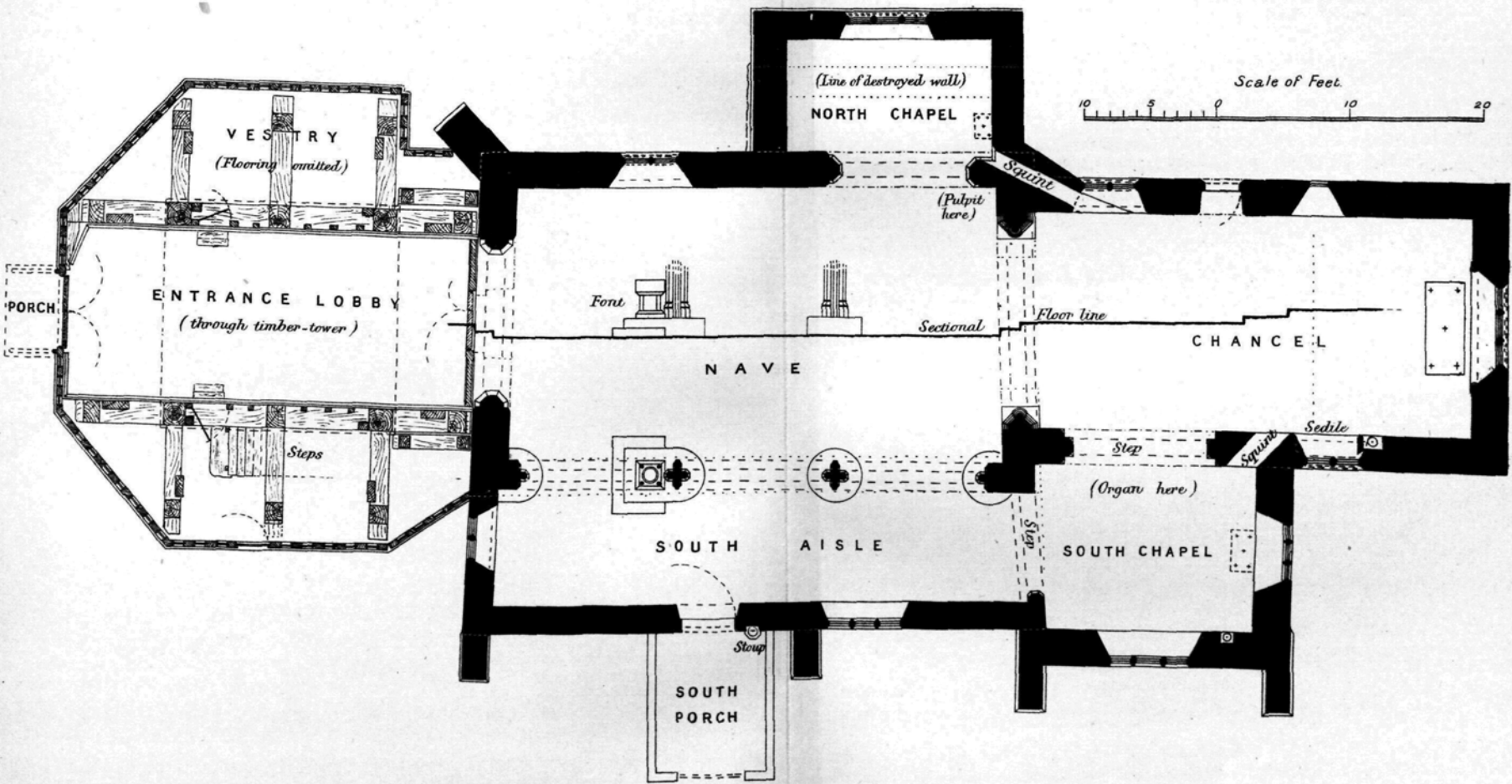




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HIGH HALDEN CHURCH. KENT.

Measured and drawn by G. M. LIVETT, 1903.

NOTE.—Dotted lines shew conjectural Ground Plan of original Church.

THE ARCHITECTURAL HISTORY OF HIGH HALDEN CHURCH, KENT.

BY THE REV. G. M. LIVETT, F.S.A.,
VICAR OF WATERINGBURY.

HIGH HALDEN Church consists of a nave (37 feet by $20\frac{1}{2}$ feet), chancel ($32\frac{1}{2}$ feet by $16\frac{1}{2}$ feet), south chancel-chapel (16 feet by $20\frac{1}{2}$ feet), short north nave-chapel ($15\frac{1}{2}$ feet by 9 feet), south nave-aisle ($40\frac{1}{2}$ feet by 9 feet), south porch, and timber tower at the west end of the nave. The height of the nave wall-plate is 21 feet; that of the chancel arch is 13 feet from the plinth to the top of the capital.

The Church has several features of interest: its fine timber tower and spire; some excellent fourteenth-century work, including a beautiful south porch, a fine king-post roof, some good windows with fragments of contemporaneous glazing, a tall chancel-arch with corbels for the screen or rood-beam, with some uncommonly good mouldings; a series of five single lights above the chancel-arch; a well-executed fifteenth-century arcade; a couple of squints; and a font, apparently of late twelfth or early thirteenth-century date.

The Church is not mentioned in Domesday. It has been thought unlikely that a Norman Church existed at High Halden, situated, as it is, in the Weald. It is on the Weald clay, 150 feet above the sea, exactly on the line of watershed which separates the basins of the Medway and the Rother. In a south-easterly direction the ground slopes rapidly down to Tiffenden* and the valley that runs between Tenterden and Woodchurch, and in olden days afforded an easy means of communication by water with places bordering on Romney Marsh. Orlestone and Peasmarsch and other places similarly situated have Norman Churches, and there is nothing in the situation of High Halden that precludes the possibility that its Church was a Norman foundation.

* Tiffenden is mentioned in Domesday.

A NORMAN CHURCH (?).

The plan of the Church is suggestive of a Norman origin. The side-walls of the chancel run parallel to one another for about sixteen feet from the chancel-arch; then they begin to diverge, the width of the chancel increasing slightly towards the east. The divergence is very slight, but it is sufficiently marked to suggest that a short early chancel has been lengthened. The aisle is an addition to the original nave: this is proved by the remains of the south-western quoin* of the nave. The side-chapels, too, are additions. Divesting the Church of all these additions we have remaining the plan of a typical Norman Church of early date, consisting of an aisleless nave and short chancel like that of Crayford, described in this Volume.

If the inference with regard to the chancel be correct, since the eastern part is early thirteenth-century work, the western part must be earlier. In the jambs of the Early English windows and elsewhere there are a few blocks of Caen-stone. This is probably material of older date re-used: Caen-stone was commonly used in Kentish Churches in the middle of the twelfth century, but not in the thirteenth. The south-west quoin is of Wealden sandstone: its material and the workmanship suggest an early-Norman date.

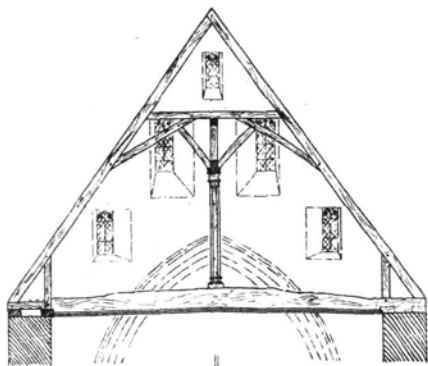
These considerations make the existence of a Church in High Halden in the twelfth century more than possible. Its plan is indicated in PLATE I. by dotted lines. The position of the east wall of the chancel and the span, both of the chancel-arch and of the west entrance, are conjectural.

EARLY ENGLISH ADDITIONS.

