

The statement in the original article that the site of Elmbridge Mill may not be ancient is probably incorrect, as the 'Victoria County History' states that the manorial mill of Elmbridge was first mentioned in 1376.



ELMBRIDGE MILL

## WATERMILLS AND WATER-POWERED WORKS ON THE RIVER STOUR, WORCESTERSHIRE AND STAFFORDSHIRE

### PART 1. STOURPORT AND KIDDERMINSTER

by H.W. GWILLIAM AND GORDON TUCKER

Unlike the watermills of the Salwarpe basin, which have recently been described in this journal<sup>1</sup> and were essentially those of a rural non-industrial community, the water-powered works of the Stour basin were essentially industrial; corn mills were in a minority, and from quite early times most mills were concerned with either the textile or the iron industries. Occasionally there was a paper mill. Surveys of the mills on the two large southern tributaries of the Stour - the Belne Brook and the Wamerton Brook in North Worcestershire - have already been published in this journal,<sup>2,3</sup> and between them established 44 water-powered sites. The present series, which will be published in several parts by varying authors, aims at continuing the process of survey in the same manner. The intention is not to present a comprehensive and coherent survey of the industrial development of the area, but to establish the location, nature and history of each individual water-powered site. This has not been done before as far as we know, but is much needed as a basis for a serious study of the nature of industrial development.

It is surprising to find how often watermills or their sites have changed their use. Corn mills are converted to textile spinning or weaving mills, or vice-versa. Corn mills are built on disused iron forge sites. Early fulling mill sites were used for various new purposes.

This part of the series of articles covers the Stour from its confluence with the R. Severn up to the northern boundary of Kidderminster parish (all boundaries used are the 'historical' boundaries of the 19th century, not the recently revised 'administrative' boundaries). The fall in the river from the north to the south of this portion is about 48ft. (say 15m), and we list 9 water-powered mills or works. This seems a very full use of the available head, and explains why most of the waterwheels were of the undershot type. Fortunately there was a good, full and reliable flow of water, so powerful mills could nevertheless be obtained.

#### Medieval mills

There were curiously few mills on this part of the Stour in Domesday times; the Survey of 1086 shows three in Kidderminster but no others. In the 12th and 13th centuries there were fulling mills at Mitton (now Stourport) and Kidderminster, and also a reference to 'the great mill at Kidderminster' which was probably on the site of the Town Mills (our No. 9). The 'great mill' was burnt down in the 14th century. In 1359-60 and again in 1496 there are references to a watermill in Over (i.e. Upper) Mitton<sup>4</sup>.

Later, in the 17th century, Robert Wilmot and his family had fulling mills on the R. Stour at both Lower and Upper Mitton<sup>5</sup>.

#### Parishes

In this kind of work it is always useful to know the parishes involved. Originally the ecclesiastical parish of Kidderminster covered all land in Worcestershire in the angle between the rivers Severn and Stour except for Over (Upper) Mitton which was part of the parish of Hartlebury.<sup>6</sup> The latter parish covered all the land bordering the Stour to the east.

By the 19th century, the parishes of Lower Mitton and Upper Mitton had been

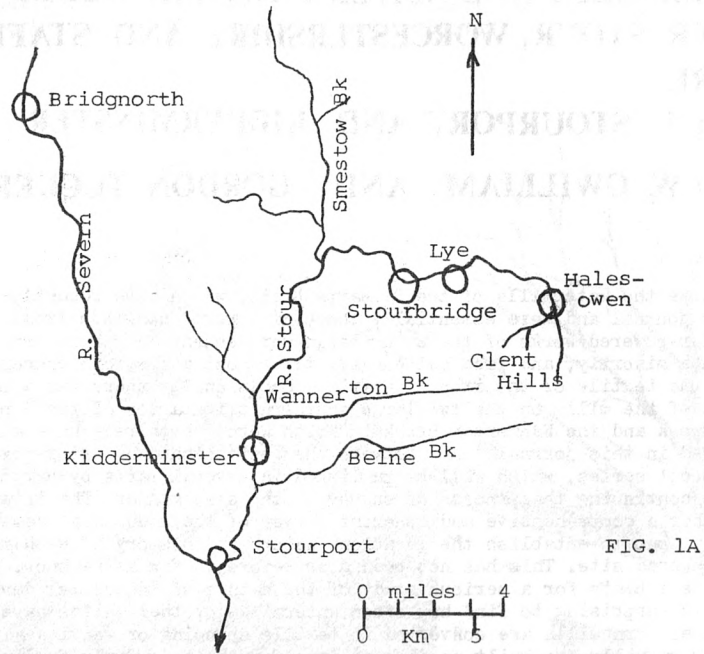


FIG. 1A

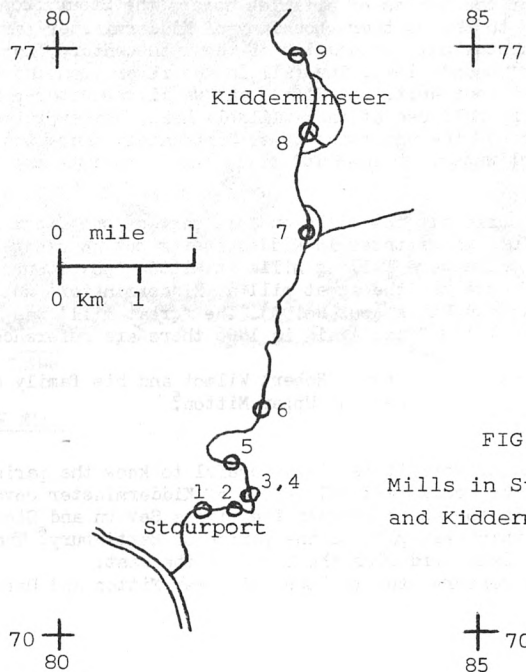


FIG. 1B

Mills in Stourport and Kidderminster

created, and Kidderminster extended to the east of the Stour in the north. The R.Stour itself was a boundary between parishes in the south, so that our first six mill sites lay immediately adjacent to a parish boundary, on one side or the other. The resulting parish attachments of the six mill sites now in Stourport (which was created a parish in 1894) were:-

- Nos. 1 and 6 in Hartlebury
- Nos. 2,3 and 4 in Lower Mitton
- No. 5 in Upper Mitton.

