

**North East Derbyshire  
Industrial Archaeology Society**  
NEDIAS Newsletter No. 30 – May 2008

Price: £1.00 (Free to Members)



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**Chairman's Comments:**

After opening the 2008 talks with Malcolm Dungworth's lively and informative presentation on the Sheffield Motor Industry and the Richardson cars, February's talk by Graeme Walker on Caudwell's water powered mill at Rowsley proved to be just as popular. Even the March AGM was well attended, thanks no doubt to the prospect of Philip Cousins' post-meeting presentation of his research in to the archives of the Great Central Railway and its impact on the Chesterfield Canal when building the Chesterfield Loop.

The AGM meeting also saw Les Mather's outline of the Chesterfield industrial building survey, including encouragement to widen the scope of the survey beyond the borough boundaries in the not too distant future. Another significant event occurred at the AGM when Cliff Lea was appointed to the new role of Vice Chairman. Cliff accepted the post with the hope that we could relieve him of the burden of publicity and website work to allow him to concentrate on the editing of the Newsletter and Journal. We are still hopeful of finding a willing volunteer!

Our April meeting, when Clive Leivers spoke to a well attended gathering about the railway navvies who had worked on the 1890s Dore & Chinley Railway, was the last of the Spring indoor meetings for this year. So now is the time to get some fresh air and what better way than with our May and June site visits described below.

*David Wilmot*

## WHAT'S ON?

### NEDIAS Lecture Programme, 2008

When: Meetings are usually held the second Monday of each month, starting at 7:30pm

Where: Friends' Meeting House, Ashgate Road, Chesterfield

<b>8 September 2008</b>	David Howes: <i>"Chesterfield shops – 1850 to 1950"</i>
<b>13 October 2008</b>	Peter Kennett: <i>"The Vulcan Bomber Project"</i>
<b>10 November 2008</b>	Mike Hayden: <i>"The Regeneration of Chesterfield's Industrial Areas"</i>
<b>8 December 2008</b>	Christmas Meeting: <i>A seasonal mix of short talks by members on their own projects</i>

### NEDIAS Visits

Please see the visits booking forms on the back table at regular meetings, further details from Brian Dick 01246 205720. Two dates for your diary:

<b>Mon 16 June 2008</b>	<b>Visit to Shardlow</b> You can still book by phoning David Wilmot on 01246 854 190; cost is £2.50, payable at the door We meet at the car park of the Clock Warehouse, London Road, Shardlow, which is the old A6. From Derby, on A52 eastbound, take Ring Road for A50 (towards M1 South). At last roundabout before A50, turn left for Shardlow. Continue through village until just before low bridge over canal. Car park entrance is on right. The heritage centre (beside canal and next to car park) will be open for us from 6:30pm and we hope to start the tour around 6:45pm.
<b>Sat 28 June 2008</b>	<b>Discover Ashover's Industrial Past.</b> A walk led by Pat Pick, NEDIAS contribution to this year's Walking Festival. 10:30 – 3:30. Meet Ashover Village Hall. No charge, but booking essential on <b>01246</b>

### Other Diary Dates

<b>Monday 19 May 2008</b>	<b>Peter Kennett:</b> <i>"Mining and quarrying in Ringinglow and the Porter Valley."</i> 7:30pm Kelham Island Museum. SYIHS. (0114 230 7693)
<b>Sunday 1 June 2008</b>	<b>Belper Heritage Tour.</b> 2:00pm, starts from North Mill Heritage Centre, £3
<b>Sundays 29 June, 27 July 2008, 14 Sept and 5 Oct 2008. All at 3:00pm</b>	<b>Lumsdale Mills and Valley Tours.</b> Booking essential via Arkwright Society on <b>01629 823256.</b> Charge £2.50; meet Highfield School, Lumsdale, Matlock.