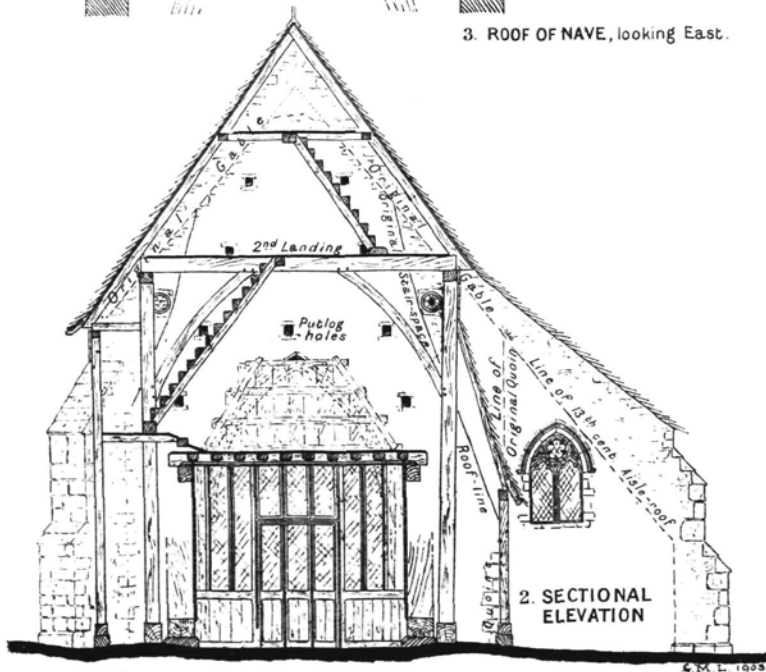
The chancel assumed its present plan in the thirteenth century. On the north side there is a lancet window of that date, and on the south side a piscina. The piscina has a plain pointed arch covering two drains. Adjoining the piscina, and forming part of the same work, there are remains (recently discovered) of a broad sedile,† the sides of which may be seen under the sill of a fourteenth-century window. The position of the sill of the sedile, indicated

* The quoin is partly hidden by the casing of the tower and can be seen only from inside the casing. Its position is indicated in the elevation given in PLATE II., No. 2.

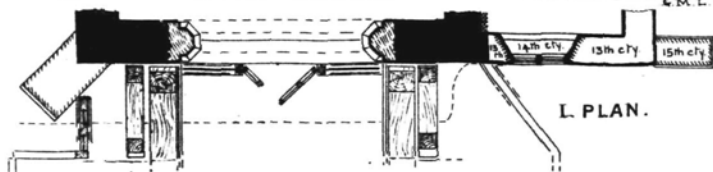
† The sedile was cut through to make way for an entrance to a vestry of late date. The vestry was demolished and the doorway blocked within living memory.



3. ROOF OF NAVE, looking East.



2 SECTIONAL ELEVATION



L. PLAN.

Scale of Feet



HIGH HALDEN CHURCH, KENT.

1. Plan of West Wall of Nave and portion of Tower adjoining.
2. Elevation of West Wall of Nave, with Section of covered Stair-space between West Wall and Tower.
3. Section of Nave-Roof with interior Elevation of Gable shewing quintet of Windows.

by the stops of the chamfered sides, shews that the level of the chancel-floor was much lower than it is at present. The bevelled edges both of sedile and piscina shew a stop of the common early type.

The material of this work is fire-stone. The recurrence of this stone, with the chisel-marks characteristic of thirteenth-century work in windows and arches of later date admits of no doubt that the Early English builders made additions and insertions in other parts of the Church as well as at the east end; but their work has been destroyed or absorbed by later alterations. It is not improbable that they founded the north chapel. The south aisle seems without doubt to have been added by them.

The walls of the aisle have been raised in height. The line of its original roof may be detected sloping sharply down just above the external label of the Decorated window at the west end. It is indicated in the elevation of the west wall of the Church on PLATE I. (No. 2). It is there seen to be continuous with the slope of the original roof of the nave. A sharp eye will also detect the line of the top of the original side-wall of the aisle upon the outer face of the existing wall about 8 feet above the ground. It runs just above the top of the Decorated doorway within the south porch. The aisle-arcade is much later in date; but the fact that the upper order of each of its arches consists mainly of small voussoirs of fire-stone, while the rest of its work is executed in Caen-stone blocks of much larger size, suggests that the original arcade was built with fire-stone, the material of the Early English builders, and that the builders of the later arcade re-used some of the materials of the arcade which they destroyed.* Unfortunately the whole of the original facing of this fire-stone has been combed off by "restorers"—a process which has doubtless robbed us of additional proof that the original arcade was a work of the thirteenth century.

The aisle is certainly older than the adjoining chancel-chapel. The direction of the end-walls of the aisle seems from the first to have followed the peculiar direction of the end-walls of the nave: the latter diverge from one another as they run from north to south, so that the south side of the nave is a little longer than the north side. The end-walls of the aisle were made to diverge a little more in the same direction. If the chapel had been built before

* On similar re-use of Early English materials at Ashford, Selling, and elsewhere, see the Paper on "Great Chart Church" in this Volume.

the aisle its east and west walls would have been built roughly parallel to one another. A glance at the Plan shews how the east wall of the chapel was built at right angles to the chancel-wall regardless of its want of parallel with the end-wall of the aisle.

THE FOURTEENTH-CENTURY ALTERATIONS.

Early in the fourteenth century, or late in the preceding century, a timber tower was built at the west end of the Church. This fact is proved by the relation thereto of two little windows inserted at that period in the west wall of the nave. But there is some doubt as to whether the existing tower is to be assigned to that date or whether it is a reconstruction of fifteenth-century date. The question will be considered at the end of this Paper, where a description of the tower and the little windows will be found.

Much work of considerable importance was executed during the first half of the fourteenth century: a new chancel-arch and several new windows, new roofs and a south porch. All these works remain with the exception of the roof of the chancel, which was renewed in the year 1868.

A careful study has convinced me that by the beginning of the fourteenth century the original chancel-arch had nearly if not quite given way under the weight of the gable-wall of the nave and the roof which it carried. There is no doubt that this was a common result of the rude and hasty character of early mediæval building. In many of our early churches the side-walls of the nave towards the east shew a tendency to lean outwards—the effect of the thrust of heavy and ill-constructed roofs* and of the weight of the gable-wall above the chancel-arch. There were no aisles or buttresses to counteract this thrust, which in most cases must have begun the process of depressing the crown of the chancel-arch and spreading the side-walls both of nave and of chancel before the mortar was dry.† Hence in course of time the demolition of most of the early roofs and chancel-arches.

In the fifteenth century, as may be seen at Birling near Maidstone, Ivychurch in Romney Marsh, and St. Alphege in Canterbury, a very common fashion led to the removal of the whole of the

* Brandon (*Analysis*, vol. i., p. 91) says that "in all early roofs the tie-beam was employed to hold the walls together." I venture to doubt this; and Brandon confesses that of unquestionably Norman roofs very few remain.

† At Peasmarsh in Sussex the jambs of the early-Norman chancel-arch seem to have been *bent* backwards by the weight. This must have assumed its present shape before the mortar was dry.

gable-wall as well as the chancel-arch; but in the thirteenth and fourteenth centuries new arches were built in place of the old and the gable-wall was retained. At Offham, near Maidstone, there is a pointed arch built under the early-Norman arch, no doubt for the purpose of support.