The remaining three mill sites (Nos. 7-9) were in Kidderminster<sup>7</sup>, the first of these in the division called Kidderminster Foreign, and the rest in Kidderminster Borough.

General sources of reference

We have used the H.E.S.Simmons papers in the Science Museum Library, London; Isaac Taylor's maps of Worcestershire dated 1772 and 1800; Greenwood's map of Worcestershire dated 1822; and the whole range of Ordnance Survey maps. Other sources used are referenced throughout the paper.

The area studied was, in the post-medieval period, a great centre of the iron and textile industries. The former declined in relation to the general expansion of industry in the later 18th and 19th centuries, while the textile industry expanded greatly, mainly in the form of carpet manufacture. A general account of this process of industrial change can be found in the Victoria County History, and also in the book 'Kidderminster Since 1800' by K.Tomkinson and G.Hall, Kidderminster, 1975.

Watermills on the R.Stour in Stourport

While there are many uncertainties in the history and physical description of the water-powered mills and works on the Stour, yet in the three old parishes of Hartlebury and Lower and Upper Mitton, or in the modern town of Stourport, there seem to be few difficulties in determining which were water-powered sites, and only one gives real uncertainty. We shall see later that in Kidderminster there are many such difficulties. The water-powered mills on the Stour in Stourport were as follows:-

1. Hammersmith Forge (originally called Mitton Forge).
2. Jenny Hole Forge.
3. Mitton Worsted Mill.
4. Mitton Corn Mill.
5. Mitton Wire Mill.
6. Wilden Forge and Slitting Mill.

These are discussed in more detail in the Gazetteer which follows.

In addition there is the possibility of an early mill site in the parish of Lower Mitton, later overlain by the Bond Worth Carpet Works, at grid reference SO 814711. This is the lowest site on the Stour to which we refer. No mill is shown here on the early maps, nor mentioned in the Simmons notes or by Mrs. Berkeley<sup>8</sup>. Nevertheless there is some evidence. When the earliest part of the carpet works was built in 1850 on the west bank of the Stour, the remains of a mill were said to have been found. In 1960 an old man was interviewed; he had worked at the carpet works as a boy and was certain that there had been a waterwheel in a pit there, for he and other boys had had rides on it, although he could not remember it being used to drive anything. The 'Survey of Lower Mitton' by John Broadfield, 1835, shows a small notch or stub in the west bank of the river perhaps 100ft. below a building which might have been a mill; this feature, which was still present on the 25-inch O.S. map of 1909, could have been the outlet from the mill stream, the rest of which was presumably in a culvert.

Watermills on the R.Stour in Kidderminster

During the 19th century, so many mills were built in Kidderminster that it is difficult at first to determine just which used water power. There were several corn mills which were entirely steam-powered, as well as numerous woollen and carpet mills. We believe there were only three water-powered mills in the parish:-

7. Falling Sands Ironworks.
8. Caldwell Mill.
9. Town Mill(s).

and these are discussed more fully in the Gazetteer below; but Simmons includes in his notes on Watermills in Worcestershire also:-

- Waterside Mill (SO 831764),
- Puxton Mill (SO 825770? -- long since disappeared),
- Townshend Mill (SO 825773),
- Clensmore Mill (SO 828775) and
- New Mill.

The first was a carpet works, and although situated beside the R.Stour, does not appear to have had any connection with it. The second was a 'twine mill' in 1884, and the next two corn mills for a considerable part of the 19th century, before being converted to the carpet trade. We are fairly certain that the first three were never water-powered, and quite certain that Clensmore Mill, which stands on the canal bank remote from the R.Stour, was always entirely steam-powered. New Mill is discussed in the Gazetteer under Caldwell Mill.

There is some oral evidence of water power in what is another very doubtful case, the Stourvale Iron Works (SO 830777). This lies between the canal and a watercourse, which is evidently artificial as it is straight, and at one time carried the water of the Wannerton Brook southwards to a new confluence with the R.Stour below the works. On Greenwood's map of 1822 the Wannerton Brook flowed due west to join the Stour, and what may therefore be the old course is still shown blue on the modern 1:25,000 O.S. map. The diversion had already been made before the works were established in 1867; it was shown on Matthew's map of 1835. Nevertheless the idea of water power at the works is supported by an interview which one of the authors (HWG) had in 1970 with Mr. Jack Harris, who remembered that in his young days water power was used here to roll steel bar into sheets. However, it really does seem that this was impossible; the 6-inch O.S. map of 1888 gives spot altitudes of 109ft. on the watercourse above the works, and 107ft. on the R.Stour just below where the watercourse joins it. It is therefore clear that there was insufficient head to drive a waterwheel. Moreover, there was no way in which the level above the works could have been raised, for the Wannerton Brook had to pass under the canal, which was marked with an altitude of 113.6ft. The only possible way in which water-power could have been obtained was by the use of canal water; the head of about 5ft. would have been sufficient for an undershot wheel, but it is unlikely that the canal would have had sufficient surplus water.

