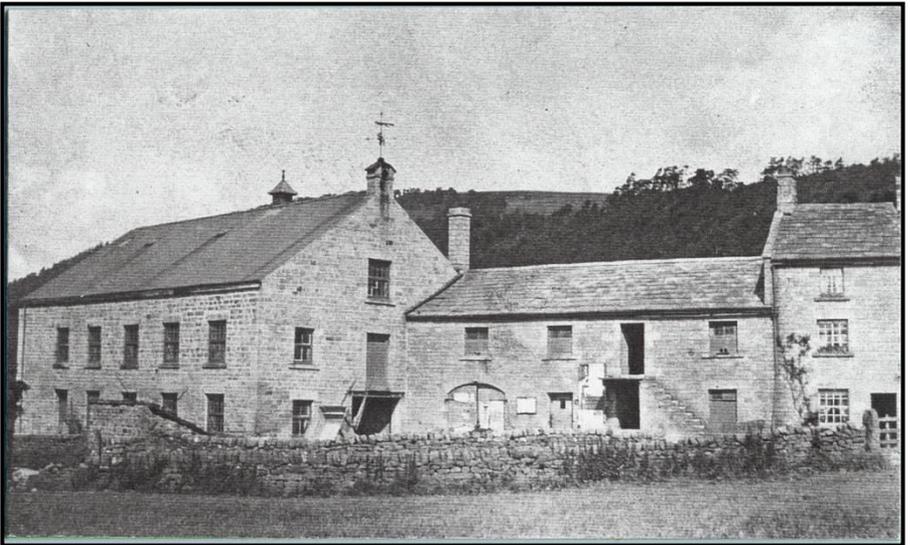


A History Of Wath Mill



Nidderdale Chase Heritage Group

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1. History of the mill

The mill in the village of Wath in Nidderdale stands to the north of Dauber Gill, a tributary of the river Nidd. Dauber Gill, which provides the water to power the mill, marks the historic boundary between the townships of Bishopside and Fountains Earth. The mill was built on the Fountains Earth side - land which was given to the Abbey of Fountains in 1176 by Roger de Mowbray. Until the late 19th century the northern side of Dauber Gill, was referred to as New Bridge whereas the small settlement to the south, in Bishopside, was known as Wath. For most of its working life, the mill we now refer to as Wath Mill was known as New Bridge Mill.

The current building is two storeys high and five bays long. It has a steeply pitched grey slated roof with a turret on the ridge and a gable end bell housing. The main entrance in the gable facing the lane is surmounted by a cast iron girder with the inscription 'Mill rebuilt 1880'. A small oval plaque identifies the manufacturer: Crossleys of Cleakheaton. Attached to the mill building is a one storey building including a cart shed, stabling, and stone stairs leading to a loft above. This is linked to a row of five cottages one of which at times served as a miller's cottage, the other four being intended for mill workers.

There has been a mill at Wath for far longer than the date of 1880 suggests. In fact, there has been a mill on this site for virtually 500 years.

A monastic corn mill

The first reference to a mill at Wath goes back to 1527 and a document recording an agreement between Abbot William of Fountains Abbey and Miles Smith (or Mylner). A water mill then sited on the west bank of the river Nidd, at Foster Beck, was to be dismantled and transported a mile upstream on the east side into Fountains Earth. It was then to be re-erected on land which belonged to the monastic lodge at Sigsworth. Miles Smith was also to make arrangements for the creation of a millpond and dam and to maintain these and the mill itself for twenty years. For its part, the Abbey would provide any large timber required for repairs.

In 1540, at the time of the Dissolution of the monasteries, when the possessions of Fountains Abbey were valued, it was noted:

There is a water corn mill in Nidderdale, late builded, called Newmyll and worth by year 6s 8d.

Sir Richard Gresham purchased the former estates of Fountains Abbey, which his son Sir William Gresham gradually sold off. In 1594, property in Fountains Earth including a water corn mill was sold for £1,100 to Richard Higson, John Sagar, John Gill, Christopher Yates, and Christopher Smyth of New Mylne who promptly divided the land amongst themselves. Christopher Smyth was still at the *New Mylne in Netherdale* when he drew up his will in 1616.

