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EIGHTEENTH-CENTURY BRICK-TILE CLADDING IN THE CITY OF CAMBRIDGE

TERENCE PAUL SMITH

IN their volume for the *City of Cambridge* the Royal Commission on Historical Monuments record a small number of buildings of timber-framed construction which have been faced – at a later date – with brick-tiles; that is, tiles hung on a vertical wall-face to form a cladding which, when complete, gives the appearance of a brick wall, the tiles being specially designed to achieve this end. The object of the present paper is to record the use of this material in the city in rather more detail than the Commission were able to do in their volume. There are recorded therein six buildings which show this feature; but 14 Market Hill (151)¹ and 7 Petty Cury (154)² have recently been demolished as part of rebuilding schemes, bringing the total number of survivals down to only four. These are: 1 All Saints' Passage (Lichfield House) (179); 48 Sidney Street (163); 32 Hobson Street (164); 4 Market Hill (149). The locations of these are shown on the map (Fig. 1), together with the numbers given them by the Royal Commission.

Frequently referred to as 'mathematical tiles', these materials are perhaps best called by the name 'brick-tiles', which has the advantage of reflecting the intention of those who made or used them. The term will be adopted throughout this paper. (Sometimes, they are called 'weather tiles', a term which suggests a certain similarity to weather *boarding*.)

During the seventeenth century and into the eighteenth century the use of bricks for buildings became ever more frequent practice, not only for great houses and other important buildings, but also for smaller domestic buildings. Cambridge, in fact, had fairly early seen the use of bricks in quantity: for example, as a veneer to a clunch walling at Queens' College in the mid-fifteenth century; at Jesus College at the end of that century; and at St John's College (First Court) in the early years of the succeeding century. The use of the material for private houses came somewhat later, but 'A number of large houses were built in the earlier part of the 18th century incorporating gauged, rubbed or moulded brick features and often an architectural treatment of two-colour brickwork. Most notable are "Little Trinity", c. 1725, Fitzwilliam House, 1727, the Central Hotel, 1727, and 32 Jesus Lane.'³

¹ The numbers in brackets, and the numbers on the map (Fig. 1), are those given the monuments by the Royal Commission. In the present paper only the brick-tile claddings of these buildings will be considered. For details of the rest of their construction the relevant pages of the Commission's volume (see note 3 below) should be consulted.

² Examples of the brick-tiles of 7 Petty Cury are in the Cambridge Folk Museum.

³ RCHM, *City of Cambridge* (1959), p. ci.