#### GAZETTEER OF WATER-POWERED MILL SITES

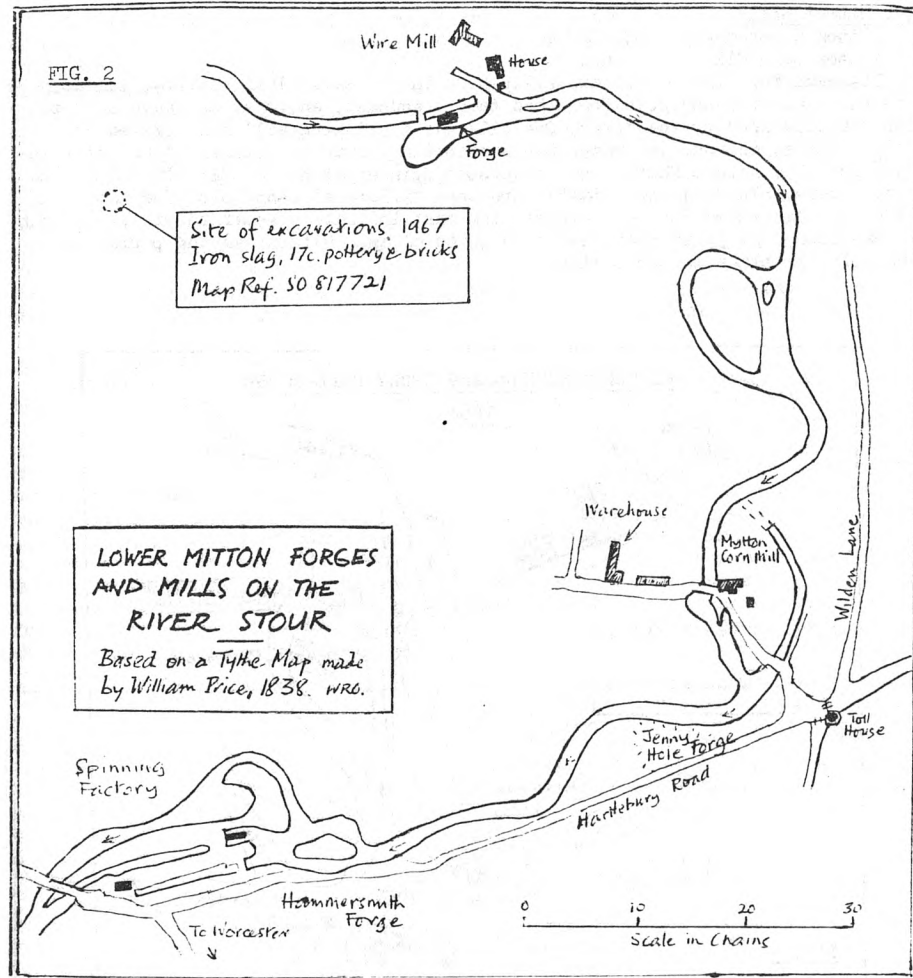
##### 1,2. Mitton Forges

1. Hammersmith Forge SO 816715
2. Jenny Hole Forge SO 822715

Two forges are shown at Mitton in Fuller's List of 1717<sup>9</sup>, with an annual output of about 350 tons; also two forges are marked at Mitton on Taylor's map of 1772, presumably these two. Lower Mitton and Jennyhole Forges are named separately for the first time in the List of 1750.<sup>10</sup>

A forge at Mitton was mentioned before 1717.<sup>11</sup> This was probably at the first site where, as shown in the map (Fig. 2), the watercourses of the R.Stour were suitable for the use of water-power. The site where the remains of Jenny Hole Forge can now be traced does not appear in itself to be a suitable place for obtaining water power, but this could have been obtained from a dam a little higher up the river, where the Mitton textile/corn mill was later built.

Little is known of the lower or 'Hammersmith' forge,<sup>12</sup> yet evidence of water-courses and of slag and charcoal in abundance points to a well-established iron-works here. The charcoal forge occupied an island site near the bridge over the Stour on the Hartlebury road, facing the junction with the Worcester road. Parts of the old forge remain on the island, moated by the Stour. There are at least three sluices, and much woodwork built into the river bank downstream of the works bridge, and the building facing the watercourse at this point has a



conspicuous blocked-up underground channel. Near the road bridge the banks of the river are lined with slag blocks. A considerable part of the 17th and 18th century brick walls still stands amongst the recent buildings of Messrs. Alldays.

The forge had probably ceased work before 1800. In the Palfrey papers<sup>13</sup> a Mr. Perrett states that Lower Mitton Forge had been in the possession of the Yarranton family since the mid 17th century.

Jenny Hole lies just off the Hartlebury road, at the turning to Mitton Mill. In the gardens of the cottages, and alongside the Stour is the site of Jenny Hole Forge. It probably began production in the late 17th century, and by 1750 it was producing 450 tons of bar iron a year. In 1791 it belonged to the Knight family,<sup>14</sup> but by 1821 it was disused. The site is black with charcoal and cinder, and there are steps down to the river made of huge slag blocks, part of a wharf arrangement. Slag boulders are in the river including a huge one that can be seen at low water, which was used as a marker in the beating of the bounds of the parish. There are more slag blocks at the bridge at the corner of Mill Lane, and the bridge has the original 18th century arch visible.

### 3,4. Mitton Mills

Mitton Worsted Mill SO 822716

Mitton Corn Mill do.

It seems that there were two mills here in the early 19th century, probably both built after Jenny Hole Forge had been abandoned, and they may have used the weir formerly used by the forge. One mill was a spinning mill for worsted and woollen yarns, and had two waterwheels according to an advertisement for sale in 1823.<sup>15</sup> In 1835, Robert Shirley was a Worsted Spinner at Mitton Mills.<sup>16</sup> At the same time, Messrs. Blundell and Cattell were Corn Millers at Jennyhole.<sup>17</sup> The use of a different place-name for the corn milling must indicate a separate mill, although, as seen from Fig. 3, it must have been quite close. (Mitton was the parish name, Jennyhole the place in the parish.)

