

LESSER KNOWN CRUCK JOINTS IN SOMERSET

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Introduction*True Crucks*

Cruck constructions have been recorded in Somerset during more than half a century of studies of vernacular building. The extensive work by Alcock and others, published by the Council for British Archaeology in 1981 [1] identified more than 3000 true crucks (Fig. 1) in England and Wales.

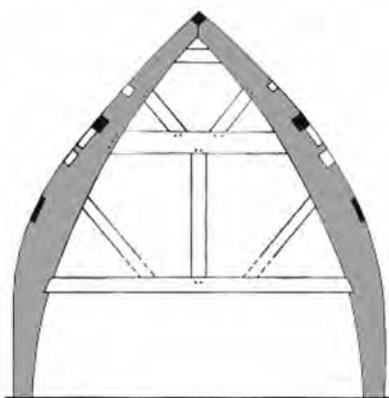


Fig. 1 A true cruck of full height with paired blades, after Moran [2]

Examples of the use of true crucks as an element of construction is widespread in most of the western regions and well into the north as illustrated in Fig. 2.

In Somerset, Alcock recorded almost 50 examples of true crucks, four of which were included in a group of seven later dated in the SVBRG dendrochronology dating project [4]. The earliest date was 1278 and the most recent cruck (not part of the original project) was dated to 1505. The number of recorded buildings with true crucks is currently about 120.

Jointed Crucks

Alcock's study separately records 340 or so jointed crucks in the County, almost seven times the number of true crucks. No details of the nature of the joints are given but clearly, from the following text, there were a variety of joints, the most common form being the long tenon.

Alcock notes that, "Sir Cyril Fox was ... the first to describe the 'jointed cruck' in Somerset, though its significance and distribution only became clear considerably later, after it was independently identified in Devon, Dorset and elsewhere. It contains blades of cruck form, usually strongly

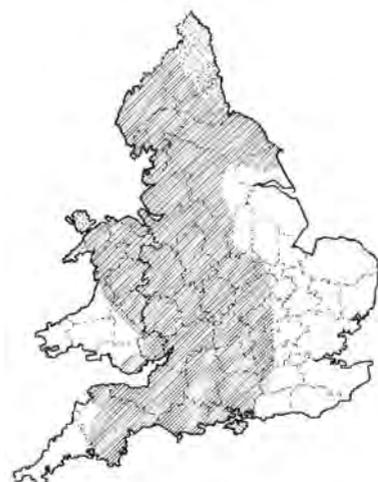


Fig. 2 Distribution of true crucks, after Brunskill [3]



Fig. 3 Distribution of jointed crucks, after Brunskill [3]

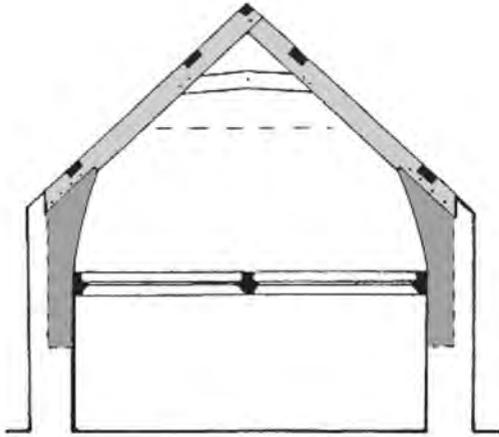


Fig. 4 A jointed cruck with the cruck posts set above floor level, after Penoyre [5]

elbowed, with the rafter part and the post part of separate timbers, jointed at the elbow. There are a number of ways of making the joint (Williams 1977), and a particular distinction can be made between those in which the head of the post lies directly under the rafter (often with a tenon into the face of the rafter), and the cruder type with a side-lapped joint.

An important criterion is that either the post or the rafter (usually the former) should be curved at its end; this distinguishes a jointed cruck from a post and rafter truss in which a straight rafter and a straight post are joined (and usually strengthened with a substantial knee brace)."

