

THE PORTAL

Issue 81 - Summer 2022

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Friends of the Cromford Canal

Registered Charity No. 1164608

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Front Cover

One of our resident swans photographed in March this year at Cromford Wharf. (See photo page 26 of this swan's nest at Whatstandwell)

Photo: Peter Astles

Back Cover

The promotional leaflet for Birdswood's new Premium Trip. (See page 12)

Design by Keith Bailey

The copy date for the next issue is 19th August 2022

The aims and objectives of the Friends of the Cromford Canal



The restoration, reconstruction, preservation and maintenance of the Cromford Canal, its associated buildings, towing path, structures and craft and the conservation of its natural character as a navigable inland waterway system for the benefit of the public.

EDITORIAL

By Hugh Potter

As the world returns to pre-Covid normality, so does our canal. Nature has never really stopped being normal, but this year it is good to be able to see the canal's wildlife close up from *Birdswood* once again. The main attractions lie on the wildlife-safe offside of the canal, so are often missed from the towpath.



The cute little dabchicks have been creating entertainment as usual and have built several nests floating perilously on the canal (they don't seem to be great engineers!). And the water voles have been out in force. Great to see them back again after a break of several years when they were scarcely seen. I'm not so sure about the ever increasing flock of Canada Geese though . . . but the passengers find their fluffy yellow goslings cute!

The *Birdswood* boat schedule returned to 'normal' (well, Wednesdays, Saturdays and Sundays) although you will often see her out on other days operating one of the many charters that have been booked this year. Some are private charters for family celebrations or local groups, but an increasing number are coach parties from further afield spending a few days exploring the wonderful Derbyshire countryside and attractions. Many are choosing to have a day in Cromford visiting both the canal and Arkwright's Mills. And all are contributing to funds to help restore and maintain the canal.

This year the new 'Premium' trip (page 12) is proving very popular; the last one (as I write) was fully booked. And we are thankful that we are electrically powered. Although all fuel prices are increasing, we use so little

that we are scarcely affected, unlike Leawood Pump (page 30); they not only struggle to buy suitable coal anywhere, with the famous Welsh steam coal no longer available, but it is now costing them over £300 per day to steam. Hence the reduction in steaming days. And hence the need to be extra generous with your donations

when you visit; it would be very sad to see coal costs prevent them steaming at all.

And whilst the huge Beggarlee Extension project moves slowly towards the 'spades in the ground' stage at Langley Mill (well, big spades), the northern end of the canal has not been forgotten. Derbyshire County Council commissioned a Ground Penetrating Radar survey along the towpath from Cromford to Ambergate to determine where leaks were occurring, something that is very difficult to spot. You can often see where the water is emerging from the canal (you may have spotted it by Cromford Meadows) but the actual leak could be yards away with the water running under the towpath. The survey has enabled the voids to be located and, hopefully, a remedy to be financed.

FCC have much greater plans on the length south of the stunningly restored Aqueduct Cottage, with further surveys planned to determine options to raise the water level to that north of Derwent Aqueduct, and thus extend the possibility of further boat trips as well as improving the wildlife habitat.

So make sure you get out and about on the canal this summer, and do please send me in any photographs or stories that you would like to share. Unexpected contributions are always gratefully received. ■

CHAIRMAN'S NOTES

By David Martin

Well readers I hope you are enjoying the longer summer days. *Birdswood* is now back on the cut trawling up and down taking passengers through Brown's Bridge which is mostly behaving itself with a few teething troubles which I'm sure will be ironed out sooner or



later. Leawood Pump is working on a regular basis (see page 35 for in steam dates), and the works at Aqueduct Cottage are on the final home straight which hopefully means that the indoor visitor area should be up and running by the latter end of the year. There is actually so much wonderful scenery to see and things do on this section of the canal it's worth a visit at any time of the year, and this is why it was classified as a World Heritage Site, so if you fancy having a trip, a party, or a larger group trip why not book *Birdswood* at www.birdswood.org to make it an even more special occasion.