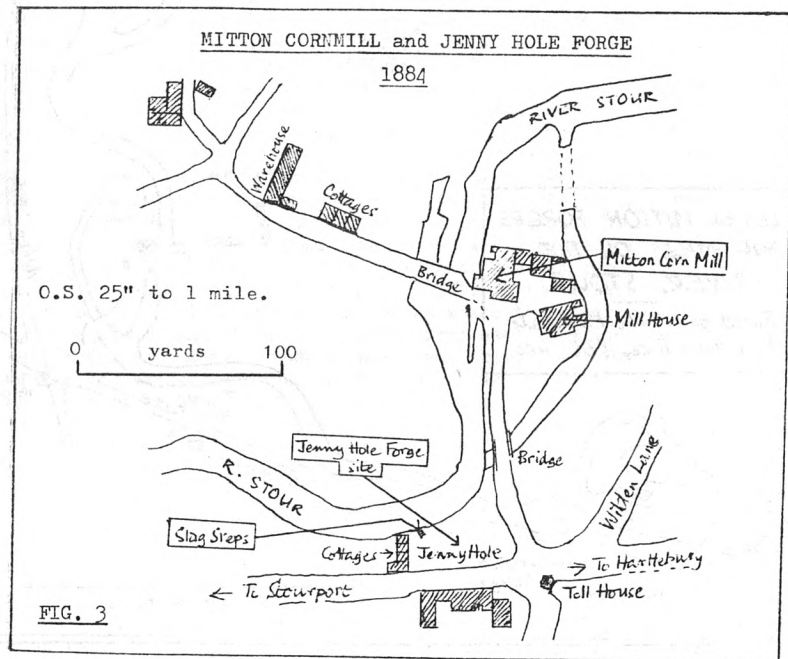


FIG. 3

When the spinning mill ceased work we do not know. The probability is that the building or its site was incorporated into the corn mill, for by 1895 this had become large and modern, with two 16ft. wheels, 6 double sets of rollers, 2 pairs of French stones, dressing machines, oat rolls etc.<sup>18</sup> The Blundell family continued as millers until 1896, then in 1900 the firm was Mitton Flour Mills, in 1904 Harper & Co., in 1908 Mitton Flour Mill Co., then finally for at least two decades until 1944, Clement Dalley & Co.

Simmons in 1945 described its machinery thus:- Two undershot waterwheels. The wheel on the north side was outside and uncovered, 15ft. 6in. by 7ft., floats 15in. deep with 9in. overlap; nameplate indicated that maker was Turton of Kidderminster; shaft was round, ribbed, 17in. diameter. Pit wheel 6ft., bevelled to 6ft. 8-arm wheel, elaborate shafting and belts drove 3 pairs of stones. The second waterwheel was 12ft. by 4ft. 6in. with 12-inch floats, and was on the west side, also uncovered but walled-in, with 8ft. pit wheel and horizontal shaft with three spurs, two of them driving stones, one driving the upright shaft. The stones were French burrs. It appears that the roller plant of 1895 had been replaced by stones, surely very unusual.

The mill building itself remained almost intact until it was demolished in 1978. The mill has now disappeared almost without trace. A vestigial weir under the road bridge, giving a fall of a foot or so in the river, presumably indicates where the original weir was, and a possible brick tail-race arch can be seen.

### 5. Mitton Wire Mill SO 821721

Between the viaduct over Timber Lane and the Upper Mitton canal bridge lies Wire Mill Farm, an 18th century three-storey building, and nearby, on a series of watercourses from the Stour, lie the remains of Wire Mill Forge. (See map in Fig. 4). It was owned by the Knight family of Wolverley, but, apart from that, little is known of its history. A photograph exists<sup>19</sup> of a large three-storey late 17th or early 18th century building on the forge site, which was later converted into cottages. Of this, a considerable block of brickwork remains, but in ruins, with blocks of sandstone on the east side of the Stour.

Nearby, on the west side of the Stour, are massive pieces of iron slag, half-buried in the ground. Among the overgrown ruins and foundations on the east bank is a tunnel which leads the water from the leat back to the Stour. Stone blocks from another small bridge lie by the footpath to the outbuildings of the farm, where there are garden walls capped by moulded slag blocks.

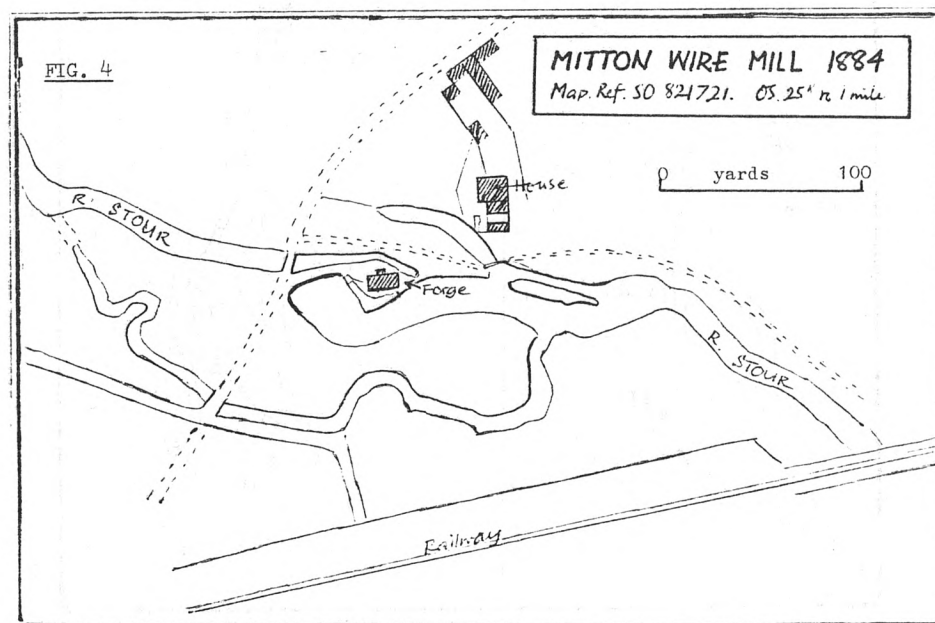
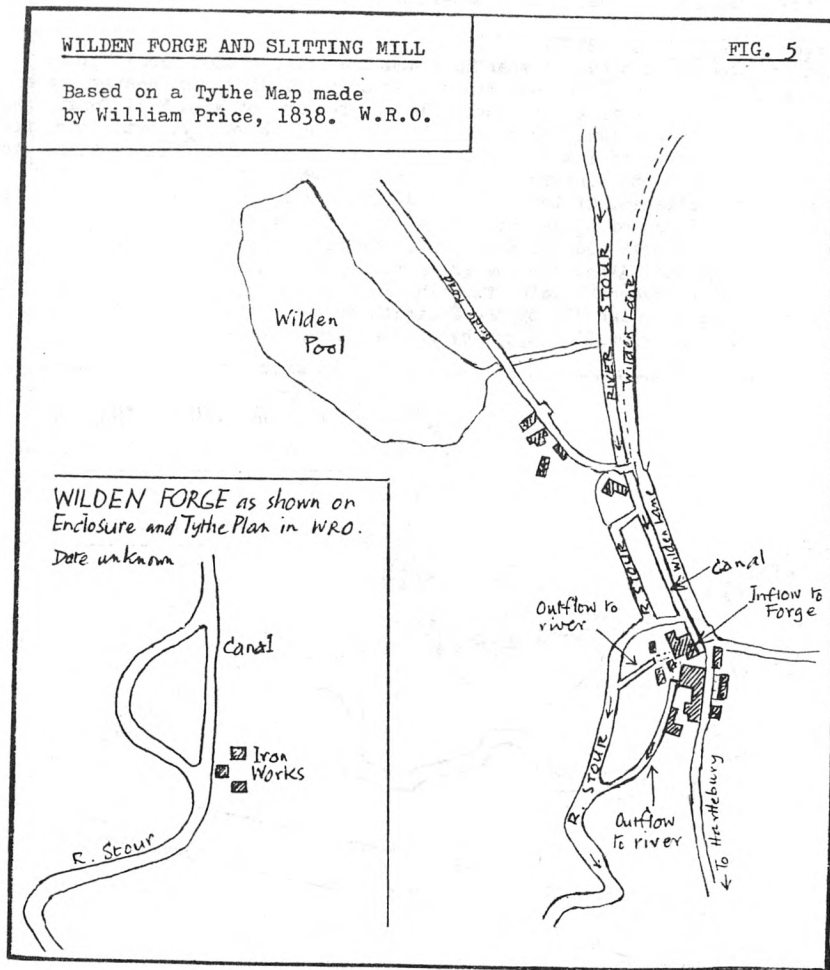