<p><b>Wed 9 July 2008</b></p>	<p><b>Tour of Bolsover Colliery Village.</b> Led by David Wilmot, 7:00pm, no charge but bookings essential via Arkwright Society on <b>01629 823256</b>. Meet at the former Coop, Vilas Road, New Bolsover.</p>
<p><b>Wed 16 July 2008</b></p>	<p><b>Visit to Morley Park Blast Furnace.</b> Derbyshire Archaeological Society. Leader Dr Dudley Fowkes. Meet 7:30pm 1Km N of Street Lane. (SK394495)</p>
<p><b>Wed 13 August &amp; Sat 16 August 2008</b></p>	<p><b>Archaeology and the Brodsworth Estate.</b> Talk and tour by Colin Merrony of Sheffield University following the recent archaeology project at Brodsworth. Meet 2:00pm, Brodsworth Hall, nr Doncaster, booking: <b>01302 722598</b>.</p>
<p><b>Tuesday 18 Nov 2008</b></p>	<p><b>Brian Key: “Railways and Canals around the Erewash Valley”.</b> 7:15pm, Ilkeston Library. Ilkeston Local History Society, phone <b>0115 930 2530</b> for more details.</p>

## **Cauldwell’s Mill – An unusual survivor**

*Graeme Walker*

On the South East edge of the Peak Park in Derbyshire, there is a reminder of a Victorian businessman’s enterprise at Rowsley, on the A6 between Matlock and Bakewell, a typical Peak District village with farms and industry interspersed among the houses.



There has been a water mill in the village at least since 1300, although the early sites are not known accurately. The mill site in the village was, and is still, owned by the Duke of Rutland, who has an estate locally at Haddon Hall. John Caudwell in 1874 leased the site, where formerly had stood the remains of a saw mill and a corn mill, and built a 4 storey mill. This, when compared to the scale of other buildings in Rowsley, was a large building, although it is hard to see from most of the village.

John Caudwell came from a Derbyshire family, who had been involved in the flour trade since 1836, with mills at Southwell, Wingerworth, Pye Bridge, Bolsover, Huthwaite and Mansfield. John was a partner in some of these with his cousins, Francis and Theodore, but left the partnership and leased Amber Mill near Alfreton in 1860. He ran this successfully until 1874 when he leased the site at Rowsley from the Duke of Rutland's estate.

The clearance of the site and the construction of the mill in Derbyshire gritstone was completed at a total cost of £7,000, a sign of John's confidence in the business. He equipped the mill with two water wheels, one to power the flour mill and the second for the provender mill. There were 8 pairs of millstones on the first floor, supported on cast iron columns, for the flour mill and three pairs for the provender mill. Some of the columns remain in the mill supporting the floor. Two worn-out millstones, one Peak District gritstone and one French burr have been found buried in the mill yard and are now on display.

Following the introduction of roller milling into England in the 1880s, by 1884 John Caudwell was sufficiently impressed by this new technology to rip out his almost new mill stones and have Thornton's of Retford replace them by the, then modern, roller technology. This is believed to have cost a further £2700. The use of waterwheels to drive the roller mills was not very successful since rollers required a higher speed (typically 300 r.p.m. instead of 100 r.p.m.), and as a result a 35 H.P. 'Trent' turbine was fitted in 1887 for the flour mill.

