ON MEDIEVAL BRICK-WORK.

THE existing specimens of the fictile productions of the middle ages are so limited in kind, and, with the exception of paving tiles, so few in number, that it seems desirable to call attention to every additional object of this class which may be brought to light, and with the hope of adding something to what is at present known of this art, the following observations in illustration of the engravings which they accompany, are offered to the notice of the readers of the Archæological Journal.

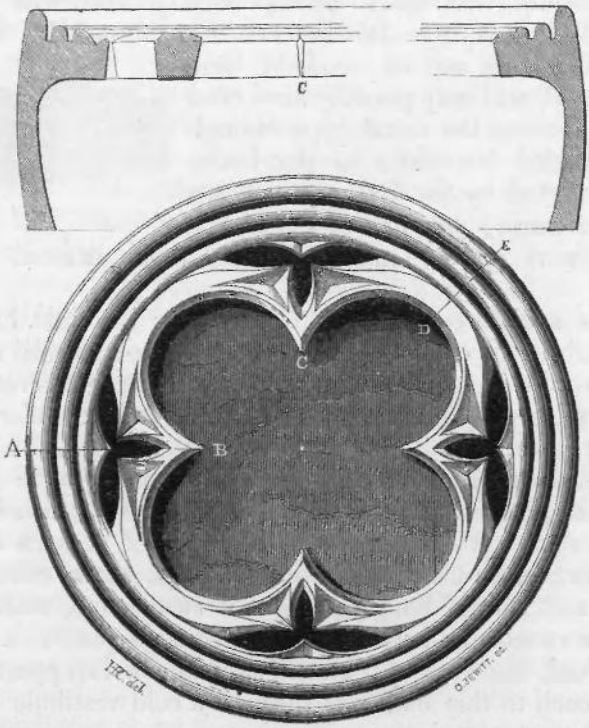

Fig. 1, BRICK PANEL.

The quatrefoil, fig. 1, is formed of fine clay, which has been burnt to a bright red colour: a correct idea of its character and make may be learnt from the engravings. The work-

manship is very good, and it will be seen by the sections that some nicety of hand was required in its execution. Three of these quatrefoils were used as ornaments in the upper part of the inside of the north wall of the chancel of Frittenden church, in Kent[a]; they were built into the wall, but the centre parts were left hollow to the depth of the inner rims, by which means a strong shadow was produced, which rendered them highly effective as architectural decorations. The whole of them were more or less injured, and, as it has been found requisite to rebuild the wall in which they were placed, the most perfect of them has been made complete by an adaptation of the fragments of the others, and is now built into the upper part of the eastern wall of the chancel.

Considerable uncertainty prevails as to the extent to which the making of bricks and tiles was practised in this country during the middle ages, and it has even been questioned whether bricks, properly so called, were made at all subsequently to the time of the Romans, until the introduction of the Perpendicular style of architecture[b]; it appears, indeed, to be very generally held to be indisputable, that the fragments of thin bricks, which are frequently found built into the walls of medieval structures of earlier date, are all of Roman make. That this opinion is, in the main, correct, as applied to the greater part of the kingdom, may be readily admitted, but the few facts which are here brought forward, seem to shew conclusively that it is not equally true in reference to particular districts[c].

[a] It may be allowable to take the present opportunity of recording the discovery of several lumps of Roman concrete, in the foundations of some of the walls of this church which have been recently rebuilt; they were compounded with small fragments of brick, and were all of similar composition, as if they had originally formed part of the same mass. There is no situation likely to have been occupied by any Roman building, nearer to Frittenden than the range of hills on the north side of the adjoining parish of Headcorn, and as the stone, of which the walls were built, came from that district, it is probable that these remnants were brought from thence. Perhaps the stone quarry occupied the site of a Roman building, and the substratum of a floor was found sufficiently consolidated to serve for materials for the church.

[b] That bricks were in use at a much earlier period, is proved by their employment in the walls of Little Wenham Hall, Suffolk, (a description of this house, and of the bricks with which it is built, is given in the Oxford "Glossary of Architecture," under "Domestic Architecture," and "Brick"). At whatever time the manufacture of paving tiles, and roofing tiles was practised, it must have been in the power of the workmen who made them to make bricks also, as they would require less skill.

