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**A Medieval Pottery Kiln at Ham Green, Bristol**

by K. J. Barton  
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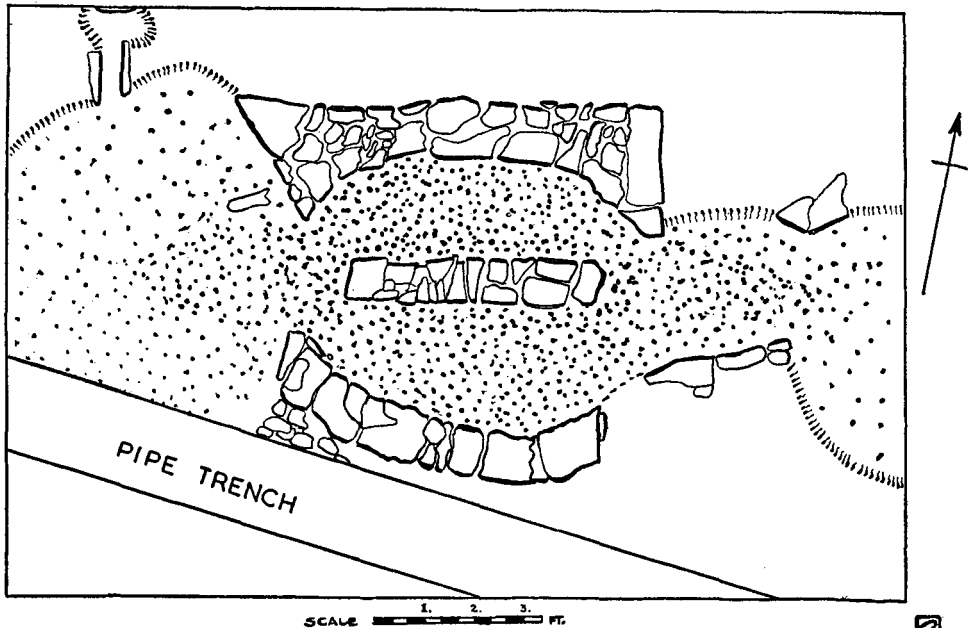
# A Medieval Pottery Kiln at Ham Green, Bristol

By KENNETH JAMES BARTON

## INTRODUCTION\*

**I**N 1959 a few sherds of pottery were found in a field adjoining the hospital at Ham Green; Crockern Pill, near Bristol. (N.G.R. 155/534758). When washed they were revealed as kiln wasters of medieval date.

PLAN OF THE KILN (after J.E.Hancock.)



A trial excavation revealed a bank of wasters 2 feet deep, and extensions to this trench exposed a kiln (see Plan).

\* This is an extract from a report deposited at the City Museum, Bristol by the excavators, Messrs E. Kilsby and J. Hancock, as is the kiln plan.

The kiln chamber is oval in shape, 8 feet long and 4 feet wide. It is divided down the centre by a longitudinally placed wall which runs within a foot of each opening. All the walls are composed of limestone which were lagged internally with a thick lining of clay, baked very hard. These walls stand about a foot high, although the north wall had been robbed of its outer course. Within the area of the kiln was a quantity of debris. This contained many pieces of limestone, all about the size of a clenched fist, that had been subjected to intense heat on one side. There were also large pieces of clay daub that contained pieces of carbonized wood.

At one end a small pile of Pennant slabs and a large jug base were used to seal the entrance to the kiln.

The floor was covered with a silvery white mixture, amongst which lay many small rounded stones, flat at top and bottom, which were covered in clay. Upon these were placed square slabs of thinly split Pennant batts which were frequently marked by contact with the glazed rims of jugs.

The chamber was fired through a circular flue, about 2 feet in diameter, the opening of which showed an arch springing of Pennant slabs, held and lagged with clay. Within the flue, lengths of stone had been set in the ground to act as fire bars. The area around the outside of the flue was blackened with trodden charcoal.

### THE POTTERY

The material excavated from the kiln site was handed to the writer and was washed and sorted by him. All pieces below 1 inch square were rejected unless they had any special decorative or other features. The final selection comprised 6,915 pieces. These were sorted into the groups discussed below and all representative material illustrating every aspect of decoration, shape and form was separated and is illustrated here. The rest of the material was statistically analysed and is discussed below.

The pottery falls into three groups:—jugs, cooking pots and other vessels. Of these groups the jugs are again to be divided into two separate types, which differ principally in paste and decorative technique although both the pastes and decoration overlap to a minor degree. The pastes are named 'A' and 'B'.

'A' Paste is sandy in texture and the clay has a very high calcium content opening the body although not leaving holes. This calcium content is common in the clays of the Bristol region and was noticed in clays from Whitchurch near Bristol and from samples taken in the

Marshes at Meare, Somerset,<sup>1</sup> where there was obvious alluvial wash-out from the nearby Mendips. Even if the clay is washed to a slip and this slip worked up and fired, there are sufficient limestone particles within it to give this open body. The unglazed 'A' body fires to a creamier finish than the unglazed 'B' body which always fires to a grey finish. This paste fires very hard and, when overfired, extremely hard.

'B' Paste. This paste has no calcite inclusions but contains a high proportion of very fine water-worn sand. It fires to a grey finish on unglazed surfaces except on cooking pots which are usually oxidized a brick-red colour. As in the case of 'A' pastes this type fires very hard and when overfired becomes almost a stoneware.

Jugs (63½ per cent of the whole) (FIG. 1, nos. 1-13; FIG. 5, nos. 11-12)

'A' Type. The term 'A' is used to describe jugs of 'A' paste which bear a specific form of decoration. This type is represented here by thirteen fragments from a total of 190 (which comprises 3 per cent of the whole). The main features to be considered in these forms are the rims, bodies, handles and their decoration.

The common rim form  $A_1^2$  is seen in FIG. 1, nos. 4, 5 and 6. The flat top over a pinched neck and projecting 'nasal' profile is very characteristic. The rim in FIG. 1, no. 3 is another form  $A_2$ , always hollow with a distinct kick above the neck. Both these rim forms are seen in FIG. 5, nos. 11 and 12, two vessels from the Pithay, Bristol.<sup>3</sup> The exotic rim form seen in FIG. 1, no. 1 (one of the anomalies frequently met with in Ham Green ware) is in effect an  $A_2$  form with an in-turned rim.

The rims are decorated in two ways.  $A_2$  rims are decorated with strips fingered into a piecrust finish applied on the bulge of the rim; the centre of each indent being pierced with a round sectioned tool. (The use of this pressed strip decoration is seen also on a few 'B' types but not on this rim form and never pierced.) All rims from this site are

<sup>1</sup> Both these samples were reduced by mechanical means in water to a fine slip which was run through sieves, then allowed to settle and dry to a malleable condition. In order to remove all possibilities of inclusions, the bottom half inch of the resultant blocks of clay was removed and disposed of. The rest of the clay was then worked up into two strips which were fired in a reducing atmosphere at 800 deg. for 4 hours. When cooled, both bars were broken. In both cases the results were similar, the paste was open and appeared to be calcite gritted. This was less apparent in the Whitchurch sample derived from the inferior oolite than in the Meare sample derived from the Mendips, a Carboniferous Limestone washout, which had a most pronounced 'gritting'.

<sup>2</sup> In 'A' paste types two distinct rims are to be seen, these have been called 'A1' and 'A2'.

<sup>3</sup> Pithay, a collection of medieval vessels collected at this place some years ago and stored in the City Museum, Bristol and the British Museum, so far unpublished.

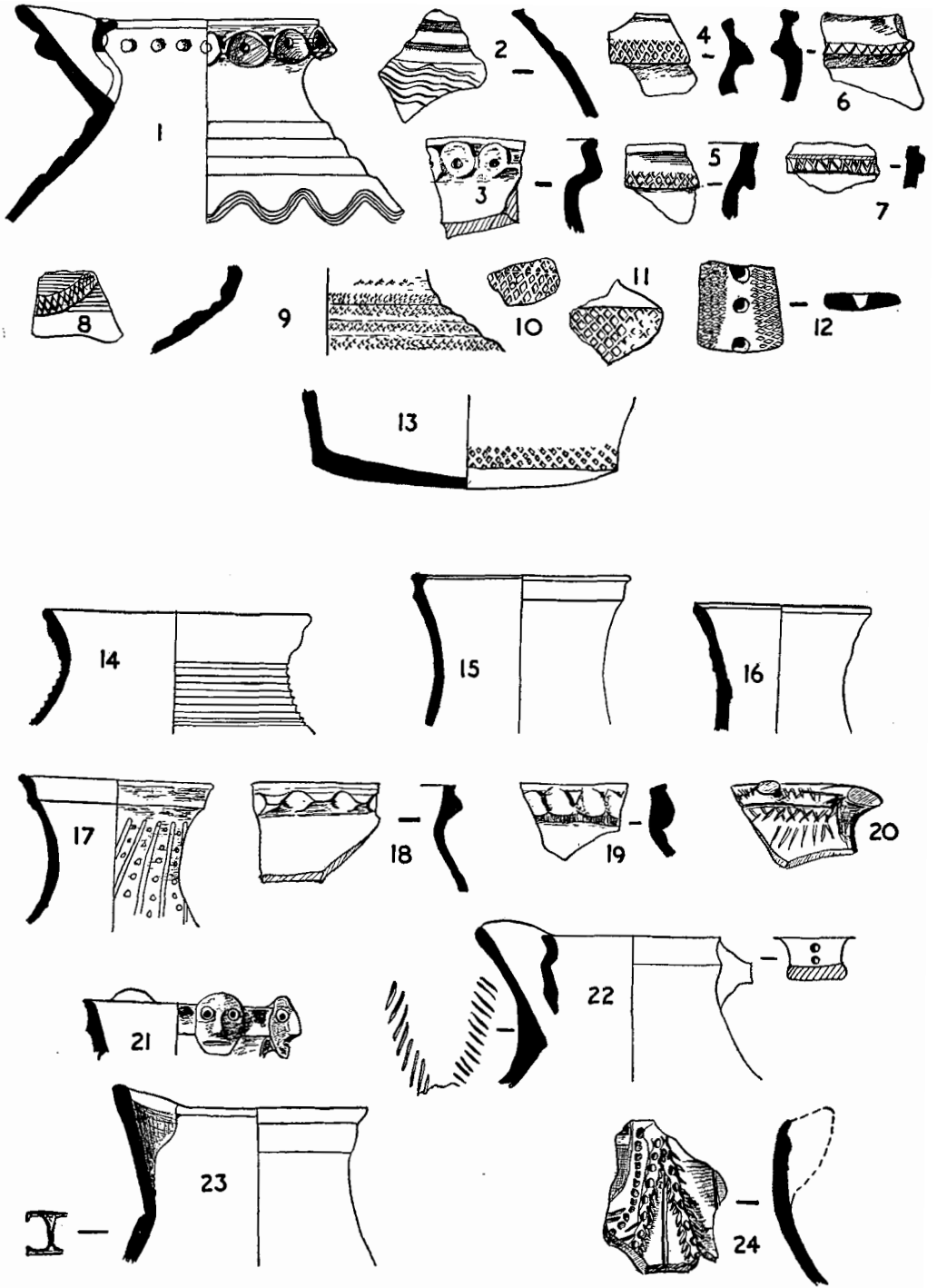


Fig. 1.