At High Halden there is considerable evidence, both in nave and in chancel, of lateral thrust, which the erection of the south aisle and north chapel in the thirteenth century did not avail completely to arrest; and there is also evidence, of a complicated character, that when the new chancel-arch was inserted early in the fourteenth century the walls on that line all across the Church were partly rebuilt. Apparently the new chancel-arch with its wall was made a few inches thinner than its predecessor, and the east wall of the north chapel was entirely rebuilt, as was (probably) the end-wall of the south aisle, but the gable above the chancel-arch seems to have retained its original thickness. The changes then made probably account for the peculiarly skewed "lie" of the fifteenth-century arch that now separates the south aisle from the adjoining chapel. This is very apparent in the Plan; while the difference of the plane of the face of the nave-gable from that of the wall below it is marked by a corbel-string above the angle formed by the junction of the chancel and the north chapel, as seen from the exterior of the building.

In order to tie the nave-walls together and ensure their safety the Decorated builders thought well to place a tie-beam of their new roof quite close to their new chancel-arch and across the head of it. This is somewhat unsightly, but it is to be remembered that mediæval builders were used to placing beams and screens in the opening between the nave and the chancel, and that the presence of an additional beam above the rood would not then seem to be so unsightly as this tie-beam now appears to us.

The springing-line of the chancel-arch is about 8 feet below the under-surface of the tie-beam and about 13 feet above the foundation-plinth on which its respond-bases stand. At about $2\frac{1}{2}$ feet below the springing-line and $10\frac{1}{2}$ feet above the original floor-level two cushion-shaped corbels project ($5\frac{1}{2}$ inches) from the responds, one on either side. They face each other and are guttered to receive a beam and to prevent it from slipping or being pushed off. They are evident insertions, but probably they were inserted not long after the arch was built. There are no signs of a beam ever having existed at a higher level, so that the beam which these corbels carried

must have been the *high beam* which supported the rood and its accompanying images and lights. Nor is there any sign of a rood-loft, so that the beam must have been reached by a movable ladder. There must also have been a screen, the posts of which doubtless were tenoned into the rood-beam. There are no marks of the screen upon the stone-work;* in fact the fourteenth-century builders at High Halden felt a just pride in their work, and did not cut holes in it to fix the sill or the rail of their screen.

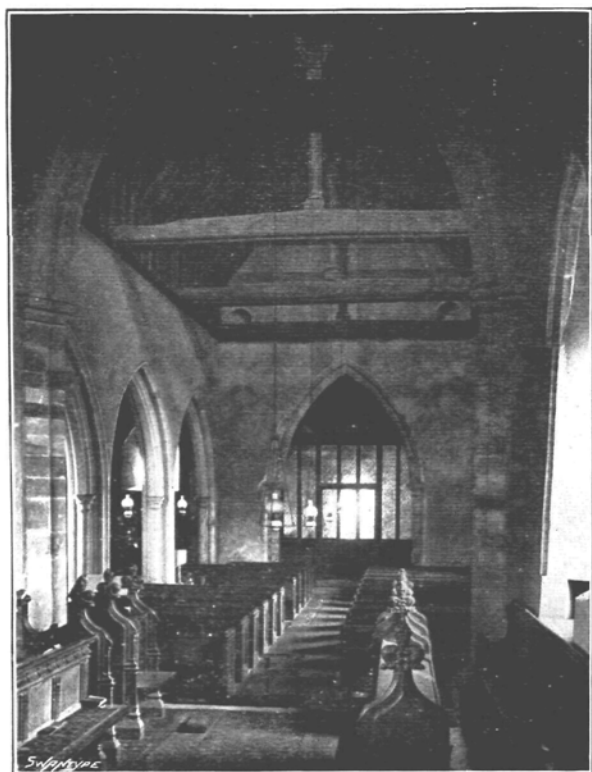
About the same time considerable alterations were carried out in the lighting of the Church. All the Early English lancets except one were taken out, some of the material being used in making new windows. There are three Decorated windows of nearly the same pattern: one in the north wall of the nave towards the west, one on the same side of the chancel towards the west, and one on the south side of the chancel towards the east. They are two-light windows with a quatrefoil in the head and a slight ogee at the apex. They have no external label. The internal labels shew a good scroll moulding. That on the north side of the chancel has rounded terminations; the others have horizontal terminations. Each window has a simple, plain, chamfered curtain-arch or rear-arch. A slight hollow chamfer runs up the angle of the jambs.

There is a pretty two-light window of the same date at the west end of the aisle. It has the same label and rear-arch, but it is on a smaller scale, and the tracery in the head is different, shewing a cinquefoil within a circle instead of a quatrefoil. There is no ogee at the apex, but the uppermost foil of each sub-light is ogeed. This design of ogeed sub-lights with a foiled circle in the head of the window strikes one as being uncommon, and may be taken as a sign of transition from Geometrical to Curvilinear form.† This window has an external label of the common scroll-moulding.

The tracery of the three-light window at the east end of the chancel has been renewed, and may or may not exactly represent the original; but the jambs and rear-arch are old. The angle of the jambs is slightly hollow-chamfered, and into the hollow dies the moulding of the circular base of a small engaged shaft, the cap of which carries a curtain-arch under a label similar to those of the other Decorated windows. The mouldings of the base and capital

* The bases of the responds have been renewed in part.

† The stone-screen which encloses the choir of Canterbury Cathedral has tracery which shews the same combination, ogeed sub-lights with a foiled circle. This was the work of Prior Henry of Bastry, executed in the year 1304-5—an early example. (See Willis's *Canterbury Cathedral*, p. 97.)



HIGH HALDEN CHURCH: FROM THE CHANCEL.

are of the same character as the somewhat larger bases and caps of the chancel-arch. All these mouldings are particularly good. The bases are excellent: strong, simple, sensible, with no dust-holding hollows or inverted curves. They are more satisfactory to the eye than the profile may suggest.* The form is akin to that of the common triple-round, and it is certainly not inferior to it in appearance. It is not common. It occurs in several Kentish churches, but nothing like it is figured in Paley, Brandon, and the other text-books. Probably it is peculiar to Kent, the creation of a Kentish architect. The capitals are equally good, but they present no special peculiarity. The responds of the chancel-arch have a bold shaft attached to the face of a semi-octagon. Very similar work is found at Horsmonden and Goudhurst, Rolvenden and Northiam. At Rolvenden the roof of the nave has a wall-plate with a moulding very much like that of the nave-roof at High Halden.

The nave-roof is of a kind of which Kent supplies many examples of the fourteenth and fifteenth centuries. Its common rafters, with their collar-beams, braces, and vertical struts, form a roof of seven cants. Additional strength and support are afforded by four tie-beams which support king-posts. The king-posts, rising from the centre of each tie-beam, are framed at the top into a longitudinal beam which runs from end to end of the roof and on which the collar-beams rest. Each king-post consists of an octagonal shaft with base and capital about 8 feet high, and above the cap a square shaft $2\frac{1}{2}$ feet high supporting the longitudinal beam under the collars. Four struts radiate from the capital, two of them being framed into the longitudinal beam and the other two into the collar-braces on either side of the king-post. The whole construction forms a very sturdy frame for the roof.†

There is a marked similarity in the moulding of the plate of the south porch and the mouldings of the plates and tie-beams of the nave-roof.‡ The porch cannot be far removed in date from the

* These mouldings and all others of any importance in this Church are represented in the Plate of Mouldings published in this Volume with the Paper on "Great Chart Church."

† A perspective sketch of a roof of this construction at Sutton Courtney, Berks, is given in Parker's *Domestic Architecture*. A section of the roof is given in PLATE II.

