

# Wind and Water Mills

Number 23

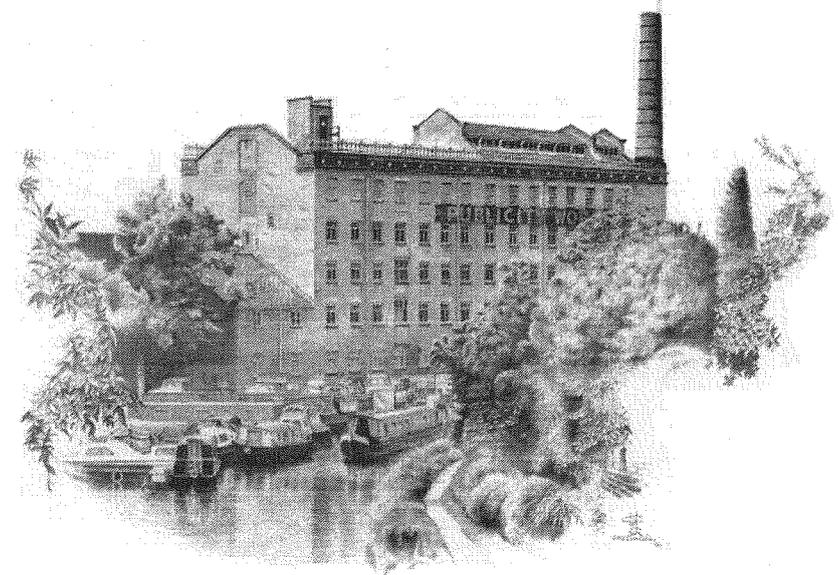
## THE MIDLAND WIND AND WATER MILLS GROUP

This Journal is published by the Midland Wind and Water Mills Group, which is concerned with the study of the history and technology of mills and with their preservation and restoration. Its area is the region loosely defined as the Midlands, especially the central counties of Staffordshire, Shropshire, Worcestershire and Warwickshire.

The group holds monthly meetings, with talks and discussions, during the winter, and arranges mill tours and open days during the spring and summer. Members periodically receive a Newsletter and the Journal.

For further particulars, please contact:-

**Mr. A. C. Perryer,  
Whitcot Mill,  
Bishop's Castle,  
Shropshire, SY9 5EB**



**The Midland Wind and Water Mills Group**

**Wind and Water Mills** is the Journal of the Midland Wind and Water Mills Group and is therefore naturally concerned with the mills of the Midlands, but it is not intended to be narrowly parochial. Interesting and important articles relating to mill matters in other parts of Britain and the world will be included whenever available. In general, articles by members will have priority for publication, but submissions by non-members will be willingly included.

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# Wind and Water Mills

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Midland Wind and Water Mills Group**

**Number 23**

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# THE MILLS OF ALVELEY AND ROMSLEY, SHROPSHIRE

David Poyner

Alveley is a large village in the south-east corner of Shropshire. The area includes the ancient manors of Alveley, Nordley and Astley as well as the largely deserted parish of Romsley. The whole area covers some 20 square miles and is bounded on the west by the River Sever and on the south and east by Staffordshire (see Figure 1 below). It is chiefly drained by Paper Mill Brook that runs entirely through Alveley and Romsley, reaching the Sever at Hampton Loade. This short brook and its tributaries have powered at least eleven distinct enterprises ranging from a blast furnace to corn mills. The brook has various alternative names such as Romsley Brook or Bowhill's Brook. There is also evidence for a windmill at one time, south of the brook. A geographical approach is used to describe the various mills, working upstream from the confluence of the brook with the Sever. The article is largely based on field and documentary research carried out from 2001 to 2003.

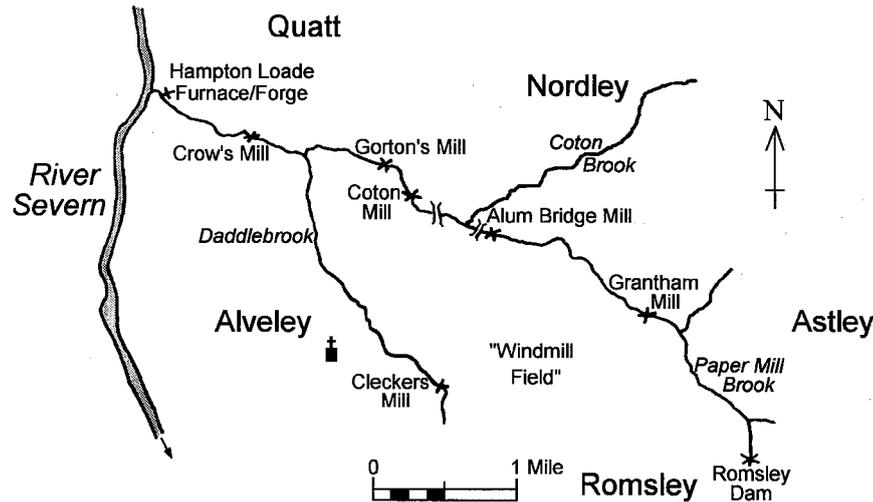


Figure 1. The Mills in Alveley and Romsley.

## Hampton Loade Furnace and Forges (SO 784864).

The mouth of a substantial stream on the banks of the Sever provided a site which had both a power source and ready accessibility, as the Sever is navigable well above this site. It is perhaps not surprising that it caught the attention of several generations of iron masters, first to power a charcoal blast furnace and subsequently an iron forge. As these have been previously documented<sup>1</sup>, only outline descriptions will be given here.

Hampton Loade furnace was operated by the well-known Midland iron-master, Thomas Foley. It is first mentioned 1641 and there are passing references to it until 1662. Peter King (who first drew my attention to the furnace) has argued that the furnace operated from 1641 to 1662 on a 21 year lease to Foley by Sir Thomas Wolryche of Dudmaston. Its location on the banks of the Sever is suggested by a family settlement of 1660.<sup>2</sup> This mentions 'Lee Hall in Quatt, in the occupation of Margaret Nash, widow, the site and stream for iron making near Lee Hall Farm and the ferry or passage over the Sever at Hampton Loade'. Lee (or Lye) Hall stands a few hundred yards from the confluence of Paper Mill Brook and the Sever. This would be best site for a furnace and there is no trace of any blast furnace further upstream than this. Any remains of the furnace would now be buried beneath the 18<sup>th</sup>/19<sup>th</sup> century forge, but it is possible that the water management system of the later forge re-used that constructed for the furnace (see Figure 2 below).

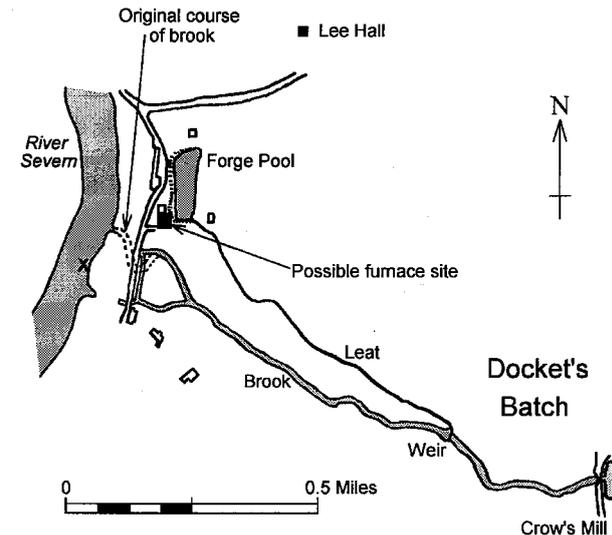


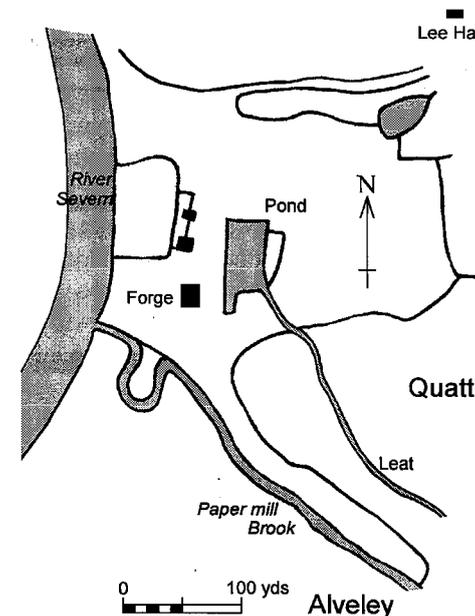
Figure 2. The probable site of Hampton Loade Furnace. The current course of Paper Mill Brook is shown, with a pond and leat that served the 1786 forge. It is suggested that these may have re-used a water supply system originally built for the furnace. (Note. X marks the position of blast furnace slag.)

At the expiry of the lease in 1662, Foley probably abandoned the site. The furnace probably worked up to this point and so must have achieved a measure of success; however, the focus of Foley's interests lay elsewhere and perhaps this was the main reason for its closure. Amongst the Boulton and Watt papers in the Birmingham Reference Library is a list dated 1<sup>st</sup> January 1788, of 'Charcoal Blast Furnaces which have declined blowing since the year 1750 owing either to the want of wood or the introduction of the making coak [sic] iron'. This list includes Hampton Loade, although a marginal note marks this as 'Forge'. There is no other suggestion that iron smelting was ever revived at Hampton after 1662 and it seems most likely that the compiler of the list was mistaken. However, this may mean that structures, either of the furnace itself or of the water courses remained visible long after its closure, leading to the confusion over the abandonment date.

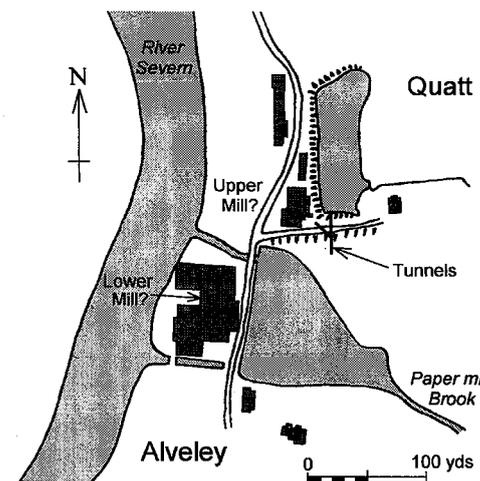
The next phase in the history of the site was the establishment of Hampton Loade Forge. As with the furnace, the history of the forge has been extensively documented<sup>9</sup> and so only a summary will be given here, with particular emphasis on recent research. Work began in 1786, when William Whitmore, who by now owned the land on the Quatt bank of the brook, was given permission to construct a dam across the brook within 200 yards of Crow's Mill in Alveley and divert the water on payment of £21.<sup>4</sup> The forge was leased to William Jones, a Stourbridge ironmaster, by 1790 and seems to have been a small, specialised charcoal forge, producing high quality wrought iron.<sup>5</sup>

Jones's Mill was located entirely on Whitmore's land in Quatt. In 1796 John Thompson leased land for an adjoining mill on the Alveley side of the brook. Thompson originated in Sheffield where the family were ironmasters. John and his brother Benjamin subsequently moved to Aberdare in South Wales, establishing a furnace. In the late 1790's they turned their attention to Shropshire. Within a few years various members of the Thompson family were involved with the forge at Hampton Loade, a colliery at Highley, sandstone and limestone quarries at Highley and Arley and a brickworks at Stourport.<sup>6</sup> The relationship between Thompson and Jones is not clear but probably in 1797 (certainly by 1801) Thompson leased Jones's forge from Whitmore. However, in 1806 Jones but not John Thompson was one of five partners in the Hampton Loade Iron Company. On a map of 1817 the lessees are simply given as Messrs Jones and Bate.<sup>7</sup> By 1819 both sites came under the control of James Foster. Thereafter the forge was owned first by James and then his nephew and heir, William Orme Foster. It closed in 1866 but was not demolished until after 1890.

The physical arrangements of the forges changed over time. An account of the works in 1806 describes three distinct units; a puddling plant and two rolling mills<sup>6</sup> The 1817 map only shows Jones's forge and gives no clues as to the layout of Thompson's "lower" mill (see Figure 3a). The 1796 lease allowed the construction of a dam across the brook<sup>9</sup> and a pool seems to be shown on the 2 inch to 1 mile OS map of 1815, implying that the 1817 map was actually based on a much earlier survey. The next available map is the tithe map of c1840 (see Figure 3b opposite) and this shows the major engineering that



**Figure 3a.** Hampton Loade Forge as marked on 1817 map showing enclosure boundaries. The survey probably predates 1817 and may show the site before the construction of Thompson's lower mill in 1796.



**Figure 3b.** The Forge as shown on the Quatt tithe map, c.1840. No corresponding map exists for the part of the forge site in Alveley parish and so the extent of development there at this date is unknown.

had taken place to create the 'lower' mill pool, obliterating the former course of the brook. Two new outflow channels were made and there was a large expansion of the works between these. Documentary evidence points to major reconstructions at the forge in 1820 and again in 1822 when a tinworks was created. This was abandoned in 1826 when it reverted to being a traditional forge.<sup>10</sup> The site has had a complicated history and the tithe map must show structures of various ages.

Much evidence of the management of water at the forge site survives. The 1786 dam and leat for the upper pool remain; the dam is built of blocks of the local sandstone and is about 20 feet high. The sluice mechanism is represented by a few bolts and traces of brickwork, now very overgrown. The leat is well preserved and can be traced about ¼ mile to the upper pond. Although this has now been infilled, its shape can be made out. It was retained by an earth bank and would have provided about a 30 foot head. The lower pool has also been drained, but the former dam remains as an embankment carrying a road. Both outflows are in good condition. The 1806 account describes a 20 feet diameter water wheel at the lower works, 10 feet wide, which worked various rolls and sheers. This is consistent with the dimensions of a probable wheel pit on the southern outflow, assuming the wheel to be breastshot. A particularly interesting feature is a branched stone culvert that must have emptied into the lower pool. The main part of the tunnel heads under the upper pool, perhaps acting as an overflow within that pool. The smaller branch leads from the forge buildings and may have been a tailrace from the upper mill. In 1806 there was an overshot wheel here, driving a hammer and a pair of puddling rolls. There seems to have been a third wheel at a mill above the upper works, originally it was a finery but by 1806 it had become another rolling mill. Although the forge buildings were demolished after closure, their outlines were recorded on a series of maps from 1817 to the 1881/2 Ordnance 1:2500 survey. A few walls remain and it is possible many foundations survive below ground. These would give important clues as to the operation of the works.

#### **Crow's Mill (SO 755860).**

The first corn mill on the brook is now called Crow's Mill. A preliminary account of this mill has already been published;<sup>11</sup> here new findings will be presented with a brief description of the previous work.

The earliest reference to mills at this site is in c.1171, when Guy Le Strange, lord of Alveley, with Margaret his wife, gave his interest in 1½ mills at Alveley to Haughmond Abbey. In 1255 these were worth 10 shillings a year to the abbot and in 1342 they were granted to Andrew de Lalone and Joan his wife on the death of the then tenant, Walter de Hadley.<sup>12</sup> As Haughmond Abbey had only a half share in one of the two mills granted to them by Le Strange, another owner of this mill must have existed. A clue to his identity comes in a grant of 1350 from William de Hardwick, priest, to John of the Grene and Christiana his wife of *'one dovecot at Trokenhull in Nordley, together with the reversion of half a water mill at Trokenhull... which Walter de Hadley holds for the term of his life'*.<sup>13</sup>

As Walter had a life interest in the 1½ mills owned by Haughmond in 1342, it may be that William de Hardwick was the owner of the other share. Although the later structures at Crow's Mill were in Alveley, the brook at this point forms the boundary between Alveley and Nordley and in the 18<sup>th</sup> century the estate associated with the mill included lands in both manors. Trokenhull has been considered to be an early form of Tuck Hill, in the far east of Nordley; however, there is no proof of this and the Court Rolls for Alveley from 1762 refer to 'Tucknell Lane' between Lake House Green and Paper Mill Brook, close to Crow's Mill.<sup>14</sup>

On 12<sup>th</sup> March 1494/5,<sup>15</sup> Richard, the abbot of Haughmond, granted the mill *'called Nexnonesmyll with a messuage and a noke of land in the lordship of Moorehouse, late in the tenure of Henry Brymford'* to Henry and his heirs, for 80 years at a rent of 12 shillings per annum. This provides evidence to identify the site of the mill. The Moorehouse estate eventually passed into the hands of the Lee family together with Crow's Mill. They owned no other land suitable both for a mill and which was likely to be associated with Moorehouse. Further evidence that Crow's Mill was the site of the Haughmond mills comes from a 1500 grant allowing the construction of *'.... flood gates or stanks on Dockett's Batch to turn the course of the water from Brymfforde Mylle to the Severn, and take the profits of the fishing therein'*.<sup>16</sup> Dockett's Batch is the name of a small valley immediately to the north-west of Crow's Mill. These documents apparently refer to just one mill; it is not clear if a second mill still existed at this time, although by the 18<sup>th</sup> century there were certainly two mills here again (see below).

In 1641 there was an agreement between Thomas Foley of Hampton Loade Furnace and John Heath, miller of 'Elliot's or Moorehouse' Mill.<sup>17</sup> Foley was to indemnify Heath against any damage to the mill which he leased from Lancelot Lee on account of flooding caused by the dam for the furnace. The furnace may have been re-using an earlier watercourse to the fishery. There is little doubt that the mill is the same as the Haughmond mill, the later Crow's Mill. A family called Elliot are recorded in the Alveley parish registers from 1584 to 1620 and these presumably lent their name to the mill at this period.