The illustration in Fig. 5 shows the joints (b and c) referred to directly by Alcock, and another (a) possibly noted by Williams. Type (b) is the widely found long tenon, though usually the principal is scarfed as shown in (a). Examples of 5(c) do not appear to have been recorded in Somerset. Type 5(a) is usually pegged from the underside.

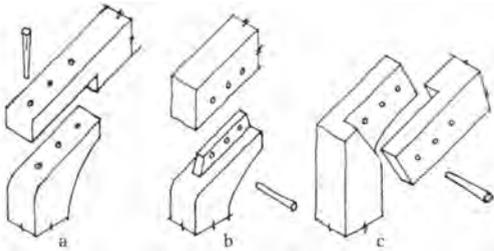


Fig. 5 Cruck Joints, after Brunskill [3]

Lesser known joints

The recent discovery of a rare form of joint at Lower Wheathill Farm has led to a search of the records of SVBRG and those kept by R. G. Gilson. Gilson and E. H. D. Williams, independently or in collaboration, surveyed some two thousand houses in Somerset.

The joint in question is shown in Fig. 6 and is a variant on Fig.5b in which the integral long tenon is replaced with two slip tenons. The structural advantage of this variant is that the tenon is loaded along the grain and is thus less likely to split. It is also more efficient in that less of the cruck post is sacrificed in making the joint. However only four previous examples of this form have been noted.

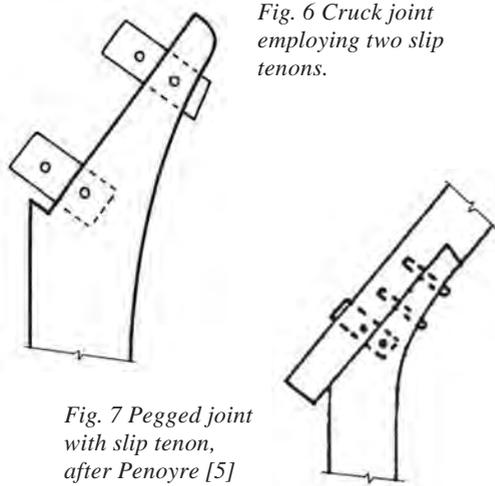


Fig. 6 Cruck joint employing two slip tenons.

Fig. 7 Pegged joint with slip tenon, after Penoyre [5]

The use of slip tenons in conjunction with pegged fixings, as shown in Fig. 7, has been recorded in the County and in the neighbouring Counties of Dorset and Devon. Seven examples of this joint have been recorded in Somerset. This example shows the cruck post scarf flush with the principal, a feature noted in the earlier trusses.

Another joint form that was found is the (pegged) long splayed scarf joint with under-squinted

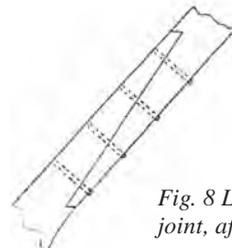


Fig. 8 Long splayed scarf joint, after Williams [7]

abutments as shown in Fig. 8. This particular joint is about 900mm long and is original construction rather than a repair.

Joint Definitions

One of the issues to emerge from this study has been the confusion as to the appropriate terminology that should be used to describe the joints.

E. H. D. Williams experienced this problem and, in his review of jointed crucks [7], attempted to clarify the descriptions of the various methods of joining the post to the rafter. Specifically discussing the joint featured in Fig. 7 he says that, “they are known to workers in Somerset as ‘face-pegged crucks’.

This terminology has continued to be used in describing jointed crucks in the County, and was further consolidated in the caption that accompanied the original of the illustration shown in Fig. 9 in which the left-hand joint is described as ‘face pegged with slip tenon’ that on the right, being ‘side pegged with long tenon’.