‡ See "Great Chart Church," Plate III., Nos. 24 and 25. These mouldings may be described as consisting of two sunk or filleted quarter-rounds separated by a three-quarter hollow. The only difference between them is that in the porch-plate the hollow is separated from the quarter-rounds by angular fillets,

nave-roof and the rest of the fourteenth-century work. It is a beautiful bit of work, worth a journey to see. The construction is simple; each pair of rafters has a braced collar-beam, and on the collar-beams lies a longitudinal timber which stiffens the whole structure and runs into the wall.* There is a simple tie-beam at the back, and at the front a tie-beam with king-post and curved braces. The braces are masked by a cinquefoiled barge-board with rounded cusps and an ogee at the apex. Each of the main foils is subdivided into cinquefoils and the spandrils are filled with shallow carving. The entrance is cut out of a single solid panel. The jamb-mouldings consist of two hollow chamfers which are separated by a re-entrant angle and near the bottom die into plain chamfers, the whole being stopped by a broach-stop.†

The lower part of each side of the porch is boarded. The upper part is enriched with open tracery in four compartments. Each compartment has a depressed ogee-arch with five foils, the central foil being an ogee, and the others being circular. The spandrils or panels above the arches on the west side are pierced with quatrefoils, two in each panel. On the east side a series of little trefoiled arches with straight mullions, four in each panel, takes the place of the quatrefoils. The design is simple but beautiful, and the whole porch merits most careful preservation. An examination of the ends of the beams near the aisle-wall shews that the porch was built before the wall was raised in height, and that its roof originally ran back on to the earlier sharply-sloping roof of the aisle.

The doorway within the porch has a pointed arch with continuous chamfer-mouldings consisting of two hollows stopped with a broach. One of the hollow chamfers has one of its edges rounded off, making an uncommon kind of ogee, which should be contrasted with the form common in the succeeding century.‡ The wall arch within is segmental, and has a curious moulding occasionally met with in this style—a deep hollow chamfer with both edges

while in the nave-plate two small rounds take the place of the fillets. In the cymagram the profile of the plate of the porch is unfortunately represented upside down.

* A modern beam, which probably replaced an old one.

† See the cymagram. But I have since noticed that this is not original, and I doubt the genuineness of the plain chamfers: possibly the hollows ought to run down on to the sides of the broach.

‡ See "Great Chart Church," Plate III., Nos. 23*a* and 27.

rounded, a form which exactly reverses the profile of the commoner wave-moulding.*

The fourteenth-century builders used for their cut-stone Wealden sandstone, which seems to have been easily obtained at that time. Where the quarries were situated we have yet to learn. But, as we have already seen, the same builders also made use of the fire-stone which came from the Early English windows that they destroyed. The external arches (from the springing upwards) and the internal jambs (up to the springing) of these windows are almost entirely composed of re-cut fire-stone. One of the jamb-stones of the Decorated window in the north wall of the nave has two incised consecration crosses: the fourteenth-century builders cut off part of one of them when they re-shaped the stone for its present position. It is impossible, at present, to date exactly the several parts of all this early fourteenth-century work. The similar work at Horsmonden was probably executed during the incumbency of Henry de Grofhurst, whose brass effigy lies in the chancel. But that incumbency was a long one, from 1311 to 1350. Some of the work at High Halden may be rather earlier. A bit of original glass in one of the chancel-windows represents the quartered shield of Castile and Leon, as sculptured on the tomb (1290) of Queen Eleanor in Westminster Abbey.

The arch at the west end of the nave, commonly called the tower-arch, is a work of later date—perhaps of the third quarter of the fourteenth century. It closely resembles the work of the arcade at Great Chart Church,† from which it cannot be far removed in date.

In passing from the fourteenth-century work to that of the fifteenth century we must notice the quintet of single-light windows in the gable above the chancel-arch. They rise in steps, two on either side and one at the top just under the ridge of the nave-roof. Their position is shewn in elevation in the section of the nave-roof given in PLATE II. The view of the middle pair, as seen from the floor of the nave, is not so much obstructed by the collar-beams and braces as it appears to be in an elevation; while the top window is much more obscured. The odd twist given to the splay was not a device to throw the light in any particular direction, but was

* See "Great Chart Church," Plate III., No. 23*b*.

† See a sketch of the west respond of the nave-arcade of Great Chart in Plate II. of a Paper on that Church in this Volume. Mr. Henry Taylor of Braeside, Tunbridge Wells, in some interesting MS. notes on High Halden Church, assigns its tower-arch to the latter part of the fourteenth century.

rendered necessary by the position of the windows, which of course had to be placed above the junction of the chancel-roof with the nave-gable. In this position the openings could only be splayed internally on the inner side. The charming manner in which they light up the roof of the nave as seen from the chancel is well illustrated in the accompanying photograph. One might imagine that these windows were inserted when the gable was raised to carry the Decorated roof, but the form of the foils gives them a Perpendicular rather than a Decorated character, and it is probable therefore that they were inserted late in the fourteenth century or early in the fifteenth. Sheldwich, Throwley, and Cheriton have windows of different sorts in the apex of the east gable of the nave. Tenterden also has (or had) two gable-windows.

FIFTEENTH-CENTURY ADDITIONS AND ALTERATIONS.

To the fifteenth century must be assigned the nave-arcade looking into the south aisle, the roof of that aisle, the upper part of the aisle-wall and its buttresses, and the north and south chapels.

Of these works the north chapel seems to be the latest in date, but the fact that it stands on the site of an earlier chapel gives it a claim to be first considered. In the south-east angle of the chapel there is a curiously constructed squint which cuts through the jamb of the Decorated window on the north side of the chancel. The direction of the squint is accurately indicated in the Plan,* and it is quite evident that when the squint was made the high altar stood several feet to the west of the east wall of the chancel.

The squint seems to be later in date than the Decorated window, but it was certainly in existence before the great arch of communication with the chapel was built. It accounts for the peculiarities of the eastern respond of the arch, which are indicated in the Plan. This arch therefore had a predecessor, and this is one of the factors which make for an earlier foundation of the chapel than its existing architectural features might suggest.

The arch, in spite of some irregularity in the construction of its responds and the poverty of the mouldings of the bases and

* Its relation to the jamb of the window is not quite accurately shewn, owing to the fact that the wall in which the window is inserted leans outward. See the photograph of the interior, which shews the squint in the jamb of the leaning window.

capitals,* is not without some distinctive grace of form, which is imparted to it by its horse-shoe shape, an uncommon feature in a late-Perpendicular arch. The three-light window is evidently of the same date.

Part of the west wall belonged to the original chapel on this site, the dimensions of which are indicated on the Plan. The breadth of the original chapel is deduced from certain signs in the external base-course. For a distance of $6\frac{1}{2}$ feet from the nave-wall this base-course has a rough foundation-footing of Kentish rag and a moulded table-stone of Bethersden marble; the moulding consists of a water-holding hollow having a sharp lower edge and a slightly-chamfered upper edge. These features mark the original projection of the chapel. In the added portion there is no footing, and the table-stone is continued in Kentish rag with a ruder and less pronounced moulding. There is also a difference in the walling above the plinth: the added portion has roughly-squared stones of large size, which do not appear in the older portion. Along the north wall the plinth-moulding runs at a higher level. On the east face it does not exist. It is possible, as previously suggested, that the east wall was rebuilt at the same time as the chancel-arch, early in the fourteenth century.

The original chapel seems to have had a low lean-to roof. Its foundation may be assigned to the thirteenth century. It is an example of a kind of addition to an aisleless nave which must have been very common in the twelfth century—an embryo aisle.† And probably many side-chapels like the existing Perpendicular chapel had a similar origin.

The south aisle and the south chancel-chapel present many features of fifteenth-century date. It is possible that the chapel occupies the site of one of fourteenth-century date. The arch of communication with the chancel has two continuous plain-chamfered orders without caps or impost-mouldings. The bases are nearly covered by the wooden platform on which the organ stands, but

* See "Great Chart Church," Plate III., No. 19.

