

## THE MILLS AND WATERCOURSES OF THE BELNE BROOK

### An introduction to the 1945 script of the late H.E.S. Simmons

by JONATHAN BRIGGS and GORDON TUCKER

The late H.E.S. Simmons studied wind and water mills throughout the country and compiled a massive collection of notes and scripts and other material which, on his death a few years ago, was donated to the Science Museum Library in London. His Midlands material was particularly comprehensive, as he had personally visited nearly every mill in the region. Among his collection was a typescript article of 1945 on the mills of the Belne Brook in North Worcestershire. This group of mills was of exceptional interest, as so many of them were concerned with the making of scythes for the national and international markets and kept working until comparatively recently. An abridged version of the article was published in The Miller, June 1947, pp.492-4. The full version is being published, it is believed for the first time, in the following pages of this Journal. It is an excellent article and it appears here without any revision although with annotations by us; but it has two small weaknesses, namely: (a) the locations of the mills as given by Simmons are generally rather imprecise, and (b) it misses three sites which we know about. Moreover, Simmons hardly discussed the watercourse arrangements, and we feel these are important and interesting enough to be recorded. Thus what we give in this introduction are (1) a complete list of the 24 mill sites of which we are aware, with their 6-figure grid references, together with a note of the present condition of the mill or site, and (2) a diagram of the watercourse and pond arrangements, mainly as derived from our study of the Tithe Awards of c1840.

#### The Mills

Numbering as on our diagram. Names (as far as possible) as given by Simmons.

1. Shut Mill. SO 948786  
Site exactly as described by Simmons, pond in good order.
2. Newtown Forge. SO 946776  
Building still stands, used as stables. Wheel was internal, and arch remains with one axle-bearing support. Pentrough with circular pipe remains, and leat traceable from pond, now dry.
3. Bell End Mill. SO 938773  
Mill and pond gone (obliterated by road widening), but an interesting old building remains, with arched timber beam above wide doorway, surmounted by brick arch.
4. Bell Hall Mill. SO 935773  
This had evidently disappeared before 1840, as the Tithe Map shows no mill, although it does show the old leat to it.
5. Galton Mill. SO 933773  
Most of mill building remains, northern section largely intact, southern section largely rebuilt to house BELBRO Precision Engineering. Wheelhouse, with wheel, remains intact. Pond and dam in good order, but no water power used.
6. Middle Mill and Forge. SO 927774  
Mill completely gone and a series of new fish ponds constructed. The bridle road leading to the site is still paved with a double line of old grindstones.
7. Blade Mill. SO 924774  
Site shows no remains of mill, but triangular pond remains.
8. Belbroughton Mill. SO 922774  
No sign of mill itself, but the pond is now an ornamental pond in garden.

# THE MILL AND WATERCOURSE OF THE WINE BROOK

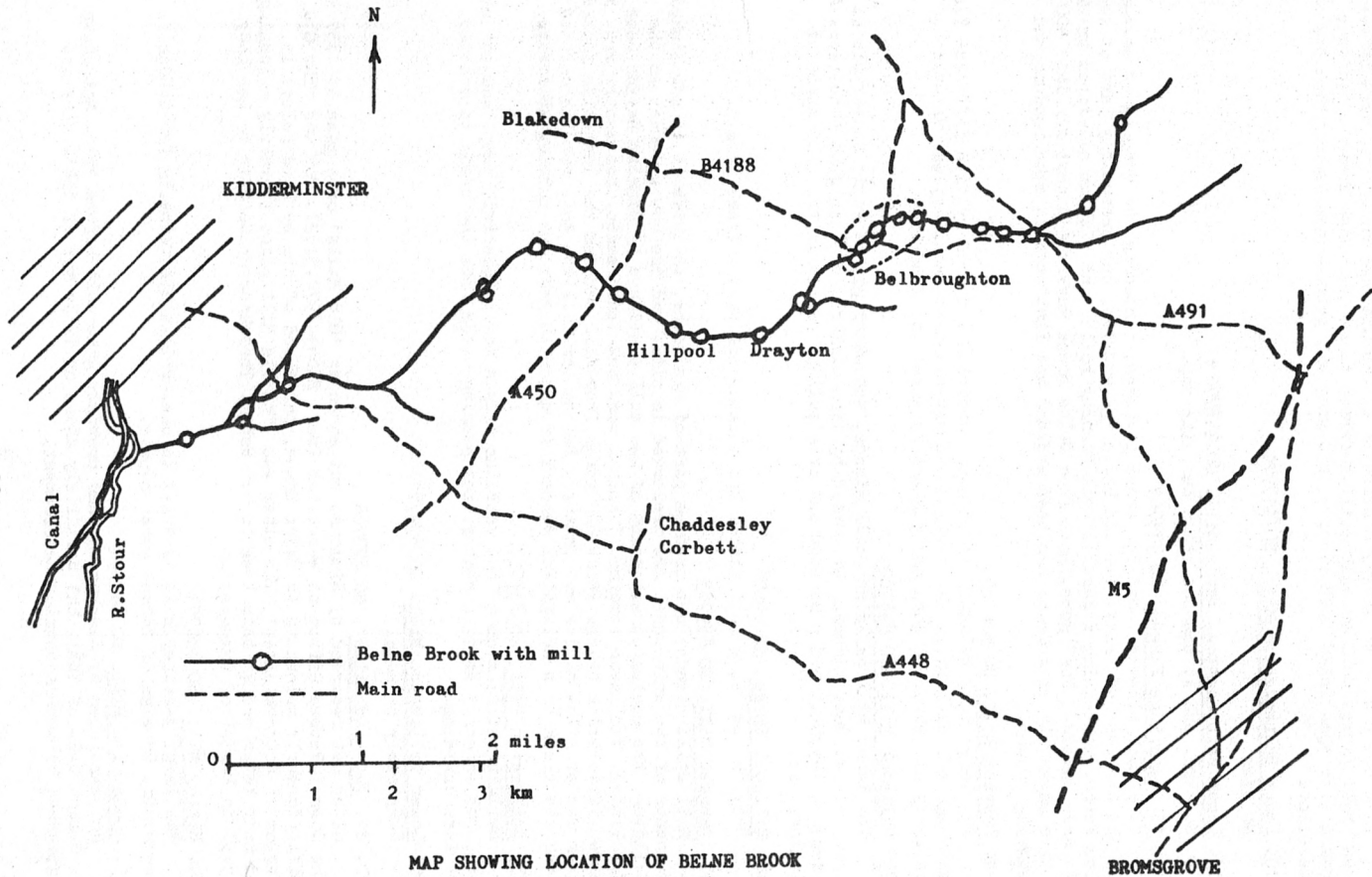
As introduced to the 1965 script of the late H.E. Johnson  
by JONATHAN BIRKIN and GORDON TUCKER

