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of an Iron Age-Belgic site being brought to our notice by a metal detector club member. The site is situated south-west of Thorne Cottages, Minster, just south of Grinsell Hill (Thanet Sites and Monuments Register no. 310). Archaeological evidence consisted of *tegulae*, flints, Roman and Belgic coins. Three *potin* coins being discovered in one hour.

L. JAY

THE SPIRES ON THE PARISH CHURCHES OF ST. MARY AT MINSTER-IN-THANET AND WINGHAM

Medieval timber spires were once ubiquitous on the parish churches of England, but over the centuries very many of these have disappeared. In east Kent there are still a handful of fine surviving examples at places like Elham, Ash (near Sandwich), Wingham, Ickham and Fordwich (the spire on the neighbouring Sturry church came down in the last century), and it was, therefore, a great tragedy when the medieval spire of St. Mary at Minster-in-Thanet was blown down at about 5 a.m. on the morning of the great storm on 16th October, 1987. I managed to visit the church a few days later to find that the spire had fallen over the north-east corner of the tower and had crashed down, partly on the west end of the north aisle (breaking the roof there), and partly into the neighbouring churchyard. Unfortunately, all the spire timbers had already been cleared up into two neat piles, so that it was not immediatley possible to work out the form of the timber-frame within the spire from the broken fragments. An inspection of the top of the tower, however, revealed that the base of the spire was about 12 ft. across, and that it had been supported by four main posts which had been tenoned into two crossing pairs of horizontal tie-beams. Among the principal timbers in the stack were several which suggested that the frame of the spire had been similar to, but slightly smaller than, that at Wingham (see below). Subsequently, David Perkins and members of the Thanet Archaeological Trust worked very hard to sort out and record all the broken timbers from the piles of debris (much of it broken fragments of the outer cladding and shingles),[1] and it is to be hoped that a full report on the timbers can be produced in due course.

[1] Sadly the original lead covering had been replaced with shingles, and this and the rottenness of the tenon-and-mortice joints at the base of the four main posts no doubt helped the wind to remove the spire from the tower in the great storm.

In Februray 1988, Richard Harris from the Weald and Downland Museum at Singleton visited Minster churchyard where the timbers had then been laid out, and studied the surviving material. In his brief report, he writes as follows:

> 'In essence the spire seems to have been constructed with an internal framework of four posts, probably inclined gently inwards, braced together with crossed braces. This internal framework must have risen from the four mortices in the beams seen in the top of the tower, where it was roughly 6 ft. square. The spire at the base was about 12 ft. across, and appears to have been something like 40 ft. high (the angle of the spire [can be] estimated from earlier photographs).[2] The internal framework tapered to about 5 ft. across. The resulting geometry suggests that the internal framework was something of the order of 25 ft. high. The outer form of the spire was formed with eight hips and intermediate rafters. The internal framework was connected to the hips by both horizontal and diagonal ties.'

It seems very likely that the date of the timber-frame within the spire (and the date of the very similar frame at Wingham) must fall within the fourteenth century. The tower at Minster is mid twelfth-century date,[3] but the nave and aisles were reconstructed in the fourteenth century, and the remarkable map of the Isle of Thanet of *c.* 1400 in Thomas of Elmham's *Chronicle*[4] shows the church with a large spire. The carpentry also suggests a date of not before the late thirteenth century; earlier than this and notched-lap joints would almost certainly have been used. Also at Wingham the base of the spire was clearly constructed after the late thirteenth-century upper windows in the tower (see description, below).

Among the various timbers that had made up the spire at Minster-in-Thanet, there were signs of several repairs, particularly at the apex of the spire. These perhaps relate to later seventeeth-century repairs after the Puritan vicar 'Blue Dick' Culmer had removed the original ball and cross at the top of the spire.[5] This episode is described by Edward Hasted as follows:[6]

> 'On the top of the spire was formerly a globe, and upon that a great wooden Cross covered with lead, over which was a vane, and above that,

[2] Unfortunately, no notes, drawings or photographs of the internal frame before its fall appear to exist.