† Sevington Church, near Ashford, affords a valuable example of the inception and growth of an aisle. The first addition to its aisleless nave was just such a lean-to chapel as that described in the text above. A little later a similar addition was made to the west of the first; and either then or later the dividing wall, the west end of the earlier chapel, was removed, so that the two chapels came to form the existing south aisle. The position of the dividing wall is clearly marked. The eastern and earlier part of the aisle is 6 feet 4 inches wide, and the western part is 6 inches wider. Both these additions seem to have been made in the twelfth century.

the points of the little broaches with which the chamfers are stopped are just visible. The material is chiefly sandstone. This is the only part of the chapel (except perhaps part of the east wall) which may possibly have belonged to a late fourteenth-century chapel.

The nave-arcade of three arches looking into the south aisle is a piece of exceptionally good Perpendicular work executed in Caen-stone with some re-used fire-stone and two or three blocks of sandstone. The columns stand on circular foundation-plinths of Bethersden marble, nearly two feet above the present floor-level. One of them is extended so that it forms a platform for the font.* The arrangement is shewn in elevation on the Plan (PLATE I.). The inferior order of each arch has double-ogee mouldings on the chamfer and is carried by an attached shaft with octagonal caps and bases, the profiles of which are shewn in the Plate of Mouldings.† The superior order rises from the foundation-plinth without base or impost-mouldings, and consists of a hollow chamfer on either side. This design results in a column of four members, the two inner members being shafts with bases and caps, and the two outer members having continuous hollow chamfers, and being emphasized by slight hollows which run up their sides as far as the springing of the arches. In design and workmanship this arcade has points in common with the nave-arcades of Canterbury Cathedral, and is not unlike the arcades of All Saints, Maidstone. This would put the date at the opening years of the fifteenth century; but possibly it may really be later, for the design is found, in somewhat bolder form indeed and in Kentish rag, in the arches of the tower and chancel of Rye Church, which is dated, I believe, about 1460. No doubt the design was common in the first half of the century.

The mouldings of the wall-plate and tie-beam of the aisle-roof, which in construction is very much like the earlier roof of the nave, are common fifteenth-century forms.‡

The curiously skewed arch at the east end of the aisle is certainly of the same date as the arcade. Its lower order consists chiefly of Caen-stone. The upper order appears only on the west side, and,

* The font has a plain square bowl, supported by a massive central shaft and four small angle-shafts standing on a plain-chamfered plinth. Two of the angle-shafts are Bethersden marble; the rest of the font is Kentish rag. The date is doubtful: perhaps it is late twelfth or early thirteenth-century.

† See "Great Chart Church," Plate III., No. 18.

‡ See the Plate of Mouldings, Nos. 26a and 26b.

like the upper orders of the arcade, consists mostly of re-used fire-stone. It has no capitals. Thus the chapel and the arcade must be nearly connected in date. But it is not necessary to assume that the whole of the alterations to aisle and chapel were executed at one and the same time. At present I cannot be more definite than to say that they seem all to have been carried out within the first three-quarters of the fifteenth century. There is the question whether the two windows of the chapel are either or both of them of the same date as the arcade. The east window, which contains a few fragments of old glass, is a charming example of a small three-light segmental-headed rectilinear window. In the south wall there is a piscina with a four-centred arch. In the same wall there is a four-centred three-light window (or is it three-centred?) which, like the east window, has its central light a little wider than the side-lights. The lights are cinquefoiled and run up to the top of the window. The three-light window in the side-wall of the aisle has the same form of outline, and the lights are cinquefoiled, but they are equal in width and in height, and from the apex of the central light a bar runs to the top of the opening. Windows something like these two seem to abound in this part of the country, and some day the approximate date will be discovered.*

There is a squint on the north side of the south chapel. Though it is possible to look through it on to the high altar in its present position, the direction indicates that when the squint was made the altar was situated further west. The chapel has a flat roof and the wall-plate shews the common fifteenth-century profile.†

The present floor-levels are not very successfully arranged. The nave-floor is much too low, and the east end of the chancel almost as much too high. To raise the one and lower the other by six or eight inches would effect a great improvement in the proportions of the building. The original floor was nearly level throughout, with perhaps a slight upward slope from west to east and from south to north.

* As a possible contribution to the settlement of this question, I may mention that as seen from a distance the window of the south chapel of Betersden Church seems to be of the same character; and it is known that licence was given in 1460 to William Goldwell and Thomas Elyot "to found a Chantry in the Chapel of the Blessed Virgin Mary (the South Chapel) in the Parish Church of Bederisden." (See *Archæologia Cantiana*, Vol. X., p. 187.)

† From an æsthetic point of view it is certainly a pity that this chapel is blocked by the organ. Perhaps for practical purposes the north chapel would not be so suitable.

THE TOWER.

The great glory of High Halden Church is the timber tower. The main timbers of the tower, with the raking shores by which they are buttressed, are so arranged as to allow a free passage-way through the basement from west to east, giving access to the west entrance to the Church. This may be called the tower-lobby. The name is appropriate by reason of the fact that a distinct character, which the passage-way did not possess when the tower was originally built, has been imparted to it by the addition of boarding to the sides, and by the insertion of a heavily-timbered ceiling at a height of 12 feet from the floor and of a glazed screen at the east end. The ceiling now forms the first floor of the tower. The original first floor is at the level of the top of the buttress-beams, 24 feet from the ground, and before those additions were made the construction of the tower could easily be seen and studied by any one passing through it into the Church.

The entrance at the west end of the lobby is guarded by a bracketed span-roof which forms a miniature porch. It is quite evident that this roof at one time extended further west, a portion of the original porch having been cut away. It is not improbable that originally the roof was supported by three open arches, one on either side (half of which remains, forming the bracket) and one in front, the complete porch being square on Plan.* Recently a barge-board has been added to cover the broken ends of the woodwork and to give the porch a finished appearance. The design is copied from the barge-board of the Decorated south porch. The doorway under the porch has a Tudor arch. It is this feature doubtless which led Hasted to assign the erection of the tower to the reign of Henry VI.; but later on we shall notice evidence which proves that there was a timber tower at a much earlier date.

As seen from the exterior the tower consists of two stages. The upper stage is square, covered with shingles, and surmounted by an octagonal shingle-covered spire. Just below the eaves in every side of the tower an oblong luffer-boarded window affords light and air to the belfry. The lower stage or basement spreads out to an octagonal shape, the sides being formed of wooden walls consisting of numerous posts and panels of nearly equal width, and covered with tiled lean-to roofs which rise at an easy angle to about