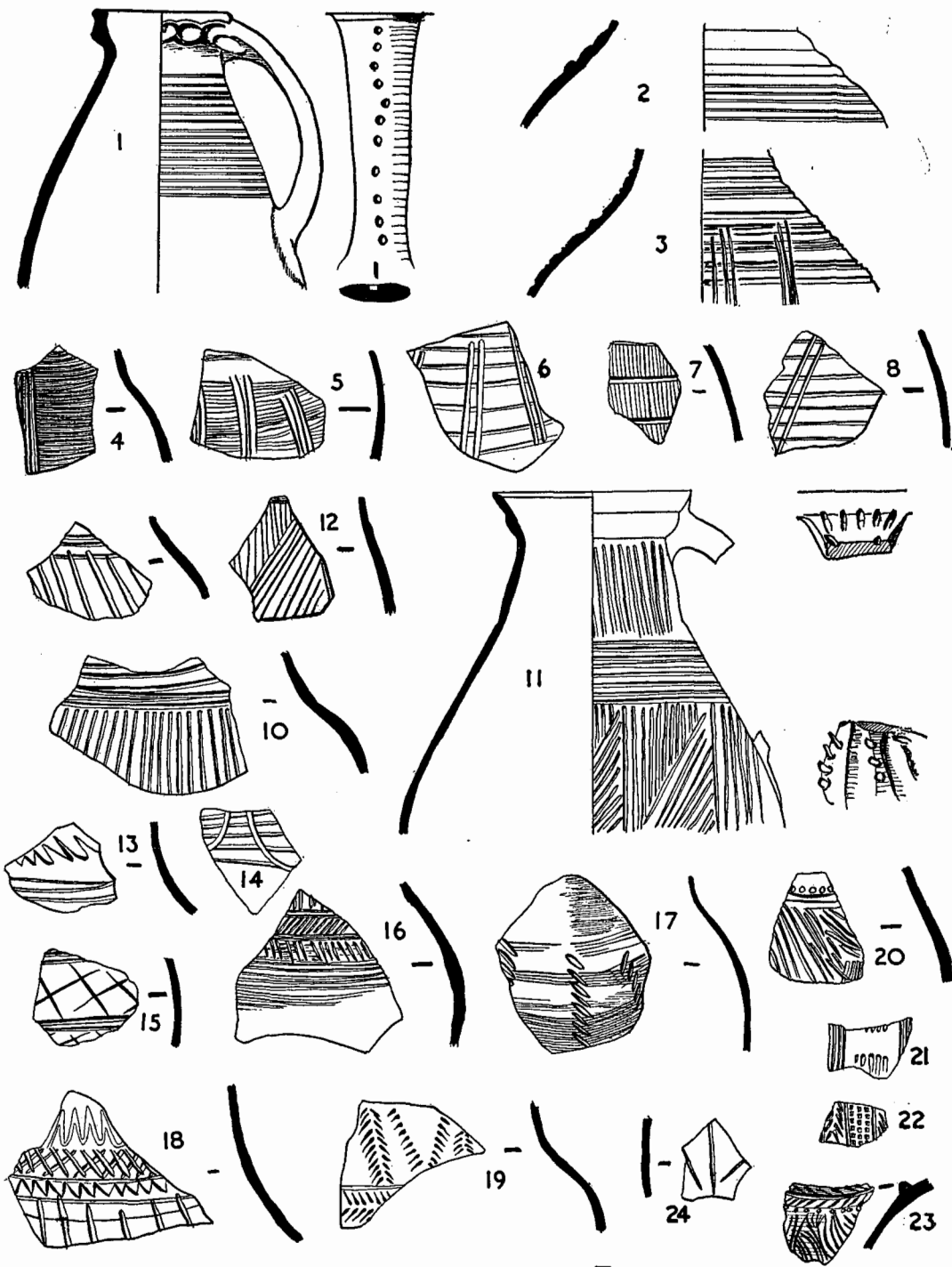


Fig. 2.

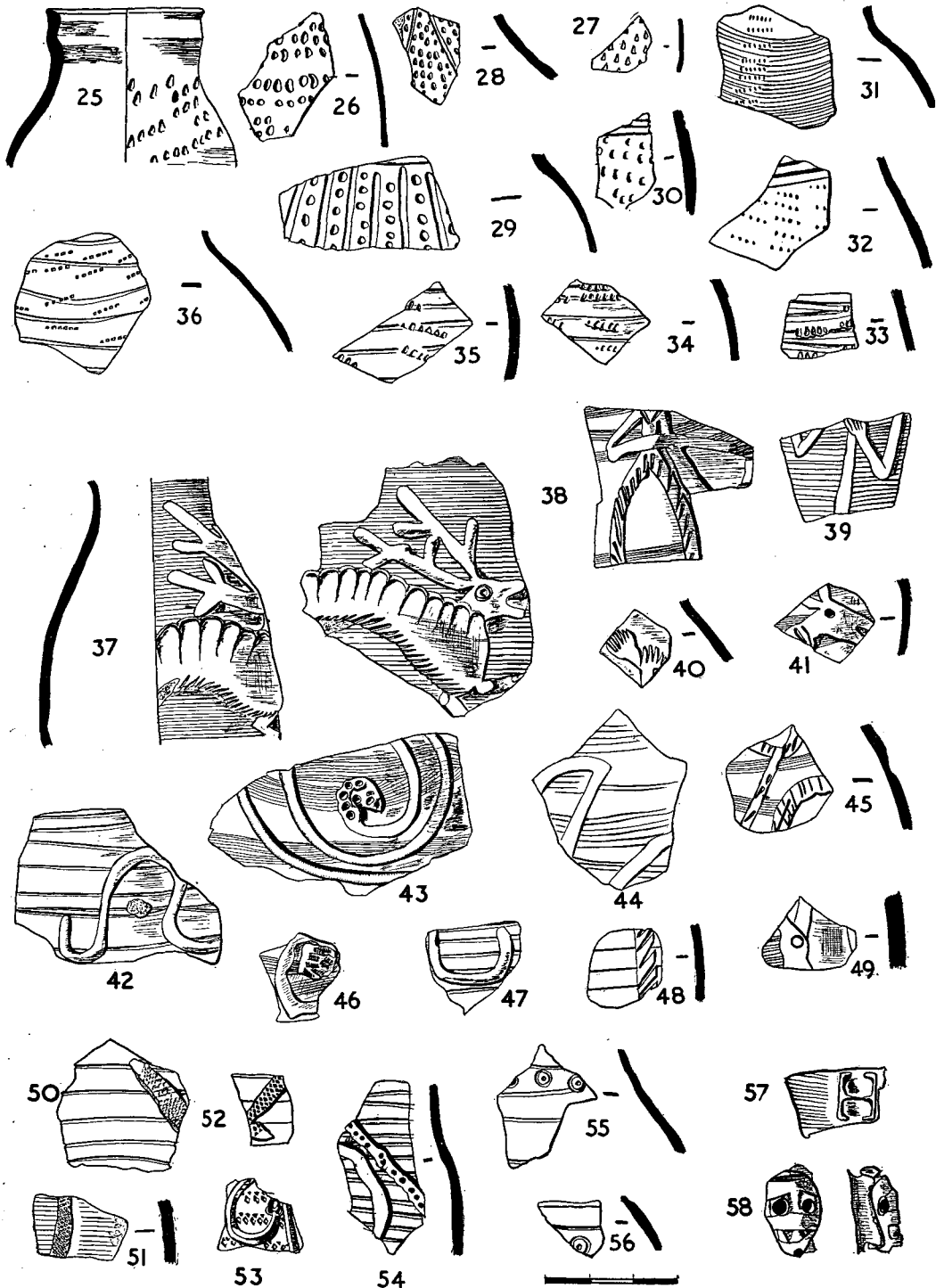


Fig. 3.

## A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

decorated with rouletting on the outside of the rim profile (though not in the Pithay piece, FIG. 5, no. 11). This is a form of decoration limited to 'A' types.

The body has four types of decoration: rilling, rouletting, applied strips and combing, all of which may be used together on the same vessel.

Rilling, or the raising of ridges and furrows, occurs on the neck and shoulders of the vessel, as on FIG. 1, nos. 1, 2 and 9, and on the body, as in FIG. 6, no. 2. In the first two cases this is seen in association with wavy combed decoration and in the third the rilling is covered with diamond rouletting. Rouletting over this form of decoration is seen in this paste only.

The rouletting seen on FIG. 1, no. 10 is the classical form of decoration for 'A' types, as seen in FIG. 1, no. 11, and on the Pithay vessel, FIG. 5, no. 11.

Rouletting occurs also on applied strips which are usually straight, freestanding and not over other body decoration. No applied strip in this paste goes over other decoration with the exception of FIG. 1, no. 8, which except for its paste has very strong 'B' characteristics.

The handles are flat and rectangular in section and have piercing down the middle or are plain. The examples available show that they are also covered with rouletting, as evidenced by the Pithay vessel, FIG. 5, no. 12 and on a fragment from the City Wall, Bristol.<sup>1</sup>

The bases in this type are also decorated as is seen in the rouletted piece, FIG. 1, no. 13. This piece is unfrilled but there is not enough evidence to support a suggestion that all 'A' bases are unfrilled (some 'B' bases are unfrilled). An unusual base found at the Back Hall, Bristol,<sup>2</sup> also has similar forms of decoration and may be of this type.

The use of the diamond roulette roller for decorating 'A' pots is common and has its own characteristics. The diamonds are nearly always large between  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch wide. The free use of rouletting is more usual on 'A' forms than 'B'.