[c] The best test for proving that bricks used in this manner are of Roman make, is found in the remnants of the original mortar adhering to them. It is well known that Roman mortar was commonly made with an admixture of pounded brick, and small portions of it are generally to be found adhering to some of the materials

The general prevalence of *stone* in medieval buildings shews that it was considered to be the best material, and the great distance which much of it has been carried from the quarries, at a period when the imperfect means of transit must have rendered the conveyance exceedingly laborious, is a proof that our ancestors would encounter no slight difficulties to procure it; but there are some parts of the country so remote from any districts producing stone fit for ashlar work, that it can hardly be supposed that any available amount of labour could have succeeded in introducing a supply sufficient for all the purposes for which it would have been desired, and it may readily be imagined that, under such circumstances, bricks would have been resorted to as a substitute. Few tracts of country can, formerly, have been more difficult to supply with stone than some parts of the county of Essex.

It is scarcely credible that the use of bricks can, at any time, have been discontinued from a want of workmen able to make them, as less skill is required in their manufacture than in the most ordinary productions of the *potter*, a craftsman of kindred order, whose trade must have been in continual operation from the earliest times.

During the last summer the stone-work of the west window of the church at Danbury, in Essex, has been renewed, and in the progress of the work it was discovered that a rude relieving arch had been formed in the original structure, immediately above the head of the window, at the time of its first erection. This window was a plain but pure specimen of the Decorated style, and therefore not of later date than about the middle of the fourteenth century[d]. The arch just mentioned was constructed in part of bricks and tiles, all of which appeared to have been used in an earlier building, and most of them were considerably broken; several paving tiles, of the ordinary kind, were taken from it whole, but the ornamental patterns on them were nearly effaced, the surfaces

taken from buildings in which it has been used, but these indications are sometimes so few and so inconsiderable, that a close examination is required to detect them. A single specimen is all which can be referred to on the south side of Brixworth church, and none is discoverable in any part which is accessible from the ground of the outer side of the south wall of Porchester castle, though it may be seen in the eastern wall; but as Roman mortar was not invariably made in this way, the absence of any appearance of the kind here spoken of will not necessarily disprove the Roman origin of the bricks.

[d] The new stone-work is an exact copy of the old. The relieving arch was disturbed no farther than was necessary, to admit of the introduction of the new stone, and the greater part of it has been left intact.

being much worn as if they had been used in a pavement for a considerable length of time: a few fragments of thin tile, of substance suitable for roofing, were found, but none sufficiently perfect to shew their full dimensions: there were also several fragments of bricks, and one which was entire, rather more than an inch thick, of the shape and size represented by

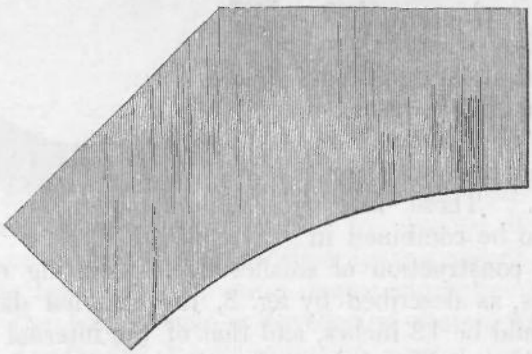

Fig. 4.

fig. 4: other bricks were discovered $9\frac{1}{2}$ inches long, from $4\frac{1}{2}$ to $5\frac{1}{2}$ inches wide, and from 1 inch to $1\frac{1}{4}$ inches thick, with two of the edges bevelled, as represented by the section

Fig. 5.

Fig. 6.

fig. 5: there were also broken pieces of plain bricks, $4\frac{1}{2}$ inches wide, and rather more than an inch thick, and of bricks of the same breadth and thickness, with one edge bevelled, and a small groove adjoining it, as shewn in the section fig. 6, but as no whole specimens of either of these two last-mentioned kinds were found, their lengths could not be ascertained; it may be conjectured that they were of the same length as fig. 5.

The bricks, fig. 4, were clearly intended to be laid flat, and it will be seen that a combination of eight of them forms an octagonal pillar, (2 feet in diameter,) enclosing a circular flue, (1 foot 6 inches in diameter,) fig. 7. That they were designed for constructions of this kind cannot be doubted, but it must be supposed that bricks of other shapes were

employed in the alternate courses, in order to vary the positions of the vertical joints, and to bind the work together with proper solidity. A hollow structure of this kind would serve for a chimney shaft, but if the centre cavity were filled with hard materials it might be used for the shaft of a pinnacle, or for a pillar, instead of one of stone. These bricks might also be combined in a similar construction of smaller size, by cutting off two of the angles, as described by fig. 8, the external diameter of which would be 12 inches, and that of the internal cavity $5\frac{1}{2}$ inches ; they are likewise suited to the formation of chamfered