In 1715 John Beckwith of Masham inherited from his grandfather Austin Pickersgill of Mickley, estates including land and property 'within Nidderdale, commonly called New Bridge'. John Beckwith put those 101 acres of land and a water corn mill up for sale by auction in 1761. Thomas Jackson

of Ilton paid £1,272 for the whole and a new miller took over the New Bridge corn mill and associated premises in 1767. The vendors were Thomas Jackson (father and son) of Ilton and Christopher Bales of Scotton, Miller, and John Groves of Dishforth who purchased:

A messuage, tenement or dwelling house adjoining upon the mill hereinafter mentioned with the garth on the backside thereof called Kiln Garth containing by estimation 1 acre more or less, and also all that water corn mill and the kiln for drying oats to the said Mill belonging all of which said premises are situate at a certain place in Netherdale commonly called or known by the name of New Bridge Mill...

This document gives us the first mention of a kiln for drying grain, specifically oats.

The New Bridge Flax Mill

In Nidderdale, many farming families had, for generations, spun yarn and woven cloth either to meet their own needs or to earn extra income. By the 18th century, linen had replaced woollen cloth as the main product. As the population increased, and standards of living improved, the demand for finer linen increased. However, spinners and weavers still worked by hand in their own home, the spinning and carding being done by women and children and the weaving by men. As a result, it was difficult for manufacturers to meet rising demand and to maintain consistency of quality. Linen manufacturers in Knaresborough – an important centre of the linen cloth industry - who employed spinners and weavers at piece rates working in their own homes had to go further and further afield to find enough spinners and weavers.

The answer to these problems came with the development of the power-driven spinning frame in the late 1780s, and the beginnings of the factory production of linen. Flax spinning mills multiplied along the rivers, quite frequently on the site of existing corn mills. In several cases, Knaresborough manufacturers leased water-powered spinning mills in the surrounding area. The first flax spinning mill in Nidderdale opened in 1795 at Smelthouses.

In 1808 Charles Harrison, clerk of the Peace of the Liberty of Ripon, who had already bought most of the land surrounding the corn mill sold to the Jacksons in 1761, acquired:

a house adjoining the Mill and the Kiln Garth, a water corn mill and kiln at New bridge occupied by Joseph Metcalfe.

It would appear that Charles Harrison saw this as an opportunity to invest in an expanding industry. By 1816, he was taking out insurance against fire for New Bridge Mill Factory and premises, described as:

The newly erected factory or spinning mill, buildings, dams, weirs, mill ponds and soil.

This transaction also refers to Thomas Metcalfe as the Miller or tenant of the water corn mill: both the corn mill and the new spinning mill appear to exist side by side at this time.

However, the growth of the flax industry in Nidderdale took place against the backdrop of the wars with France. Trade with Russia was interrupted at intervals causing fluctuations in prices and shortages of flax. This occurred in 1807-09 and 1812-13.

After Waterloo, there was a short economic boom in 1814-15 followed by a post-war slump and economic depression. In 1819, Thomas Telford reported to a committee of Knaresborough on the feasibility of a railway to Pateley Bridge. Having surveyed the industry and trade of Knaresborough and Nidderdale, he listed 67 mills in the area surveyed and indicated how each was employed at the time (corn, flax, cotton or lead). New Bridge was named as the location for a mill or mills but they were not working mills at that date. It would appear that Charles Harrison's venture was being affected by the general depression in the linen industry.

However, shortly before his death in December 1823, Charles Harrison made over his property to his son, who put it up for sale in the hope of settling his father's debts.

The Leeds Mercury advertised the sale of *a capital new erected Flax Mill, stone built and covered with slate, 7 new erected houses adjoining and a dry house at the west end of the mill. The mill is now at work with 12 frames of 32 spindles each, the machinery in good working order, tow and card frame etc.*

The advertisement also mentions that the village of Wath, in the adjoining township is full of spinners and weavers and as there is no other mill within 2 miles, there is no competition for spinners.