The two vessels from the Pithay, FIG. 5, nos. 11 and 12, which have already been discussed, are seen to have certain features not met with in the material under examination. Although undoubtedly 'A' types, they are in a very modified, practically 'B' paste. The  $A_1$  rim of no. 11 bears an  $A_2$  decoration. The rouletting lies in between two rows of lightly indented circles. The area between the neck and rim is decorated with jabbed combing to give deep and regular impressions, a feature much more akin to 'B' than to 'A' types.

<sup>1</sup> P. A. Rahtz, 'Excavations by the Town Wall, Baldwin St., Bristol, 1955', *Trans. BGAS*, LXXIX, part 2, fig. 10, no. 1.

<sup>2</sup> K. J. Barton, 'Excavations at Back Hall, Bristol, 1958', *Trans. BGAS*, LXXIX, part 2, fig. 8, no. 14.



Fig. 4.

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The Pithay vessel no. 12 with its standard handle and rim has one feature not seen on any of the pottery under examination. This is a decoration of triangular sectioned scales sparsely scattered over the body. One fragment from Back Hall,<sup>1</sup> however, bore this form of decoration in association with the grooving seen on 'B' wares.

The evidence offered by these two vessels would suggest that there was a transitional stage in the relationship of the two forms of paste and decoration. None of the vessels seen in FIG. 6 have 'A' paste but only one has 'A' decoration, no. 2, although its paste, rim form, handle form and decoration, classify it as a 'B' type.

*Rims* (FIG. 1, nos. 14-24; FIGS. 2, 3, 4 and 5, nos. 1-10 and FIG. 6)

*'B' Type.* The rim forms in this group are all of one standard type. The basic form is constant and the rims are always flat-topped. This top is frequently bevelled inwards and is always overhanging on the outer edge. Beneath this overhang at little more than a finger width, there is always a raised and angular projecting ridge. The best examples seen here, FIG. 1, nos. 14, 17 and 21, are where the rim-interiors are solid and the interior of the vessel rises up untouched. Whereas in FIG. 1, nos. 15 and 22 and FIG. 2, no. 1, the external rim is carried on a hollowed interior, this is not a common practice although variations on the principal form can be seen, some rims having a slight overhang on the inside as in FIG. 1, nos. 15 and 23 and FIG. 6, nos. 3 and 4. The rim form in FIG. 6, no. 1 is an exotic form designed to accommodate decoration. No. 3 of this group, although in all other respects a typical Ham Green product, has a thin rim, a further example of variation in form.

The thumb pressing seen on FIG. 1, nos. 18 and 19 and FIG. 2, no. 1 is done on the under rim ridge and is a much more modified form than the 'A' types. These are the only two pieces bearing this decoration in 'B' paste. The decoration seen on FIG. 1, no. 20 is an exotic decoration on a very damaged piece, which appears to have applied pieces in the form of strapping which may have come down to fasten on the body. The scoring criss-cross on the rim is also known on four other rims. This design is very crudely applied and suggests an unpractised hand.

FIG. 1, no. 21 is a unique form of rim decoration for this site although modified forms are seen on the 'Dancing girls' vessel, FIG. 6, no. 1. These heads are large, sculptured in the wet state; the mouths are slashed, and the eyes are made by pressing with the end of a tube.

<sup>1</sup> K. J. Barton, 'Excavations at Back Hall, Bristol, 1958', *Trans. BGAS*, LXXIX, part 2, fig. 8, no. 5.

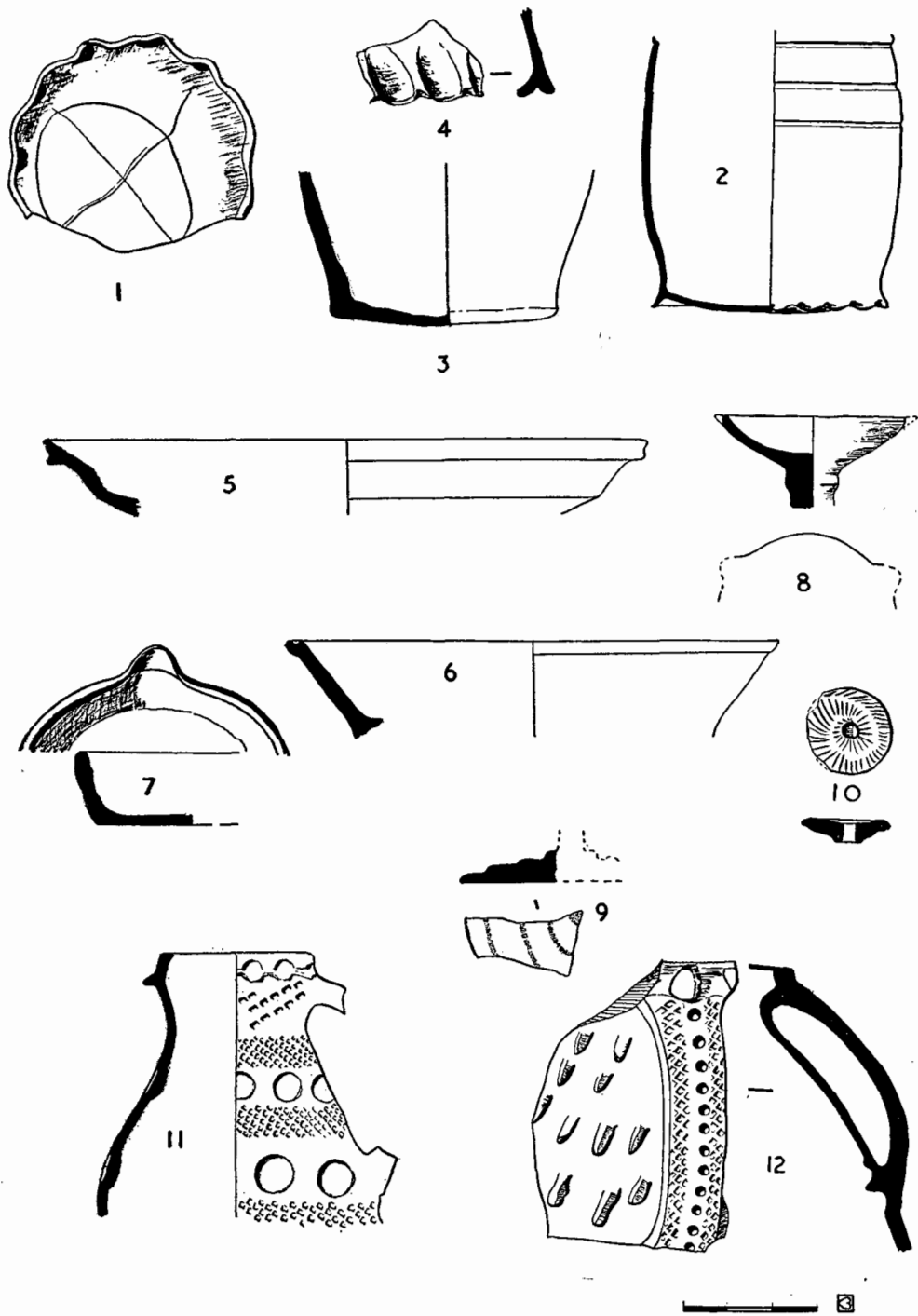


Fig. 5.

## A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

This occurs in both the Ham Green and the 'Dancing girls' examples. Although there was special provision for this exotic rim decoration in the 'Dancing girls' vessel the rim on FIG. 1, no. 21 was not specially constructed. Other examples of standard rim forms are the four vessels published from the Bristol Castle Well,<sup>1</sup> and others at Back Hall<sup>2</sup> and Baldwin St.<sup>3</sup>

### *Spouts* (FIG. 1, nos. 22-4)

The standard form of bridge spout is seen in FIG. 1, no. 22 and FIG. 6, nos. 3 and 4. The spout is externally applied and the joint wiped out. The steep angle and the upper curved profile are common, but as is seen in the Bristol Castle Well jugs,<sup>4</sup> they can be level with the rim. In every case the hole is made by thrusting a tool down from the *outside*. The resultant hole is in some cases widened by pulling up with the finger from the inside. This piercing frequently resulted in an ineffective pouring hole. Two of the spout fragments, however, have had the bridge cut away as in FIG. 1, no. 23. In one case a Ham Green vessel from the Bristol Castle Well had a pulled lip.<sup>5</sup>

In some cases spouts carry decoration, although 84 per cent of the examples found are undecorated. The commonest form of decoration is seen in the spout, FIG. 1, no. 22, in which the surrounds are slashed into a 'beard' (12½ per cent). The only other form of spout decoration is piercing with a tool around the fringe (3½ per cent), as seen in FIG. 1, no. 24.

Two fragments of vessels with very strong Ham Green characteristics in paste, spout and rim form, but carrying a ring and dot decoration around the spouts have been seen by the writer elsewhere.<sup>6</sup> The use of this motif for decoration is discussed below, and its use on spouts at Ham Green should be considered probable.

### *Body Decoration* (FIGS. 2 and 3, nos. 1-58)

The decoration of the body can extend from just below the rim to about three-quarters way down the pot; however, the area most commonly used for decoration extends from the lower neck to the belly, as seen in FIG. 6, nos. 3 and 4 and in the Bristol Castle Well vessels<sup>7</sup> and also a Back Hall<sup>8</sup> specimen. Although the area affected can be much less as seen in FIG. 2, no. 1. The average area decorated is, therefore, somewhat less than 50 per cent of the vessel. No undecorated

<sup>1</sup> K. J. Barton, 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 1, nos. 3 and 4; fig. 2, nos. 5 and 6.

<sup>2</sup> *Ibid.*, fig. 5, no. 4; fig. 6, no. 7.

<sup>3</sup> *Ibid.*, fig. 10, no. 8.

<sup>4</sup> *Ibid.*, fig. 1, no. 3.

<sup>5</sup> *Ibid.*, fig. 1, no. 4.

<sup>6</sup> National Museum of Wales.

<sup>7</sup> *Ibid.*, fig. 12, nos. 3, 4, 5 and 6.

<sup>8</sup> *Ibid.*, fig. 5, no. 4.