Crow's Mill took its present name from the Crow family. In 1741 William Crow is recorded as tenant of two mills in Alveley. Another record of this date describes the mills as a paper mill and a leather mill.<sup>18</sup> Whilst there are no explicit documentary sources to record happenings between 1741 and 1642, something of its history can be deduced from the 1741 account. This records Crow as tenant at a farm in Nordley and Alveley, formerly occupied by John Fosbrook and then Mary his widow. A survey of 1770<sup>19</sup> shows that by that date William Crow (the son of the William of 1741) held not only the mill but also 28 acres of adjoining land, in Alveley and Nordley (see Figure 4a). This estate was probably the farm of the 1741 document. Of much greater interest is the fact that John Fosbrook is known to have been a paper maker in Alveley from at least 1705 to his death in 1729. It seems highly likely that Fosbrook preceded Crow as tenant of the mill and used it as his paper manufactory. Paper making was established in Alveley before Fosbrook; in 1686 the paper mill of William Atwell of Alveley was burnt down.<sup>20</sup> Whilst

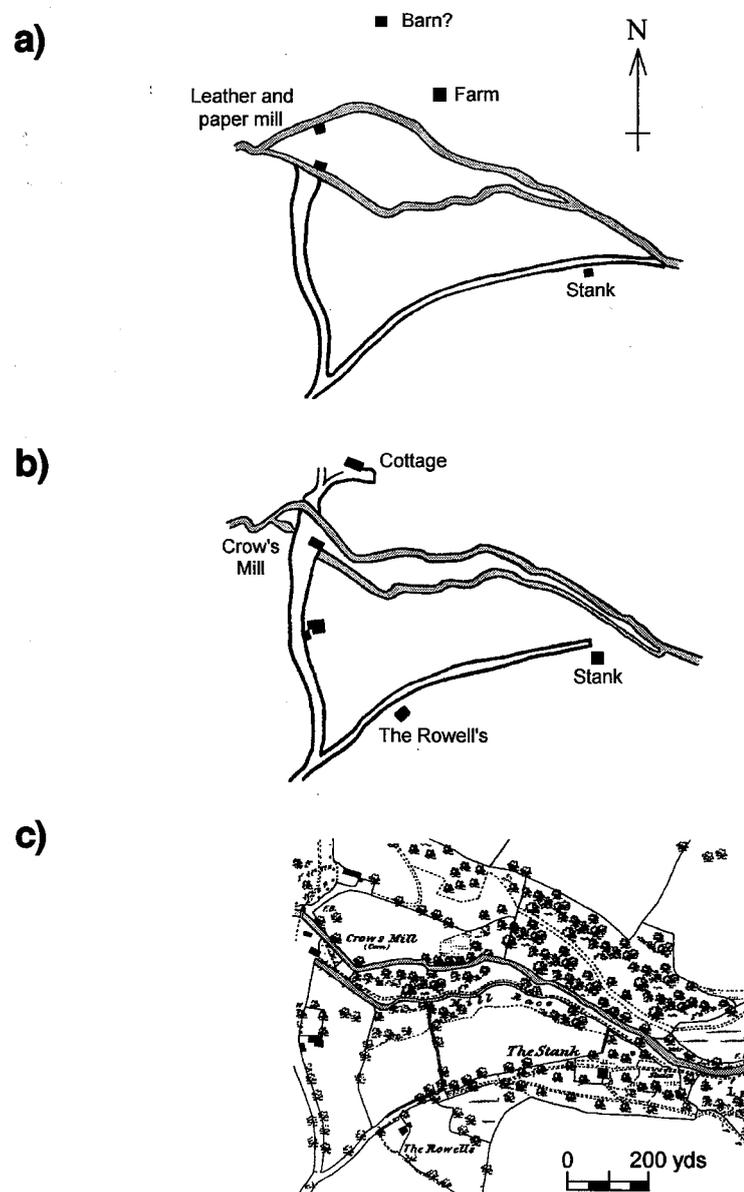


Figure 4. Crow's Mill. a) 1770 map. The original has north marked pointing to what is actually south and the fields on the north of the brook are too far east. The problem seems to have been a surveying error on the brook; b) The tithe map of 1849; c) The 1881/2 OS map.

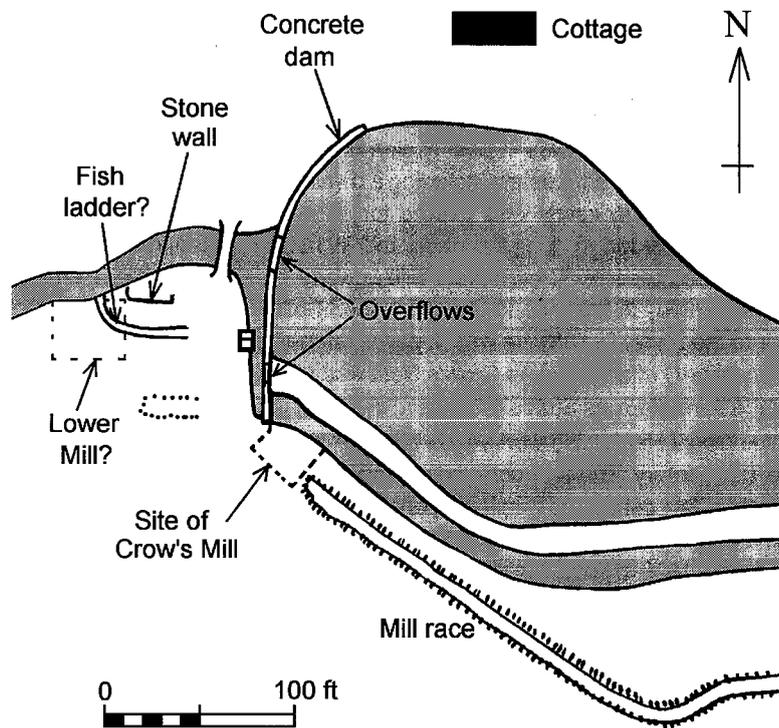
the location of Atwell's mill is unknown, it is possible that it was at Crow's Mill and was rebuilt.

In 1770 William Crow junior was working a paper and a leather mill at Crow's Mill. However, by 1789 his widow was in possession of a paper and corn mill. In 1806 their son, Richard, leased a 21 acre estate including a dwelling house, corn and paper mills in Alveley. At that date, the estate was offered for sale. Whatever the outcome of this, Richard was still recorded working the paper mill in 1816. He died in 1823 and a list of paper mills in 1826 records 'Crow's Nest Mill', owned by Henry Harris. Harris owned paper mills at Langley in Milson and Sturt's in Neen Sollars by 1816, so he was clearly no stranger to the trade. In 1831 he was in partnership at Sturt's with Joseph Harris but it closed very shortly afterwards. As Crow's Nest was also closed by 1832, it seems that it suffered the same fate as Sturt's.<sup>21</sup>

It is not known if Harris also worked the corn mill but this operation continued for the rest of the 19<sup>th</sup> century. The first corn miller who can be identified is Edwin Spillsbury, recorded in the 1861 census as employing one man. Using censuses and trade (Kelly's) directories it can be seen that Spillsbury was succeeded by Samuel Davies by 1871, John Giles from c.1879-c.1885, Emma and William Giles in 1891 (the mother and younger brother of John) and finally Hy. Grubb in 1895. Grubb was the last recorded miller and the mill probably ceased to work around 1900.<sup>22</sup> The mill was eventually demolished and a large concrete dam built close to its site (see Figure 5), part of a scheme for fish pools.

The mill is drawn accurately on the 1881/2 1:2500 OS map and appears very similar to the representation on the tithe map (see Figures 4b & 4c opposite). In spite of considerable disturbance, it is still possible to relate the features shown on this map to the ground (see Figure 5). The stone-built dam on the brook is intact and although the leat is dry it is also largely intact. The site of the mill itself has recently been covered with clay following repairs to the concrete dam. However, a relief channel for the pool passes immediately in front of the site of the mill and here large sandstone blocks are visible. These appear to define the north-east corner of the mill and the wheel pit. It seems very likely that the rest of the foundations of the mill remain intact, albeit buried. Parts of a millstone survive close to the foundations. This appears to be a Derbyshire stone; 4 feet diameter with a 9 inch eye. It has the typical domed shape of millstones and is 2 inches thick at the perimeter and 5 inches in the centre. The dressing and slots for a four-armed rynd suggest it dates from about 1800. The remains of the tail-race can be traced close to the brook, where it was supported on a stone retaining wall. The fall at the mill would have been between 10 and 20 feet, indicating an overshot wheel.

The structure shown on the OS and tithe maps was a corn mill; presumably that worked by widow Crow in 1789 and which evolved from the leather mill worked by her husband and his father before him. It is difficult to know how extensively the leather mill was altered during the conversion. The 1770 survey includes a map which marks both the leather and the paper mills (see Figure 4a opposite). This shows two buildings, one



**Figure 5.** Crow's Mill, current remains. The concrete dam and fish ladder are remains of an inter-war fish pool scheme. The fish ladder runs over the course of the presumed tail-race from Crow's Mill that fed the lower mill.

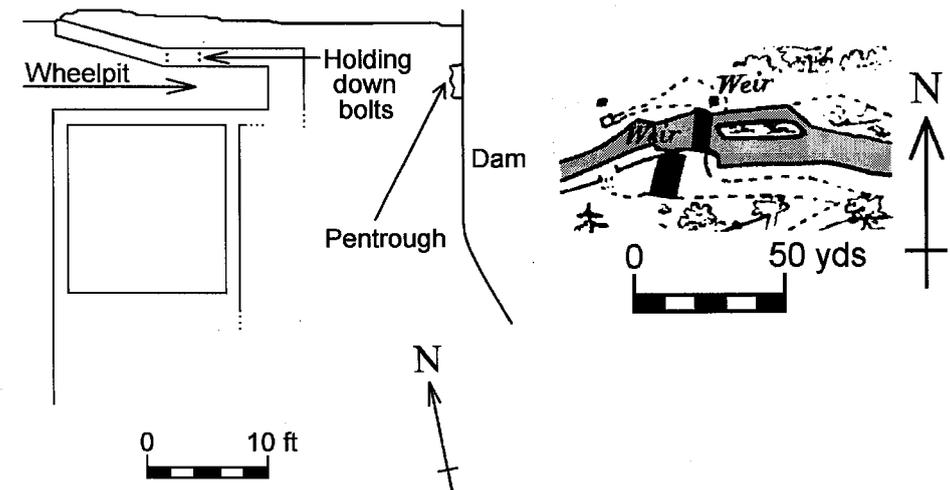
on the leat from the brook in approximately the same position as the later corn mill and the other on the main course of the brook. If the map is taken at face value, it would suggest that the leat was later recut, as it starts further downstream than the present dam. Unfortunately the map has a number of serious surveying errors which suggests it should not be trusted too far. However, the Alveley Court Rolls for 1805<sup>23</sup> record repairs of the footbridge at the 'new stank' at the paper mill, so perhaps the conversion from a leather to a corn mill did involve a new watercourse. The concrete dam will have obscured any field evidence of an earlier watercourse.

The second mill shown on the 1770 map was presumably the paper mill. The map may be correct in showing no connection between it and the leather/corn mill, but the field evidence points to a different conclusion. The tail-race of the corn mill runs along a retaining wall, 15 feet above the course of the brook, before suddenly emptying. At this point, between the edge of the brook and the steep valley side is a distinct square platform, about 35 feet square, edged with stone blocks, by the brook. This would be sufficient to accommodate a mill, driven by the tail-race from the upstream mill. If there

were no mill here, it is very difficult to understand why the water from the tail race should be so carefully channelled. The simplest explanation is that this is the site of the paper mill, although it may equally be the site of a long-abandoned mill if the paper mill was further upstream, as the 1770 map suggests. The relationship between it and the two medieval mills is unclear. There must have been two distinct power-units in medieval times, each consisting of a wheel and stones, but in principle both could have been accommodated in a single building. None-the-less, regardless of its date, the evidence for a mill immediately downstream of the corn mill is convincing. The simplest explanation is that the two mills can be equated with the leather and paper mills of William Crow and ultimately the 1½ mills of Haughmond Abbey in c.1171.

### Gorton's Mill (SO 762858)

About ¼ mile upstream of Crow's Mill both the tithe map and the 1881/2 OS map show Gorton's Mill, a water corn mill (see Figure 6 below). Unfortunately its history is almost completely obscure. At the time of the tithe survey it was owned by one William Gill and the 1851 census records William Brown, a miller, living at the site. The mill was apparently still working in 1881/2. The Gorton family, from whom it must take its name, first appear in the Alveley registers at the start of the 18<sup>th</sup> century with the arrival of Edward Gorton, a mason of Kingswinford and by the middle of the century there are references to a 'Gorton's' estate. However, the first note of the mill is not until the manor court of 1812, when Edward Gorton was ordered to fence the pool dam of Gorton pound.<sup>24</sup>



**Figure 6.** Gorton's Mill. The current remains (left). The mill as shown on the 1881/2 Ordnance Survey map (right).

Although the mill must have been demolished for over a century, the site is well preserved (see Figure 6). The dam is intact with the remains of the cast iron pipe that fed the pentrough for the pitchback wheel. In the bottom of the wheel pit the remains of the iron wheel are still to be found; the width appears to be 3 feet 8 inches and the diameter must have been about 12 feet. Adjacent to the wheel pit there are the foundations of a single room, 14 feet by 15 feet; there are traces of a further room, 10 feet by 14 feet beyond this. A series of photographs exist that have been attributed to Allum Bridge Mill.<sup>25</sup> However, this is incorrect as they show a mill next to a dam with an external wheel whereas the wheel at Allum Bridge is internal. If the mill is in Alveley, it could only be Gorton's Mill (see Figure 7) and the view of the dam strongly supports this supposition. It shows a stone structure, extending perhaps two floors over the level of the wheel with a loft. Unfortunately the pictures give no clues about dating the mill.



Figure 7. Gorton's Mill, c.1900.

(Photograph from the collection of D. T. N. Booth, reproduced by kind permission.)

### Coton Mills (SO 760850)

There are two distinct mills at Coton (in Nordley); a mill directly on Paper Mill Brook and a second powered by Coton Spring (see Figure 8). In 1588, the brook immediately downstream of Allum Bridge (i.e. close to the present mills) was called 'Millhais Brook',<sup>26</sup> suggesting there may have been a mill on the site at that date. However, the documented history of Coton Spring Mill can be traced back to 1741. At that time there was a '*capital messuage called the New House alias the Mill House and one water corn mill adjoining in Nordley Regis, in the possession of Richard Gill afterwards Dovey Wollaston or his undertenants and since in the tenure of John Bache*'.<sup>27</sup> New House Farm, in spite of its name, occupied a medieval (?) moated site<sup>28</sup> fed by Coton Spring. Richard Gill was a farmer living in Alveley from 1702. By 1761 the corn mill had been converted to an oil mill. The 1770 survey shows the mill and adjoining house as an L-shaped building, fed by the moat which acted as a pond to store the waters from the spring. At that date it was untenanted. New House farm was still let to John Bache but the house itself was unoccupied and was eventually demolished. In 1781 the mill was held by Thomas Steward and Richard Clark.<sup>29</sup> In 1785 Harry Lee leased it to Richard Windle of Claverley, with leave to convert it to a paper mill.<sup>30</sup> Windle must have converted Coton Spring Mill to a paper mill but in 1788 he was presented before the Nordley manor court for erecting a paper mill on waste in the manor.<sup>31</sup> This probably refers to the construction of the second mill, directly on Paper Mill Brook. There is some ambiguity over the date of this building as it incorporates a stone marked 'ELL 1766'. There is no documentary evidence for the construction of any structure on the site in 1766. Furthermore, 'ELL' would appear to refer to Eldred Lancelot Lee; however, he had been dead for over 30 years by 1766 and the building is not shown on the 1770 survey of the Lee property. The stone may have been re-used from another site although it is not impossible Windle incorporated an existing building into his new mill. It is likely that Windle worked both the old and new mills together.

Windle purchased the leasehold of the Coton Mills from Lee in 1796 together with 'Baches Mill', near Allum Bridge (Allum Bridge Mill, see below) and the next year let it to William Hardman, a paper maker.<sup>32</sup> Hardman agreed to purchase the leasehold from the Windle family in 1810, although for various reasons the full money was not paid until 1819, by which time Hardman was dead and the mills had passed into the possession of Francis Hayward, an Alveley farmer, and John Stockall, his partner. The operation of the paper mills were continued by the Hardman family through these changes of ownership but Thomas James is said to have been paper maker in 1839. James also worked Hurcott paper mill in Kidderminster. In the 1841 census the mills seemed to have employed nine individuals but they had closed by 1846. By 1865 the site was leased by Benjamin Webb and used as a sawmill; it is said that it remained in use as a water-powered saw mill until the First World War, in the hands of the Harley family.<sup>33</sup>

There are surviving remains which can be associated with both Coton Spring Mill and mill on the brook. The dam of the latter is breached but much masonry is still present.

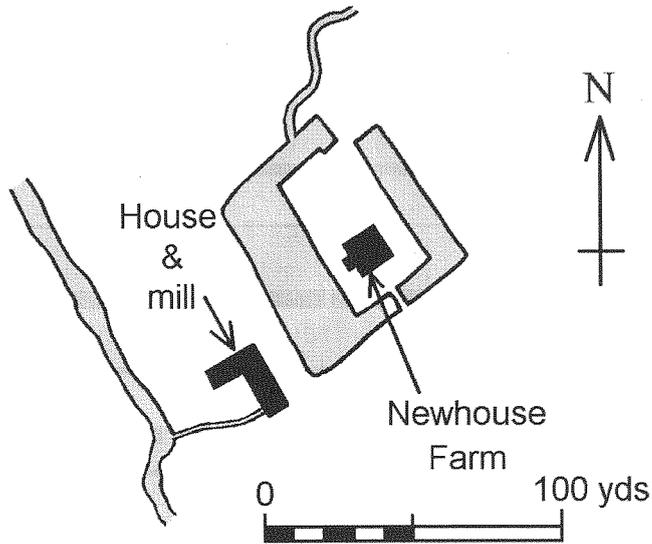


Figure 8a. Cotton Mills on the 1770 map.

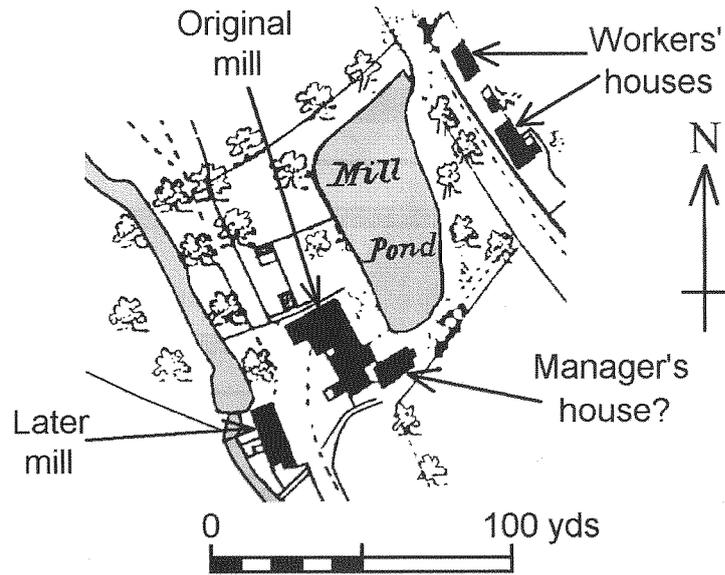


Figure 8b. Cotton Mills on the 1881/2 OS map.

A photograph<sup>34</sup> taken when the mill was derelict shows it as a roofless, three storey, brick building (see Figure 9 below). It remained derelict until about 1960 when it was converted to a bungalow; however, significant features of the older building still remain. Nothing can be seen of the water in-take, but there was an internal wheel as an arch survives in what is now the basement of the bungalow to mark the out-flow.

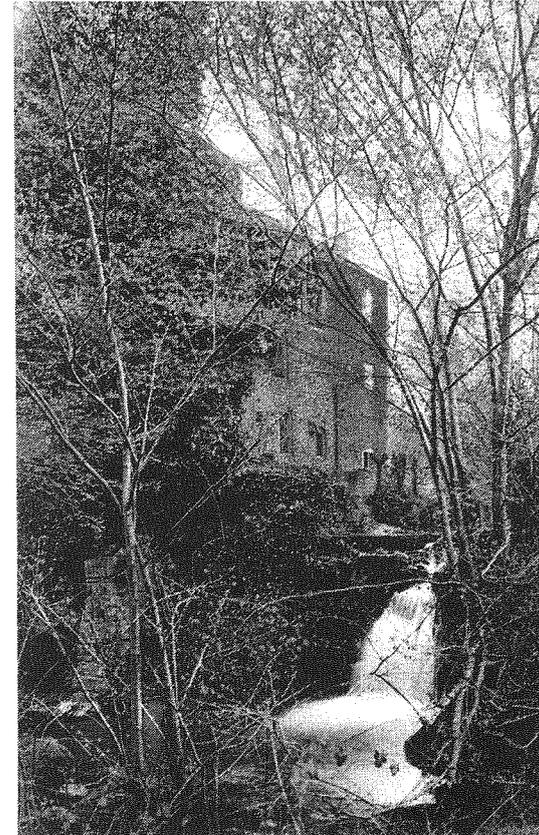


Figure 9. Cotton Mill, c. 1900. This is the mill on Paper Mill Brook. (Photograph from *Images of Alveley*, Alveley Historical Society, 1999, reproduced by kind permission of the publisher.)