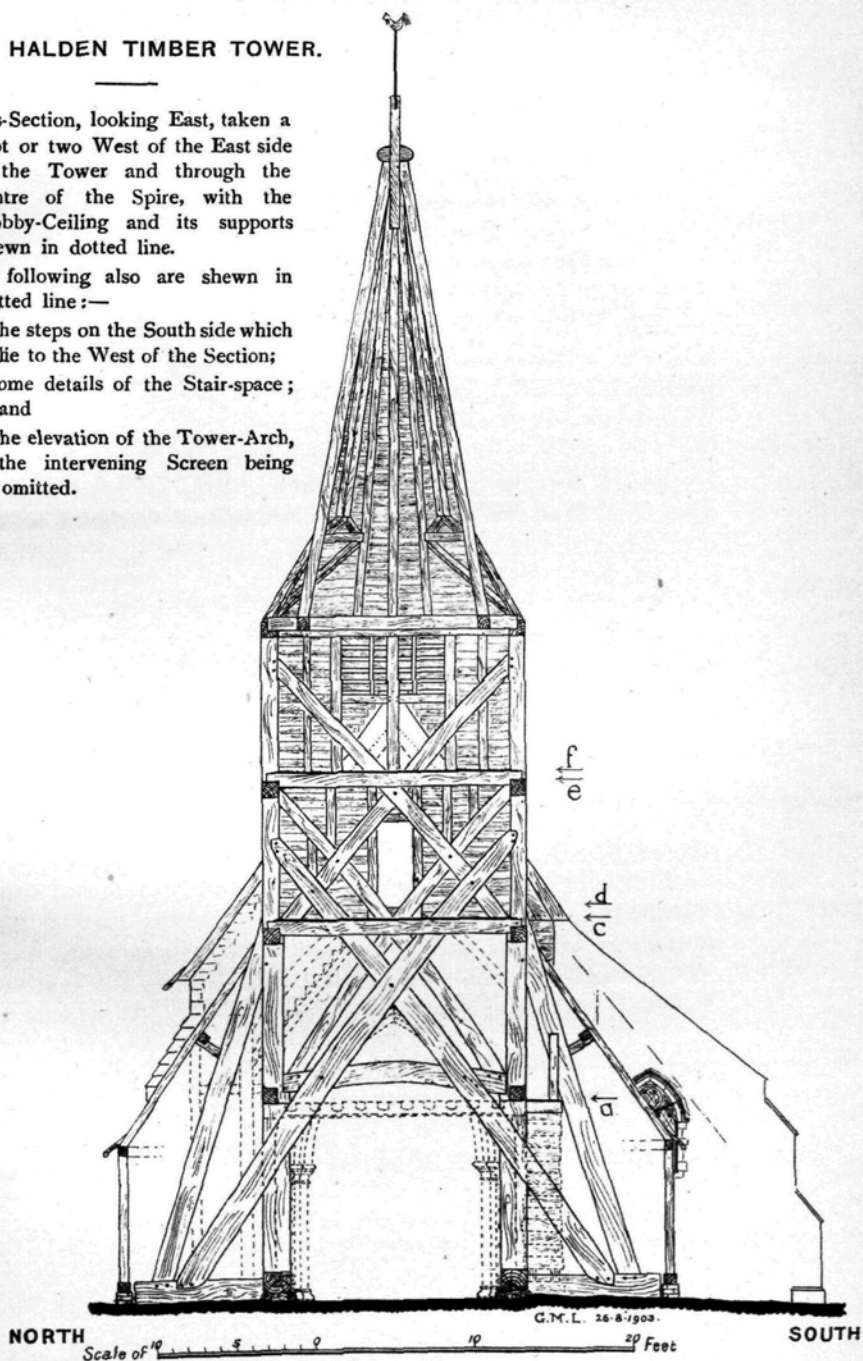
* To a longitudinal section of the porch included in PLATE III. B. I have conjecturally added the destroyed portions in broken lines to shew what I imagine to have been the complete porch.

HIGH HALDEN TIMBER TOWER.

Cross-Section, looking East, taken a foot or two West of the East side of the Tower and through the centre of the Spire, with the Lobby-Ceiling and its supports shewn in dotted line.

The following also are shewn in dotted line:—

1. The steps on the South side which lie to the West of the Section;
2. Some details of the Stair-space; and
3. The elevation of the Tower-Arch, the intervening Screen being omitted.



half-way up the tower. We may call this the casing of the lower stage of the tower.

The construction of the tower is very simple. Two long ground-sills resting on masonry lie along the sides of the lobby, one on either side, extending its whole length, 30 feet. From the ground-sills rise the six main pillars or posts of the tower, three on either side, reaching up to and carrying the plates of the eaves of the spire, 40 feet above the ground-sills. Four of the main posts rise up at the four angles of the tower—immense baulks of timber measuring 20 inches square at the bottom. The two remaining posts, of slightly less scantling, are placed one on either side of the lobby midway between the angle-posts.

The three main posts on either side are connected, irrespective of the sill at the bottom and the plate at the top, by three intermediate sets of inter-ties. The lowest and middle sets, as well as being tenoned into the posts and pinned, rest on back-sets cut from the posts, whereby the posts are diminished in thickness from 20 inches to 12 inches. The uppermost inter-ties are simply tenoned into the posts and pinned. The middle and uppermost inter-ties support the joists of the two original floors of the tower, the upper one being the floor of the belfry-storey. The lowest inter-ties support no floor, the later floor being inserted just below them. All these inter-ties lie vertically above the two long ground-sills, running longitudinally east and west.

In the cross direction the floor-joists serve to connect the main posts together in the upper part of the tower, and in the lower part they are connected by two cambered* inter-ties at a level a little higher than those at the sides. They are now invisible by reason of the inserted floor, but originally they must have had the appearance of two low arches crossing the passage-way and supporting the east and west sides of the tower.

The structure is stiffened by a system of braces, very strong and simple. They are arranged in such a way as to have the appearance of huge St. Andrew's Crosses. The lowest pair on each side is the largest, and corresponds in size and position with those on the other sides. They are tenoned into the ground-sills, beyond the angle-posts, and rise up on the inner faces of the posts, each pair crossing at 16 feet above the sills and being tenoned into the angle-posts between the two upper floors at about 26 feet above

* The technical term applied to a tie-beam which, by rising slightly from the ends to the middle, assumes the form of a low arch.

the sills. They are notched into the angle-posts so that the surfaces are flush, and at their crossing they are halved and strongly bolted together. On the east and west sides of the tower they cut obliquely across the cambered cross-beams, from the ends of which in either case a second pair of braces rises just above them. On these sides, but not on the north and south sides, there is a third pair in the upper half of the tower.

The tower is further strengthened and supported by means of heavy raking shores or buttress-beams: two rising up to the outer faces of each of the four angle-pillars, and one to the outer face of each of the two intermediate pillars—ten in all. A pair of these raking shores, as well as the lowest pair of braces on either side, rise from the long foundation-sills which, as we have seen, support the main posts; the rest of the shores, as well as the other two lowest pairs of braces, rise from short foundation-sills which lie at right angles to the long ones, three on either side.

The necessary spreading of the buttress-beams accounts for the octagonal form of the casing of the lower part of the tower. It is not a regular or perfect octagon, the cardinal sides being slightly longer than the angle sides. A regular octagon would have resulted if the buttress-beams had spread out a little further than they do.

The space enclosed by the casing on the north side of the lobby has been fitted as a vestry. It is reached by a door in the boarding which lines the sides of the lobby. A similar door on the opposite side opens at the foot of a flight of steps leading up to the floor formed by the lobby-ceiling. Part of one of the braces has been cut away to give access to the floor. On this side there is also a door in the octagonal casing. The steps are half timbers, triangular in section, placed upon two sloping beams, and forming a ladder of primitive construction. A similar ladder at Mountnessing Church, near Chelmsford, is figured in George Buckler's *Churches of Essex*.

The space between the tower and the west wall of the nave is covered by a continuation of the nave-roof on to the east side of the tower. It includes two flights of similarly-constructed steps, by which the upper stages of the tower are reached. For sake of convenience this may be called the stair-space. The existing roof is supported by two pairs of posts which rise to the level of the middle floor, and are connected at the top by cross-pieces which are braced to the posts and carry the floor-boards of the second landing. It seems impossible to fix the date of this structure; but the posts shew at regular intervals old mortice-

HALDEN TIMBER TOWER.

Longitudinal Section of Porch.
Do. of Stair-space
and West end of Nave.

Sectional Elevation of South
side of Tower, with part of
shingling stripped off.

