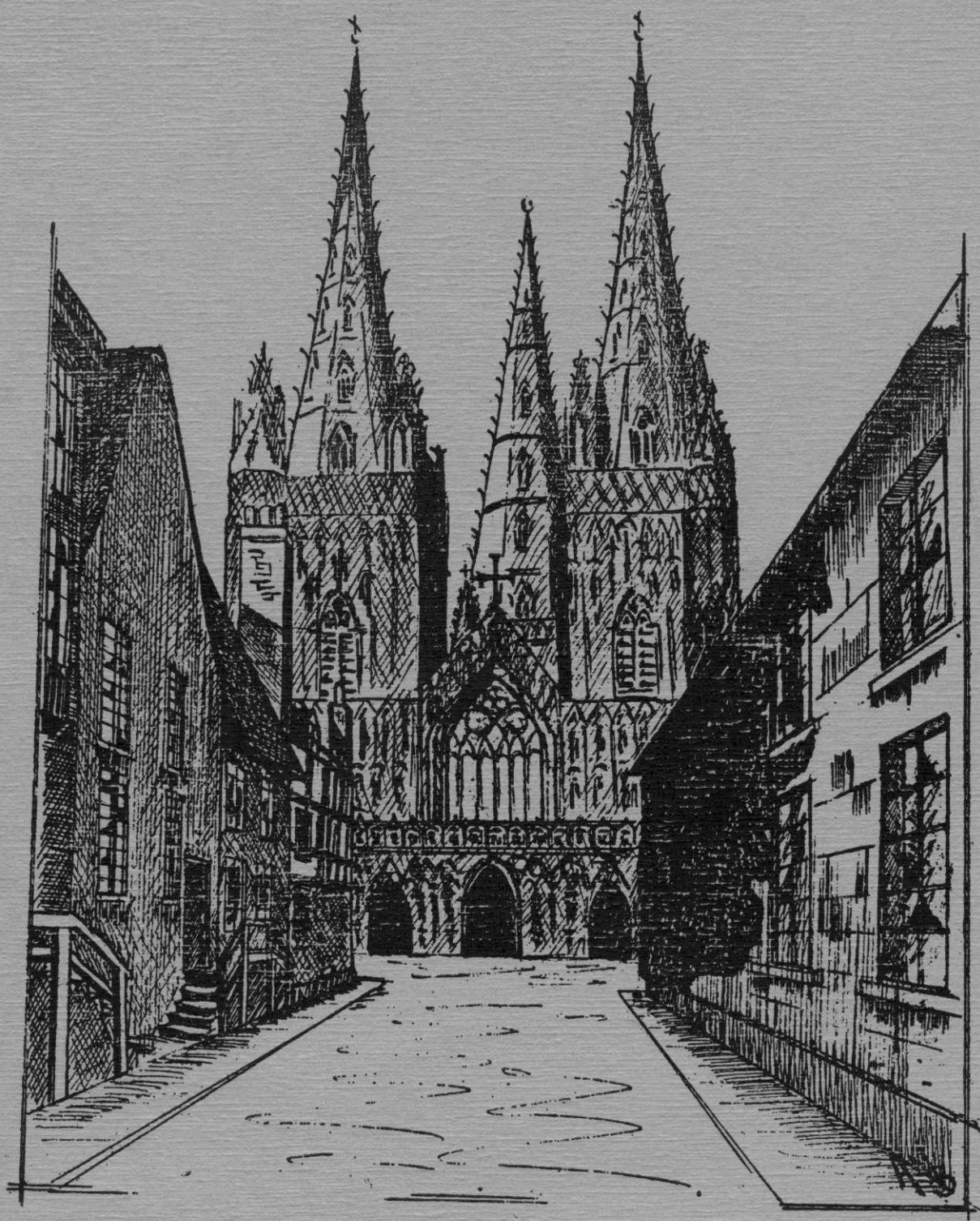




The Lichfield Archaeological & Historical Society

TRANSACTIONS, 1959-60.

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REISSUED 1971.

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THE PRESIDENT

Ladies and Gentlemen,

At my Presidential Address I stressed a number of aims that we should strive to accomplish, and as this page marks the end of our year, it might be worth-while to review the progress of the Society.

In the first place I suggested that the activities of the Society should be as wide-spread as possible, and our future programme has been based on this policy. We have had an excellent series of lectures, many of outstanding importance, and the lectures for the coming year are varied to suit every member in the Society. Our joint effort with the Birmingham University will be of two series, which again form a contrast. The lectures in the Autumn will be on Archive Work, and I hope to have the pleasure of giving a short series on the Welsh Border Country after Christmas. This will be the prelude to a week-end school on the Border sometime in April or May to examine at first hand the glorious heritage of this part of our Country.

Our venture with a Social Evening proved to be an outstanding success and I am grateful to my colleagues Sydney Robinson, Harry Thorpe and Graham Webster for their work on the Panel that contributed so much to the evening. Our two excursions again were a contrast and well attended, the first being a visit to the Shrewsbury abbeys and the other a canal trip; the latter being a joint effort by Messrs. Gilson and Ashdown-Sharp to whom our thanks are due for a pleasant day.

Secondly I stressed the need for research, both collective and individual. Here the main aim of the Society has been Wall and this is in the capable hands of Messrs. Lyon and Gould with a few helpers. The result of their work is of outstanding importance and I hope that one outcome of the well attended school at Wall in July under Mr. Graham Webster will be further offers of help to dig under the guidance of these gentlemen. I would also point out the valuable work done by other members of our Society, the two most outstanding of these being the work on timber buildings by Mr. Sheppard and that on canals by Mr. Gilson.

This brings me to my final point, that of publication, and to the greatest achievement of the Society so far, our first copy of the Transactions. It is fitting that two most important papers given by members of the Society should be the first

contributions and it should be the object of the Society to see that this high standard is maintained. The Society must leave to posterity the record of so much that is rapidly vanishing around us and our lecture programmes are being arranged with this in mind.

May I conclude by thanking all the members of the Committee for their help and hard work during the past session and also to the members who have moved away from Lichfield, namely Mr. and Mrs Hartley and Mr. And Mrs. Gilson. We wish themwell in their new ventures!

Yours sincerely,

S. A. JEAVONS.

WINTER MEETINGS

The following papers were submitted to the Society:

1959

Sept. 10th CRUCK HOUSES
P.R.Sheppard.

Oct. 1st. HOW GEOGRAPHY HAS AFFECTED THE GROWTH OF LICHFIELD
Dr. H. Thorpe F.S.A.

Nov. 6th THE WYRLEY AND ESSINGTON CANAL
C.J.Gilson B.Sc.

Dec. 4th DANES CAMP AND THE IRON AGE FORTS IN THE COTSWOLDS
Nicholas Thomas M.A. F.S.A.

1960

Jan 15th THE INFLUENCE OF ENGLAND AND FRANCE ON CHRISTIAN
ART FROM 700 AD TO THE PRESENT DAY
S.A.Jeavons F.S.A.

Feb. 12th ROMAN ROADS
J.Whiston.

March 11th ALDRIDGE - THE RICH AND THE POOR
J.T.Gould.

In addition the following social evening was held:

March 25th Illustrated lecture by S.A.Jeavons F.S.A. followed
by a Buffet Supper and "Any Questions?" answered
by a Panel of Experts.

Two One-day-schools were also arranged together
with the Extra-Mural Dept. of Birmingham
University.

May 14th The Uses of Lichfield Ecclesiastical Records for
the Local Historian - Lecturer: E.R.C.Brinkworth
M.A., B.Litt.

July 9th The Archaeology of Wall. Director: Graham Webster
M.A., F.S.A.

SUMMER EXCURSIONS 1960

May 28th Day Excursion to the Shropshire Abbeys

A party of thirty-nine members led by the President visited the Shrewsbury area, the first call being Lapley. Here the party inspected the church; this was originally a cruciform Norman building with a central tower. The transepts have now gone, leaving the nave, tower crossing and chancel. The core of the building is Norman, but the chancel was enlarged about 1300, when the present interesting east window was added. Later in the mediaeval period the upper part of the tower was added and the square-headed windows inserted in the nave. The font is most unusual and appears to have come from the continent. This connection is probably explained by the fact that Lapley was an alien abbey of the Benedictine order belonging to the Abbey of St. Remigus, Rheims, until it was suppressed by Henry V in 1414 and sold to Tong College.

In Shrewsbury the party visited Drapers Hall, where they were welcomed by the Bishop of Shrewsbury and Mrs. Parker. This Elizabethan timber framed house is the guildhall of the powerful Drapers Guild whose chapel was in the south chancel of St. Mary's Church.

St. Mary's is Shrewsbury's largest church, and was originally a collegiate church and a Royal Free Chapel, built in the middle of the 12th century. It was enlarged during the 13th century and the main part of the present building is of that date, but parts of the Norman building still remain in the north and south transept, chancel and west tower. The south chapel was added in the 14th century and the clerestory and fine panelled roof is later. The church is very rich in stained glass, little of which was made for the church, much of it being from France, Germany and the Netherlands.

The remainder of the excursion was spent in examining four abbeys, each of different religious orders and comparing their layouts. The first was the Church of the Holy Cross, Shrewsbury - a Benedictine abbey founded by Earl Roger de Montgomery about 1080. Only the church remains of the abbey, the domestic quarters were destroyed when the present road was built leaving only the Refectory pulpit. The nave of the church is Norman, circa 1100, with the west front somewhat later and into which has been inserted a fine perpendicular window. The exterior was heavily restored by J.L. Pearson in 1886/7. He also rebuilt the eastern part of the church.

Haughmond Abbey was founded about 1135 for the Augustinian

canons, nothing of this period remains as an ambitious rebuilding took place later in the 12th century. The Chapter House and Cloister date from that period. All of the church has gone except the foundations, but much remains of the 14th century and later domestic quarters, including the kitchen and a fine Abbot's lodging. The water and drainage system was exceptionally good as the visible evidence shows.

At Buildwas, a Cistercian abbey was founded in 1135 by Bishop Roger de Clinton; the domestic quarters have suffered, only the Chapter House is left, but much of the church remains. It has a length of 180 feet, being a cruciform building with a nave of seven bays and no triforium, with a typical square Cistercian end. The cloister was on the north side.

Much Wenlock was originally a Saxon nunnery and became a priory when refounded in 1050 by Leofric, Earl of Mercia, and after the Conquest by Earl Roger de Montmorency who made it into a Cluniac abbey. It was rebuilt in the Early English period into a large cruciform church, 350 feet long. The cloisters and fine Chapter House are circa 1150-80. The magnificent Priors dwelling house dates from 1500 and is still inhabited.

June 25th Trip along the Shropshire Union Canal from
 Autherley Junction, Wolverhampton to Wheaton
 Aston via Brewood.

Twenty-eight members of the Society with three children travelled by car from Lichfield to Oxley Moor Bridge, Wolverhampton, where they boarded the 'Ernest Thomas' - a boat owned by the Wolverhampton Boys Club. The boat, after reversing northwards, entered the Shropshire Union Canal from the Staffordshire and Worcestershire Canal. At the junction there is a stop lock to regulate the level of water in each canal. Here the boat stopped whilst Mr. Sam Lomas M.B.E., Traffic Commissioner for the area, distributed pamphlets and guides. A watercan gaily decorated with the traditional roses and castles was shown to the party. It had been painted by an illiterate boatman.

The party then set off for Brewood where lunch was taken at the Swan Hotel after a visit to the parish church, where the 16th century tombs of the Giffords were admired. The canal passes through Chillington Park, the home of the Giffards, and an ornamental bridge marks the crossing of the canal by one of the drives to the house. The party continued to Wheaton Aston, passed the feeder from the Belvide Reservoir and

crossed the aqueduct built by Telford in 1832 over the Holyhead road (now the A5) which he had engineered and completed in 1825. Just before Wheaton Aston is the only lock in this section with a fall of seven feet. The boat then turned for the journey back to Wolverhampton.

The party observed the bridges, stop locks (which enable the canal to be drained in sections for repairs), the carving by tow ropes of the protective iron plates on the bridges and the maintenance work being undertaken. A dredger was passed en route though not at work.

This canal was the last major piece of canal engineering undertaken in Britain, being built between 1826 and 1835, to provide a shorter journey between Birmingham and Liverpool than via the Staffordshire and Worcestershire and the Trent and Mersey Canals. The canal was taken over by the L.N.W.R. in 1856 passing to the L.M.S.Rly. in 1923. It was nationalised in 1947. Today it carries little commercial traffic but pleasure craft are using it in ever increasing numbers.

OUR FUTURE PROGRAMME

Winter Meetings.

It is hoped that the following papers will be delivered to the society:

1960

Oct. 7th AN ARCHAEOLOGICAL SURVEY OF STAFFORDSHIRE.
 R.Sherlock B.A.

Nov. 4th THE PREBENDAL STALLS OF LICHFIELD CATHEDRAL.
 Rev. H. Baylis M.A.

Dec. 2nd VICARS CLOSE.
 F.H.Lyon.

1961

Jan. 6th EXCAVATION OF THE ROMAN FORT AT WALL.
 J.T.Gould.

Feb. 3rd CRUCK BUILDINGS IN THE LICHFIELD DISTRICT.
 P.R.Sheppard.