Coton Spring Mill has been demolished but the site is marked by a few retaining walls and faint traces of foundations, consistent with the evidence from the 1770 and later maps. When New House Farm was demolished, the moat was enlarged to create a large pool and this survives. This supplied an overshot wheel which was said to have been scrapped in 1936. A modern overshot wheel is worked by water from the pool. This may be in the position of the original wheel. There was also said to be an undershot

wheel, although its location at either Coton Spring Mill or the former corn mill is unclear.<sup>35</sup> There are still three cottages by the pool that were built to house workers at the paper mill, as well as a larger house, probably built for the mill manager. An edge-runner millstone, about 4 feet in diameter and made of local Alveley sandstone was found buried next to the brook-side mill, where it seems to have served as a step to the door. This may have been used as a grinding stone at Coton Spring when it was an oil mill. Very recently, a new pond has been created on the west side of the brook opposite the Coton Mills. This feeds a small, modern waterwheel just above Gorton's Mill.

At the time of writing, neither of the modern wheels appear functional; however the one at Coton Spring Mill should drive a circular saw and the other is intended to power a small pump.

### Allum Bridge Mill (SO 770853)

Allum Bridge or Bowell's Mill first appears in the records in 1635, when Francis Baskerville gave to his sister Margaret Pountney the unexpired residue of his lease of the water corn mill called 'New Mill'. He had a half share in the mill.<sup>36</sup> It is unclear how new the mill was in 1635, but it was probably not more than a century old. It is possible to trace the ownership of the mill via the Nicholls family to the Lees. By the end of the 18<sup>th</sup> century it was worked by the Bache family.<sup>37</sup> As noted above, the leasehold passed to Richard Windle in 1796. By the middle of the 19th century the mill was worked by the Cox family, followed by William Hinton, with Robert Clarke and Bill Narburgh taking it on well into the 20<sup>th</sup> century. The mill remained intact until the 1960s when it was converted into a hotel, although the wheel has been retained.<sup>38</sup>

The development of the mill is shown in Figure 10 (opposite). In 1770 the mill had one wheel and two sets of stones and was housed in small, square building. A building next to the pool must have been a house for the miller. By 1864<sup>39</sup> this had been extended. An estimate for repairs of about this time<sup>40</sup> mentions a stable, cowhouse, garner and pigsty, all probably part of the extension. The same source suggests the mill itself was about 15 feet square. Before 1881/2 there were major extensions to the mill. A photograph of about 1930<sup>41</sup> shows what is probably the house and adjoining warehouse; a stone building belonging to Robert Clarke who was miller, grocer, baker and flour merchant (see Figure 11)

The mill was surveyed in 1967 just before it was converted to a hotel.<sup>42</sup> As with the Gorton's mill, the pool was directly on the brook with the mill located underneath the dam. The cast iron, internal overshot wheel was 13 feet diameter by 4 feet wide attached to a wooden polygonal shaft. The gear was of conventional form, cast iron and drove two pairs of 4 feet diameter burr stones. However, a bevel gear from the pit wheel drove an additional pair of 4 feet 4 inches diameter burrs. All stones were on the first floor of the mill. Only the 4 feet 4 inches diameter stones were still complete and in working order. On the runnerstone of these were four 1859-type Clarke and Dunham balance weights. The bell alarm consisted of a small iron rod on the bell pivot that struck a piece

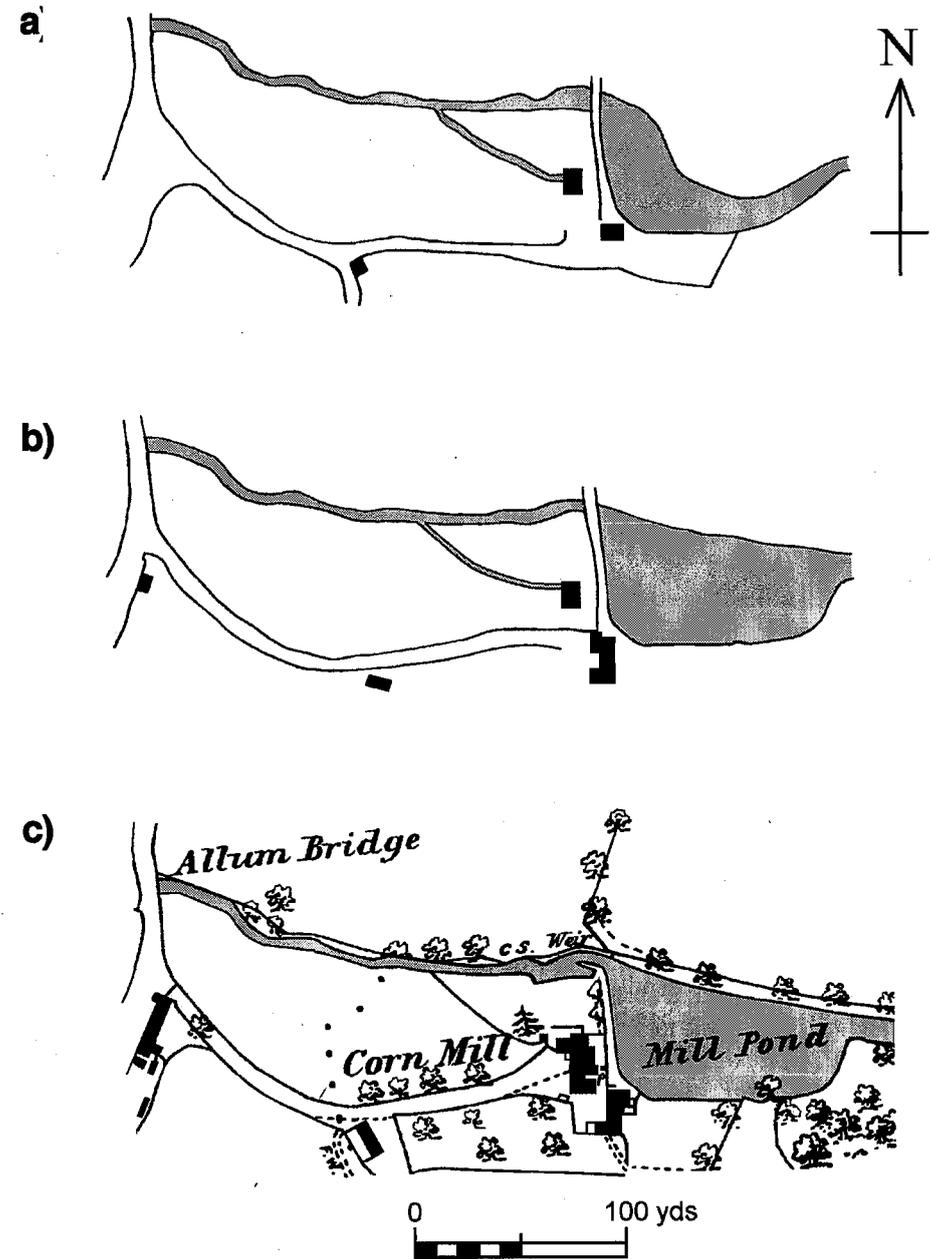


Figure 10. Allum Bridge Mill. (a) 1770 map; (b) 1864 map; (c) 1881/2 OS Map.



**Figure 11.** Allum Bridge Mill, c. 1930.

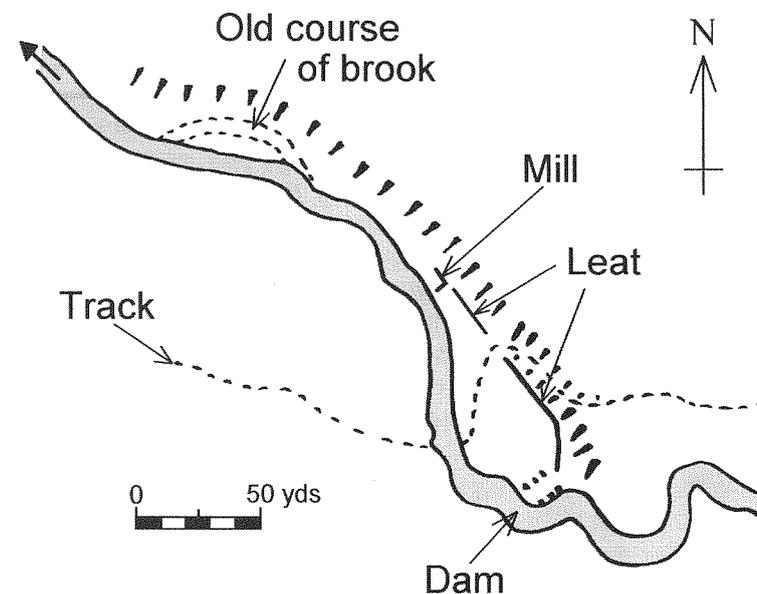
(Photograph from *Images of Alveley*, Alveley Historical Society, 1999, reproduced by kind permission of the publisher.)

of leather on the damsel. The rod was normally kept away from the leather by a piece of string held down against a piece of rubber by the weight of grain in the hopper. As the amount of grain was reduced, the string became slack, releasing the rod. Towards the end of its life, a 1947 Ferguson tractor provided auxiliary power for the mill.

#### **Grantham's Mill (SO 781849)**

Grantham's Mill is in Astley. It may be the same as the Domesday mill of Astley; a small unit valued at just 2 shillings. In 1291 John de Astley granted to Hugh Solrugg, clerk and Aveline his wife for their lives at a rent of 14 shillings 'that mill called Grantham Hulme and its proper water called Grantham Brook with customary easements to the said hulme and stank there lying'. The ownership of the mill passed by inheritance from the de Astleys to the Filliodes and thence to Richard Blyke in 1492, when it was described as ruinous. By 1565 the mill appears to have been leased by the Elcock family from the Blakes. The last documentary reference is in 1587, when George Blake gave evidence about the lease of the mill by his father to John Elcock and its subsequent sale.<sup>43</sup>

Despite vanishing from the written record before the 17<sup>th</sup> century, the location of the mill was marked by a series of field names on the 1770 survey of Alveley, allowing its



**Figure 12.** Grantham's Mill, current remains.

location to be traced (see Figure 12). The mill was served by a lane that is still a public footpath. The dam was probably of clay and lay directly across Paper Mill Brook but little is now left. However, the leat is well preserved and extends north-west for about 100 yards to where there are faint traces of the foundations and retaining walls of the mill. The leat fed an overshot or breastshot wheel, in excess of 10 feet diameter.

The mill building is marked by a scatter of either brick or tile fragments and mortar; a late 17<sup>th</sup> century clay pipe was noted by the leat close to the dam. Unfortunately, this was not in a stratified deposit and provides no real clue as to the date of the abandonment of the mill. Just downstream of the mill, the brook has been straightened; the old channel is clearly visible, creating an island. This may be significant. The 1291 lease clearly refers to a *hulme* as an integral part of the mill. Originally from the Norse *homlr*, *hulme* by this date had spread into common use over much of England and meant 'island'.<sup>44</sup> It is very likely that the *hulme* of the lease was the island that still survives. This would be a good site for an early medieval mill with a small undershot wheel; one channel to supply the wheel and the other for an overflow. As there is no documentary evidence for overshot wheels in England before an illustration in the Luttrell Psalter of 1338,<sup>45</sup> the overshot wheel noted at the mill site upstream from the island is almost certainly a later development. Thus it seems that Grantham's mill migrated up Paper Mill Brook in late medieval times to a site more suited to changing technology. Particularly if it can be equated with the Domesday mill of Astley, the undisturbed *hulme* offers a significant archaeological opportunity.

### Cleckars Mill (SO 767843)

Daddlebrook is the main tributary of Paper Mill Brook that rises in Alveley. Close to its source it feeds a medieval moat and fish ponds at Pool Hall. It then flows past the Cleckars estate. In spite of now being not much more than a trickle at this point, it fed a mill. In 1302 Simon de Alveley was named as tenant of Cleckar. In 1316 he settled a mill in Alveley on himself.<sup>46</sup> The simplest conclusion is that this was Cleckars. The first explicit mention of the mill is from 1645, when it was sold by Humphrey Howells to John Nurton. By 1650 it seems Humphrey Grove of Pool Hall was the owner and it remained in the hands of the Grove family for many years.<sup>47</sup> In 1673 Richard Merris was "slain by a millstone at ye Clecker". In 1780 the mill was the scene of another fatality when 14 year old Richard Powell, normally employed to shovel clover, was 'greasing the cogs between the cog wheels and the timber wheel' when he was caught and crushed in the machinery.<sup>48</sup> In 1830 it was described as a corn mill and was apparently still in use in 1881/2 (see Figure 13 below). It was dismantled early in the 20<sup>th</sup> Century.<sup>49</sup>

Despite the best efforts of the demolition men, there are still recognisable remains at the mill. The pool is dry with a substantial breach in the dam, but it appears to have been made of clay. The stream currently flows to the west of the dam but there may originally have been an overflow to the east. The mill was set in front of the middle of the dam; a cast iron pipe that fed the penstock survives, suggesting a breastshot, internal wheel. The surviving foundations appear to be of brick.

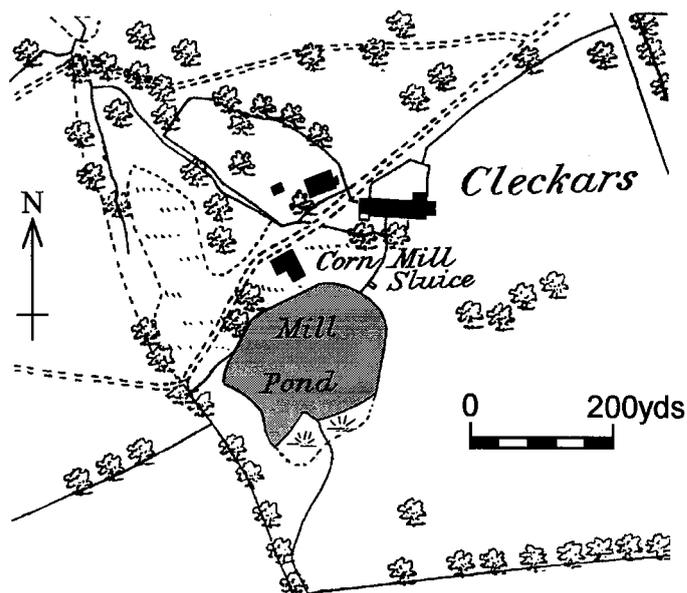


Figure 13. Cleckar's Mill on the 1881/2 OS Map.

### Other Mills

Two documents, of 1667 and 1693, refer to Windmill or Winmill field in Romsley.<sup>50</sup> The precise location is now lost, but it seems to have been close to the later Cross farm, on a ridge of high ground between Daddlebrook and Paper Mill Brook. There are no explicit references to a windmill ever being here, but the location is plausible.

Upstream from Grantham's Mill, close to Cross and Lower House Farms, there is a substantial clay dam across Paper Mill Brook (SO 787834), very close to its source. This was originally noted as a fish pond but more recently has been interpreted as a mill site; the field evidence is equivocal. It may be related to the stank constructed in Romsley in 1259 by Lyonsius, parson of Kinver, much to the disgust of John de Astley.<sup>51</sup>

There are several enigmatic references to mills in the 13<sup>th</sup> and 14<sup>th</sup> centuries in Nordley. Roger of the mill owned land in Nordley in c.1220.<sup>52</sup> In 1268 a man of that name (perhaps his son) sued John de Astley in John's own manor court of Nordley for two mills.<sup>53</sup> Robert of the mill, c.1300, may also be of the same family.<sup>54</sup> In 1316 John de Astley obtained from Walter de Hadley of Nordley the reversion of Newfield, Nalshe Mill and a 'staking' of land enclosed in Merefield on the death of Walter. There are at least three possible sites for Nalshe Mill. Merefield was probably close to Coton Spring, suggesting Nalshe Mill could have been a forerunner of Coton corn mill. Merefield was also bounded by Coton Brook, which runs into Paper Mill Brook just downstream of Allum Bridge Mill. This has the remains of several dams, most of which were first shown on 19<sup>th</sup> century maps in connection with landscaping. However, some could have been made for a medieval mill and re-used. No attempt has been made to investigate Coton Dingle to look for mill sites. As noted previously, Walter de Hadley, (or perhaps his son), was the tenant of the Haughmond mills at Crow's Mill. Whilst it is hard to see why he (rather than the mill owners) should be able to grant the reversion of these mills to de Astley, it is difficult to completely rule out that Nalshe mill was not one of the Haughmond mills.

In 1622, Thomas Grove of the Stonehouse Mill was entitled to a fee farm in Alveley.<sup>55</sup> There are scattered references to a Stonehouse in Alveley, but its location is unknown. At this date, of the known mill sites in Alveley, the best contender would be Gorton's Mill, but there it is no independent evidence to show that the mill was even in existence at this date.

There are also two hydraulic rams still *in situ* along Paper Mill Brook. A small ram is on the opposite bank to Gorton's Mill. This is shown on the 1881/2 OS map. A much larger one is further downstream (SO 759859). Between it and Gorton's Mill there are also the remains of five concrete dams for fish pools.

### Conclusions

This survey has identified eleven distinct water mills along Paper Mill Brook and its tributaries with possibly up to three more depending on the status of some possible medieval sites. It has also provided evidence for a windmill. This comfortably exceeds

the number of mills listed by Trinder<sup>56</sup> or in the Sites and Monuments Record. In this respect, it illustrates the value of systematic field and documentary research. At its peak, the water system was extensively used; most sites that could accommodate a mill without the need for large storage ponds or leats were utilised.

The potential of Paper Mill Brook was recognised in Saxon times as witnessed by the Domesday Mill and by c.1500 it seems there must have been about five mills at work. These were probably all corn mills. The next 300 years marked a period of both expansion, with probably six new mills being constructed, but also diversification as water power was applied to iron and paper manufacture as well as the processing of timber, leather, clover and oil. Indeed at the end of the 18<sup>th</sup> century, corn mills were in a minority on the brook and it is unlikely that there were ever more than five working at any one time. However, they proved more resilient than the other mills and by 1880, four out of the five mills then operating were grinding corn. The development of milling to some extent reflects the agricultural prosperity of the land around Alveley but also illustrates the penetration of industrial activity in the 17<sup>th</sup> and 18<sup>th</sup> centuries into the rural heartland of the West Midlands.

Many questions remain about the history of the mills in Alveley. The majority of the sites appear to have suffered little disturbance and so show good archaeological potential. Even limited investigation could provide important evidence on the origins, development and working arrangements on sites dating from the 11<sup>th</sup> to 19<sup>th</sup> centuries.