Strategic Planning

The Strategic Restoration Committee are actually currently looking into some improvements along this section of the canal and that will start with some geotechnical ground investigations which are now in hand. These will hopefully give us the information that we need to improve the passage for *Birdswood* and the quality of the water within the canal. Looking beyond Leawood Pump there are many other issues; these investigations will give us a more informed approach on how to resolve them. Datum levels along this section will also need to be taken again so that they can be compared to our previous historical data to help us analyse if there have been any

movements in the levels of the towpath and embankments. All of these works need to be done to ensure that the structural integrity of the embankments will remain, thus protecting the canal its environment and the wildlife habitats associated with it.

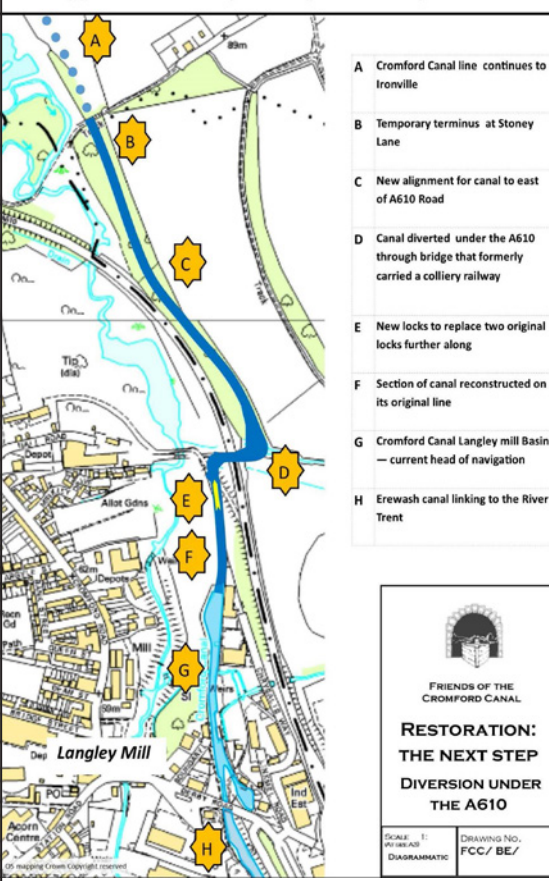
Funding

The last three months have seen a flurry of activity from our fundraising consultants who have been demanding all sorts of wide and varied information from the Trustees, especially our acting Executive Secretary Richard Handley, in order to satisfy their numerous funding bids and grant applications to all sorts of donors from all over the place. We are hoping that by the latter end of the year some of these applications will be bearing fruits for the charity, which is also why we are talking to the consultants about multiple smaller projects scattered all along the route of the canal and not just focused on the Beggarlee Extension.

Beggarlee Extension

As for the Beggarlee Extension we have now submitted to Amber Valley all responses to the many pre-commencement planning conditions and await their subsequent determination and approval. Also, at the same time the previous geotechnical surveys that were carried out as a part of that process have allowed us to redesign the flood mitigation zone adjacent to the River Erewash, removing the need to construct a gabion wall. Instead, they have allowed us to build into the design ►

The Beggarlee Extension planned for the Cromford Canal



A reminder of the proposed work on the Beggarlee Extension.

asked several local construction companies to give us an idea of the costs of the whole of the Beggarlee Extension works including the flood mitigation zone and we now have received three quotes for this section of the revised scheme which will be the first job that we undertake here. This is also the first time the Friends of the Cromford Canal have ever had true estimate for a scheme with current planning permission on this scale which of course in this current climate that figure of £6.5m is only set to increase; however we shall soldier on through these barriers that are always coming up against us.

Membership

We have also now made it easier than ever before for new and existing members to subscribe by direct debit and join our organisation through our website. Alternatively you can send an email to fccfees@cromfordcanal.org.uk. Should you wish to donate to the cause this can be done through our website www.cromfordcanal.org; legacy payments or bequests can also be made through our secretary@cromfordcanal.org.uk.

geotextiles which are basically mesh mat solutions for enhanced slope stabilisation and preventing ground movements or erosion. This new scheme has now been submitted to Derbyshire County Council who own this area of land so that we can obtain a licence to start the works.

Work Parties

Our work parties have recently fully geo-mapped the flood mitigation zone in order to survey the area for invasive plant species. In December last year we

Volunteers Always Welcome!