March EXHIBITION OF LICHFIELD BYGONES.
 Arranged by S.A.Jeavons F.S.A. and E.Ashdown-Sharp.

April 14th THE DEVELOPMENT OF THE SETTLEMENT PATTERN AND FARMING
 IN THE SHENSTONE AREA PRIOR TO THE GENERAL
 ENCLOSURE MOVEMENT.
 R.Hebden B.A.

Field Work

It is anticipated that excavations will continue on the Roman site at Wall, and that further timber-framed buildings will be examined and recorded

Excursions.

It is hoped to arrange the following excursions:

1961

April

A LONG WEEK-END IN THE WELSH BORDER.

Leader - S.A.Jeavons F.S.A.

May

LITTLE COMBERTON AND ELMLEY CASTLE.

Leader - J.T.Gould.

June

AN EXCURSION INTO DERBYSHIRE.

Leader - S.A.Jeavons F.S.A.

Social Evening.

Steps are being taken to arrange the following
Social Evening:

Nov.11th

Illustrated lecture, Buffet Supper and "Any
Questions?" answered by a panel of experts.

One-Day-School.

Preliminary arrangements are being made to
hold at least one One-Day-School on a topic
of great interest to Lichfield people.

Courses arranged in co-operation with the Extra-Mural Dept.
of Birmingham University.

1960

Autumn

A series of lectures on Archives, lecturer
not yet appointed.

1961

Spring

A series of lectures by S.A.Jeavons F.S.A.
leading up to the long week-end excursion
in the Welsh Border.

CRUCK-TRUSSED HOUSES IN LICHFIELD. By P.R.Sheppard.

The type of dwelling called the cruck-trussed house belongs to the medieval period, which extended from the Norman Conquest to the Reformation. The roof in these houses is supported by trusses each consisting of a pair of heavy curved timbers of oak known as "blades". The upper ends of these blades were often jointed and pegged together, or tenoned into "collar beams". The lower ends were tenoned into a heavy horizontal beam called the "sill". This rested on a foundation of stonework of varying height.

The number of known examples of cruck-trussed houses in Staffordshire is small. In 1958, a cruck truss in derelict property at Greenhill, Lichfield, was photographed before demolition. In 1960, a block of houses in Stowe St., Lichfield, was demolished to make way for bungalows for old people. The writer was able to photograph one truss, and secure some interesting specimens of wattle and daub and original plaster from a hidden gable. Apparently, there were six cruck trusses in the house before they were swept away.

Interest in this type of timber construction in Lichfield was aroused by an article in the local newspaper during 1958, following the discovery of cruck trusses in two cottages numbered 71 and 73 Stowe Street. It was later established that an adjoining building also contains cruck trusses.

By permission of the Lichfield City Council members of the Lichfield Archaeological and Historical Society were able to make a thorough investigation of the cottages. The object of this work was to expose the timber framing, which was hidden by wallpaper and plaster. Furthermore, it was necessary to inspect the roof timbers and collect as much evidence as possible to build up a picture of the original structure. It was then decided to make a complete survey and record of the premises.

I was invited to undertake the detailed inspection and measuring of the framing of the cottages. The project proved to be most interesting, and the results are placed before you, in the hope that others will wish to know more about timbered houses and enjoy the fascination of looking "behind the scenes".

The survey began with the examination of the south side of the cottages from the street (Fig.1). The total length of the building is thirty-three feet, and the height is approximately twenty-four feet. The west end of No.71 is not joined to the adjacent house. The two dormer windows, and the ground floor

windows and doorways were inserted when the structure was converted into two cottages. The roof has a steep pitch of fifty-five degrees.

The member of the frame at the top of the wall is called the "wall-plate", and this stands less than twelve feet above the pavement level. The other horizontal beams are called "rails" and the shorter vertical members are called "studs". The long vertical members are "posts" (Fig. 2).

Peg-holes can be seen singly, in twos and in groups of four. The presence of one or two peg-holes indicates one mortise and tenon joint. Four peg-holes indicate the presence of two joints (Fig.3).

In Fig.2, it will be seen that seven pairs of peg-holes have no function to perform, and therefore it is assumed that members have been removed from positions opposite the empty peg-holes. This was done to make way for doorways and windows, and such timber is indicated with dotted lines.

As important as peg-holes, are the ends of three tenons showing through the posts at points A, B, and C (Fig.2). There is one at D, but the mortise has not been completely cut. Behind the tenons are members playing an important part in the construction of the framework of the building. Their function will be described later in this paper. There was, probably, a window space at E with a single mullion.

Originally the panels or spaces enclosed by members of the frame were filled with wattle and daub. This was replaced with brickwork as necessity and fashion demanded.

The function of the posts showing tenons at A, C and D will be discussed in relation to the construction of the cruck trusses. At point F (Fig.2), four peg-holes indicate that a second rail was joined to the post, and it can be assumed that the wall-plate also formed part of the timber frame of another building before the latter was altered.

A view of the northern elevation of the cottages is seen after walking through the passage shown on the plan (Fig.4). Only the wall-plate is visible, and that is all that remains of the frame on the north side of the house, the rest having been removed when it decayed. There are two dormer windows of the same period as those at the front of the building.

The main framework is contained in three cruck-trusses at A, B and C on the plan. They form two bays of fifteen feet and sixteen feet respectively. The bay between trusses A and B is

No.71, and the other bay is No.73. The interior width of the building is seventeen feet.

Despite the insertion of floors, ceiling and chimney stack, it was possible to make a complete survey of the trusses.

Cruck Truss A (Fig.5).

The blades were originally eighteen feet long before the lower ends decayed, like the sill into which they were tenoned. They are slightly curved, and symmetrical, having been sawn from the same tree trunk. Their maximum width is one foot, and they are seven inches thick.

The heavy tie-beam is dovetailed and halved into the blades, and its upper side is six feet six inches above floor level. It is eight inches deep and seven inches thick. The top of each blade is tenoned into the ends of a collar-beam eight feet long. Upon this stands a king-post which carries the ridge-piece.

The space between tie-beam and collar-beam contains a rail and three studs. The rail is seven and a half inches wide and six inches thick; the studs are the same width and three and a half inches thick. The king-post is seven inches wide and six inches thick. Only three panels are filled with wattle and daub. Investigation of the soffit or underside of the tie-beam revealed three mortises which once accommodated three studs, each eight inches wide. In addition, there are twelve wattle holes, three to each panel. All missing parts of the truss are indicated by dotted lines in the drawing. This evidence proves that there was no entrance at this end of the original house.

The method of incorporating the framing of the walls with the cruck truss must now be studied. The post with tenon A is attached to the lower end of the cruck blade as shown in Fig. 3. The tenon A is the end of a spur-tie, a short member which is dovetailed and halved into the blade. The wall-plate rests on the top of the post, and this method is seen to be quite unlike the system in which the wall-plates rest on extensions of the tie-beam which would be fixed higher up the blades. Substantial purlins, seven inches thick, to carry the rafters are pegged to the blades, and additional support is provided by struts placed under the purlins and tenoned into the spur ties. This method of construction is common to all three cruck trusses in this house. The spaces left between these parts of the truss and post are filled with wattle and daub, rubble, and an irregularly shaped piece of timber was also found. The use of timber as a space-filler in such circumstances is regarded as unusual. It was impossible to ascertain the condition and extent of the post on the north side of the house as it is masked by brickwork.

There is no trace of a sill under this truss.

Cruck Truss B (Fig.6).

This truss forms the division between Nos. 71 and 73, and will be referred to as the centre truss. The blades are twenty-three feet long, and are gracefully curved. Their maximum width is fourteen inches, and they are seven inches thick. The tops are tenoned into a collar-beam three feet six inches long. The king-post is only six inches high. The heavy tie beam is chamfered, and is dovetailed and halved into the blades. It is between nine and ten inches deep and six inches thick. The top side is slightly more than six feet above floor level; there may have been a partial settling of the centre truss owing to the defective condition of the feet of the blades. An intermediate curved rail and three studs completed the original frame of this truss. One stud was removed when fireplaces were installed in the upper rooms, and a flue actually passes through the truss to join a central brick stack. Four panels contain wattle and daub, and similar infilling is used in smaller spaces between other members of the truss. The tenon of the spur-tie can be seen at point C (Fig.2). Both blades are chamfered below the tie-beam. This was done where the occupants of the house were in danger of injury caused by hard and sharp edges on the members of the framing. There is no regular series of mortises in the soffit of the tie-beam, and this part of the truss was not closed.

The upper surface of the centre truss was found to be coated with soot on that side now included in No.73 (Fig.8).

Cruck Truss C (Fig.7).

This truss is the most complete and helpful in determining the type and extent of the original cruck house. The blades are slightly curved, are seventeen feet long, and their maximum width is one foot. The tops are tenoned into a collar-beam ten feet long, and the king-post is five feet six inches high. The top of the tie-beam is six feet six inches above floor level. Happily, the sill remains almost in-tact, and so it was possible to determine the floor level of the whole building. Exposure to adverse weather conditions resulted in the decay of the sill on the other sides of the building, because it was laid down at ground level. Excavation carried out beneath the sill of this truss revealed irregular pieces of sandstone which in no way resembled a plinth. There are three studs between the tie-beam and the sill, but the panels are brick filled.

Detailed inspection of the soffit of the tie-beam was necessary to establish the presence or otherwise of wattle holes. As each panel has its quota of such holes, it is now known that there was no communicating door in the end of the original

structure. All the main joints are dovetailed and halved as in the other trusses. All panels and spaces above the tie-beam are filled with wattle and daub, and the whole framework is in excellent condition.

Inspection of the truss above the inserted ceiling of No.73 brought to light more deposits of soot (Fig.8). The ends of purlins belonging to the adjoining building No.75, overlap the purlins supporting the rafters of No.73 (Fig.8).

A scarf-jointed ridge piece runs the full length of Nos.71 and 73, and rests on the three king-posts already mentioned. There were six windbraces in the original frame to provide extra stability to the structure, but only three remain intact. They were pegged to the outside edges of the cruck blades, and notched into the purlins (Fig.8).

Finally we have to discuss the importance of the tenon showing at B (Fig.2). This is the end of a heavy chamfered beam which reaches to the other side of the building, where it rests on a brick pillar. Originally it was supported by a bracket pegged to the frame before this was replaced by brickwork. Floor joists of large dimensions rest on this beam, and the tie-beams of trusses A and B (Fig.9). The soffit of this beam has two mortises and six small holes, each one and a half inches in diameter, set at intervals of one foot. It is considered that the mortises held studs, and that the holes held the lightweight framework of a partition or screen made of wattle (Fig.9). The beam is part of the original frame of the house, and supported the floor of a room called the Solar, a private apartment used by the family. Underneath there would have been the usual domestic storage places for food, and some accommodation for livestock. Access to the Solar was probably by some kind of ladder (Fig.8).

The presence of soot on the upper surfaces of trusses B and C gives a clue as to the type of house this was. Before the insertion of floor and ceiling, this bay, now occupied by No. 73, was open to the rafters and the fire burned on the central hearth, the smoke escaping through a hole in the roof. This part of the dwelling was known as the Hall (Fig.8).

Our picture of the cruck house is almost complete, and we have only to decide the position of the entrance. It was not possible to remove brickwork from beneath the soffit of the rail in the front of the cottages to establish the position of wattle holes. However the study of cruck houses of a similar type shows that the original entrance must have been in the same position as the present entrance, at the end of the passage already mentioned.

It is not difficult to imagine what life was like in a dwelling which was ill-lit, damp, draughty and lacking all the amenities to which we are so accustomed.

This cruck house, now unfit for habitation and becoming derelict, is a very good example of the two-bay type with its Hall and Solar. It has been scheduled Grade II, as being of historical interest.

The dating of old buildings of this type always presents a problem, but it probably belongs to the period 1450-1550.

I constructed a scale model of the conjectured framework of this cruck house, and it is on view in Lichfield Museum for the benefit of all those enthusiasts who like to know what lies "behind the scenes".

Thanks are due to Mr. Oglesby, City Engineer and Surveyor, who facilitated the examination and recording of the building.

Illustrations

- Fig. 1. Photograph of the south side of Nos. 71 and 73,
 Stowe Street, Lichfield.
 - Fig. 2. Elevation showing the timber frame of the above
 with reference to the position of peg-holes
 and tenons.
 - Fig. 3. Sketch of details of mortise and tenon joint.
 Sketch of the method of attaching post to cruck
 blade, using spur-tie.
 - Fig. 4. Plan to show positions of cruck trusses A, B and C
 and the passage.
 - Fig. 5. Details of Cruck Truss A.
 - Fig. 6. Details of Cruck Truss B.
 - Fig. 7. Details of Cruck Truss C.
 - Fig. 8. Elevation to show Solar, Hall and Windbraces.
 - Fig. 9. Conjectured use of studs and partition under beam
 supporting Solar floor.
 - Fig.10. The author's reconstruction of the original appear-
 ance of the cruck house.
-



RECONSTRUCTION OF FRAME OF SOUTH
WALL OF NOS. 71 AND 73, STOWE STREET,
LICHFIELD.