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# RECTORY MILL, ALVECHURCH

By Ian and Rachel Hayes

If you walk along the winding Rectory Lane in Alvechurch, Worcestershire, these days it is difficult to imagine the years of bustling activity that took place there alongside the River Arrow. The Old Rectory itself was sold by the Church in 1855 and is now a private hotel with a large garden. At the end of this garden, by a bend in the stream, are a few earth-covered mounds. A little higher up the valley is a leat and pond system, now converted into an attractive water garden. These features are all that is left of Rectory Mill (SP 031733). Yet there appears to have been a mill on or near the site from as early as the 13th century, the remains of masonry in the stream nearby may even mark its original whereabouts. In its final form, however, it was served by a long pond formed by damming the river upstream. This provided sufficient fall to drive a large overshot wheel.

Until at least 1842 when it had already been sold by the Church as a separate property from the Rectory, it was used solely as a flour mill. By 1851, however, it had been converted by the Chambers family into a needle scouring mill. Town Mill, half a mile downstream had already installed a small scouring and pointing plant in 1827, but by the middle of the century there appeared to be a need for more capacity to cover the time-consuming processes. Rectory needle Mill grew and remained in the hands of the Chambers family until 1896, although it was worked by tenants towards the end of this period.

The family was also able to acquire the Old Rectory itself, which was then converted into a boarding school for ladies. In later years this enterprise seems to have taken most of the time of the Chambers daughters, who had inherited the estate. Towards the end of the century the mill, screened from the main house by greenhouses and a shrubbery, was left a little to its own devices.

In 1894 there was a change of tenancy and the outgoing tenants, A. Shrimpton & Sons, appear to have let the premises fall into a dilapidated state. A survey by agents Neasom and White, of Redditch, lists a number of problems and concludes: '*The chief repairs that the outgoing tenants may be called upon to do are the repairs to roofs, windows and the cleaning out of the interior of the house and mill. They are now proceeding with a portion of this work. The brook course and the mill streams they some time ago told me they would not be responsible for.*'

In 1886 the mill was put up for sale, the agents being the same firm of Neasom and White. The '*Valuable Freehold Needle Mill, Dwelling House and Garden, together with*

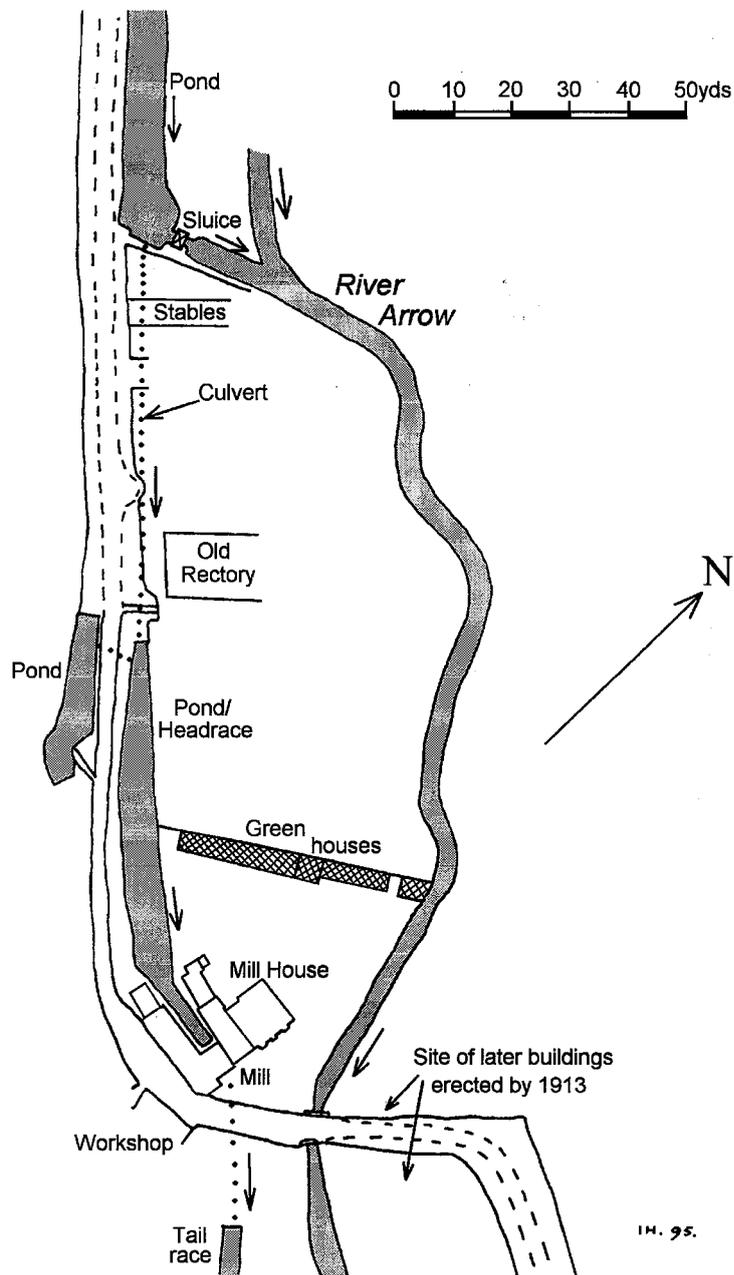


Figure 1. A sketch map of Rectory Mill, Alvechurch, in 1896 based on the sale details.

*Four Large Conservatories, Stabling, Piggeries and other Outbuildings*' was quoted as having 28 scouring runners and a 12 horse power overshot waterwheel. This would have made the mill comparable in size to the Forge Mill at Redditch, which had 32 scouring runners, and at full capacity capable of producing several million needles each week.

The mill subsequently became the property of Messrs. Jarrett and Rainsford, of Birmingham, who used the plant for the production of pins and hair grips. They later became famous for the Lady Jayne range of hair grips, although it is fairly certain the brand was introduced after the firm left Alvechurch in 1907. At the sale of the property in 1907 Rectory Mill was described as follows:-

'Lot 7. All that FREEHOLD PROPERTY, situated in Alvechurch (about half-mile from Alvechurch M. R. Station) comprising Manufactory, known as the "Old Rectory Mill", with ample shopping and warehouse, including two shops about 70 feet by 14 feet, newly-erected warehouse, 100 feet by 24 feet, two japanning shops, fitted with six ovens, foreman's house, with good garden, engine house, Dowsom gas plant, also water power on good stream set with wheel equal to about 8 horse power. This property contains an area of about two acres, and is now in the occupation of the owners, who are about to remove to larger works. The gas engine and shafting can be taken to at the option of the purchaser, a valuation of which will be produced at time of sale.

By order of the Executors of Messrs Jarrett & Rainford.'

Obviously a gas engine has been added to the power sources since the previous sale of the property.

In 1912 Rectory Mill was taken over by Dunkley's Ltd., described in their publicity material as *'patentees and manufacturers of every description of Perambulators, Baby Cars, Invalids Carriages, Motor Vehicles, Rickshaws, Cycles, Strong English Toys, Wheels and Tyres, Etc., Etc.'* Their registered Trademark was the 'Dunkambulator'. The mill was used for making wire spokes and this appears to be one of several cases in which needle-making machinery was adapted in this way. The enterprise had a short life and the winding up order of June 1913 described it as the Alvechurch Light Car Company (Limited) of Arrowville Works.

The site was sold in four lots in September 1913. Some newly erected workshops and offices were converted into homes, but one large heated warehouse, 108 feet long, was advertised as *'Very suitable for some public purpose'*. Not the faintest trace of this building remains. Lot No 3, the original old mill building, was by this time used as a cottage, but still had adjoining greenhouses and still housed a gas engine and waterwheel. In spite of its varied history and a setting of the sort beloved by photographers, no picture of the mill building, which was subsequently destroyed by fire, has been traced.

# MACCLESFIELD MILL: FROM DOMESDAY TO GLOBAL TRADE NAME

By Tony Bonson

The town of Macclesfield, in Cheshire, lies about 15 miles south of the Manchester conurbation. The centre of the town stands on a hill overlooking the River Bollin to the east. The river lies at the bottom of a steep slope running down from the crest of the hill. On the eastern side of the river are the beginnings of the foothills that climb up to the heights of the Pennines above Buxton.

During the reign of Edward the Confessor the settlement of Macclesfield, including a mill, belonged to Earl Edwin and had a value of £8 for tax purposes. During the civil war after the Norman Conquest, Macclesfield was laid waste, but by the time of the Domesday survey in 1086 it had recovered somewhat to have a value of 20 shillings. After the Conquest the settlement became the property of Hugh, Earl of Chester, who was William the Conqueror's nephew.<sup>1</sup>

After the depredations of war, presumably the mill would have been one of the first buildings to be rebuilt as the settlement tried to return to normal. During the next two and a half centuries the Manor of Macclesfield grew in line with the national trend and was a thriving community when the 7th Earl of Chester died in 1238 without any male issue. Consequently the king, Henry III, claimed the manor for the crown, to be used for the benefit the king's eldest son. A few years later in 1261, Edward, son of Henry III, proclaimed the first charter for Macclesfield in which he enjoined the burgesses 'to pay one twentieth of their grain to us when it is ground at our mill'.<sup>2</sup> Although this charter granted various privileges and rights to the citizens of Macclesfield it was also a way for the Lord of the Manor to enshrine the custom and practice of mill soke in a legal framework. Although this charter bound the people of Macclesfield to use Edward's mill, the rate of toll of one twentieth was not exorbitant for the time.

Needless to say the king's eldest son did not operate the mill himself but it was always leased to various local businessmen. In 1353, just prior to the appearance of the Black Death, two mills in Macclesfield were leased to Adam the Walker at £23-10s per year. However, the pestilence then struck the town, Adam died and the mill was unable to operate for a whole quarter of a year. Later that year Ellen, Adam's widow, petitioned the Black Prince as lord of the manor for relief in the rent of the mill as it had not generated the expected amount of income. The Black Prince must have had a certain amount of sympathy for Ellen because he ordered that she should be paid 117s-6d from his own purse (the amount of one quarter's rent).<sup>3</sup>

After the Black Death, in 1361 the Black Prince leased two watermills under one roof and one windmill to William del Downes of Shryglegh (Shrigley), Adam de Kingslegh and Randle del Whytlof for seven years at £18 per year. As part of this agreement the tenants had to find all the necessities for any repairs to the mill except for wood and millstones. These were provided by the owner with the millstones coming from Tintwistle in Longdendale, some 20 miles to the north-east.

Although none of this early evidence of the mill gave any clues to its location, a deed of 1438 does identify the 'way that leads to the mill ford' showing that the mill was located on the Bollin between what is now Hibel Road and the bottom of Brunswick Steps (see Figure 1). In 1461 a long association of the Savage family with the mill began when Edward IV granted a lease to John Savage, knight, and his son John on the watermills of Macclesfield for 16 years at an annual rent of £5-8s. Even a hundred years after the Black Death the rental value was still heavily depressed from the £23-10s of 1353. The Savage family continued their association with the mill in the 16th century as Christopher Savage and Thomas Savage (then Bishop of York) leased the mills and the Park for 89 years at £15 per annum.<sup>4</sup>

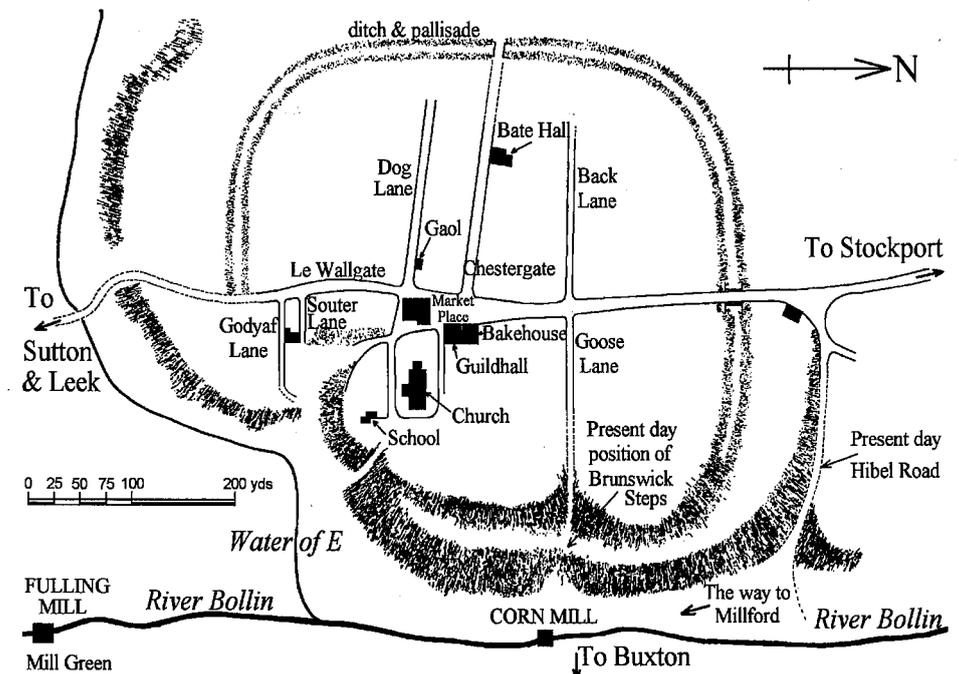


Figure 1. A sketch map of Macclesfield in medieval times, showing the location of the watermills. (Based on a drawing in C. S. Davies, *History of Macclesfield* by kind permission of Macclesfield Borough Council)

Although a fulling mill had been established in Macclesfield (at what is now Mill Green, on the boundary with Sutton, south of the town) during the 14th century, the economic activity and hence population of the town only grew slowly until the 18th century. Consequently, the corn mill was able to maintain the necessary production of flour for the town. In 1743 Charles Roe, a local businessman, built a waterpowered silk mill in Macclesfield. This was the third silk mill to be built in this country and was initially very successful. In the second half of the 18th century the town expanded rapidly as more mills, both throwing silk and spinning cotton, were built and other industries became established, especially on Macclesfield Common to the east of the town where coal pits, stone quarries, a brick works and a copper works were sited.<sup>5</sup> As the population grew the old corn mill could no longer keep pace with demand and so flour had to be imported into the town from other places, notably from Stockport. In 1801 the population of Macclesfield had already reached 8743, but in the next decades it rose to 12299 and reached 17746 in 1821.<sup>6</sup>

It is not surprising then that when the building of the Macclesfield Canal was proposed in 1825 one of the improvements claimed by the promoters was that it would allow the development of a steam powered corn mill capable of furnishing all the flour necessary for the town. The building of the canal would enable cheap coal to be available from the Poynton coalfield to the north or from Staffordshire in the south, as well as being able to supply the grain by water transport.<sup>7</sup> The impact of geography on the design of the canal meant that it was impracticable for it to pass through the town itself, the nearest it was to approach Macclesfield was about a quarter of a mile to the east of the town, running across Macclesfield Common. At a point where the canal passed under the Buxton Road a wharfage area was laid out including a dock, warehouses and a steam corn mill (see Figure 2).<sup>8</sup>

The steam mill was said to have been built for four gentlemen by William Fairbairn, a millwright and engineer based in Manchester.<sup>9</sup> It was built during the construction phase of the canal and its progress and the anticipation of its completion was reported in 1830:-

‘The erection of an extensive corn mill on the [canal] banks, the foundation of which has already been constructed, and the upper works of which are daily becoming more manifest adjacent to the [Canal] Company’s wharf. Hitherto we have been dependent upon other towns for our supply of flour and the millers there have turned our necessities to pretty good account; but on completion of this work the money we have been accustomed to pay them for the conversion of our corn into flour will be retained and circulated within our immediate neighbourhood.’<sup>10</sup>

The Macclesfield Canal and the steam mill were completed in 1831 and a grand opening was held in November of that year. A flotilla of boats started from each end of the canal so as to meet at a grand celebration at the wharf in Macclesfield where it was reported that ‘By half past one o’clock, at least 20,000 persons were assembled on the

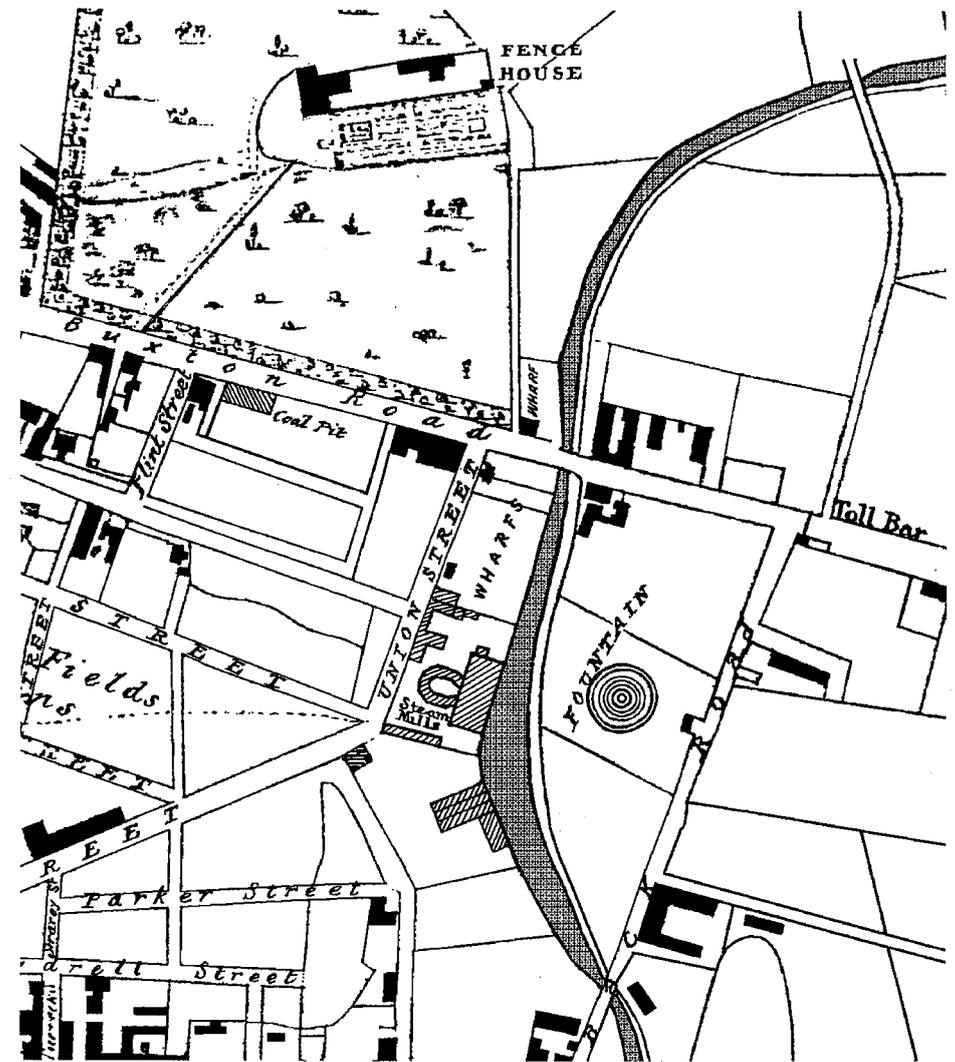


Figure 2. Part of J. Cawley’s Map of Macclesfield, 1838, showing Macclesfield Steam Mill alongside the canal close to Buxton Road.

wharves and banks near the basin, to witness the expected arrival of the boats, and sacks of flour in the corn mill had retired to make way for the ladies.’<sup>11</sup> The ladies had been excluded from the outdoor activities because of the fear of the cold and damp on their health (it was November) so they held a ‘fete champetre’, or rustic festival, in the new corn mill building.<sup>12</sup>

With the canal operational the mill was leased to the firm of J. P. Swanick & Co. who also operated a fleet of canal boats in conjunction with the mill. A report in the first year of operation, i.e. 1832, stated that *'since the formation of the canal and the consequent erection of the extensive steam mill of Messrs. J. P. Swanick & Co. not only is the town and neighbourhood chiefly supplied thereby, but flour is now exported from Macclesfield to Stockport; a cargo of 150 loads was despatched on Thursday from the Macclesfield Steam Mill.'*<sup>13</sup> Obviously the mill was meeting the expectations of the promoters of the canal and the townspeople of Macclesfield.