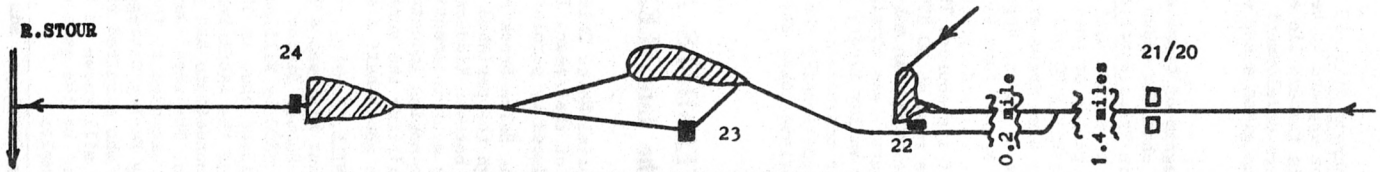
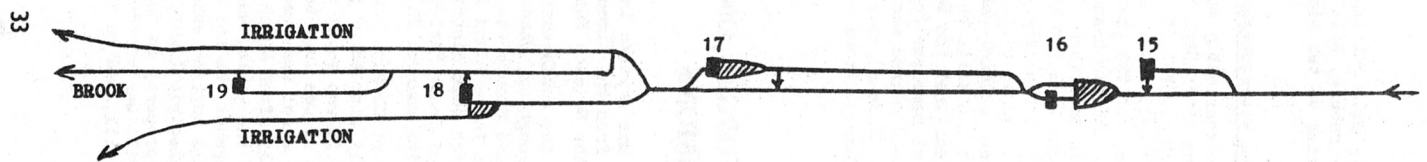
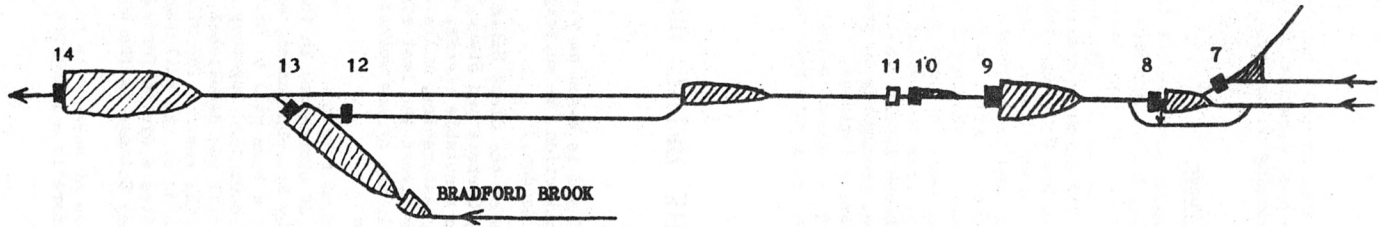
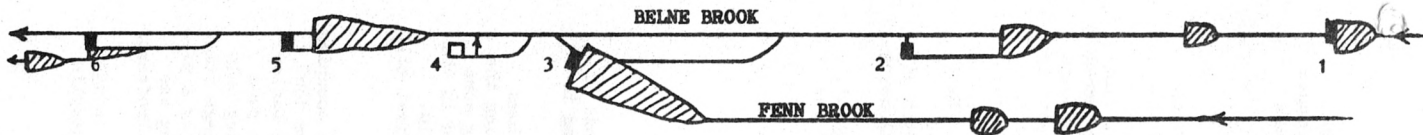
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## The Mill

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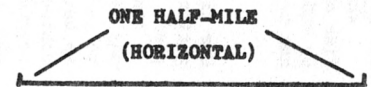
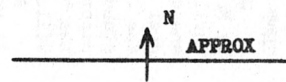
9. Belbroughton Forge. SO 919772  
Site now houses an untidy collection of old and new buildings, used by various small firms. Collectively still referred to as the 'Nash Works'. Old iron gates with name ISAAC NASH survive, and many old grindstones about. Pond dry and derelict.
10. Lower Belbroughton Mill. SO 917771  
No sign.
11. Lower Belbroughton, Early Mill. SO 918770?  
No sign, and it was not shown on Tithe Map.
12. 13. Weybridge Forges. SO 911765  
Site much altered, used for other purposes, including the dumping of dozens of old boilers and tanks. Two old buildings survive, one presumably part of the Top Forge, containing a derelict oil-burning boiler and with an oil-fired brick furnace outside. Pond gone. Leat from Belne Brook survives except for last 400 yards where its embankment has been widened and flattened to make roadway and dumping ground.
14. Drayton Mill. SO 906760  
The large mill building is in good condition and used by five different firms, although not as a mill. The turbine and water-driven machinery was removed as recently as 1979. The pond and dam are in excellent condition.
15. Hillpool Mill. SO 898760  
The large mill building still stands, and wheel pit is still detectable at eastern end. Roof timbers, supported by iron pillars, seem in good condition. A piece of layshaft and some wood and iron pulleys remain in the roof space at eastern end.
16. Hillpool Forge. SO 896761  
Only the walls, a roof timber and a cast-iron window frame remain.
17. Barnett Mill. SO 889765  
Mill still stands, but used as part of residence, to which it is now linked. Remnants of the waterwheel are preserved in situ, and are now external to the building, the eastwards extension of the mill mentioned by Simmons having been demolished. The lucam remains. Terminal pond and leat remain, but mostly dry. A nice little brick bridge about 200 yards from mill carries the leat-side footpath over the overflow sluice and channel. Beyond the mill the main road is carried over the brook by a delightful masonry bridge with gracious curving abutments.
18. Bellington Mill. SO 885769  
Building still stands, but contains only a modern electric pump, now out of use, but formerly used, probably, for pumping water from the brook to a house or farm building.
19. Lower Bellington Mill. SO 879771  
Completely ruinous.
20. 21. Two 'Old Mills'. SO 873766  
Sites not recorded by Simmons, but shown as 'Old Mills' on a plan of 1737 in the County Record Office at Worcester (ref. BA844-f970.5:92). One was 'The Old Mill (formerly belonging to Major Braud, purchased of him by Lord Foley) in Parish of Kidderminster'. The other was 'The Old Mill place (formerly belonging to Lady Yates and at this time to Sr Robert Throckmorton as Heir to her Ladyship) in Parish of Chadsley'.
22. Heathy Mill. SO 848754  
The large 3-storey mill is still in use. Driven electrically for producing feedstuff. No sign of former water supply.
23. Spennell's Mill. SO 845751  
Not mentioned by Simmons, so had probably gone well before 1945. Not shown on 6-inch O.S. of 1883, but definitely shown on Tithe Map of 1841. Site now submerged by modern housing development.





BELNE BROOK MILLS AND WATERCOURSES c1840

□ mill not on Tithe Map  
 ■ mill shown on Tithe Map



24. Hoobrook Mill. SO 837747

What appears to be an early mill building on site is now being demolished; fine old timbers lie among the rubble. Mill House also derelict. Mill surrounded by modern development - factories on two sides, housing on another. The brook has been given a new course.