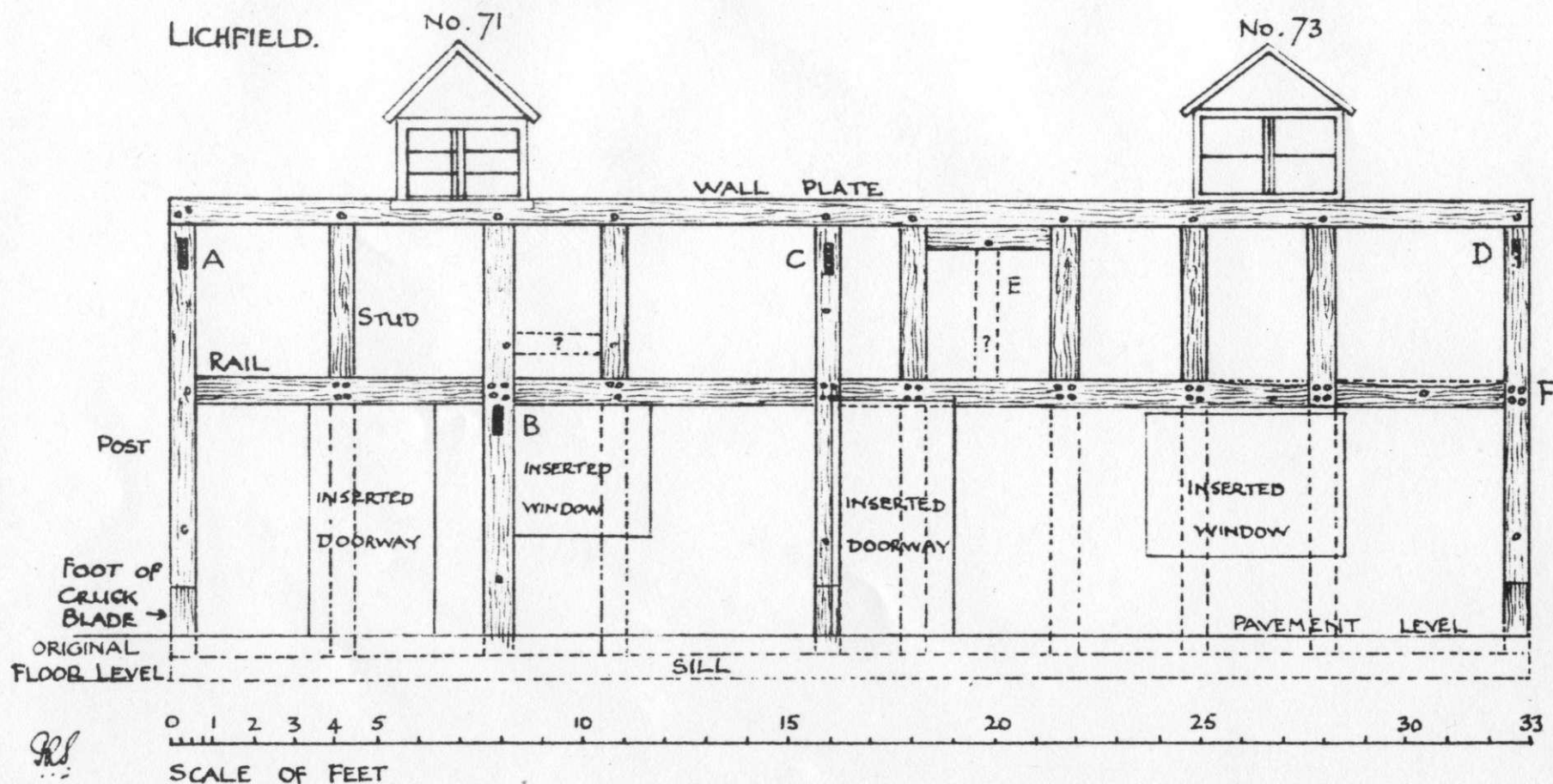


FIG. 2.

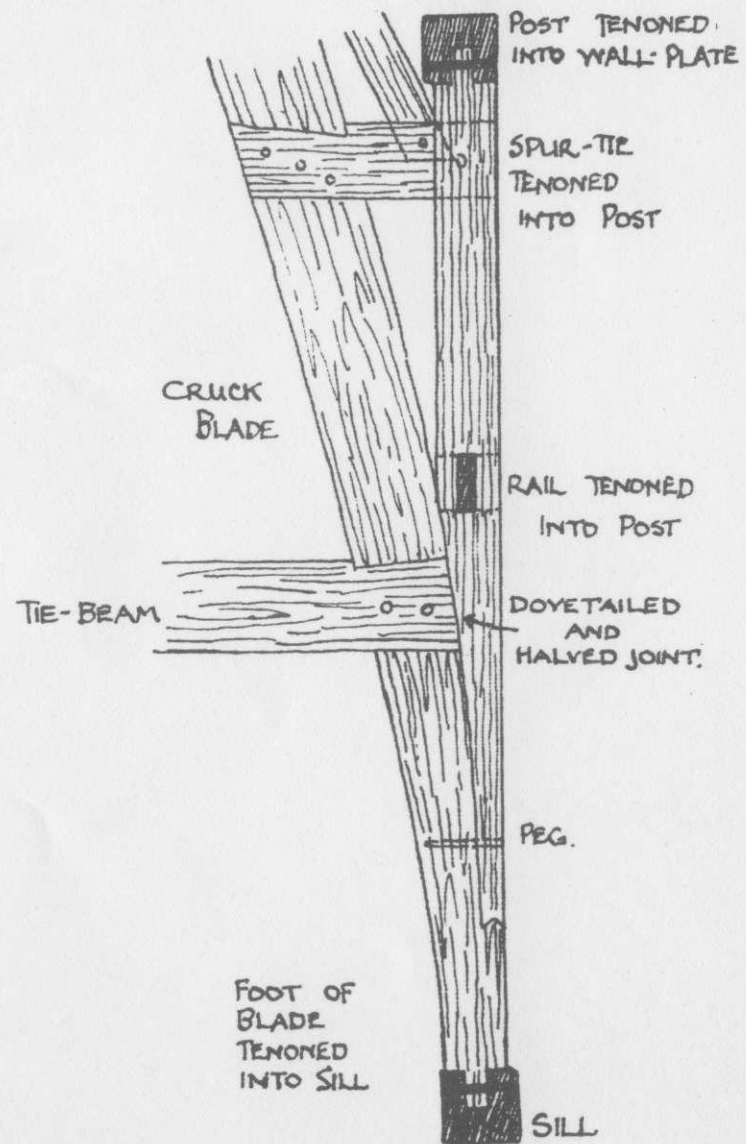
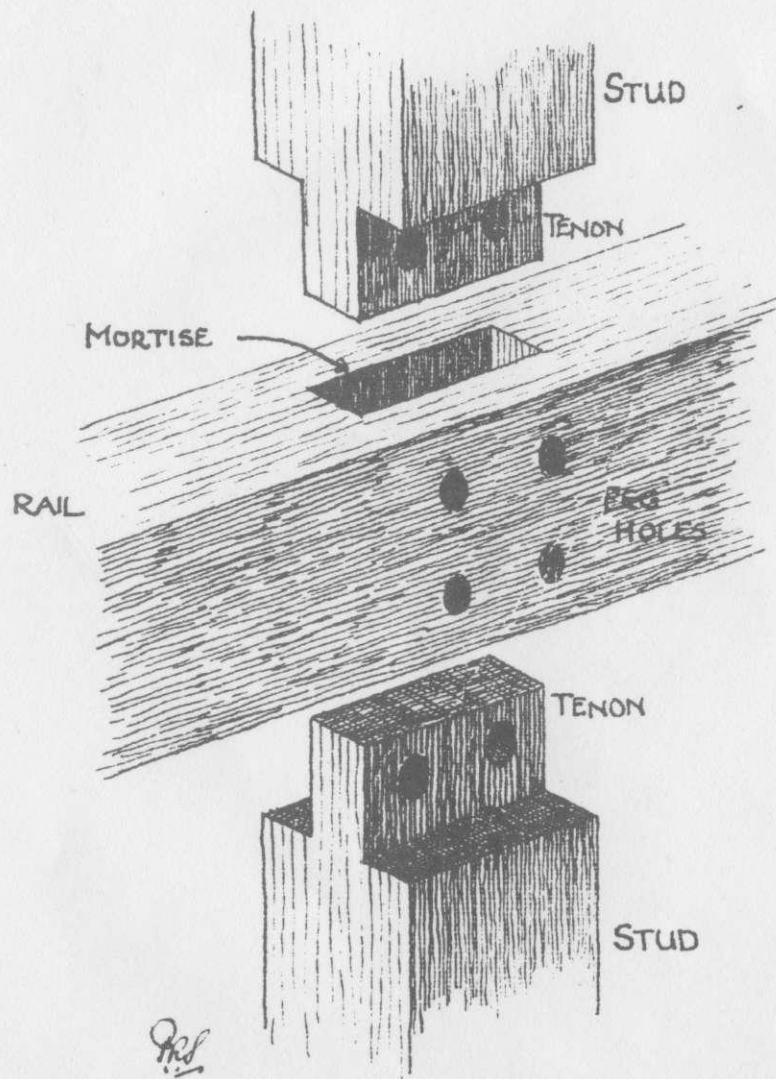
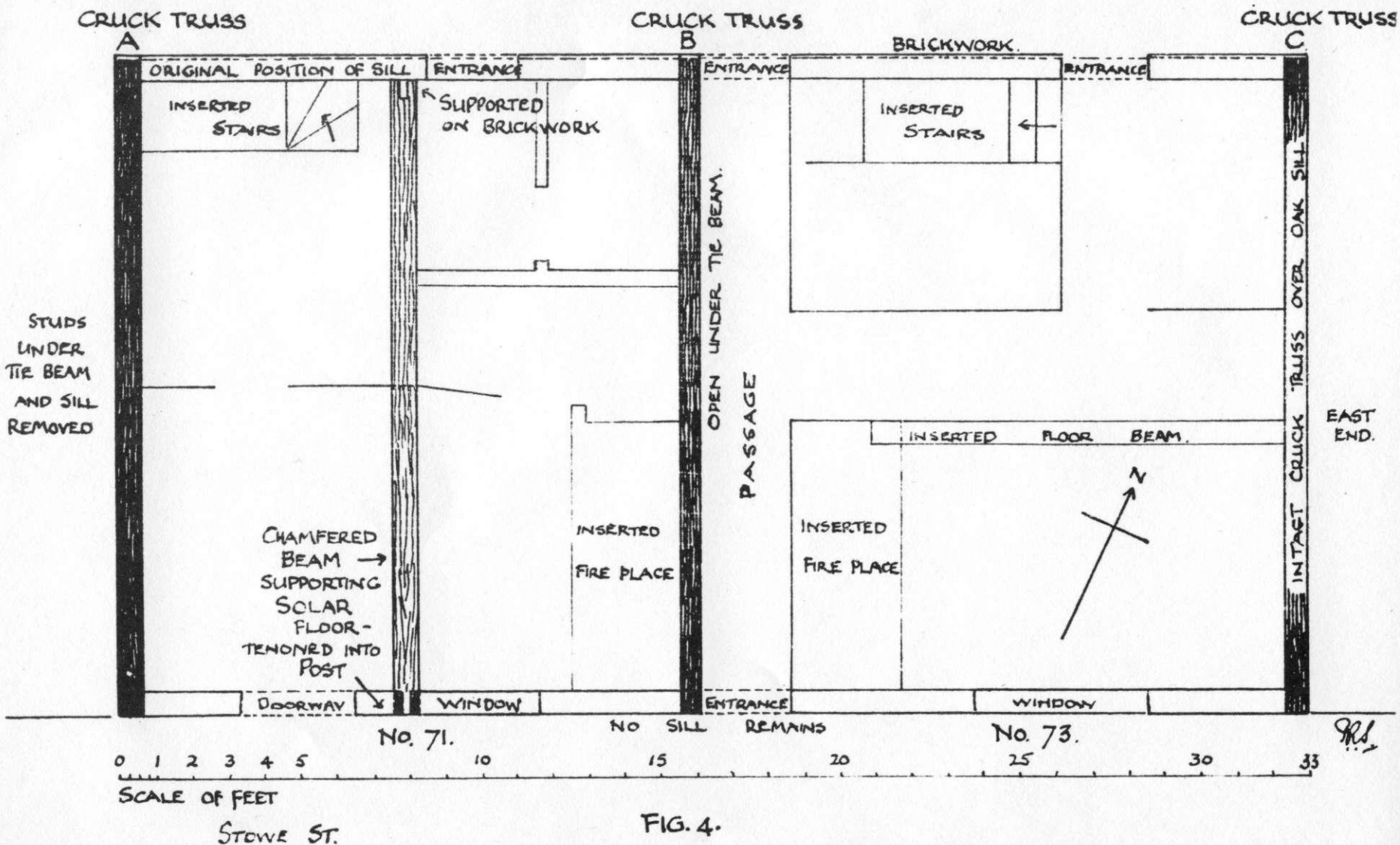


FIG. 3.

PLAN TAKEN AT GROUND LEVEL.



CRUCK TRUSS OF WEST GABLE
OF NO. 71, STOWE STREET,
LICHFIELD.