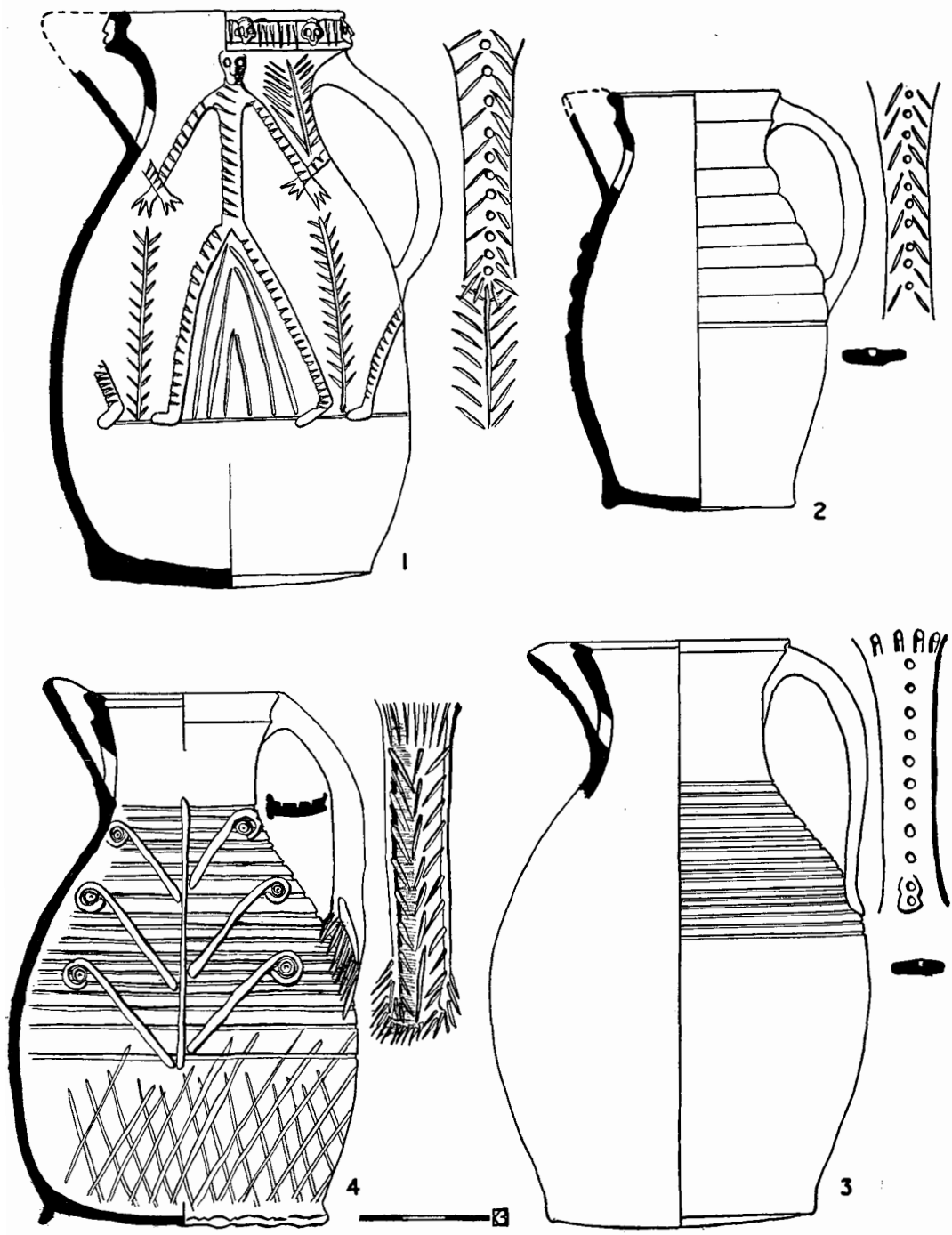


Fig. 6.

examples of complete vessels are known and the fragments from this site do not suggest that they ever existed, although the Ham Green type vessels illustrated in the Llantwit Major report<sup>1</sup> are shown as being without decoration. The proportion of undecorated body fragments (1257) to decorated body fragments (1363) would seem to agree with the proportions discussed above.

Of the decorated pieces the commonest form is horizontal grooving (56 per cent) shown in FIG. 2, nos. 1 and 2; FIG. 4, no. 4 and FIG. 6, nos. 3 and 4. This groove was done with a single stick but sometimes it was done with a coarse toothed comb (15½ per cent) of three to nine teeth. It is sometimes difficult to tell the difference between these two forms of decoration.

Frequently this grooving and combing is varied by the application of vertical grooves in groups about the vessel, as in FIG. 2, nos. 3, 4, 5 and 6, or in close strips as in the Bristol Castle Well vessel.<sup>2</sup> With one exception, FIG. 2, no. 7, this form of decoration is always over the horizontal grooves. This cross hatching comprises 15 per cent of the body decoration.

Fine combing, as seen in FIG. 2, nos. 4 and 17 and FIG. 3, nos. 31 and 39 occurs frequently, although never alone, and is often over decorated with stick applied vertical grooving (12 per cent). Variations in horizontal and vertical grooving can be seen in the diagonal grooving of FIG. 2, no. 8 and the circular grooving of FIG. 2, no. 14, the only examples of this form.

Single vertical grooving is not common and the examples FIG. 2, nos. 9 and 10 are two of a total of six, although one other is known from Back Hall<sup>3</sup> which is similar to FIG. 2, no. 10. Vertical combing is also known from four fragments of which FIG. 2, no. 21 is an example.

There are many variants of comb, groove, and slash technique, derived from and based on the two basic forms of decoration discussed above. The vessel, FIG. 2, no. 11, illustrates one example of diagonal zones filled with grooves; a similar piece is FIG. 2, no. 12. In FIG. 2, no. 20 the zoning has gone astray and this piece has piercings round the neck similar to that seen on FIG. 2, no. 23, in which an all over short stroke zonal form of decoration can be seen. FIG. 2, no. 13 has a wavy pattern on the neck and FIG. 2, no. 15 zones of criss-cross slashing.

The use of the comb can be seen in FIG. 2, no. 21 where there is vertical slashing in a vertical zone. Vertical slashing is also seen in

<sup>1</sup> 'The Medieval settlement at Llantwit Major, Glam.', *Bulletin of the Board of Celtic Studies*, xiv, p. 4, fig. 9.

<sup>2</sup> K. J. Barton, 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 5, no. 4.

<sup>3</sup> *Ibid.*, fig. 7, no. 7.

FIG. 2, no. 17. FIG. 2, nos. 16 and 19 illustrate horizontal and diagonal slashing, whereas FIG. 2, no. 18 has a multiple of these forms on a body decorated with horizontal and vertical grooves. The deltoid slashes filling the vertical zone in FIG. 2, no. 22 are in association with a decorative form of regular square impressions not seen elsewhere. The raised slashed neck cord of FIG. 2, no. 23 and the three striking deep slashes of FIG. 2, no. 24 are also very uncommon.

Stick end decoration covering the vessel diagonally, FIG. 3, no. 25; horizontally, FIG. 3, no. 26; haphazardly FIG. 3, nos. 27 and 30; in diagonal zones or down between vertical grooves FIG. 3, no. 29 form about 2 per cent of the body decoration. The use of comb teeth in a downward piercing seen in FIG. 3, nos. 31-36 occurs in approximately 3 per cent of the examples.

Applied strips over body decoration in either zoomorphic or curvilinear designs are a feature of Ham Green wares and constitute 6 per cent of the body decoration found. FIG. 3, no. 37 which depicts a running stag in appliqué is a bold and forceful method unique in the material examined although the strong and virile approach is characteristic of Ham Green potting. The ring and dot motif, rarely seen in Ham Green wares, is used here for eye decoration. The horse head in FIG. 3, no. 41, although a similar subject to the deer, has not been treated in the same manner but applied in an undeveloped flat cut-out shape. The eye form is also quite plain. The other zoomorphic designs in this type of decoration are the 'pin man' figures seen in FIG. 3, nos. 38-40 and FIG. 6, no. 1. The distinctive method of application in cut flat strips, slashed to give the figure in FIG. 3, no. 38 the appearance of wearing chaperos, although it is felt that the slashing is not a specific form of decoration or even suggestive of a motif, but is the method by which the strips were fastened to the vessel. This slashing is seen also on FIG. 3, no. 45, and to good advantage on the 'Dancing girls' pot. The hands in FIG. 3, nos. 39 and 40 are splayed although not so in FIG. 3, no. 38 or in the case of the dancing girls where the slashing gives only three in place of the usual five fingers. This vessel (FIG. 6, no. 1) though not the epitome of Ham Green strip decoration shows the developments of the strip to good advantage. The moulding of small heads from the strips and the repetition of the same motif in the rim, all combined with slashing on the strips and on the body not only bear out the salient Ham Green characteristics, but also illustrate the great variation met with in the application of these techniques to exotic forms of decoration.

Although the application of 'B' strips is in most cases *over* horizontal grooving, in ten instances this is not the case.

The group FIG. 3, nos. 42-9 illustrates examples of curvilinear strips. The wavy design FIG. 3, nos. 42-4 occurs over stick and comb decoration. The applied piece seen in FIG. 3, no. 42 is unique. The great scrolls of which FIG. 3, no. 43 is an example appear from other fragments to be the commonest form of applied strip decoration. The large terminal central pellet seen on FIG. 3, no. 46 is decorated with stick end jabs. In FIG. 3, no. 49 the junction between the two strips has the tube end circles seen on the heads of FIG. 1, no. 21 and FIG. 6, no. 1. The 'plant' motif met with in FIG. 6, no. 4<sup>1</sup> is a form of applied strip decoration. The strips are curved only at the terminals and then around small pellets which are decorated with a ring and dot motif.

The strips seen in FIG. 3, nos. 50 and 52 occur only over grooves or combing, except in FIG. 3, no. 53 which is another special case. The body rouletting which usually appears only on 'A' types occurs here on a 'B' paste. The curved strip end with its trefoil pierced terminal is also unusual in that the strip is small and triangular in section. The finish of this piece is of a very high grade although the ware is undoubtedly Ham Green.

Diamond rouletting is also found on 'B' pastes. The diamonds are smaller than those found on 'A' paste types by exactly one half ( $\frac{1}{16}$  inch to  $\frac{1}{8}$  inch). The use of this motif is limited on 'B' pastes and could suggest a link between the two categories.

The use of stamped decoration has already been noted in the application of tube end rings. The ring and dot type of decoration seen in FIG. 3, no. 55 is the only example from this site used on the body in this manner: the example FIG. 3, no. 56 is in Ham Green ware but was found at Compton Bishop.<sup>2</sup> The buckle stamps on FIG. 3, no. 57 and FIG. 1, no. 23 occur also on an unpublished vessel of the Bristol Castle Well group.<sup>3</sup>

The moulded horse's head with stick end holes for eye and mouth is from the side of a vessel as evidenced by the groove impressions on the back.