The Watercourses and Ponds

Our diagram of these should be reasonably self-explanatory, except for the irrigation channels shown beginning after Barnett Mill, No.17. Mrs. Berkeley, in her paper in Trans.Worcs.Archaeol.Soc., Vol.11 for 1934, p.19, says these were part of 'an extensive system of irrigation ... carried out in the 17th century'. This may be partly or entirely true, but the plan of 1737 which we previously referred to (see Mills 20 and 21) shows the two channels as New Cuts, and the plan appears to have been drawn expressly to show them. The northern channel extended round the contour to beyond Upper Dunclent Farm (SO 865765), and the southern channel to beyond Mearse Farm (SO 876762). The northern channel is still in fair condition and can be readily traced, but, while carrying water at the beginning, is dry for most of its course. The southern channel has disappeared between Bellington Mill and the road at SO 879765, but can still be traced from that point onwards.

The 1737 plan makes it clear that the Belne Brook itself, in this stretch of its course, was straightened at some earlier date, presumably to prevent flooding of the valley floor, for the old course was extremely tortuous.

For convenience, we (like Simmons) have named the brook 'Belne' throughout, but traditionally the names Barnett Brook and Hoo Brook have been used for the appropriate lower stretches.

## **WATERMILLS AND FORGES ON THE BELNE BROOK** **by the late H.E.S. SIMMONS**

(Editorial Note. This script was written in 1945 and is based on visits made in April of that year. It comes from the Simmons Collection, is copyright, and is reproduced by permission of the Science Museum, London.)

The Belne Brook rises in the south-east side of the Clent Hills and flows through the parishes of Belbroughton, Chaddesley Corbett and Stone,\* joining the Stour between Kidderminster and Stourport. It is a notable stream, turning some of the most interesting mills to be found in Worcestershire, mills engaged in the scythe-making industry of which this district is almost the last stronghold.

Skirting the north side of Great Farley Wood, the stream worked the first mill within about half a mile of its source. This was

SHUT MILL, Romsley. 1m. S.W. of Church. Foundations remain.

Shut Mill was a flour mill with three pairs of stones and in 1821 was occupied by Mr. Samuel Barker. In 1834 it was being used by Mr. John Parkes, and from 1860 until 1880 by William Green. It was last used as a bone mill by Mr. George Dealey and closed down in 1886. The wheel was removed about 1920 together with a good deal of the machinery, shortly after which the mill was demolished, leaving only the foundations and parts of the walls, which still remain. The mill cottage still stands. The wheel was an overshot, on the east side of the building, fed by a pipe since extended to feed a small turbine which drives a dynamo for supplying the nearby Farley Cottage with electric light. Farley Cottage is the home of Professor Wills who acquired the mill property in 1926.

A mill known as Schute Mill was standing here or hereabouts in 1295; in 1500 it went by the name of Shet Mill, and in 1571 there is a reference to Shutmylle in Romsley.

\* Also Romsley - Eds

Continuing southwards and passing a long narrow pool we come to

**NEWTOWN FORGE**, Belbroughton. 1.3/4 m. N.E. of Church. Dismantled.

At Bell Heath on the southern fringe of Sling Common stands Newtown Forge, a small red brick ancient looking building consisting of one storey which contains the wheel and where all the work was done, with a small addition at the west end just large enough to house the fire and bellows.

It is shown on Taylor's map of 1800, and Greenwood twenty-one years later names it Newton Forge. In about 1835 Isaac Nash took over the forge and so became the founder of a celebrated firm of agricultural edge tool manufacturers who still trade under that name and whose wares are known and held in high repute in all parts of the world. Furthermore, at all the mills occupied by Messrs. Isaac Nash and Sons, water power is still used, most of the work still done by hand in precisely the same manner in which it was carried out a hundred years ago, and the old-fashioned tilt-hammers are still in use.

When Nash first started at Newtown a large amount of his business consisted of finishing off work sent down in the rough by Wood of Cradley, a firm now extinct but whose name is still used. Nash's cottage still stands on the bank overlooking the forge, and on the opposite side of the lane are two smaller ones once occupied by his workmen.

A pleasant surprise here as one enters this somewhat dilapidated building is the large wheel close up against the east wall, a 20ft. by 4ft.3in. overshot which fits closely against the sloping roof, the iron pentrough filling the space between the top of the wheel and the roof ridge. This wheel has a 13in. iron rim, iron buckets, wood sole, eight decaying arms aside, of wood, each measuring 6ins. by 3ins. and secured by four bolts in bosses on a 2ft.6in. circular nave; and the iron water-shaft is 10ins. square. There is no inscription on the wheel, but a trade plate on the massive iron stand bears the name of M. & G. Grazebrook of Dudley. This stand, which takes the inner bearing, was put in roughly fifty years ago and the wheel is said to be much older. All other machinery was cleared out soon after the mill stopped working in 1926. It was last used by Messrs. Nash who in the 'sixties called this their Newton Bell works, and the forgerman was Mr. Arthur Moore, whose son Edwin worked with him for some years and of whom we shall hear more about when we come to the Middle Forge, to which mill he went in 1919. When Newtown Forge was in working order the water shaft extended slightly beyond the bearing stand to accommodate a large toothed wheel of some 6in. face, engaging a smaller wheel which turned the heavy shaft carrying the two cam-rings by which the hammers were lifted.

Mr. Waldron who now has a small holding there uses the forge as a stable and store.

From Newtown Forge the stream crosses the main road at Bell End, where it forms a large pool which is fed by small streams coming from the east and south.

**BELL END MILL**, Belbroughton. 1 m. 1 f. E.N.E. of Church. Standing, at work.

Standing on the left hand side of the Belbroughton road near its junction with the main Bromsgrove to Stourbridge road, Bell End Mill was for many years a flour mill used by the Blundell family, William Blundell being in occupation from 1831 until his death in 1864, followed by his son Frederick until 1879 when it was taken over by William Overton. It afterwards became a gristing mill worked by a man named Bills who gave it up in about 1898, and after standing idle for a while it was converted into a scythe-grinding mill by W.R. Nash. There are now no floors in the mill above ground level, and the machinery is simple, comprising an iron pit wheel geared to a shaft across the mill which drives two wooden belt-wheels operating three grindstones on a similar shaft at the other end of the mill.

The wheel, fed by the pond at the back of the building, is at the west end in a separate compartment and is an all-iron overshot 16ft. by 4ft. with a 9in. rim, eight arms aside measuring 6 inches wide bolted into 8in. by 6in. sockets on an octagonal nave. The iron shaft is also octagonal. The mill is in almost daily use for scythe grinding.

**BELL HALL MILL**, Belbroughton. 1 m. E.N.E. of Church. Demolished.

Tradition, according to Mr. Edwin Moore of Middle Mill, says that a mill used to stand about two hundred yards beyond Bell End Mill, on the Bell Hall estate,

where a small part of the bank is now cut away on the south side of the road and which contains a little water. This was before the present road was cut in 1847, and it is believed that the site was covered when the road was being made. There is, incidentally, a 16th century reference to a Blade Mill in Brians Bell, which is the former name of Bell End.