In 1838 Messrs Swanick & Co sold their carrying boats to the Anderton Company, a well known canal carrying company and presumably sub-contracted their transport needs to general carriers on the canal.<sup>14</sup> At some stage as yet to be discovered, Swanick & Co. sold out to Robert Brindley & Co. who continued to operate the steam mill until 1852 when the mill was offered for sale at auction, as follows:-

'To be sold at Auction. All that steam corn mill being four storeys high besides the attic, situated on the banks of the canal in Macclesfield aforesaid, comprising a steam engine of 40 h.p.; two boilers 45 h.p. each; 12 pair of flour stones, two pair of grey stones, three flour machines, boiling machine, wheat screens, malt rollers and bean splitter, etc .

There are a detached counting house and offices with large cheese storeroom, a cottage, residence, stabling for four horses, gig house, cart house, and large yard. And also all that carrier's warehouse adjoining the above corn mill with store room, large discharging shed and loft, dock or basin, three cranes, and one timber crane.

There are also two offices, stabling for 14 horses, hay loft, corn store, steam chopping room for fodder, two gig houses, piggeries and capacious yard.

The entire premises are lighted by gas, and fitted up with every convenience being of modern construction. They are situate in the town of Macclesfield on the banks of the canal and near to the station of the London & North Western and North Staffordshire Railways. They possess every facility for carrying on an extensive business. The corn mill is now in the occupation of Messrs. Brindley & Company, and the carrying department of the Duke of Bridgewater's Trustees and the Anderton Company. The corn mill is the only steam mill within a distance of 12 miles which renders it a valuable investment.'<sup>15</sup>

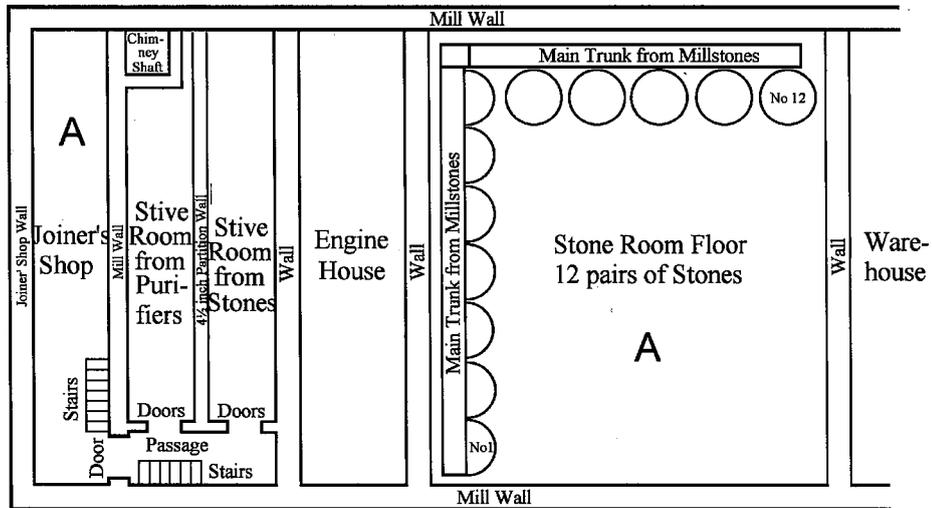
This description of the mill is much as it was built by William Fairbairn in 1831.

The mill does not appear to have been sold at the auction, but just over a year later, in early 1854, it was purchased by Mr. Samuel Fitton, who proceeded to modernise and improve the drive gearing and replace some of the original machinery. The direct drive from the main shaft from the steam engine which drove the millstones via bevel gears was replaced by belts; the old wire flour dressing machines were replaced by silks, which were only just being introduced into this country; and the old fashioned wheat cleaning machinery was replaced by machines of the *'most modern and effective type'*.

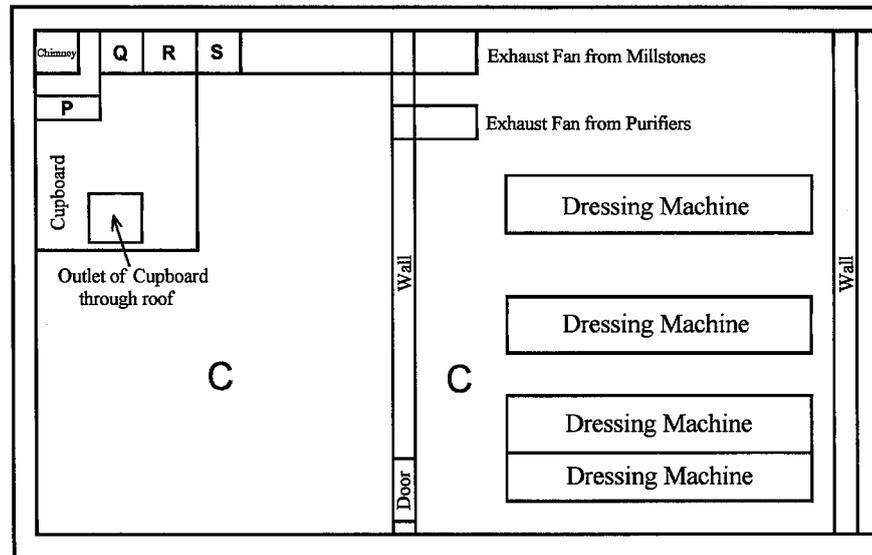
Also the dusty atmosphere *'which the old millers thought indispensable to places where flour was manufactured, was purified and fitted for breathing purposes'*.<sup>16</sup>

Although the ventilation system installed in the mill was considered to be the latest "best practice" it was to prove to be the mill's Achilles heel. There was a warning in 1866 when a small explosion occurred without causing much damage but in 1881 a major explosion caused by the ignition of the dust in the ventilating system demolished the whole mill. Fortunately this happened during the night when the mill was not full of workers and so only one man was killed (see article in Journal 21).<sup>17</sup>

The explosion and its consequential investigation were front page news in the milling press, which provided a good description of the mill and its machinery prior to the explosion. The mill was said to be one of the best organised in the United Kingdom. It consisted of five storeys including an attic, 16 windows in length and 16 yards wide, and was separated from the grain store by a wall 24 inches thick at the bottom, tapering to 21 inches at the top. The doors in these walls were double, one of which, according to the evidence of Mr. Redwood, the manager, was cast iron, and the other wrought iron. The grinding rooms are all confined to the north end of the building; the room on the ground floor was known as the grinding and spout room, the machinery consisted of thirteen pairs of rollers driven by belts, and the shafting, wheels, etc., required to work these, and the millstones. The machinery was worked from the engine-room, the shaft being near the wall. On the first floor, A, (see Figure 3), there were twelve pairs of millstones, and four centrifugal dressing machines for middlings (middlings were what was left after the meal had passed into the dressing-machines), in addition to the modern appliances for carrying off to the exhaust, or 'stive', the objectionable exhalations from the corn when in the process of grinding. On the second floor, B, there were ten centrifugal dressing machines, one bran machine, and two middlings purifiers. The exhaust, ripe from stones on the first floor, passed up into the second floor, where it was joined by the exhaust-pipe connected with the two pairs of stones situated on the second floor (as shown by arrows on Figure 5). The pipes entered the millstone exhaust-fan on the third floor, C, (see Figure 4) thence passing across the top of the engine-house, and down through the third storey (second floor) of the mill, the stive being emptied into the stive-rooms situated on the second and third storeys. While the heavier particles of dust fell to the bottom of the stive-rooms by their own gravity, the lighter particles ascended through "grids" to the storey above, where the operation was repeated. The lighter dust found its way ultimately to a cupboard, shown over the engine-house, on the third floor, C, where the remaining dust was deposited on the shelves. This arrangement was made to prevent the great waste that would otherwise occur by the dust being entirely carried away by the air, which was carried through a wooden ventilator. The middlings purifiers on floor B were exhausted by a fan in front of that of the millstones through a separate trunk into stive-rooms, also on the first and second floors. In the room immediately above, on the fourth storey were four large dressing machines, 30 feet long by 4 feet 6 inches in diameter, a bran scalping machine, and fans for ventilating the millstones; and the attic,

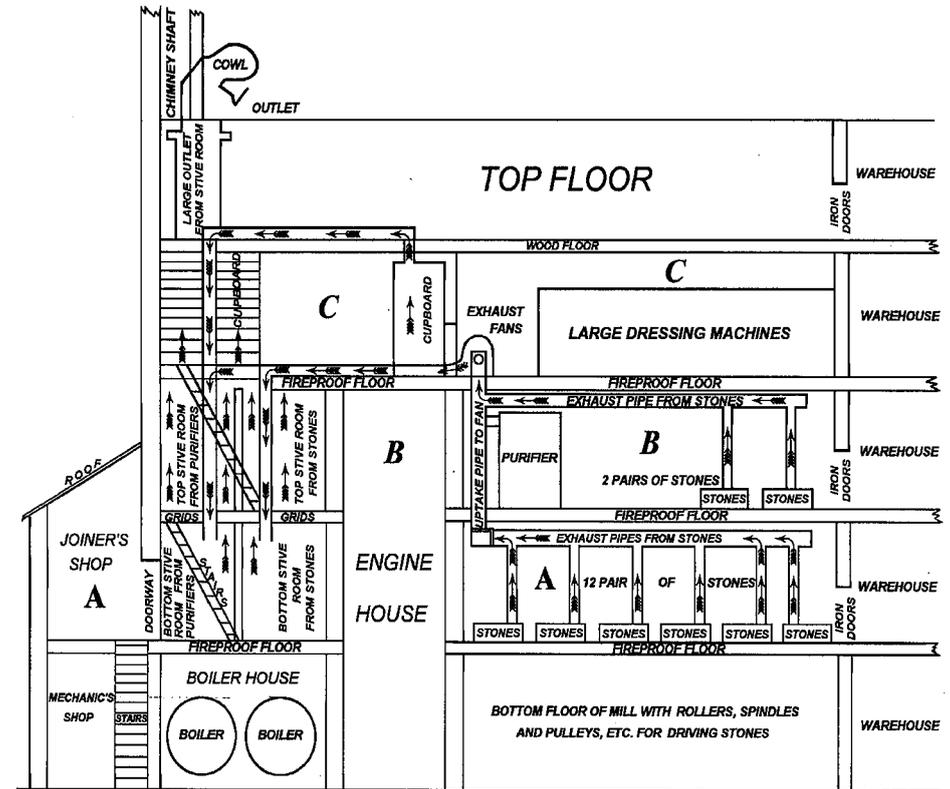


**Figure 3.** Plan of the first floor in the original Macclesfield Steam Mill prior to the explosion in 1881. (From *The Miller*, 6th February, 1882.)



P - Outlet from Purifier Stive Room into Cupboard; Q - Inlet into Stive from Purifier; R - Outlet from Stive Room for Stones; S - Inlet from Stones to Stive room.

**Figure 4.** Plan of the third floor in the original Macclesfield Steam Mill. (From *The Miller*, 6th February, 1882.)



**Figure 5.** Longitudinal section through the original Macclesfield Steam Mill. (From *The Miller*, 6th February, 1882.)

or fifth storey, contained the whole of the wheat cleaning machinery. The engine and boiler houses were on the ground floor at the north end of the mill. On a line with the engine house were the joiner's and mechanic's shops, only recently erected. The mill chimney was fully 100 feet high and it is said that the mill worked with engines equal to 200 h.p. It would appear that the original steam engine of 40 h.p., installed by William Fairbairn, had been replaced at some time by a new and more powerful engine. This could possibly have taken place when Samuel Fitton purchased the mill and upgraded the machinery in 1854.<sup>18</sup>

Fortunately, at the time of the explosion the mill was insured with the Equitable, the Standard and the Miller's and General Assurance Companies and so capital was available to finance the reconstruction of the mill. In the mean time Samuel Fitton leased Havannah Mill, near Congleton, which he re-equipped with machines salvaged from the Macclesfield Mill, in order to maintain supplies to his customers.<sup>19</sup> Although the destruction of the mill

was a major problem to Samuel Fitton's business, it also presented him with a marvellous opportunity. At this time the milling industry was undergoing a radical change, moving from the one-pass use of millstones to a process of gradual reduction using roller mills. Samuel Fitton decided to evaluate the various systems on offer in order to rebuild the Macclesfield Mill using this latest milling technology. He was so convinced that this technology was the future of milling that he sold all the old millstones from the Macclesfield Mill in 1882.<sup>20</sup> Then he, and Mr. Redwood, inspected various new systems of milling both at home and abroad. The result of these investigations led them to select Messrs. Seck Bros. of Bockenheim in Germany and Mark Lane, London, to supply the new mill machinery.<sup>21</sup>

Unfortunately, Samuel Fitton died in February 1883 before his new mill at Macclesfield could be finished, but his son, T. C. Fitton, took over and completed the project.<sup>22</sup> Once again the milling press provided a detailed description of the mill, as follows:-

"The new mill is five stories high with an attic 155 feet long and 49 feet wide. The attic has a lantern roof, which not only gives headroom and light, but provides effective means of ventilation which is essential for the storage of grain. The parapet is formed of blue and white brick capped with stone, and surmounted with the ornamental palisading which gives it a light and effective appearance. The low building at the south end is partly used as a store or dust room and partly for empty sacks, under which is a spacious room used for loading and unloading and in which all the carts and wagons belonging to the establishment are kept. The building at the north end is the boiler house, in which there are two boilers, by Mr. T. Oldham, of Stockport, 300 h.p. each, the water passing into them, through "Green's Economiser" at the boiling point. The engine, which is supplied by Messrs. Politt & Wiggell of Sowerby Bridge, occupies the lower and first floor of the screen house, close to the mill, no power being lost in the transmission. The engine room, with its handsome gas brackets, and nicely finished walls showing the emblems of milling, may be called a model, where no spot of oil or lump of cotton waste is to be discovered. The engine is 250 indicated h.p. and runs at a speed of 75 r.p.m. The flywheel shaft, which passes through the centre of the wall into the mill, carries a heavy flywheel, from which two belts run in two opposite directions, supplying power to the rollers and two pairs of millstones for Indian corn, whilst a big drum on the flywheel shaft, inside the mill, transmits the power upwards for the screen room and all the other machinery.

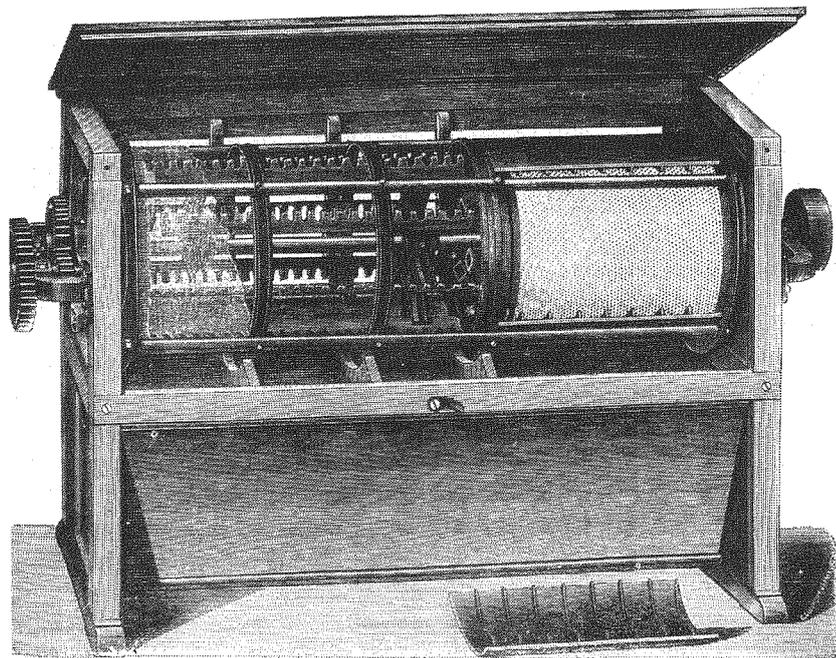
Passing through the warehouse, there is one of Messrs. Howes & Ewell's warehouse separators, through which all wheat is passed, before it leaves the warehouse. Nine large wheat garner, well ventilated on top and provided with Mr. Barrow of Leeds wheat mixing apparatus, hold a large quantity of wheat, and emptying one garner into the other; and in order to cause a current of air to pass through the warehouse, which has a good effect on damp wheat, part of the top floor along the wall is left open on both sides, and the windows of the cupola, when opened all along the

warehouse by turning a single hand-wheel, permit the air to pass freely, and produce, with the floor being open on the opposite side, an adjustable air draught through the upper parts of the warehouse. No product being taken off in the mill, the warehouse contains four bins for the reception of different grades of flour, three of the "Eureka" flour packers, and a machine for sizing and separating offals; all flour and offal being thus taken off in the warehouse, there is less fear of any dangerous accumulation of dust and dirt taking place in the mill. The screen room occupies three floors of the mill and the attic, and contains two systems of screening quite independent of each other. The one is used for wheat, which requires a two-fold system of cleaning, much as Indian and Egyptian, and the other for mixed wheat, to prepare it for the mill. The cleaning arrangements comprise a number of oat and cockle separators, and two ingeniously constructed smut machines of Mr. Redwood's design and make, combining a scourer and brush in one machine. The dust, which passes through the perforated case with which the machines are covered, falls on the floor inside the dust room, and by means of revolving scrapers is immediately pushed into a sack. After being thoroughly cleaned, the wheat passes through one of Penney's adjustable sizers into two big bins for cleaned wheat, for large and small berries respectively.

After passing-over two Eureka magnets, iron spouts carry the wheat through the wall into the mill, on the ground floor of which is the main shaft for driving the rollers and the elevator bottoms. The rollers are placed in two lines along the mill, with shafts for both lines, each driven from the flywheel by a separate belt. On the first floor, on one-side, there are ten pairs of Messrs. Seck Brothers' fluted rollers and two pairs of millstones for Indian corn, and on the opposite side there are twenty pairs of the same makers' smooth chilled iron rollers and four pairs of porcelain rolls. These roller mills are of substantial make and fine finish, the hoppers being made of polished walnut, the handles electroplated. They are driven by belt and operate with a minimum of noise and much steadiness. In order to get rid of the frequent complaints regarding the short distance between the countershafts of belt-driven roller mills and the rolls, Messrs. Seck Brothers attach their countershaft, which carries the guide pulley and the two other driving pulleys, not to the sole-plates of their roller mills but underneath the floor. The belt thus passes from the pulley on the line shaft over the pulley on their roller mill, thence underneath the floor to the guide pulley, and then passing over the other roller pulley, returns to the line shaft. The break rollers are provided with an arrangement by which the pressure given by the weights can be taken off from two pairs of rolls by turning one handle, whilst another contrivance keeps the fluted rolls always apart, so that even when running empty they cannot touch each other. The smooth rollers, as well as the break rolls of Messrs. Seck Brothers, are of the four-roller type and have a spring pressure arrangement; one handle in this case is only required for changing or stopping the pressure on both pairs simultaneously. Hand-wheels are used for the

proper adjustment of the rolls should they get out of their parallel position. Six reductions of middlings and two of semolina and tailings are arranged for forming a real gradual reduction system.

