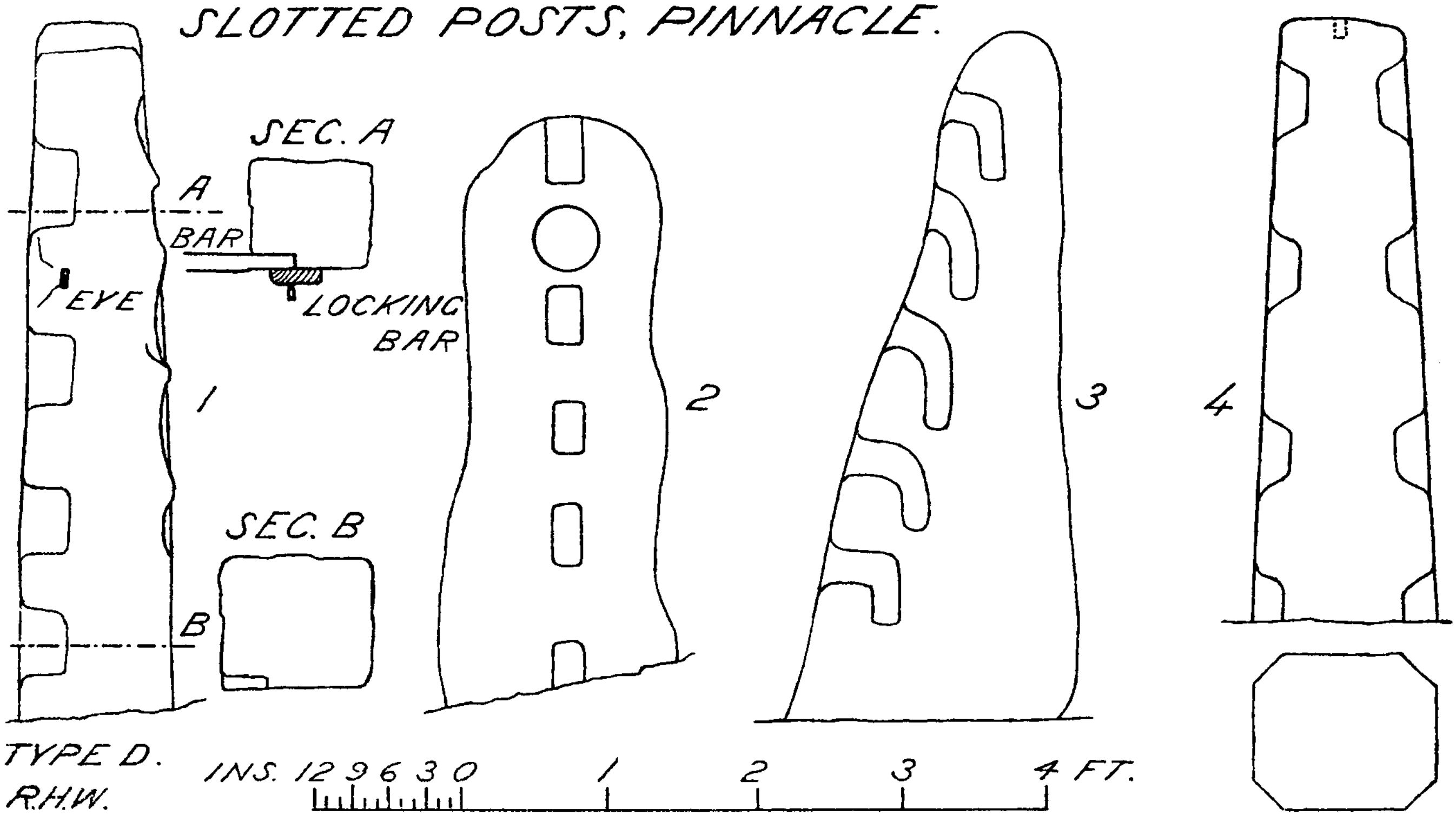


FIG. 105. 1. Cudliptown. 2. Yardworthy, Mariners Way, showing both hole and slots. 3. Particulars not available (ED.). 4. Gidleigh, a deposed pinnacle.

and several slotted posts in Sheepstor parish; at least three holed-stones, and several slotted posts in Walkhampton parish; and, farther west, a number of slotted posts in Marytavy and in Meavy; to the south there are occasional slotted posts in Plympton St. Mary and South Brent parishes. As far south as Prawle I have found a slate post in which the slots were carried right through the stone, Cornish fashion. Lastly, there are wooden posts, a few on Dartmoor, and a few in the South Hams, which in form and purpose simulate the granite posts which I have described. It would appear that these gates attach to the earlier agricultural enclosures, but not to the earliest. I doubt that any, except those with wooden posts, have been constructed since wheeled agricultural vehicles came into use, although many remained in use after alteration to suit the new conditions. This consideration does not carry us to any really early date. The grandfather of the brothers Fabyan and John Amery was the first in the parish of Lustleigh to employ a wheeled cart in agriculture, and his neighbours held him to be foolish, in that such employment brought the need for altering the width of all his gateways. With greater precision as to date I may quote Fraser, who, writing in the year 1794, says of the South Hams: "Carts are little used for the purposes of agriculture, but when they are, they are of the common kind, and drawn both by oxen and horses." Marshall, 1796, with even greater particularity, writes: "Formerly, CARRIAGE of every kind was done entirely on the BACKS OF HORSES, except in harvest, when sledges, drawn by oxen, were sometimes used; also heaps of manure, in the field, were dragged abroad in small cart sledges, either by oxen or horses. Twenty years ago, there was not a 'pair of wheels' in the country, at least not upon a farm; and nearly the same may be said at present." The change from pack-horse to horse-and-cart was far from complete in the early years of the nineteenth century.

One other attempt may be made to establish some form of chronology in the matter. All the holed-stones and slotted posts which I have seen, so far as they have been shaped by cleavage, show the use of the earlier method of splitting the stone. I except two examples to which I will later refer. The earliest date for the use of the later method of splitting, the use of the drill, which I can establish on Dartmoor, is 1803. But no industrial technique is ever abruptly abandoned; it lingered on here and there.

There are two slotted stones which have been split from their parent masses by the use of the drill. Neither of these presents good workmanship; the slots are no more than roughly shaped depressions, which serve their purpose, but mark the stones as makeshift replacements. The more presentable of these two stones is to be found at the south end of Blackslade Drive, in the parish of Widecombe (6 in. O.S., sheet cviii, NW., lon. 3°-48′-2″, lat. 50°-33′-51″). Its companion in the gateway is a normal L stone.

I think that none of the holed-stones or slotted-stones, with the possible exception of two last mentioned, have been made since the year 1800, and that most are much older.

There is one stone which is both slotted and holed. It stands beside the Mariners Way, at Yardworthy, in the parish of Chagford. Since it stands erect, its last use was as a slotted stone. (6 in. O.S., sheet lxxxix, SE., lon. 3°-52′-6″, lat. 50°-39′-11″.) (Fig. 105, 2.)

PINNACLE TO GATE-POST

In the village of Gidleigh, at the south end of a footpath which leads to Moortown, stands a gate-post, the form of which I was long unable to explain. It is a dressed stone, square in section, with an interrupted chamfer at each angle. At the top is a drilled hole, indicating that there was a spill for the attachment of a finial[1] (Fig. 105, 4).

During the Chagford meeting of the Devonshire Association, 1947, we visited Throwleigh, and there, in the churchyard, found a short length of similarly dressed stone forming part of the base of a memorial cross. Inquiry revealed no more than that this stone had been found in the hedge of the churchyard. A later visit disclosed a further fragment lying in the yard. This seemed to connect it with the church, and, in fact the pinnacles of the tower were found to consist of four similar stones, each standing on a plate on a short square base.

At Gidleigh church the bases still stand, but the pinnacles are missing. It is evident that the gate-post is a deposed pinnacle. At Chagford similar pinnacles have recently been taken down, presumably as needing re-setting, but have not been replaced; because, it is said, they are unorthodox and cannot be true pinnacles. They should certainly be restored to their position on the tower, as evidence of a local contribution to architectural design. The evident intent of the builders was to obtain, in a manner suited to the moorstone's intractibility, something of the effect of crocketting.

The location of the Gidleigh gate-post is 6 in. O.S., sheet lxxxix, NE., lon. 3°-52′-54½″, lat. 50°-40′-50″.

STILES

An occasional stile will be found consisting of two slotted moorstone posts set in the ground, with wooden bars set in the slots. I have seen such a stile near Bowden, in the parish of Hennock. The bars are not removable, except by taking down one of the posts.

A more interesting type of stile consists wholly of moorstone; the design is such as might have been originated by a carpenter, involving mortices, tenons and rebates. I give details of the posts of a stile, now

[1] Ornamentation, such as bunches of foliage, given to the peaks of Gothic pinnacles, etc. (ED.)

dismantled, at Sortridge, in the parish of Whitchurch; it has the advantage of being dated. (6 in. O.S., sheet cvi, SW., lon. 4°-6′-27″, lat. 50°-31′-9″.) (Fig. 106, 1, 1*a*, 1*b*.)

The posts are squared and wrought; one face of each bears a mortice and a rebate, one face of each has an inscription, the remaining two faces are plain. The mortice is vertical, 13 in. in length, 3 in. in width, and 1½ in. deep. The rebate is horizontal, extends across the full width of the stone, is 4½ in. wide, and 1¼ in. deep. A vertical slab of stone, which formed the riser or bar of the stile, was formerly supported in the mortices, and a horizontal slab, forming a step, rested in the rebates.These two slabs have been removed, and the posts are used as gate-posts. I am indebted to Col. Marwood Tucker for permission to measure and photograph these stones. The initials on the stone are those of John (or Julius?) and Elizabeth Glanvill, and the date is 1666. A few years later, in 1681, the southern approach to Walkhampton church was improved, and a stone stile erected; of this the two posts and the step remain (Fig. 106, 2). There is an inscription on the adjoining wall: "T B 1681", the initials being those of the vicar.

Two stiles in Meavy Lane, in the parish of Meavy, are undated, but valuable as being complete. The first of these stiles is on the left-hand side of the road from Meavy to Yelverton, at the entrance to a field-path leading to Gratton and at a distance of 1,660 ft from the Great House, Meavy; the other is on the right-hand side, 500 ft nearer Yelverton, at the entrance to a footpath leading to Lower Lake. I call these the Eastern Stile and the Western Stile respectively. (Eastern: 6 in. O.S., sheet cxii, NW., lon. 4°-3′-53½″, lat. 50°-29′-17″. Western: same sheet, lon. 4°-3′-58½″, lat. 50°-29′-20″.) (Fig. 106, 3, 3*a*.)

There is a slight difference in the design, the Western Stile being on steeply sloping ground; a strut has been placed between the feet of the posts. Both these stiles would appear to be on church paths.

A similar stile once stood at the entrance to Sheepstor churchyard from the east. Of this the posts remain; a complete example is to be found at Moretonhampstead.

