

MEDIEVAL AISLED HALLS AND THEIR DERIVATIVES

By J. T. SMITH

The aisled hall has long been recognised as one of the earliest types of domestic building in England; the form of its structure originated in prehistoric times, can be traced through the Roman period, has been inferred among the Anglo-Saxons, and became obsolete before the end of the middle ages. The surviving manifestations of the type will here be examined to see if they throw any light on the development of domestic architecture, and in particular on the origins of what is often called 'the typical medieval plan,' the H-plan comprising a hall placed between solar and service wings.

Discoveries made by the Royal Commission on Historical Monuments in the course of its county surveys aroused the interest of the late Sir Alfred Clapham in this type of house and its problems. His views were first published as a chapter of 'Famous Buildings and their Story' and successively enlarged in notable prefaces to the final volumes of the Essex and Herefordshire Inventories. The four diagrams accompanying the Essex preface¹ show how the aisled structure was cleared away by improvements in roof construction, with a consequent heightening of the aisle walls and corresponding changes in the wings. Only the first diagram depicts an aisled hall, which has two gabled wings, one a solar, the other service quarters—the medieval H-plan, in fact. The other diagrams show external changes caused by structural improvements but these are not accompanied by any development of plan. It is assumed, therefore, that houses of this size representing the average manor-house retained one basic plan unchanged from the early 14th to the early 16th century. Since this implies an equally small change in medieval society during those two centuries—a rather surprising fact, if true—it seems desirable to re-examine the assumption.

A few Romanesque aisled halls survive, the best known and the best preserved of them being at Oakham Castle, (Rutland), built in the last quarter of the 12th century. It is a hall and nothing more, without a trace of solar or service wings, and the interior has no structural subdivisions apart from the arcades of four bays. The present roof is of course a later rebuild, probably of the 17th century. A pair of doors at the east end shows that the detached kitchen stood nearby, but the position of the original entrance on the south side proves that at this stage no service accommodation was provided within the hall structure.² Two larger late 12th-century examples, the halls of Leicester Castle and the Bishop's Palace at Hereford,³ display the same simple plan :

¹ R.C.H.M., *Essex* IV.

² This is the conventional view of Oakham; Mr. C. A. R. Radford has kindly discussed his recent reinterpretation of the building (below, pp. 181-4), but I have not been able to take his

work fully into account.

³ Leicester: M. E. Wood, 'Norman Domestic Architecture', in *Arch. J.* XCII (1935), 190-1. Hereford: R.C.H.M., *Herefordshire* I, 116-7, with plan.

Leicester still has the vaulted undercroft which stood beneath the detached kitchen. This kitchen was in the same position relative to the hall as the one at Oakham must have been, that is to say, in the least conspicuous place and at the farthest convenient spot from the 'dais' end. The even earlier hall of William Rufus at Westminster may have had an equally simple layout, but there the very involved structural history of the ancillary buildings brings in complications which make it advisable to treat this example with reserve.¹

It is not clear how long this unitary plan persisted in smaller and less important buildings such as manor-houses. Fortunately the collaboration of the Victoria County History, the National Buildings Record, and the Historical Monuments Commission has brought to light a remarkable small house of this type, Fyfield Hall in Essex. It is not yet published² and must be described in some detail. The plan (fig. 1) shows three pairs of principal posts, each supporting a tie-beam. The first-floor plan shows also two principal posts in the north aisle, so we can estimate the full size of the hall and aisles at about 40 ft. by 29 ft. 6 ins. It is a hall of two bays, no more; everything else on this complicated plan is later. But a longitudinal section (fig. 2) best brings out its character by showing that the arcade-plates overhang at both ends in a way which precludes the existence of original wings. I use the term arcade-plates to describe the beams running above the arcades. In a stone church or at Oakham they would be wall-plates, but to obviate ambiguities a different term is necessary where there is only a skeleton timber arcade beneath them. It is instructive to note how the Commissioners of Historical Monuments dealt with this house in 1921.³ Seeing the octagonal post which is visible on the ground floor and noting a two-storeyed wing beyond it, they assumed that the hall ran on a north-south axis, the wing being a rebuild of the original solar. Of course a great deal of what is now accessible was not so then, and I do not criticise the Commissioners for their conclusions on the evidence available to them;⁴ the important thing to remember is that the wider inferences drawn by Sir Alfred Clapham were based on this and other imperfect reports.

Fyfield Hall was ascribed in the Essex Inventory to the late 14th century, an opinion based on the mouldings of the capital on the main post of the north arcade (fig. 5). In seeking to revise this dating I feel considerable diffidence, because the antiquaries of that generation certainly knew their mouldings with a thoroughness rare today. Nevertheless this simple sequence of rounds and hollows looks like a translation into wood of a very late 13th-century stone capital, and there is nothing to preclude a date about 1300.⁵