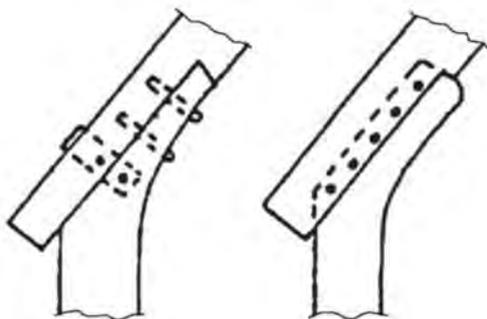


Fig. 9 Cruck joints, after Penoyre [5]

This terminology seems to have its roots in an intuitive description of the cruck post when viewed within a room, i.e. that the surface facing the viewer is ‘the face’ and consequently the adjacent face is ‘the side’. Alcock thinks that he may have been instrumental in promoting the use of this terminology in studies into Devon jointed crucks in the early 1970s [8].

Carpenters on the other hand view timber differently, naming the best, and usually the broader, surface as ‘the (fair) face’, and using it as their reference face for marking out, the adjacent surface being ‘the side’. This working practice was

recognised by Alcock *et al.* in “Recording Timber-Framed Buildings” [6], in which the text explains the terms and addresses the problems associated with vertical and sloping timbers.

The basic nomenclature can be stated using Fig. 10 as the starting point.

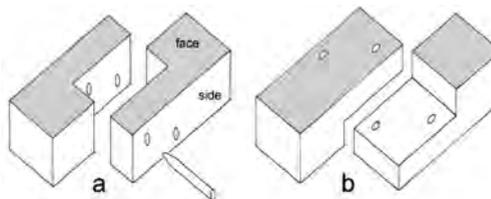


Fig. 10 Scarf Joints, after Alcock *et al.* [6]

The joint 10(a) is defined [6] as a face-scarf with square abutments; 10(b) is a side-scarf with square abutments. The timber is of rectangular section and the illustration shows the *face* as being uppermost; Alcock adds that 10(a) is *side* pegged. Alcock points out that trusses are marked out whilst lying on the ground and hence the ‘face’ is uppermost.

SVBRG is not in favour of perpetuating the ‘face-pegged’ and ‘side-pegged’ terminology for cruck joints, preferring instead that the long-tenon joint be described simply as ‘long-tenon’ and suggesting that the previously-named ‘face-pegged’ joint be described as ‘soffit-pegged’ since the pegs in these joints are invariably driven from the underside of the joint.

Incidence of cruck construction

The continued recording of buildings in Somerset since Williams produced his paper has increased the tally of buildings incorporating crucks from around



Fig. 11 Distribution of lesser known jointed crucks

TABLE 1 – A LIST OF LESSER KNOWN CRUCK JOINTS RECORDED IN SOMERSET

Parish & House	Feature	Date	Survey
<i>Similar to Fig. 6</i>			
Lovington Lower Wheathill Farm	2 slip tenons	1470±20 Carbon-14 date	2016
Winsham Innisfree, Purtington	2 slip tenons with key	Early C16	1986
Alford Alford Lodge	2 slip tenons	Late C16	1984
Dinnington Parsonage Farm	Long tenon & extended slip tenon	Late C14	1972 & 1982
Ditcheat Laurel House, Alhampton	2 slip tenons	Late C15	1976
<i>Similar to Fig. 7</i>			
Seavington St Michael Orchard Cottage	2 pegs & slip tenon	Mid C16	2013
Chaffcombe Tolleys Farmhouse	2 pegs & slip tenon	C15	1988
Tatworth Dairs Barton	2 pegs & slip tenon	C15-C16	1973 & 1988
Dinnington Parsonage Farm	2 pegs & extended slip tenon	C14	1970 & 1982
Hinton St George Old Farm	2 pegs, & slip tenon	Pre 1580	1975
Hinton St George Oldway Lodge	2 pegs, & slip tenon	Circa 1500	c. 1980
Hardington Mandeville Grass Hill	2 pegs & slip tenon	Late C16	1980
Hardington Mandeville 342/343 High Street	2 pegs, & possibly a slip tenon	C16?	1974
<i>Similar to Fig. 8</i>			
West Pennard Old Farm House <i>Similar construction at Baltonsborough, Bridge Farm</i>	Under squinted long splayed side scarf	Mid C14 <i>Dendro</i> <i>1336–42</i>	2001 <i>c. 1980</i>
Tatworth Dairs Barton	Under squinted long splayed side scarf	C15-C16	1973 & 1988
Tatworth Dairs Barton	Under squinted long splayed face scarf	C15-C16	1973 & 1988