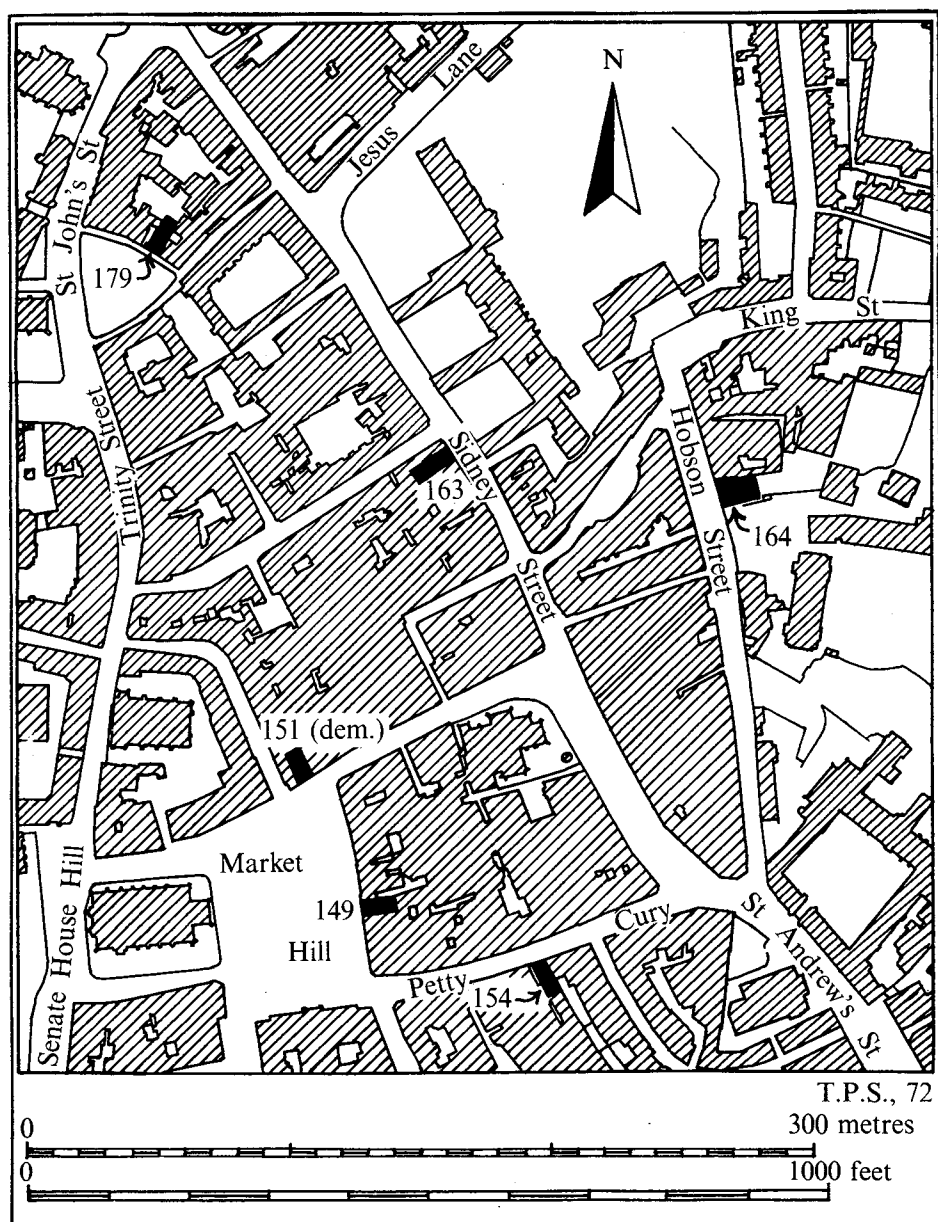


Fig. 1. Cambridge city centre, showing location of buildings mentioned in text. Key: 149, 4 Market Hill; 151, 14 Market Hill (demolished); 154, 7 Petty Cury (demolished); 163, 48 Sidney Street; 164, 32 Hobson Street; 179, 1 All Saints' Passage.

As the new brick style became fashionable those who owned buildings of the traditional timber-framed construction sought to reface their homes – so far as they could afford to do so – in the new style; and thus a number of buildings which are superficially of the eighteenth century are in fact older timber-framed structures with a ‘skin’ of eighteenth-century brickwork, often enough only on the principal elevation of the building. An alternative to this was brick-tile cladding, which simulated a brick wall. Just why this material was used is not clear; the Royal Commission speak of brick-tiles as ‘a cheap substitute for rebuilding in brick’,¹ which is correct so far as it goes, but fails to explain the use of brick-tiles as opposed to adding a veneer of real bricks. Both these methods were, of course, cheaper than an entire rebuilding in brick, but it is unlikely that brick-tiles were any cheaper than bricks prior to the imposition of the brick tax of 1784. Brick-tiles were never cheap, and were always a sophisticated, if not a luxury, cladding.² Part of the reason for their adoption must be structural: in some cases they occur on the first-floor wall of a jettied timber-framed building, in which position it would not have been feasible to use ordinary bricks. Elsewhere, where they are used on a ground-floor wall, or on a building which is unjettied, the reason may have been that it was found easier to fix brick-tiles to a pre-existing wall than to erect a brick veneer in front of that pre-existing wall.

The Cambridge examples are a peculiarly local phenomenon. The main distribution of brick-tile cladding is in Kent and Sussex, though stretching as far west as Salisbury. North of the Thames, however, they are rare, and I do not at present know any examples from the region between Cambridge and London. The two buildings which have their brick-tiles unpainted show the use of red (not white) brick-tiles, so that they must have been made by the brick and tile makers who used the Jurassic and Kimmeridge clays to the north of Cambridge.³

One problem which faced the builder in brick-tiles was that of constructing the corners, for it was here above all that the deception was likely to be found out. Very occasionally wooden quoins, painted white or cream to resemble stone, were used,⁴ but these do not occur in any of the Cambridge examples; nor do those examples show the use of the purpose-made corner- or end-tiles which are sometimes seen.⁵ The usual method adopted in Cambridge, as elsewhere, was to finish the tiles against a wooden strip running vertically up the angle; but there are interesting variations of treatment of this feature (Fig. 2; all but *bottom right*). The feature was best seen in the Petty Cury house: this had brick-tiles on the street face, at first-floor level only,

¹ *Loc. cit.*

² Cf. A. Arschavir, ‘False fronts in minor domestic architecture’, *Trans. A. M. Soc.*, n.s. IV (1956), 112; also A. Clifton-Taylor, *The Pattern of English Building* (revised edition, 1972), p. 282.