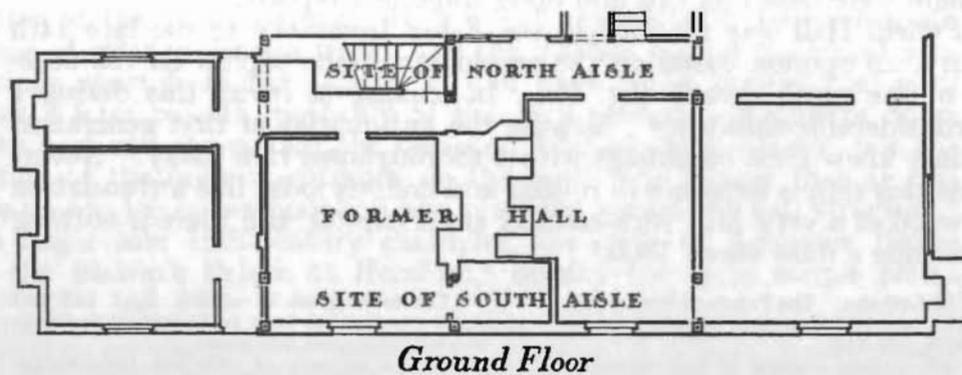
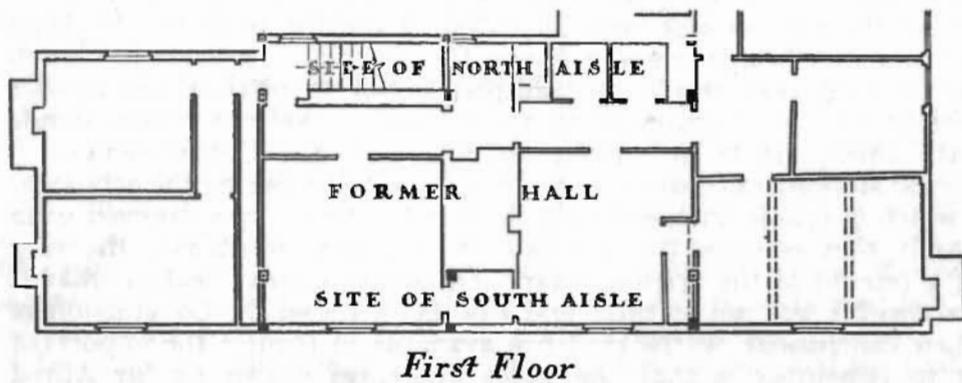
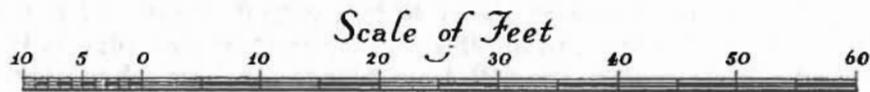
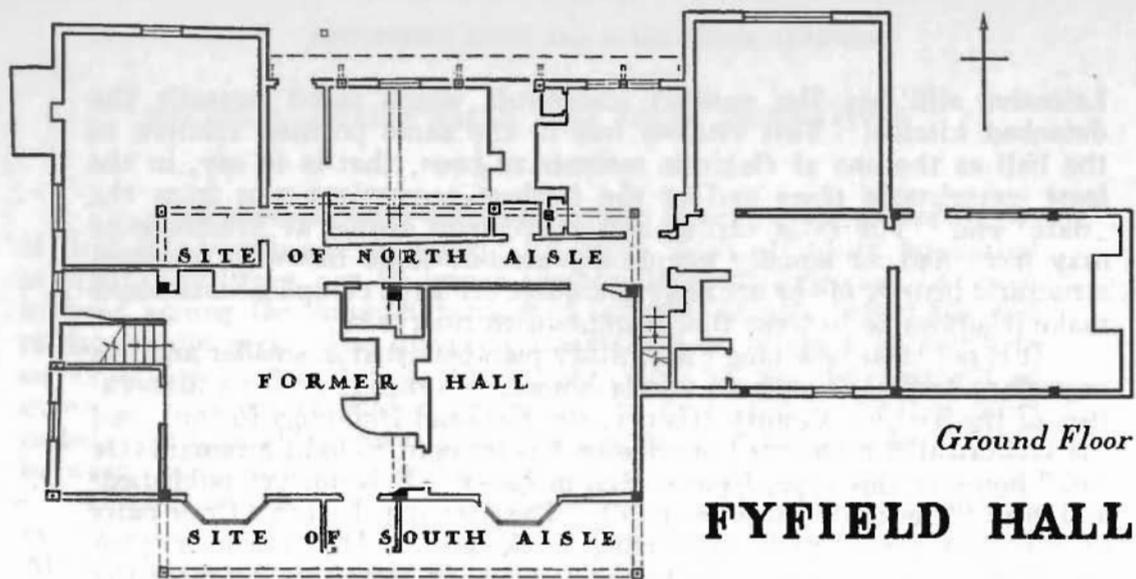
¹ W. R. Lethaby, 'The Palace of Westminster in the 11th and 12th Centuries', in *Archaeologia*, LX (1906), 131-148.

² It will appear shortly in the volume of V.C.H., *Essex*, covering Ongar Hundred.

³ R.C.H.M., *Essex* II, 87.

⁴ The installation of electric light and hot water systems has been an important factor in making roofs more accessible.

⁵ Cf. the sequence of 13th and 14th-century mouldings in R.C.H.M. *Essex* IV.



- Posts Existing
- Posts Hidden or Destroyed

LAMPETTS FYFIELD

C.F. STELL 1955

Fig. 1

One feature of the highly unusual roof (fig. 2) requires mention here. It is built solely of pairs of coupled rafters, all original save for three couples at each end which have been renewed. The fourth couple from each end has three collars, in which are several mortices. Reconstructing the form of the gables it becomes apparent that there were smoke outlets here, and this is the more certain in the total absence of a louvre in the conventional position near the middle of the roof.

One other feature will help to place Fyfield Hall in a structural sequence. The arcade, following the general development of Gothic forms, contrasts equally with the Romanesque arches of Hereford and with those of the succeeding group of buildings.

To sum up, this small manor-house of Fyfield originally comprised a two-bay hall without either service or solar wing, so that the simplest type of house may be said to persist at least as late as the end of the 13th century. The first development of this unitary plan is the addition of a single bay, flush with the walls of the hall but forming a quite separate compartment of the building. In a large hall it might be assumed that such a bay was merely the structural expression of a division which till then had been merely one of custom, but in halls as small as Fyfield the two bays are hardly capable of any functional division beyond those of entrance passage and 'dais'. I use the term 'compartment' rather than 'wing' for the sake of clarity in describing this development, because 'wing' suggests a structure roofed separately from the hall. This compartment is always at the inferior or service end, separated from the body of the hall by the cross-passage.

Again the larger domestic halls show the development clearly, for example, the Bishop's Palace at Lincoln which is dated 1224 or thereabouts.¹ Here we find the arrangement familiar in the later middle ages of butteries with a passage between them leading to a kitchen, which is once more in the same relationship to the hall as it was at Leicester. Bishop Burnell's Palace at Wells, built between 1275 and 1292, is similar,² and a third example is Bishop Salmon's Hall at Norwich, built between 1318 and 1325.³ It is interesting to see that even by the 14th century so large a house did not necessarily have a separate solar wing. At Lincoln there is evidence of an upper storey which was presumably a solar above the butteries, and the porch also had two storeys. The position of two newel stairs implies a social distinction between their uses; the gentlefolk no doubt used the one nearest the porch and the servants the one lying within their own domain.

Hertford Castle hall⁴ was much like these in its general layout, and a less imposing monument of the same type is the late 13th-century

¹ M. E. Wood, 'The Bishop's Palace, Lincoln', in the *Lincolnshire Historian*, no. 7 (1951), 278 ff., with plan.

² M. E. Wood, 'The Bishop's Palace, Wells', in *Arch. J.* CVII (1950), 108-110, with plan.

³ A. B. Whittingham, 'The Monastic Buildings

of Norwich Cathedral', in *Arch. J.* CVI (1949), 86-87, with plan.

⁴ A. W. Clapham, 'The Origin of the Domestic Hall', in A. W. Clapham and W. H. Godfrey, *Some Famous Buildings and their Story*, 69-75; plan at p. 73.