Of course, we are constantly on the lookout for volunteers; we have a wide and varied range of enjoyable activities that people can take on even if it is only for a few hours a month. These are mainly currently through the work parties, crewing aboard *Birdswood*, attending events with our sales team, working in our shop, press officer, treasurer, the list goes on! Contact volunteering@cromfordcanal.org. uk - we'd love you to get involved! **T**

MEMBERSHIP MATTERS

By Yvonne Shattower

Following the Annual General Meeting of the Friends we have had some changes in the Officers, the most notable of which is that John Baylis has stepped down as Executive Secretary and Acting Treasurer after many years in several 'hot seats'.

John was a founder Member of the FCC, and led us superbly through the period when Mike Kelley, the then Chairman, was working abroad and John was Vice-Chairman. John kept Mike up to date with all that was going on and relayed Mike's requirements back to us. John's knowledge and expertise was demonstrated in so many ways. His knowledge of canal restoration is unparalleled and his years with the Inland Waterways Association and Waterway Recovery Group meant that he always knew someone who could do a task or supply a piece of essential equipment at minimal cost (or even free!). Following Matthew Rogers' term as Chairman, John stepped in as 'Acting Chairman', a role he combined with Executive Secretary until David Martin took over as Chairman. For the last three years John has held the financial reins for us together with John Barker. John was always very good when it came to knowing what was what with bodies such as the Charity Commission, local councils and others of that ilk.

John steered us through some very good times, and some difficult ones, and we will hope that he will still be available to guide us in the

future – if John doesn't know the answer to a particular problem, no one will.

Thank you, John for all your service to FCC. Enjoy a long and tranquil retirement.

It's good to know that trips on *Birdswood* have started again, sadly we will no longer have the horse drawn trips but there is a slightly longer and more informative trip available which is proving very popular; these are in addition to our usual trips. The shop is also opening again at weekends so if you are in the Cromford area do call in and have a look at their new stock.

Thank you to all of the members who have 'migrated' their membership fees to Direct Debits; we are experiencing some 'teething problems' as we notice that some members are also joining through the website as well as through fcfees@cromfordcanal.org.uk which means that two Direct Debits are set up, so please do not make two applications as you will be charged twice. Also – a reminder that it is your responsibility to cancel any Standing Order you have to pay your membership fees, we cannot do this for you.

It is good to have some warmer weather and be able to enjoy the lighter evenings. I hope that those amongst you who are fortunate enough to be able to take their boat out on our lovely canal system will have a wonderful cruising summer with rain and water in the right place at the right time!

Important Announcement

For some years now we have had members whose Standing Order payments have fallen below the current membership fees despite requests to update their payments. We have been very generous in sending out Portal to these members, but it is now the case that some of the payments do not cover the cost of producing and mailing the magazine, and the Trustees have reluctantly decided that this will be the last edition of Portal which will be sent to these members. If you are one of the affected members, you will find a letter in with your magazine which will inform you of the steps you need to take to keep receiving this lovely magazine. Please note that members paying by Direct Debit are not affected. If you have any queries please contact me at membership@cromfordcanal.org.uk.

WORK PARTY REPORT

By John Guyler

Before the work party report I would like to write a few words about one of our volunteers who has sadly passed away. Peter Bignell worked with the FCC work parties for several years; he was a pleasure to be with and to work with. He took all tasks in his stride and was a very capable volunteer. He stopped coming to work parties at the first lockdown. He passed away last Autumn, but I have waited until now to post a tribute to him. On behalf of the FCC work parties and all who knew and worked with him, I send our condolences to his wife Tracey and all his family and friends.

Also a few words on very good supporter of the FCC work parties who has decided to move to pastures new: Les Warren, who worked for Waterside Care, part of The Keep Britain Tidy scheme.

He co-ordinated volunteers on the waterways around this region, kept records of volunteer group activities and volunteer hours worked, he also gave advice and made all groups aware of new legislation, volunteer schemes and new available funding. He organised training sessions for groups related to safe working on and near water, he also published a quarterly magazine to publicise what the volunteer groups were achieving. Waterside Care recently had a review of staffing levels and made some redundancies; Les took voluntary redundancy at the end of March. I would like to put on record my own thanks to him for his help and guidance over the past few years and I wish him well for the future – a great guy who will be missed for his enthusiasm and dedication to volunteers.