The sale was completed in 1825 when George Francis Barlow, who had already bought land in Bishopside, acquired the New Bridge Estate consisting of a 'capital new erected Flax Mill' and 180 acres of land. He also bought the nearby property known as Daubergill House, occupied by John Horner, a weaver. The mill remained in the ownership of the Barlow family for the next hundred years.



A brief recovery in the linen trade took place between 1826 and the early 1830s but the end of the decade saw a prolonged depression caused by competition from Irish linen, cheaper imported cotton and high import tariffs from the French. By the mid-1840s, many local flax mills faced bankruptcy.

Trade directories, census records and Township records indicate that the flax mill was in operation during the period 1831-1841. The Turnbull family of Knaresborough, linen manufacturers, and flax dressers and spinners were closely involved with New Bridge Mill. The father, John Turnbull, was the overseer of the mill, one son Marmaduke was the occupier of the Mill, and another, John Turnbull Jnr, a flax dresser and spinner, was living in Wath, a third son Christopher lived with his parents in one of the mill cottages. Six men in the census for 1841 have occupations connected with processing the spun thread: weaving or thread dressing. Local field names such as Bleach Garth and Yarn Garth also indicate the link with

the various processes of preparing the spun threads before weaving.

A bobbin mill

Several Nidderdale mills, facing the crisis in the linen industry went over to bobbin making (Little Mill at Smelthouses, the first linen mill in Nidderdale did so as did Hollin House Mill at Glasshouses). There appears to have been an attempt to start a bobbin mill at New Bridge. Mark Hannam who had been brought up in Wath in one of the cottages next to the mill and then worked as overseer at Scotland Mill in Adel, near Leeds set up a partnership with a bobbin turner named Jacob Pierce. However, the partnership was short lived. In 1843, the Leeds Mercury announced:

Partnership dissolved. Notice is given that the partnership between Mark Hannam and Jacob Pierce, Bobbin Turners, Wath near Pateley Bridge has been dissolved. All outstanding debts to be paid to Mark Hannam who engages to pay all debts due on the partnership.

Mark Hannam later moved to Low Laithe and worked as a sawyer at Little Mill in Smelthouses. The bobbin mill was advertised as being available to let in 1845 but there are no surviving records showing that the business revived.

To let, a good Bobbin Mill of Eight horse power situate at New Bridge near Pateley Bridge in a very densely wooded neighbourhood. Immediate possession can be given and a quantity of dry wood may be taken at a reasonable valuation. Application may be made to Mr C. Turnbull who resides at the place. Leeds Mercury, 7 June 1845.

New Bridge Corn Mill

The census for 1851 indicates that the mill was operating as a corn mill. The miller was a Londoner Henry Palmer, who lived in the miller's cottage with his wife Anne. By this time, the owner of the estate and mill was Edmund Barlow who was leasing it out to the Nidderdale Union Society. The mill operated as a cooperative with 170 local shareholders. The Trustees of the New Bridge Flour Society appointed managers to run the mill on behalf of members.

In 1861, the miller was Ralph Umpleby who by 1871 had moved to Hollin House Mill at Bewerley. Henry Palmer, according to the census had returned to Wath but died in 1873.

A surviving account book for the period 1859-1871, held by William Hannam, the Secretary of the Society, mentions the stocks of wheat, oats, indian (maize) and barley. It also mentions a range of products for both human and animal consumption: super flour, common flour, breadmeal, thirds, sharps, oatmeal and oil cake.

The 1870s were difficult years for mixed farming areas: the area under cultivation for wheat and oats decreased sharply, prices fell dramatically owing to cheaper imports from America and poor weather conditions affected crop yields. Small mills, and millers, found it increasingly difficult to survive. For instance, Ralph Umpleby who had moved with his family to Hollin House Mill in Glasshouses was in financial difficulties, went into liquidation in 1880 and died in October the following year. Some of his difficulties may be linked to the following incident, reported in the *Pateley Bridge and Nidderdale Herald*, 21 Dec 1878:

Wath Mill burnt down early on Friday morning, the 13th inst. The corn mill at Wath near Pateley Bridge in the occupation of Mr. R. P. Umpleby was discovered to be on fire by a person who lived near the place. [...] He at once alarmed all the neighbours and they were speedily on the spot, but it was too late to save anything for afterwards the floor gave way precipitating all the stones and machinery to the ground floor and the roof fell in almost immediately afterwards leaving nothing but the outer walls standing. Exertions were directed to save the adjoining property which consisted of stables and a row of cottages. [...] We understand there was a considerable quantity of grain and other material on the premises. [...] The machinery and stones are almost valueless through their having been broken and otherwise rendered useless.