The next floor contains only the roller hoppers and the conveying worms for the different stages of the process. On the third floor, right to the wall, in symmetrical order, are placed in line the flour centrifugals (see Figure 6) delivering the finished flour into one or more of the flour worms underneath. On the other or break process side are placed the separating, dusting, and break flour reels, and in one line six of Seck Brothers' middlings purifiers, each for one kind of middlings. There are six purifiers, and whilst purifying they separate the kind of middlings they are working on into four different classes of products, viz., first, good middlings, ready for the first reduction rollers; second, middlings, to be subjected to another rolling and purifying process, and two sorts of tailings. A feature in these purifiers is the absence of sieves. The fourth floor shows on one side the intermediate centrifugals for the reducing process, re-bolting reels, and sieve purifiers, whilst on the other side are Seck Brothers' scalping reels, scalping centrifugal sizing reel, and first break flour (dark) centrifugal reel. All this flour, the brands of which can readily be altered by changing a few slides, is collected in different worms, the two chief brands being



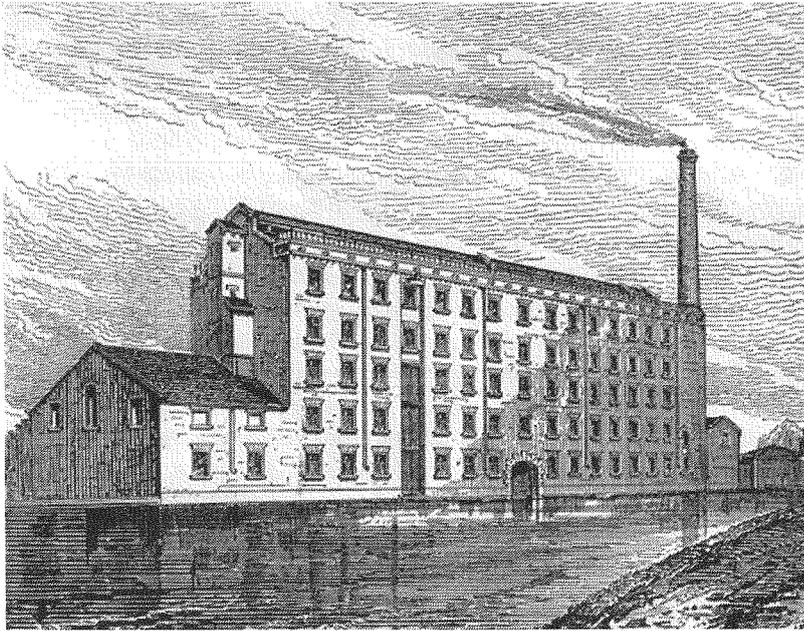
**Figure 6.** Seck Brothers' centrifugal dressing machine.  
(From *The Miller*, September 1879.)

re-bolted in two large re-bolting reels placed on the fourth floor. From these reels the flour falls through the wall into large bins in the warehouse, and is then packed ready for market. One worm collects all the offals and brings them into the warehouse, where they are separated and packed. The elevators occupy comparatively small space, being placed symmetrically in two rows, one for the break process, close to the wall along the canal side, and the other for the reducing process before the centrifugals and the smooth rollers.

All the machines from top to bottom of the building are ventilated for the prevention of dust and dirt. Beginning with the rollers there is a small square spout passing through the feed hopper right to the bottom hopper between the rolls, and provided with slides so as to regulate the air current. The two large air trunks, already mentioned as running along the warehouse collect all the dust and stive, one from the wheat cleaning room, and the other from the purifiers, &c., in the mill. In connection with these trunks two powerful fans blow into the top floor of a small building shown to the right of the illustration (see Figure 7), which is divided into two large chambers covered on all sides with flannel, which allows the air to pass to the open. These two air trunks are provided at the bottom with a series of canvas bags about twelve inches diameter, which lead to a worm box, the top of which is covered with canvas. The peculiar construction of these air trunks inside causes all the dust and fluff from the screen room and the mill to settle down and fall through the canvas bags into the worm, which conveys them into the separator among the offals. By this arrangement no particle of fluff or dust, it is said, is lost. The mill takes high rank among the gradual reduction mills in the United Kingdom, and Messrs. Seck Bros. and Mr. Redwood have to be congratulated on the success which has resulted from its installation.<sup>23</sup>

This mill went into production in March 1884.

In 1835, just after the opening of the Macclesfield steam mill, Richard Smith was born at the town corn mill in Stone, Staffordshire, which is some 30 miles south of Macclesfield.<sup>24</sup> He grew up at the mill assisting his father, also called Richard, from whom he eventually took over, forming the firm of Messrs. J. & R. Smith, millers of the town of Stone. During his time at this mill, Richard Smith indulged in that great Victorian pastime of patenting inventions. He patented designs for a millstone dressing machine and a smutter, but these were not commercially successful. Eventually, Richard Smith left the mill at Stone in the 1880s and went to work as the mill manager for Messrs. Barclay, Grey & Lawrence, rice millers, at Surrey Commercial Docks in London.<sup>25</sup> At this time the wheat germ or embryo, which contained high levels of fat and protein was eliminated from the flour because it would turn it rancid within a few days. Consequently, the germ was a by-product of the milling process and was used only for cattle or pig food. Richard Smith realised the nutritional value of the wheat germ and invented a process whereby it could be incorporated in the flour without fermentation taking place. He registered a patent for this process in 1887 whereby the germ, which consisted of



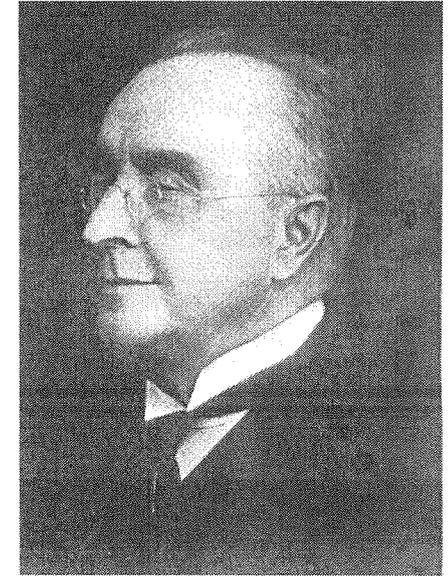
**Figure 7.** The new Macclesfield Steam Mill built in 1883 by Mr. T. C. Fitton.  
(From *The Miller*, 3rd March 1884.)

one eightieth of a wheat grain, was mixed with a little salt and then cooked with steam for a precise amount of time. The resultant wheat germ was then mixed in the ratio of one part wheat germ with three parts of white flour.<sup>26</sup> Richard Smith was convinced that he had invented a more nutritional flour for bread making, but his attempt to profit commercially from his new flour was unsuccessful. No doubt his choice of product name "Smith's patent germ flour and bread" was a contributing factor to this failure as the medical profession were just beginning to understand the role of 'germs' in spreading disease. Just the opposite message to that which Richard Smith was trying to project!

In the very competitive flour making industry at the end of the 1880s, T. C. Fitton became aware of Richard Smith's invention and decided this new type of flour would enable him to operate in a niche market where not only would competition be restricted by the patent but a premium price could be charged for the product due to its nutritional claims. Consequently, a partnership was formed between Fitton and Smith but, in view of Smith's lack of previous success, it was decided that a new name was required for the product. To find a new, suitable, name for the flour they held a public competition in 1890. The winning suggestion was made by a Manchester man, Mr. Herbert Grime, with the name 'Hominis Vis', which is Latin for 'the strength of man'. Although Mr Grime, who was either an Oxford schoolmaster or a Cambridge undergraduate (depending on which



**Figure 8.** Mr. R. C. Smith, inventor of Hóvis flour.

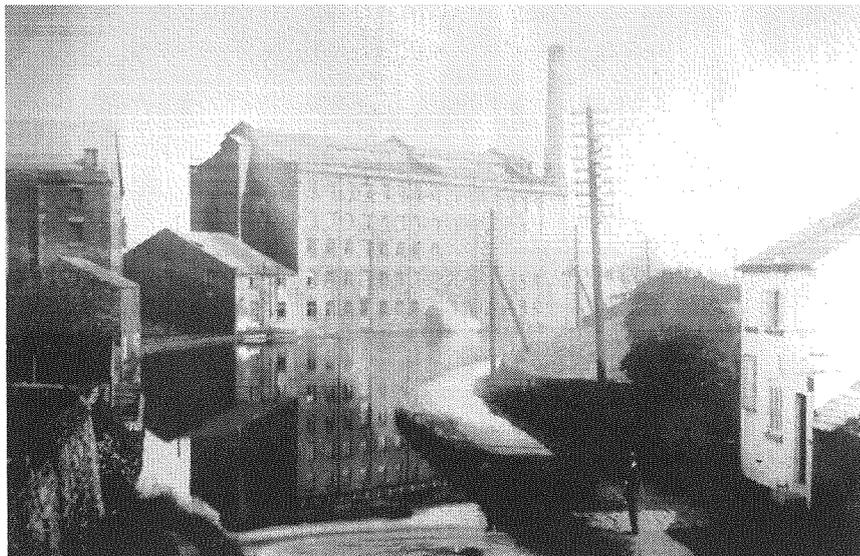


**Figure 9.** Mr. T. C. Fitton, owner of the Macclesfield Steam Mill.

version of the story is believed), received the £25 prize for his suggestion, the two millers decided that it still did not have whatever necessary to catch the public's attention and so they shortened the Latin phrase to 'Hóvis'.<sup>27</sup> The mark over the 'o' signifies that an abbreviation was being used.

Once the new name had been decided, production of the new flour at the Macclesfield Mill was accompanied by a strong advertising campaign to sell the new flour to the baking industry. Gradually sales increased and Fitton saw fit to install electric lighting in the Macclesfield Mill in 1894 to assist with the shift working introduced to keep pace with sales. The D.C. electricity was generated by a dynamo attached to the mill shafting driven by the steam engine and powered 150 lights. In the daytime a battery consisting of 50 cells, which was accommodated in an accumulator house in the mill yard, was charged. The system also provide some lighting for houses in Union Road, alongside the mill.<sup>28</sup> In 1895 it was decided to establish a printing department to supply business stationery for their customers, on the ground floor of the Macclesfield Mill.

During the 1890s the sale of Hóvis flour grew to such an extent that by 1898 there were over 5000 customers situated all over Britain. At this point it was decided to form a limited company called The Hóvis Bread & Flour Company with a capital of £225,000 made up of 22,500 ordinary £5 shares and 22,500 of 6% cumulative preference shares of £5 each. The directors were to be T. C. Fitton, R. C. Smith and J. Browne-Martin, who was also a director of the food company J. Lyons & Co Ltd with the chairman being



**Figure 10.** Macclesfield Steam Mill in the early 20th century.  
(Reproduced by kind permission of the Macclesfield Canal Society.)

Major-General G. F. Blake, who was a director of the Army & Navy Co-operative Society. The first activity of this new company was to purchase the Macclesfield Mill from T. C. Fitton. To increase supplies of Hōvis flour they purchased an old mill in London situated in Millbank Street near the Houses of Parliament.<sup>29</sup>

The venture into producing customers' stationery proved to be so popular that the original printing plant was soon overrun such that more machinery had to be installed almost at once. In 1900 a new line was introduced with the installation of a paper bag making and printing machine on the ground floor at Macclesfield. Unfortunately, the inventor behind what was now a very successful company did not live long to enjoy his success as Richard Smith died aged 65, in August 1900 and was buried in Highgate Cemetery. His achievement was described in his obituary as follows

'After the introduction of roller milling he recognised the nutrient value of the by-product, germ, which was eliminated from the wheat kernel. He found the popular taste for a bread which had all the digestibility of the finest flours, and yet retained the most nutritive portion of the grain of wheat, restored to the flour, freed from the deleterious husk bran, the desiccated germ and so produced an article which commanded a large sale and big profits. His patent had great commercial value bringing comparative affluence to its inventor.'<sup>30</sup>

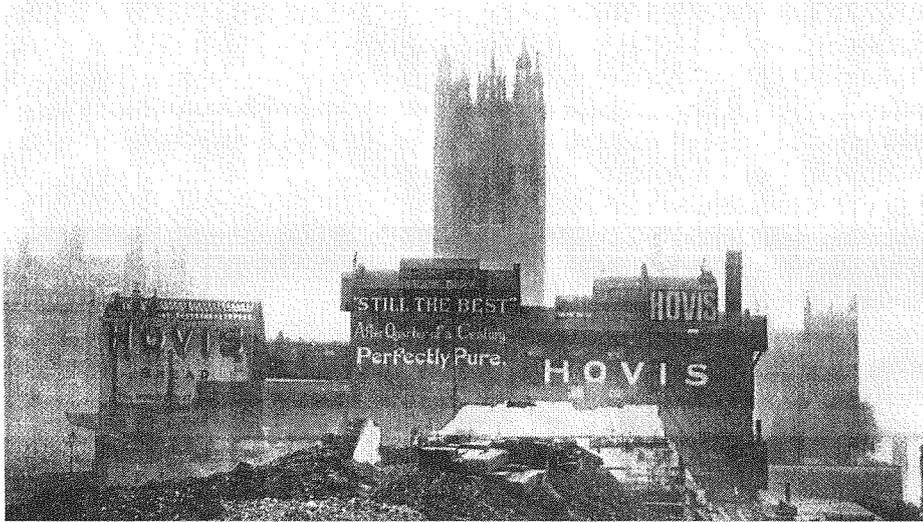
The first decade of the 20th century saw a massive expansion in the production of Hōvis. Sales increased such that the Macclesfield Mill was working 24 hours a day seven days a week and could still not meet the requirements for customers both at

home and overseas, so it was decided to build a new mill at Trafford Park alongside the Manchester Ship Canal. This new mill was designed by Mr. J. Clarke of Liverpool and constructed by Mr. A. Peters of Rochdale. It was six storeys high with silos capable of storing 11,000 quarters of wheat which was washed, scoured, dried and conditioned automatically and the plant was able to mill 35 sacks per hour every 24 hours. As the milling machinery was moved from the Macclesfield Mill to Trafford Park, the space created in the Macclesfield Mill was used to manufacture a complete range of items for the baking trade. The printing department was already producing stationery, paper bags at the rate of 50 bags per minute, and advertising leaflets to which was added the manufacture of loaf tins and trays (all bearing the Hōvis name), willow baskets for baker's delivery men, and artistically produced advertising signs. Once this major change from milling to the production of ancillaries took place, the name of the Macclesfield Mill was changed to 'Hōvis Publicity Works'.<sup>31</sup>

During this period the advertising department at Publicity Works trained men who were then sent out to various centres all over the country, each man being allocated a strip of territory in which to paint and write signs for the Company's customers and install the ubiquitous gilt-letter Hōvis signs. Some customers requested that signs etc., should be painted on their horse vans and hand barrows, a request that was always complied with provided that the rear of the vehicle should carry the Hōvis advertisement. In London this painting work on vehicles became concentrated at premises in Buckingham Palace Road (No. 172) in 1904 where the work very soon extended itself into repairing bodywork. Another short step saw the department beginning to make the vehicles themselves. Within 18 months this work had outgrown its premises with vans and barrows lined up in the street waiting to be attended to. Vital expansion occurred with the acquisition of new premises in Phipp Street, Shoreditch, and van work was also undertaken at Birmingham and at the Publicity Works in Macclesfield. In 1909 the London County Council indicated that they wished to demolish the mill in Millbank Street in order to extend the Embankment westwards, consequently, they arranged a new site to be available for the building of a new Hōvis flour mill at the corner of Grosvenor Road and Vauxhall Bridge Road with wharves on the side of the River Thames. This new mill, called Imperial Mills, was completed in 1914.<sup>32</sup>

The type of work undertaken at Publicity Works at the old steam mill in Macclesfield and the conditions for the work force were outlined in a report in 1916 as follows:-

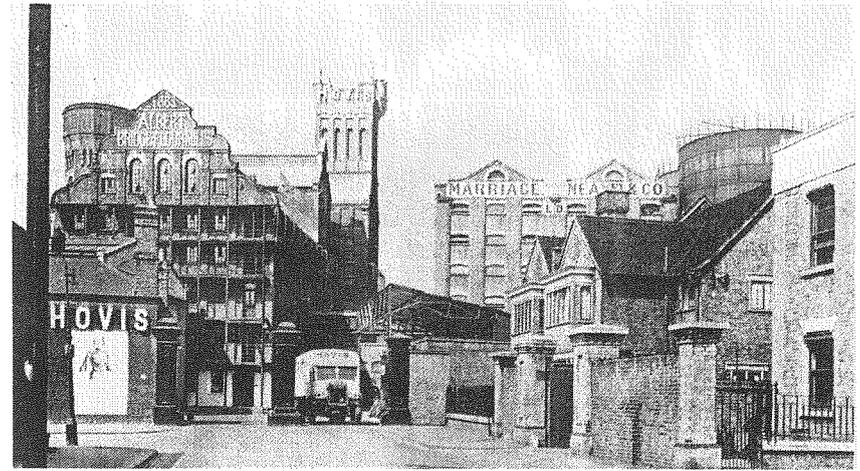
'The Macclesfield Mill, now known as the "Hōvis Publicity Works" presented a veritable hive of industry. In the printing department alone over one hundred people were employed. Customers' orders were executed for paper bags all over the United Kingdom, and as far afield as South Africa (Cape Town), Australia (Sydney & New South Wales), Malta and Gibraltar. Nine paper bag machines were kept busily employed every day, and as each machine is capable of producing from 48,000 to 50,000 per day it will be understood that this side of the business is one of the largest of its kind in the North of England. The price at which the work is done is



**Figure 11.** The original Hōvis Mill at Millbank, London, during demolition with the Houses of Parliament behind.

the ordinary trade rate, but in consideration of the fact that on each bag, or any other article supplied, appears the name Hōvis an allowance is made to the customer, and thus it might be said that throughout the civilised world the claims of Hōvis have been advocated. In this way advertisements to bakers were distributed to the extent of about 10 million per month. The work of setting type and imposing the forms is done by male labour, but all the feeding and taking off from the machines, both printing and bag making is done by female labour. The rooms are all cheerful and bright and the girls were encouraged to cultivate plants in the windows, which gives a very cheerful appearance to the workrooms. The cleanliness of the whole aspect is added to by the fact that all the female employees wore overalls provided by the company.