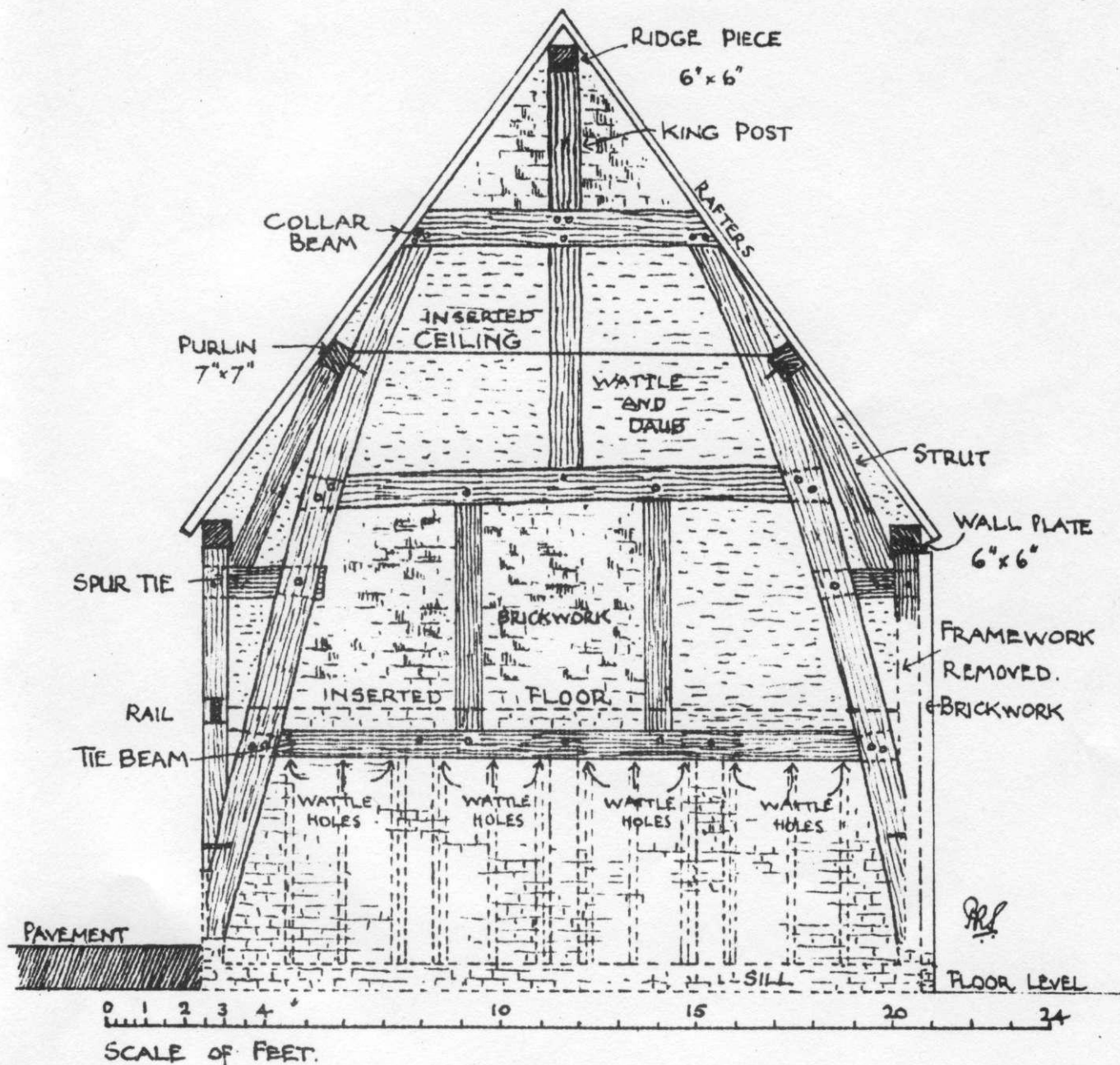


FIG. 5.

CRUCK TRUSS BETWEEN
NOS. 71 AND 73, STOWE STREET,
LICHFIELD.

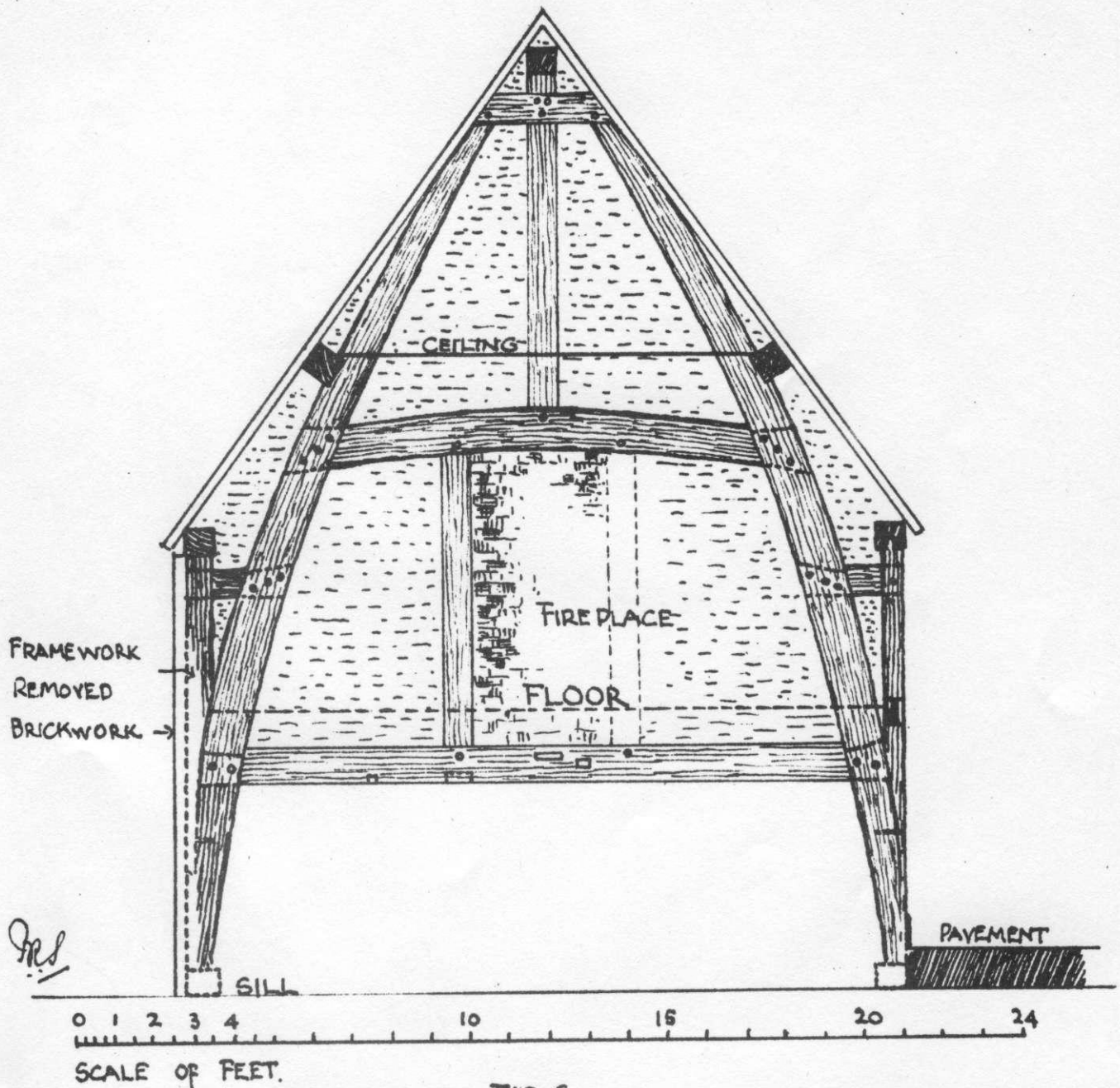
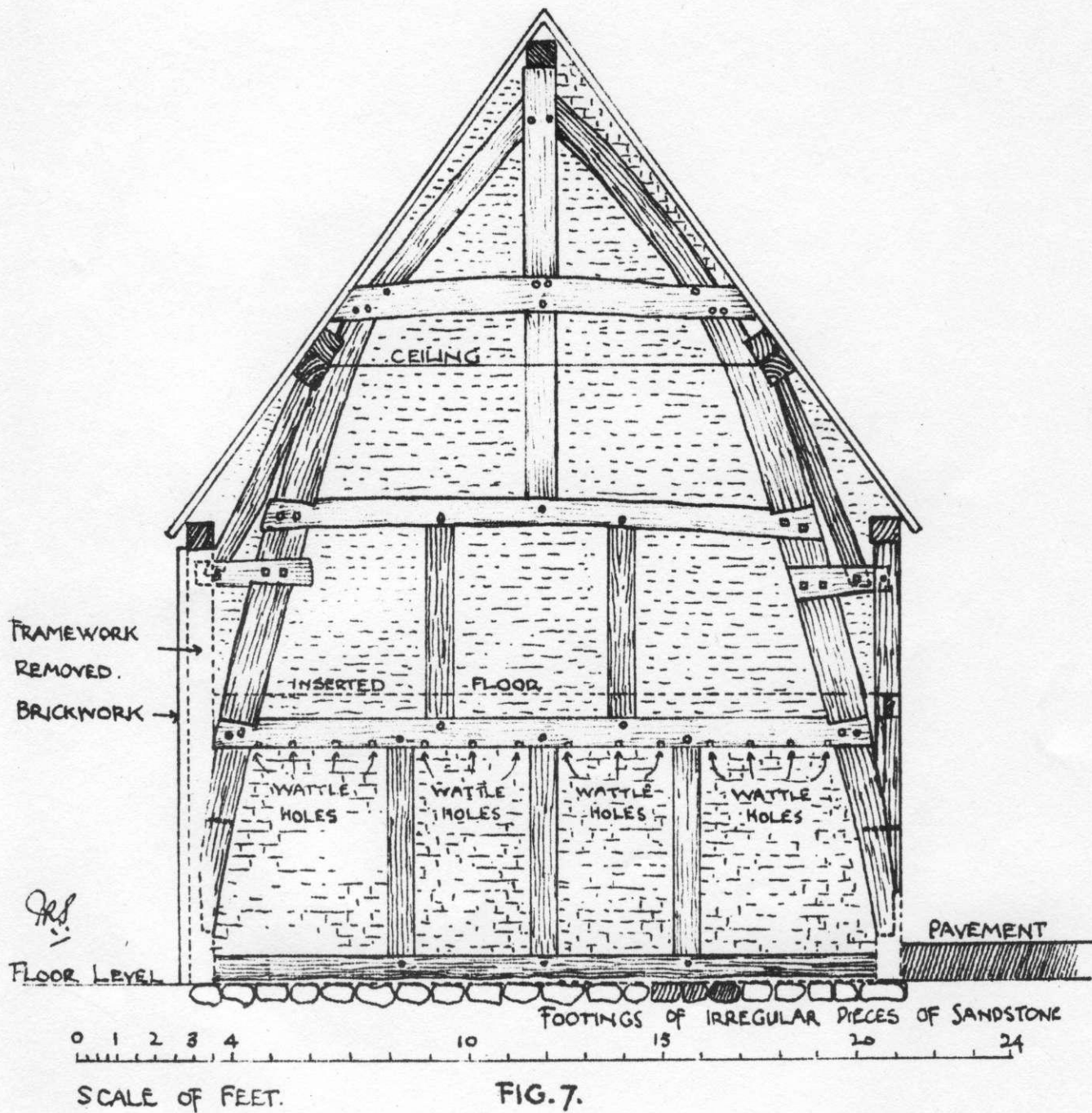


FIG. 6.

CRUCK TRUSS AT EAST END
OF NO. 73, STOWE STREET,
LICHFIELD.