CLAPPER BRIDGES

In any country where the native rock yields large slabs of sound stone, it is to be expected that streams should be crossed by bridges in which the roadway is formed with such slabs as imposts; especially where the bridges are for the use of foot-passengers, or pack-horse traffic. And on Dartmoor, clapper bridges, some very small, others as large as those at Postbridge and Belliver, are numerous. It is probably misleading to term the larger of these structures 'cyclopean', and thus suggest by one phrase, not only an exaggerated magnitude, but also an antiquity which cannot be proven. Fords and stepping-stones preceded bridges; and it seems certain that bridges were not early features on Dartmoor tracks,

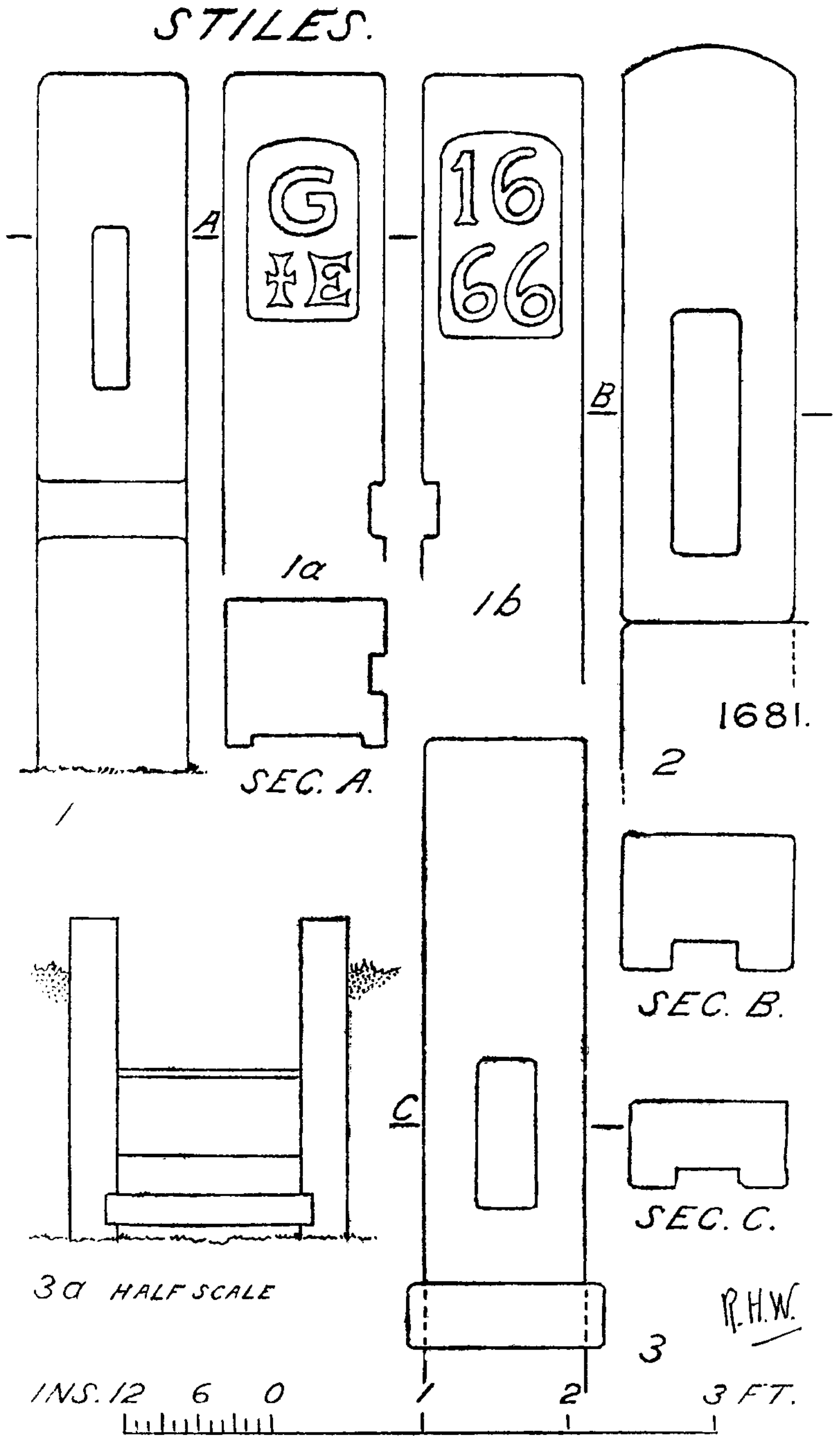


FIG. 106.

1, 1*a*, 1*b*. Sortridge. 2. Walkhampton. 3, 3*a*. Meavy Lane.

since, in 1260, Bishop Bronescombe could determine, on the evidence of credible witnesses, that it was eight miles from Babeny and Pizwell to Lydford in fine weather, and fifteen miles in time of storm, when tempest and overflows of water prevailed. At such times fords and stepping-stones are of little avail.

There yet remain some of the fords and stepping-stones which preceded the bridges. On the East Dart at Postbridge the stepping-stones still remain at a point a little less than 150 yards above the clapper bridge. The stones are exceptionally large, and have been so little disturbed by floods that passage is still practicable for the active and sure-footed. (6 in. O.S., sheet xcix, SE., lon. 3°-54′-42″, lat. 50°-35′-38″.)

At Marchants Bridge, in the parish of Meavy, on the direct line of the road there are stepping-stones and a ford, both still in use. But for greater convenience the road has at some time been diverted along the right bank of the river to a point 250 ft above the ford, and an arched bridge of the old pack-horse type has been constructed. This involved some very awkward angles, not too troublesome to the traffic of the day; but difficult during the late war to the mechanized army of the U.S.A., which, after breaking down the parapet and part of the arch of the bridge, took perforce to the ford.

At Gratton, also in Meavy parish, and a little over a mile below Marchants Bridge, a ford for cattle and vehicles and a 'clam' for foot-passengers afforded the only crossing until, in 1887, a substantial arched bridge was constructed. The difficulties for armed forces were here more tragic; a quartermaster and his horse were drowned during the autumn manœuvres of 1873, when attempting the ford during a flood.

But clapper bridges, when with growing traffic necessities they were constructed, did not prove an answer to the threat of the floods. Of the four largest, at Dartmeet, Postbridge, Belliver and Cadworthy (on the Plym), Dartmeet has been twice damaged by flood within memory, and Belliver also stands incomplete. Postbridge, as far as is known, has only been damaged by human action[1]; and there is no record that Cadworthy bridge was other than perfect up to the time of its replacement by the modern structure.

A clapper which apparently spanned the West Dart at Twobridges as late as 1765, was probably removed when the new road was constructed shortly after the year 1772, and diverted to cross the West Dart below its junction with the Cowsic. Donne, in his map published 1765, shows the track crossing both streams above their point of junction; and shows, in place of the present Plymouth Road, a moorland track, marked out by guide-stones at frequent intervals. It was from the presence of *two bridges*, the one over the West Dart, and the other over

[1] See Crossing, 1909, p. 467. (ED.)

the Cowsic, that the locality took its name,[1] with the alternative of *Potato Market*, the spot to which potatoes from the Moretonhampstead district were brought for sale to buyers from Plymouth and Tavistock. The clapper across the Cowsic still stands. It is a structure little above the water level, and was washed away by the great flood of 17th July 1890, a flood which at Postbridge just overtopped the lowest of the imposts. Postbridge stood unharmed; and the Cowsic bridge was later restored by the Dartmoor Preservation Association.

On lesser tracks, such as the *Lichway* and the *Mariners Way*, which have never been formalized into roads, there are still many clappers of relatively small size, two of which I have illustrated (see frontispiece and Pl. 78).

I doubt that any of the larger structures is other than post-medieval, say, not earlier than 1400. The latest, which already might, at sight, be judged the contemporary of its fellows, was erected at Teignhead in or about the year 1780, to give access to some new enclosures. Crossing gives its length as *c.* 28 ft with a width of 6 ft 9 in. The same author gives the dimensions of Postbridge as 42 ft 8 in. in length, and from 6 ft 9 in. to 6 ft 5 in. in width. The width in each instance affords sufficient proof that the bridges were not intended for wheeled vehicles; and so we find that at Teignhead there is a ford beside the bridge, and that at Postbridge the river-bed is well adapted for fording. Both bridges are of three spans, and both are in the parish of Lydford, and the Forest of Dartmoor.

Miss Ernestine Symes Saunders, has kindly sent me a drawing of Postbridge, made by her great-grandfather, Emmanuel Jeffery of Exeter; this is the earliest view of the bridge of which I have knowledge.

There is an example of a small clapper in private lands, at Rowbrook, in the parish of Widecombe-in-the-Moor (6 in. O.S., sheet cvii, SE., lon. 3°-51′-32″, lat. 50°-32′-9½″).

QUERNS

I myself have stayed in a cottage where the bread supply was all baked on the hearth; and the flour was from corn grown in the parish, and ground at the local mill. But I have not been able to trace, within living memory, the use in Devon of the hand-mill or quern. Yet at one time they must have been common objects of domestic economy; and their remains are to be found, from Axmouth in the east to Bere Ferrers in the west, and from Tiverton in the north to Ivybridge in the south. Only the under-stone is usually found; that was a substantial

[1] This derivation is not adopted by the authors of the *Place Names of Devon* (p. 197) in view of its earliest form, *Tobrygge* (meaning evidently "at the Bridge"). This reference incidentally shows that there was a bridge here in the reign of Henry VI. (ED.)

object, and had the further advantage that, divorced from its original purpose, it remained of use as a small, shallow trough. The upper-stone was a mere disc, rarely exceeding 2½ in. in thickness, and when it lost its job it was not worth preserving.

It has been said that the upper-stones are rare because the lords of the manors regarded querns as illicit competitors with their manor mills, in the interest of the franchise of which they seized the upper-stones and destroyed them. The output of a quern was so small, and the labour involved so considerable, that its competition with the mill can hardly have roused the most rapacious miller to such action. The querns were standbys to meet occasional need; at all times at least after the manorial system was fully established. It would be strange had the destruction been confined to the upper-stones, were such destruction purposeful; strange also if all the under-stones which remain had been in use in households which owed suit to the manor mill. Notwithstanding which the Abbot of St. Albans sought, in the fourteenth century, to prevent the use of querns by the townsfolk, and claimed the monopoly of grinding his tenants' grain. Thirteen of the tenants, however, maintained their right to use hand-mills, as having been enjoyed of old, and some claims were raised to the privilege of grinding oatmeal only, by means of a hand-mill (Evans, *Ancient Stone Implements of Britain*, 2nd ed., p. 258).

The manorial lords had no statutory right to the assize of mills, which could only arise by custom; thus the tenants on their part could also plead custom, and sometimes, as in this case, they succeeded in the plea.

The complete quern, omitting from consideration prehistoric examples, was constant in its essentials. A good specimen, of which nothing but a part of the ironwork is missing, is preserved at Sortridge House in the parish of Whitchurch. The under-stone is approximately circular, its mean diameter is 16 in., and its thickness is 5 in. In this stone a shallow, circular trough is cut, 8½ in. in diameter, and 1½ in. in depth. Radially from the circumference of this trough a channel has been cut, through which the ground material escapes and is collected. At the centre of the trough in the under-stone there has been set a vertical spill of iron; of this little is now left above the level of the stone. The upper-stone is 8½ in. in diameter at the top and 8 in. in diameter at the bottom being tapered somewhat, which involves that the sides of the trough in the under-stone are also tapered, though this is not a constant feature. The stone is pierced with a central hole, 1½ in. in diameter; it is 2½ in. thick at the centre, and 1½ in. thick at the circumference. On the upper surface are four small holes or depressions, set symmetrically; and on the lower face there is a slot 4½ in. in length by ⅞ in. in width, and about ¼ in. in depth. In this slot once fitted an iron strip, passing across, but not completely blocking, the central hole in the stone; and

itself drilled at the centre to permit the spill in the under-stone to pass through. The spill and plate together held the upper-stone approximately centred. In all its working parts this example is typical. In its external form and the manner in which the flour is delivered it corresponds with most of the querns of the Isles of Scilly, where there are many, but with few Devonshire querns. We may safely apply what we know of the manner of working the querns in the Isles to meet the absence of any Devon record.

In the few upper-stones which have so far been found in Devon there is no adequate provision for setting a handle or handles. The four shallow holes which are found are neither sufficiently large nor deep enough for this purpose. The same is true in the Isles of Scilly.

But Borlase (*Observations on the Ancient and Present state of the Islands of Scilly*, 1756, p. 69) gives an account of the manner of use of the querns; and Troutbeck (*A survey of the Ancient and Present State of the Scilly Islands*, ? 1793) copies this and makes some slight additions.

Borlase writes: "Every house is furnished with a Handmill. This Mill consists of two small stones of about two feet in diameter, and four inches thick, in the shape of common Mill-stones, which may be set closer to one another or wider (as they chuse to have coarser or finer Meal) by raising or depressing the upper stone; the Mill is placed at such a height from the ground [Troutbeck says in a square frame of wood] as a man may stand and easily turn the upper stone by means of a stick five feet long, and one inch and a half in diameter, one end of which rests in a socket made for it in the middle of the *Radius* of the upper stone, and the upper end is inserted in a hole in a beam of the chamber above; in these two holes, the long stick standing obliquely, turns easily with the hand, but the stones being of small *Area*, and little weight, the Corn is a long while a grinding."