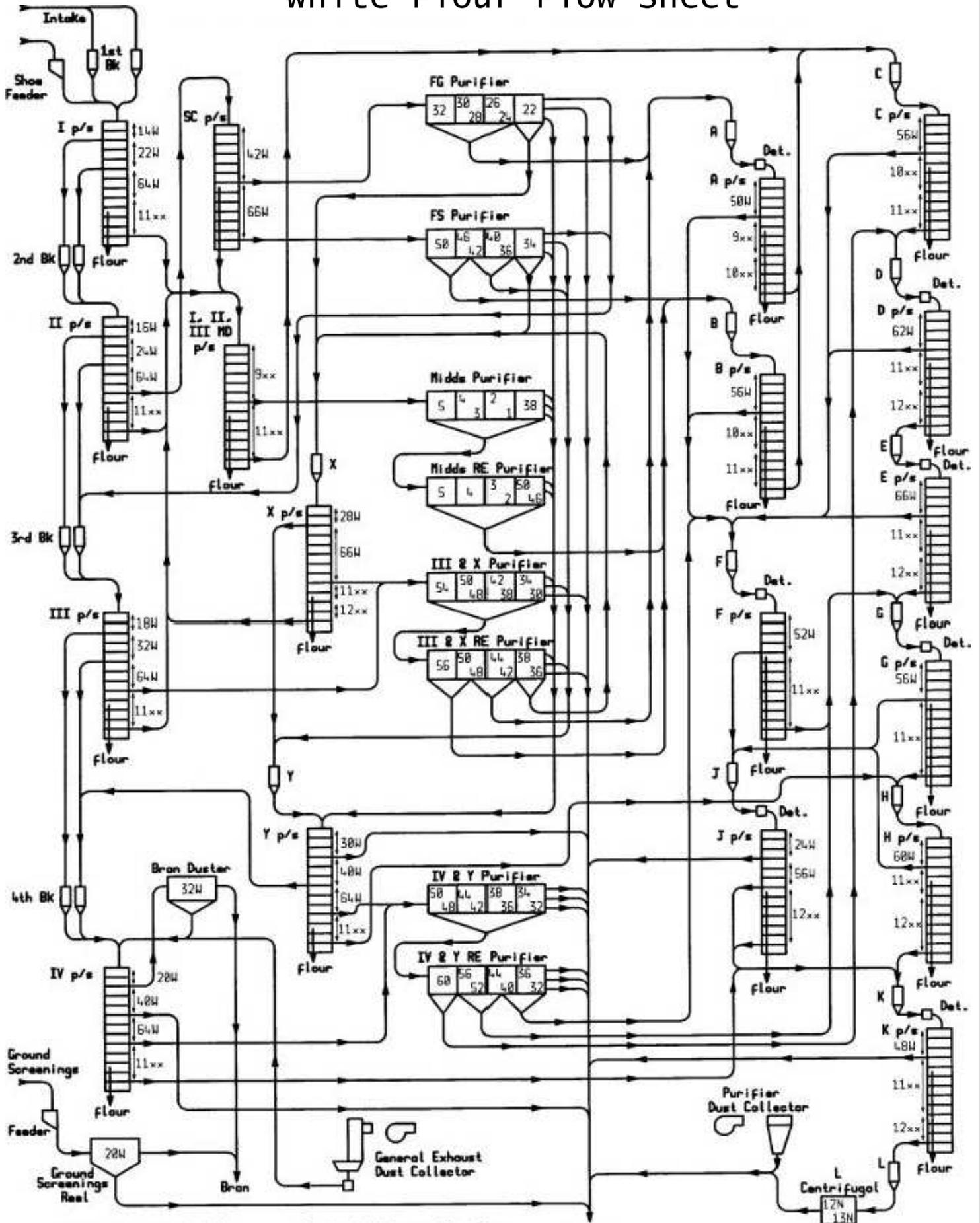
Caudwell & Co. wrote to C. L. Hett of Brigg who supplied the turbine saying "we have turbine at work and shall be pleased to give you a testimonial as we cannot speak too highly of it." The waterwheel remained driving the provender mill until 1898, when a "Little Giant" turbine of 50 H.P. was installed, supplied by S. Howes of London.

This turbine still is used today, driving a 12 kW electric generator for the mill lighting. Through the years the



# Caudwell's Mill

## White Flour Flow Sheet



Grain Walker 4.12.2002

Caudwell Machinery White Flour

**Reference: Grain & Feed Milling Technology, March/April 2005**

machinery was improved and modernized. Briddon & Fowler from Manchester installed new rolls and other plant over a two year period starting in 1905 when 8 pairs were installed.

A further 10 pairs were fitted by the end of the two years, these having the new 'Alphega' system of separation after the rolls. Most of these rolls are still in use in the mill today. Flowcharts and layouts of this date are in the Derbyshire Record Office.

### ***Roller floor***

In 1914, the German firm of Amme, Giesecke & Konegen installed a new roller mill, four 'Ageka' plansifters, a purifier, a dust collector, ten detachers and a 76 H.P. turbine, to replace the 'Trent' at a total cost of £1500. The German workforce who were working at the mill in 1914 at the outbreak of the First World War, completed the work, and were then interned on the Isle of Man, returning to Germany around 1920. Since the 1914 remodelling, minor changes have been made, mainly by Henry Simon Ltd, replacing worn-out machines, occasionally adding some or taking others out, but the main operation of the mill was as left in 1914. This, in turn, was mainly the 1905/7 modernization of Briddon & Fowler.