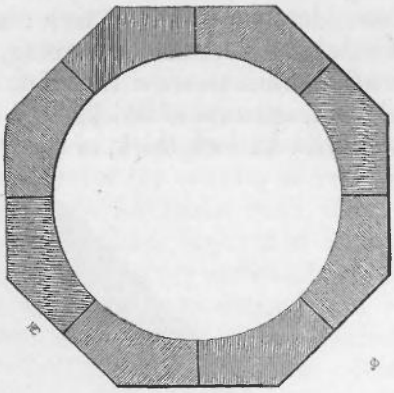

Fig. 7. Scale 1 inch to a foot.

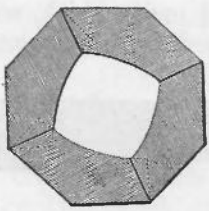

Fig. 8.

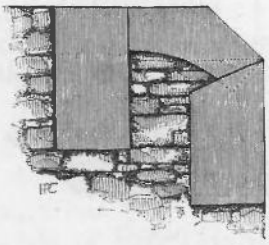

Fig. 9.

quoins of walls, buttresses, &c., fig. 9, if used together with plain bricks such as have been described above, but in both these last-mentioned cases there would be joints at the angles, which would give a rude appearance to the work, unless it was covered by plastering, as it probably would have been at the period when these bricks were made.

The specimens of which a section is given at fig. 5, are suited to form the coverings of set-offs in walls, or the tops of buttresses, fig. 10, and that they have been applied to some such purposes was evinced by the lichen with which *one* edge of nearly all of them was covered. Of the bricks represented by fig. 6, fewer fragments were found than of any of the others, and none of them exhibited any clear indications of

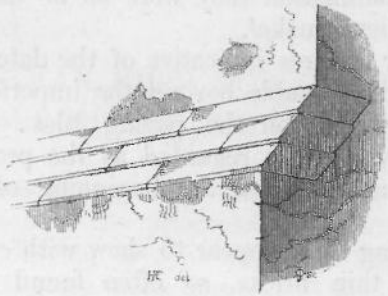

Fig 10.

the use for which they were intended: the groove might suggest that they were calculated to receive the window glazing, and the possibility of their having served this purpose is, at first sight, in some degree strengthened by the fact that the edge which is bevelled is coated with a fine glaze, as if intended for a protection against the weather; but the shape of the groove, and its situation, so close to one edge of the brick, together with the roughness of the whole surface, except the small portion which is glazed, seem entirely to negative the conjecture of their having been employed in such a manner, and to lead to the supposition that they were designed for some purpose which would have left no more than the glazed edge exposed to sight. The groove in these bricks has been formed with an instrument drawn along the surface of the unburnt clay; the bevelled edges of these, and of the bricks fig. 5, have been cut to their present form with a sharp tool: the bricks fig. 4 have also been reduced to their peculiar shape with a cutting tool, and not by impression in a mold.

The whole of these specimens were of compact substance, and very well burnt, and in their general appearance, when viewed edgeways, so closely resembling Roman bricks that they might easily have been mistaken for such if seen built into a wall, (as other fragments of brick of similar kind in the walls of the north aisle of the same church have been[e],) but

[e] They are so called in the "Suckling papers," in Weale's "Quarterly Papers on Architecture," vol. iii., in which also some rough pieces of conglomerate, or pudding-stone, are mentioned as "lumps of mortar and pebbles, united by a strong cement."

upon close examination they were all of them found to be clearly of medieval make[f].

No peculiar features indicative of the date of their manufacture were discoverable beyond the imperfect traces of the ornamental patterns on the paving tiles: if these can be relied on, they may be regarded as the productions of the end of the thirteenth, or the beginning of the fourteenth century.

The foregoing facts appear to shew with certainty that the fragments of thin bricks, so often found in the walls of churches and other middle-age buildings, are not necessarily remnants of Roman structures, and therefore that (in some districts at least) inferences drawn from circumstances of this kind as to the site of Roman stations or towns, are liable to be erroneous.

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[f] No example of a Roman brick with a splayed or bevelled edge can be referred to, and as it is difficult to imagine any purpose for which bricks so formed can have been required in Roman architecture, the existence of such a peculiarity may be considered *prima facie* evidence of a later origin.