Beggarlee Extension

As part of the ongoing technical acceptance of the planning of the Beggarlee extension, a survey of invasive plants was required on

the Beggarlee flood plain. This was done and the positions of the plants were recorded, but it was found that a large amount of rubbish had built up as a result of high water levels recently. The work party group were asked to conduct a litter pick in the flood plain and a work party was organised. On the two visits the equivalent of ninety 90-litre bags were filled, along with a gas cylinder, two portable Calor gas cylinders, a fridge freezer (or rather the remains of one) and numerous bottles.

On the first visit we ran out of black bags to put the rubbish in, so John Barker and four others went back a couple of days later to clear the remaining rubbish. The problem then was to haul the whole lot up the steep bank of the A610, for collection. We have to thank the local councillor for arranging collection and the driver on what was not the safest piece of road to collect the rubbish. ►



Plenty of rubbish to clear from the Beggarlee Extension flood plain.



More rubbish removal at Beggarlee

Bullbridge

Another new working area was at Bullbridge. Many years ago, a bungalow was built on the canal line between the aqueduct and Stevenson's dye-works site. The bungalow has now been demolished and the site and the existing canal still in water were to be cleared of trees in the water, rubbish and vegetation on the towpath and a general clean-up of commercial rubbish. Over two visits, the work parties did an amazing job and it looks ready

for the canal line to be reopened and two new properties built off the canal line.

Stone Donation

At Langley Mill, we had a delivery of stone blocks, a gift from one of our supporting companies, in all about 15 tons. This was tipped with the permission of ECPDA on the car park near the lock. A volunteer from Waterway Recovery Group had been instructing our volunteers how to use the front loader machine and move the palletised stone into a compound, but a combination of bad weather and a lot of children in a Canal & River Trust education group in the same area caused the instruction to be abandoned. ►



Clearing the short length of canal in water at Bullbridge.



Moving the donated stone at Langley Mill.

Pinxton

At Pinxton Wharf, there were two work parties clearing and disposing of the piles of cut vegetation on the opposite bank to the pub. That area should now be good for two or three years. We also did a litter pick in the area, but there wasn't a lot to pick especially around the fishing lake, which looks to be tightly regulated by the bailiff. Looking at the bank near the bridge over to the angling section, there are a lot of new holes; hopefully there are water voles living there.



Fallen trees across the Pinxton Arm footpath at Ironville were cleared by FCC volunteers.

The Cromford End

At Lawn Bridge and High Peak Junction a lot of pulled reeds had to be cleared from the towpath. The reeds, which had been left to dry, were loaded into wheelbarrows or the DCC tractor and trailer and taken away for disposal. We estimate over 20 tons were moved. DCC always ask for the towpath to be cleared of the reeds before Easter. In early May, Malc Chisnell led a group to clear a fallen tree and some bushes from the channel near Lawn Bridge and it proved to be a bigger job

than anticipated. The previous week Chris Martin pulled a long length of water piping out of the channel, complete with propeller cuts – it had probably been there for a while.

Lower Hartshay

At Lower Hartshay, the work parties spent several days grubbing out the hedge bottom ready for some whips of hedging to be planted. That was done at the beginning of March. Also, a large tree which had blown down had to be cleared; it's funny how trees are much bigger when laying horizontally on the ground. I understand now that there is a second tree in the same area which has also come down and will need clearing. ►



Clearance of a fallen tree at Hartshay.



Planting hawthorn whips at Hartshay

Ironville Area

At the Lock Keeper's Garden, by Lock 4 at Ironville, a small group under the watchful eye of Carol and Shirley have strimmed and raked the patch ready for planting. It's worth a visit. We also litter-picked from Lock 5 up to Pinxton Arm Bridge (well, actually John Dyson did), picking one 450-litre bags of rubbish – that's around five normal bags. It's amazing how much effort people go to, to put litter in out of the way places, when it's much easier to bin it.

Fallen trees across the footpath of the Pinxton Arm were also cleared.

And There's More . . .

As if work parties weren't enough, four of our volunteers go every fortnight to Cromford to clean *Birdswood* inside and out. They started doing this near the end of last year's trips season and got such positive feedback they have carried on this year.