Photographs of the mill taken in 1915 for a calendar show that, externally at least, hardly any changes have been made, perhaps with the exception of the replacement of the steam wagon and the horses and carts used to transport the flour as far afield as Derby.

The complete plant has 22 pairs of rolls in 12 frames, 4 plansifters with 18 separate sets of 12 sieves, 2 double purifiers (there were 4 originally) and 21 elevators. Unfortunately some of the wheat cleaning plant has been removed. The mill is classed as a 5 sack mill; it produced about 5 tons in an 8 hour shift.

Following John Caudwell (1827-1891), Edward (1866-1941) ran the mill from 1887, followed by his son Edward (1900-1990). The third Edward took over the mill from his father in 1964, running it until the family gave up the business in 1978. In 1980, Caudwell's Mill Trust Ltd, a charitable trust, was formed and leased



***Deliveries by steam Foden in Derby***

the mill and site from Haddon Estate. Following considerable discussion, it was decided to mill only wholemeal flour and Henry Simon Ltd were asked to advise on the modifications; in December 1981 milling recommenced again.

Unfortunately in 1998 a number of bearings in the rolls overheated, partly because of choked oilways in the frame castings, and after replacing them it proved difficult to produce flour of a quality suitable for commercial bakers. As a result the mill still runs for visitors to see the machines in operation - especially the plansifters - but does not make flour.

The Trust is formed of a number of interested people and representatives of various local & national organisations, including the Society for the Protection of Ancient Buildings. In the time since the Trust was formed, they have raised money to repay all the loans needed in the initial years and completely re-roofed the mill. In addition a considerable amount of cleaning, painting and some required alterations have been undertaken.

Once again, Caudwell's Mill operates in the community as it has for over a century, employing 5 to 8 people in the Mill and perhaps another 15-20 on the site in the various shops, craft workshops and the cafe. With education in mind, a teacher's pack was produced covering technology & history of the mill and a range of educational visits are offered. Derbyshire's unique Victorian water powered roller mill now runs seven days a week (with the exception of the Christmas period) for visitors to see the process. A range of specialist flours are available packaged in 1½, 3, 6, 16 and 25 kg sizes. Tours and talks can be arranged by calling the miller on 01629 734 374.

## **The Midland Railway Company's St. Pancras Station**

*David Wilmot*

In our February Newsletter our editor gave his impressions of the re-invigorated Victorian edifice now known as "St Pancras International" station. I have to say that I do not think the directors of the Midland Railway, nor indeed would the station's original architect, Sir George Gilbert Scott, and engineer, William H Barlow, take too kindly to the changes now made.

In building St. Pancras station and the adjoining Midland Grand Hotel, the Midland Railway directors were marking the arrival of its own lines at London and the capital's terminus of a railway network which served



*St. Pancras, End Screen April 2003*



*St. Pancras, Trainshed, April 2003*

the industrial core of England. The Derby based Midland company left aspirations for a channel tunnel rail link to the ambitious Edward Watkin who drove the Manchester, Sheffield & Lincolnshire southwards to Marylebone some twenty years later as the Great Central Railway.

It is clear from the Midland's provisions for traffic, particularly for passengers, that it was intent on fostering its business generated in the middle and northern counties of England. The provision of its own substantial and attractive hotels at Manchester Central, Bradford Forster Square and Leeds, as well as St. Pancras, bear testimony to those aims. This was also the era of the Midland's construction of the Settle & Carlisle line and development of joint traffic with the Glasgow & South Western and North British railways for services to Glasgow and Edinburgh.

Construction of St. Pancras was authorised by Parliament in May 1860 and opening took place in October 1868. To reach St. Pancras, the Midland had built fifty miles of completely new railway from Bedford, through Luton and St. Albans. The original Midland main line from Bedford to the Great Northern at Hitchin (for Kings Cross) became a minor branch which survived until the 1960s Beeching era.

My contention is that the new development turns its back on the original aims of the Midland Company as trains originating from their territory are no longer allowed entry in to Barlow's magnificent trainshed but are relegated to a concrete and glass monolith outside the original station. Indeed the north-end's impressive gable screen is now lost from view to passengers who suffer the further ignominy of being hustled out in to side street for the long walk to Euston Road.