One other form of body decoration is the light dry state burnishing grooves seen on FIG. 6, no. 4 below the wet state grooving.

#### *Handles* (FIG. 4)

The description falls into three parts: rim fastenings, centres and body fastenings.

<sup>1</sup> In the City Museum, Bristol.

<sup>2</sup> In the City Museum, Bristol.

<sup>3</sup> In the City Museum, Bristol.

The commonest form of rim fastening is slashing which was noted in 32 per cent of the examples (FIG. 4, nos. 1-7). There is some significance in the number of these slashes which never appear to be less than three or more than nine. The commonest numbers were four, five or six. Some types have one slash at each side of the handle rim fastening. This occurs on 16 per cent of the examples. Rims fastened with slashes occur mainly on handles slashed down the centre.

Eighteen per cent of the rim fastenings are pierced with either three or four stick end holes, of which three piercings are the commonest form. This usually occurs on handles pierced down the centre.

Thirty-two per cent of the handles have no rim fastening decoration at all, as in FIG. 6, nos. 1 and 2; FIG. 2, no. 1 and FIG. 4, no. 10.

The most common form of central portion decoration is the single central piercing (52 per cent) illustrated in FIG. 4, nos. 2, 7 and 24; FIG. 6, nos. 1-3 and FIG. 2, no. 1. This can occur with chevron or deltoid slashing, FIG. 4, nos. 14 and 15 or FIG. 6, nos. 1 and 2, or criss-cross slashing as in FIG. 4, no. 30; or in two lines, FIG. 4, no. 25; or in three lines, FIG. 4, no. 26; or in variable groups, FIG. 4, no. 28.

The next largest group is single central slashing (left to right) (17 per cent) as in FIG. 4, no. 22. Such slashing is developed into double or treble rows. A double row may become a treble row half way down as in FIG. 4, no. 4.

There are several small sectioned handles, FIG. 4, no. 27, suggestive of small vessels or exotic decoration as indicated in FIG. 1, no. 20. These are all decorated with single piercing.

Other forms of decoration on handle central pieces are applied strips which are usually very prominent and decorated with large central stabs as in FIG. 4, nos. 32 and 33. No. 32 is also decorated with multiple criss-crosses. FIG. 4, no. 34 has a zig-zag strip and associated deltoid shaped slashes; the strip is stabbed with a comb. The handle seen on FIG. 6, no. 4 although treated in the slash technique common to this ware is not paralleled in shape by any of the examples found at the kiln. The section with its raised edges is unusual as are the body fastenings.

The fastenings of the handle to the body take forms as varied as the other features of this ware. Four types predominate:

two parallel thumbed indentations and the resultant two outside and one inside ridges are decorated with slashes (25 per cent) as in FIG. 4, no. 43 and FIG. 2, no. 11;

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or with only the outer ridges slashed and the inner ridge pierced (27 per cent) as in FIG. 4, nos. 47-52;

or with the base of the handle worked into a lump which is pierced down the centre with two or three single piercings (20 per cent) as in FIG. 4, nos. 42 and 50 and FIG. 6, no. 3;

or finally in arrow-head piercings (15 per cent) as in FIG. 4, nos. 40 and 51.

Slashing of the lump as seen in FIG. 6, no. 4 is not common occurring in only one other fragment here. The criss-cross pattern FIG. 6, no. 1 occurs on only one other piece. The peculiar method of fixing the handle with two, three or four deep knife cuts as in FIG. 4, no. 37 occurs on three examples. The beard slashing around the base of the handle of FIG. 4, no. 35 is the only example of its kind, as is the stick end jabbing FIG. 4, no. 45.

The decoration of the handles shows a fixed pattern of methods for rarely do slashing and piercing go together. The commonest form of decoration on fixings and centres is by piercing.

### *Bases* (FIG. 5)

All the bases found at the kiln site with four exceptions have pie-crust thumb printed frills applied after throwing as seen in FIG. 5, nos. 1 and 2. These frills are very weak and if not applied correctly could easily become detached, or broken, either in the firing or subsequently as is the case in FIG. 6, no. 3. Sometimes they are not applied at all as in FIG. 6, nos. 1 and 2 and FIG. 5, no. 3 and other vessels found elsewhere.<sup>1</sup>

### *Cooking Pots* (26 per cent of the whole) (FIG. 7)

These are all in a paste similar to that described as 'B'. They are never intentionally glazed although examples of glazed cooking pots may be seen as a result of a kiln accident or bad stacking. The vessels shown in FIG. 7, nos. 2 and 7 are typical examples of these vessels in which there are few variations all on one theme.

The rims are either vertical or slightly flaring as in FIG. 7, nos. 3-6. It is the very rim top which carries the variations. The main type has a flat top with a slight projection to the outside which can be on a horizontal plane or inclined to the outside. These rims can be decorated though 88 per cent were not. The decorations take the form of horizontal combing under the outside, FIG. 7, no. 4; or wavy combing on

<sup>1</sup> K. J. Barton, 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 2, no. 5.

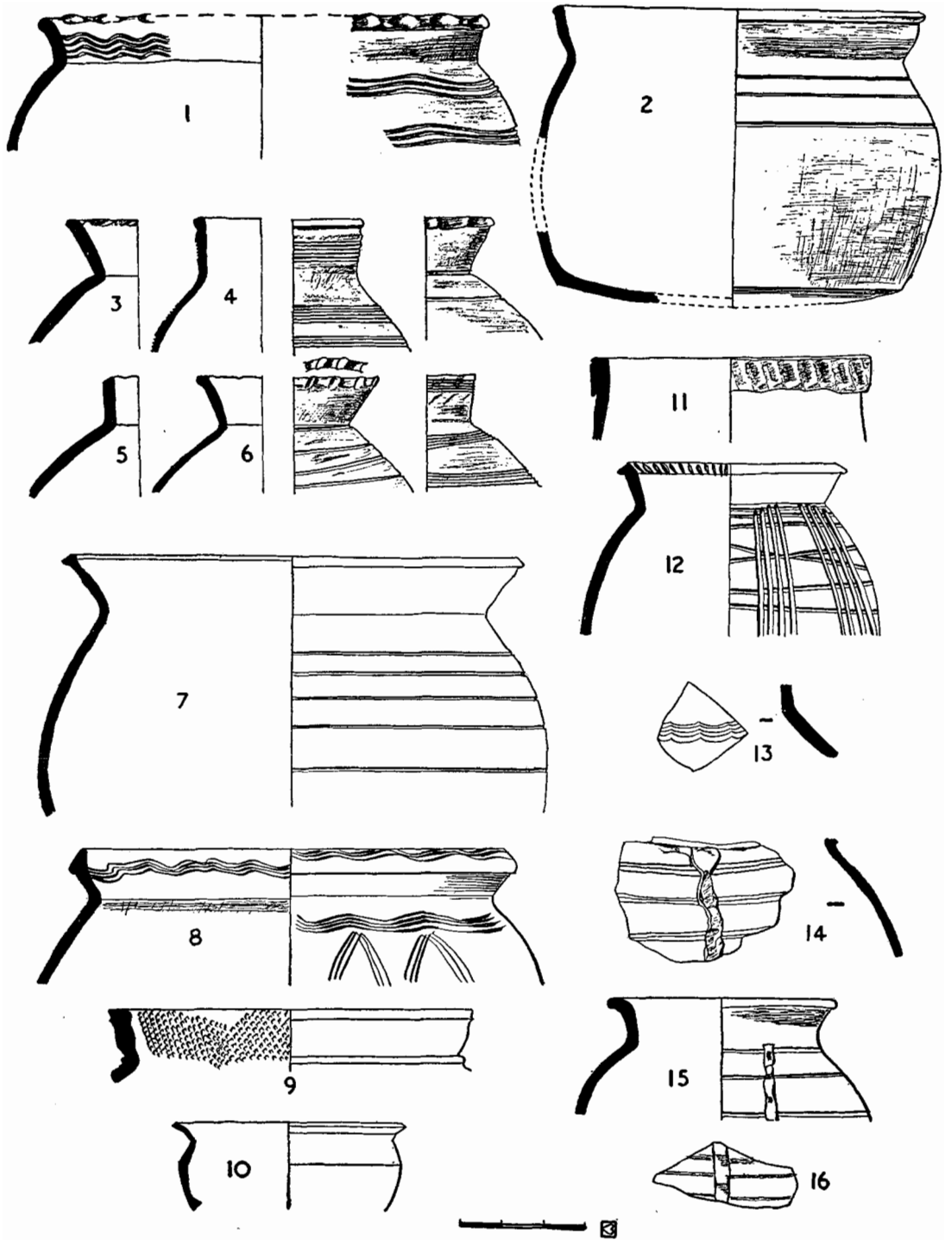


Fig. 7.

the inside, FIG. 7, nos. 1 and 8; or with wavy combing on top, or combinations of these. The slashing of FIG. 7, no. 12 is the only example of this type of decoration.

The anomaly in this group is FIG. 7, no. 9 with its exotic rim form and rouletting on the inside. This is the only example of this type. The paste is very hard and as such is slightly though not markedly different from the usual cooking pot paste, although it has been fired at a relatively high temperature. The form and the decoration are so positively different from the almost casual form and decoration of the other vessels that it would suggest a difference similar to that seen in the 'A' and 'B' jugs. There is no other suggestion of differences of this sort in the remaining vessels of this type.

The vessels bear three distinct forms of decoration: horizontal grooves (88 per cent) as in FIG. 7, nos. 2-7; cross hatching (8 per cent) as in FIG. 7, no. 12; or applied strips (3 per cent) as in FIG. 7, nos. 14-16. Other forms of decoration are rare. The horizontal grooves can be stick (62 per cent) or comb (38 per cent) induced. The cross hatching is comb on comb (75 per cent), stick on stick (15 per cent) and comb over stick (10 per cent). The wavy combing seen on FIG. 7, nos. 1, 8 and 13 and the arch combing of the last vessel are not common.

The applied strips seen on FIG. 7, nos. 14-16 are always very thin pieces dabbled on to the body quite roughly with the finger tips. They are not a common form of decoration and always occur in association with the other forms of decoration discussed above, with the exception of cross hatching.

The decoration of the cooking pot is sparse and usually confined to the upper third of the vessel below the shoulder. This sparsity can be borne out by the fact that only 37 per cent of the body fragments were decorated.