Borlase is mistaken as to the size of the stones; very few ever attained a diameter of two feet; a more usual diameter for the upper-stone was one foot or less. The hole for the driving-stick was not set at half the radius of the upper-stone, but was distinctly nearer the circumference. There was not one hole only, but for the more part there were four holes; and, by shifting from one to the other the wear of the stone was kept more uniform. He does not say how the stones were spaced nearer or farther each from each, but this was readily done by varying the thickness of the strips of iron let into the underside of the upper-stone.

The following notes may give some idea of the varied detail to be found in the querns.

1. *Axmouth*, from *Oxdown Farm*, but now forming a cap on the gate-pier of a house on the south side of the Seaton Road, near the river (Fig. 107, 1). Perhaps the most elaborately decorated of any that I have seen in Devonshire: ten-sided, with panel ornament; and, on

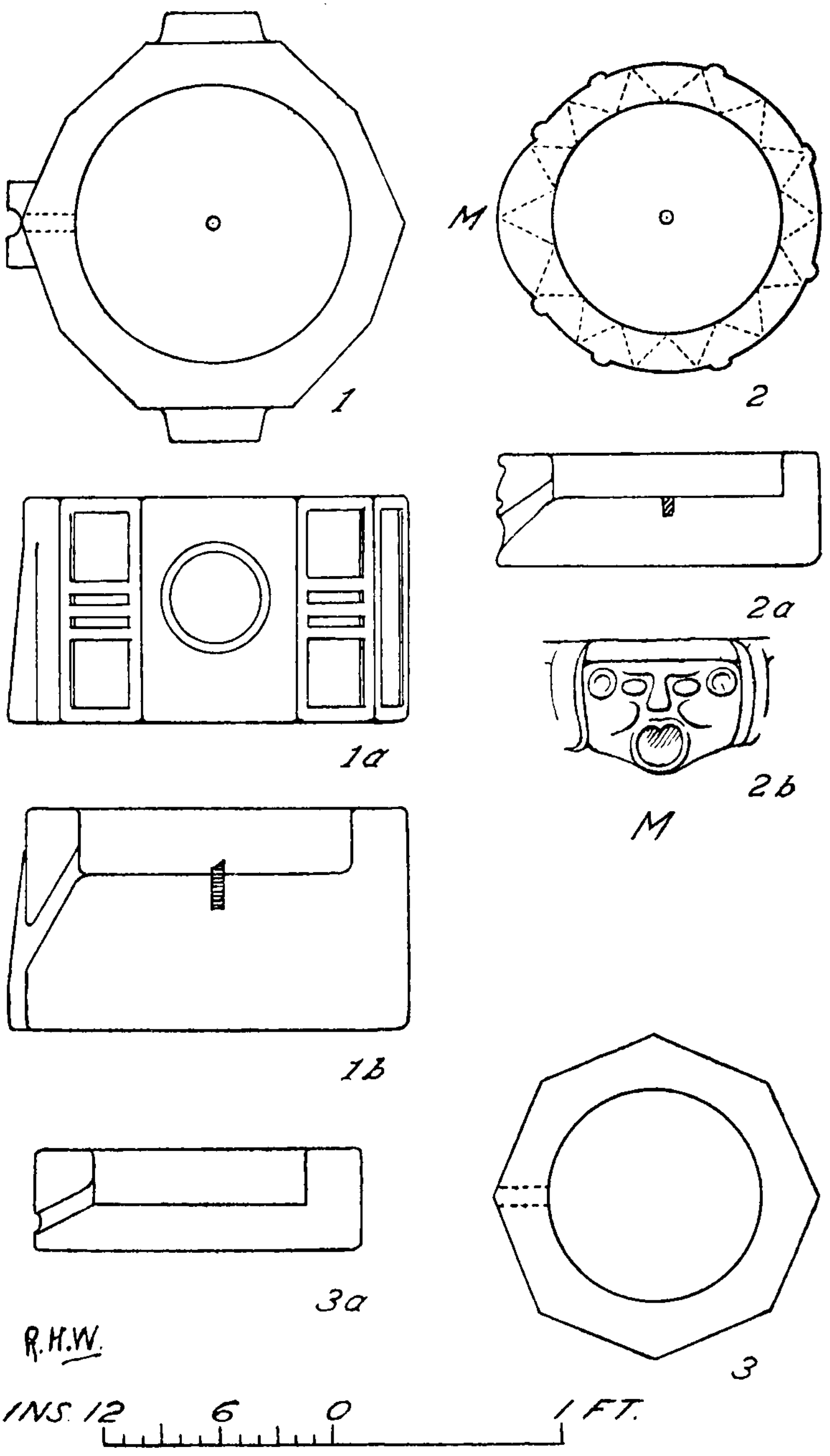


FIG. 107.

1. Axmouth, plan: (*a*) side view; (*b*) section.
2. Ivybridge, plan: (*a*) side view; (*b*) section.
3. Bere Ferrers, section and (*a*) plan.

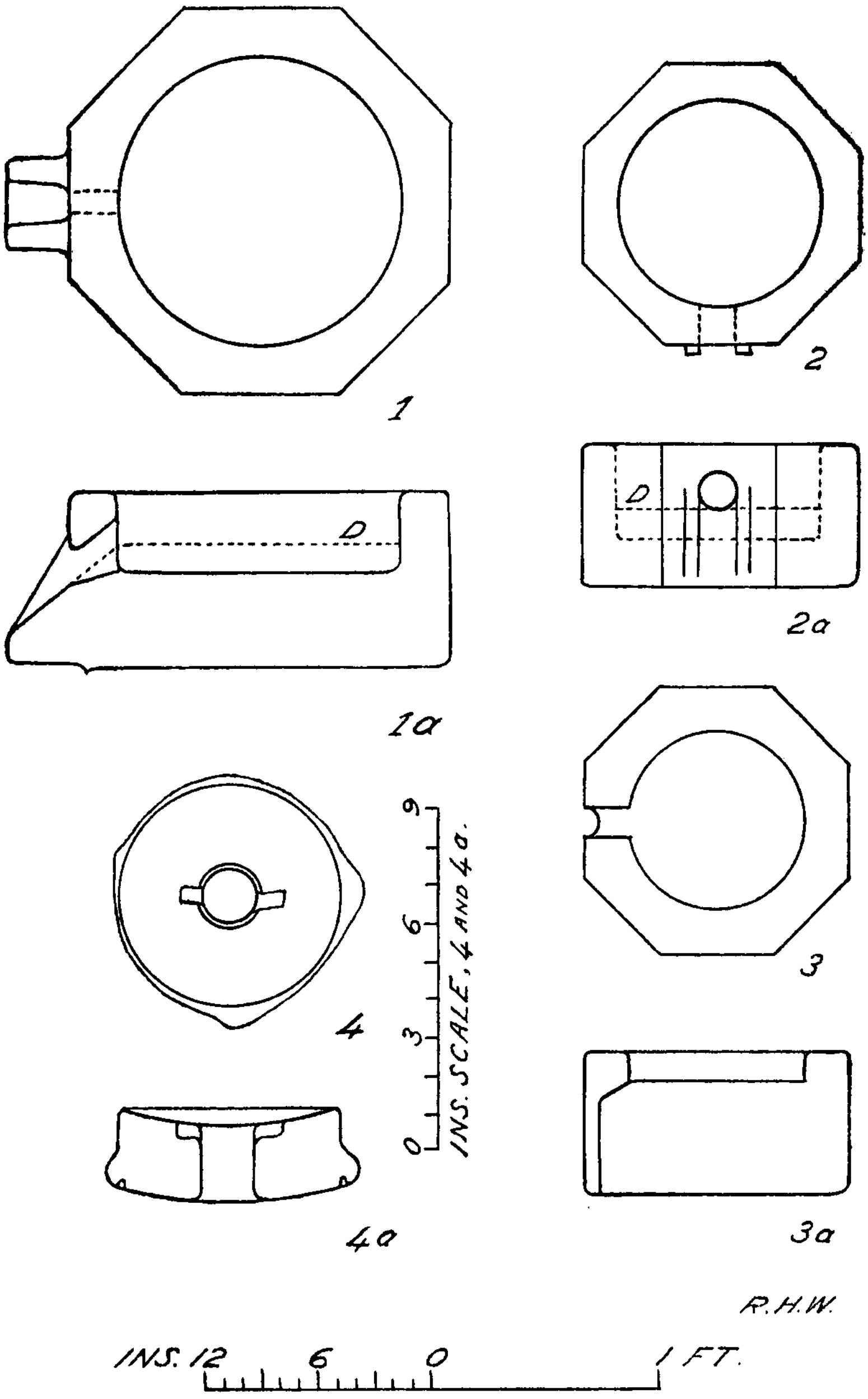


FIG. 108.

1. Goodameavy House, plan: (*a*) section.
2. Ditsworthy, plan: (*a*) section.
3. Barnecourt, plan: (*a*) section.
4. Tavistock Church, plan of under side: (*a*) section of upper stone.

two opposite sides, are projections much like trunnions, for which there would be no purpose. Probably these fitted into sockets in the wooden frame which held the quern. The diameter of the trough is 14½ in. and its depth 3½ in. The stone is unusually thick and heavy, being 12 in. in depth. The aperture for the escape of the flour is placed at an angle and not on the centre of a face.

2. *Barnecourt*, Lustleigh parish (Fig. 108, 3; Pl. 74A). A small and plain example. Octagonal. Trough 9 in. in diameter and 1½ in. deep. Total thickness of stone 7½ in. Channel for flour in centre of one side of octagon, an open channel, extending the whole depth of one side.

3. *Bere Ferrers*, in church (Fig. 107, 3). A small octagonal stone, diameter of trough 11 in., depth 3 in., total depth of stone 5¼ in. Flour aperture at one of the angles of the octagon, a plain hole, with no external groove or lips.

4. *Buckland Abbey*, Buckland Monachorum (Fig. 109, 1). Now set on a lawn, forming with the annular trough of an apple mill the stonework of a fountain. This stone is Roborough Elvan. The quern is octagonal, diameter of trough 17¼ in., depth 4 in., total depth of stone 13 in. One side of the octagon is occupied by a mask, gargoyle fashion. Through the widely opened mouth of the mask, stretched the wider by the first fingers of two sculptured hands, the flour was delivered.

5. *Cockstor Farm*, Petertavy. Octagonal, now set in the paving of the yard as a small trough.

6. *Corntown*, Cornwood (Fig. 109, 3). Octagonal. Diameter of trough 11¼ in. at top, 10 in. at bottom, the sides being tapered; depth of trough 2½ in.; total depth of stone 7½ in. Two sides of the octagon are produced to form a spout for the delivery of the corn.

7. *Ditsworthy Warren*, formerly at Longstone, Sheepstor. Material, Roborough Elvan (Fig. 108, 2). Octagonal. Diameter of trough 10⅞ in., original depth 3 in., has been deepened to 5 in. to adapt the quern to use as an ordinary trough. Total depth of stone 7½ in. Outlet for flour in middle of one side, and on either side of the hole a fillet ¾ in. wide, raised approximately three-sixteenths of an inch. One of the many devices used to prevent the flour from 'straying'. This is the quern which, from lack of experience, I falsely identified as a form of cheese-press base. The owner, Mrs. E. Ware, had no knowledge of its former use.

8. *Goodameavy House*, Meavy (Fig. 108, 1). Material, Roborough Elvan. Octagonal; diameter of trough 15 in., original depth 2½ in., has been deepened to 4 in. (as at Ditsworthy). Total depth of stone 9 in. Flour discharged at centre of one side, projecting from which is a spout.

9. *Harford Bridge Farm*, formerly at *Harrogrove*, Marytavy. Octagonal. Diameter of trough 9¼ in.

10. *Ivybridge*, Western Road (Fig. 107, 2). In the garden of Mr. J. T.