Things are little better for the international passengers who also enter from the side street in to the undercroft area which we, as schoolboys, were taught the Midland Railway designed as a storage space for Burton's beer barrel traffic. If the Midland Railway's directors are turning in their graves at the abuse of their gem, consider please the fate of one of their main competitors, Sir Edward Watkin. His main line to London is now a truncated branch to Marylebone and it was the Midland, not the Watkin companies, which ultimately won the terminal for the fast line between London and Paris, albeit a hundred years later!

Sometimes a business trip becomes a real pleasure. In April, I visited Mannheim, to attend a large 3 day technical meeting which my company had decided to hold in meeting rooms at Mannheim's striking museum of industry and science. And what a pleasure it was!

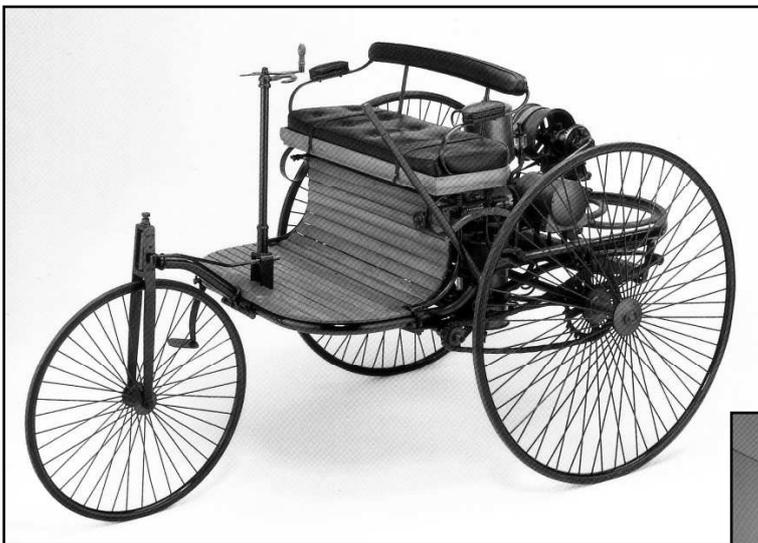
The museum, which opened in 1990, is housed in a modern building on 6 floors. It tells the story of the industrial, scientific and social developments in the area, and as you might imagine, has similar aims to many of the science and industry museums in the UK. At Mannheim a main goal is to provide visitors with a thread through the most important stages of industrial and social development over the last two and a half centuries in this area which is one of the major industrial centres of Germany.

Their industrial revolution of course started later than that in England, a matter fully recognised in their guide book, with mention of the early items of textile and printing machinery to the area being brought in by barge from England. The museum also houses a fair selection of British items, with the transport gallery exhibiting early Norton and Triumph motorcycles and early Talbot cars, as well as Benz and Daimler exhibits (both companies started in the area). The museum also houses early textile machinery, steam engines, locomotives, ships, details of local chemical industry development, historical papermaking equipment, electrical energy development and many other industries.

The museum has many hands-on working examples, as other similar museums in the UK, and is well staffed to cope with the demands.

One exhibit which rang a bell, was a treadmill crane, similar in design to that in the Chesterfield Museum; at Mannheim, I saw a large working reconstruction, approx 12 foot diameter wheel, capable of containing two active teenagers, with wooden gearing to ease the load, and with a series of pulleys allowing large weights to be lifted. At the time I was there, curators were demonstrating, and allowing a visiting school party to use and understand the mechanism, and to explain the historical connections. Clearly a Museum with a generous budget.

By the way, we did get some work done in between surreptitious trips to view the exhibits.



*Above: Benz tricycle of 1886*

*Right: Locomotive "Eschenau", 1896*

*Exhibits from the transport gallery of Mannheim Museum of Science & Industry*



## I. A. News and Notes

### The Rowsley Association's Historic Railway Walks

Something we considered and then lost sight of late last year was the intention to take part in one of Glynn Waite's walks around the former railway settlement and sites at Rowsley. Glynn, who is a mainstay member of the Midland Railway Society and expert on Rowsley from his working experience, offers the three-hour walks starting at Rowsley Old Station (in the Peak Village Complex) for £3.00 per person, including a 24-page illustrated guide book.