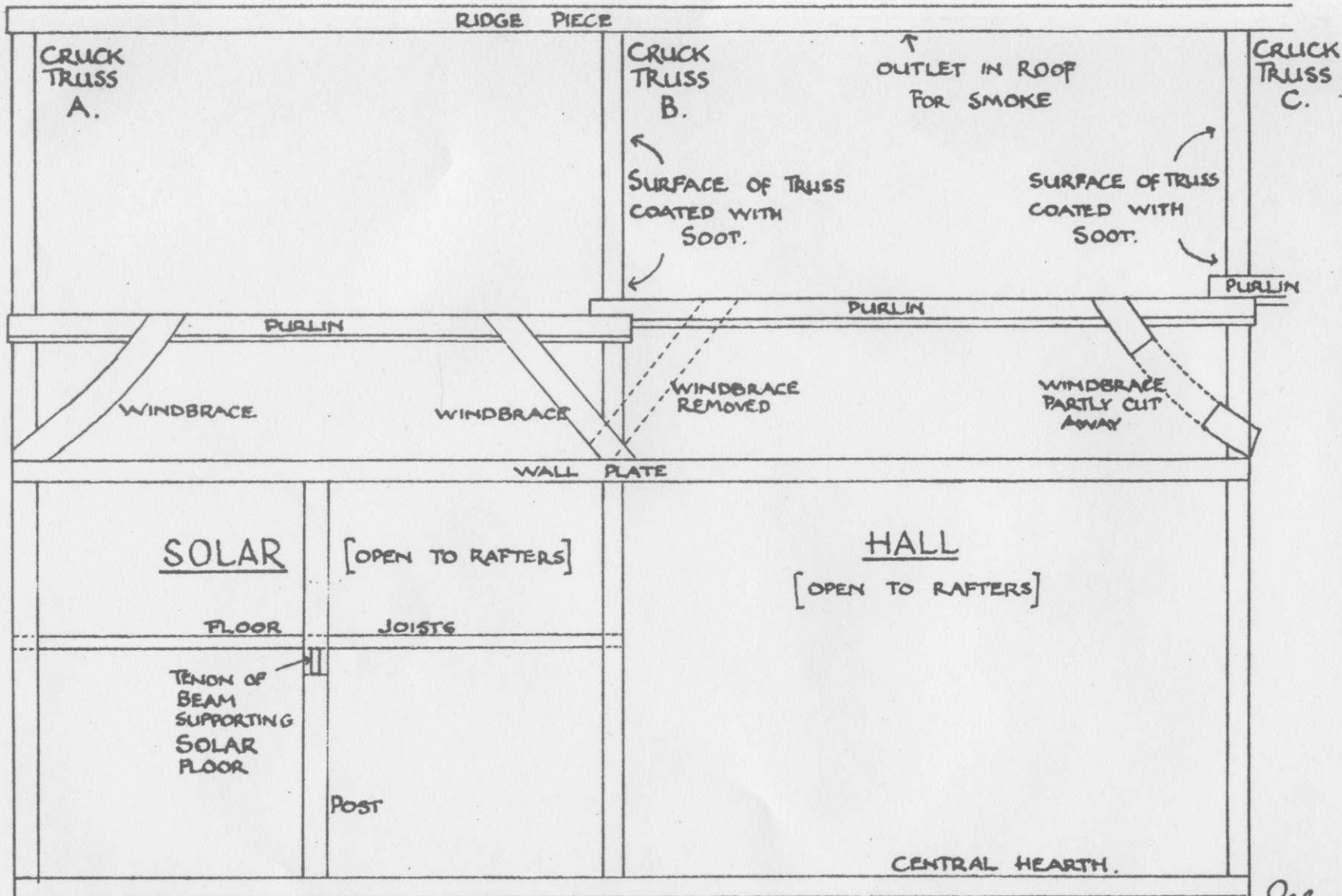


FIG. 8.

PR

CONJECTURED USE
OF STUDS AND PARTITION
UNDER BEAM
SUPPORTING SOLAR
FLOOR.

No. 71.

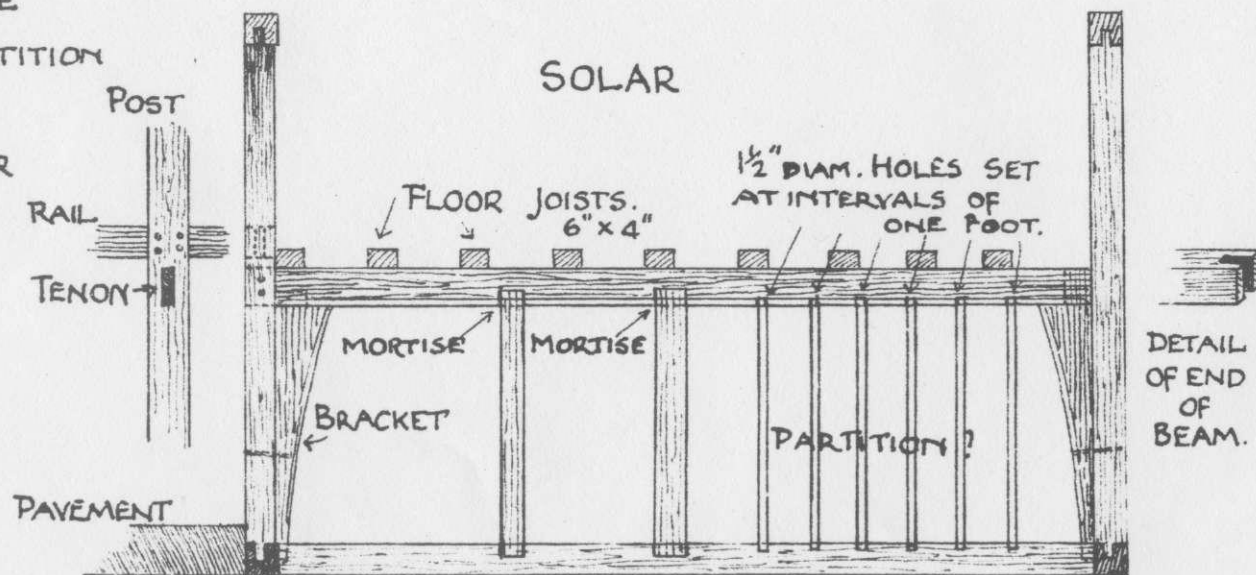


FIG. 9.

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FIG. 10.

THE WYRLEY AND ESSINGTON CANAL.
By C.J.Gilson B.Sc.

The Wyrley and Essington Canal, which now forms part of the Birmingham Canal Navigations, has a history which illustrates the course of the history of water transport in Great Britain. It is to be regretted that so many historians have in the past devoted themselves to the study of Roman and Mediaeval Britain only, while neglecting the canals and other evidence of more recent history of the country. Fortunately there is a considerable revival of interest in canals, which, though it comes too late to prevent the closure of some waterways, may yet save many canals for holiday traffic and research, and quite a number as commercial transport routes.

From early times rivers have been important for transport of coal and people, and the early settlement of most countries follows closely the main lines of navigable rivers, but it seems probable that the first man-made canals were constructed more with a view to drainage than for navigation. Thus the Fosse dyke was dredged by the Romans primarily for drainage and was doubtless used secondarily for transport. An early canal was the Exeter Canal, built in 1563-6, but the main impetus of canal building, sometimes called the Canal Era, was in the Eighteenth Century, and started with the construction of the Bridgewater Canal, 1759-61. This was authorised under:-

"An Act to enable the Most Noble Francis, Duke of Bridgewater to make a navigable Cut or Canal from a certain Place in the Township of Salford, to or near Worsley Mill and Middlewood, in the Manor of Worsley, and to or near a Place called Hollin Ferry, in the County Palatine of Lancaster."

and it received the Royal Assent on March 23rd 1759.

This canal, completed in 1761, was designed and built under the direction of James Brindley, who, although not a trained civil engineer in the modern sense of the word, was a remarkable canal builder and one of the great men connected with canal history. The Bridgewater Canal, which caused a drastic reduction in the cost of coal in Manchester, was notable for its aqueduct across the River Irwell, considered by contemporaries to be one of the wonders of England.

The poor state of roads in England, frequently impassable to heavy traffic in bad weather, coupled with the difficulty and expense of navigating the winding and undredged rivers with currents making upstream traffic difficult, made the desirability of canals at once apparent, and the success of the Bridgewater Canal ushered in the Canal Era. Many of the canals built at this time survive to the present day, but many fell by the wayside

through lack of sound technical and financial policy.

While many local speculators were concerned only with cheap transport of their own products, Brindley had the foresight to see the possibilities of an integrated national canal system. He envisaged a Canal Cross, with Birmingham at the centre. This would link Liverpool to London, and the Trent to the Severn. This would give the Black Country an importance as the crossroads which would immensely help its development. Birmingham is twenty miles from the Severn, fifty-two from the Weaver, and twenty-eight from the Trent. As road transport was lengthy and expensive - it cost three pounds to take three tons of goods from Birmingham to Burton and took three days - canal transport was the solution and in the early days of canals, freight charges were cut to about one third of the road prices.

The earliest Black Country canal was the Birmingham Canal begun in 1766, which reached Wolverhampton in 1772 via Wednesbury and Bilston. The success of the early canals, including those forming the Canal Cross:- The Trent and Mersey Canal (1766-1777), The Staffordshire and Worcestershire Canal (1766-1772), The Coventry Canal (1768-1789), The Thames and Severn Canal (1783-1789): led to a Canal Mania in the early 1790s. The number of Canal Acts passed to authorise canal works was as follows:-

Years	No. of Acts.
1760-1770	14
1771-1780	14
1781-1790	9
1791-1800	54
1801-1810	8

This Mania led to many unnecessary canals, some of which were never even completed, others of which lasted only a few years.

The Wyrley and Essington Canal was originally projected as a local goods carrying canal linking the mining centres of Wyrley and Essington with the towns they supplies, Wolverhampton and Walsall. It was not originally intended to come to Lichfield and this section was a later addition. The first canal planned for Lichfield was a proposed extension from the Trent and Mersey Canal into Stowe Pool. The suggestion was put forward by Brindley in about 1760 and the proposed plans can be seen in the Burton Museum, but this was never put into practice, and once the Wyrley and Essington Canal was built, the advantages of extending it via Lichfield to the Coventry Canal were realised.

The normal pattern for the construction of a canal was as follows. A group of men would have the idea and would advert-

ise a meeting to discuss the project. A committee would be set up and an engineer commissioned to survey the route and give an estimate of the probable cost. This report, if approved, would be followed by a petition to Parliament for leave to present a Bill. This was necessary as the Company would have to be a Joint Stock Company, and under the Bubble Act of 1720, following the South Sea Bubble, all joint stock companies required Parliamentary sanction. It also gave them power to impose bye-laws.

The shares would then be sold, normally only a part of the face value would be called in, more being demanded as the construction got under way. The first expenses of the company might well be the lawyers' fees for fighting or buying off opposition to the Bill before Parliament. A canal might be opposed on many grounds - perhaps for destroying the peace and quiet of a town. Lichfield was against a canal coming into the city - hence its path on the south side of the city and some distance from it. A canal might also be opposed because it cut an estate in two, was liable to cause flooding of mines, might compete with another canal or injure road transport by reducing the tolls on the turnpikes.

If all went well the bill would eventually receive the Royal Assent and construction could begin. If the engineer had seriously underestimated costs however, a further act might be required to permit further borrowing. The first General Meeting would appoint a Secretary and Committee to supervise the building of the canal.

The work was carried out by unskilled workmen who were partly drawn from the local countryside, and partly from a wandering group known as "navvies", not always welcome visitors to the countryside. There were also skilled craftsmen such as carpenters, bricklayers et. All these men were under the direction of the engineer. It can truly be said that the canal era gave rise to the profession of Civil Engineering. The men who undertook this work had no experience of their own or anyone else's to go on and they undertook engineering works on a scale unprecedented since Roman times. There were therefore many blunders due to inexperienced and sometimes even dishonest engineers. Since little was known of the geology of the countryside (this was before the publication of the Ordnance Survey maps) a canal might be easier or harder to construct than had been anticipated. At first, following Brindley's lead, canals tended to follow the contours, but this produced winding and unnecessarily long canals and when it was realised that soil from a cutting in one place could be used to make an embankment in another, straighter canals

were built and many of the older canals were reconstructed and improved as new techniques of building were developed.

The land required for a canal was purchased with difficulty in many cases - when the company and landowners disagreed, the canal act would provide for a body of commissioners to settle the dispute, and the commissioners usually favoured their fellow landowners. Appeal could be made from the commissioners to a jury but this was rarely done. Most land was bought for thirty year's purchase.

The history of the Wyrley and Essington Canal can be traced by reference to the Minute Books in the British Transport Commission's museum, which include those of the Wyrley and Essington Canal, and to the files of the Wolverhampton Chronicle and other papers, and the Hansard Reports of the debates of the House of Commons and the House of Lords.

The first definite mention of the Wyrley and Essington Canal seems to be in August 1791, when an advertisement was inserted in the Wolverhampton Chronicle for August 10th, 17th, 24th and 31st. This was required by the standing orders of the House of Commons which necessitated notice being given of the application to Parliament for a canal bill at Quarter Sessions in every county through which the canal passes, with a paper giving details to be posted outside the courtroom, and an advertisement printed in at least one county paper three times in the August or September before the session of Parliament in which the application is to be made.

The advertisement reads as follows:

"Notice is hereby given that application is intended to be made to Parliament the next session, for leave to bring in a bill, for making a navigable canal from or near Wyrley, in the County of Stafford, through the several parishes or townships of Wyrley, Bushbury, Bentley, Walsall and Wolverhampton, in the same county, to communicate with the present Birmingham Canal at or near the town of Wolverhampton.

A subscription for defraying the expenses of the above undertaking is opened and left at the offices of Messrs. Chrees and Wightwick, Attorneys, where a plan and estimate of the expenses of the intended canal may be seen."

The purpose of the canal was to open up the extensive coal-fields of the area around Wyrley and Essington. Priestley in 1831 comments of the value of the canal and its extension to Lichfield, as providing a national market for Chase coal since one could go from it to the Trent and Mersey, Oxford and other

canals. Canals had taken so much coal away from Wolverhampton and area that new supplies were needed to keep prices down. In the early stages of the completed canal it must have been hoped that that it would capture some through traffic between the Midlands and Hull, and even play a part in a Hull-Midlands-Bristol link but this does not seem to have materialised. The Worcester and Birmingham canal link was not completed until 1815, and prior to that the route from the Severn to the Trent was either from Stourport to Dudley and Birmingham and down the Fazeley Canal, or to Wolverhampton and down the Wyrley and Essington to Fradley.