As the owner and the miller, Ralph Umpleby, were insured, it was decided to repair the mill and reequip it with the latest machinery. The reopening of the mill took place in 1880 but Edmund Barlow did not live to see the work completed as he had died the previous year.

A new tenant for the corn mill is named in the 1881 census: Matthew Teal, miller and farmer at Tenement Farm. His dual occupation points to the difficulties of making a living purely from milling activities. However, his tenure was brief and also ended in bankruptcy, after he got into debt and was evicted from his farm following a dispute with his landlord.

In addition to the normal milling operations, it appears from newspaper reports (1883, 1884), that the mill was occasionally made available for Anglican Missionary Anniversary Services.

In May 1886, after Matthew Teal's departure, a vacancy for a miller was advertised in the *Leeds Mercury*:

Corn Mill to let from August next.

A well-situated mill, 2 miles from Pateley Bridge with newly-fitted machinery, four pairs of stones. Miller's residence and garth attached.

Apply Mr Leech, Wath Lodge, Pateley Bridge

The successful applicant was a recently widowed Mary Ann Kingham, Miller, with her two sons as assistants. They were to remain in Wath until 1903 when the family decided to move to Halifax and sold up redundant equipment:

Mr Thomas Pullman is favoured with instructions from Mr Kingham (who is declining business) to sell by auction, all the carts, gearing, horse, trade, stack of hay, stack of bedding and a quantity of manure. Pateley Bridge and Nidderdale Herald, 30 Sept 1903.

The Corn mill continued to operate in the early years of the 20th century under the ownership of Eustace Hepburn Barlow and later his sister Mary Cordelia. John Gill was the miller in 1908, replaced in 1910 by John Joseph Walker, who with his wife Hannah lived at no 1 Mill cottage in Wath until 1914. The 1910 Farm Valuation provides a description of the premises of the mill and the miller's cottage:

Water corn mill: 2 storeys, cart shed, loose box, 3 stalled stable and loft, 2 pinholes.

*Cottage: room and pantry, 2 beds, 1 attic, EC, coals
3 acres of grassland and millpond.*

At some point after WWI, (see West Riding Trade Directory 1922), the mill premises were rented out to the firm of T and

A Stockdale, who first ran Scarah Mill, then took over Pateley Bridge corn mill. There is in the Nidderdale Museum a photograph of a Mr Elliot, a resident of Wath and reputedly the last man to work at Wath Corn Mill in the 1930s. Stockdales paid rent for the mill and a cottage to the then owner of the Wath estate, Mr Thomas F. Brewster, until 1936. It would appear that the mill ceased to operate as a corn mill at around that date.

During WWII, the mill was requisitioned by the War Department who paid an annual rent of £15.00 up until 1949. The mill was used as a workshop for repairing farm machinery and tractors supporting the production of food as part of the war effort.

Nowadays the building provides storage for the Wath estate.

2. Site visit report(prior to restoration)

In July 2011, members of the Nidderdale Chase Heritage Group received the opportunity of visiting the mill under the guidance of Mr T. Wheelwright, the brother of the present owner of the premises. Also present were John K Harrison (author of several studies on the Corn Mills of North Riding) and Peter Morgan, both experts in the history and technology of water-driven corn mills and prime movers in the restoration of Tocketts Mill (near Guisborough). Although the mill has ceased to function as a corn mill for over half a century, structural maintenance has been carried out, including re-roofing in the 1990s. The interior, however, has been left virtually

as it was when last worked. The ravages of time and rot in some of the structural timbers have caused some of the four sets of millstones to drop, but, on the whole, most of the machinery is still intact. To find a mill so well-preserved or unaltered is almost unique and to be able to see for one how various engineering problems have been resolved was a great privilege.