The rim form and outward sloping wall of FIG. 7, no. 11 are unique as is the small vessel FIG. 7, no. 10 with its knife trimmed shoulders.

#### *Other Types of Vessels* (FIG. 5, nos. 5-10)

This figure illustrates a variety of vessels of which these are practically all the examples available. No. 5 is a very coarse thrown plate with a much reduced glaze. The unglazed wide mouthed bowl, no. 6, is represented by only one large fragment. The lip fragments of four meat dishes of standard type are illustrated by no. 7. Fragments of four lamps similar to no. 8 were found. The flat based piece with the circular fingering, no. 9, is probably the base stand for one of these lamps. The spindle whorl, no. 10, glazed and slash decorated, is another of the unusual products of these kilns.

*Manufacturing Techniques used at Ham Green*

The vessels were all thrown on the wheel. The spouts were added to the jugs and the pouring hole made by piercing from the outside with a coarse round sectioned tool.

Bases were dished, usually in removal from the wheel, but sometimes dished from the inside with the knuckles. The throwing was not always efficient, or perhaps the clay did not pull well leaving a thick wall in the bottom half of the vessel; some fragments show where this excess had been removed by pulling off with the fingers;<sup>1</sup> and in some cases the bases had been knife trimmed underneath.

The basal frills were applied from the outside and crimped into place. The joints were then wiped clean. The handles in all cases but one were not fixed through the body but firmed on to it, then held with slashing or piercing.

The glazing is not always very good and varies so much in the material for study that the methods used are in some doubt. However, most of the rim fragments have a little glaze just under the rim on the inside. There is never any deliberate glazing on the bases. This would suggest that the vessels were dipped into a thin galena and slip slurry, giving, usually, an all-over glaze. Some, though only a few, vessels have a very rich olive green glaze all over. The use of galena at this site as a source of glazing material is suggested by lumps of this material used as kiln props. The vessels were stacked mouth downwards in the kiln and on top of one another. They were not separated from one another in any manner and there are many examples of rims adhered to bases with run glaze. This is not seen on cooking pot fragments, although many are splashed with glaze, and others show signs of having been in the kiln with glaze materials. It is suggested that the method of stacking was to have the jugs at the bottom of the pile with the cooking pots making a capping on which the kiln cover could be built.

The firing of the kiln varied considerably, giving a wide range of difference in body quality and hardness; but, in the main, the fragments show that relatively high temperatures have been attained. Many of the wasters were vitrified and the bulk of the ware was extremely hard for the period.

*Some Negative Evidence*

Among some of the prominent features of the pottery of the Bristol region during this period is the use of under-glaze coloured slips

<sup>1</sup> K. J. Barton, 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 2, no. 5.

applied in strips, pieces or trailed. These occur on vessels with similar characteristics to Ham Green ware as on the vessel from Back Hall,<sup>1</sup> where a typical Bristol regional decoration of under rim pellets is seen. There is no evidence to suggest that varicoloured clays or this form of decoration were ever used at Ham Green.

Another very striking form of localized decoration is the spout face mask found at Back Hall,<sup>2</sup> St Nicholas' Almshouses,<sup>3</sup> the City wall, Wine Street,<sup>4</sup> Chew Valley Lake<sup>5</sup> and elsewhere. These masks appear to be so alike that they may have been moulded. Although face masks do occur at Ham Green, they bear no resemblance to these, nor is there any evidence that the bridge spout of Ham Green types was ever decorated in this fashion.

However, vessels bearing the three types of decoration discussed above have features akin to certain aspects of Ham Green ware. The form is similar as is the basal fringe in most cases, but the most striking feature is the fact that the handles are often rectangular in section, and frequently slashed in a manner similar to Ham Green.

*Distribution and Location of other Examples of the Wares*

BRISTOL

(British Museum) Welsh Back, St Augustine's Abbey.

Bristol Museum (in the following groups):—

Bristol Castle Well (see references).

Pithay (unpublished).

Back Hall (see references).

Baldwin Street (City Wall) (see references).

Wine Street (unpublished).

Burtons Almshouses (*Trans. BGAS*, vol. 78, pp. 119-28).

Bristol City Wall (*Trans. BGAS*, vol. 70, pp. 5-50).

St Nicholas' Almshouses (cf. *Med. Arch.*, forthcoming).

and several other unpublished local find spots.

CHEW VALLEY LAKE

Bristol Museum (*HMSO* Publication forthcoming)

PICKWICK FARM, DUNDRY, Nr. Bristol

Bristol Museum.

MOAT FARM, FAILAND, Som.

Clevedon Archaeological Society Collections.

WESTON-SUPER-MARE

Borough Museum, Weston-super-Mare.

<sup>1</sup> K. J. Barton, 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 9, no. 1.

<sup>2</sup> *Ibid.*, fig. 6, nos. 11 and 12.

<sup>3</sup> Forthcoming in *Medieval Archaeology*.

<sup>4</sup> Not published.

<sup>5</sup> A forthcoming Stationery Office publication.

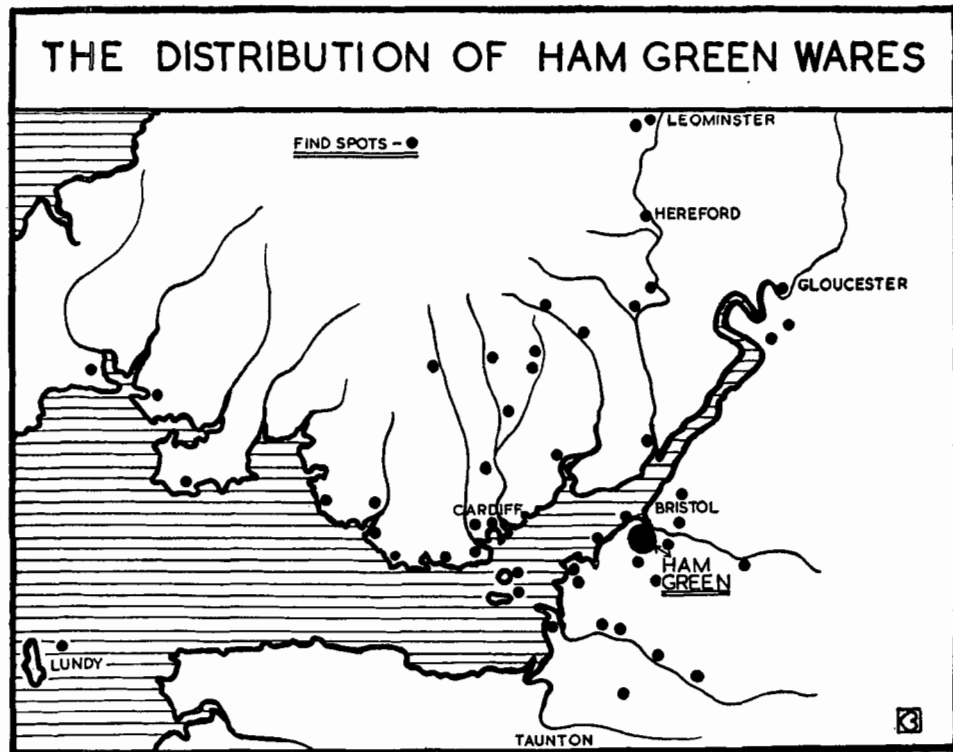
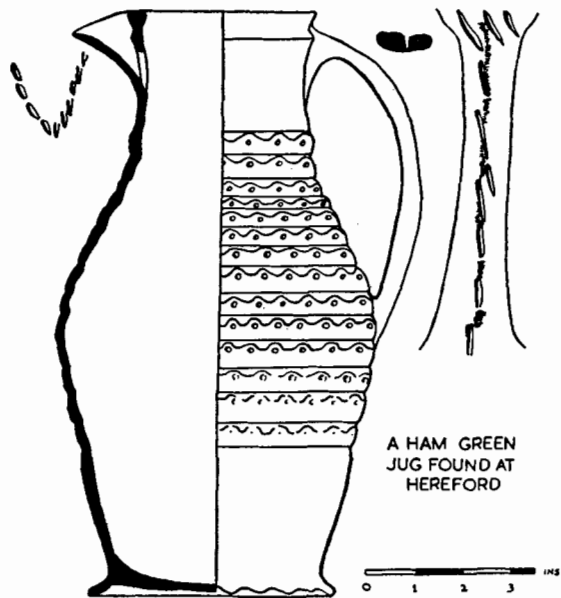


Fig. 8.

A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

LOCKING, Som.	Borough Museum, Weston-super-Mare.
AXBRIDGE, Som.	Axbridge Caving Group & Arch. Soc. Mus.
WELLS, Som.	Wells Museum.
GLASTONBURY, Som.	The Abbey Museum.
WOOKEY HOLE, Som.	The Cave Museum (an 'A' type piece, labelled Saxon).
STEEPHOLME, Som.	The Castle Museum, Taunton, Som.
BARROWMEAD, Som.	City of Bath Corporation (Education Committee) ( <i>Proc. Som. Arch. Soc.</i> , cv, p. 73-4). 1962 Excavations. 'A' type only.
CHEDDAR, Som.	Univ. of Bristol Spelaeological Soc. Museum.
BREAN DOWN, Som.	U.B.S.S. Museum. (T.40). P. A. and M. H. Rahtz, 'Barrow and Windmill at Butcombe, N.Som', <i>Proc. UBSS</i> , vol. 8, no. 2, fig. 21, nos. 4 and 6.
BUTCOMBE, Som.	Bristol Museum.
MANGOTSFIELD, Glos.	Stroud Museum.
FROCESTER, Glos.	Stroud Museum.
EDGE, Glos.	City Museum, Gloucester. (One complete vessel fig. 6, no. 2 and four other fragments only.)
GLOUCESTER. St Aldate	One complete vessel and fragments.
„ Bon Marché site	Hereford Museum.
HEREFORD	NGR. SO577570. Interim Report, <i>Trans. Woolhope F.C.</i> , xxxv, pp. 337-44 (1958).
HAMPTON WAFER, Herefords.	NGR. SO667796. M.O.W. Excavation by Mr S. C. Stanford. Unpublished.
DETTON HALL, Salop	
WALES	
CARDIFF, Bull Lane	National Museum of Wales. (fig. 6, no. 1), Ref. 34.
CARDIFF	National Museum of Wales. (fig. 6, no. 3).
NEWPORT	„ „ „ „
CAERLEON, High St.	„ „ „ „
CASTELL TALIORUM, LLANANHILLETH	„ „ „ „
LAUGHARNE	„ „ „ „
GROSMONT	„ „ „ „
KENFIG	„ „ „ „
MERTHYR, Manor Warren	„ „ „ „
CAERPHILLY	„ „ „ „
COITY	„ „ „ „
GREGEEN, LLANARTHY	„ „ „ „
OGMORE	„ „ „ „
BARRY ISLAND	„ „ „ „
LLANTWIT MAJOR	„ „ „ „
OXWICH	„ „ „ „
FLATHOLM	„ „ „ „
LUNDY	In the possession of Mr K. Gardner of Bristol.