The extension to the Daw End Branch opened up the limeworks at Rushall and Daw End, a trade which continued on and off until after the 1939-45 War. This lime was of great value both as a flux in iron-making, and for agricultural purposes as the soils of Cannock Chase are acid and unsuitable for farming unless lime is added.

Efforts to develop the canal for more general usage than coal or lime traffic were often made after the canal was built but were unsuccessful. The House of Commons Journal records, on the 10th February 1792 a petition for leave to introduce the Bill into the Commons. This read as follows:

"Apetition of several gentlemen and others, (implying a nice social distinction, but no names are mentioned), presented and read, setting forth that it appears by levels and surveys lately made that a canal for the navigation of boats, barges and other vessels may be conveniently made from or near a place called Wyrley Bank to or near a place called Green Lanes in the Parish of Walsall, and to and into a farm called Stone Heath in the parish of Wolverhampton and two collateral cuts from Pool Hayes to Ashmore Farm, and from Lapley Hayes to another part of Ashmore Hayes - the canal will open a communication with several valuable mines of coal, limestone and other minerals, and will be of great public utility."

There was no opposition to the Bill although the Conduit Lands Trust had to be bought off prior to the presentation of the Bill to Parliament. The Bill passed quickly through Parliament - as did many other canal bills - its readings in the House of Commons were on 14th February, 20th February, and 28th March, when it was sent to the Lords, where it received its first reading on the same day, and its second reading on the 29th March and the Royal Assent was signified by a Commission on 30th April 1792 - the passage of the act took from 10th February to 30th April, under three months.

The first General Meeting of the Company was now called to meet in Wolverhampton at the Red Lion Inn, and the Act entitled "The Company of Proprietors of the Wyrley and Essington Navigation", empowered the proprietors to raise £25,000 in two hundred shares of £125 each, with power to raise a further £20,000 either among themselves or by mortgages on the tolls or rates. A call of £10 per share was made immediately on the shareholders who came from quite a wide area.

The forty-seven original shareholders can be divided as follows:

- 24 residents of Wolverhampton
- 4 residents of London and
- 1 of nearby Windsor.
- 4 residents of Birmingham
- 2 residents of Lichfield
- 12 residents of Staffordshire.

This reinforces the belief that most jointstock companies were financed locally, it is not yet that it becomes normal for investors to hazard their money in ventures far away from home. The number of shares ranged from eight for James Herden, Banker, of Wolverhampton, and prime mover in the project, eight for Thomas Wightwick, Solicitor, of Wolverhampton, and six for his partner William Chreese - the three men most concerned with the canal project and members of the committee for many years, to the ones and twos of small local businessmen. The Vernons of Hilton Park, Henry and his son Charles, had six each, and the Honourable Caroline Vernon of London had six also. The shareholders' occupations varied widely; Bankers, Merchants, Clerks in Holy Orders (Revs. Lawson, Clare and Tindale of Wolverhampton), Ironmongers, Shoemakers, Brassfounder, Steel Toy Maker (reminding us of the old use of the word, meaning any small steel goods) Glazier, Ironholder, etc.

The Company then elected a secretary, Mr. Wightwick, and a Committee was also elected. An advertisement in the Wolverhampton Chronicle of May 16th 1792 invited applications from a person desirous of cutting all or part of the canal, and on July 4th 1792 an advertisement reports the appointment of five commissioners to meet at the New Angel Inn to settle and ascertain damages already sustained or likely to be sustained in the making of the canal.

On January 30th 1793, the following advertisement appeared in the Wolverhampton Chronicle:-

"Navigators Wanted a number of cutters on the Wyrley and Essington Canal. Good encouragement will be given. The whole of the canal is level cutting. Also a brick-maker wanting, that can make 500,000 or a million of bricks.

A good price will be given. Apply to John Brown, Wolverhampton, or John Hampson on the line of the canal."

The construction of the canal had started some time in the late summer of 1792. It is not certain who was the engineer in charge, but it appears from Priestley's book, "Historical account of Navigable Rivers, Canals and Railways of Great Britain, 1831" that W. Pitt was the man who was the engineer of the canal. He is also referred to in the House of Commons Hansard for February 1794. He seems to have been the W. Pitt noted as a Staffordshire County Historian, who was born in 1749, died in 1823 and was buried in Tettenhall. However the Minute Books refer to a Mr. John Brown, appointed engineer in 1799 - his salary was reduced from £100 to £70 in 1801. He died soon afterwards and was replaced by his son, who was dismissed in 1802.

As building of the canal got under way, the committee decided that it would be a good thing to extend the canal, and at the third General Meeting (these were held twice a year) held on the 10th May 1793, the committee was instructed to proceed to procure an Act of Parliament to extend the canal to Huddlesford, with a branch to Hayhead. The plans for the proposed canal were deposited with the Clerk of the Peace on the 9th November 1793, and may now be seen in the William Salt Library, Stafford.

Hansard records a petition for leave to introduce the bill on 31st January 1794. It was reported that the first canal was nearly completed, and the bill was given its second reading on 6th February 1794.

A petition was received by the House of Commons requesting that permission be granted to add to the bill the Catshill - Rushall branch which was omitted by mistake, and this was granted. Two petitions against the canal were presented - one from Phineas Hussey of Little Wyrley, fearing injury to his mines on the route of the proposed canal, and one from Joseph Bradley and Francis Edwards of Goscote, fearing a diversion of the water intended to drive their blast furnaces. These petitions were not successful, and the bill was passed to the Lords on the 17th March 1794 and received the Royal Assent, signified again in Commission (by the Lord Chancellor, the Archbishop of Canterbury, and the Marquess of Stafford) on the 28th March 1794.

At the half-yearly meeting of May 16th, 1794, six hundred new shares were issued to finance the extension. Two hundred of these were to be given to the Proprietors of the original canal in proportion to their holdings. The 1794 Act authorised the raising of £75,000 and a further £40,000 if necessary. Four hundred shares were available for the general public. They were to be sold at £125 face value, with an immediate call of £10 per share.

The ownership of the shares was wider. Three Londoners bought shares; the Hon. Caroline Vernon bought ten, and some nineteen Lichfield people bought some also. Other shareholders were more widely scattered, including some in Coventry, since the canal linked up with the Coventry Canal and so should increase the trade along it. Others were from Stone, Handsworth, Bridgnorth, Buckingham, Uxbridge and Kenilworth.

The canal is described in "Inland Naigation - or Select Plans of the several Navigable Canals throughout Great Britain, accompanied by abstracts of the different Acts of Parliament relating to them" by John Cary, published in November, 1795. This tells that the canal was twenty-eight feet wide at top water and sixteen feet wide at the bottom and four and a half feet deep - the sloping sides being intended to prevent erosion. The Act permitted the Canal Company to buy land up to twenty-six yards wide on which to construct the canal, allowing for towpaths, embankments, sides of cuttings etc.

Cary states that the principal articles of carriage on the canal were :

"Coals - the whole country being full of that article of a very good quality and abounding on the banks of the canal nearly the whole extent. Lime - the limeworks at Rushall and Hayhead are on a very extensive plan, inexhaustible as quantity and of a very superior quality. Ironstone and iron - the former abounding in the vicinity and many ironworks within a small distance of the canal."

The intent of the canal - to convey the coal (now mostly unproductive) at a cheap rate to the manufactories of Wolverhampton, and also by its junction at Huddlesford, open an immediate communication with Oxfordshire and the Metropolis - was to make possible the exchange of large quantities of coal and other articles for grain. The Returns of Barges and their Owners of 1795, now in the William Salt Library, shows one barge owner running barges from Norton Colliery to Oxford - 162 miles and carrying 24 tons. The other recorded journeys are short, Wolverhampton to Essington. John Cary also praises the possibilities of carriage of other commodities on the canal and adds:

"The agricultural interest of this country is likely to be very much benefited by the introduction of lime to a variety of lands heretofore inaccessible from the bad state of the roads. The canal opens an immediate communication with the ports of London, Bristol, Liverpool and Hull."

However the idea of the canal playing an important part in the "Cross", Hull - Bristol, which seems to have been one of the ideas behind the 1794 Act, did not materialise, as goods went by the Coventry and Fazeley Canals to Birmingham, and trade on the

"Cross" did not anyway develop as expected, though even today were it open, the canal would link Walsall with Hull.

At the meeting of 11th May, 1795, the Company rules were drawn up and they read as follows:

Byelaws of the Wyrley and Essington Canal

1. All boats going to Wolverhampton are to keep to the towpath side of the canal, and boats going to Lichfield, loaded or unloaded, are to give way to boats going to Wolverhampton. Penalty 5/-
2. Speed, 2 - 3 m.p.h., no more, no less and no overtaking. Penalty 20/-
3. After loading a boat must move off within the hour. Penalty 20/-
4. Horse-drawn boats must be steered. Penalty 10/-.
5. Towrope must be 4 feet above the side of the boat - on a mast. Penalty 5/-
6. Unless used for towing no horse or ass to be on the towpath. Penalty 5/-
7. For breaking fences, penalty 10/- to 40/-
8. For boatmen leaving open gates on the towpath. Penalty 10/-
9. Anyone bathing themselves, or swimming a dog in the canal. Penalty 5/-
10. All moored boats to be moored at both ends. Penalty 10/- to 30/-.
11. No one to search the canal for coal except the owner of coal carried on the canal. Penalty 20/- to 40/-.
12. No one to navigate two boats tied together without a steerer in each. Penalty 20/- to 40/-.
13. In locks a boatman shall examine paddles and water levels before opening the gates and shall guide a boat gently into the lock, and be prepared to stop the boat ramming the end of the lock. He shall not use an iron-tipped staff to force the boat out of the lock, nor attempt to flush it out with the paddles nor let the boat out until the lower valves are lowered, and he must shut the lower gates when out of the lock. Penalty 40/- to £5.
14. No one to draw more water than necessary to fill a lock for the convenient carriage of his boat, nor drain water from one lock into another to improve navigation without consent, nor leave paddles and valves up and waste water. Penalty 40/- to £5.
15. No boatman to bang into a swivel bridge violently, nor leave them open on the side of the canal. Penalty 20/-.
16. No boat to be drawn by more than one horse, mare or gelding. Horses not to eat the hedges planted along the side of the canal. Penalty 20/-.
17. Boats not to be unloaded or loaded on aqueducts or in a lock. Penalty 10/- to 40/-.

18. Unloading to be at wharfs as wharfingers direct. Penalty 40/.
 19. Any boat with no cargo, or less than 20 tons to pay rate as if carrying 20 tons (unless returning after emptying cargo.
 20. No timber to be floated on the canal, or cargo dropped in, nor anything to be thrown into the canal. Penalty not exceeding £5.
 21. Any malicious damage to canal banks, works, etc. - a felony to be tried by the Courts.
 22. Mooring ropes and chains not to obstruct the towpath. Penalty 10/- to 30/-.
- These were to be printed and posted up along the line of the canal.

The company proceeded over the next few years to draw in the payments on the shares, with much difficulty in some cases, in 1796 the committee decided that the shares in arrears should pay interest on the arrears and that refusal to pay should lead the company to sell the shares, and also that the company should borrow £5,000.

The opening of the canal is advertised in Felix Farley's Bristol Journal of May 20th 1797, stressing the link provided between Hull and Bristol, Wolverhampton, Walsall, Lichfield, Coventry and Oxford. The Hull Advertiser also reports that the canal is now fully navigable in June 15th 1799. No record is available in Coventry papers, destroyed in the war, nor in the Wolverhampton Chronicle.

The first recorded dividend was paid to the two hundred shareholders on May 10th 1798 - £7 a share. However the canal company was still short of money and the committee was empowered to borrow £5,000, to finish the Hayhead and Lord Hayes Branch.

The company soon encountered another and more serious difficulty. Henry Hilton of Hilton Park, owner of the coalmines on the canal branch to Essington seems to have quarrelled with the canal company, for unspecified reasons, and in December 1798 he petitioned Parliament for leave to build a railway from his mines to the Staffordshire and Worcestershire Canal and thus deprive the Wyrley and Essington of much revenue. His petition was answered by counter petitions. The Staffordshire and Worcestershire Canal Company opposed the idea, as did landowners on the route of the proposed railway. The proprietors of the Wyrley and Essington Canal opposed it stating that Mr. Vernon was bankrupt in 1789 and had handed his lands over to Mr. Hordern, the company chairman and a banker, and the canal was built on Mr. Vernon's assurance that his coal should be carried on the canal. The Bailiffs and Citizens of the City of Lichfield petitioned against

the bill in 1799, pointing out that they had provided a free wharf to enable cheap coal to be available in Lichfield, and if Mr. Vernon sold his coal away from the canal, coal prices in Lichfield would rise.

The bill was ordered to be put off for six months, on 12th February 1799, and nothing more was heard of it. However the Wyrley and Essington Canal had spent a considerable amount of money on opposing the bill; up to £3,000 had been voted by the committee. Trouble with Mr. Vernon continued, as late as 1812 the committee was to take him to arbitration to settle outstanding debts. He seems to have been a headstrong man - when a barge sank in the branch to his collieries in 1799, he asked permission to drain the canal in order to raise the boat, and when this was refused, had his servants cut a breach in the bank of the canal - a felony! Part of the problem may have been over the difficulty of filling his part of the canal with water, it had no supply except presumably what came out of his pits. The secretary reported in 1799, the difficulty of making Mr. Vernon pay for the cost of building this branch whose opening was to be advertised by handbills in July 1798, to carry boats of fifteen tons, and which was therefore presumably a private branch. It was closed by 1829, and traces of it have now almost completely disappeared under a coal tip.