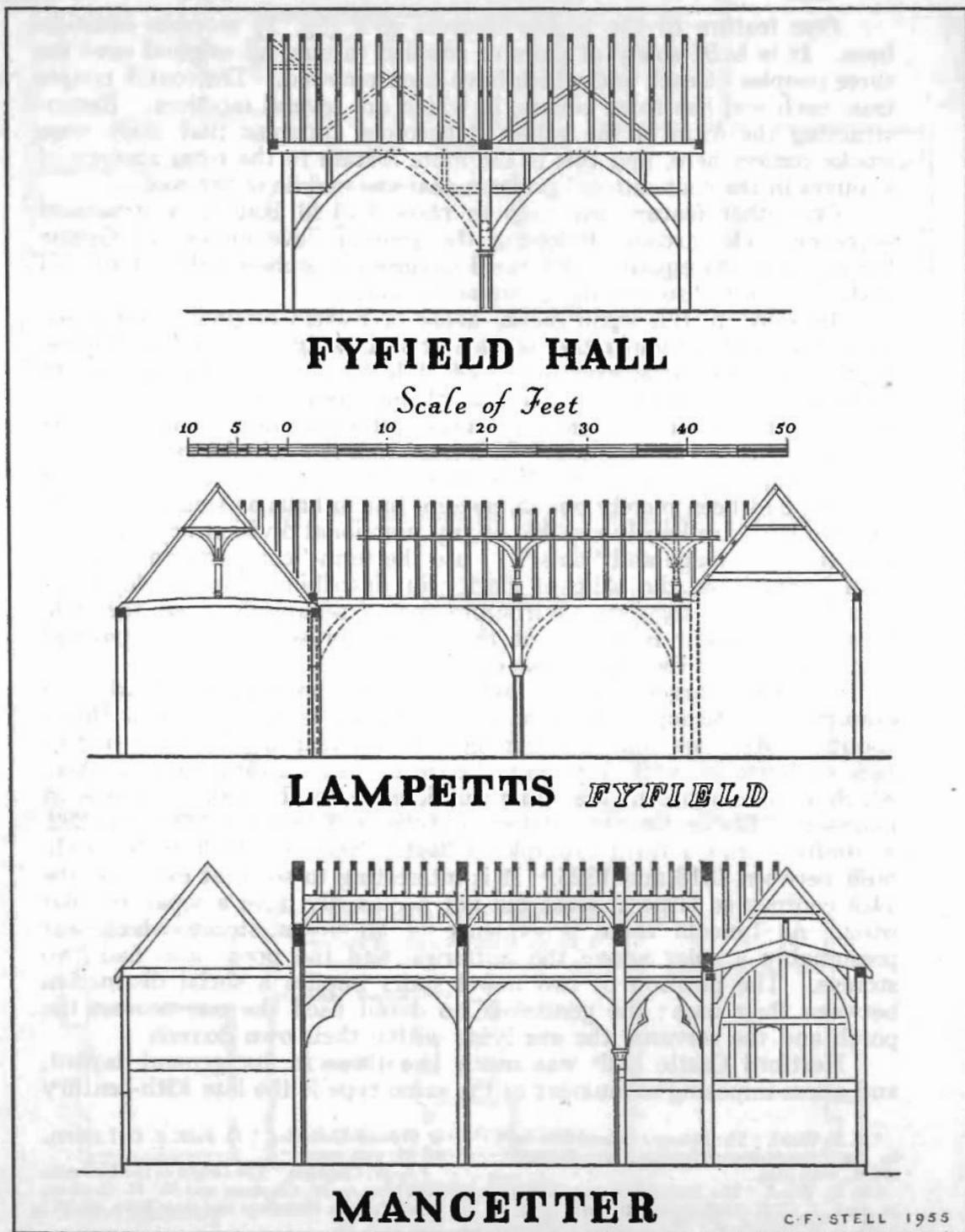


Fig. 2

manor-house at Warnford¹ in Hampshire. Here the partitions of the service quarters are not clearly distinguishable, but there seem to have been two original doors opening from the screens-passage into the pantry and buttery respectively. A third door was not required because the kitchen must have been placed to one side of the building, not axially. The first-floor solar—for this is surely what it must be—was entered, not by a vice (as at Lincoln) but by a flight of stairs leading to a first-floor doorway facing the hall. There was probably a small landing to keep the screens entrance clear like the one at the lower end of Stokesay hall. The inferior social status of the buttery and pantry is emphasised by the steps down to them and by the lowness of their ceilings, whereas the solar is quite a lofty storey.

Now Warnford is a stone building of some pretensions, yet the same plan can be found in timber buildings which better represent a southern English manor-house of the late 13th or early 14th century. An interesting case is the early 14th-century house called The Savoy at Denham in Buckinghamshire,² where the Historical Monuments Commission presumed from the dimensions of a later north wing the former existence of an original service bay; and although there is nothing to show whether this bay had one storey or two, the bracketed overhang of the arcade-plates at the upper end of the hall precludes the existence of a solar there.³

Another early 14th-century house, Stanton's Farm in the Essex parish of Black Notley,⁴ has a similar plan. Despite a rebuilding of the end wall of the hall the position of the original semi-octagonal bay-window makes it clear which was the superior end. Two of the original three doors which led into the service quarters survive at the opposite end. Although there is no positive evidence to disprove the Commission's statement that there was originally a solar wing at the west end, the analogies already cited make the suggestion unnecessary, and a longitudinal section based on the surviving medieval remains is nearly conclusive (fig. 3). In the two-storeyed east bay the low ceiling seen in the service quarters of Warnford is repeated, but this time without any marked drop in floor level from the screens-passage. There are three doors here. Above the tie-beam an original stud and plaster partition, reaching up to the collar, divides the upper storey from the hall. The gap left below the apex of the roof enabled the upper chamber to be heated after a fashion, since it permitted smoke to escape over the top of the partition and so out through a tiny gablet above the hipped roof at the west end. The proof of this is that all the rafters, and particularly those round the gablet, are smoke-blackened. The gablet—

¹ M. E. Wood, *Thirteenth Century Domestic Architecture* (1950; Suppt. to *Arch. J.* CV), 27-29, with plan.

² R.C.H.M., *Bucks* I (South), 117.

³ The overhang is sketched in the MS. records

of the Royal Commission, and has been checked from personal observation.

⁴ R.C.H.M., *Essex* II, 19-20, with plan and section.