From this site the brook begins to open out to form Galton Pool.

**GALTON MILL**, Belbroughton. 7f. E.N.E. of Church. Disused.

Galton Mill is said to take its name from a Birmingham family of gun-makers who made the barrels at Birmingham and sent them to Belbroughton to be ground during the Napoleonic Wars, and although the mill does not figure on maps earlier than 1821 there is said to be on the wheel the date 1793. The wheel, however, fits very closely against the walls of the wheel-house, and as only a small portion of it is viewable I am unable to confirm the existence of this date which if it does exist would make this wheel a notable one.

The mill stands in a hollow on the right going towards Belbroughton, and comprises two small old brick buildings placed side by side. The wheel is an enclosed overshot 12ft. by 4ft. with eight arms 5 inches across, and large naves, mounted on a 2ft. diameter octagonal metal shaft which at the outer bearing has a heavy collar of 2ft.3in. diameter. It is a massive wheel and its bearing is mounted on a heavy baulk of timber. Unfortunately the only means of inspecting this wheel is by the opening made for the shaft, and two further openings in the brickwork partly below water level in the small pool which collects the cascading water from a small waterfall in the jagged moss-covered rock alongside.

There is a 12ft. 8-arm pit wheel, very massive and in two sections, with 6½ in. face driving a 2ft. wheel and shaft. On this shaft, which is at ground level between the two buildings, is a small toothed sprocket with chain upwards to a similar but double sprocket on a bracket mounted against the wall above and behind, with another chain conveying the drive to the main shaft which runs the length of the grinding shed, and on which shaft are mounted five grinding stones, with built-in draining troughs below.

The mill was used for scythe-grinding by Messrs. Nash, but closed down in 1942 when a breakage in the pit wheel occurred, and although otherwise in excellent working order the mill has not been repaired owing to the firm not having sufficient labour to keep all their mills fully at work. But the mill will no doubt be set to work again eventually. Mr. Portman was latterly in charge here.

The approaches to the mill are paved with numerous discarded grinding stones.

**MIDDLE MILL AND FORGE**, Belbroughton. ¾ m. E.N.E. of Church. Working

A little to the west of Galton Mill, approached by a narrow track which for some distance is paved with a double row of some four hundred worn down grinding stones, stands Middle Mill and Forge, two ancient looking one-storey buildings, one almost square and used as the forge the other a rectangular building formerly used as a workshop and hobbing shed. Both have overshot wheels placed side by side in a compartment which is sandwiched between the two buildings. This mill and one of the Weybridge pair are the only two forges of the Belne Brook now operated by water power. Here scythes of various patterns are hammered out in large numbers by Mr. Edwin Moore, the only surviving member of three generations of forge-men whose family records go back for at least a hundred years. Edwin's grandfather came to Belbroughton from a forge near Sheffield, and his father who died at the age of seventy-nine worked the Newtown Forge until he was seventy-six, having previously worked at Belbroughton and Weybridge.

The wheel operating the hammer is an 11ft. diameter by 5ft. wide, with a 10in. rim, 7ft.6in. naves with large sockets so that the six 4½ in. by 7in. wooden arms are exposed for only eight inches. The pentrough is a long one and 2ft.6in. deep. The water shaft is 3ft. diameter, iron and ribbed for strength.

There are two cam rings, the one nearest the wheel and the only one now in use is 5ft. diameter and 1ft.5ins. wide, the other, at one time operating a hammer for welding, being 6ft.6ins. and 10½ inches wide. The cogs on both rings have wood packing to a depth of four inches.

The present hammer operates in a hurst frame of iron, the helve being a square timber 10ins. by 11ins. and 8ft long with an iron tail-collar (that part which is



caught by the cogs on the cam ring) and hammer head. The hammer strikes the butt which rests on the block. When Mr. Moore first came to Middle Mill in 1919 both hammers were in use. The process is extremely simple; the rotating cam ring on its massive shaft forces down the tail of the helve and tilts the hammer up, the pivoting point being slightly more than two thirds behind the head, and the hammer falls by its own weight as soon as the cog has passed by, to be lifted again when the next cog comes in contact. With a normal flow of water the speed at which this hammer works varies from 184 to 190 beats per minute, and with the larger cam ring welding was faster. When one realises that to complete the operation before the metal becomes too cold to work the scythe blade has to be shaped complete with rib at the back and the cutting edge hammered to almost cutting thickness in about forty seconds, one can appreciate the skill of such craftsmen as Mr. Moore who works this forge entirely on his own.

The process of scythe making is interesting; a piece of hard steel is sandwiched between two slightly longer lengths of mild steel and the three layers are heated and lightly hammered together, and the crew (the projection with which the blade is fitted to the handle) roughly shaped. At this stage the metal represents a bar about one and a half inches wide and three-quarters of an inch thick by about two feet long. The whole is then heated and after a few deft hits with a hand hammer to give the required curve the operator, sitting on a flat seat suspended by a long swinging iron rod in front of the hammer, with his feet firmly placed against the block so that his body has freedom of movement in all directions, releases the water by a long wooden rod, sets the hammer in motion and holds the now dull red bar of metal on the butt and it is hammered out to about three and a half inches wide, with a fine point at one end and a rib on the outer edge. Although this operation, from the time the red hot bar leaves the fire to the time when the shapely article is stood against the pile of others is barely a minute, the skill of the operator is such that six scythe blades taken at random and placed one on top of the other were found to vary in shape not more than one-eighth of an inch! These blades are sent to one or another of the various grinding mills on the same stream and finally to the main works where after a variety of processes they emerge as we see them in the shops, handsome tools and the products of men who are indeed masters of their trade.

The wheel for the grinding shed also measures 11ft. diameter but is of much lighter construction and only 4ft. 6in. wide; it has an 8in. rim, iron buckets and pentrough, 3ft. 6in. circular naves and six wooden arms 5½ins. by 2ins., and the round metal shaft is 15 inches diameter. Taking the place of the normal pit wheel is a thin 6ft. all iron cogged wheel operating a wooden drum which belt drives a single grindstone at the other end of the shed.

There is a third wheel, known as the fan wheel, situated at the extreme north of the forge, a narrow overshot which operates the fan or blower which replaces the old-time bellows. This wheel is 9ft. diameter, by 1ft. 9ins. wide, has six ribbed arms of 3½ins. section and a 1ft. 9ins. octagonal iron nave on a 4in. square shaft, with the usual iron pentrough fed by a 12in. pipe. This wheel turns a 6ft. thin cogged wheel which at one time was face geared to a wooden belt wheel, but the teeth are now covered by a thin iron band and the drive is operated by a return belt.