³ Cf. *VCH Cambridgeshire*, II (1948; ed. L. F. Salzman), 367.

⁴ Arschavir, p. 112.

⁵ *Ibid.* p. 115.

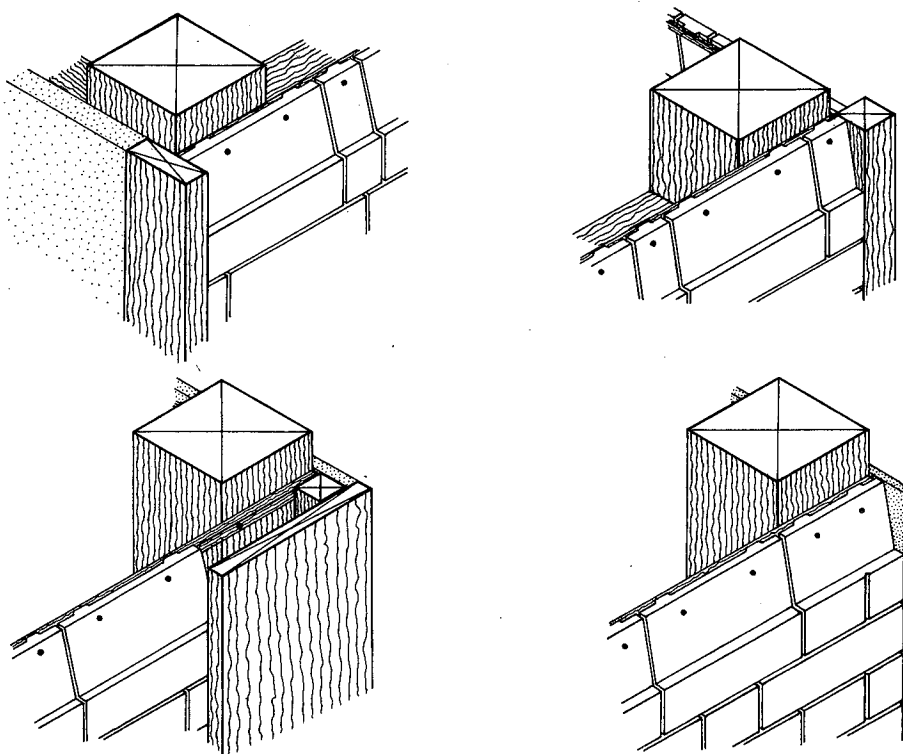


Fig. 2. Methods of corner construction with brick-tiles. *Top left*: 1 All Saints' Passage (179); *top right*: 7 Petty Cury (154); *bottom left*: 4 Market Hill (149); *bottom right*: 32 Hobson Street (164).

and on the northernmost part of the western side wall, where they reached to the top of the second storey. At the junction of face and side the angle was formed either of a square vertical timber measuring about 2 in. by 2 in. (Fig. 2, *top right*), or by an equal-armed L-shaped timber, the arms being about 2 in. across; either of these interpretations will fit the visual evidence. The Sidney Street house has a similar timber (about 3 in. square) to finish its southern corner, but the northern corner shows a variation in having a wide plank, some 10 in. across, running up the wall against the ends of the tiles: perhaps this is best described as a vertical fascia board. A similar arrangement is found at the southern corner of the (surviving) Market Hill house; here the bottom of the board was broken away at the time of my observations, so that it was possible to see the arrangement; the fascia board differs slightly from that in Sidney Street in being placed in front of the tiles' ends, overlapping them by about an inch (Fig. 2, *bottom left*). The northern corner of this house again has a