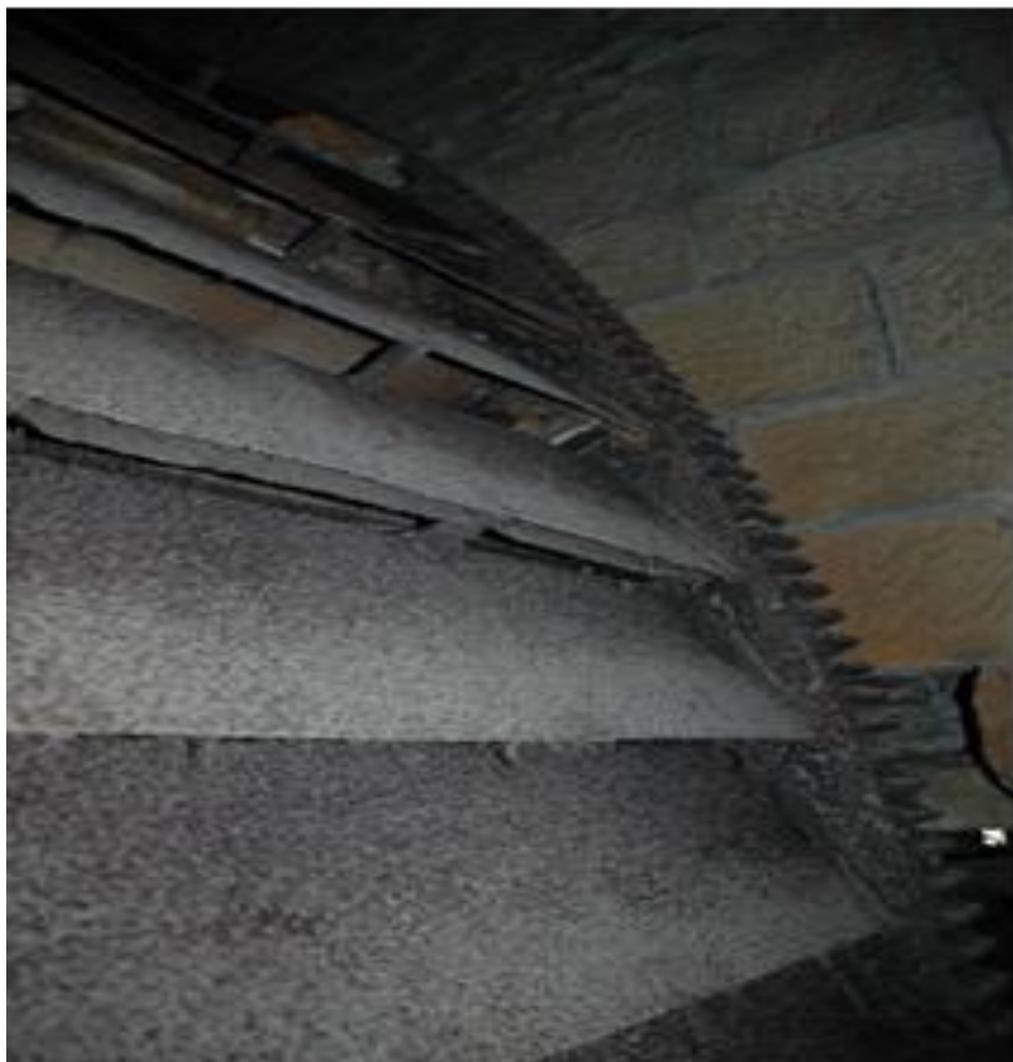
The iron girder above the door bears the legend REBUILT 1880 and a small oval plaque reads G.CROSSLEY – CLECKHEATON. One is led to believe that the girder and possibly other iron structures were forged by G, Crossly of Northgate in Cleckheaton. In the 1881 census, he is listed as an iron founder employing 26 men and 8 boys.