Walks for 2008 will take place on Saturdays 17th May, 21st June and 26th July, then Wednesday 13th August, Saturdays 6th September and 4th October, all starting at 10:30am.

For further information, contact Glynn Waite on 0114-236-4728 or via the website [www.rowsleyassociation.org.uk](http://www.rowsleyassociation.org.uk)

### Industrial Derbyshire

Breedon Books have recently published Michael E Smith's latest title which, in the words of the publishers, "tells the fascinating story of the inventors, entrepreneurs and artisans who contributed to the industrial revolution in Derbyshire as well as later developments in aviation, chemical and nuclear engineering. Michael Smith covers the development of well-known industrial enterprises as diverse as Crown Derby, the Midland Railway, Offiler's Brewery, Rolls-Royce, Bemrose, the Butterley Company and Toyota as well as many others".

The hardback book has 160pages, 90 illus. and retails at £14.99.

### Friends of the Cromford Canal

*The Portal*, the quarterly Journal of the Friends of the Cromford Canal for Spring 2008 contains the important news that both Bolsover and Amber Valley District Councils have granted planning permission for the restoration of the Pinxton canal basin as well as a stretch of the canal's Pinxton branch where its original route was lost during the period of opencast coal workings known as Smotherfly site. The Journal also describes work already undertaken northwards from Langley Mill and on the canal around Ironville, ably demonstrating the solid progress made by the Friends towards rejuvenation of the long-lost, but by no means forgotten, Cromford Canal. We hope to have a talk on their heritage discoveries and restoration work early in 2009.

### Where is it? What is it? And why is it there?



Some people might view this object as a trip hazard in the grass verge of one of Chesterfield's main roads, but it was obviously put there for a purpose.

Sadly, its history does not seem to be readily available but we are sure that our members will be able to tell us something about it.

Ruling out the suggestion of a souvenir WWII tank trap from Skegness beach, can anyone describe its provenance to our editor?

Your suggestions please to the editor, contact details at the foot of this newsletter but, sorry, no prizes for the answers!

Do members have any other "Puzzle Pictures" in their scrap books, which we can show in future Newsletters?

## Excavation at New Mills

The installation of a small hydroelectric project in the Torrs at New Mills was initiated last year by a community-led consortium; the interesting Archimedean screw water turbine was due to be delivered this month, and will be lifted into place on 1 June.

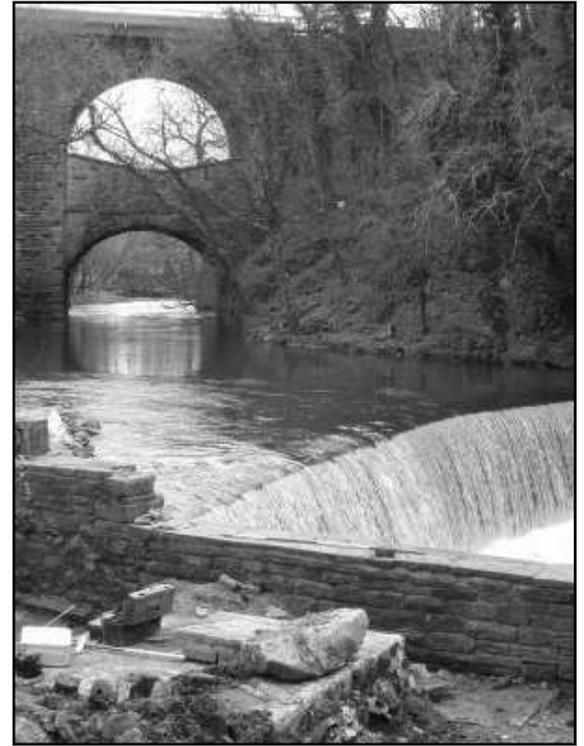
The site where the Torrs Hydro plant will be situated used to be home to the Torr Mill which was destroyed by fire in 1912.

Some of the original walls and low level doorways and windows still exist.

Excavation on the site of the burned out Torr Mill started earlier this year.