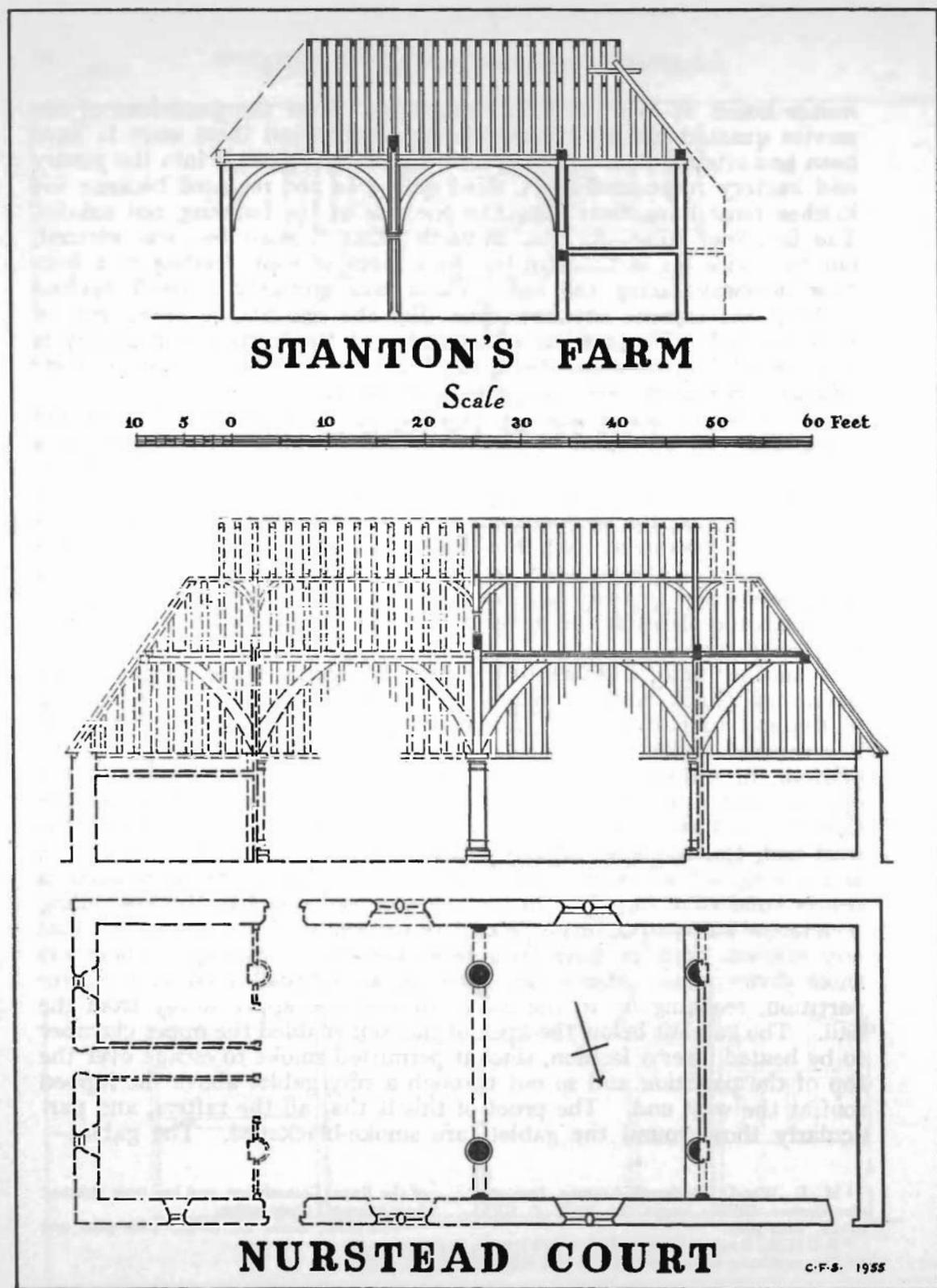


Fig. 3

for which the correct technical term may be an open gimbrel—is clearly the extraordinary gable treatment of Fyfield Hall adapted to suit a hipped roof.

The Stanton's Farm type of plan comprising a hall and a two-storeyed service-and-solar bay was developed in two ways. The first was to define the screens-passage structurally by adding between the hall and the service quarters a bay of half the normal length, so that the line of the screens was marked by a roof truss differing in no important respect from the main open truss, except that the braces to the tie-beam were plain, not moulded. The spaces between the aisle walls and the extra pair of posts which formed part of the arcades were filled by screens or 'speres'—hence the name spere-truss commonly applied to this construction. Unfortunately it is not possible to show clearly and straightforwardly how this plan grew out of the Stanton's Farm type, because every instance is complicated by other factors.

The manor-house of Little Chesterford in Essex¹ is a familiar example of this phase of medieval house-planning but its interpretation is open to discussion. The east wing is a two-storeyed stone structure of about 1225 which seems to be the original house, and belongs to the same class as Boothby Pagnell manor-house. The aisled timber hall and the timber-framed solar wing are assigned to the later 13th century, more precisely to *c.* 1275. The moulded capital cited in evidence would hardly seem to support so early a date; both the main members are more typical of 14th than 13th-century work, and the narrow diminishing rings between them seem to be a carpenter's simplification of the small quarter-rounds sometimes found below the abaci of ecclesiastical capitals in the second quarter of the 14th century.² The moulding of the capital of the one king-post which survives intact in the solar roof is quite different and certainly later, probably early or middle 15th century. Confirmation that the solar wing is later is provided by the roof trusses, which have small arch-braces below the slightly cambered tie-beams. These are not unlike the trusses in the two-storeyed north wing added to Fyfield Hall about 1500, and are quite different from the large braces and heavily-cambered tie-beams normal in the early 14th century.

I conclude from all this that about 1320–30 Little Chesterford manor-house comprised a hall divided from the screens-passage by a spere-truss, and a two-storeyed wing which contained a solar above the service quarters. It therefore confirms the evidence of the Bishop's Palace at Norwich, that in the early 14th century the segregation of the solar was not yet complete, and the 'classic' medieval H-plan was not yet normal in houses of this size.

The Essex parish of Fyfield is remarkable for possessing another aisled hall beside the one already mentioned: this is a house called

¹ M.E. Wood in *Arch. J.* CV (Suppt.), 19–21, following R.C.H.M., *Essex* I, 173–5, with plan and section.

² Cf. the mouldings in Stokesay hall, *Arch. J.* CV (Suppt.); their overall effect is very different.

Lampetts,¹ which presents a rather similar disposition to Little Chesterford. The ground-floor plan (fig. 1) shows a hall with aisles with an original doorway on the north side, its two-centred head tenoned and pegged into the surrounding framing. To the west of the hall a passage runs across the house, and from the plan alone it is likely that the east side of the passage marks the site of the original screens. Several main posts survive only on the first floor (fig. 1). The longitudinal section (fig. 2) confirms the impression derived from the plans. The first feature to note is that the west end of the collar purlin has been cut off and that end of the building replaced by a 17th-century wing; and the second, that the surviving hall bays are of unequal length.

Now in some spere-truss halls, both aisled and derivative, the length of the upper bay of the hall equals the length of the lower bay plus the width of the screens-passage; that is to say, the spere-truss is contrived within a bay of normal length instead of involving the addition of a half-bay.

Since hall bays of unequal length are not otherwise found, the analogy may serve to explain Lampetts, and we can presume it was once a spere-truss hall. The evidence is inadequate to tell us whether there was another original bay where the west wing now stands, containing a solar above the buttery and pantry, but again on analogy it is probable. Finally, by its mouldings this house may be dated about 1340-50, certainly no later.²

That is all there is to say about the aisled hall with spere-truss; it never developed beyond the Lampetts stage. We turn now to the second form stemming from the Stanton's Farm plan, to a development admirably exemplified at Nurstead Hall in Kent, which has the adventitious interest of being one of the first medieval houses noticed by students of Gothic architecture.³ A floor and a chimney were inserted in the open hall in the middle of the 16th century, but otherwise it remained substantially unaltered until about 1837, when one half was demolished to make way for an uninspired building in the contemporary taste. The first view (Pl. XIIA) of the house as it was throughout the 17th and 18th centuries shows very well the great roof hipped at both ends, and above the nearer hip at the service end a little triangular gablet just like the one at Stanton's Farm. The large door leads into the screens-passage. This drawing is important because it makes more credible Edward Blore's published views of Nurstead⁴ in which some artistic license may be suspected. He does not, for instance, show the

¹ The drawings of this house originated in the same circumstances as those of Fyfield Hall. It was described in R.C.H.M., *Essex* II, 86, as an unaisled building, though the MS. report elucidated its structure correctly.

² Cf. mouldings, *op. cit.* IV.

³ It is noticed in the *Gentlemen's Magazine* for 1837, pp. 364-7, where Blore's drawings are reproduced, and by W. Twopeny, *Engravings*

for *Ancient Capitals*, etc., in the same year. Ambrose Poynter drew it about 1831; his notebook is in the R.I.B.A. library. There are also some unsigned early 19th-century drawings in the British Museum; Add. MS. 32369, ff. 51, 55-6.