300 to 520 in the intervening forty years. Despite this significant increase in buildings recorded as having crucks, almost all of the increase is in jointed crucks that now number 400, of which only three are of the lesser known types discussed above.

These additional examples are at Old Farm, West Pennard (2000), Orchard Cottage, Seavington St. Michael (2013) and Lower Wheathill Farm, Lovington (2016), representing one of each category of joint.

The dispersion of these joints is illustrated in Fig. 11 which shows a group of Fig. 6 type joints lying just to the east of the A37 road between Shepton Mallet and Yeovil plus another two in the Chard-Crewkerne area. The joints that use a combination of slip tenons and soffit pegs (Fig. 7) occur most frequently in the area between Yeovil and Chard although there are two 'strays' in the west. Two of the long scarf joints are in buildings that were associated with Glastonbury abbey. The third is at Tatworth in a building that has a complex roof history.

Dating the joints

The purpose of the work conducted in the Somerset Dendrochronology Project (1996–2005) was to obtain accurate dates for a range of identifiable styles of roof construction. The jointed crucks included in the SVBRG project gave dates from 1390 to 1530 but a later example has been dated to 1630, thereby extending the recorded period of use to about 250 years.

The dendrochronology method is dependent on samples being taken from suitable oak timbers and this tends to limit the sampling to the higher status houses since that is where oak structures are most likely to be found.

The majority of houses in Somerset have roofs constructed from elm, a timber that is not generally amenable to dendrochronology, although progress is being made in the technique [8]. As a consequence the dating of most houses is achieved by comparing their construction and architectural features with those of the dated oak buildings. Dates, established or estimated, of the houses where these lesser known joints have been found are given in Table 1.

The Wheathill joint, (Fig. 6) survives from a partially complete truss made entirely of elm. Because it was no longer *in situ* it offered the possibility of straightforward sampling and subsequent radiocarbon analysis to establish a

date range for this type of joint. The upper end of a principal rafter retained an area of the natural tree surface. A slice cut from this location was prepared and a sample of sound wood, 50–53 growth rings below the surface, was sent for analysis. The sample gave a date range (68.2% prob) of 1406–1437 calAD. Adding the 50–53 years of growth gave a felling date of about 1470 ± 20.

Observations

This small group of joints are an unusual sample in that they appear to occur throughout the date range for jointed crucks, assuming that the estimated dates for the buildings are reasonably correct. That there are so few might be interpreted as indicating they were 'experimental' joint designs but the wide date range seems to negate that view. The geographical clustering of sub groups might suggest they were the work of just a few carpenters but it is unlikely that there were five or six generations of one family involved.

The remaining questions that apply to small samples relate to how representative the samples are. In this case one could question whether i) the houses utilising these joint designs were more prone to decay, collapse or rebuilding or ii) there were never many houses built with these joints incorporated in their construction.

It is perhaps surprising, and a little disappointing, that only a few additional examples of the rare designs have been found in the past forty years of building studies.

References

- ¹ *Cruck Construction, An introduction and Catalogue*; N. W. Alcock. CBA Research Report No.42, 1981
- ² *Vernacular buildings of Shropshire*; M.Moran. Logaston Press, 2003
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- ⁶ *Recording Timber-Framed Buildings*; Alcock, Barley, Dixon and Meeson. CBA, 1999
- ⁷ *Jointed Crucks*; E. H. D. Williams. Vernacular Architecture, Vol.8, 1977.
- ⁸ *Historic England; Research Project 7350, Ref. Vernacular Architecture, Vol 48, 2017, p114/115*