The excavation has revealed many features, particularly in the wheel pit.

If any member is visiting New Mills on 1 June to see the screw being lifted into place, pictures for publication please to the Editor.



## I. K. Brunel, SS Great Britain, and Portland Cement

In excavations of the Great Western Dockyard at Bristol, and particularly on the site of the 1839 Steam Ship Engine Factory, the SS Great Britain Trust are somewhat excited about finding significant use of Portland cement. If this is confirmed, it is thought to be the world's earliest example of major use of Portland cement in construction projects; and directly attributed to one of Brunel's projects, which will please the Brunel groupies.

Whilst there is nothing new about concrete itself, Portland cement was invented only in the early 1820s, and so named because of its structural similarity to Portland stone. It is reported that Brunel had experimented with Joseph Aspdin's invention in the late 1820s, when attempting to repair his father's Thames tunnel, but it was not thought that it had been successful, and it had certainly not been thought that as a major construction material it had brought into use before 1843.

The new findings at Bristol, in the 1839 steam engine shed, appear to show use of the cement in a major area, 400mm thick, across the whole 20 x 50 metre site.

So, did Brunel realise the true potential of Portland cement four years before it was officially marketed as "Patented Portland Cement?"

### References:

Current Archaeology, No 219, June 2008, p. 4-5.

[www.ssgreatbritain.org / BrunelsCementFind.aspx](http://www.ssgreatbritain.org/BrunelsCementFind.aspx)



## Scarsdale Local History Fair

This year's Scarsdale Local History Fair will be on Saturday 1 November, and once again we'd like put on a display. Those of you who attended the last event will recall the excellent NEDIAS exhibition, and Jacqui Currell's inspired display boards. Our theme this year will include pottery.

Do you have any ideas, suitable pottery-themed pictures, script or artefacts for our display? If so please share with Jacqui or Cliff.

## ..... and Finally ...

... Education and recreation? Well maybe one can go too far...

Cliff Lea

Audrey Barrass' book, "*Belper: Looking at the Past*", recounts the introduction by the Strutts of weekday and Sunday schools, and by the 1830s a 40 strong "orchestra" had been formed. Quoting from W Bamford's diary in 1853 on orchestra rehearsals:

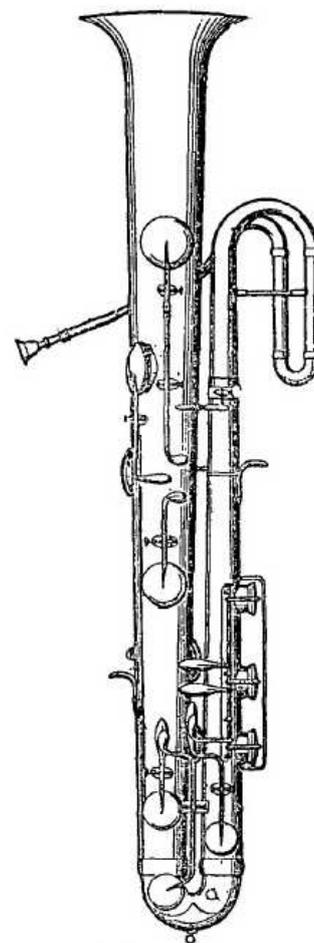
*"On the night of the general muster for practice, there are forgemen, mechanics, clerks and mill hands blasting away on their Ophicleides (sic) and Trombones.*

*"It was found that the proficient were liable to be enticed away and to commence as Teachers of Music.*

*".....They are now bound to remain seven years."*

Clearly, magnanimity needed to be measured and balanced, with some give and take!

NOTE: The Ophicleide was an older form of brass instrument, developed from the strangely shaped "Serpent"



Ophicleide

## NEDIAS Committee:

*Chairman* – David Wilmot; *Secretary* – Patricia Pick; *Treasurer* – Pamela Alton; *Membership Secretary/Assistant Treasurer* – Jean Heathcote; *Vice-chairman and Publications* – Cliff Lea; *Meetings and Visits Co-ordinator* – Brian Dick; *Archivist* – Pete Wilson; *Committee Members* – Roger Evans, Derek Grindell, David Hart, Les Mather, David Palmer and David Rance.

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