FIG. 4

6. Wilden Forge and Slitting Mill SO 824728

Wilden Forge dates back at least to the mid-17th century. It is believed to have been built, or converted to a forge, by the Wilmot family of Hartlebury who worked, if not controlled, several forges in the Mitton area. By 1669 however, it was under the control of Philip Foley, who probably built the slitting mill. It later became a tinplate manufactory (being the fourth oldest in the country), and in the 19th and 20th centuries it became a large ironworks under the control of the Baldwin family.

Wilden Forge lies almost half-way between Kidderminster and Stourport, on Wilden Lane. Of the two maps in Fig. 5, the smaller one is very crude, but shows clearly the canal or leat cut to bring water to the forge. The 1838 map is taken from a much better, but damaged, tithe map, and shows the works as it was just before the Baldwin family took it over.



The forge was built on the R. Stour, but the cut was made (called the 'Canal', but not to be confused with the Staffordshire and Worcestershire Canal which runs half-a-mile west of Wilden, and probably came later than the Wilden cut) to bring the water of the river into the forge to work the great helve hammer and the slitting mill. The Wilden cut was also used later, in conjunction with the river itself, as a navigation from the works to the Staffs. and Worcs. Canal, with a towpath, connecting with that canal at Platt's Wharf, nearly a mile to the north.

The slitting mill had an annual output ranging from 203 to 316 tons over the years 1692-1705 and this was somewhat smaller than the outputs of the Wolverley and Cookley works higher up the R. Stour; but the annual output of the forge (i.e. bar iron) ranged from 274 to 345 tons over the same period and this markedly exceeded the outputs of the forges at Wolverley, Cookley, Whittington and Stourton higher up the river.<sup>20</sup>

The Wilden forge and slitting mill were under the control of the 'Ironworks in Partnership' (i.e. Foleys and others) for the years around 1700. The forge made 400 tons of iron in 1736 and 450 tons in 1750.<sup>21</sup> There are gaps in the 300-year history of Wilden Forge, but some of the known facts after 1750 are as follows:-

- 1789 Benjamin Pratt, one of the original partners in the Blaenavon Ironworks, was described in a lease of land in Monmouthshire as 'of Wilden Forge'. He died in 1794, leaving his share of Blaenavon, and presumably also of Wilden, to Thomas Hill junior, son of the senior partner at Blaenavon.<sup>22</sup>
- 1791 Wilden Forge was occupied by Thomas Hill, but owned by the Foley family. On a map of this date, Thomas Hill is recorded as occupying a tin-mill.
- 1812 A description of Wilden Forge was given when the works was sold 'part of lots' at the Stourport (Tontine) Inn on 13 March 1812:  
'Lot XI. All those valuable Iron Works, called and known by the name of Wilden Forge, with Charcoal Barn, Timber House, Tenement and Garden and Piece of Land, occupied by the principal Clerk; likewise a large Reservoir of Water, situate in the Parish of Hartlebury, in the aforesaid County of Worcester, within one mile of the River Severn, and worked by that never-failing Stream the Stour, forming together one of the most powerful and completest Works of the kind in this Kingdom; now let to Thomas Hill Esq. under Lease granted Michaelmas, 1801, for 21 years.'
- This was just one of the properties that was lost to the Foley family by the extravagance of the 3rd. Baron Foley.
- c.1830 The works was now a wire works run on water-power; then a steam engine was introduced by Lewby, who traded under the name of Wilden Iron and Tin Plate Co. The firm came to grief after about ten years.
- 1840 Wilden Forge was taken over by Enoch Baldwin and his two nephews, Pearce and William. It later came under the sole control of Alfred Baldwin. Between 40 and 50 men were employed at the works at this time.
- 1880 The firm flourished under Alfred Baldwin, and carried off the only gold medal at the Paris Universal Exhibition in 1878 for tin-plate and sheet iron. The works at Wilden produced 75,000 boxes of tin-plate per year, using in various stages of manufacture 5,000 tons of pig iron, 150,000 bushels of charcoal and 21,000 tons of coal.
- In the rolling mills: 'a great helve hammer driven by a 50-hp engine, and another by water-power, a wheel 20ft. diameter on the Stour, doing the shingling. Also a tin refinery, a puddling forge containing 4 puddling furnaces, capable of producing 11 tons per day. The charcoal forge has two large fires producing 1,000 tons of wrought bloom. These are hammered with the steam helve, then cut into blooms, when it is again heated on a hollow fire, where the fuel does not touch the blooms, and then they go to the rolling shops, which has 5 mills, 3 rolling up to 16 inches wide, and two from 20 to 26 inches wide.'
- The state of development of the works in 1902 can be gauged from the map in Fig. 6. The works still exist, but the 'canal' is very overgrown with weeds, and evidently no longer has a flow of water.