⁴ His interior and exterior views are most easily accessible in T. H. Turner and J. H. Parker, *Medieval Domestic Architecture*, II, opp. pp. 281-2.

smoke gable, and he tidied up the out-buildings and removed them from the immediate proximity of the hall. These small points apart, the exterior is sufficiently accurate to give confidence in the interior reconstruction: for reconstruction it certainly was in some degree when we remember the 16th-century conversion of the open hall.

Blore shows two pairs of timber columns in the hall, and there must have been a third pair. His interior view shows the two columns at the lower end of the hall connected by a permanent timber screen in which are three doorways, obviously the customary three openings into the service quarters, with the middle door perhaps opening into a passage which led to the kitchen. The external door at the other end of the passage appears in Pl. XIIA. Fortunately the upper end of the hall still survives to supplement these invaluable drawings, and combining their information, Sir Herbert Baker had a plan and sections of Nurstead made some years ago from which fig. 3 has been redrawn. In Sir Herbert Baker's drawings¹ the main truss is shown quite accurately, but there is a slight error in the drawing of the western pair of columns. The south column has in fact a shallow hollow moulding on its north side. Evidently it was not a simple column, so there must have been some kind of screen like the one at the lower end of the hall.

Moreover, the west side of these columns is not visible, and although it might be thought that they are concealed by later panelling, there is no considerable projection to mask them. I think it likely that they were never cut as full columns, only as half-columns (fig. 3), as were probably the corresponding pair at the other end of the hall.

If this is correct we have at last arrived at the plan which became common in the late medieval period, a hall flanked by solar and service rooms, and following the pattern of earlier buildings we should expect these end bays or compartments to be of two storeys. Without a full longitudinal section it is impossible to prove that the existing floor at the solar end is contemporary with the main structure, but it seems probable. A cornice in the ground-floor room seems to be original, and the three main beams supporting the floor may well be of 14th-century date. A significant point is that there is a change of level on the first floor, going from the still-preserved solar to the rooms built in the top part of the hall; there is a rise of two steps on the line of the half-columns. What has happened, presumably, is that the original ceiling of the ground-floor rooms under the solar was too low for the purposes of the 16th-century builders; it would not have been fitting to have continued a ceiling at that level over the new hall, which required a height more appropriate to its importance. They therefore rested the ends of the main joists upon the older floor beams, as being the easiest way to secure the necessary height, a process familiar elsewhere in the Elizabethan

¹ Published in A. Oswald, *Country Houses of Kent* (1933), 14-15.

conversion of medieval houses.¹ Lighting for the upper storey must have been by dormers; those shown in Pl. XIII A look as if they might well be replacements of the originals.²

With Nurstead and Little Chesterford the aisled hall reached the end of its development in lowland England. From the middle of the 14th century the use of timber posts or stone piers to support the roof was obsolete, superseded by improvements in roof construction which permitted wider spans across a hall. These later developments will be dealt with in the second part of this paper as 'Derivatives'. There remain a few other aisled halls which stand outside the lowland tradition of building.

York Guildhall,³ begun in 1446 and destroyed in 1942, was quite unlike any of the buildings so far mentioned. Its aisled plan had been obsolete for a century in southern England, but the up-to-date technique adopted for the roof produced something like a secular hall-church. The nave and aisles in cross-section were each traversed by a slightly cambered tie-beam, the only difference being that the nave tie-beam was longer and was placed slightly higher than the other two. This enabled rafters to be so placed as to connect the camber of the nave tie-beam to the outer cambered side of the aisle tie-beams, thus forming a roof of very low pitch in which the thrust was negligible.

A second anomalous 15th-century example from York is St. Anthony's Hall which has three virtually independent gabled roofs above the nave and aisles.⁴ In the much more remote area of North Wales there is a belated aisled hall called Hafod at Rhiwlas in the parish of Llansilin, Denbighshire⁵ which may belong to the late 14th century. The many obscurities in its plan and structure can only be elucidated by a thorough survey, but one point is obvious enough, that the roof construction is quite different from any aisled hall in lowland England. The pairs of principal posts at Hafod support a cambered tie-beam, upon which stands a king-post rising up to a ridge; springing from the king-post are two longitudinal braces, curved and cusped, which are tenoned into the ridge. The roof has side purlins, too, so it is in every way unlike the kind of king-post and collar-purlin roofs of southern England.

All these buildings stand outside the architectural tradition which is the theme of this paper, and which may be summed up from the point of view of planning as follows.

¹ Blore and Sir Herbert Baker no doubt assumed that a floor was inserted throughout the building in the 16th century.

² The earliest published dormer-windows seem to belong to the middle of the 14th century. J. H. Parker, *Glossary of Architecture*, s.v.

³ A. W. Clapham, 'The Origin of the Domestic Hall', in Clapham and Godfrey, *op. cit.*, 73, and N.B.R. photographs.

⁴ Monograph by Dr. J. S. Purvis and Dr. E. A. Gee, *St. Anthony's Hall, York*, 1953. (St.

Anthony's Hall Publications, No. 1).

Even further removed from the general conception of an aisled hall is the 15th-century Hall of the Merchant Adventurers at York. Its two aisles, or naves, raise much wider problems than can profitably be discussed here; it belongs to a different building tradition.

⁵ *Archaeologia Cambrensis*, 5s. XV (1898), 158-162; *ibid.*, XC VII (1942), 75. Typologically Hafod ought to be earlier than Penarth Farm, which is early 15th century; *loc. cit.*

The hall, without any structural subdivision and unconnected with its ancillary buildings, was the normal house-type for a late 12th-century magnate. Lesser but still substantial men built houses of this type for at least another century. At the beginning of the 13th century a large house might have a two-storeyed bay at its lower end, adjacent to the screens-passage, and although by the early 14th century the more important manor-houses were being built with a two-storeyed bay or wing at both ends, the earlier type persisted alongside it. These conclusions apply only to ground-floor halls; first-floor halls develop quite differently.

The second part of this paper is intended to show how the aisled hall influenced the forms of building which derived from it. Obviously an aisled structure was regarded as a necessary evil in a domestic hall, to be diminished and finally cleared away as improvements in roof construction permitted. To understand how this type of structure was superseded we must first trace its growth.

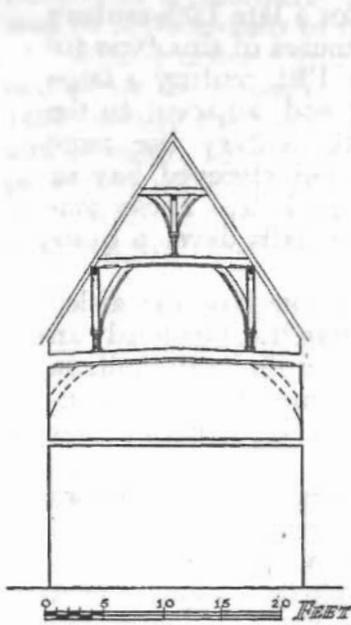
Of the 12th-century roofs at Hereford, Leicester and Oakham scarcely anything survives.¹ All were completely rebuilt in the 15th century or later, except for the round-headed transverse arches across the centre span at Hereford (Pl. XII B). Leaving aside for a while Fyfield Hall, which presents certain peculiarities, Stanton's Farm (fig. 5) is the first well-preserved roof in our series. It is very simple, consisting merely of pairs of collared rafters which rest upon the arcade-plates and are continued, sprocketed, down to the aisle wall-plates. The open truss has a tie-beam to keep the arcade-plates a fixed distance apart, and there are large arch-braces tenoned into it and into the principal posts. The principal posts are further strengthened by curved braces connecting them to the aisle walls.