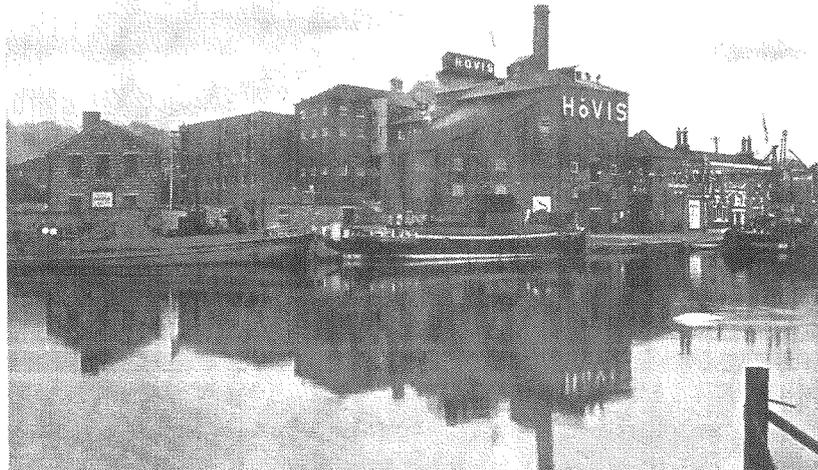
Labour saving devices were adopted wherever possible, and as the parcels were baled up in the rooms above they were thrown down a chute which delivered them in the despatching room, where they were sorted ready for loading upon the lorries to be sent to the railway station. Passing through rooms stocked to the ceiling with rolls of paper for bag making, one goes on to the tinplate department where loaf tins and trays were made in huge quantities, all of them bearing the familiar legend "Hōvis". From these one goes on to the basket making room where there were huge stocks of willows for the purpose of making bakers' delivery baskets. In the yard adjoining the mill there were the blacksmith's shops, mechanics shops, and joiners shops, all of which were busily engaged in producing items required by the baking trade.



**Figure 12.** Albert Bridge Mill, Battersea, with one of the Hōvis vans leaving the mill.

For a considerable time the company has been making bakers' delivery handcarts and horse vans, but recently they have taken up and specialised in motor vans. Recently a large piece of ground adjoining the mill has been acquired with the intention of erecting thereon a large modern van building works.

Not the least important part of the establishment at the Macclesfield works is the offices, for from there the whole of the vast business is controlled. At the commencement of the "Hōvis" industry, Mr. J. F. Morton did the whole of the clerical business, but as it has grown the staff has had to be increased until now he directs a little army of clerks, each engaged in their own particular department, with which Mr. Morton is in close and intimate touch. There is a special telephone switch room in charge of a lady clerk who can put any particular department into communication with any other, also with the main telephone system. There is the order room; the ledger room, the typists' room, in which fifteen lady typists are kept constantly engaged, the traffic room, the despatching room; etc., etc. The traffic room is a very important department. In different parts of the country there are seventy centres at which stocks of 'Hōvis' flour are kept; and when an order comes in from any place the "centre" which supplies the area concerned is advised and the order is despatched forthwith, thus avoiding delay. It is also interesting to note that forty travellers are directed from Macclesfield and all monies remitted to Macclesfield where the banking is done. When one considers the gigantic character of the business and realises that the whole of the revenue resulting therefrom, representing annually several times the amount of the original capital, is passed through the hands of the town it will be understood what this means to the financial prosperity of Macclesfield.<sup>33</sup>

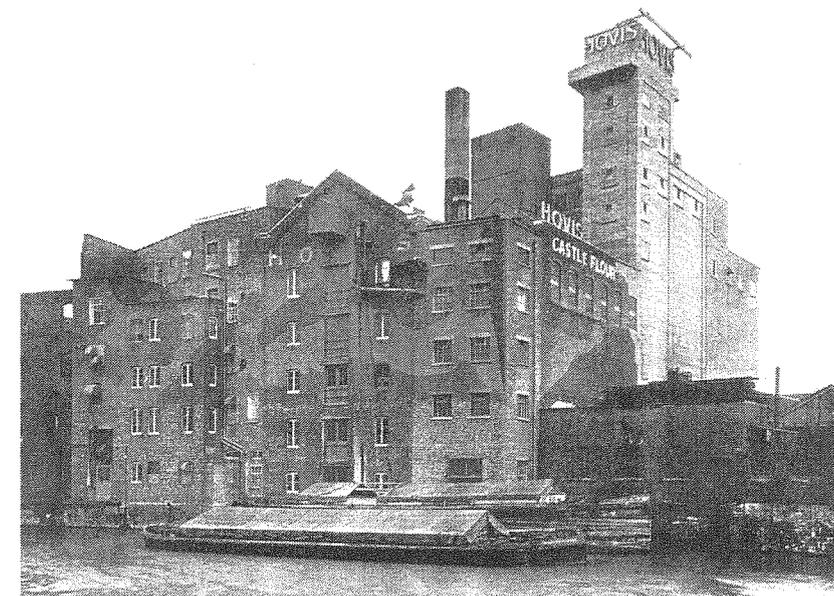


**Figure 13.** Albion Mill at Lincoln with barges alongside.

During the First World War the flour milling industry came under government control until 1921. During this period the Company were able to buy two small country mills, one at Haverhill in Suffolk in 1914 and Hedingham Mill in Essex in 1918 and in the same year changed the name of the Company to Hóvis Limited. However, the government control and the shortage of men, meant it was not possible to develop the business as the directors wished during this period. Immediately after the industry was returned to private control the Company purchased the business of Marriage, Neave & Co. with their large roller flour mill at Albert Bridge, Battersea. They also purchased two country mills at Newbury and another at Andover.<sup>34</sup>

When peacetime came the vehicle body building department soon began to expand again, concentrating on manufacturing motor vans for the baking trade. In 1922 the van building business found a new home at Andover where workshops were specially built and equipped for manufacture on mass production lines. At its height the company were producing 200 bread vans per year.

1924 saw the acquisition of C. & A. Harrison and their Albion Mill in Lincoln where it was decided to concentrate on the provender market. Not all the company's energy went into commercial activities as the company also considered the welfare of its increasing workforce consequently they built a sports ground for the employees at Mitcham in London and also at Sale in Cheshire. The same year witnessed a very important event for the marketing of Hóvis flour and bread. As medical knowledge expanded and the role of vitamins in man's welfare became understood, two eminent medical men were retained under licence from the Home Office to investigate the vitamin content of



**Figure 14.** Castle Mill, Bristol, during the Second World War.  
(notice the camouflage paint on the buildings).

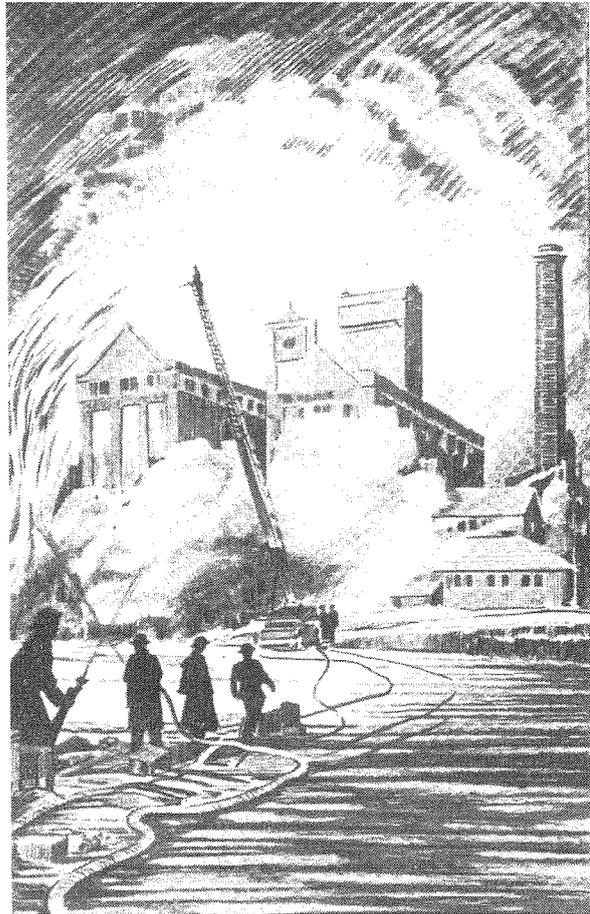
Hóvis. These investigations showed that there was an abundance of vitamin B in Hóvis, a result that was exploited fully by the advertising department.<sup>35</sup>

A few years later, in 1927, the firm of Humphries and Bobbett Ltd., who operated a large roller mill called Castle Mill in Bristol, was purchased. Further expansion in the van building business saw premises opened in Birmingham, Bristol, Exeter and Stratford. However, a major set-back occurred in 1928 when Mr. T. C. Fitton died. He had lived most of his life in Union Road, Macclesfield but later moved to London and eventually to Milford-on-Sea. He had been in charge of the company for 45 years starting with the building of the new Macclesfield Steam Mill in 1883 and supervised the growth of the company into one of the quintessential English brand names of the 20th century, with Hóvis ranking alongside Marmite, Coleman's Mustard, Heinz Beans, etc. in the subconscious of the nation.

The role of advertising in this enormous success cannot be underestimated. From humble beginnings with advertisements such as 'Hóvis bread promotes digestion. As supplied to H. M. the Queen', to the ubiquitous and simple message 'Teas with Hóvis' the success of Hóvis flour was a triumph of marketing over substance and not far short of miraculous bearing in mind that the company did not produce and had no control over the final product, the bread itself, which was produced by independent bakers. Although the advertisements were aimed at the end consumer, the company's efforts were directed

at monopolising the supply of flour to the bakers, aided by providing the vertical integrated supply of the total bakers' business requirements.

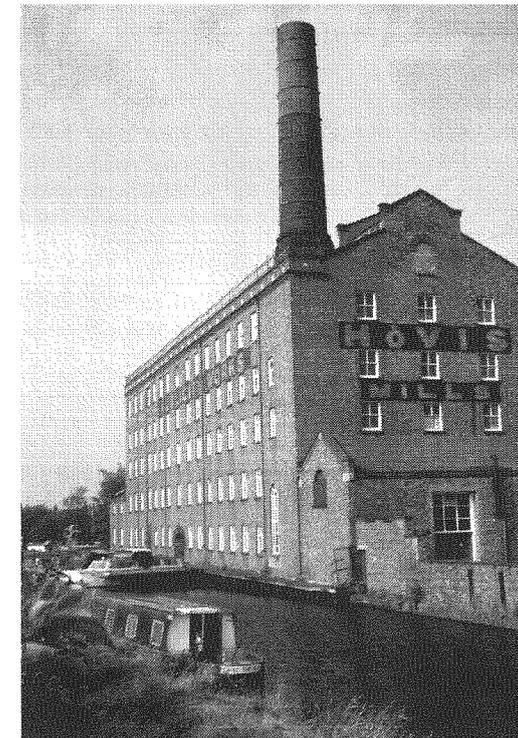
After Mr Fitton's death the company entered into a period of consolidation that lasted throughout the 1930s until the outbreak of the Second World War. During this period various senior members of the firm became officers of the National Association of British and Irish Millers and leading voices in the milling industry. At the outbreak of hostilities in 1939 the company again came under government control and the activities of the Printing Department at the Macclesfield Mill were necessarily curtailed. The Hövis mills situated at various ports found themselves in the front line of the German bombing campaign. In



**Figure 15.** An artist's impression of the fire fighters tackling the fire caused by the bombing of Hovis's Trafford Park Mill in December 1940.

September 1940 a bomb fell on one of the buildings at the Imperial Mill, Westminster, causing considerable damage but not affecting the mill itself. Two months later the van depot at Bristol suffered in two raids and was destroyed. Then, two days before Christmas in 1940 the mill at Trafford Park, Manchester, was entirely destroyed by enemy bombing and the company became short of flour-milling capacity.<sup>36</sup> It was decided that the Macclesfield Mill should revert, in part, to its former function and so a Hövis mixing plant was installed in the mill where the product had seen its earliest days. This plant worked throughout the war and afterwards until the new mill at Trafford Park was finally commissioned in 1953.<sup>37</sup>

The Company was able to fight back; six months after the bombing, production had increased by 21% for white flour and 33% for Hövis flour. By the end of the war output had risen by 50% for white flour and by 100% for Hövis. The van depots also switched over to war work of various types, for instance the Bournemouth depot assembled 526 American army trucks in eight months for use in the invasion of Europe.<sup>38</sup> At a more direct level the directors of the Company also sponsored a Spitfire fighter aircraft for the



**Figure 16.** Hövis Mill, Macclesfield, just prior to conversion into apartments. Note the painted inscriptions for 'Publicity Works' and 'Hövis Mills', which were removed.

R.A.F. which was inscribed 'Hominis Vis' (this was a Mk V Spitfire, Serial No. R7336).<sup>39</sup>

At the time of the 50th anniversary of the Hōvis Company in 1948 the firm was operating 17mills producing flour and/or provender; there were 22 premises involved in motor vehicle manufacture and repair; and one site providing the central offices and printing works at Macclesfield. The company also provided four sports grounds for its employees and had subsidiaries in South Africa, Australia, Canada, Eire and even France.

The second half of the 20th century was characterised by a contraction in the flour-milling industry as firms merged or were taken over. In 1957 Hōvis Ltd. merged with McDougall Bros., another pioneering company that had installed the first complete roller milling system at Manchester in 1878, to become Hōvis McDougall Ltd. Five years later, in 1962, this company was taken over by Rank Ltd. to become Rank Hōvis McDougall Ltd. The effect of these mergers and take-overs was that the centre of power shifted from the premises at Macclesfield, which had always been at the heart of the Hōvis organisation, to the conglomerate's head office in High Wycombe.<sup>40</sup> This resulted in the Macclesfield Mill becoming redundant and it was left empty for many years until, at the end of the 20th century, it was converted into dwelling apartments.

Although this final usage has allowed the mill building to be retained to remind the people of Macclesfield of its past glories in the service of Hōvis flour, it is to be regretted that during the conversion of the property the Hōvis name and the title 'Publicity Works' were removed from the outside of the building, as if the new owners were ashamed of its past association with one of the great commercial success stories of the 20th century.

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## Acknowledgements

I would like to thank everyone who has helped me to write this article; Barry Job for suggesting it in the first place; Tim Booth for supplying copies of relevant articles from *The Miller*; staff at the local studies department in Macclesfield Library; The Macclesfield Canal Society; and Rank Hōvis McDougall Ltd. for their kind permission to reproduce Figures 8, 9, and 11 to 16 inclusive.

# A Postscript to:- A FATAL AND DISTRESSING MOTOR-CAR ACCIDENT AT GREAT HAYWOOD MILL

by Barry Job

This tragic accident occurred near Great Haywood Mill, Staffordshire, in March, 1905 and was reported in the last Midland Mills Group Journal.<sup>1</sup> A summary of this report follows:-

On the afternoon of 9th March, 1905, a Gladiator car was being driven by James Roper, the chauffeur, towards Great Haywood carrying Mrs. Challinor and her niece, Miss Dorothy Grace Notley (affectionately known as 'Doss'), aged nearly 21. When the motor-car was on the bridge over the River Trent the steering gear broke and the car plunged through the bridge parapet. Roper jumped clear, but the car carried the two ladies into the river. At this spot, against the bridge abutments, sluice gates were positioned to direct water through a leat to the mill's two water wheels. Water pouring over the gates created a deep pool, the river was running high at the time and the current was strong, and it was into this pool that the car plunged. Mrs. Challinor was swept clear, men from the mill ran to assist and she was rescued, insensible, but otherwise unharmed, at a ford some distance downstream. However, Miss Notley could not be found. Accepting that she had drowned, the car was pulled out with ropes, but the body was not trapped in it. Later that evening the police commenced dragging operations which continued over the next few days, but were unsuccessful. It was thought that the body must be trapped in the pool, but two divers from the Manchester Ship Canal and volunteers from the Runcorn Grappling and Life Saving Corps were unable to locate it. It was decided to lower the water level by raising the sluices at Great Haywood Mill and Hoo Mill upstream, running the water onto adjacent meadows, and dropping the sluices at Rugeley Mill downstream. At the second attempt, on Thursday 23rd March, this was successful. Two manually operated and three steam powered fire engines were then engaged to pump the water out of the pool. After seven hours pumping the pool was emptied, items from the car were found, but not the body. Searches continued to be made by the police, but the body was discovered on Friday 31st March wedged between tree roots on the riverside by a man walking to the mill. Thus it had taken nearly 22 days and considerable effort to find the body, Great Haywood Mill having played a



Figure 1. The memorial to "Doss" Notley at Diptford Parish Church, Devon.

critical role in creating the deep pool and complex currents and hence the difficulty in recovery. Miss Notley's body was then formally identified and conveyed by rail to Diptford, Devon, for burial.

It transpired that a number of postcards were printed of the incident and research in Devon, subsequent to the publication of the article, revealed that the initial accident and death had been reported in the *The Totnes Times and Devon News*.<sup>2</sup> The following week, with the body still not recovered, the newspaper reported on a memorial service held for Miss Notley.<sup>3</sup> A muffled peel of bells was rung at Diptford parish church, South Brent, where her father, the Reverend James Thomas Benedictus Notley, was the Rector. However, the service was conducted by Reverend H. J. Coachafer who attempted to draw a positive message from the tragedy, telling the parents '*God moves in a mysterious way. His wonders to perform*'. The Reverend Notley had been appointed as rector to Diptford in 1881 (and remained the incumbent until retiring through ill health in 1917). Thus Miss Notley had been born and brought up in the parish. She was, no doubt, well known and an estimated 300 to 400 people attended the service, even though South Brent was a rural community. The next week the newspaper was able to report on the Inquest and the Funeral.<sup>4</sup> The body, having been placed in a sealed air-tight casket and placed in an oak panelled coffin, had been brought to Totnes station in a special carriage, arriving after dark at Diptford Rectory in an open hearse. The interment took place on Tuesday 4th April with an even larger congregation, the largest that had ever gathered at the church. The service, commencing with the hymn '*Peace, Perfect Peace*', was again led by Reverend H. J. Coachafer. Many of the congregation were deeply affected by the service, and the remains were then borne out to the grave immediately outside the church porch. The grave had been lined with moss and primroses by the village children and edged with white by the village postmaster. The parishioners then filed past the open grave. Now the grave carries a Dartmoor granite headstone to 'Doss', which is surmounted by a shaft decorated by strapwork carrying a large Celtic cross. The headstone inscription records that 'Doss' was "accidentally drowned", but fails to indicate the extent of the tragedy. The grave, along with others of the Notley family, is easily found at the parish church of Saint Mary the Virgin in Diptford.

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## FROM FOLE TO LIVERPOOL: AND FROM HANLEY TO ELLESMERE PORT

By Glyn Jones

In a recent article there was a description of the change from traditional milling to modern methods in south-east England<sup>1</sup>, a less complicated scene than the industrial Midlands. Moves over short distances were often sufficient for survival in Kent. In the Midlands several millers decided literally to move on, Vernons and Kings transferring to Merseyside. On Monday 30th January 1899 William Vernon & Sons' new mill was formally opened at Birkenhead, Henry Simon's latest and finest project: the first major UK port mill with adjacent deep water quays, which acted as a model for twentieth century concentration of roller milling capacity.<sup>2</sup>

In 1900 Sidney Leetham, principal of a large milling business at York, became President of the National Association of British & Irish Millers (NABIM). He created a stir amongst NABIM members by focusing attention on the vigorous competition amongst roller millers who, like the traditionalists before them, had entered a stage of 'survival of the fittest'.<sup>3</sup> For twenty years the main commercial pressure had been from imported flour from America. Leetham, and William Vernon, the next NABIM President, devised conference programmes to discuss the increasingly intensive competition between UK millers, and to seek routes towards an equilibrium of interaction. Local associations of millers had been formed, many affiliated to NABIM, others more independent and less publicly known, but by about 1900 the movement was lacking cohesion, and Leetham and Vernon sought means for collaboration. By 1902 there were hopes, plans, and again pervasive frustration.