Museums with collections of Medieval Pottery, but having no locally found Ham Green Wares: Taunton Castle Museum, Corinium Museum, Cirencester.

The distribution of these wares shows a market limited to the Severn traffic and the byeway rivers. It follows the southern slopes of Mendip along the course of the river Axe; and along the Welsh rivers into the valleys; up the Wye as far as Hereford; the Lugg to Leominster and up the Severn to Gloucester. Whether the ware was shipped up the Somerset Avon beyond Bath into North Wiltshire is not known as there are no suitable collections of material for study. It does not occur near to Salisbury, Cirencester or Taunton. In fact wherever there were kilns nearby producing wares at about the same time, or where there is an influx of other wares, Ham Green pottery has a poor sale. Ham Green wares are for instance very thin on the ground in Gloucester, where the Stroud kilns would have provided strong competition. This is probably the same reason for the gap at Taunton and Cirencester although in the latter case transportation would have been difficult. The cross river traffic to the Welsh Castle and Manor sites is very large and appears to reflect some sort of contract work or form of trade monopoly enjoyed by the cross river traders.

The ware has, in style and decoration, certain definite affinities with a string of forms that stretch from Bristol through north Gloucestershire to Coventry, Leicester and Nottingham. The most striking aspect of this is to be seen in the applied strips FIG. 3, nos. 38-45. The great coils in FIG. 3, no. 43 can be paralleled in Leicester<sup>1</sup> as can the terminal pellets. The vessel FIG. 6, no. 4 has the branching plant forms also seen on the Leicester types. The slashing seen on FIG. 3, no. 38 and 45 and FIG. 6, no. 1 is similar to the Coventry types<sup>2</sup> of decoration which is also associated with great coils. The piercing of the terminal ends shown in FIG. 6, no. 4 is also seen on a Coventry jug.<sup>3</sup> But there is none of the grooving common to Ham Green in any of these wares, nor is the comb used on the body. The handle treatment is also very different. However, the occurrence of such definite connections in the decorative motifs should not be ignored as they suggest a link in one direction or the other.

The form of Ham Green wares seen in profile is strikingly like the French imports of the type found at Back Hall<sup>4</sup> and at Bristol Castle Well.<sup>5</sup> These tall vessels with their bulbous girths and the same rim and spout form as Ham Green types could have been an influence on them; it is no small coincidence that these two types are found together.

<sup>1</sup> G. C. Dunning, 'Jewry Wall site, Leicester', *Soc. Ant. Research report on the Medieval Pottery*, rep. figs. 71 and 72.

<sup>2</sup> *Ibid.*, fig. 75.

<sup>3</sup> *Ibid.*, fig. 75.

<sup>4</sup> K. J. Barton, 'Excavations at Back Hall, Bristol, 1958', *Trans. BGAS*, LXXIX, Part 2, fig. 5, no. 8.

<sup>5</sup> 'A group of medieval jugs from Bristol Castle Well', *Trans. BGAS*, LXXVIII, p. 169, fig. 1, no. 2.

## A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

The type of vessel found most frequently with Ham Green wares is Selsley Common ware, a middle Gloucestershire type, although this was thought to be on the way out by the time Ham Green was at its zenith.<sup>1</sup> The principal form of decoration on this ware is girth combing, using an instrument in a technique very similar to that used on Ham Green wares.

In these last three paragraphs we have considered the origins of the ware; in this the individuality of the Master potter, and to some extent of his assistants must be considered; although the development of style and decoration must have been influenced by ceramic tradition, local practices, competition and the competence of the potter.

The material from the kiln is deposited at the City Museum, Bristol. Other smaller comparative collections are housed at: The British Museum; Gloucester Museum; Stroud Museum; Cirencester Museum; Taunton Museum; and the National Museum of Wales, Cardiff. Other small collections are in private hands.

### APPENDIX I

Being an analysis of the particular characteristics of the material.

		Paste	
		‘A’	‘B’
JUGS			
RIMS.			
	Plain rims ... ..		304
	Decorated rims. Hollow with XXX on outside ... ..	4	
	Hollow with thumbing on outside ... ..	7	
	Hollow only ... ..	4	
	Standard type with internal overlap ... ..		5
	Total rim fragments		324
SPOUTS.	(All spouts are bridge type though 34 <sup>2</sup> have had the bridge cut away)		
	Undecorated forms ... ..		94
	Slashed beards ... ..	2	13
	Stickend pierced beards ... ..		4
	Thumb strip decoration ... ..	4	
	Plain strip around rim (rilled body) ... ..	4	
	Total spout fragments		121
BODY.			
	Undecorated fragments ... ..		1257
	Decorated fragments: <i>Diagonal</i> in the form of triangular zones of decoration filled with diagonal grooves or left empty		9

<sup>1</sup> G. C. Dunning, ‘Hut sites at Selsley Common, near Stroud. Report on the Medieval Pottery’, *Trans. BGAS*, vol. 68, pp. 28-44.

<sup>2</sup> Cf. G. C. Dunning, ‘A Medieval pottery kiln at Audlem, Cheshire, part II. The wider affinities and dating of the Audlem pottery’, *Journal Soc. Med. Arch.*, IV, pp. 109-25 and pl. xxxiii.

TRANSACTIONS FOR THE YEAR 1963

BODY  
(contd.)

Paste  
'A' 'B'

*Horizontal or vertical grooves combined*

This is executed by passing a stick or very coarse comb over the horizontal grooves to make vertical strips of up to 5 but usually of 2 or 3 grooves, and very rarely of only one groove. There are mostly 12 to 15 groups of these on each vessel. Sometimes the grooves stretch from neck to base but usually they do not go beyond the belly of the pot ... .. 187

Other methods. Spaced horizontal lines are crossed by equally spaced vertical lines to cover the vessel with squares. This is done with a stick although two pieces show it done with a comb. Diagonal combing over horizontal grooving. Horizontal grooves at neck, shoulder and belly under vertical grooves spaced to make large squares ... 15  
2  
1  
6

*Horizontal grooves made with a round ended or square ended tool about 1/4 inch thick. The lines can lie from 1/4 inch to 1 inch apart. They occur on the vessel on the neck to the belly only* ... .. 15 719

*Horizontal combing made with fine or coarse comb with multiples of three to nine teeth. Applied carefully, spaced close together or run on haphazardly* ... .. 3 212

*Horizontal and vertical combing combined with twelve to fifteen combed vertical lines over horizontal combing* ... .. 21

*Vertical stick decoration over horizontal combing. N.B. some of the fragments described as stick decoration could possibly be done with a coarse comb* ... .. 10

*Stabbing with the end of a stick or two or three pronged comb with teeth of 1/4 inch diameter. Thrust in to make a diagonal piercing into the body. This action is always upwards from base to rim* ... .. 12

*Stabbing with a comb with teeth about 1/8 inch in diameter as either jabs or pulled strokes in a downward or diagonal pattern. This design occurs with horizontal grooves. The combs have three to six teeth* ... .. 27

*Stamped buckle design over horizontal grooves* ... .. 2

*Wavy combing only* ... .. 1

*Combed palm leaf design made with a four toothed comb* ... .. 2

*Applied strip over line decoration in a manner seen only in cooking pots* ... .. 2

A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

BODY ( <i>contd.</i> )	Paste	
	'A'	'B'
<i>Rilling</i> of neck and shoulder. Two of these are associated with wavy combing on the body ('A' paste) ... ..	7	3
<i>Diamond rouletting</i> diamonds between $\frac{1}{8}$ inch and $\frac{1}{4}$ inch wide. On the body or on <i>straight</i> raised strips over no other decoration ... ..	15	
<i>Diamond rouletting</i> diamonds between $\frac{1}{16}$ inch and $\frac{1}{8}$ inch wide. On the body over horizontal grooving or comb decoration. Applied very briskly ... ..		6
<i>Applied strip decoration</i> over horizontal grooves (5 slashed, 4 pierced with sticks and 2 with the ends of tubes) ... ..		71
Over no other decoration ... ..	2	7
<i>Vertical grooving and combing</i> , vertical grooving with a round ended stick ... ..	1	
Vertical grooving with a square ended stick ... ..		4
<i>Vertical combing</i> drawn down with a four toothed comb alternating with vertical rows of combed jabs ... ..		3
<i>Circular grooving</i> over horizontal grooves ... ..		2
Total body fragments		2624

HANDLES.

*Rim fastenings with slashes only*

Four slashes ... ..		6
Five slashes ... ..		8
Six slashes ... ..		6
Seven slashes ... ..	2	1
Eight slashes ... ..	NONE	
Nine slashes ... ..	2	

*As above but with one slash at each side of the handle and into the rim*

Three slashes ... ..		1
Four slashes ... ..		1
Five slashes ... ..		7
Six slashes ... ..		8

*Rim fastenings associated with handle decoration*

Single central stabs, no side slashes

Three slashes ... ..		1
Four slashes ... ..		10
Five slashes ... ..	1	2
Six slashes ... ..		6
Seven slashes ... ..		1

TRANSACTIONS FOR THE YEAR 1963

HANDLE (contd.)	Paste	
	'A'	'B'
<i>Single central stabs with side slashes</i>		
Four slashes ... ..		3
Five slashes ... ..		9
Six slashes ... ..	I	11
Seven slashes ... ..		3
<i>Single central slashes (diagonal)</i>		
Five slashes ... ..		I
Six slashes ... ..		2
Seven slashes ... ..	2	
Eight slashes ... ..	I	
<i>Double diagonal slashes</i>		
Five slashes ... ..	I	11
Six slashes ... ..		9
Seven slashes ... ..		I
<i>Rim fastenings with piercings only. (In association with single central piercings on handle)</i>		
Three piercings ... ..		30
Four piercings ... ..		3
<i>Rim fastenings without decoration</i>		
Single central stabs on handle ... ..		65
Double diagonal slashes in chevron ... ..	2	
Double diagonal slashes in delta ... ..	I	
Double diagonal slashes with central piercing ... ..		I
Completely undecorated ... ..		I
<i>Central portion of handle</i>		
Single central piercing ... ..		326
Single central piercing with double diagonal slashing in chevron or delta ... ..	6	5
Single central diagonal slashing left to right ... ..	4	110
Double diagonal slashing (left to right, except 9) ... ..	7	54
Chevron slashes (large) ... ..	4	13
Deltoid slashes (small) ... ..	8	
Central piercing with rouletting over ... ..	I	
Three lines of slashing. L-R-L ... ..		6
Three lines of slashing. R-L-R ... ..		13
<i>Basal portion of handle</i>		
Two indentations decorated with vertical slashings of the 3 ridges ... ..	8	24
Two indentations decorated with piercing of the central ridge and diagonal slashing of the outer ridges ... ..		33