The first record seems to date from 1791, when the forge and slitting mill were owned by the Foley family, and tenanted by William Barnett. In 1809 it was advertised for sale, tenanted by Barnett at a rent of £100 p.a.<sup>23</sup> It was then described as the 'newly erected Slitting Mill with mill pond, on the River Stour', so there had evidently been some developments since 1791. It was again advertised for sale in 1852 on the death of its tenant, Samuel Barnett: it then had two waterwheels, one a breast wheel of 24hp working two pairs of rolls together with sheet and bar shears, the other undershot of 12hp working a 'drawing out hammer' in the forge.<sup>24</sup> According to the account books of the Turton brothers of the Caldwell Foundry, a waterwheel 14ft. diameter and 15ft. wide had been made by them and fitted at Falling Sands in April 1847 for about £250; this must have been the larger wheel. The great width was possible as it was using the greater part of the flow of the R.Stour, and was necessary to get the power as the available head was small; it would have been a low-breast wheel. It is not clear where the undershot wheel could have been situated. By 1859 the works were occupied by Messrs. Banks and Morgan (who also had Broadwaters Forge on the Wannerton Brook) making sheet iron and tinplate.

#### 8. Caldwell Mill SO 829760

It is certain that this was a watermill because it was shown on Taylor's map of 1772, i.e. before any mills were steam-driven, and it was a corn mill because Tomkinson and Hall<sup>25</sup> state that Francis Best was the Corn Miller here in 1771 (he was then 67 and was murdered on a walk to Bewdley). This was probably the same mill that was insured by Daniel Best of Kidderminster in 1778, 'Water Corn Mill-house and Millwork therein on Stour Brooke, Kidderminster, Brick and tiled, £200. Utensils and stock £200.'<sup>26</sup>

It was a corn mill in 1829, for the following advertisement appeared in the Worcester Journal for 22 January that year:-

'To Millers & Others. To be Sold by Auction... on 3 February 1829 on the Premises at Caldwell Mill near Kidderminster:- Six Pair Capital French Stones, one Pair of Derby ditto., Two Dressing Machines, One Smut ditto. & Meal Trough: together with a Quantity of Fittings-up of Machinery of above Mill, the whole will be sold without the least reserve..'

Evidently it was a large mill. This sale was probably to clear the building in preparation for its conversion to a carpet mill. It was a carpet mill certainly by 1836, for in that year Messrs. Pardoe, Hoomans and Pardoe of Caldwell Mill were fined 10 shillings for employing a girl of 16 for more than 69 hours a week. We obtain a description of the mill in 1848 from an advertisement in the Worcester Journal for 28 September. It was for sale as a tenanted property:-

'All that first-rate FREEHOLD WATER MILL called CALDWALL MILL now used for spinning Worsted Yarn ... together with a large RESERVOIR ... The Mill has been rebuilt in the most substantial manner by the present Lessees, at an estimated cost of £4000 at least: the principal part is built fire-proof, extremely well arranged and lighted, and with a roomy and convenient stone and iron staircase, extending from the bottom of the mill to the top.

The Mill Wheels (from 20 to 24 horse power) are worked by an abundant and uniform supply of water from the Reservoir through which the River Stour runs.

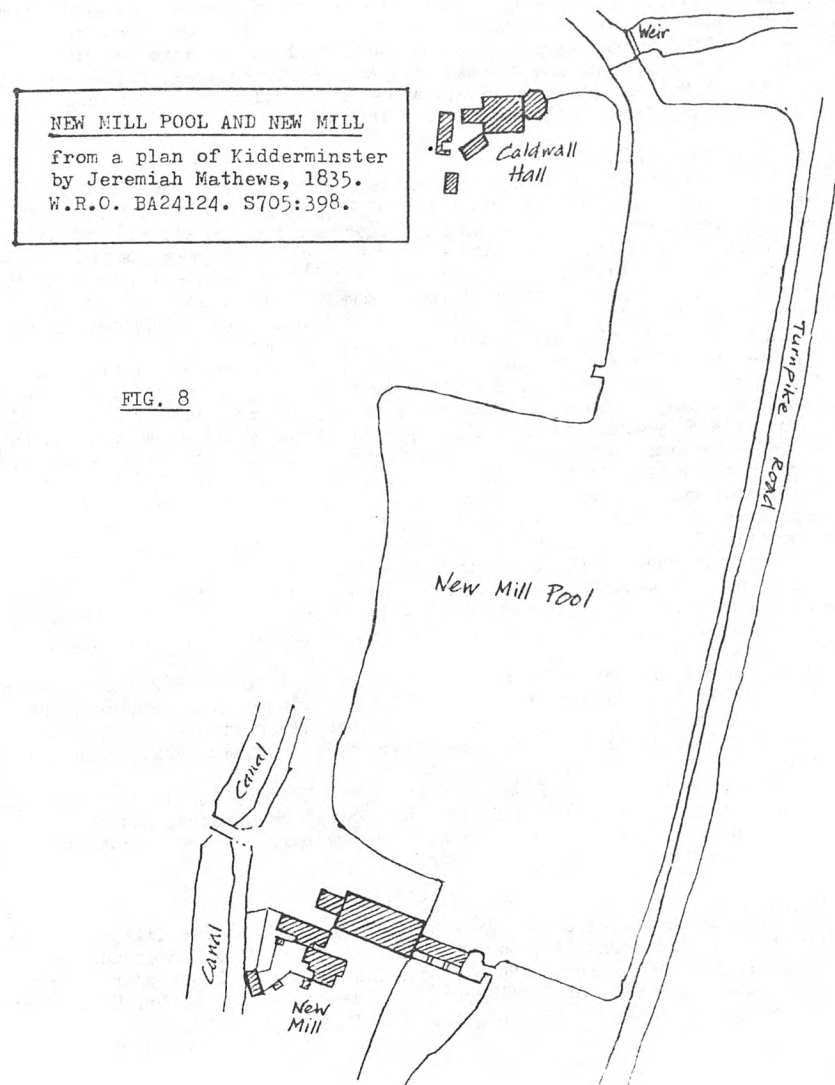
The above Property is now in Lease to Messrs Pardoe and Hooman for the remainder of a term of 40 years which commenced on the 25th day of March 1829 at the Rent of £320 ...'.