For the Future

Work still to do includes relaying the towpath at Ironville from Lock 3 to somewhere past Lock 2. Lime mortaring the outside walls of the Pinxton Arm Bridge, all on the CRT section. We may also be looking at the original bridge at

Waterloo Farm, Sawmills, which is in dire need of care and attention, and the Gauging Narrows wall on the towpath side may be another job. And the Himalayan Balsam season will soon be on us, if you fancy some 'balsam bashing' come and join us.

With the building of the Beggarlee Extension getting closer, FCC will require suitably certificated (to WRG standards) volunteers to work various pieces of machinery. The machinery will include: dumpers, diggers (large and small), vibrating rollers, tea urns etc. We are looking at funding the instruction courses to operate the machinery and the volunteers will then be certificated to work on projects. If enough volunteers are trained then FCC will be able to work in areas not under the control of a contractor. This is a good chance to train up on what could be a useful skill.

If you would like to get certification on any of machines as above, please let myself (john_guyler@yahoo.co.uk) or John Barker (work@cromfordcanal.org.uk) know. And please contact either of us if you would like to help more generally on the work parties. The volunteers are a very sociable bunch, they look out for each other and are great to work with. Hope you will join us! **T**

WILDLIFE AT LOWER HARTSHAY

Richard Wilde sends a monthly report of what is happening and any sightings of interest along the canal at Lower Hartshay.

Andrew is with the Lower Hartshay Bird Group and regularly walks the area including the FCC and the CRT stretches of the canal, ie from Bridle Lane to the A610.

After the disturbance of the area in the winters of 2018–2021 when clearing the trees and maintaining the sluice into the water meadow, it looks as if some of the wildlife is coming back.

Andrew reported that a family of stoats had been sighted for a couple of years living near the sluice, and this may have been the reason

water vole sightings were nil over that period.

In April, he reported that a water shrew had been sighted and there was another sighting on 8th May, which is good news.

In April, sightings of birds other than the usual ones visiting, were down on this time last year, from 103 to 83. Cetti's Warbler was present all month, and nine chiffchaff were sighted on the 17th April. A cormorant was seen on three different days, reed buntings on ten.

On the 9th April a water rail, was seen and has been heard on several days, and single bullfinch has been seen.

For a more detailed report visit www.lowerhartshaybirdgroup.com. **T**

BIRDWOOD'S NEW PREMIUM TRIP

By Keith Bailey

NEW FOR 2022

Birdswood Premium Boat Trip

Enjoy a 3 Hour Guided Tour of These Locations



Leawood Pump House



Wigwell Aqueduct



The Nightingale Arm



Aqueduct Cottage



Boatman's Cabin

Includes a complementary tea or coffee and a guided tour of our traditional boatman's cabin

**Available dates: June 12th, July 3rd,
August 7th, August 29th**

**Trips start at 14:00 from Cromford Wharf.
Adults £20, concessions £18, children £10.**

For more information & to book see www.birdswood.org



Birdswood.org

Note: This trip is not recommended for young children

Premium Trip promotion on Birdwood Facebook page and on our website booking page.

Design: Keith Bailey

Many readers will know that we are unable to run horse drawn trips this season, so some Boat Committee members and others were casting around for an alternative trip to offer to customers. Chris Stamford-Burrows, one of our masters, suggested that we might run guided tours.

I thought this was a good new format and decided to develop it to offer a longer trip, which we decided to make 3 hours and to offer free refreshments. I wanted to link up with Leawood Pump House and arranged our Premium trips to coincide with their

steaming days. I also wanted to exploit the unique historical built environment around the pump house and to highlight wildlife and the environment. The idea morphed into a four location guided tour that explains the reason the pump house exists, why it was built so large and also how it works. Visitors are then allowed free time to explore. The next stop is the Wigwell or Derwent Aqueduct built by William Jessop and the problems he encountered. The party then moved on to the Nightingale Arm and the convoluted history of legal battles ➤



Passengers trying to spot the Leawood pump intake from the Wigwell aqueduct. However, it's obscured by foliage at this time of year.

Photo: Hugh Potter.