A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

	Paste	
	'A'	'B'
<i>Basal portion of handle—continued</i>		
Single lump pierced down the centre. Two or three piercings only ... ..		23
Piercing in arrowhead formation of three lines ... ..		20
Three piercings in line horizontally ... ..	I	
Two indentations with single line piercing the central ridge		3
Single lump slashed all over ... ..	I	
Two indentations covered with combing ... ..		I
Single lump with 3 or 4 chevron slashes ... ..	I	I
Single lump with 6 long slashes into lump ... ..	I	
Two indentations with chevron slashes all over ... ..		I
Total handle fragments		896
 <b>BASES</b>		
Frilled ... ..	23	419
Not frilled ... ..		16
Total base fragments		458
 <b>COOKING POTS</b>		
N.B.—all in a paste similar to 'B' in most respects		
<i>Undecorated fragments</i> ... ..		604
<i>Horizontal grooves</i>		
Close grooving ... ..		190
Widely spaced grooving ... ..		79
<i>Combing</i>		
Four teeth (plain) ... ..		27
Four teeth (wavy) ... ..		8
Five teeth (plain) ... ..		11
<i>Cross Hatching</i> , in groups of 4, 5, or 6 lines applied in 6 or 8 groups to each vessel		
Stick over stick ... ..		5
Comb over stick ... ..		2
Comb over comb ... ..		21
<i>Applied strips</i>		
Over wide placed grooves ... ..		4
Over close groove decoration ... ..		8
Over 4 toothed comb decoration ... ..		2
 <i>Bases</i>		
All the bases are dished and sharp edged with some dishing done from the inside with the knuckles. Some of the bases are knife trimmed ... ..		1162

TRANSACTIONS FOR THE YEAR 1963

COOKING POTS  
(*contd.*)

Paste  
'A' 'B'

*Rims*

There is only one main type of rim, which is nearly vertical with a flat top and a slightly projecting ridge on the outside of its top edge. In some cases, however, the flat top is tilted to the outside to become a steep slope. The springing of the rim is always plain

Undecorated rims	...	...	...	...	...	...	316
Wavy combing under outside. 5 teeth	...	...	...	...	...	...	7
Horizontal combing under outside. 5 teeth	...	...	...	...	...	...	5
Wavy combing under inside. 5 teeth	...	...	...	...	...	...	2
Wavy combing on top	...	...	...	...	...	...	2
Wavy combing, inside outside and on top. 5 teeth	...	...	...	...	...	...	1
Pie crust rims, mostly on both sides, sometimes on outside only, once inside only	...	...	...	...	...	...	36
						Total cooking pot fragments	2492

*Dating*

It is not possible at this moment to give the exact years during which these kilns operated. There appears to be no documentary evidence, and there is as yet no other reliable means of dating. However, in the course of two excavations, the first at the Saxon Palace site, Cheddar, Somerset, and the second at Back Hall, Bristol, some evidence has been found to suggest a possible date range.

At Cheddar Mr Philip Rahtz found many examples of Ham Green ware. On initial inspection these appeared to be all pure 'A' types and are associated with Ham Green cooking pots. He writes:

'It is difficult to be precise until I have worked through the material but I think we can say that 'A' type occurs in association with Ham Green cooking pots in debris thrown into postholes of a building erected in the early 13th century and dismantled soon after. The pots may represent occupational debris of c. 1200-20 although they *might* be from occupation soon after 1220 elsewhere on the site'.

In the excavations at Back Hall it was possible to show that the marsh on which the building stood was drained in 1240 and the area of building enclosed in 1247. A drainage system of a secondary phase of building had a large quantity of Ham Green 'B' ware in it. The system must be *post* 1240 in date and as suggested by ceramic parallels and associated fragments of French Polychrome ware it was in use at least until c. 1300.

## A MEDIEVAL POTTERY KILN AT HAM GREEN, BRISTOL

We have therefore two dates to consider:

For Type 'A' in use *c.* A.D. 1220? at Cheddar.

For Type 'B' in use *c.* A.D. 1240-1300? at Bristol.

None of these dates can be as yet guaranteed but the evidence seemed to suggest a long date range for the types examined from A.D. 1200-1300.

### *Chemical Analysis*

A piece of Ham Green ware was analysed by Mr J. Musty, F.S.A. who writes:—

'You raise the question of the analyses of the Ham Green pottery for inclusion in your report. You must realize that the results we have so far obtained are qualitative ones (although we have attempted to put them on to a semi-quantitative basis) and are therefore only relevant when compared with each other, i.e. a comparison of line intensities.

We cannot, therefore, give you an analysis of the Ham Green glaze in the way I am sure you hope for, i.e. % A, B, C, etc. We shall achieve such quantitative data eventually when we run a further set of analyses for this purpose. We shan't be starting this, however, for at least a year, and in any case we shall have to start with a run of 50-100 samples from a Laverstock kiln to test the spread within a group'.

The writer extends his grateful thanks to all those Curators who gave their time and provided facilities for the study of their collections, and in particular to Mr Alan Warhurst, F.S.A., who has given considerable assistance in the preparation of this paper.

## APPENDIX II

### AN EXOTIC KNIGHT JUG FROM HAM GREEN BRISTOL

Amongst a large collection of medieval pottery from the Bristol region held in the British Museum<sup>1</sup> is part of an exotic 'knight' jug, found at St Austens, Bristol.

This fragment comprises a portion of the upper front part of a tubular spouted jug. This spout springs from the shoulder of the vessel and is fastened to the rim by two flanges. The lip of the spout is broken revealing a square sectioned hole.

The jug bears two forms of decoration under a monochrome green glaze. This decoration comprises horizontal grooving on the body which is embellished with a series of moulded figures of knights with shields. These figures are basically flat strips above which are moulded faces with eye sockets made with a stick end. Across and around these figures are conical shields made from flat pieces, folded so that they are hollow within. These figures are in two rows, one row around the neck and the other row around the shoulders of the vessel.

<sup>1</sup> British Museum reference B5-87 4<sub>1</sub><sup>4</sup>.

The spout is overlooked by a head which is set on the rim between the flanges of the spout which were at one time formed into a pair of ears. The flat upper surface of the spout has two deeply indented eyes, the front bears traces of a mouth. These would suggest that the spout head was in the form of a horse's head. The shields, the spout tube and head, and the flanges are decorated with small slashings.

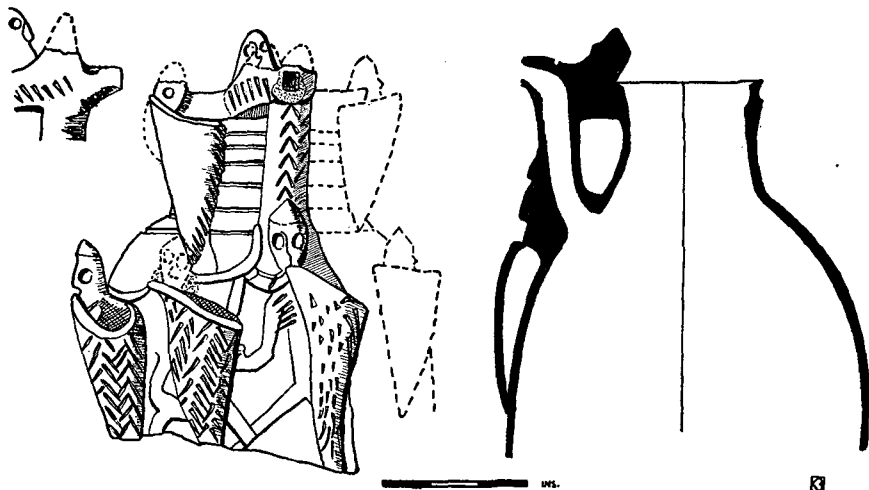


Fig. 9.

The rim form, the quality of the glaze, the horizontal grooving and the body which is in a 'B' paste are absolutely identical with any similar products from the Ham Green kiln. There is, however, no previous evidence of a similar vessel from this site although there are pointers to the production of such exotics at that kiln. The strip figures which form the bodies of the knights are similar to those seen on the 'dancing girls' pot from Cardiff (FIG. 6, no. 1) and to the fragments in FIG. 3, nos. 38-41. The faces are paralleled by those on FIG. 1, no. 21 which are decorated in a similar way, as is the horse's head FIG. 3, no. 58. This head must be from an exotic jug as it was at sometime fastened to the side of a vessel. Another horse figure developed from a strip was found at the Back Hall<sup>1</sup> and described by Mr G. C. Dunning as a parallel with the complete Nottingham 'knight' jug.<sup>2</sup> These items and the other exotic treatments of the Ham Green products indicate with some certainty that such knight jugs were produced at this kiln.

Three other vessels decorated in a similar fashion are known, one from Nottingham<sup>3</sup> a fragment from Cambridge<sup>4</sup> and a complete vessel from Hatterboard, Scarborough.<sup>5</sup> The treatment of the Eastern types is much more sophisticated than the Ham Green sample, which does not have the polish and high finish of its nearest parallel, the Nottingham jug.

<sup>1</sup> K. J. Barton, 'Excavations at Back Hall, Bristol, 1958', *Trans. BGAS*, LXXIX, pp. 251-86, fig. 8, no. 10.

<sup>2</sup> G. C. Dunning, 'The decorated jug from the Moot Hall at Nottingham', *Annual Report of the Pevenal Arch. Group for 1955*, pp. 18-23.

<sup>3</sup> *Id.*, *ibid.*

<sup>4</sup> Bernard Rackham, *Medieval Archaeology* (London 1958), fig. 12, a.

<sup>5</sup> J. G. Rutter, 'Medieval pottery in the Scarborough Museum', *Scarborough and District Arch. Soc. Research Reports 2 and 3*, fig. 2, no. 8.