In 1884 the carpet mills were in the hands of Messrs. Potter and Lewis, in 1900 Messrs. G.M.Whittall & Co., in 1945 Messrs. T. & A.Naylor. Mrs. Berkley in 1934 seemed to accept Caldwell Mill as still a watermill; when the use of water power ceased is not known.

Today there is no sign of Caldwell Mill except for a vestige of its weir which causes a short section of rapids in the river as the water loses about two feet in height.

There are some interesting and curious features in the historical record of Caldwell Mill that need to be discussed. One of these is the question of the identity and location of New Mill. According to Mathews' plan of Kidderminster dated 1835

(see Fig.8) the area south of Caldwell Hall was a large mill pool called 'New Mill Pool' at the southern end of which was a large building which seemed to correspond to Caldwell Mill, but which was named 'New Mill'. Broadfield's map of 1859 shows the same arrangement, but with the name 'New Pool', and only the word 'Mill' against the buildings. Now there was certainly a corn mill called New Mill in Kidderminster throughout the last two-thirds of the 19th century, for the trades directories give William Minifie and his family as millers there from at least 1841 to about 1870; but the address was Mill Street. From 1872 to 1900, D.W.Goodwin had both New Mill and Town Mill. This 'New Mill' must almost certainly have been a steam mill. So the New Mill of Matthews' plan must be assumed to be Caldwell Mill, perhaps regarded as 'New' because it had been recently converted to the carpet trade.



It will be noted that Matthews showed an overflow weir on the river at the northern end of the New Mill Pool. Although the pool had gone by the time of the 1st. edition 6-inch O.S. map of 1888, and there is no longer a weir here, it is interesting that the overflow channel, which has provision for sluice gates, to this day carries a good flow of water round to the old Vicars Brook, or Back Brook, which rejoins the Stour well below the mill site. Doubtless the mill wheels operated in the main stream (as there was never a separate leat) and the loop channel was needed even after the pond was dispensed with, to cope with fluctuations in the mill load and in the river flow. The purpose of its retention now that there is no obstruction to flow in the main channel is not immediately obvious.

Another curious and related item is the fact that in a map of mills on the Stour to which the date 1862 has been assigned,<sup>27</sup> Caldwell (sic) Mill is shown on a small tributary a little to the west of the site described above; this would have left room for a New Mill on the Stour itself. However, it is clear from the advertisement of 1848 quoted earlier that Caldwell Mill was a large one then, and definitely on the R.Stour and Mathews' New Mill Pool. Besides, Taylor in 1772 had shown Caldwell Mill on the main river, above the confluence of the small tributary. It is therefore concluded that the 1862 map is incorrect.

#### 9. Town Mill(s) SO 827768

It is probable that one or more of the mills entered in the Domesday Survey of 1086 were on this site. John Doharty's map of 1753<sup>28</sup> shows the Town Mills with the watercourse arrangements just as they remained until comparatively recently. In 1809 and 1813 the mill had five pairs of stones;<sup>29</sup> in 1809 it was insured for £900 (Buildings £500, waterwheel and machinery £400).<sup>30</sup> Nineteenth-century millers were: 1820 and 1829, Benjamin Turrall (Thomas Turrall also in 1828 and 1835); 1835 and 1841, John Turrall; from the late 1850's, Daniel Wagstaff Goodwin (born 1821, died 1890, Mayor in 1874 and 1884); later D.W. Goodwin & Co.

In 1881 the watermill was extended by the addition of a new brick steam mill between the watermill and the road. The steam mill was of four storeys, and the building still stands, though as a motor-cycle sales depot; it has not been used as a mill for some 50 years. The date 1881 appears on the gable above the fourth storey. In 1903 the steam power was 160 hp and the watermill had two waterwheels.<sup>31</sup> A photograph of the watermill<sup>32</sup> taken just before demolition in the 1930's shows a large 3-4 storey building with a lucam; and a photograph of one of its waterwheels,<sup>33</sup> exposed by demolition of the building, shows a paddle-wheel with about 30 wooden paddles with circumferential iron-bar bracing, eight iron arms, iron axle and a large pit wheel with its teeth inside its rim. There is little to indicate size, but the waterwheel was probably about 12ft. in diameter and about 4ft. wide. This was, no doubt, the wheel for which Turtons supplied the ironwork to D.W. Goodwin on 12 June 1867: '2 rings, arms and naves 10ft. lin. dia. cast in 2 parts for 30 cast iron starts....'

By 1903 Goodwin & Co. had had a wharf on the canal at SO 828(5)771 for perhaps 20 years,<sup>34</sup> and had by then linked it to the mill by a private tramway line about 290 yards long. (See map in Fig.9) The wagons had special hopper bottoms, which enabled them to unload their contents directly on to an elevator which took the grain to the top of the building.

The present channel of the R.Stour uses the old mill race as far as its final overflow channel near the mill, then follows this overflow channel, and not the tail-race. The original overflow channel from the weir some 200 yards above the mill is not now used, and no longer exists.