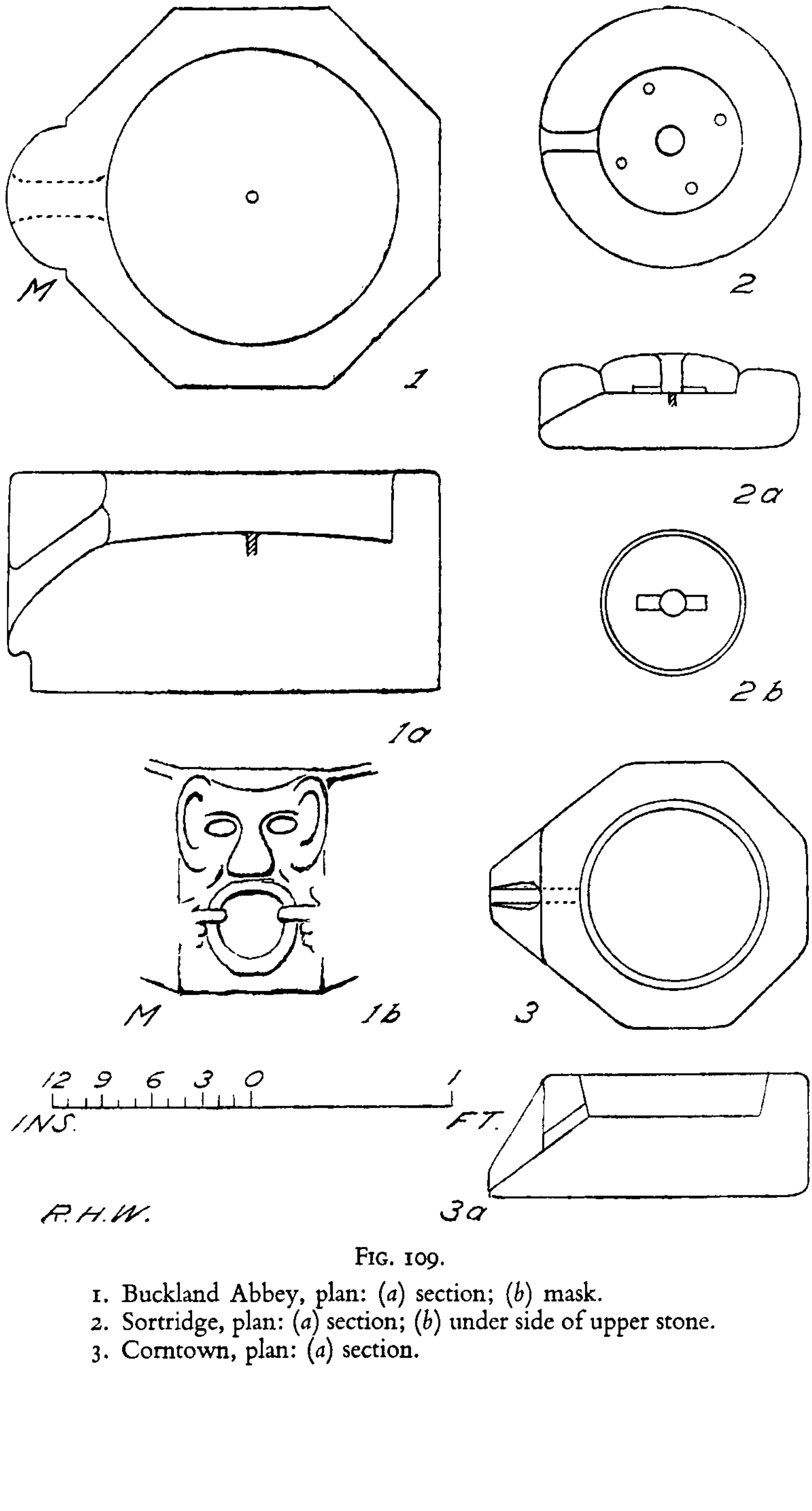


FIG. 109.

1. Buckland Abbey, plan: (*a*) section; (*b*) mask.
2. Sortridge, plan: (*a*) section; (*b*) under side of upper stone.
3. Corntown, plan: (*a*) section.

Yabsley's house; original location unknown. Material, Roborough Elvan. Circular, but divided by fillets into eight panels, one of which, larger than the others, bears a mask, the mouth of which forms the outlet for the flour. Diameter of trough 11¾ in., depth 2¼ in. The rim of the stone ornamented with a lightly incised chevron.

11. *Sortridge House*, Whitchurch (Fig. 109, 2). Approximately circular. Diameter of trough 8½ in., depth 1¼ in. Total depth of stone 5 in.

12. *Tiverton*. Octagonal, dimensions not taken.

Collecting the dimensions, given in inches, we get:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Diam. of Trough	14½	9	11	17¼	—	11¼	10⅞	15	9¼	11¾	' 8½
Depth of Trough	3½	1½	3	4	—	2½	3	2½	—	2¼	1½
Depth of Stone	12	7½	5¼	13	—	7½	7½	9	—	5¾	5

Mean diam., 11·81 in.; greatest, 17·25 in.; least, 8·5 in.

I believe the above figures to be representative, and I doubt if there are many true querns in Devonshire in which the troughs are more than eighteen inches in diameter, or less than eight inches; although one, at least, cannot have exceeded six inches.

QUERNS, UPPER-STONES

Upper-stones are rare. One is to be found at *Sortridge*, still associated with the under-stone (Fig. 109, 2). Two others have come to rest in ecclesiastical surroundings, to which they were admitted probably by reason of the raised crosses carved upon their upper faces.

Tavistock, in the Church of St. Eustachius (Figs. 108, 4; 110). Diameter of working part 5¾ in. Greatest thickness of stone 2⅜ in. Under surface is not plane, but concave to the extent of ⅜ in. Feed hole 1¼ in. in diameter. The underside is recessed for an iron plate, such as I have described in the general description. Since, however, in this instance the recess is ⅜ in. in depth, either the plate must have been unusually thick, or oak may have been used in place of iron, but the width of the recess does not seem sufficient for the use of wood. The trough in the understone cannot have been of greater diameter than 6 in., nor of greater depth than 1 in. The possible output in flour from such a quern must have been small, but other things than grain may have been ground.

Fillham, Ugborough. At Lower Fillham House, in the ruined chapel in the grounds, there lies an upper-stone.

Nosworthy, Walkhampton parish. Mr. G. W. Copeland found, in the ruins of Nosworthy farm, a broken upper-stone, of which he has kindly given me details. The break coincides with a diameter, so that one-half of the stone is all that remains. The diameter is 10 in., and the greatest thickness of the stone is 3⅝ in. The central aperture is *c.* 1¾ in. in diameter. On the upper side is a hole or depression near the margin; this is 1 in. in diameter, tapering somewhat downward, and is ⅞ in. deep.

No handle could have been set in it, but it would serve well to take the end of the sloping stick with which Borlase says the stone was turned in the Isles of Scilly. It is usual to find four such holes, but in this instance there can, at the most, have been but two. The under face is slotted for the usual iron plate.

Millbay, East Portlemouth. I have seen a stone from Millbay, 17½ in. in diameter, which was said to have been the upper-stone of a quern. I cannot accept the identification, some of our smaller water-mills had some pairs, at least, of quite small stones. I take this to be a stone from the mill which gave its name to the bay.

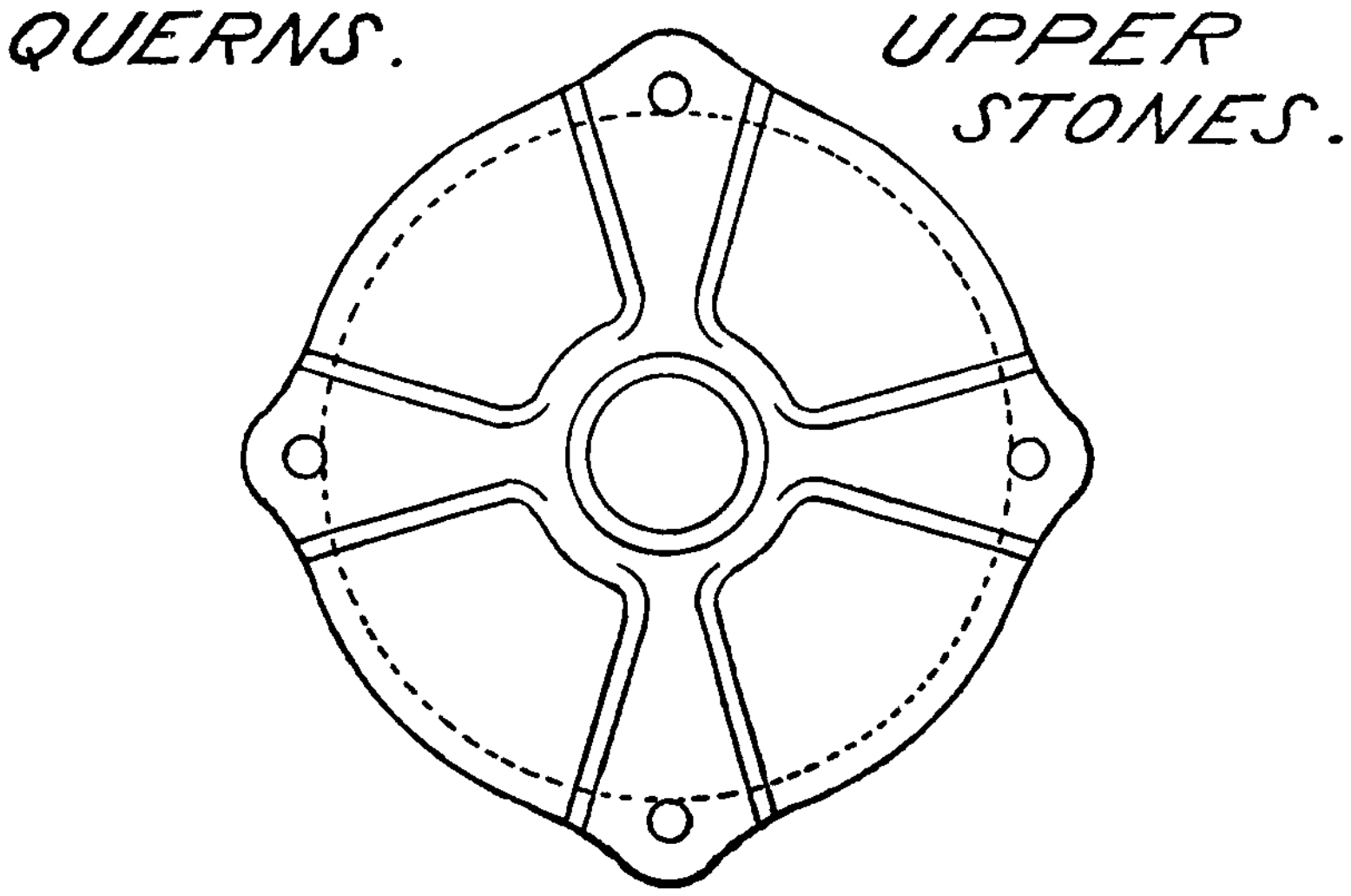


FIG. 110. Tavistock Church, upper surface.

BASES OF CHEESE-PRESSES

In general the stone base of a cheese-press was a flat stone of a few inches in thickness, more usually circular in outline, but always with a prolonged projection, or 'snout', extending from the circle. Concentric with the outline of the circular part of the stone a shallow channel was cut, making a complete circle. Within this circle, diametrically, two other channels were formed at right angles, the one extending to the circumference of the circular channel, but no farther, the other produced at one end to the extremity of the 'snout', which was throated.

Upon this stone, within the circular channel, was placed the curd, with a layer of straw, and possibly of cheese-cloth, between it and the stone. The curd was confined by a hollow cylinder of wood, also lined with cheese-cloth. A circular board was placed on the top of the curd, and upon this a heavy stone weight.

The whey, expressed from the curd, found its exit by the cross diameters or direct to the circular channel; thence the extension of one of the cross channels conducted it to the end of the 'snout', which, being throated, did not permit the liquid to run back along the underside of the stone, but confined the drip to one point, where it was readily caught in a bucket or other vessel.