The go ahead for trips on 18th April and 2nd May as “proof of concept” was agreed at the Boat Committee meeting on 15th March 2022. Development was needed on the website to offer the Premium Trip as a “product” that people could book and this was not completed until the end of March, only a relatively short time before the first trip. Once the bookings were open the trip was advertised on our Facebook page. Fortunately, bookings were made quite quickly and we took 21 on the 18th April and by that date we are fully booked for 2nd May.

with Arkwright and battles with the Derwent mill owners resulting in the severing of the arm at Lea Wood. The final talk is about Aqueduct Cottage, its purpose, occupation, dereliction and subsequent magnificent restoration. The group then reboard the boat under the Wharf Shed for the return trip when refreshments are served and guided tours of the boatman’s cabin are offered.

At the April Boat Committee meeting, following favourable comments on the first trip, and the capacity booking for the second trip, it was decided to offer further trips on Leawood steaming days in June, July and two dates in August. See www.birdswood.org for details. ■



Keith in full swing at the pump house.

Photo: Hugh Potter.



Passengers admiring the newly restored Aqueduct Cottage

Photo: Hugh Potter.

AN UPDATE ON AQUEDUCT COTTAGE

By Ian Hooker

Readers of *Portal* will be familiar with the story of Aqueduct Cottage at the junction of the Cromford Canal and the Leawood Arm and its restoration from a derelict ruin. Now things are really beginning to happen. Last month the staircase was installed by our helpful joiner, Phil Twigg, and all the inside walls have had the crumbling old mortar removed and replaced by fresh lime mortar. This work has all been done by our team of regular volunteers.

Upstairs, the walls will now be painted with a special, breathable, clay-based paint in bright white to enhance light levels in the upstairs room. We have decided to paint straight onto the stone walls to retain the texture and one wall will remain unpainted so the visitors can see the colour of the stone. Downstairs, the walls will be plastered before they too are painted white. We have been very fortunate to have two highly skilled craftsmen

offer their services free to do all the plastering. The first scratch coat, reinforced with horsehair, has been applied and is drying out nicely. Two more coats will follow.

Outside, the area in front of the cottage has been cleared and a base layer of sand and gravel spread ready to receive the flagstones that will form a path to the door. We have been fortunate to have help from Derbyshire County Council in the form of several day's use of their tractor and trailer, with driver, to help us to move several tons of sand, gravel and paving stones from the Wharf Shed to the cottage.

The path and the steps up into Lea Wood have been completed and now await only a final top-dressing of a more appropriate stone.

The walls to what was the washhouse have been built up and carefully mortared. Soon a roof and door will be fitted, and this will be our new toolshed, enabling us to clear ➤



The downstairs room looks bigger after its scratch coat of plaster.



Plastering the stairway.



The newly installed stairway to the upper floor.



The area at the front of the cottage awaiting flagstones.

All this has been achieved with grants and by generous contributions from our supporters. The opportunity to add your help is still there – just contact the Derbyshire Wildlife Trust and say you want a donation to go to their Aqueduct Cottage project or, if you can, come and join our band of practical volunteers. **T**



The garden and new path.

out the cottage for its use as a place to display information boards about flora and fauna in Lea Wood nature reserve and the cottage and canal.

By the end of this month the outside walls will have been repointed, the floorboards will have been laid in the upstairs room, and we will be ready to begin work in rebuilding the pantry – a sort of lean-to extension that existed on the south end of the cottage and was once used to house hens!

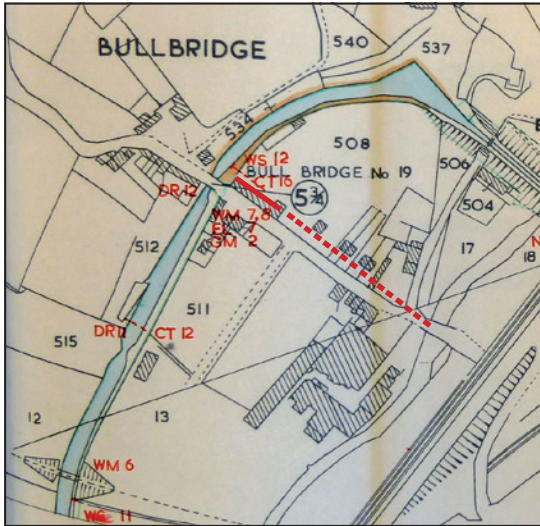
Much of this work has been done by a willing band of volunteers but we are extremely grateful for the advice and help that we have had from the professionals who worked on the cottage.



The new lean-to has taken shape.