Middle Forge is said to be and certainly looks an ancient property, but does not appear on maps earlier than the 6-inch ordnance survey of 1884.\*

**BLADE MILL**, Belbroughton. ¾ f. N.E. of Church. Demolished.

Continuing westwards the brook again narrows until it passes beneath a little bridge and flows through a delightful wooded glen bordering the north side of Ram Alley or, as it is locally known, Dark Lane, which leads into the main road north of the village of Belbroughton. Some 150 yards from this road is the site of a forge or blade mill which is shown on both Greenwood's map of 1821 and the first ordnance map of 1831, which according to a sale notice of 1819 was at that time

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\* This is a curious error on Simmon's part, for this forge appears on the first edition 1-inch O.S. map (c1850); and on the Tithe Map of 1840, as Plating Forge, owner and occupier Edward Waldron - Eds.

in the occupation of Mr. Waldron.\* The mill must have been demolished many years ago, probably a century, but the remains of a very old and overgrown wooden pentrough with sloping pipe and traces of stonework still exist, and the spot has been utilised for the erection of a small brick structure housing a turbine to supply Yew Tree House with electric light.

#### BELBROUGHTON CORN MILL. 3 f. N.E. of Church. Standing in ruins.

The remains of this red brick mill together with the ruined mill house adjoining stand at the village end of Ram Alley only a short distance from the site of the Blade Mill, and like the latter, was the property of Yew Tree Estate. In 1819 it was described as having two water wheels and four pairs of stones, in the possession of Mr. John Hooper of Yew Tree Farm, but for as long as can be remembered only one wheel was in position, which was outside at the east end of the building. A later notice of sale, dated 1852, gives the occupier as Mr. George Bate and at this period three pairs of stones were in use. George Bate continued in occupation until 1877 when he was followed by Maria Bill and her son, whilst a directory of 1888 gives Arthur Bill as the miller, and up to 1896 John A. Bill.

A Mr. Bate of Wolverhampton, having presumably no connection with the earlier tenant of that name, afterwards took the mill and made some improvements, but used it only a few years. The mill stopped working shortly before the 1914-18 war and for a little while afterwards Joe Price the blacksmith occupied the house; but house and mill have now been empty and derelict for twenty-five years or more, the roof is off and rubble and broken timbers lie heaped on the floors.

The machinery is said to have been taken out bit by bit and the wheel removed about 15 years ago, the latter taken it is believed to another mill, although enquiries over a wide area give no confirmation of this. As indicated by the remains of a pentrough this wheel was an overshot, but of the machinery the only evidence is a peak stone 4 feet in diameter.

#### BELBROUGHTON FORGE. 1/4 m. N of Church. Standing at work.

In 1841 Thomas and William Waldron were in possession of these works, which are situated in the centre of the village of Belbroughton. Isaac Nash and Sons had them for many years afterwards and today the proprietor is Mr. C. F. N. Boulton who trades under the name of his predecessors. These "main works" as they are known, which no doubt have been added to from time to time, now comprise a collection of shops, forges etc., and prior to the war employed about fifty men.

There are two main forges, one, on the right as one enters the yard, has an overshot wheel enclosed at the north end of the building measuring 12ft. diameter by 4ft. 8ins. wide, with a 12in. rim and 6ft. 6in. octagonal naves. This is a massive wheel with a 2ft. 6in. square shaft and large iron pentrough, but has been disused for about five years and the present hammers are electrically operated and used only for light work; but the principle is the same as for the original water driven type. One of these is a Bradley welding hammer, and the shears are by Pratt of Stourbridge.

The shed adjoining is another forge, worked by a moss covered outside wheel 13ft. by 5ft. wide, with 12in. rim and 8ft. naves. The shaft is 2ft. 3ins. diameter, round, and inside the building the cam rings are 5ft. and 7ft. diameter respectively. One hammer is complete, the other has been removed. The shears here are working continuously by rod and cam and small toothed wheel.

A third wheel is on the outside west wall of a nearby building. Entirely uncovered, it is an 11ft. by 1ft. 9in. overshot with a 9in. rim, two sets of six ribbed arms, iron buckets and a deep narrow pentrough, together with a 4 1/2 in. square iron shaft, with its bearing mounted on a tall stand.

The shopping each side of the yard at the south end of the works is made up chiefly with finishing shops on one side, including a large modern one housing fourteen grinding stones seven aside, and a line of single hand forges on the other, these latter being no longer in use. One shop contains a simple but effective device for putting whilst the blade is hot the correct curve on bill-hooks.

Work done at Weybridge and Middle forges is brought to these works to be sent through further stages of their manufacture prior to being sent to the grinding

\* In 1840 the occupiers were William and Thomas Waldron - Eds.

mills and finally, on their return, to be finished off ready for use.

First they are heated and put in what is known as a gathering machine, a miniature tilt hammer which, with the blade passing through a slotted opening hammers up and puts the finishing touch to the rib on the outer curve or back of the blade to give it strength. From there to another shop the point is finished off and the crew given its proper shape and angle. Then triggung; thence to another department for hardening and tempering; then straightened and set and later to enter the grinding shop at the main works or to Bell End or Drayton. In the process of grinding the outer layers of iron are removed leaving only the steel; a close inspection of a scythe or good quality hook will reveal metal of a darker shade half an inch up from the cutting edge. The last stages include polishing and oiling, and in the case of small tools the fitting of handles, fixing of transfers and finally packing for transit.

#### LOWER BELBROUGHTON MILL. 1 f. N.W. of Church. Demolished

Taking a footpath at the rear of the works and following the brook the short distance to the Queens Hotel at the lower end of the village brings one to the site of Lower Belbroughton Mill which figures on Greenwood's map of 1821 and which according to the late Mrs. Berkeley in the Worcester Archaeological Society Transactions, Vol. 14, is traditionally believed in its early days to have been used for making a coarse kind of cloth or sacking. But for many years it was a corn mill and from at least 1860 to 1880 was in the occupation of Eli Maiden. He was the last to use it as a corn mill, and it finished its days as part of the scythe works, being pulled down about fifteen or sixteen years ago when the bricks were used in the construction of the row of houses on the Mount nearby, and the site is now represented by a rockery in the bed of the stream made up with stone work from the old mill. This adds a picturesque touch to the village approach at this end, a small parapet being formed by grindstones cut in half.

#### LOWER BELBROUGHTON, EARLY MILL. 3/4 f. W.N.W. of Church. Demolished

From the site of Lower Belbroughton Mill the stream takes an underground course beneath the street, passing the houses of Mr. Middleton and Mr. Priest, between which is the approximate site of a mill also shown on Greenwood's map but otherwise unrecorded. At the time of the publication of Lewis's directory in 1820, however, there were at least three corn millers in Belbroughton, Mr. Charles Davis, George Campion and John Moore. One of these is almost certain to have had the mill in Ram Alley, another possibly the Lower Belbroughton mill, and it is not improbable that the mill under notice was held by the third; but there is of course Bell End Mill to be considered.

#### WEYBRIDGE, TOP FORGE, Belbroughton. 4 1/2 f. S.W. of Church. Standing, at work.

Continuing down the Chaddesley road with the Belne Brook now flowing serenely on our left, we come in less than half a mile to a sharp bend in the road and a footpath leading straight on, this bringing us to the first of the two Weybridge forges known respectively as Top and Lower Forges and collectively as the Weybridge Works.