There were, of course, modifications, but the principle remained the same; and such variations as were made will be sufficiently illustrated in the examples given.

1. *Brisworthy Farm*, parish of Meavy. Stone circular. Diameter of circular channel 18 in., thickness of stone 5¼ in. Two diametrical channels. 'Snout' throated. (Fig. 111, 1).

2. *Gidleigh Park*, Gidleigh. Stone octagonal. Diameter of circular channel 14½ in., thickness of stone 9 in. Two diametrical channels. 'Snout' lost by breakage.

3. *Gratton*, Meavy. Stone circular. Diameter of circular channel 16 in., thickness of stone 6½ in. 'Snout' rather unusually prolonged. (Pl. 74B.)

4. *Longstone*, Sheepstor. Stone circular. Diameter of circular channel 15 in., thickness of stone 6½ in. 'Snout' broken, but has been rather unusually prolonged. One diametrical groove extending from the 'snout' to near the farther circumference of the circular groove (Fig. 111, 5).

5. *Greencliff*, Milton Combe, parish Buckland Monachorum. Stone pear-shaped. Mean diameter of the misshapen circular groove 19 in.; one diametrical channel, extending from the 'snout' to join the farther circumference of the circular groove. 'Snout' but slightly protuberant. Thickness of stone not known (Fig. 111, 4).

6. *Sheepstor Churchyard*. Stone circular. Diameter of circular groove 12½ in. Two diametrical grooves. The throating of the 'snout' is well marked. (Fig. 111, 2.)

Presumedly because this stone bears a cross within a circle, it has been placed in the churchyard; where one hopes it may long be preserved. For a similar reason Crossing has stated that there is the head of a wheel-cross in the farmyard at Gratton (3).

STONE BASES OF CIDER PRESSES

The cider press base is but an enlarged edition of the cheese press, without the diametrical channels. These are not needed, since the apple juice can escape freely from all faces of the pile of alternating layers of straw and crushed apple pulp. One example will suffice.

Longstone, Sheepstor. Stone circular, with moderate extension of 'snout'. Diameter of stone 5 ft 10 in., thickness 9 in. Internal diameter of circular channel 4 ft 6 in., width of channel 3½ in. at top and 2½ in. at bottom, 1 in. deep at the shallowest, deepening to 1¾ in. at the outlet.

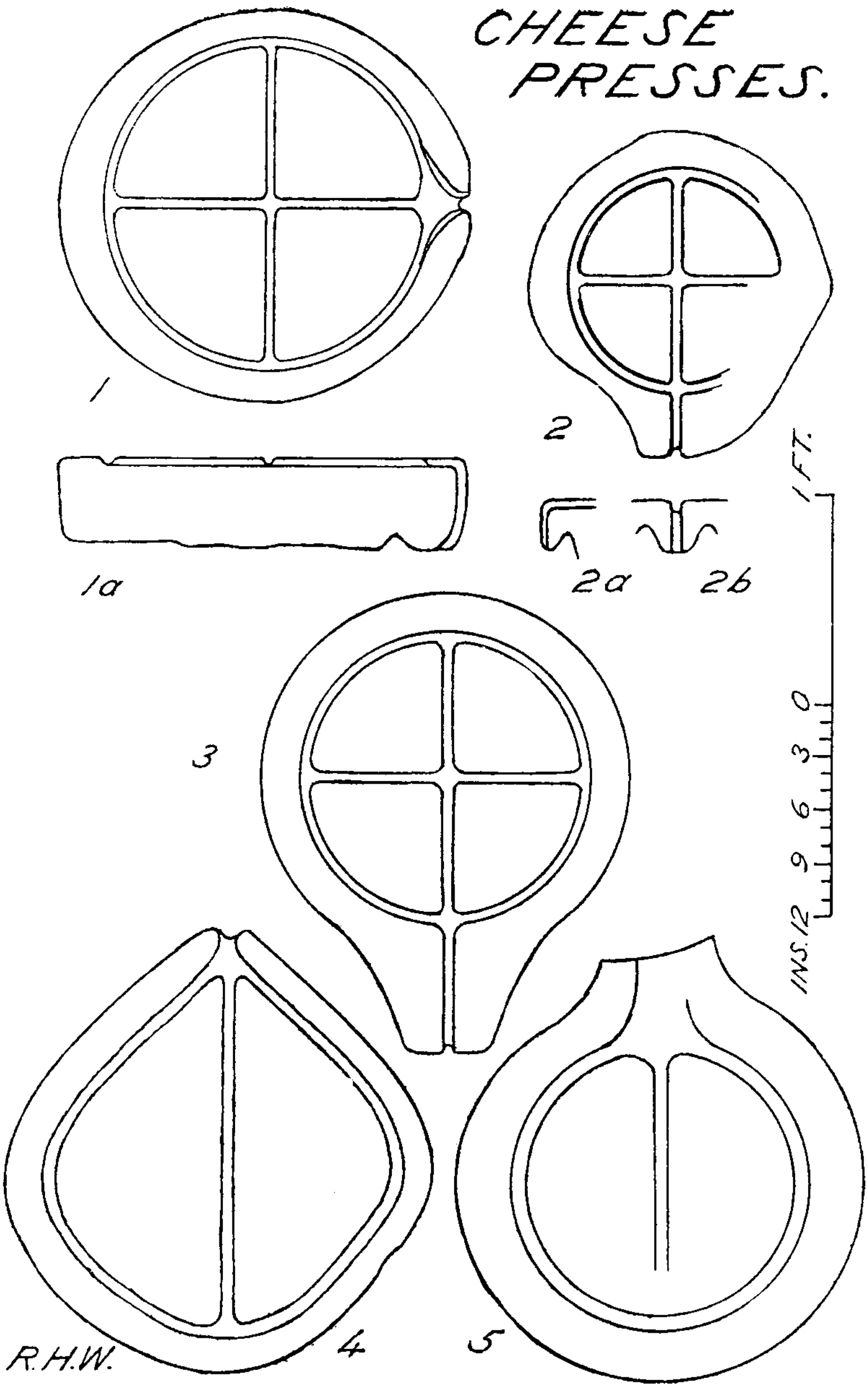


FIG. 111.

1, 1*a*. Brisworthy (plan and section).
2, 2*a*, 2*b*. Sheepstor. 3. Gratton. 4. Milton Coombe. 5. Longstone.

There are many such cider press bases, which are to be found throughout Devon and Cornwall. The smallest example which I have seen is at St. Michael's Mount, Cornwall. The width of the stone is 3 ft and the length 3 ft 7 in.

The olive presses in Tripoli, in the days when climate and soil were alike consistent with the extensive cultivation of the olive, were provided with very similar stone bases. I take a description from Cowper's *Hill of the Graces*, p. 149.

"These . . . are large slabs of stone lying generally flush with the earth, and, when *in situ*, directly in front of the senam itself. Their surface measurement is generally 6 feet to 8 feet square, but with a projection at one side. On the surface is cut a square or round groove or channel, 4 to 5 inches wide, and from this run two branch channels, one to one end of the projection, and the other to a side or corner. In all cases, the spout-like projection is turned away from the senam towards the enclosure."

It should be explained that the 'senam' is a stone structure consisting of two pillars, usually monoliths, resting on the tops of which is a stone lintel or transom. Worked in the pillars are slots and recesses, in which it seems fairly certain that wooden beams were fixed. The corresponding structure in the Devon press is wholly of wood, and serves to adjust the lever by which pressure is applied to the crushed apples.

It is not impossible, but I think improbable, that our Devonshire press should be a copy of the Tripolitan device. It is more likely that similar needs were independently met by similar inventions.

POUND-STONES, OR CIDER MILLS

Crushing the apples preparatory to the extraction of the juice was accomplished in at least three different ways. For small quantities of apples, and for all soft fruit from which wine was to be made, the larger of the domestic stone-mortars were used, and at times one meets with press bases, little larger than the bases of the cheese presses, on which the juice was extracted. Such bases have deeper grooves than the cheese-press form.

For a long period of years, and, indeed, up to the present time, mills were in use, consisting of an annular trough in which runs a millstone, on its edge; much like a type of mortar-mill which can still be seen in action. In the apple-mill a horse was harnessed to the end of the axle of the millstone, and, walking in a circular track, kept the edge millstone constantly rolling in the trough (Fig. 112, 1; Pl. 75A). This type of mill had many uses. Those mills used for apple crushing were reserved to that purpose; but others served to grind bark for tanneries, to reduce rag to pulp for paper making, to grind paint, to crush grain to meal, an even to prepare coarse flour.

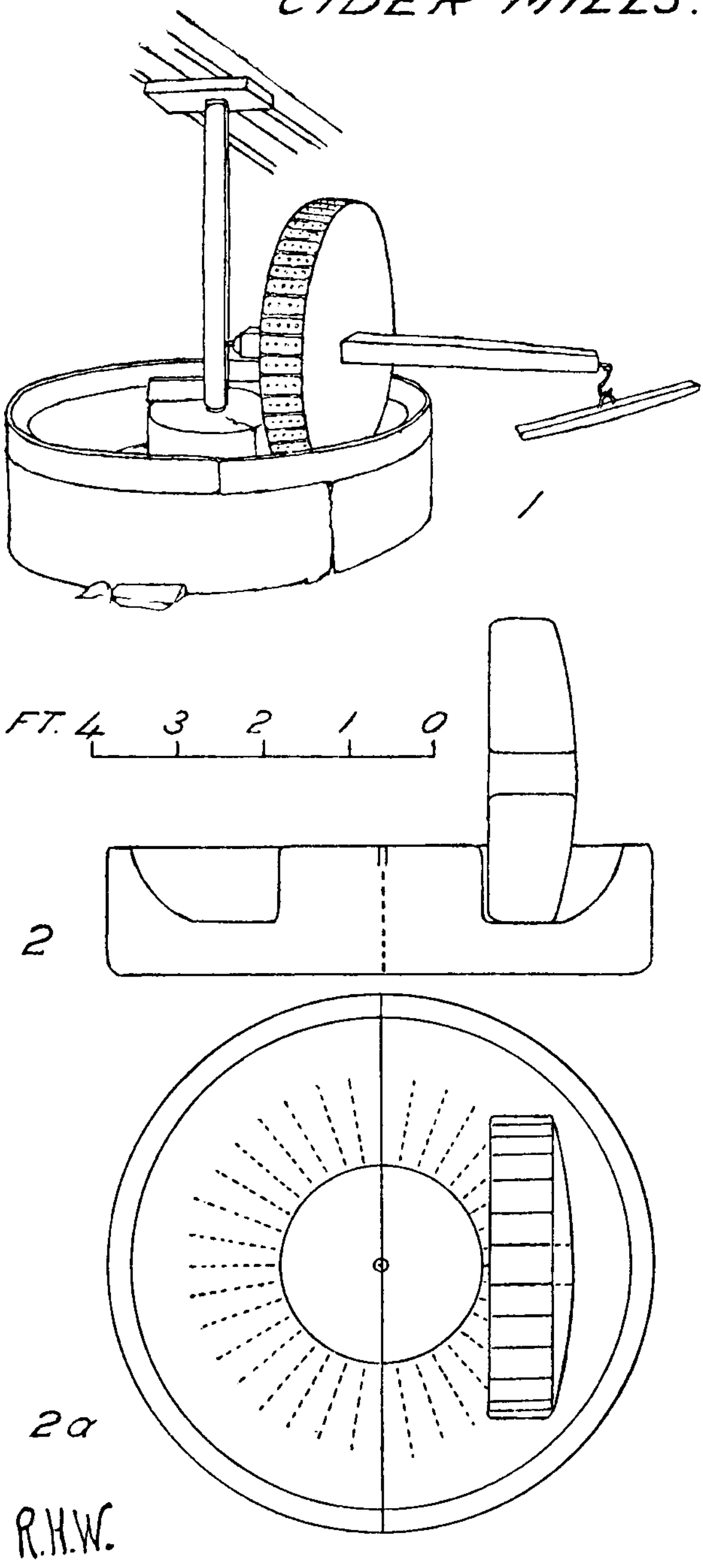


FIG. 112.