The next development (fig. 4, Lampetts) strengthens the collars of the rafters by supporting them with a long central or collar-purlin, which in turn is borne by king-posts. The king-posts themselves are not braced in any way except to the structure they support. One pair of braces is tenoned into the collar-purlin and another pair into the collar immediately above. The post rising above the king-post is part of the *louvre*, and has no connection with the roof-truss proper.

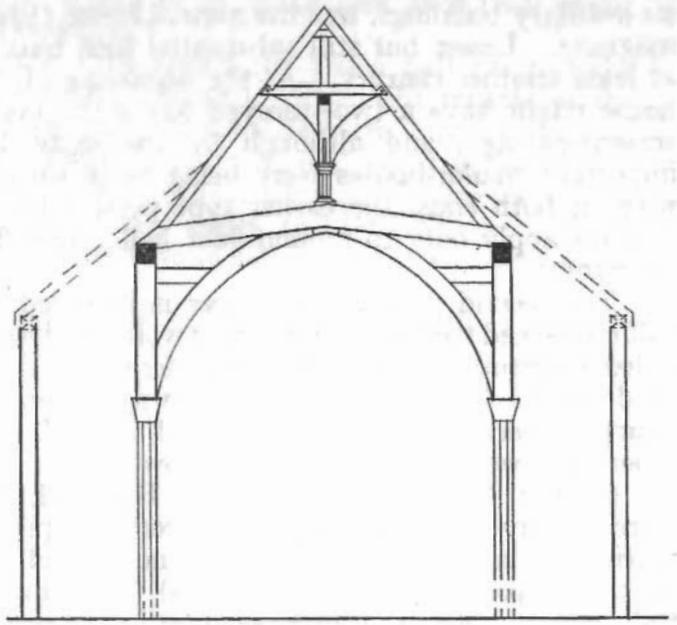
While the roof of the aisled hall never developed beyond this stage, the carpenters had already begun to devise means of clearing the posts out of the hall. The first method was to raise the whole structure up on a great tie-beam, so the problem was solved without changing the essentials of the roof. That is what was done in the 14th-century hall at Gate House Farm in the Essex parish of Felsted (fig. 4), as Sir Alfred

¹ Mr. C. A. R. Radford kindly informed me of his intended reconstruction of Oakham roof, but there was no opportunity to see his drawings before this Journal went to press. A clearstorey is postulated (p. 183), and although this is

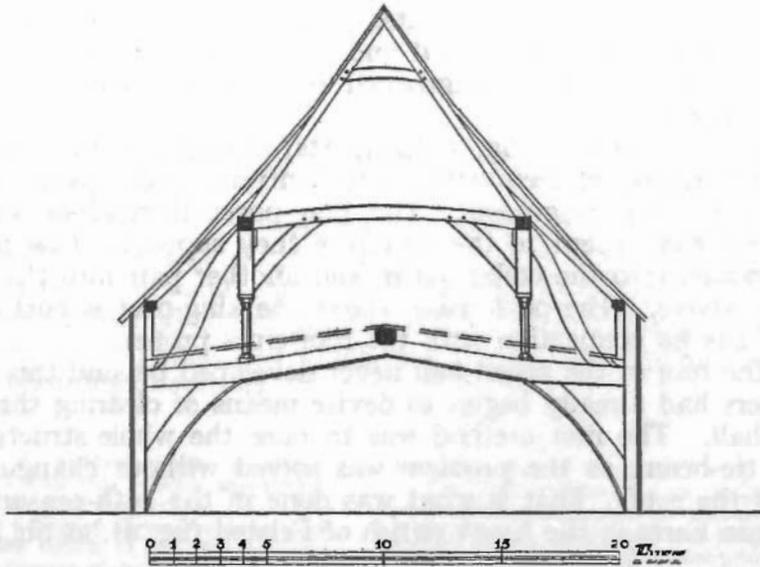
contrary to the writer's opinion, proof awaits detailed measurement of the building. T. H. Fosbrooke's reconstruction of the Leicester roof, exhibited in the Castle Hall, is certainly wrong.



MERTON
COLLEGE



LAMPETTS.



GATE HOUSE FARM. FELSTED.

Fig. 4

Clapham pointed out thirty years ago.¹ The form of the tie-beam is noteworthy. It is not the steep and pointed camber of the Stanton's Farm roof, but rather a double curve. This form of tie-beam may be seen occasionally in buildings put up a century later with much more advanced forms of truss, when there was no longer any reason for this unusual curvature. Presumably the carpenter cambered the beam with the intention of transmitting the thrust down the arch-braces and resisting any weakness at the middle.

An earlier and more advanced example is found in an Oxford building, a part of Merton College (fig. 4) assigned to 1299-1300,² a date which certainly accords with the queen-post mouldings. It is virtually the roof of Lampetts raised on a cambered tie-beam. Both here and at Gate House Farm one feature is particularly noteworthy. The former arcade-plates are retained—indeed, they are still in a sense arcade-plates save that the posts do not reach the ground—but they have changed character and assumed the function of purlins. This is a recurrent feature in 14th-century roofs and is a sure sign that a roof traces its pedigree back to an aisled hall.

A tie-beam spanning the width of the hall certainly freed the floor-space of posts but it lacked the impressive effect of the old open truss. To meet this objection several expedients were tried, all of them involving the use of a collar-beam as the principal member of the roof. The collar was placed at about the same relative height as the tie-beam of the aisled truss, that is to say, about one-third of the way up the roof pitch. Mancetter Hall in Warwickshire,³ a building of *c.* 1330-40, provides a remarkable instance of the carpenter's ingenuity in preserving the roof structure of an aisled hall while dispensing with the main pair of posts. The plan can easily be inferred from the long section (fig. 2); it is a hall of two bays with an extra half-bay for the screens-passage and a wing forming both solar and service quarters. The hall is spanned by a great trefoiled arch which has cusps measuring about three feet six inches across at their maximum width. These massive pieces of timber are big enough to support what is once more virtually the roof of an aisled hall, for the depth of the cusps permits foiled arched braces to be placed upright and tenoned into them, and also into a square-set purlin or arcade-plate: the latter term is here preferable since the end trusses of the hall and the spere-truss are true aisled structures. Another roof which must be of much the same date, or even a little earlier, formerly covered the refectory of Bradenstoke Priory in Wiltshire (Pl. XIII), and was transported to St. Donat's Castle by William Randolph Hearst.⁴ This old illustration, the only one published, is not accurate in all its details but presents the essential features of the

¹ R.C.H.M., *Essex* II, 76, with plan and section.

² R.C.H.M., *Oxford City*, 77; the drawing is taken from the MS. report.

³ V.C.H., *Warwick*, IV, 117-9, with two plans and four sections.