It is said to have been used for corn until the end of the 18th century, but is named Weybridge Forge on Taylor's map of 1800. In 1821 Greenwood marks it "Gun Mill".

In 1849 a notice of sale definitely describes the premises as plating forges "let under lease to the representatives of the late John Ryland Esq. and now in the occupation of Messrs. Waldron". The name of Waldron is well known in Belbroughton, and in the Belbroughton and District Illustrated Almanack for 1881 we read that three hundred and fifty years ago there lived in the village one John Waldron, a Scythesmith, son of Alexander Waldron. John was buried on the 29th of August 1588, and in his will he leaves his shop and shop tools to his son Francis. The same will shows that a George Smalman owed him £5-8-0 for scythes; the following debts are also mentioned: 3 dozen scythes at Quinton £3-4-0, 6 scythes at Alveley 12 shillings, and by one Lebbryge for two scythes 4 shillings.

Definite evidence of scythemaking in the village in the 16th century\* is provided by the Parish Registers in which the following occur:

\* The Victoria County History of Worcestershire, Vol. 2, 1906, p. 271 states that the earliest mention of scythe-making in this area occurred in 1564 - Eds.

- 1591. Died, Gilbert Cole of the Mow Myle
- 1593. Died, Henery Cole, a Myllner
- 1777. Burial of Joyce, wife of James Wall, Forgerman
- 1782. The burial of Cissey, Daughter of Thomas and Sarah Leban, a forgerman
- 1782. The burial of Wm.Griffis, Stocktaker at Weabridge forge
- 1786. The burial of Anne, wife of Samuel Lewis, forgerman

Top Forge, a block of low built weather worn buildings, is made up of three separate forges under one roof. In the first the wheel is a low breast in a separate compartment on the east side, 12ft. by 6ft.3in. wide, with a 13½in. rim, wood sole, six 8in. by ¾in. iron arms on 4ft.6in. naves mounted with packing on a 2ft.6in. hexagonal wooden shaft, one of the largest wooden shafts known, but its predecessor, discarded in quite recent times and of which portions are still to be seen in the yard, was even larger and measured 2ft.9in. across. It has done useful work as its aged and worn condition shows.

There are the usual two cam rings, each 5ft. diameter and 9in. wide, both entirely of wood and packed with wood into which many lengths of steel have been hammered; and between them and the wall is mounted an 11ft.6in. heavy iron fly wheel. One of the rings, incidentally, is in two sections, bolted together.

There is also the usual double hurst frame, but only one hammer is in use, the helve in this case having the addition of a baulk of timber of similar dimensions strapped on to its top side to prevent vibration and known to the workmen as a "monkey".

In all other respects the interior arrangement conforms largely to the layout of Middle Forge, this also being used only for plating.

The fan wheel is in a covered in compartment on the west side, and there is an 11ft.6in. by 2ft. low breast with six iron arms and a 6in. square iron shaft. There are no wheels in the adjoining buildings, which for some years now have been more or less disused.

It was from this forge that Mr.Arthur Moore went to Newtown about fifty years ago. The present forge man is Mr.Charles Priest.

WEYBRIDGE, LOWER FORGE. 5f. S.W. of Church. At work.

Standing just below on a much lower level is Lower Forge, a group of similar buildings, but more fortunate in being as yet complete with wheels in each of the three buildings; the power, though, derived from the used water from the forges above and not from the pool direct,\* is not so good and these departments are used for welding and cutting only.

The wheel of the first forge is inside at the east end; it is massive and measures 15ft. by 5ft.4in., has a 13in. rim, 11in. by 7½in. wooden arms deeply socketted into a 7ft. nave with a 4ft. ring packed to accommodate the 2ft.6in. round and ribbed iron shaft. The sole is wood, the pentrough iron.

There are two cam rings, one is 7ft. diameter by 8ins. wide by 4½ins. thick, the other being 8ft. diameter by 8ins. wide by 5ins. thick. Both are iron castings, each packed with wood. On the same shaft a 4ft.8ins. toothed wheel engages a 10in. nut for a grindstone.

At one time there were the usual two frames side by side, but now only one and this without its hammer. Mr.Moore tells me that in his father's time these frames were of wood. The wheel was last used about two years ago, and the hammer was dismantled some six to eight months ago.

The fan wheel for the adjoining or middle forge is in front of the main wheel of the first building, screened by a dividing wall and fed by a pipe coming along the wall opposite; it is a 13ft. by 1ft.9in. iron overshot of similar design to the first, with a wood sole and 4½in. square shaft, and bears the inscription "Titton,\* Kidderminster".

The driving wheel for the middle forge is an all iron high breast complete with pentrough and measures 14ft. by 7ft. wide, with an 8in. rim and 8in. square shaft.

\* This statement is very puzzling, as all the map evidence indicates direct feed from the pond - Eds.

\*\* Presumably a typing error - Simmons must have meant Turton - Eds.

There is a 10ft. pit wheel all iron in two sections, with 7in. face gear engaging a 4ft.6in. wheel on a 1ft.3in. square iron shaft which carries a massive and oval spoked 11ft. fly wheel and two iron cam rings, these latter being 4ft. and 3ft.9in. diameter respectively and each 14 inches wide. The latter is now without cogs. There are two iron frames, the hammer of one only remaining. The shears here are worked off the main shaft by a large cranked rod.

The forge at the extreme east of the building, known as the End Forge, has a 14ft. by 4ft. high breast wheel with a 7ft. nave and 4ft.6in. inner ring, and has six 10½in. by 4in. wood arms and a wooden sole. As in the middle forge the drive is not on the main shaft direct, but via a 10ft.6in. pit wheel with 8in. face gear engaging a 4ft. similar wheel on a 15in. square iron shaft. The fly wheel here is not so heavily constructed but is of larger diameter, namely 15ft., and the cam rings are 3ft.6in. and 4ft. respectively, with an 8ft. toothed wheel for the shears worked by a cranked rod. The fan wheel is enclosed, but from what little can be seen of it, it appears to be similar to the other two. This forge could if necessary be put to work, but is used mainly for the shears and cutting apparatus. The foreman here is Mr. J. Moore, a cousin of Edwin of Middle Forge further up-stream.

DRAYTON MILL, Chaddesley Corbett. 1.3/4m. N.E. of Church. Standing, at work.

A little more than a quarter of a mile downstream, at the southern end of Drayton Pool, stands the long rectangular brick built and two floor Drayton Mill which in 1783 was used for spinning yarn in connection with the Kidderminster carpet trade. In August 1835 it is described as a water corn mill with two wheels lately used as a wire mill by J.W. Philipson, a bankrupt who had by that time vacated the mill, his stock of brass, steel and iron wire etc. having been disposed of by his assignees two months earlier. On June 13th, 1839, we read of a violent storm when 530 small panes of glass were broken at Mr. G.B. Lea's spinning mill at Drayton. Early in 1842 the premises were again for sale, this time described as a water corn mill then in use for worsted and flax spinning and complete with gas apparatus for lighting purposes. Apart from being described as a corn mill there is no substantial evidence that it was ever used as such at any time during the period of 1835 to 1842, or even afterwards, but it seems fairly definite that there was an earlier period when it was used wholly or partly for grinding.