1. A cider mill in working order. 2. Remains at Longstone.

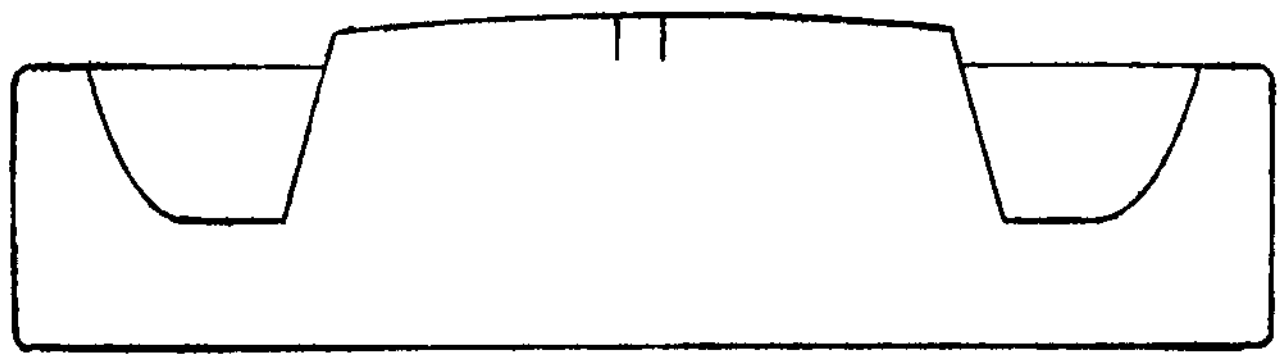
The apple-mills were not fitted to produce a smoothly ground pulp, but a pulp in which the cellular structure of the fruit was thoroughly broken up. The features of design were arrived at as the result of experience, and not with a knowledge of the cellular structure of the fruit. The floor of the annular trough was corrugated radially, even at times armed with radial iron bars, and the tread of the wheel was also corrugated. It resulted that the wheel did not move forward smoothly, but was continually lifted and dropped through a small height, and thus the pulp was at once ground and pounded. The operation of 'pounding' was not regarded as having been completed until the pips of the apples were found to have been crushed. It is significant that the whole process was known as 'pounding' and not as grinding.

All those pound-stones which I have seen are circular in plan, as is indeed necessary to the convenience of the track for the horse. A few of the larger are monoliths, but for the more part the stones are formed in two semicircles, clamped together at the diameter. The stones varied considerably in size; in my experience the largest have been found on the sites of monastic establishments.

1. There was formerly a pound-stone at Buckfast Abbey, which was reputed to be the largest in Devon; it is now lost. In the year 1788, Andrews of Modbury, in his manuscript *Journal of an Excursion on Dartmoor*, describes this stone as being 11 ft in diameter and 6 ft high from the bottom, about half of it being underground. In the year 1792, *Antiquarius Secundus*, writing in *The Gentleman's Magazine*, gave the dimensions as 9 ft diameter, 18 in. underground and 18 in. above ground. Laskey, who contributed a revised and enlarged version of Andrews's journal to *The Gentleman's Magazine*, in 1796, cites a "learned gentleman" as giving the diameter of the stone at 9 ft 4 in., and the depth 3 ft 6 in., whereof one-half was above and one-half below ground. Andrews was a careful man, but it is to be feared that he fell in error, or was misinformed, on this matter. I conclude that the diameter of the stone was at most 9 ft 4 in., and I doubt the alleged depth of 3 ft 6 in.; few such stones are more than 2 ft deep at the circumference.

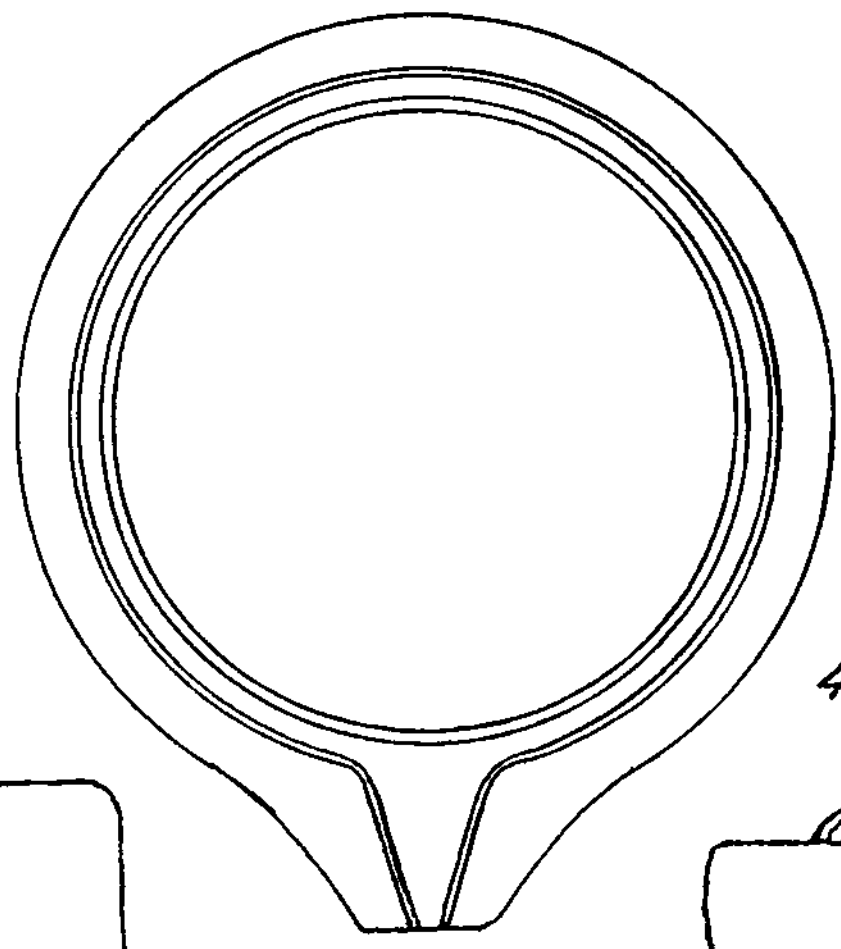
2. Though there was undoubted rivalry between the monastic establishments in south-west Devon, it is unlikely that it extended to the provision made for the manufacture of cider; but in that matter Buckland Abbey excelled Buckfast. There is still preserved at Buckland a pound-stone, now forming part of a fountain, which stone is 10 ft 2 in. in diameter, and 20 in. in depth at the margin. It is a monolith.

3. I have been unable to find at Tavistock any pound-stone which could be identified as having one time been the property of the Abbey; but the Priory of the Isles of Scilly, the buildings of which were on Tresco, was a daughter house of Tavistock, and on the summit of Dolphin Hill in that island there is a pound-stone; the workmanship is less regular than that shown by the Devon examples. The diameter is

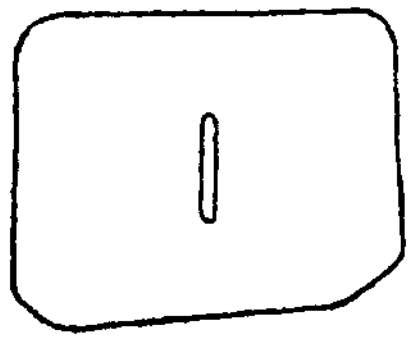


1

2

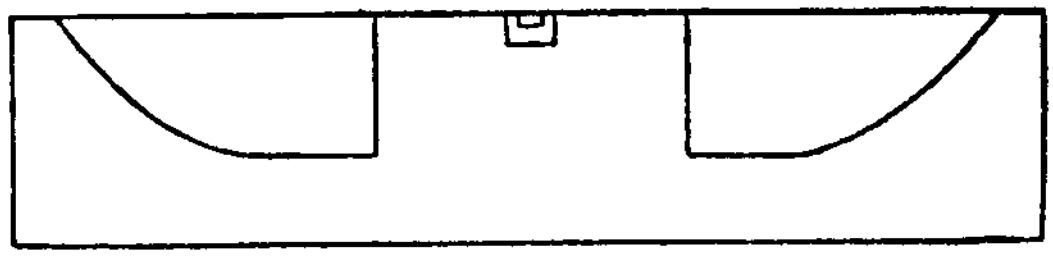


4



5

5a



R.H.W.

3

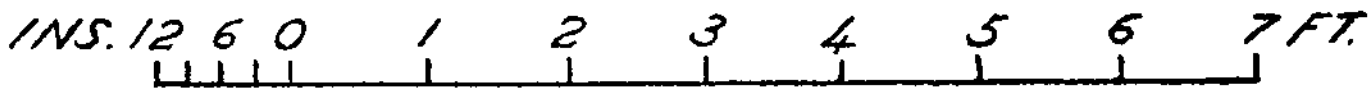


FIG. 113.

1. Shilston, section. 2. Sourton, section. 3. Lower Collard, section.
4. Longstone, plan. 5. Longstone, stone weight.

8 ft 4 in.; the depth of the stone cannot be ascertained except by excavation. This stone is a monolith.

4. At Shilston in the parish of Modbury is a fine example of the monolithic pound-stone. Its diameter is 9 ft 2 in.; the depth at the margin is 2 ft, and 2 ft 4 in. at the centre, where, as in some other instances, the central boss stands higher than the margin (Fig. 113, 1). This stone is no longer in use, having been replaced by the later device of a pair of granite rollers.

5. At Lower Collard, in the parish of Shaugh Prior, is one-half of a two-piece stone; the diameter is 7 ft 6 in., and the depth at margin is 1 ft 8 in (Fig. 113, 3).

6. At the old home of the Elfords, Longstone, in Sheepstor parish, the remains of a cider mill are complete, the pound-stone, edge runner, and granite vat to receive the juice. These have been re-erected by the Plymouth Corporation, but not for use (Fig. 112, 2; Pl. 76).

The pound-stone is in two parts; its diameter is 6 ft 6 in., and the thickness at the rim is 1 ft 7 in.

7. A stone at Torquay was at one time a part of the collections of the Torquay Natural History Society. It was too large to be displayed and passed to the possession and care of Mr. L. E. Currey, to whom I am indebted for measurements which I neglected to take when I had the opportunity. It is a one-piece stone; its diameter being 8 ft 3 in., the depth at the margin 18 in., and the same at the centre. The channel is armed with 1 in. diameter bars of iron, set radially. The stone came from Ilsham Manor. Approximate weight 4½ tons.

8. Eight hundred yards to the east of the westernmost rocks of Sourton Tors, a few yards south of a track which at that point forms the boundary of Bridestowe parish (Devon, 6 in. O.S., sheet lxxxviii, NW., lon. 4°-3′-29″, lat. 50°-41′-14″), lying on the open moor will be found the half of a two-piece pound-stone, from the margin of which a fairly large piece has been broken (Fig. 113, 2). Not far to the west of this point can be found the spot where the stone was worked. It was abandoned in consequence of an injury which it received in transport. The diameter of this stone is 7 ft 6 in. Its thickness at the margin is 1 ft 5 in., and at its centre 1 ft 10 in. The effective depth of the annular trough is 7 in., but the width of the margin is also 7 in., and it is fairly obvious that the rim was intended to be heightened in wood, as was not unusual.

It would be easy to supply details of many more pound-stones but the above eight are fully representative.

EDGE RUNNERS

The granite wheels which are the actual crushing implements are never more than one in any cider mill, although in some other uses of the same type of mill two wheels will be found. In the cider mill the

wheel is plane on the side toward the centre of the pound-stone, and convex on the side toward the circumference. It is usually about 9 in. thick at the rim, and a foot thick at the centre, where it is pierced by a hole about 7 in. square. The tread of the wheel is slightly rounded, and is fluted parallel to the axle. It generally weighs about thirteen hundredweight. The following examples are representative.