⁴ Illustrated in the fifth edition of Rickman's *Styles of Architecture* (1848), 181.

roof quite clearly. The profusion of ballflower ornament dates it securely to the early 14th century; structurally the short principal rafters carry a collar, which in turn carries two square-set purlins or vestigial arcade-plates. Above each collar is a king-post carrying a collar-purlin, and the trusses appear to be strengthened, so far as can be seen from the floor, by the addition of an 'upper cruck'. To conform with these changes the arch-braces which would form the arcade in an aisled structure have been moved to correspond with the pitch of the roof, and have been transformed into wind-braces.

The roof of the house called Wynters Armourie in the Essex parish of Magdalen Laver¹ is of collar-beam type with wind-braces tenoned into square-set purlins; its plan is that of a hall in which the spere-truss has been built within the lower bay. The roof thus represents an advance along the lines of Bradenstoke and is interesting as showing that the collar-beam was being developed in Essex alongside several other structural devices.

To revert to roofs which raise an aisled structure clear of the hall floor, the best-known type is the hammer-beam roof. Like the cusped roof at Mancetter this construction does not need a tie-beam, so that it left the upper part of the hall relatively free of timbers and thereby created an impressive effect of height and loftiness above the open fire. A good example is Tiptofts manor-house (fig. 5) in the Essex parish of Wimbish,² where both the collar-beam and the curved braces below it show the wave-moulding characteristic of the middle part of the 14th century. As at Mancetter, the aisled structure is partly preserved. The name Tiptofts is interesting, since the property belonged to the Wautons and was in the hands of members of that family through the whole of the 14th century, except between 1348 and 1367 when it belonged to Sir John Tiptoft.³ It looks as if the Royal Commission's dating to *c.* 1330 may be a little too early, and that Sir John Tiptoft rebuilt the house completely soon after he acquired the property, thereby causing it to perpetuate his name. Stranger's Hall, Winchester, is another well-known and slightly earlier example of this phase of development.⁴

There was at least one other method of solving this problem of an adequate roof-span, but it seems rarely to have been used in houses. The hall was spanned by a truncated cruck-truss, upon which a collar was placed to carry the main purlins (the former arcade-plates); above this the construction might vary. The older part of the Guildhall at Leicester is roofed in this way, with king-posts standing on the collars; the setting of the purlins squarely on the collars shows that the builder was thinking as much in terms of an aisled as of a cruck building, and

¹ R.C.H.M., *Essex* II, 170; and personal observation.

² R.C.H.M., *Essex* I, 351-3, with plan and sections.

³ *Essex Arch. Soc. Trans.*, N.S. XVI (1923), 218-9.

⁴ Drawing in *Hants. Field Club Procs.* III (1894), 71; illus. Lloyd, *History of the English House*, 358.

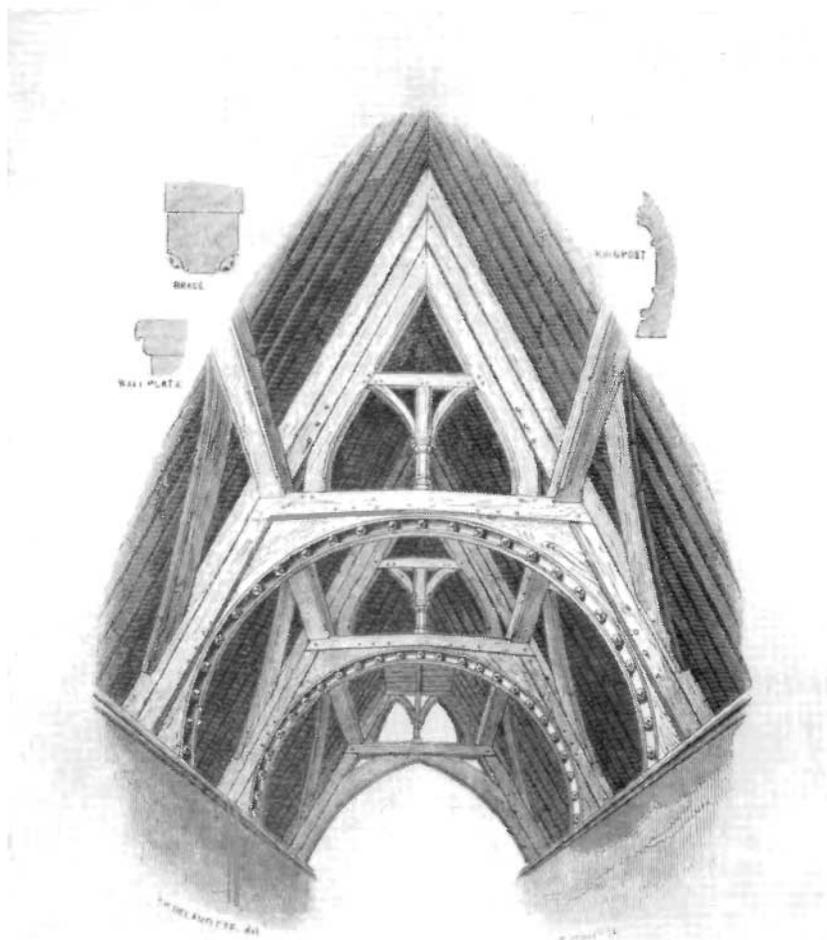


A. Nurstead Court, Kent



B. Hereford Cathedral, Bishop's Palace. Detail of roof

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BRADENSTOKE PRIORY, OR CLACK ABBEY, WILTSHIRE.

indeed the east wall of the hall is structurally a spere-truss. The dating of this interesting building is still a matter of argument, though there is no very obvious reason why it should not have been put up soon after 1343, when the Guild of Corpus Christi was founded.¹

Another example is the great tithe barn at Bradford-on-Avon, where a smaller pair of crucks replace the king-post, and there is or was another barn at Dorchester (Oxon.) in which truncated cruck-trusses alternated with the normal aisled type.²

The further development of the above forms of roof is outside the scope of this paper, but before leaving the subject two points deserve to be mentioned.

The first concerns a roof which is quite unlike anything so far published in archaeological literature, the one at Fyfield Hall. Its open truss is formed of a pair of close-spaced rafters, one let into each side of a flat—not cambered—tie-beam. The mortices, or rather slots for 'halving-in' other timbers, show that a complicated form of strutting took the place of the familiar structure of arch-braces, king-post and collar. A sufficient number of these slots can be traced to make a reconstruction possible (fig. 5). The whole roof has slipped sideways considerably, so that accurate measurement of small details is difficult: nevertheless, they were plotted sufficiently carefully to give a fair degree of probability to this reconstruction. English parallels are lacking, and attempts to find a comparable roof on the Continent have not so far been successful. The use of long braces of the same scantling as the common rafters and halved into them is quite different from the usual techniques of English roof-building, being vaguely reminiscent of some of the roofs of Norwegian Stave-churches, though these are far from an exact parallel.³

The second consideration is what the vanished late 12th-century precursors of the Fyfield Hall and Stanton's Farm roofs were like. Looking back from the later developments, it is probable that they consisted simply of pairs of coupled rafters joined by collars. Each transverse arch which remains at Hereford, like those which can be inferred at Leicester, presumably had its apex at about the right height to support one collar, or perhaps two placed close together. Any form of truss involving principal rafters and purlins is very unlikely, since no evidence of such a roof is known prior to 1300.⁴

The influence of the aisled hall continued to be felt both in plan and structure right into the early 16th century in the form of the spere-

¹ *Arch. J.* XC (1933), 367, with plan; the dating there given is followed by Mr. R. Simms in the R.A.I. Summer Meeting Report, p. 163. Mr. V. R. Webster assigns it to 1343 in his 'Cruck-Framed Buildings of Leicestershire' *Trans. Leics. Arch. Soc.*, XXX (1954), 31.