For many years now it has been utilised by Nash's for scythe grinding and finishing, and up to 1929 a water wheel of exceptional power was in use there. This wheel, which eventually gave a lot of trouble and finally broke down altogether, was replaced by an Armfield turbine for which a new water inlet has been cut in the wall at the bottom end of the wheel pit. The wheel was a pitch-back overshot 30ft. by 9ft. wide and the shapely pentrough is still mounted beneath the ceiling.

The building is in two halves, the ground floor of the northern half is taken up entirely as a grinding shop, operated by the turbine, with the upper floor removed, and the southern half is used chiefly for glazing and finishing, the power for which is a Tangye oil engine conveyed by line-shafting. Here can be seen, in a small part occupied as a forge, an excellent specimen of the old-fashioned leather bellows worked by hand. The upper floor is a series of small shops where the finishing touches are attended to, fitting of handles, testing the blades, placing of transfers etc., and one larger compartment devoted entirely to packing which is almost an art in itself. Straw is the usual packing, but for American export a special wood shaving wound in the form of half-inch rope has to be used.

A mill called "Scythemill" belonged to the Manor of Chaddesley Corbett in 1481. In 1544 a water mill called Walke Mill or Heth Mill in Chaddesley with certain lands was granted to John Maynard and William Breton, who sold it in the same year to Thomas Vaughan of St. Albans.

HILLPOOL MILL, Chaddesley Corbett. 1.1/4m. N.N.E. of Church. Disused.

From Drayton the stream turns due west and by taking a field path which follows closely its course we reach in another half mile the first of two interesting mills which ended their days in the scythe industry. This mill, known as Hillpool or Upper Mill, is really the eastern half of some low pitched farm buildings, which in the 18th century was used as a cloth mill. In 1775, when Matthews and Powell were the occupiers, we read of ten yards of Claret dyed cloth being stolen from it and

a reward awaiting the person who could give any information as would lead to the apprehension of the culprits. Later it developed into a spinning mill for carpet making, and finally as a grinding mill.

The wheel is still in situ, at the east end of the buildings and entirely uncovered, but it is now in very poor condition. It is an all iron pitch-back overshot 12ft. diameter by 10ft. wide, with three sets of six arms, ribbed and tapering from  $4\frac{1}{2}$  inches to 4 inches, the inner and outer ends widened to 6 inches and bolted into flanges of the rim and nave. The rim is 9 inches deep and the round ribbed shaft is 13 inches across. It was fed by a long pentrough.

The fitting of the pit wheel here is quite an unusual practice for Worcester-shire, being keyed on to the shaft in the limited space between the water wheel and the wall; it is 9ft.6in. diameter with 6in. face gear engaging a small nut on a 4in. round shaft at ground level, which drives two belt wheels each in its own pit, the first being a 5ft. by 11in. flanged metal drum for driving a grindstone, and the second, almost in the centre of the mill, where the shaft terminates, a 7ft. by 14in. by 13ins. deep wooden rim with six iron arms strengthened by four arms each side. This latter does not appear to have been used for grinding, but for an overhead line shaft which is still in position with various small pulleys attached and an old wooden drum for belt connection, seemingly a relic of the old cloth or yarn spinning days. It is clear that the mill in those days had an upper floor.

The mill is now in a very dilapidated state, lumbered up with odds and ends and disused farm implements, the windows are broken and the slated roof is tumbling down in places, whilst the wheel and pentrough are now partly hidden in dense undergrowth.

Messrs.Nash used this mill only a year or two, renting it off the Pages who have been owners and occupiers of the farm for many years, and gave it up quite forty-five years ago. In their day Joe Portman and George Weston were grinders there. Standing disused for a long while it was set to work again by Mr.Bache of Stakenbridge Forge, Hagley, for finishing off shovels and spades, and then after another period of idleness Mr.Page himself used the wheel for farm stuff and sawing, but about twenty years ago the dam broke, the stream which fed the mill drying up in consequence, and the wheel has without doubt come to rest for all time.

HILLPOOL FORGE, Chaddesley Corbett.  $\frac{1}{2}$ m. N.N.E. of Church. Partly demolished.

Leaving Upper Mill the stream used to flow into a small pool against the road, from the south-west corner of which a water course took a sweeping turn past a cottage and under the road some fifty yards to the south to drive a mill whose roof barely reached the level of the road against which it stood. This was Lower Mill, known in earlier days as Hillpool Forge. In 1831 when the proprietor whose name is not stated was about to retire from business, the contents of the mill which included "Shears, Tilting Blocks, Hammer Helves, Scythe Maker's Anvils, Bellows etc.", were advertised to be sold and the mill to be let.

Laterly it was for many years a scythe grinding mill, last used by Nashes and vacated by them about the same time as Upper Mill. It never worked again, and after some twenty to twenty-five years the heavy slate roof had become so weak that the owner decided to take it down, leaving only the four walls standing. The interior machinery had by this time been removed, but the wheel remained until 1942 when it was broken up and taken away for scrap. This wheel, situated outside at the south end, was an overshot measuring some 12ft. by 10ft. wide, with three sets of arms; and the 12in. square shaft complete with 3ft. naves still remains, as does the iron pentrough above. An inside pit wheel engaging a smaller one drove a shaft running across the east wall, with belts to the stone shaft at the west end.

Mr.Oldnall of Sion House was the owner from whom Nashes rented it, but the present owner is Mr.Watts who had the machinery removed, and in doing so had the pit wheel carted to Sion House where he intended to have it placed on the roof to form a substantial base for a flag mast; but during the process of hauling it up it fell and smashed to pieces. Mr.Watts' gardener is the present occupier of the cottage in whose grounds the remains of Hillpool Forge are situated. Since the breaking of the dam above Upper Mill no water has flowed into the pool, this now being quite dry and overgrown, and the water course between there and the mill has been filled in.

**BARNETT MILL**, Chaddesley Corbett. 1m. 6½ f. N. of Church. Standing disused.

Two fields away stands Barnett Mill, on Barnett Mill Farm which lies just over to the right of the Worcester to Stourbridge road before it commences the climb to Barnett Hill, and along this stretch the stream is known as Barnett Brook. Except for the wheel the buckets and sole of which are now decayed and broken with rust, this corn mill is in perfect order and complete and would no doubt still be working had not the dam broken at Hillpool and drained the lower pool, for Barnett Mill has no pool of its own.