		Thickness			*Flutes*
	Diameter	*Margin*	*Centre*	*Hole*	*width*
1. Lower Collard	4′ 0″	9″	12″	7″ × 7″	2⅝″
2. Longstone	3′ 7″	9″	12″	6″ × 6″	5″
3. Notter, Cornwall	3′ 7″	8″	10½″		
4. Doe Tor Farm, Lydford	3′ 5″	7½″		6½″ × 6″	
5. Ilsham Manor	3′ 11″	11″	12½″	7″ × 7″	6″

Approximate weight fifteen hundredweight.

The stone at Doe Tor is unfinished; it is set in the outer fence of the enclosures (Devon, 6 in. O.S., sheet lxxxviii, SW., lon. 4°-4′-19″, lat. 50°-38′-48″). The perforation to take the axle is incomplete, extending less than halfway through the stone.

As the stone now stands one cannot see the failure or imperfection which probably accounts for its abandonment.

See Figs. 112 and 113.

ROLLER MILLS FOR APPLES

Later in date than the pound-stones, and often replacing them, were the roller mills; in which the apples were passed between two, often slightly grooved, cylinders of granite. The axles of these cylinders were placed horizontally, and over them was built an open bin with sloping sides. Apples placed in the bin were perforce conducted to the rollers, gripped and crushed. This type of crusher is still in use, neither it nor the pound-stone being wholly obsolete.

1. In the year 1931 one of these rollers was still to be seen in the village of Holne, lying in a heap of miscellaneous objects and materials just off the roadside; it was probably thought that it might be of some further use. The roller was of normal dimensions, although larger are to be found. Its length was 15½ in., and its diameter 13½ in.

2. In the hamlet of Michelcombe, in the parish of Holne, there was, in 1931, a pair of closely similar cylinders, which also lay very near the roadside.

3. At Coldstone, in the parish of Shaugh Prior, is a similar cylinder taken from a dismantled cider mill; its length is 17 in. and its diameter 16 in.

4. When the pound-stone (4) at Shilston was disused, it was replaced by a pair of cylinders or rollers, which, in the year 1934, were in use, and are, I believe, still used.

I am much indebted to Captain A. Rodd of Yelverton for supplying certain measurements of the pound-stone at Buckland Abbey; and to Mr. L. E. Currey of Torquay for measurements of the Ilsham Manor stone, now in his garden. Mrs. M. M. Currey, in view of my interest in the matter, kindly sent me a sketch by the late Louis Upcott, a Devonshire man, of a woodcut by E. Calvert (d. 1883) which is reproduced in Laurence Binyon's *Landscape in English Art and Poetry* Calvert also was of Devon birth.

The title of this cut is the *Cider Feast*. I agree with Upcott's comments: "This is a mixture of classical fancy and rustic reality. No doubt the Devon girls danced with the men, but no Devon farm-girl dressed like that. The figures and draperies have been copied from Greek vases. . . . The cider-making process is shown. In the centre is a stone trough with a stone wheel drawn round by a yoke of oxen. . . . A girl is pouring apples into the trough from a bucket: another comes balancing the basket on her head. The cider press is shown behind, under a thatch-roof. . . . The apple juice is shown flowing into a shallow vat. . . . In all the pounds I knew the apples were not pulped, as here, but sliced by revolving knives like the common turnip-cutter or hay-chopper."

For myself I would add that the mechanical details in the cut appear to me to present difficulties at least as great as the costumes and attitudes of the figures. The interest lies in the yoke of oxen. I do not think that the artist, although his imagination could introduce the classic dance in our county's orchards, would in the interest of art have supplanted the horse by oxen, had the horse supplied the normal motive power in his experience.

The bruised and crushed apple pulp was built up on the stone base of the cider press in alternate layers of straw and pulp, the whole covered with a board to which pressure was applied by means of a lever of the second order, the length of the lever being not infrequently 30 ft. At the end of the lever a weight was hung. By this means an approximately constant pressure was maintained; the more constant in that the height of the fulcrum could be adjusted from time to time as the height of the column of straw and pulp became less from the loss of apple juice.

The weight used was a block of granite of convenient size, usually but roughly wrought. The block carried an iron eye by which it could be slung. These weights were sufficiently heavy to be inconvenient to handle, and tripods and blocks were often used to lift them when the lever was being set.

The weight at Longstone is 2 ft 9 in. in length and 2 ft 3 in. in breadth, approximately rectangular with a depth or thickness of 14 in., and its weight approximately 1,200 lb (Fig. 113, 5).

In the Dartmoor area the apple juice was received in a granite vat. The use of granite extended some distance from the moorland; for

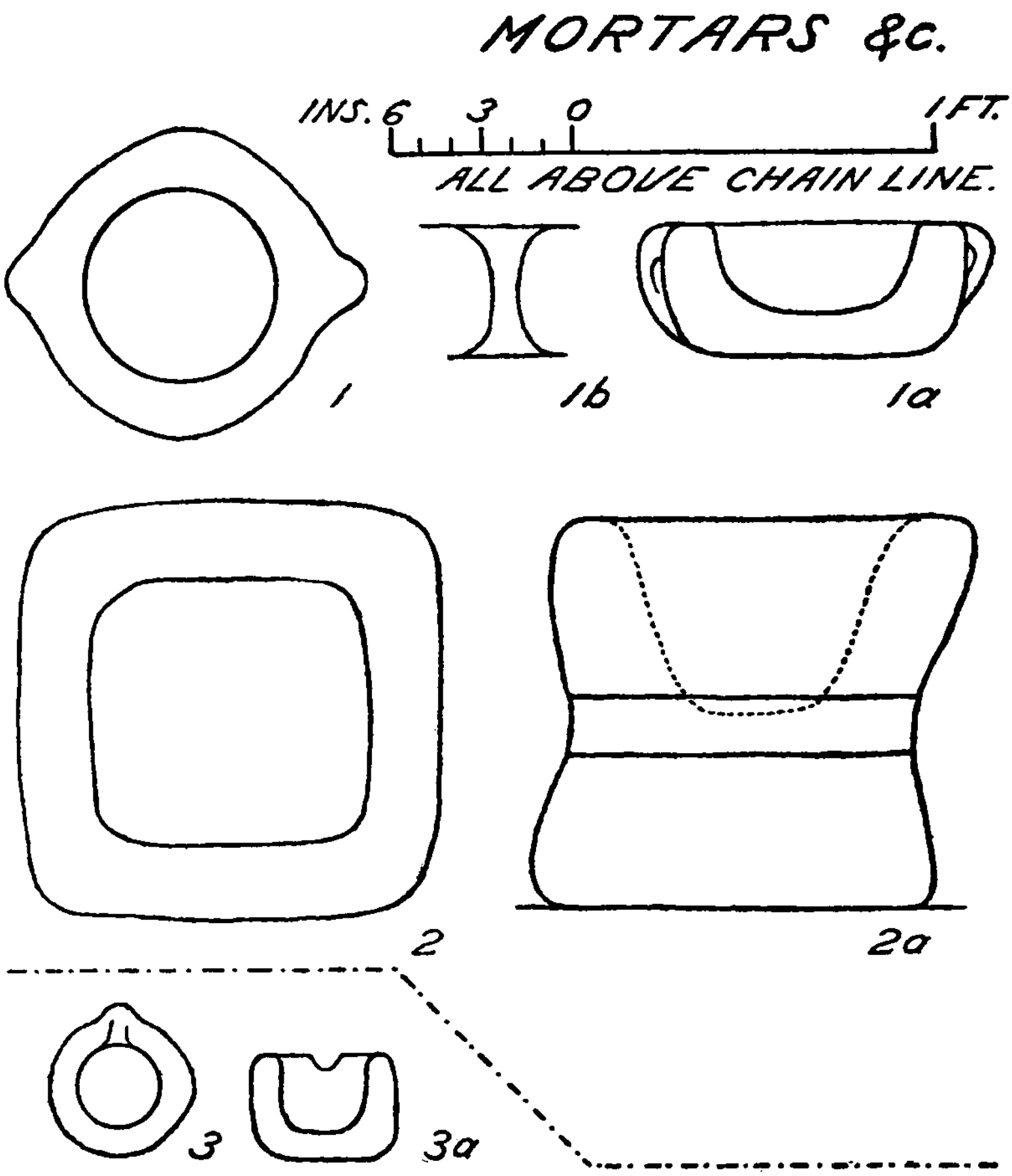


FIG. 114.

1. North Bovey Church, plan: (*a*) section; (*b*) handle.
2. North Bovey Church, plan and (*a*) section.
3. Churston Ferrers, plan and (*a*) section.

example a stone vat was in use at Shilston, Modbury. The charge that cider was responsible for *Devonshire colic* could hardly be maintained in such instances, however true it may have been where lead-lined containers were employed.

The vat at Shilston, now used as a trough for the pump and rain-water, is approximately circular, the stone being 42 in. in diameter and 16 in. in depth; the inside measurements are 35 in. in diameter and 9 in. in depth; thus the capacity of the vat is 31 gallons when filled to the brim.

DOMESTIC MORTARS

There is a small type of domestic mortar which I have never known to be made in either moorstone or Roborough stone; the material used, in my experience, being either Cataclews stone, or one of the kindred rocks of Devon or Cornwall. Even as the bases of cheese-presses, and both the upper and lower stones of querns, have been accepted as ecclesiastical antiques, so to a greater extent have these small mortars, while a larger type is not infrequently claimed as an early font. There are five or six small mortars in the parish church of Dittisham, and one at North Bovey. I have heard varied explanations of their use. It is claimed that they were holy-water stoups; alternately they are identified as the begging bowls of mendicant friars; and yet, again, it is said that the grain for the eucharistic wafer was ground in these mortars.

1. In North Bovey Church is a good example of the small type of mortar, approximately circular, with projecting lobes as handles. The overall width at the handles is 1 ft, and at right angles to this it is 10 in. The depth of the stone is $4\frac{1}{2}$ in. The basin is $6\frac{1}{2}$ in. in diameter, and 3 in. in depth; the bottom is rounded, the section approximating to a semi-ellipse (Fig. 114, 1).

There are varied forms which defy classification. Many were cup-shaped with a slight lip; some of these may possibly have been lamps.

2. At Churston Ferrers, built into the wall of an old cottage, was found an object now in the Royal Albert Memorial Museum, Exeter. The material is not granite, but sandstone. The greatest diameter of the stone is $9\frac{3}{4}$ in., and the least is one inch less; the height is 7 in. The outline is not truly circular, but one deviation from the circle is obviously intentional, since it provides a lip. The cavity or cup is 5 in. in mean diameter, and $4\frac{1}{2}$ in. deep at the centre. The bottom is relatively flat, rounding into the sides. This may be called a cup-shaped object, although it has no handle. (See Fig. 114, 3.)

My attention was kindly called to it by Dr. Blackie, curator of the Royal Albert Memorial Museum.

3. From the bottom of a well at Turnchapel, in the parish of Plymstock, was obtained a shallow bowl with a lip, made of Roborough stone. This was shown to me by Mr. J. J. Judge, to whom I am much indebted.