Level of First Landing and
Floors (inserted) of Tower
and Stair-space.

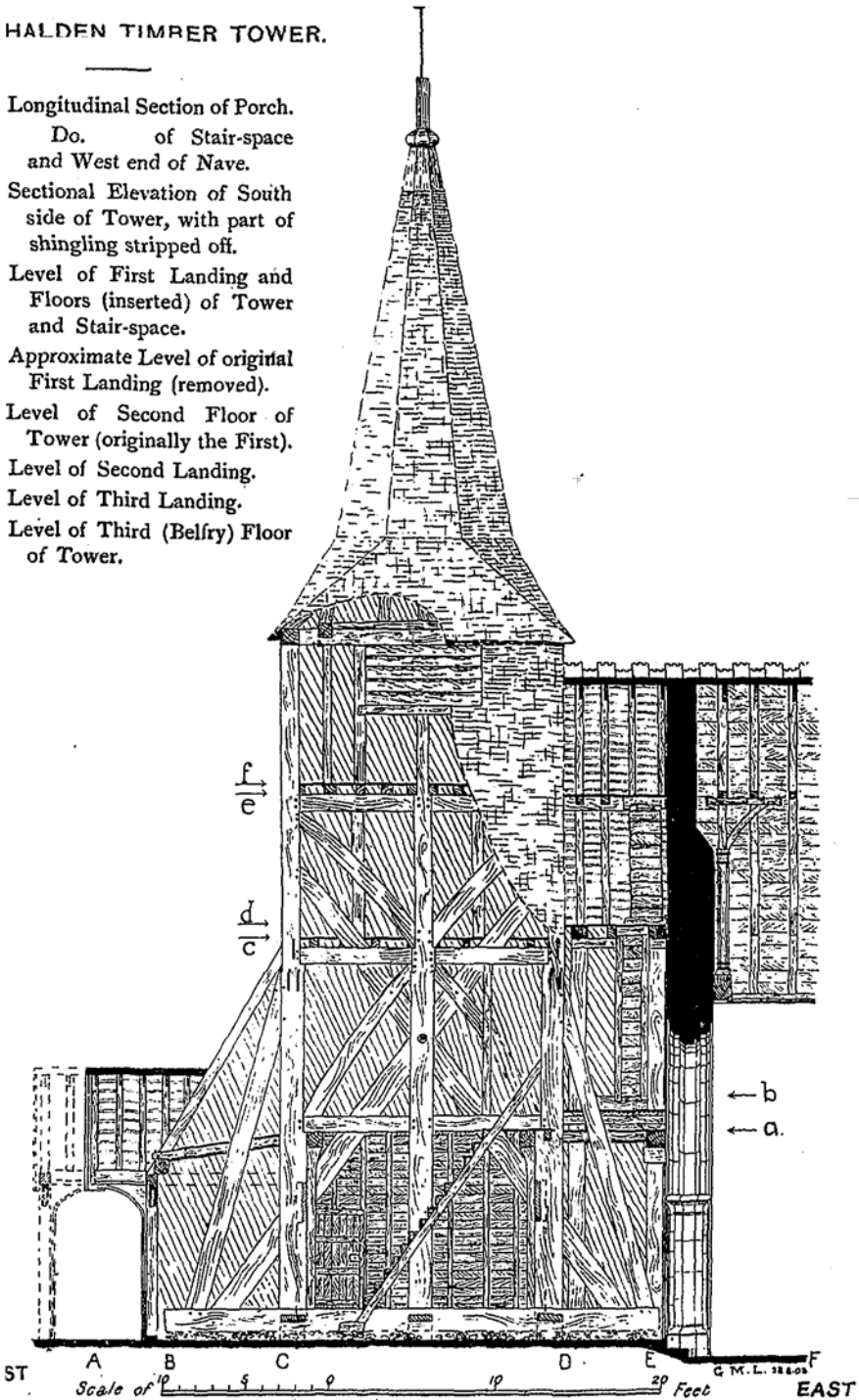
Approximate Level of original
First Landing (removed).

Level of Second Floor of
Tower (originally the First).

Level of Second Landing.

Level of Third Landing.

Level of Third (Belfry) Floor
of Tower.



holes with broken tenons remaining in them, which proves that they were previously used in some structure of earlier date.

PLATE III. B includes a longitudinal section of this stair-space and also a section of the tower-arch and west-wall of the nave, and PLATE II. shews a cross-section of the stair-space and an elevation of the west wall. The elevation shews many interesting features. The most important are the pitch of the original gable of the nave, and the form of an earlier roof of the stair-space, indicating the intimate relation to the latter of two little circular windows in the nave-wall, which were of use so long as the earlier roof remained, but were rendered useless when the existing roof was built.

The ridge of the original nave-roof and gable was about three feet below that of the present roof. About half-way down its slope on either side there starts a mortar-line on the face of the gable-wall, which takes a very steep pitch and curves gently round and under the little circular window, running down to a point about two feet immediately below the wall-plate of the tower-casing at its junction with the west wall of the nave. This line evidently represents the form of the sloping side of the original roof of the stair-space. It is equally evident that that roof and the little windows were made at the same time. Had there been no tower these windows would not have been placed as they are, squeezed up just under the nave-roof and near the eaves. Had there been no windows the roof of the stair-space would not have taken a form so peculiar and meaningless. Further, it is evident that the date of the original stair-space and of the two windows is earlier than that of the existing fourteenth-century nave-roof. This puts the date of the original arrangement of the stair-space, and consequently of the existence of a timber tower, back to a date not later than the opening years of the fourteenth century.

With this date agree the two little windows aforesaid. The openings are circular, and as seen from the nave* each one is set in a well-splayed wall-arch with a segmental-pointed head. The cut-stone of the chamfered rear-arch is fire-stone, which shews the characteristic thirteenth-century chisel-marks. The jambs of the rear-arch and the single slab of stone in which the circular opening is cut are Wealden sandstone, the material used by the fourteenth-century builders; and moreover they shew the cris-cross tooling

* See the photograph of the interior, looking west.

characteristic of that date. These windows are clearly rough fourteenth-century work in which some earlier material was re-used. In confirmation of this view it is to be noted that the joints at the springing of the segmental rear-arches are not horizontal, but at right angles to the soffit.* In fact the arch-stones were taken from some thirteenth-century window-heads, while the jamb-stones were worked by the fourteenth-century builders, who did not take the trouble to cut a new joint on to the old arch-stones to make them fit their new position. One of these windows retains its original glazing.

Now arises the difficult question whether the existing tower is the original structure of the early part of the fourteenth century or possibly of the end of the previous century, or whether it represents a rebuilding of the tower in the fifteenth century. The octagonal casing, as it stands, clearly belongs to the later date, and it must be confessed that the closest scrutiny of the external faces of the buttress-beams of the tower detects no sign of an earlier and lower casing. This, perhaps, is all that can be said in favour of the later date. The bells do not help us: they were all cast by Hatch in the first half of the seventeenth century. Nor is the question affected by the date of the inserted roof of the lobby, which, judged by the moulding of the beams, seems to be fifteenth-century work, though some authorities are inclined to put it later.† In either case the lobby-roof is of later date than the casing, of which it is entirely independent in construction.

There are some considerations which seem to favour the earlier date. It is conceivable that the casing of an earlier tower was of such form or nature as to suggest the advisability of renewal or reconstruction in the fifteenth century; but it is almost inconceivable that the main structure of an early fourteenth-century tower would need reconstruction at so early a date as the fifteenth century, unless indeed accommodation was required for a new and larger set of bells. Moreover, while in the casing and in the timbers of the stair-space there is evidence of old materials being used again, there is no such evidence in the tower itself, and this would scarcely be the case if the tower were a rebuilding. Another point of less importance perhaps is the fact that the cambered cross-beam cuts right across the head of the tower-arch.‡

* Forming what is technically termed a *skew-back*.