The visit first looked at the power source, following this on its winding course through to where it finally turned the millstones. The source of power to turn the water wheel is initially Dauber Gill. Here we saw where the beck is diverted into a leat; nearby we saw an old broken millstone, maybe the result of the fire of 1878 that had once been reused as part of the bridge over the leat. The leat channels the water to the large mill dam on the hillside to the north east of the mill



Further channels and leats collect all available water in the immediate area to add to water in the dam. The large storage dam and the additional collecting points suggest that Dauber Gill alone was inadequate to supply sufficient water to the water wheel especially in periods of drought. However in saying this, no attempt seems to have been made to source water from the river Nidd. The fact that this would require a large leat two to three miles long in addition to a weir across the Nidd may have prevented this.

The water leaves the dam, passing through submerged chambers and is then piped to a wooden header tank above the water wheel inside the mill. The water can then be released and regulated to fall onto the wheel causing it to turn. The purpose of the submerged chambers is not easily obvious, but it may be used to maintain the level of water in the header tank. The end of the pipe in the submerged chambers will be level with the water in the header tank.



The large diameter water wheel with its cast iron centre, wooden spokes, sheet metal and wooden buckets carries a cast iron Rim Gear around its outer circumference. This Rim Gear drives a pinion which then drives via a further train of two pinions the vast Main Layshaft, a huge rotating shaft that stretches half the length of the Mill at floor level. In addition to the four, five foot diameter cast iron pinion wheels on the Main Layshaft, used to turn the four sets of millstones, there is a further bevel gear driving a vertical shaft. This in turn drives an auxiliary shaft, at ceiling height on the North side of the first floor.



Bevel gear driving a vertical shaft



Auxiliary shaft

From this shaft running the full width of the first floor, there are numerous pulleys used to run all the auxiliary machinery in the mill, some of this through pulleys to additional shafts in the ceiling of the second floor. The teeth on the five foot diameter cast iron pinions engage with a second pinion on the vertical shaft which passes through the lower mill stone to rotate the upper stone. This pinion can be lifted by a forked lever to slide up or down the shaft thus disengaging or engaging the teeth and thereby stopping or rotating the upper mill stone. As there is no clutch device in the system one can only surmise that this operation could only be done with the water wheel stationary.



driving a millstone

Pinion and shaft

The mill consisted of the main building on three floors with a separate room at the north end, housing the water wheel and a mill yard to the south. To the east is an adjoining building which is the Drying Kiln. Alongside the Drying Kiln, facing onto the mill yard are the stables.

Because grain can only be milled when its water content is less than 14%, facilities for drying the grain are essential in the wetter parts of the British Isles where it would often arrive at the mill in a damp condition.

The Drying Kiln is roughly square, with a fire in the centre on the ground floor. Over the fire is a brick arch to disperse the heat.



The drying floor above is made of an iron frame supporting perforated ceramic tiles and could be accessed from either the first or second floor of the mill. Next to the drying floor are two hoppers to receive the dried grain, with chutes from them leading to two of the millstones.

Grain would arrive at the mill in sacks; it could be carted to the centre of the ground floor where a sack hoist would haul it to the first floor. The grain that needed drying could be sent via the grain elevator to the second floor. A protruding stone platform into the Kiln from the second floor would make an ideal position for scattering grain and also for turning it during the drying process.

After drying, the grain could be shovelled into the hoppers leading to the grinding stones to end up as ground flour on the first floor. Here it could be bagged and lowered through the trapdoor onto carts below. An external door on the first floor, above the main cart entrance, could be used for moving goods to and from this floor, but shows little evidence of regular use.

In modern factories all machinery has its own electric motor. In Wath Corn Mill all machinery was driven from a single water wheel. To achieve this numerous rotating shafts, spinning pulley and gear wheels and long flapping drive belts crisscrossed the mill connecting the water wheel to the machinery. This must have been a noisy dangerous place to work. Far more investigation could be done to solve the mysteries of what machinery was used in the mill, how water arrived and was regulated at the water wheel and how individual machinery could be stopped and started.

This information was gathered and compiled by members of the Nidderdale Chase Heritage Group, which has been researching and recording the history and heritage of Nidderdale since 2006.

Special mention should be made of the contributions of Elizabeth Dent, Dawn Haida, Marie-Anne Hintze, Paul Reinsch and Sheila Wilkins and of the support of Mr T. Wheelwright.

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