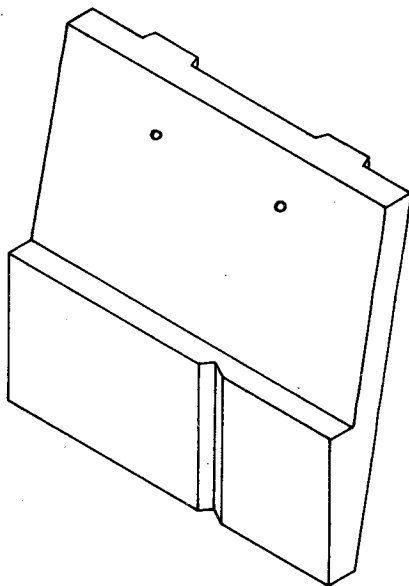


Fig. 3. End-tile with false closer.

squared or possibly an L-shaped timber. At the All Saints' Passage house (Fig. 2, *top left*) the western corner is finished by a smaller plank, about 2 in. by 5 in., but with its longer face at right-angles to the tiled wall-face, so that only the thin side of the timber is visible in the brick-tiled elevation.

In one case – the eastern angle of the All Saints' Passage house – there is no special treatment at the corner: the tiles simply stop at a vertical line.

The Hobson Street house, which is the most refined of the Cambridge brick-tiled buildings, has corners which are not finished with vertical timbers, which would have spoiled the illusion of brickwork, as is the case at the other Cambridge examples. At the southern corner the tiles' ends are covered by rendering, which continues over the side wall; some of the rendering has fallen away, revealing the bottoms of the ends of the tiles. The northern corner was probably treated similarly, but it is now built against, so that inspection is not possible. Special care was taken to complete the illusion of brickwork at these corners; the arrangement of the tiles is such that on alternate courses a special-sized brick was needed, measuring $6\frac{1}{2}$ in. long. These spoil the bond (Flemish) of the 'brick'-face, and to compensate, a shallow vertical V-shaped groove was cut $2\frac{1}{4}$ in. from the corner of the tile and filled with mortar, so that it resembled a pointing. This so divided the tile's face that it gave the appearance of two separate bricks – a header and a closer, the latter adjacent to the corner of the

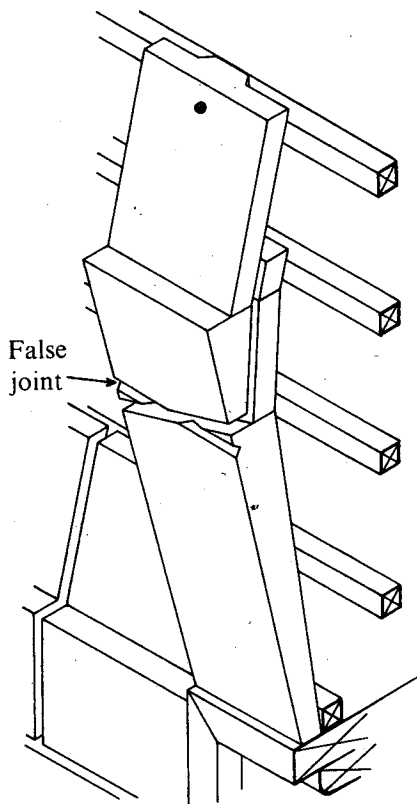


Fig. 4. Tiles used for construction of window-heads.

building. An isometric drawing of one of these tiles is shown in Fig. 3, and they may also be seen in Fig. 2, *bottom right*.

Window reveals presented the same problem as corners. Very rarely purpose-made reveal-tiles were used,¹ and these enabled the window-frame to be set back from the wall-face. But the Cambridge examples do not exhibit this refinement, and the wooden frames are set characteristically close to the outer wall, or even projecting slightly from it, so that they serve to mask the tiles' ends. The window sills all appear to be of timber. At the Hobson Street house the sills of all but the southernmost ground-floor window have a half-course of brick-tiles beneath them.

In a number of cases in the Cambridge buildings the window-heads are very simply executed, the exceptions being the window of the All Saints' Passage house, the ground-floor windows of the Hobson Street house, and the windows of the Market