However, by about 1904 the UK industry, encouraged by the energetic new profession of milling engineers, found increased confidence in dealing with American competition. After their serious struggle, from the 1880s to the start of the twentieth century, UK millers who could find the necessary capital might try to advance again technically.<sup>4</sup> Vernons' success had been achieved from a modest situation at Fole near Uttoxeter in Staffordshire. Their rural watermill site still exists, recently used as a creamery. A previous William Vernon became a corn miller in Staffordshire in 1796. His son John bought Fole Mill in 1847, retiring in 1857 when the next William Vernon took charge. There were then two breastshot waterwheels at Fole.<sup>5</sup>

In 1879 Vernons experimented with porcelain rolls for the reduction operation. In 1884 they changed completely to roller milling, with Ganz rolls supplied by the German



Figure 1. Vernons' country mill at Fole, recently a creamery. (Glyn Jones, 1996.)

firm of George Luther. A turbine and an auxiliary steam engine were installed. As Vernons' raw material changed from mainly English wheat towards a ratio of three or more parts of stronger foreign wheat to one part of English, they recognised the possible advantage of a move away from their rural situation. In 1888 they acquired a small roller mill in Commercial Road, Liverpool. Two sons moved there to revive Jacobi & Co's discontinued business, and soon increased the productive capacity from 750 sacks of flour per week to 1700 sacks per week.<sup>6</sup>

As trade steadily increased, further premises and machinery were needed. The Toxteth Roller Mills were purchased from Tonge & Sons; capacity was increased from 16 to 20 sacks per hour, another move away from rural horizons and trading areas. Then, in 1894, a fire at Fole destroyed the plant there.<sup>7</sup> Although the building was restored, it was decided to purchase a third mill at Liverpool: J. C. Rivett's mill in Seel Street. Vernons' aggregate output reached 6,000 sacks per week.<sup>8</sup>

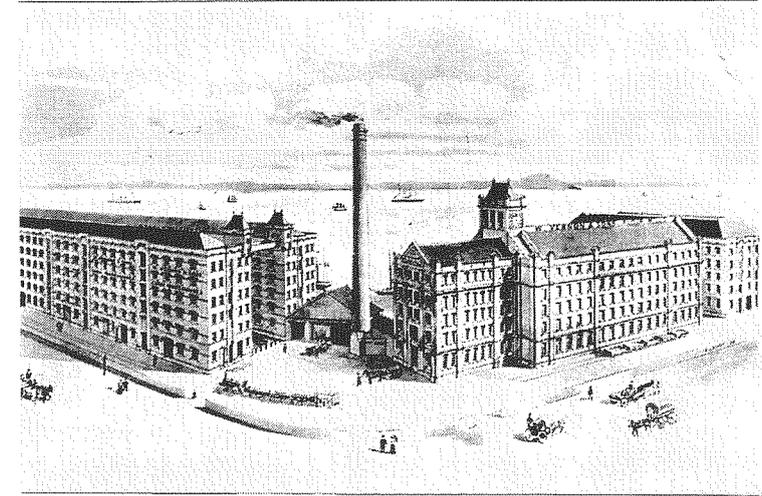
By 1896 Vernons were considering sites at Birkenhead, which would provide docks and railway facilities, releasing them from material handling disadvantages. Their prospective solution at Seacombe included availability of existing large grain storage buildings, and they held successful negotiations with the Mersey Docks & Harbour Board, who owned the site and the warehouses. As the new mill became clearly established at the turn of the century Vernons and other leading firms turned their attention to London

# SIMON ROLLER SYSTEM

**"The Miller" Prize.**

BAKERS' EXHIBITION,  
AGRICULTURAL HALL,  
ISLINGTON,  
SEPT. 16th to 23rd.

ENGLISH versus HUNGARIAN FLOUR.



MESSRS. W. VERNON & SONS' NEW BIRKENHEAD MILL.

**WINNERS of the PRIZE CUP,**

**MESSRS. W. VERNON & SONS.**

LATEST NEW MILL ON THE SIMON SYSTEM.

**HENRY SIMON L<sup>DS</sup>. 20, MOUNT ST., MANCHESTER.**

Figure 2. Vernons' new port mill at Birkenhead. (*The Miller*, October 1899.)

and south Wales. In 1904 Vernons acquired a large site at the Victoria Docks in east London and built another impressive mill, known as the Millennium Mills, to celebrate the firm's leading flour brand, first produced at Fole. The London mill had a capacity of 100 sacks per hour.<sup>9</sup> Their move from Fole depended initially on retention of a Midlands market. The Liverpool business took over existing connections with South Wales, and the London project confirmed that district and regional boundaries were no longer determinants of trading areas.

NABIM had estimated in 1889 that there were 540 roller process mills in the UK,<sup>10</sup> many of them medium or much smaller businesses, but between 1899 and 1914 capacities of the biggest mills stretched ahead. Concerns expressed by Leatham in 1900 and considered further by Vernon in 1901 were countered by the thrusting expansions of leading firms, especially between the easement of American pressure around 1904 and the 1914-18 war. Ranks extended from Hull to London and Cardiff, and just before the war also to Liverpool.<sup>11</sup>

The industry was very adversely affected by supply difficulties during the war, by the detail and extent of bureaucratic control, and the loss of connections with overseas wheat producers and marketing organisations. Millers were obliged to incorporate substantial amounts of bran and other diluents in the flour; government regulations continued for several years after 1918.<sup>12</sup> Plant maintenance was neglected, and financial compensation for business losses was delayed into the 1920s. Also trading areas had been restricted to reduce transport requirements, which disturbed previous customer relations. In Vernons' case there was an additional problem: their London mill was destroyed in 1917 by a massive explosion at an adjacent ordnance factory.<sup>13</sup>

Vernons rebuilt the Millennium Mills and in 1920 amalgamated with Spillers Milling & Associated Industries Ltd.<sup>14</sup> On Merseyside Vernons' mill had a varying future, with later changes of site neighbours and ownerships. In 1999 milling stopped at the ex-Vernons' site, after a century of impressive presence, and survival long beyond the destruction of other very large capacity mills in the district: Ranks', Buchanans', Hutchinsons', and the North Shore Flour & Rice Mill Co. at Boundary Street in Liverpool, which was the earliest of the very large mills there. Air raids and manufacturing obsolescence contributed to the removals.

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At the lower end of the capacity range, traditionalists had often moved in from rural positions to sites in small towns which had potential for further development. There were many examples in southeast England and elsewhere.<sup>15</sup> The Midlands might be an interesting area for further investigation, particularly around Birmingham, where in 1901 there were attempts to stimulate interaction in a Birmingham & District Millers Association. Prompted by Leatham and Vernon at the NABIM conferences, there was a survey of the UK to identify members of local millers' associations. Invitations were sent to more than 60 possible supporters around Birmingham, to study interests and to discuss competition. More than thirty responded positively, six in Birmingham, others nearby, and some further afield. The six were Walter Brown & Sons, Edward Evans, the Old Union Mill, J. H. Parkes, W. Rayner & Sons, and Watson Todd & Co.<sup>16</sup> who became the best known. In 1868 Watson Todd had eighteen pairs of stones; in 1881 they converted to roller milling. They became part of the Spillers group in 1921.<sup>17</sup>

Birmingham millers may not have migrated far, but from Staffordshire there was another outward movement, in addition to William Vernon's striking progress: descendants of John Buckley of Hanley, with their family surname of King, developed their business by a move to Ellesmere Port on the Wirral, and later merged with a long-established business at Liverpool. At the Borough Mills in Marsh Street, Hanley, John Buckley (1811-1887) had a successful trade as a feed miller on a site where it seems there was a mill under other ownership by the 1840s or earlier.<sup>18</sup> Directories and the Victoria County History offer stepping stones for investigation, and C. R. B. (Christopher) King, a director in later forms of the business, has studied the Buckley and King succession. John Buckley left his business to three trustees, including a grandson, Henry Buckley King.<sup>19</sup> There was a previous connection with a firm that combined milling and grocery businesses, but there has been uncertainty amongst later generations about the dates of nineteenth century changes. Christopher King (1929-2003) 'conjectured' that the mill known to his father (D. B. King) and grandfather (H. B. King) was built or rebuilt about 1870, which leaves plenty of scope for further puzzling. H.B. King started work at the mill in 1884, and acquired the business known as John Buckley & Co in 1890. By then there had been the addition of a small roller milling plant to the previous basis of provender milling.

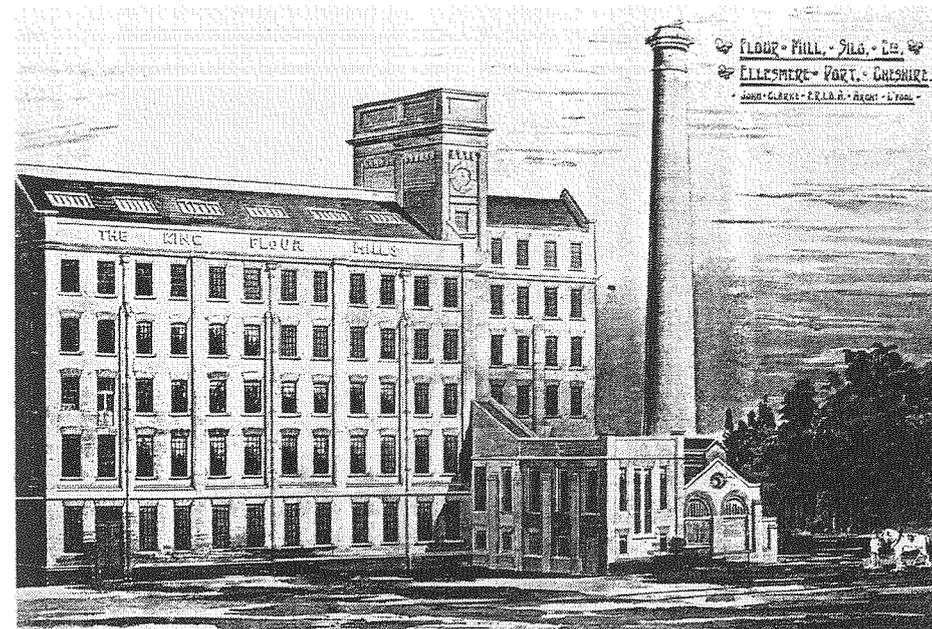


Figure 3. Architect's view of Kings' Mill at Ellesmere Port.  
(Henry Simon Ltd., July 1906.)

Henry Simon's records mention a roller mill plant reconstruction at Hanley in 1897.<sup>20</sup> The journal *Milling* stated that capacity was brought up to about six sacks per hour, and that the mill was run day and night. Around 1895 H. B. King began to consider expansion, and the possibility of a move to the Central Canal Wharf, where 150 ton barges could deliver wheat from Liverpool. Unfortunately, coal mining had caused subsidence on the proposed site, and so he next considered Merseyside and found a suitable location. The Shropshire Union Canal Company had a site at Ellesmere Port on the Wirral, with a railway siding and space available for several mills. Vessels up to 400 tons could dock in a nearby basin.<sup>21</sup> Henry Simon Ltd supplied the plant for the new mill, initially with twelve sacks per hour capacity, increased later. The Ellesmere Port mill was complete in 1906 and the Hanley mill was converted to a warehouse.<sup>22</sup> The architect was John Clarke of Liverpool, who had also been responsible for the building plans for Vernons' mill at Seacombe.

Soon the capacity of the Ellesmere Port mill was increased to 17.5 sacks per hour; there were optimistic plans for the future, and before the 1914-18 war reached the alarming stage of 1917 there was further technical development. George Briddon and R. J. Fowler, previously leading members of the Simon staff, spent a few years independently at



Figure 4. Kings' Mill at Ellesmere Port. (*Milling*, October 1906.)

Stockport; returning to the Simon staff, they contributed some new ideas for the scalping operation after the break stages, and improved use of the previously controversial plansifter method of sieving and sorting. Reels had been displaced by centrifugals. Plansifters, initially shunned in Britain, due to the damp conditions, gradually gained greater acceptance as designs were developed. In 1915 the Alphega (scalping method) and Plansifter system, devised by Briddon & Fowler, and enthusiastically promoted by Simons, was installed at Ellesmere Port. By 1916 warehouse and wheat storage capacity was increased.<sup>23</sup>

When wartime controls imposed much cruder processing methods, with the consequence of severe deterioration in flour quality, the innovation at Ellesmere Port was temporarily obstructed. For all millers a return to normal trading patterns, and exercise of milling skills and experience, took several years. Christopher King, who consulted a range of company records, inescapably depleted with the passage of time, stated that 'the mill barely made money from 1921 to 1929'.<sup>24</sup> Then, despite the general depression, trade revived in the 1930s, with the King Flour Mills expanding capacity to 24 sacks per hour in 1932. Thomas Robinson & Son Ltd, of Rochdale, supplied new milling plant.<sup>25</sup> Trade was developed in Northern Ireland, where high quality white flour was in demand; the Irish trade lasted until 1962.

In 1937 there was a change of status: to King Flour Mills Ltd. Previously, D. B. King had been a sole trader. Christopher King joined the firm in 1951, after training with R. J. Read at Norwich. In 1952 the mill was converted to electric drive to the line-shafting,

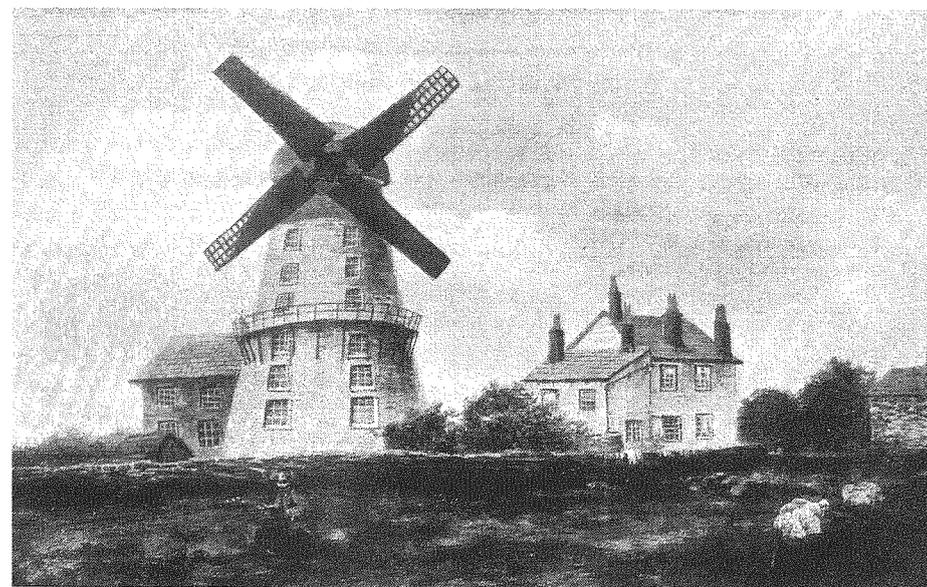


Figure 5. Wilsons' site at Toxteth: the windmill in 1860. (*Milling*, February 1909.)

at a time of continuing post-war shortages: the 250 h.p. motor was bought from Chittys' Charlton Mill at Dover, which had been destroyed by shell fire from across the Channel during the war.<sup>26</sup> Not until 1953 was the industry released from government control, after fourteen years of denial of opportunity to practise commercial and technical skills, including the fundamental activity of wheat buying and blending.

The next stages of the King Flour Mills' chronicle, as with Vernons, involved a new stage of sophistication in machinery design, and the competitive advance of the big milling groups: Ranks, Spillers, and Allied Mills, who increased capacity and concentration of production facilities at preferred sites. The other millers had mixed fortunes. Christopher King recorded that 'by 1965 our position was precarious'. In many milling businesses the surnames of family dynasties were regularly present in successive generations of senior members. In Kings' situation the prospect of viability was linked to another well-known firm, W. O. & J. Wilson at Liverpool. In 1847 William Oldfield Wilson had sold a mill in Rigby Street and became a tenant of a windmill at Toxteth Park, Liverpool; there had been many windmills around Liverpool, shown in engravings and paintings from at least the seventeenth century. About 1863 Wilson erected a steam mill and formed a partnership with his brother Joseph.<sup>27</sup> By 1871 they needed larger premises, and built the South End mills nearby, started in 1886 and allocated to production of sizing flour. In 1892 their mills formed 'an extensive but somewhat unsymmetrical group of buildings in Grain Street and Bran Street, all in Toxteth: the High Park Mills were clustered around the windmill. By 1894 Wilsons needed to increase their milling capacity.<sup>28</sup> In 1899 W. O. & J. Wilson registered as a private limited company with a nominal value of £80,000. The principals of the business were then Joseph Wilson and J. A. Shone, who later became President of NABIM, an important position in the difficult conditions of 1919.



Figure 6. Birkenhead: Vernons' site of 1899, closed in 1999. (Glyn Jones, 1997.)

During the 1920s, which Christopher King characterised as barely profitable, the main Liverpool millers aimed for economies of scale, and generally hoped to keep going. Between the NABIM conventions at Liverpool in 1893 and 1928 there were many closures of milling firms. Kelly's Trade Directories had listed more than 50 milling businesses at Liverpool at the start of the century; reduction was inevitable under severe competition and as dietary preferences and social conditions changed. Nevertheless in 1924 *The Liverpool Daily Post and Mercury* celebrated 'Merseyside's milling industry. The greatest milling centre in the Empire', with a survey by G. J. S. Broomhall, the editor of the journal *Milling*.<sup>29</sup> Some of his data was fragile, but the concentration in large businesses was clear, with six mill capacities of 100 sacks per hour amongst the leaders at Liverpool, Birkenhead and Seacombe. With such formidable strength in the district, Wilsons and several others in the vicinity would have been bound continually to reappraise their future prospects, both before and after the 1939-45 war.

Control of the Toxteth firm continued in the hands of the Shone family, and in 1968 W. O. & J. Wilson Ltd, as it was still known, was amalgamated with King Flour Mills Ltd. Christopher King estimated the previous capacity at Toxteth as '40 sacks per hour, some 50% bigger than ours', suggesting a combined potential up to 70 sacks per hour.<sup>30</sup> The Ellesmere Port mill was closed in 1970. In 1986 the Toxteth firm, known at later periods as South End Mills, was acquired by Spillers, the constituent names being preserved in the new business: Spillers Wilson King. Modernisation of the mill suggested an optimistic outlook. In 1999 ADM, one of the leading milling groups in the USA, became the latest owners. A substantial part of the tower of the Toxteth windmill survived for much of the twentieth century. For many years the Vernon dynasty continued within the Spillers group, most of which has now been acquired by ADM.<sup>31</sup>

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