The finances of the company seem always to have been shaky. The May 1799 committee meeting reported confiscation of four shares, which were resold at £85 each - cheap for £125 shares. In May 1800 a shareholder refused to take up shares bought earlier, presumably doubting their worth and was released from any obligation to do so. In July 1800 a special meeting was called by some of the leading shareholders to enquire into the fact that the proprietors owed the company over £3,000 and they asked for a balance sheet but were outvoted. The minute book is always recording the borrowing of money. Many canal companies seriously underestimated the costs of construction, and overestimated possible revenues - the tremendous success of some canal companies paying 75% or more on their shares, being partly responsible for this.

The secretary noted, in rough notes of April 1798, that it would be impossible to complete the Hayhead branch, until there was sufficient money in the Treasurer's hands, also the money had to be given for compensation for land taken by the canal and for damages done by the canal. In 1800 £24 was paid to Messrs. Landfords for damage done to their limeworks by floods in August of the previous year, and in the same year £100 was sent to the County Treasurer for damage done to a bridge, and there were many other expenditures that kept up costs.

The cost of a six foot lock near Sney Junction in 1798 was recorded at £136.1s.0d. The canal had thirty locks in the Ogley flight, and ten on the Sneyd branch. The total cost then if they were all the same price was £5,442.

By 1800 the main part of the canal was complete, but not the branches. The Lord Hayes branch was ordered to be begun in September 1799, and the branch to Birchills ordered to be completed in June 1800. In November the committee ordered that the Hayhead branch be completed as soon as possible, though there seems to be some doubt whether Brown or Pitt was then the Engineer-in-Charge. There is a reference to a survey made by Thomas Telford, to be asked for in January 1799, and noted in May 1799. Messrs Boulton and Watt were consulted in 1799 as to the cost of a pumping engine to raise water into the canal at Goscote, where the canal cut through a colliery.

The price of barges is quoted in 1800, "new boat compleat with high cabins, elm bottom and oak sides - 3" plank £76. The same with low cabin - £73.10s.0d. with one month's delivery."

The canal company itself did not provide barges to be used on the canal - this was not made legal until 1845, when it was too late. They obtained their income solely from tolls on other peoples barges, which made the canal companies less interested in providing through long-distance facilities than if they had had their own fleets of barges. In 1800, the canal was not the canal we see today, capable of carrying 25 tons of cargo per barge, and it would carry more if dredged. It was narrower without such neat brick edges, and remains of that early canal can be seen today in the cut off section at Pipe Hill. In July 1801 it was reported that barges carrying only eighteen tons could navigate only with difficulty, and owing to lack of water two boats took two days to go from Lichfield to Walsall. This may have been due to a dry summer.

A list of rates chargeable was included in the original act. These were supposed to be maximum rates, but by 1800 they had been raised considerably. Bricks now were charged 2d, per ton per mile, pig iron 1/- per ton for the whole length of the canal and cast iron 1½d per ton per mile, or 2/6 for the whole length of the canal.

The list of tolls charged by the company was always being changed - the Acts for constructing the tolls gave maximum tolls and as the state of trade fluctuated, so did the tolls. The 1792 Act authorised : for corn, grain, timber, etc. 2d per ton per mile for coal, coke, etc. 9d per ton per mile.

The 1794 Act authorised: for all coal (except slack or coal used for burning limestone or bricks), Iron 9d. per ton per mile.
for all goods having paid the 9d. and going down Ogley locks, 1/3 per ton.
for all goods originating between Cats-hill and Huddlesford, 2/- per ton.
for inferior coal not passing a lock, 6d
for inferior coal passing a lock, 9d.

This illustrates the preoccupation with water which must characterise a canal. A lockful of water must be replaced, at expense, by building a reservoir or pumping engine and maintaining it.

The company also had toll rates for other commodities, and reduced tolls on wheat and flour to nothing in November 1800 because of the high price of provisions. In 1803 the committee was thanked for its work in attending to the prosperity of the canal - then considerable. However this happy state did not last. A list of debts revealed at a meeting at the Swan Inn, Lichfield on 10th November, 1803, showed the company as owing £5,500, and in November, 1804, a dividend was to be paid only if the company could afford it. In 1807 the rates of carriage went up to 1/9 per ton per mile on coal and limestone.

Soon the company ran into the problem of individual traders seeking special terms, and had to decide how far they could be granted without detriment to the revenue. In 1799 the committee agreed to 3d per ton toll on lime taken from Linley Works to Aldridge Wharf. In 1800, Mr. Wilkinson wanted an abatement to be made to enable him to navigate the canal, and the secretary commented in his rough notes "would it be prudent to make him any, and what abatement if any can be made, and should it not be general?"

The tolls fluctuated with the state of trade, and the depression of the post war years did not help the canal company. By the 1820s they were already thinking of amalgamation with the Birmingham Canal Navigations.

The few figures of receipts on the canal files show that from April 1st to November 11th, 1799, revenue was £1,344.14s.7½d. which must imply a tonnage of over 20,000 tons in the seven months. The records of the half-yearly committee meetings from 1808 to 1824 are very brief, recording only the re-election of the committee. Many of these members served for a very long time.

Additional bye-laws were drawn up in 1811 and 1812.

Bye-laws 11th November 1811

23. No one to navigate a boat on the canal loaded with limestone higher than the gunnel or sides of the boat. Penalty 40/- to £5.
24. No lock to be opened before 6am or after 8pm from 1st March to 10th October, nor before 6am or after 6pm from 10th October to 1st March. If so done without permission, penalty £5.
25. Unless owners of sunken vessels raise them immediately the company can do so and keep them until payment be made for the work

Ordered that to prevent the great injuries which the traders upon this canal receive from persons fraudulently purchasing from boatmen the property entrusted to their care, £5 reward for anyone reporting the selling or buying of such property.

Bye-laws 11May 1812

26. That watchmen keep an account of loading or discharging coal, marl, dung or merchandise where it is not done at the wharf. 10/- fine if such actions be not reported.
27. £5 reward for anyone informing on fishermen using nets.
28. Every boatman coming from the Birmingham Canal to have a strap 10 yards long fixed to the stem of the boat and round a strap post to be provided to prevent the boat striking lock gates.
29. Five guineas and expenses for information about persons damaging the bridges, locks, banks, posts, rails, quicksets, and other works of the Company.

In 1818 a request for reduced tolls was refused, and in 1822 a sub-committee was appointed to enquire into "the causes of the present decline in tonnage, and enquire what new avenues of trade may be opened, and what are the best ways of using our surplus water". The company sold some water to Dudley Canal and some to the Shropshire Union Canal - in 1834 they purchased 4,000 locks full of water. Cannock Reservoir is still one of the main reservoirs for the whole Birmingham Canal Navigation system. The sub-committee was also to discuss the possibility of links with other canals. Since there was no connection in Walsall between the Birmingham Canal Navigations and the Wyrley and Essington, there was a possible link here to be considered.

In 1824 a letter was received from the chairman of the B.C.N. containing the information that a petition was to be presented to Parliament to seek a bill to link Birmingham to Liverpool by rail. The Wyrley and Essington was asked to join in opposing the bill, to which the committee agreed. This stimulated the company to write to an engineer, a Mr. Rennie, who was asked but unable to survey the line of the canal and recommend improvements and

extensions. This shows that railway competition was to be feared. The first suggestion of a link with the B.C.N. at Walsall was made in 1825, but the petitioners to the committee were told to await the results of the survey, and the petition was introduced again in 1829. In the same year there were some petitions for the reduction of tolls, but these were rejected, and the lime-masters of Daw End were told that the tolls on lime were already so low "that the committee cannot feel justified in making any reduction."

The last ten years of the independent life of the canal were full of talk of union with the B.C.N. and of a junction canal in Walsall. The B.N.C. minute book for 4th June 1830 records that a letter had been received from the Wyrley and Essington suggesting union, and that the B.C.N. were agreeable; but as they had suggested such a union in 1820 which had been turned down, they wanted the Wyrley and Essington to draw up proposals. Relations between the companies were not good. One ground for disagreement was the carelessness of the Wyrley and Essington about supplying water to the B.C.N. at Wolverhampton, as they were required to do by the 1792 act.

In 1835 the B.C.N. was seeking Parliamentary approval for new works and it was suggested that the Walsall Junction be included. This the B.C.N. would not do, but in 1837, when a deputation from Walsall Borough Council attended a B.C.N. committee meeting, they agreed to support the idea, on the assurance that the Wyrley and Essington would supply the water. Since there are eight locks in the Junction canal, that would be an important item.

While the two committees were discussing the idea, a group of Walsall businessmen set about appealing for permission to build an independent junction so that they would then be able to hold the two canal companies to ransom. This hastened the agreement between the two companies and the Junction Canal was built in 1840-41, but it was obscured by the amalgamation of the companies in 1840.

The amalgamation of the two companies was suggested in 1838 by the Wyrley and Essington, and the B.C.N. was attracted to the idea, but unable to agree to the Wyrley and Essington's terms. Discussions were bedevilled by quarrels over the supply of water from the Wyrley and Essington to the B.C.N. The terms proposed by the Wyrley and Essington were as follows:

Wyrley and Essington shares to be guaranteed dividends of 1838, £6; 1839, £7; 1840, £8; 1841, £9; and then profits to be divided equally among the shareholders, one Wyrley and Essington share to be equal to one B.C.N. share.

These terms were not acceptable to the B.C.N..

In January 1839, the B.C.N. offered £70 per share for Wyrley and Essington shares, and later a £60 allocation to be made on each Wyrley and Essington share, and one Wyrley and Essington share to be equal to one B.C.N. share. The Wyrley and Essington proposed a payment of £44 on each share, declined by the B.C.N. which did however agree to make the Walsall Junction Canal.

Terms of union were drawn up on 15th February 1839, and submitted to the Wyrley and Essington shareholders on 2nd March 1839. The terms were:

The companies to be consolidated from 9th February 1839.

Each Wyrley and Essington share to pay £49 in the same way as the B.C.N. had paid £71 per share (paid up).

The interest on this money, if unpaid by the shareholder was to be 4% deducted out of dividends.

All properties, debts, etc. of each company to become those of the new company.

The B.C.N. at its next dividend to pay no more than 5% and the Wyrley and Essington to declare a 5% dividend on the same day.

The Wyrley and Essington committee reported on 10th May 1839 that the bill had not been presented to Parliament, due to the notice given being too short, and the Standing Orders of the House were therefore not complied with. The petition was presented again on 24th January, 1840 and the first reading was on 7th February. In committee the bill faced opposition from the Trent and Mersey Canal, the Coventry Canal, and the Warwick and Birmingham Canal, due to the proposal for the Walsall link which might reduce their trade, and also to proposals concerning the reduction of tolls, which might lead to demands for their tolls to be reduced. A counter petition in favour of the bill was presented from Wolverhampton and Walsall Coalmasters and Limemasters and others in the neighbourhood of the Wyrley and Essington Navigation, praying that the bill might pass.

The bill went on to the Lords and received the Royal Assent on the 14th April, 1840. The Wyrley and Essington was now merged into the B.C.N. after an independent life of forty-six years although the name is still used for the canal as a section of the B.C.N. It is still used for the same reasons as in 1840, for its supply of water from Chasewater into the midland canal system, and as a means of transporting coal which yields tolls all over the canal network.

The Wyrley and Essington still continued to grow after 1840, although not independent, and we can continue the story down to

the present day. At this time a new set of tolls was drawn up:

Lime and limestone, $\frac{1}{2}$ d per ton per mile.

Timber, stone, bricks, tiles, clay, sand, slates, lead, sugar, rice, coffee, raisins, rags, ivory, brass, anvils, nails, pots, pans, spades, swords, scythes, curry combs, hinges etc. (an interesting list), 1d per ton.

All else, $1\frac{1}{2}$ d per ton.

All commodities passing Ogley locks, 1d per ton lock dues.

For any iron passing any part of the Wednesfield Canal (i.e. the Wyrley and Essington), to Huddlesford, $\frac{1}{2}$ d per ton.

This is a considerable reduction on earlier figures - iron from 9d in 1792 to $\frac{1}{2}$ d in 1840, and other figures are similar, railway competition being mainly responsible for this.

The B.C.N. committee reported in October, 1841 "that trade on the Wyrley lines is proceeding favourably, and the advantages of the Walsall communication are developing daily." The canal is reported to have been well cleaned, and trade on the canal picked up, indeed some traffic was going down the Ogley locks to the Thames and the Trent, thus avoiding the congestion on the Birmingham and Fazeley Canal. Development of blast furnaces at Pelsall is also recorded. They were put into blast in October, 1841.

The B.C.N. proceeded to rebuild most, if not all of the locks in the Ogley flight - the dates may be seen on the locks, and also on the map. In 1841 the committee reported that the canal had been scoured from Wolverhampton to the locks at Ogley, widened and deepened, and was probably in a better state than ever before. In December, 1841, the committee also reported rather surprisingly, that efforts were being made to supply Walsall and Lichfield with canal borne coal. The discovery of more limestone at Daw End is also reported. Drawbacks, or further reductions in tolls, were also reported at this meeting.