² British Museum, Add. MS. 36436, f. 649.

³ Cf. the long braces in the roof of Borgund

Church; Anders Bugge, *Norwegian Stave Churches* (1953), illus. pp. 9, 11.

⁴ The roof of Stokesay Castle hall which is commonly said to be 13th century I regard as largely a 15th-century reconstruction. Clear evidence of an earlier roof survives; it was either aisled or a near-derivative.

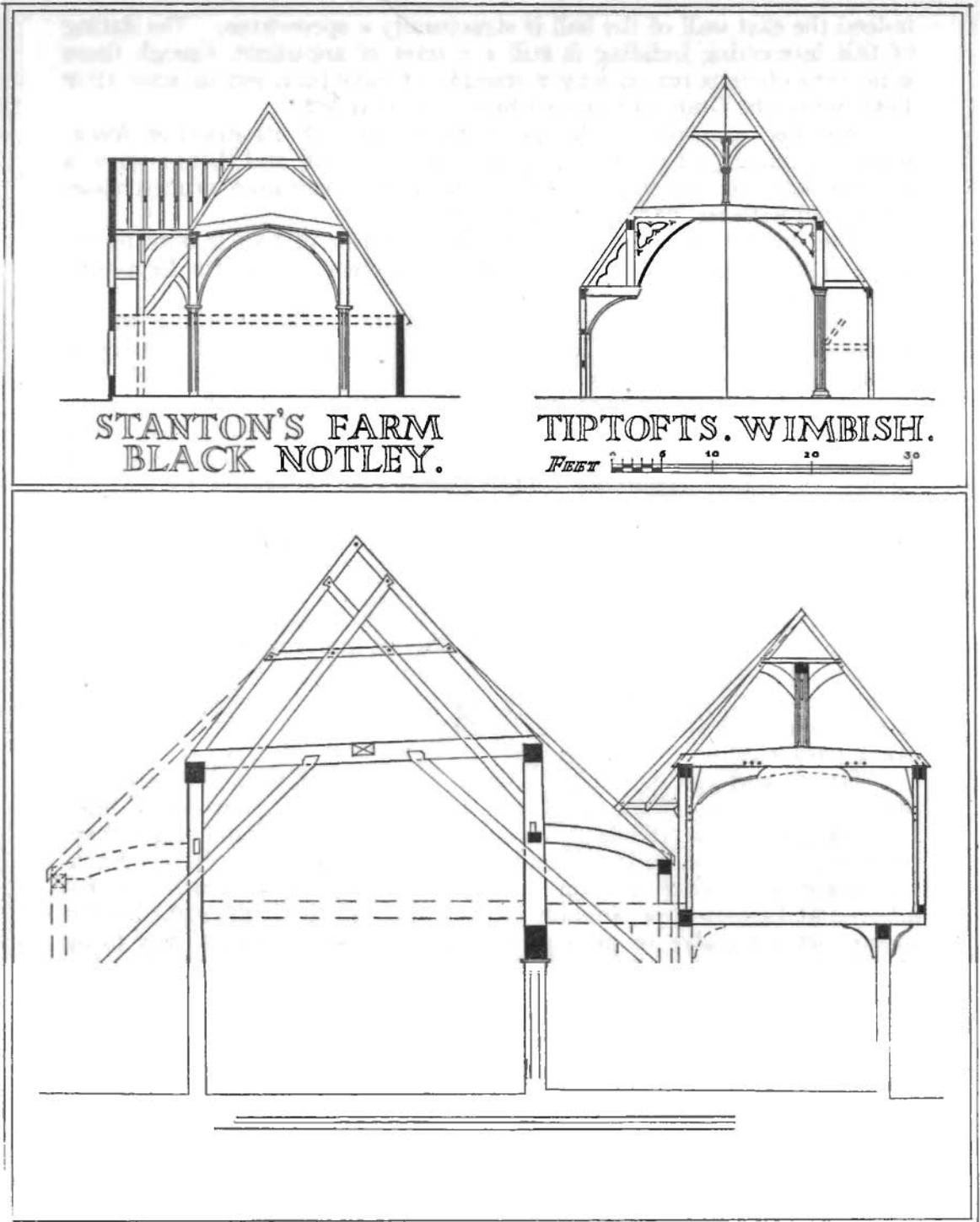


Fig. 5

truss. It is familiar through Sir Alfred Clapham's admirable summing-up of the Herefordshire buildings which show this feature, but he did not sufficiently stress its earlier origins in the lowland zone of England; Little Chesterford, Lampetts, Tiptofts, and Wynters Armourie are all earlier than any appearance of this feature so widespread in the west and north, and more examples will certainly be found in the midlands and the south-east.

These late spere-trusses are quite numerous in Lancashire and Cheshire, the most famous ones being at Baguley, Ordsall, Speke and Rufford halls.

In Kent the aisled hall was replaced by the type of building often called the 'Wealden' house, though it has a wider distribution than that. No study of the type commensurate with its importance has yet been published. Mr. Arthur Oswald who has summarised our knowledge of the subject¹ remarks: 'How long this type of house was in evolving it is difficult to say; but Wardes near Otham shows that it was already fully developed by the second half of the 14th century. The vast majority of these houses, however, belong to a date subsequent to 1450'.² Certain features which are particularly marked in Wardes point, in my opinion, to a derivation from the aisled hall. It has the hipped roof with its small smoke gablet; the roof is built with a king-post and collar-purlin supporting collared rafters; the arch-braces meet at the middle of the tie-beam of the open truss, an early characteristic several times noted above which is rarely found in aisleless halls; the arcade in a greatly diminished form supports a portion of the eaves plate, and the single two-storeyed bay containing both solar and service quarters is modified only by being constructed with a jetty.

The normal 'Wealden' house with two jettied wings and a roof hipped at both ends, is found outside Kent—in Sussex and Essex, for example. A variation of the type, differing solely in having gabled, not hipped, ends to the roof is widely scattered. Examples exist in Coventry and Stratford-on-Avon, and there is another in excellent preservation at York.³ Not until the arch-braces below the eaves plate were replaced by other forms of construction did the direct line of descent from the aisled hall die out.

ABBREVIATIONS

<i>Arch. J.</i>	Archaeological Journal.
<i>R.C.H.M.</i>	Royal Commission on Historical Monuments (England).
<i>V.C.H.</i>	Victoria County History.

¹ A. Oswald, *op. cit.*, 21-27.

² *Ibid.*, 23.

³ Coventry: 54, Spon St., Stratford-on-Avon: Mason's Court, *V.C.H. Warwick*, III, 230. For

knowledge of the York House I am indebted to Mr. T. W. French, who found it in the course of the R.C.H.M. survey of the city.

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