[3] A plan of the church and very brief notes can be found in *Arch. Journ.*, lxxxvi (1930), Fig. 11 and 269–70.

[4] Now at Trinity Hall, Cambridge.

[5] Culmer replaced Meric Casaubon as vicar; the latter being restored in 1660.

[6] E. Hasted, *History and Topographical Survey of the County of Kent* (second edition), x, 228.

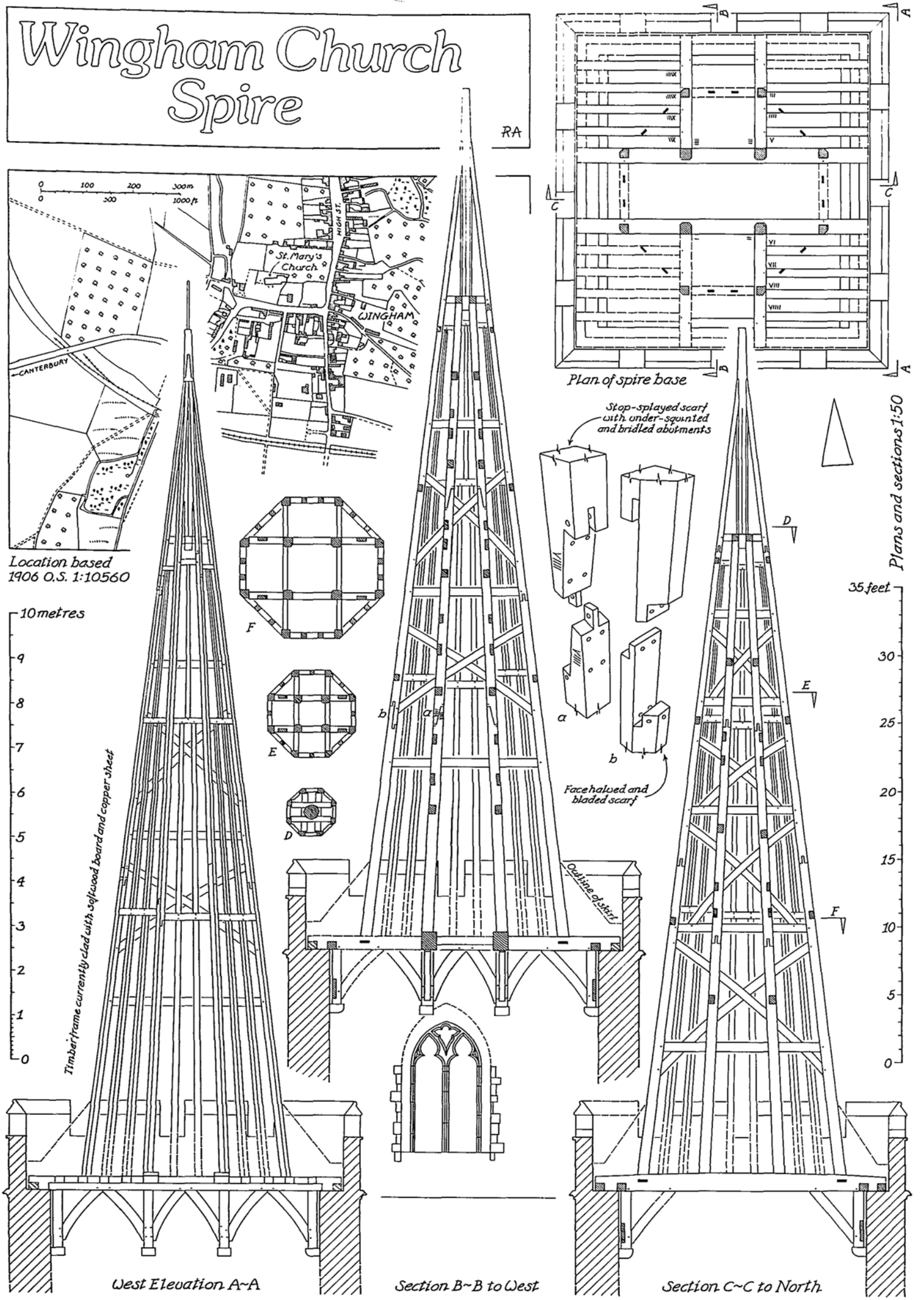

Fig. 1. St. Mary's Church, Wingham: Details from survey of spire.