In March 1842 the report reads, "Efforts are being made to supply Lichfield and Walsall with coal, for some years both places have been almost entirely supplied by land - but from steps now being taken, it is hoped that canal will supersede road transport."

The dredging of the canal seems to have helped in this, as a later report of July, 1842, records improvement of the coal trade to Lichfield, and an improvement in the lime trade of the Daw End branch, partly due to the enclosure and therefore the farming of Cannock Chase.

Meanwhile the B.C.N. amalgamated with the Dudley Canal (established in 1776) in 1846, and in the same year came to terms with a proposed railway to link Birmingham and Wolverhampton, whereby the canal put up one quarter of the cost of the railway and was to receive in return 4% on the capital. This was a good arrangement since the railway was stimulated to work with the canal and not against it as was usually the case. Indeed, there is a railway and canal wharf at Brownhills and another at Wolverhampton, both are now disused, but are symbols of a co-operation now lacking between the two forms of transport.

The canal company retained its own committee and the railway treated it as a separate financial unit. The railways in the area were actually the means of financing further canal development, as they had to pay to cross canals, and use wayleaves and canal land etc., and the committee reported in 1847, that it had some £51,800 coming to it from the railways, which it was intended to use in extending the canal, to Norton and Wyrley Bank, not yet on a railway, yet both with pits.

In 1848 the railway between Lichfield and Walsall, opened in 1849, was asking if the canal could be closed to permit cutting off a corner of the canal at Pipe Hill and a bridge at Brownhills - the closure at Brownhills was to cost the railway £25 per day.

In 1853, Sir George Nicholls, the chairman of the Midland Railway, wrote to the chairman of the B.C.N. asking him to extend the canal branches, and he recommended an extension from Pelsall to Cannock, costing £30,000 and one to Wyrley Bank for £20,000. These works could not be undertaken without the consent of the railway company - no work costing more than £500 could be.

The plans for these extensions are to be seen in the William Salt Library, and they show the new concept of level canals - by cuttings and embankments - quite high near Norton Canes, straight and wide canals. The extension of the canal to Hednesford was originally intended to go right across the Chase towards Brereton, but did not get beyond Hednesford.

The act of 1854 authorised these extensions to the canal, and the one to Hednesford reached its destination about 1860, and that to Wyrley Bank by 1859. At the same time the feeder linking Cannock reservoir to the canal was cut out into a canal, entering at the top of the Ogley locks, and the Anglesey Wharf tapped new coalmines being sunk by the Marquess of Anglesey, who had been asking for this since 1849. The Freeth Bridge on the A.5 over this branch is named after the engineer responsible for it.

Having constructed the canal to Hednesford, the B.C.N. fell

foul of the Staffordshire and Worcestershire Canal, who regarded this as an intervention in their province - the parochial outlook which caused the downfall of so many canals.

However the B.C.N. and the Staffordshire and Worcestershire did come to an agreement, and the Churchbridge locks were built to link the two canals - the last major piece of canal building in the United Kingdom. They are now destroyed by open-cast mining. In five furlongs it dropped thirteen locks, some seventy-eight feet.

Today parts of the canal lie dry, or damp and disused, but the main function of the canal still exists, and coal is transported from Short Heath, Hednesford and the Anglesey Wharf to Walsall Power Station, coal merchants' wharves, gasworks and factories in the Black Country, and even beyond to London - a four and a half day trip from Anglesey Wharf. Very little, if any, other commodity is carried by the canal, but it still serves a useful purpose, as its coal reaches Walsall more speedily from Anglesey Wharf than does rail-borne coal, some four hours compared to two or three days!

There are several repair or boat-building yards on the canal - two at Bloxwich, and British Railways have their Walsall depot near the Sneyd junction. There are gangs of men employed in constant maintenance, but there are no locks on the canal as it is now used, though there are flights at Walsall and Daw End to link it with the B.C.N.

The original canal was built on a level of 473 feet above sea-level, with the Sneyd branch at 36 feet higher, with five locks - 509 feet; and the old Essington locks line to Mr. Vernon's colliery was another 24 feet higher with 4 locks (some plans show 5 and they have all vanished anyway). The level here is 533 feet above sea level, and this was very difficult to supply with water, one reason why it was soon abandoned. The newer part of the canal came down from the Cannock Chase plateau 270 feet by 30 locks - the Ogley flight, to the Coventry canal at Huddlesford.

The old Essington locks were abandoned at some time early in the 19th century, and the remainder of the canal continued open, even if little used until 1954, when the British Transport Commission Act closed the Sneyd and Wyrley Bank branches, and the Hayhead branch, the Lord Hayes branch and the Ogley locks (the stretch from Ogley to Huddlesford) all authorised in the 1792 or 1794 acts. Lichfield folk report that no barges other than maintenance boats came down the Ogley locks for many years prior to 1954. The canal is still clearly visible and may be

walked along throughout its length. Permission is needed from the British Transport Commission, but is readily granted. A section near Lichfield has now been filled in below lock No.20.

The future of the canal is linked very closely with the prosperity of the Cannock Chase coalmines, and when they are all closed the canal will face complete closure unless the B.C.N. still need it to carry water to their network, a task which keeps the Llangollen Canal open, supplying water from the Dee to Chester. The closure of the Ogley locks prevents any direct link between the Wyrley and Essington and the Trent and Mersey. However the main part of the canal is still fairly well used, and some of the boats retain their traditional markings and boatmen's paintings. The majority of them are wooden boats though a few steel ones are to be seen.

Although the Wyrley and Essington is only a small canal, relative to the mileage of all English canals in their heyday, its history illustrates very well the history of all British canals. It was built with enthusiasm and in an anticipation not fully realised, was much harmed by railway competition. and now lies partly derelict and partly used, though much below capacity.

Bibliography of Canal Literature

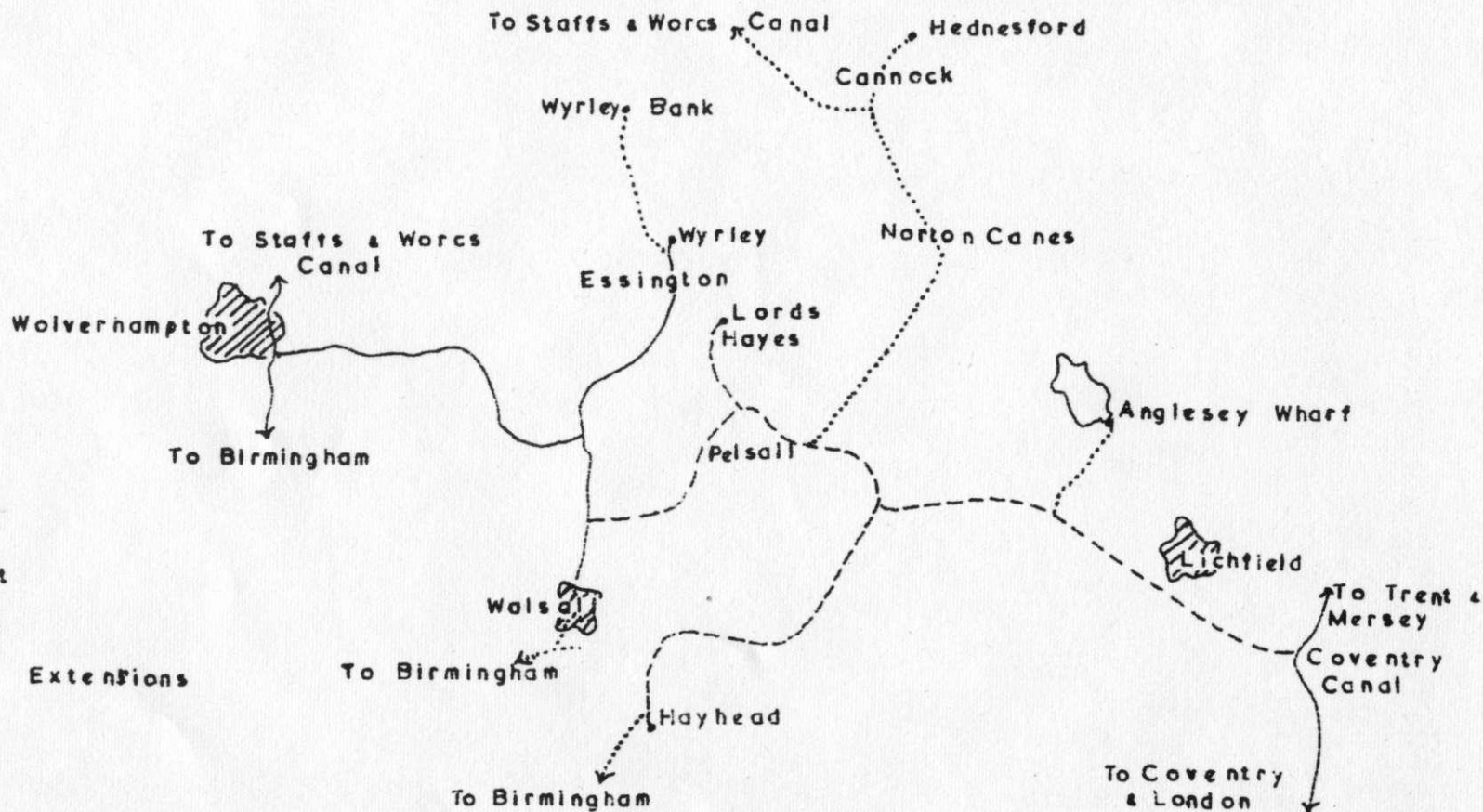
Works consulted for this essay.

1. The files of the British Transport Commission (Historical Records Dept.)
Minute Books of the Wyrley and Essington Canal
Minute Books of the Birmingham Canal Navigations.
2. The files of the Wolverhampton Chronicle.
3. The Acts of Parliament, and Reports of Debates in the Houses of Commons and Lords.
4. Maps and plans in the Staffordshire County Record Office and the William Salt Library.
5. Birmingham Reference Library - maps, pamphlets, etc. including Hudson J.F. Network of canals and navigable rivers in the Birmingham and Black Country region.
Collection of maps, plans, etc. relating to Midland Canals
6. Inland Navigation, or Select Plans of the several Navigable Canals throughout Great Britain, accompanied with Abstracts of the different Acts of Parliament, John Cary (Nov. 2nd 1795).

7. General View of the Agriculture of the County of Stafford,
Wm Pitt (1796).
8. History of Inland Navigation, J. Phillips (1803).
9. History and Directory of Walsall, Pearce (1813).
10. History of Staffordshire, Wm Pitt (1817).
11. Historical Account of the Navigable Rivers, Canals and
Railways of Great Britain, Priestley (1831).
12. The Canals of England, Eric de Mare.
13. Bradshaw's Canals and Navigable Rivers of England and Wales,
Henry de Salis.
14. A Chronology of Inland Navigation, Henry de Salis.
15. Inland Waterways of Great Britain and Northern Ireland,
L.A. Edwards.
16. The Inland Waterways of Great Britain, L.T.C. Rolt.
17. Canals and Inland Waterways, Cadbury and Dobbs.
18. The Story of Our Inland Waterways, Aickmann.
19. English Rivers and Canals, Hadfield.
20. British Canals, Hadfield.
21. Canals and Traders, E.A. Pratt.
22. Lichfield: A Study of its Growth and Function, Thorpe.
23. Men of Aldridge, Gould.
24. Victoria County History of Staffordshire.
25. Birmingham and Its Regional Setting, British Association
for the Advancement of Science.
26. History of Lichfield Conduit Lands Trust, Thorpe.
27. Gazetteers of Staffordshire and County Histories, Various.
28. Our Waterways, V.A. Forbes.
29. Newspapers from Hull and Bristol Public Libraries.
30. British Transport Commission Act. 1954.
31. Report of the Royal Commission on Canals and Waterways, 1910.
32. British Waterways Officials and British Waterways Maps
especially the Map of the Birmingham Canal System 1924.
33. Narrow Boat, L.T.C. Rolt.
34. Idle Women, Susan Woolfit. (Background, women on canals in
the war.).
35. Maidens Trip, Emma Smith.

THE WYRLEY & ESSINGTON CANAL

Based on the "Plan of the Wyrley & Essington Canal, as now executing, with proposed extensions
1793. by Wm Pitt, Surveyor."



KEY

—— 1792 Act

- - - 1794 Act

..... 19th Cent Extensions

BALANCE SHEET: Nov. 1st 1959 - May 31st 1960

DR.	£. S. D.	CR.	£. S. D.
Balance at Bank Nov. 5th 1959	13.10. 9.	Ernest Thomas Trust	1. 0. 0.
Membership Subscriptions		Annual Subscription to C.B.A.	10. 0.
17 @ 5/-	4. 5. 0.	Stationery	4.16. 6.
15 @ 10/6	7.17. 6.	Postages	3. 6. 9.
1960-1961		Insurance	4. 5. 0.
2 @ 5/-	10. 0.		
3 @ 10/6	1.11. 6.	Balance at Bank May 31st 1960	33. 8.11.
Donation	9. 6.		
Surplus on Social Evening	16. 3. 8.		
Surplus on Excursion	2.19. 3.		
	47. 7. 2.		47. 7. 2.

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