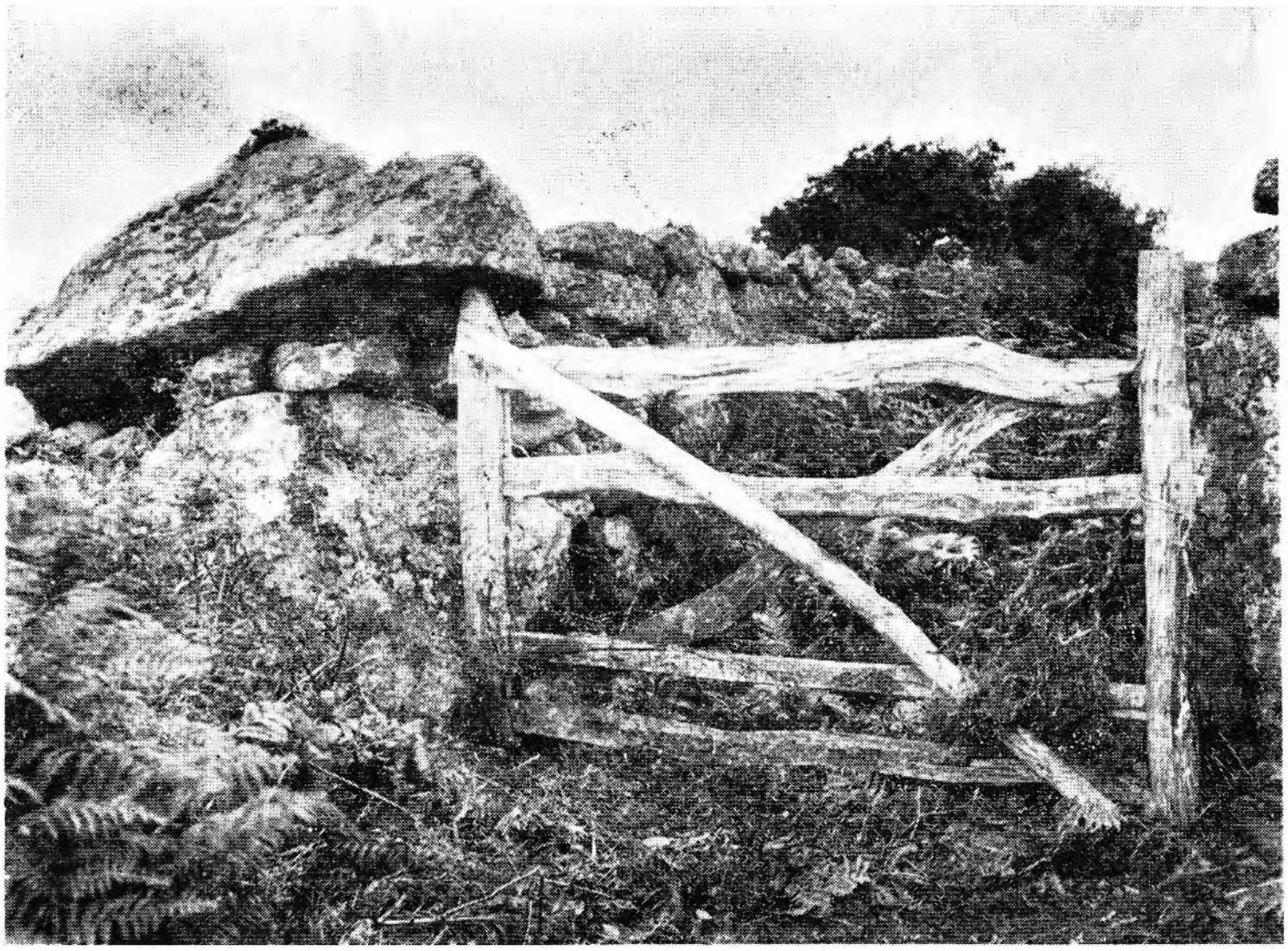
The outside diameter of the bowl is 10 in.; its circular outline is fairly regular, but broken by a half-inch projection at the lip. The top edge is fully rounded in section and the curve of the inner surface merges in the curve of the outer. The height of the stone is 4 in., and the cavity of the bowl is 2¼ in. in depth. The bowl has a flat circular base 3¾ in. in diameter. The size is too great to allow one to be tempted to identify this bowl as a lamp; the base too small to admit any but light grinding or crushing.

4. In North Bovey Church is a mortar the shape of which is, in my experience, unusual. In plan it is square with slightly curved sides, and fully rounded angles; 14 in. by 14 in. at top and base; height 13 in. At the centre of its height the stone is constricted to 11¼ in. The cavity is also square on plan, with rounded angles, and measures at the top 9 in. by 9 in.; it is 4½ in. square at the bottom, which is slightly rounded; and 6½ in. deep. The material is granite.

5. The larger mortars usually show better workmanship and finish, and are sometimes claimed as fonts. Because it is under present conditions the easiest of access for me I have selected as an example the mortar in the church of SS. Nicholas and Faith, Saltash, Cornwall.

* * *

[This article unfortunately remains unfinished. It was the last the author wrote.—Ed.]



A. Wood-and-stone gate, Peck Farm, Lustleigh.

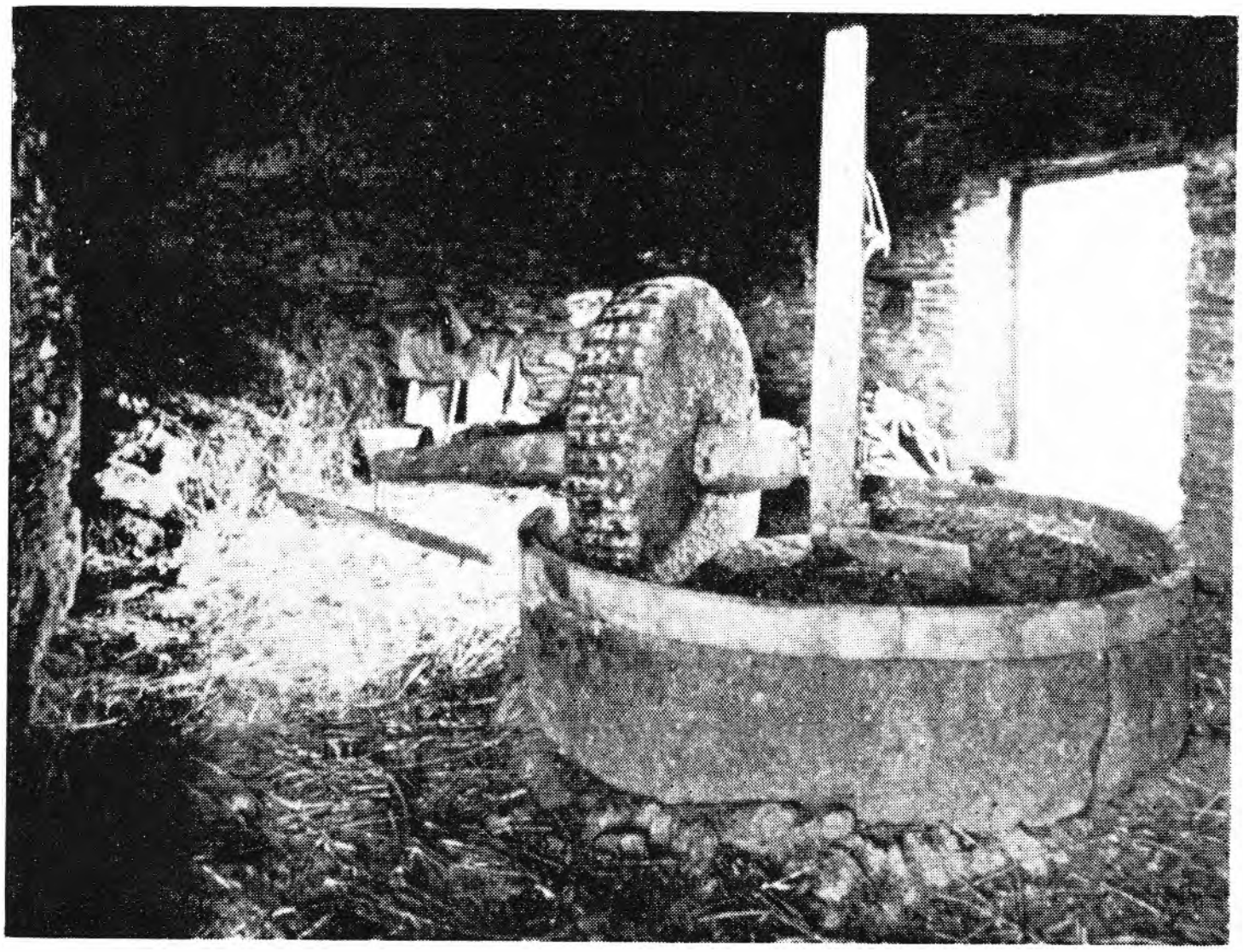
B. Holed gate-hanger now used as gate-post,
near Portland Lane, Sheepstor.

A. Gate-hanger. Wormhill.

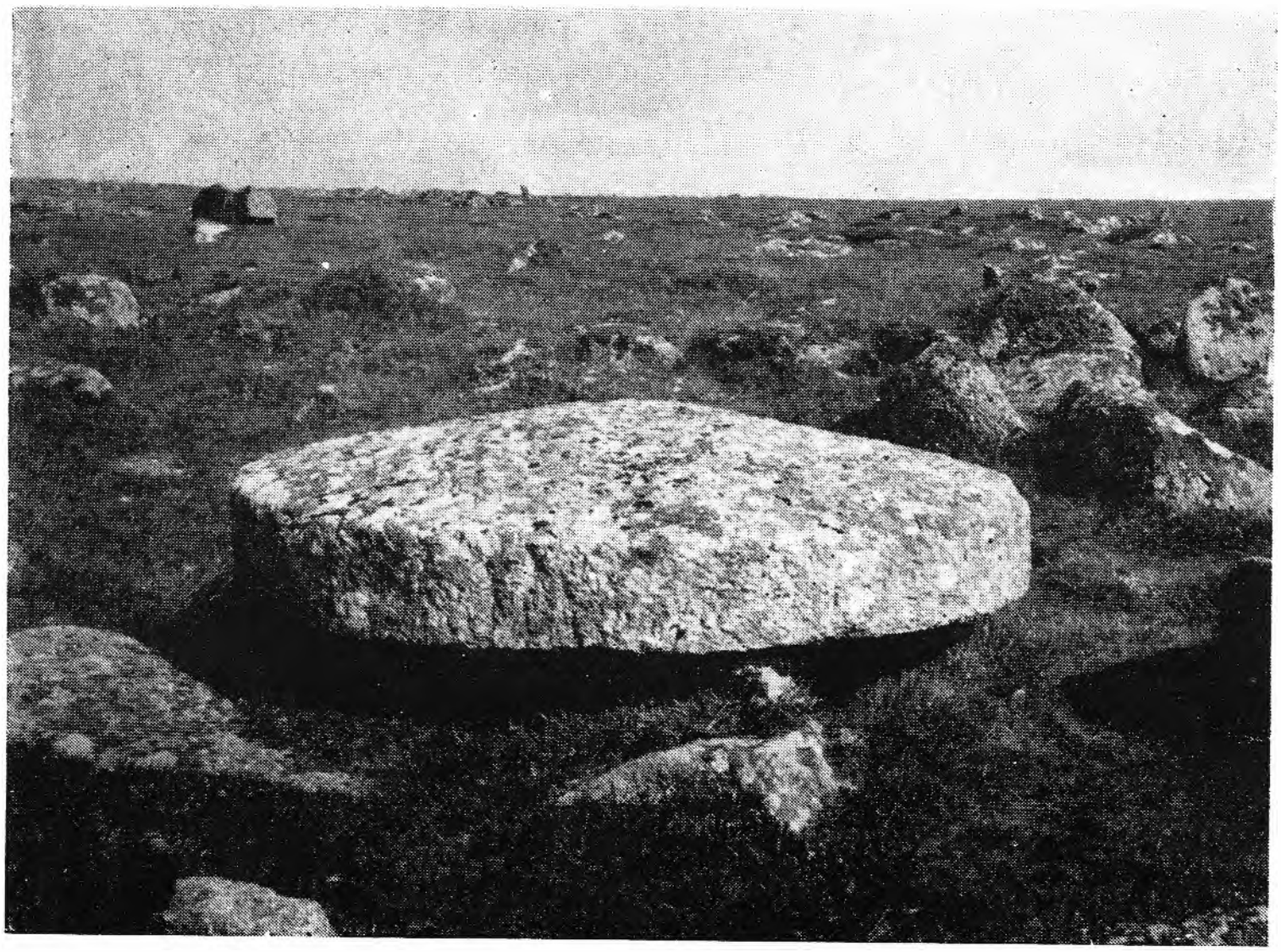
B. Slotted gate-post, Lakeland, Chagford.

A. Quern, Ditsworthy Warren, Sheepstor.

B. Cheese press, set in cobbled paving. Gratton farm, Meavy.



A. A cider mill.



B. Abandoned apple-crusher, Merrivale.

A

B

Cider mill, Longstone, Sheepstor. (A) Before restoration, the edge runner lying on its side. (B) The pound stone during restoration.