#### ACKNOWLEDGMENTS

We would like to acknowledge with gratitude the use of the facilities and the help of the staff at the County Record Office at Worcester, the Kidderminster Public Libraries, the Kidderminster Museum, the Birmingham Public Libraries and the Library of the University of Birmingham. Our thanks are due to Mr. D.T.N. Booth for the information from the account books of the Turton brothers.

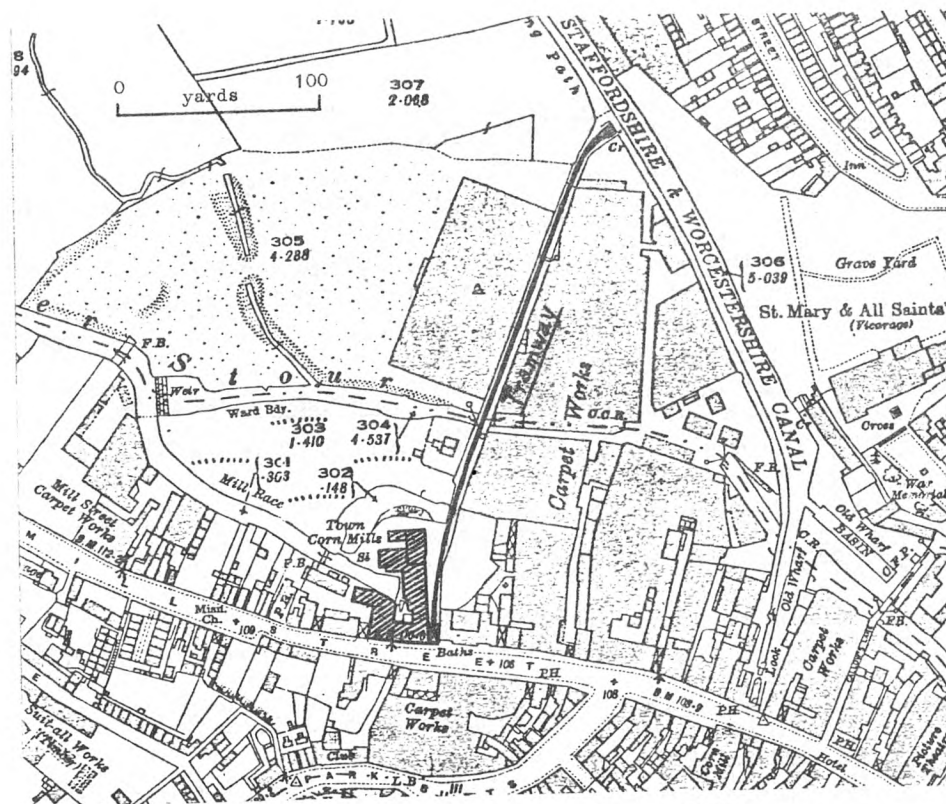
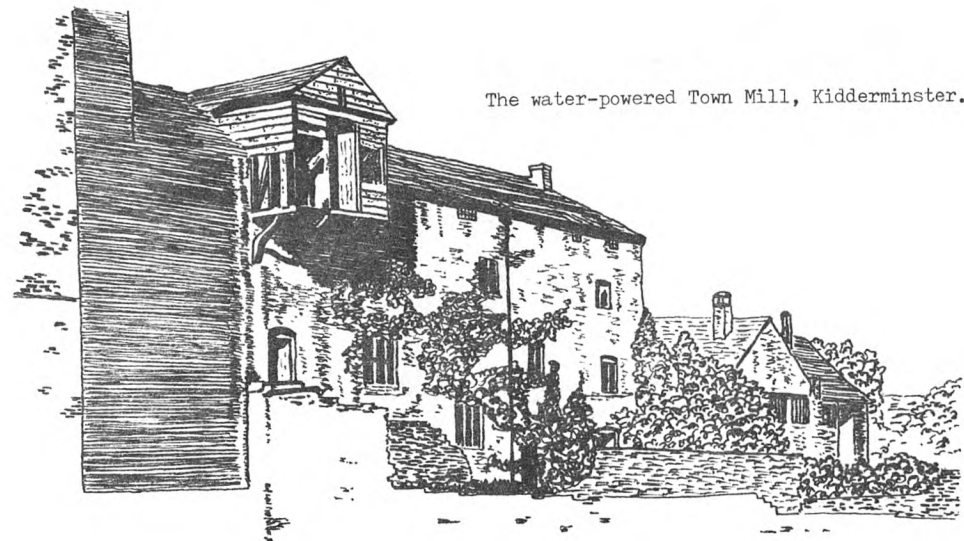


FIG. 9 Town Mills, Kidderminster, from 25-inch O.S. map of 1924.





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12. The name Hammersmith does not seem to be documented, but is used by local tradition.
13. Worcester Record Office.
14. The Knight family was much concerned with the iron industry; many of their papers are in the Kidderminster Public Library.
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16. Pigot's Directory of Worcs., 1835.
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33. *Ibid.*, No.882.
34. It was shown on the 1st-edition 6-inch O.S. map of 1888, connected to the mill by a lane.

## BEDFORDSHIRE WINDMILLS

by PETER DOLMAN

Bedfordshire is a county with no independent identity, either topographically or molinologically. Situated between East Anglia, the Midlands and the Home Counties, its windmills exhibited features found in each of these regions, all within one of the smallest English counties. Although well served by watermills, notably on the Great Ouse, Ousel, Ivel and their tributaries, Bedfordshire has had a fair sprinkling of windmills over the centuries, some of which were (and are) extremely interesting. I have located the sites of over 140 and at the peak of windmilling during the first half of the 19th. century there were some 45 at work, mostly for grinding corn. This article lists all the windmills which have stood since 1840, when the decline began.

### Aspley Guise SP 930364

This was a small open-trestle post mill of considerable antiquity and stood on a mound near a watermill. It had 4 common sails and was winded by a tailpole. The body was unusual in being clad with vertical boarding. It ceased work around 1890 and was pulled down at about the turn of the century. The mound has now become a green on a golf course.