¹ *Loc. cit.*

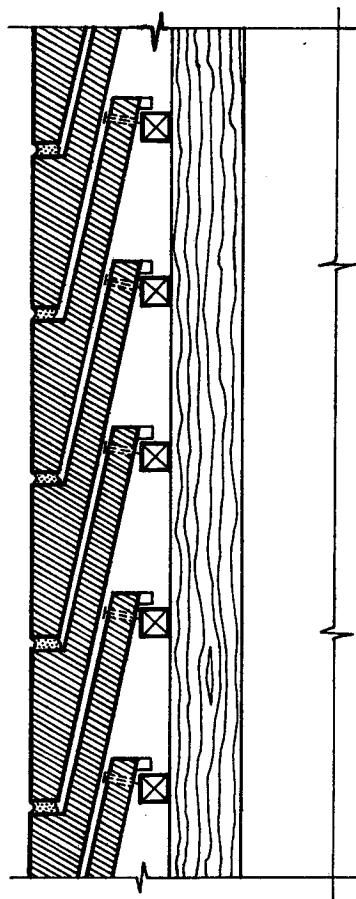


Fig. 5. Section through wall hung with brick-tiles.

Hill house. In the simpler type the ordinary brick-tile courses are just taken across the top of the wooden frame, as in contemporary brick houses of the poorer sort. The windows already mentioned as exceptions, by way of contrast, have flat-arched heads constructed from specially made tiles which give the appearance of the gauged brickwork of the better brick houses (Fig. 4). The individual brick-tiles in such heads are shaped according to position, and must have added quite considerably to the cost. To add to the illusion of real brickwork shallow horizontal V-shaped grooves were cut on some of the tiles to represent the joints which occur in (some) such arches when they are constructed of real gauged bricks. These grooves are (or were) pointed; and presumably the real joints in the tiles – across which the grooves sometimes pass

– were filled with mortar and coloured so as to disguise them, though they have now lost both colouring and pointing. One set of these tiles, in position but with the pointing omitted, is shown in Fig. 4.

On some of the buildings the lead flashings may be seen. Thus, the Petty Cury house had its flashings visible immediately above the wooden frame and beneath the lowest course of the superimposed brick-tile work. The same feature is seen even better on the windows of the Market Hill house.

It was normal in building with brick-tiles to use both stretchers and headers to make an arrangement resembling properly bonded brick courses. English bond seems never to have been used, at least in a ‘pure’ form;¹ in Sussex a peculiarity often found is the use of headers only, to form a header bond – as in the Jireh Chapel at Lewes. But by far the commonest arrangement – not surprisingly in the mid-eighteenth century – is Flemish bond, and all the Cambridge examples are set in this way. To achieve the proper effect it was necessary to have stretchers, headers and closers. The brick-tile dimensions of the Cambridge examples seem to be similar from building to building and resemble contemporary brick sizes, but it has only been possible to measure carefully those in the Hobson Street house. The stretchers measure 9 in. by $2\frac{3}{4}$ in.; the headers $4\frac{1}{2}$ or $4\frac{1}{4}$ in. by $2\frac{3}{4}$ in. The closers vary slightly according to position, but are about $2\frac{1}{4}$ in. by $2\frac{3}{4}$ in. The false closers formed by cutting a groove in a longer ($6\frac{1}{2}$ in.) tile have been mentioned already.

The shapes of the brick-tiles and the method of hanging them are shown in Fig. 5. They are provided with nibs and with one, two, or three nail holes.² The usual method of fixing was to nail laths across the timber-frame, and to hang the tiles from the former by the nibs, at the same time nailing them to the laths. Sometimes the laths were dispensed with and the tiles stuck into a plaster slurry.³ It is not known for certain which method was used in Cambridge, but the lath method is far commoner generally and is easier when a pre-existing timber-framed building is being clad, and so was probably used. After the fixing of the tiles, all the joints were carefully pointed – including the false joints where present. The whole might then be painted; of the Cambridge examples, only the houses in Petty Cury and Hobson Street are *now* unpainted.

When completed the walls very closely resemble brick walling, and it requires more than a cursory glance to detect the deception.

All the Cambridge examples of brick-tile cladding are eighteenth-century additions or alterations to earlier buildings in the local timber-frame building tradition. The timber framing of 4 Market Hill and of 7 Petty Cury dates from the sixteenth century; that of the other houses from the seventeenth century.⁴ The Royal

¹ *Loc. cit.*

² *Ibid.* p. 114.

³ *Ibid.* p. 111.

⁴ RCHM, *City of Cambridge*, s.v. individual monuments.

Commission dated the brick-tile refacing of 14 Market Hill (now demolished) to the early eighteenth century;¹ the surviving examples are most likely, from their details, to be of mid-eighteenth-century date. They thus belong to the period before the brick tax of 1784.¹

¹ *Ibid.* p. 328.

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