an iron cross; but about the year 1647, *the noted fanatic* Richard Culmer, having got the sequestration of this vicarage, took it into his fancy that these were monuments of superstition and idolatry, and got these crosses demolished by two persons of the parish, whom he had hired, after he had himself before day, by moonlight, fixed ladders for them to go up and down, from the square of the tower to the top of the spire.'

When the lead was stripped from the spire has not been ascertained exactly, but it must have been about forty or so years ago.[7]

TIM TATTON-BROWN

A Description of Wingham Church Spire

Extensive refurbishment and repair of the spire to Wingham parish church provided the opportunity to record an unusual area of medieval carpentry. This work, which included detailed drawings at 1:50 scale and a photographic record, was undertaken during the early part of 1990. A substantial scaffold platform was erected around the tower and spire before the copper and timber cladding, which had deteriorated badly, was removed to leave the oak frame exposed.

The spire, which is octagonal in section, comprises eight principal uprights, one at each arris of the spire's exterior. A heavy chamfer down the outside edges of these timbers presents the required angle of forty-five degrees to each arris of the spire. Four further posts, which contitute the inner core, support the spire mast, which is secured to the uppermost ties by an oak key. Horizontal trimmers support the secondary timbers that infill the outer elevations of the spire. All these 'vertical' elements taper and converge towards the apex of the spire, which is surmounted by the octagonal spire mast. Scissor braces and horizontal ties are tenoned between the outer principals and lapped across the inner core posts. These stabilising elements are aligned with the two principal axes of the spire, running north to south and east to west. Stop-splayed scarfs with under-squinted and bridled abutments are used to join the inner posts, each with four face pegs.

This superstructure, which rises approximately 63 ft. 6 in., is supported from below by a substantial 'floor' frame located at the base of the crenellated parapet. Pairs of transoms, set 4 ft. apart, cross the tower from east to west and north to south, providing a base of cross-quadrate plan. Smaller joists, tenoned into these transoms,

[7] H.R. Pratt Boorman and V.J. Torr have an air photograph of the church in their *Kent Churches*, 1954, 4. They state that it was still then a 'crooked lead' spire.

are aligned east to west and provide traditional support for the secondary elements of the spire. The shape of the spire, by nature of its cross-quadrate base, is not a regular octagon.

The joists and transoms forming the base of the spire rest on double wall-plates, which run contiguously around the tower. Stone corbels, set into the internal faces of the tower, are placed below the principal transoms. Short posts and arch braces, set onto these corbels, provide additional support to the base of the spire. The inner wall-plates project slightly from the internal faces of the tower to accommodate the arch braces rising from below.

Extensive reconstruction of the splayed reveals of the tower fenestration has occurred during the nineteenth century. The insertion of brick relieving arches had reduced the internal height of this fenestration. It seems likely that the corbels, which are integral with the construction of the spire, have been inserted into the tower at a later date. If the alignment of the original fenestration is projected across the lowered face of the new brickwork, it becomes apparent that the corbels, in their present positions, would have interrupted the earlier reveals. This can only suggest that the spire post-dates the tower.

Most of the fabric of the spire, which probably dates from the later fourteenth century, is original with relatively few alterations or additions. Some repair and replacement of the outer timbers is, however, evident. The use of face halved and bladed scarfs in this work distinguishes it from the original fabric. All the intermediate outer members have been cut short at their bases, presumably because of decay, and supported by an additional trimmer. Several of the joists, together with a few posts and braces from the corbels below, have also been renewed.

The only notable alteration to the original arrangement of the spire is the addition of a 'skirt' to its base. This is constructed largely from softwood and is probably a post-medieval addition. The external stair-tower, which originally only reached the bell chamber, has been extended to afford access to the spire at parapet level.

RUPERT AUSTIN