Lewis's Directory for Worcestershire for 1820 gives the names of two millers for Chaddesley Corbett, Thomas Aingsworth and William Cox, one of whom was in all probability the occupier of Barnett Mill since the nearby Bellington mills were at this period let under one tenancy. From 1854 to 1864 John Bate was in occupation followed in 1872 by John Crusier Giles, and in 1876-80 by William Wheatley, whilst in the period 1884-88 the owners of the estate Joseph Corbett and Son seem to have been running the mill. In 1892 and up to 1900 Henry Langley had it, Thomas Parkes in 1904 and Joseph Jackson in 1908. From then onwards tenant farmers used it for their own work, the mill finally coming to rest in 1934, in Joseph Payne's time, when the stream got too low to be of any use. At the present time it is occupied by Mr. Freeth who took the property in 1936.

Barnett Mill Farm comprises three main buildings, first some stables and sheds, then the house and further along the mill which is a well built rectangular three floor cream-washed brick and tiled building. At one time the wheel was outside, at the east end, but the mill has been extended to about almost double its original length leaving the wheel in what is now a roomy and otherwise empty compartment. It is an all iron overshot 14ft. by 6ft. with 10in. rims, eight 5in. ribbed arms, iron sole and plain naves, mounted on a 1ft. 10in. wood shaft which has an 8in. wide collar near the bearing. This shaft terminates underneath a baulk of timber supporting the foot-brass.

The pit wheel is 7ft. 6in. all iron, the wallower 2ft. 6in. and the iron spur 5ft. diameter. The three pairs of 4ft. French stones are placed N. S. and W. worked by 16in stone-nuts on square spindles with screw tentering, and all have octagonal casings. The north stones are inscribed "Clarke & Dunham, 1859".

The 10in. iron upright shaft carries a 5ft. 6in. taper arm iron crown wheel, a large crack near the boss being strengthened by heavy bands and bolts. On the west side a 2½in. line-shaft off a small nut extends the full length of the centre of the mill, whilst the sack gear is from a similar nut with belt drum close together hard up against the east wall.

**BELLINGTON MILL**, Chaddesley Corbett. 2m. 1f. N of Church. Standing disused.

On the other side of the road directly opposite the approach to Barnett Mill Farm a stoney lane leads to Bellington Mill, tucked away in a hollow between the lane and Bellington Farm and disused for many years. It is an old mill with its completely rebuilt north wall contrasting sharply with the mellow brickwork of the original.

Three mills at Chaddesley Corbett rendering 12 horse-loads of grain belonged to Eadgifu, lady of the manor at the time of the Domesday Survey. In 1290 Roger Corbett held only two mills, but another mill possibly belonged to his mother Ada Corbett who had one third of the manor in dower. Humphrey Pakington had three mills near Barnett-brook in Chaddesley and Moorhall Bell in 1604, and "certain mills" in Chaddesley belonged to Lady Mary Yate in 1675, and Sir Robert Throckmorton in 1747. These probably survive in Bellington, Lower Bellington and Barnett Mills.\*\*

Both Bellington and Lower Bellington Mills were being held by Mr. John Perrins in 1815. John Richardson was the occupier of both in the 'seventies and 'eighties, later millers being Mr. Cooke and Mr. Dickinson. The present owner is Mr. Mole who took Bellington Farm from Mr. Phesey in March 1944. It was the latter who sold the wheel and all the machinery in 1920.

\* This mill was a Salt Mill in 1737, according to a plan in Worcester C.R.O. (ref. BA844-1970.5:92) - Eds.

\*\* See note re two 'Old Mills' (Nos. 20 and 21) in our Introduction. Note also that both Bellington and Lower Bellington Mills were Blade Mills in 1737 - Eds.

The wheel was enclosed at the east end; it was an overshot apparently about 10ft. diameter by 5ft.6in. wide. It was fed by a pool some fifty yards across at the south-east corner, on a level with the stone floor, the water flowing to the pentrough by a 20in. iron pipe which is still there. The pool is now filled in and the ground levelled.

At some time late in its history the mill was partly rebuilt and refitted judging by the modern brickwork, new stairs, hand-rails and other timbers, and the insertion of a few iron girders. There were three pairs of stones one of which a 4ft.4in. peak still remains.

LOWER BELLINGTON MILL, Chaddesley Corbett. 2m. 2½f. N.N.W. of Church. Derelict.

A pleasant walk through a delightful glen beyond Bellington Mill brings us to Lower Bellington Mill which is much smaller than its near neighbour and has a small cottage adjoining. Both mill and cottage are entirely deserted.

This mill, comprising a ground and upper floor only with an arched double doorway occupying about half its width, is known locally as the Gorse Mill, used for grinding gorse for cattle feed, to which purpose it was put after it had ceased to be a corn mill for some years. It is marked "Corn Mill, disused" on the 1884 6-in. ordnance map, and John Richardson was the last miller to grind corn there. It has not been used for at least fifty years.

HEATHY MILL, Stone. 6½f. W.N.W. of Church. Standing, at work.

Flowing south-westwards for a mile or two the Belne Brook crosses the Kidderminster road at Spennells where on its north side, is a corn mill still in use but no longer by water power. In 1831 it was used for the spinning of worsted and woollen yarn on a 21 years lease dating from 1820 at a rent of £60 per annum. At the expiry of this lease it was converted into a corn mill which in the late 'forties was taken by Richard Brewster who as tenant to the Earl of Dudley used it until 1893. He came from Broadwaters Mill north of Kidderminster, and for a while previously had occupied the nearby Podmore Mill. He was the last miller to hold Heathy Mill, successive tenants being farmers who used it for their own and local grinding. Eventually it became the property of Mr. Hall, one-time mayor of Stourbridge, and in 1920 it was bought by the present occupier Mr. Blakeway\* who used it until the machinery started to give trouble and after spending £60 on unsatisfactory repairs had the pit gear and upright shaft removed in 1936 and an electric motor installed in its place. The stones remain, two 4ft. French and one 4ft.2in. Peak. The wheel is still in, enclosed at the north end. It is a 13ft.6in. by 4ft. overshot working in reverse with two pentroughs one in front of the other. The circular naves are 3ft.9in. diameter accommodating the unusual number of seven arms aside, 5in. wide; the rim is 9in deep. The shaft is octagonal wood 1ft.9in. across. The building is of three floors with mill house combined.

A mill at Stone worth three ounces of Silver belonged to the manor in 1086. Another mill in the parish called "the water mill of Stone" appears to have belonged to the manor of Dunclent for it was given by Edmund de Dunclent to his brother John in 1351. This latter mill, probably on the same site as the earlier one, was also in all probability a predecessor of the present Heathy Mill.

HOOBROOK MILL, Stone. 1m. 4½f. W.S.W. of Church. Standing converted.

The last mill on this interesting stream is Hoobrook Mill, only a short distance from where it joins the Stour. It is a large low-built three floor white-washed building of brick standing alongside the viaduct at the back of the Crown Inn on the main Kidderminster to Droitwich road.

From 1820 to 1841 it was leased along with Heathy Mill and used for the same purpose, after which it became a paper mill which by 1883 had become disused and remained so for many years until utilised for yarn spinning in connection with the Kidderminster carpet industry; it is still used as such, by turbine.

\* The owner in 1980 is still a Mr. Blakeway - Eds.