† See "Great Chart Church," Plate III., No. 28.

‡ As indicated in the elevation shown in PLATE III. A.

If the lobby-roof were removed the head of the arch would not come into view until one reached the centre of the lobby. This blemish in design could and surely would have been avoided by fifteenth-century builders, while it is easily accounted for on the assumption—a natural one—that the tower was built before the open arch was inserted, and while there still remained in the west wall of the nave the original Norman doorway. The position and form of the cambered beam admirably suits such an assumption, as it would cross the entrance quite free of the head of the doorway to the view of people entering the lobby.

Perhaps the most important consideration is the fact that the ridge of the original roof to the stair-space (constructed late in the thirteenth century or early in the fourteenth) abutted upon the east face of the tower immediately *below* the window of the belfry-stage, while the later roof (constructed not later than the middle of the fourteenth century) abuts upon the luffers of that window, the ridge striking them about half-way up, and the junction being awkwardly effected with mortar. This suggests that the tower was built at the same time as the earlier roof, and certainly not after the later roof. In the latter case either the luffer-window on the east face of the tower would have been omitted or the tower would have been made a couple of feet higher, so that the luffers might stand free of the roof.

On the whole, the balance of probability seems to be distinctly in favour of a late thirteenth or early fourteenth-century date for the tower rather than a fifteenth-century date.

I know no other timber tower in Kent except that of Brookland.* There are several instances of a wooden spire on the west end of the nave, supported by a massive timber-frame within the building. Cowden has a good example of such a spire. The wooden belfry of Brookland stands apart from the Church. Its total height is 60 feet or a little more. The frame is square on plan, each side measuring $21\frac{1}{2}$ feet; and its four main timbers, rising from the four corners of the foundation-sills, incline inwards, so that the plates at the top of them at a height of 27 feet form a square of about $9\frac{1}{2}$ feet each way. The next stage is vertical, 12 or 13 feet high and about $6\frac{1}{2}$ feet square, and is capped by a small

* A timber tower, which seems to have been very similar in construction to that of High Halden, and rather smaller in dimensions, formerly existed at Ringwold. The main pillars were 57 feet high, and its spire 20 feet. It was taken down in 1627-8. (See *Cant. Dioc. Gazette*, February 1902.)

spire. The casing is octagonal on plan with very low sides, and above them is a sharply-sloping roof, in three stages, like three extinguishers placed one over another with a small air-space under each overlap of eaves. The whole is weather-boarded and surmounted by a weather-cock. It is a quaint, undignified structure, but it appears to serve its purpose very well.

To find timber towers that may be compared with the High Halden tower one must go to Essex, where there are several.* The tower of Margaretting Church has exactly the same arrangement of foundation-sills, main standards, and raking shores. The shores are lower, and the standards stop at less than half-way up the tower, and they carry a pair of very stout longitudinal beams. The latter support the principal joists of the first floor, and on them the upper stages of the tower with its spire are reared. There are no such large bracing beams as at High Halden. Three pairs of curved cross-braces framed into the main standards and principal joists give an arched appearance to the otherwise flat roof of the alley which, as at High Halden, forms the west entrance to the Church. A good sketch shewing this arrangement is given in the Rev. G. S. Tyack's article on "Stave-kirks" in *The Church Treasury*, edited by William Andrews.

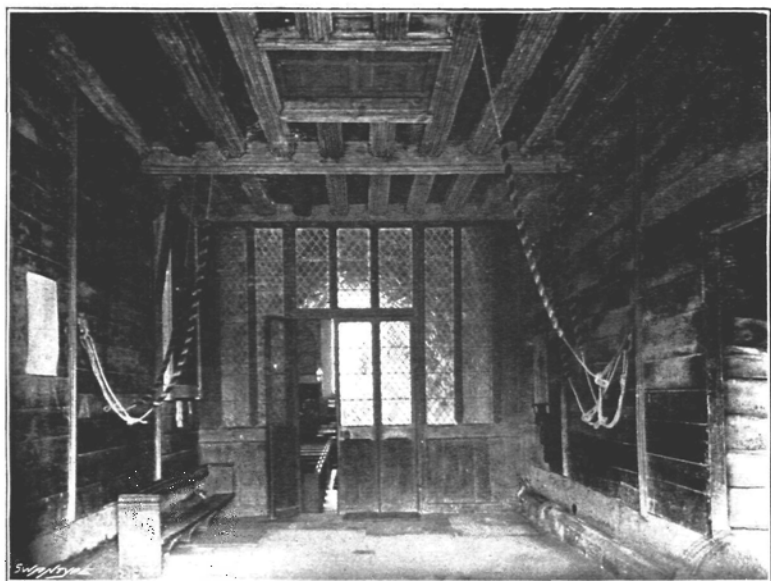
The tower of Blackmore Church, Essex, has been capitally described and illustrated by Mr. Fred. Chancellor in the April Number of the *Essex Review*, 1899. Its ground-plan is very similar to that of the High Halden and Margaretting towers. They all have the same kind of entrance-lobby. The Blackmore tower has no raking-shores, but in other respects it is like Margaretting. It is rather taller than High Halden, and internally it is divided into five stages by four sets of inter-ties, whereas Halden has only three sets. Externally it has three diminishing square stages, separated by shallow lean-to roofs with which the form of the base of the spire corresponds.

There is a similar wooden tower at Stock. Mr. Chancellor thinks the towers of these three neighbouring churches, Margaretting, Blackmore, and Stock, were all designed by the same architect late in the fourteenth century. Mr. Tyack's article shews a sketch of Marton Church, Cheshire, a Church built entirely of timber and having a wooden west tower of two stages surmounted by a spire,

* Mr. Harold Sands has given me a reference for notes on timber towers to the *Essex Archaeological Society's Transactions*, 1869, but I have not had an opportunity of consulting them.



HIGH HALDEN CHURCH: SOUTH-WEST.



HIGH HALDEN CHURCH: TOWER LOBBY.

very much like High Halden in outline, the chief difference being that the lower stage of Marton is square on plan.

One of the Swan-type illustrations to this Paper will give the reader a very fair idea of the lobby at High Halden and of the screen at the east end of it. The date of the ceiling, with its numerous and finely-moulded beams, has been much canvassed. In the cross-section of the tower, given in *PLATE III. A*, this roof and its supports are shewn in broken lines, to indicate that it does not belong to the original construction of the tower. Judging from the mouldings,* I am inclined to assign the work to the fifteenth century or the early part of the sixteenth. The mouldings seem to be adapted from a form that was commonly used in the fifteenth century. It occurs in the wall-plate of the roof of the south aisle.† Some roof-beams in the Rectory have exactly the same moulding as the smaller beams of the lobby-roof.

The boarding along the sides of the lobby, and the screen at the east end, are independent of the roof; it is probable that they were inserted in the Georgian period.

The screen was restored, new glazing and doors being added, by G. E. Street in 1868. Much of the woodwork is old, and the mouldings are executed in the spirit of those of the ceiling.

In 1868 a general restoration was carried out by Street. The floor-levels were altered, the Church was reseated, the chancel-roof was renewed, a modern vestry on the south of the chancel was demolished, a west gallery in front of the screen (approached by steps in the lobby, marks of which can be seen) was removed, and the new screen in front of the organ was put up.

In conclusion, I would express my gratitude to the Rector, the Rev. W. H. Rammell, for constant help and hospitality.

* See "Great Chart Church," *Plate III.*, No. 28.

† *Ibid.*, No. 26b.