WEIRS, PADDLES – AND DRAW SLUICES

Hugh Potter goes down the drain



The 1960 map showing the location of the draw sluice (WS12) and the line of the culvert. The solid red line indicates the exposed section, the dotted line, its route to the river Amber.

It's amazing how one thing can lead to another when researching the Cromford Canal. This story began with the discovery of a newly revealed culvert at Bullbridge which was discussed at length on Facebook.

This culvert lies just to the east of Bullbridge Hill, behind the Malthouse building which was once Stevenson's factory shop. This



The newly exposed culvert looking up to the canal bank. Inset: A glimpse into the section of culvert still beneath the canal.

runs along the right of road as you head up towards Crich.

The whole site of the former dyeworks is being redeveloped for housing by Peter James Homes, but the line of the canal is protected. Where the culvert meets the canal, the canal lies just outside the development and in private ownership, and most of the short stretch is in water.

Getting Rid of Water

All along canals there was provision for running off water or entirely draining the canal. This took various forms: weirs which automatically discharged water over a certain level; a paddle set into the canal bank which could be raised to discharge water; and a 'trap door' or 'draw sluice' in the form of a wooden board covering an outlet. In this last case, the 'draw sluice' was lifted by means of an attached chain which was wrapped around a windlass or manual winch to haul it open; as you might imagine this could take some effort. ►



*Simon Stoker and the lifted China House draw sluice.
Photo: Simon Stoker Collection*

We presumed that this newly discovered culvert was to take the canal water to the river from such a structure.

Research eventually led me to a large document in the FCC Archives produced by the forerunners of British Waterways in 1960 concerning “information relevant to the ‘redevelopment’ or ‘elimination’ of the waterway”. That sounds ominous, and of course it was. But it pinpointed culverts and the like on large-scale maps and identified the one in question as CT16 fed by draw sluice WS12, which operated by winching a timber door off an opening into a square stone culvert 8 chains long.

In ‘new money’ 8 chains is 160 yards which is the same as the distance from the canal down to the river measured on maps today, confirming that the culvert was to drain the canal into the River Amber.

Other Discoveries

Simon Stoker discovered a similar arrangement, called China House draw sluice, near the Railway Narrows between Cromford and Leewood. He recalls:

“We found it quite by accident when dredging (from the bank) with the big digger and it pulled up a chain. It quickly became obvious what it was likely to be and looking



To the right of this elegantly dressed lady is the only known image of an intact ‘windlass’ such as would have been used to wrap the chain around to winch up the trap door.



The rotting remains of the windlass that lifted the trap door in the canal bed roughly half-way between Whatstandwell and Ambergate . . .



. . . and the outlet from the culvert which led to a second culvert taking the water under the adjacent railway.

down on the river bank we found the outlet – reduced to about 6in, presumably by the railway construction. ►



When Simon Stoker's team investigated the culvert at Gregory Wide, they took this remarkable photograph showing its confined size but perfect stone construction. The rope was a safety rope.

Photo: Simon Stoker Collection

The big problem was opening it. In fact it took three men and a 3-ton winch attached to a convenient tree to give height. That having been done a huge bubble appeared (like a sinking submarine!) followed by a gurgling whirlpool.

“We found the canal bed had a gradient down to the trap from both sides – obvious really.

“The problem with these things is that there are no half-measures! The trap is either open or closed, so if it is opened one had better be aware of the consequences!”

Evidence of similar arrangements can be seen in photographs and on the ground at Gregory Wide and near the wireworks at Ambergate.



These three stills are from the film The Secret Trap Door Under The Canal showing the dramatic draining of a section of the Rochdale Canal. William Jessop was engineer to both waterways and features such as these and the locks bear many similarities.

Draw Sluice in Action!

To see how these trap doors worked, check out a video on YouTube titled *The Secret Trap Door Under The Canal*. Just to prove this is not too much of an ‘anorak’ topic, this video has had over 4 million views! **T**

OVERGROUND, UNDERGROUND

Hugh Potter investigates the disappearing pipeline



Where it once crossed the canal, the pipeline required a height restriction when it was part of Stevenson's Dyeworks site.



Once the site was cleared for housing, the pipeline was renovated and protective barriers erected.

Part of the original cast iron pipe leading up to the former canal crossing awaiting reconnection at the end of March



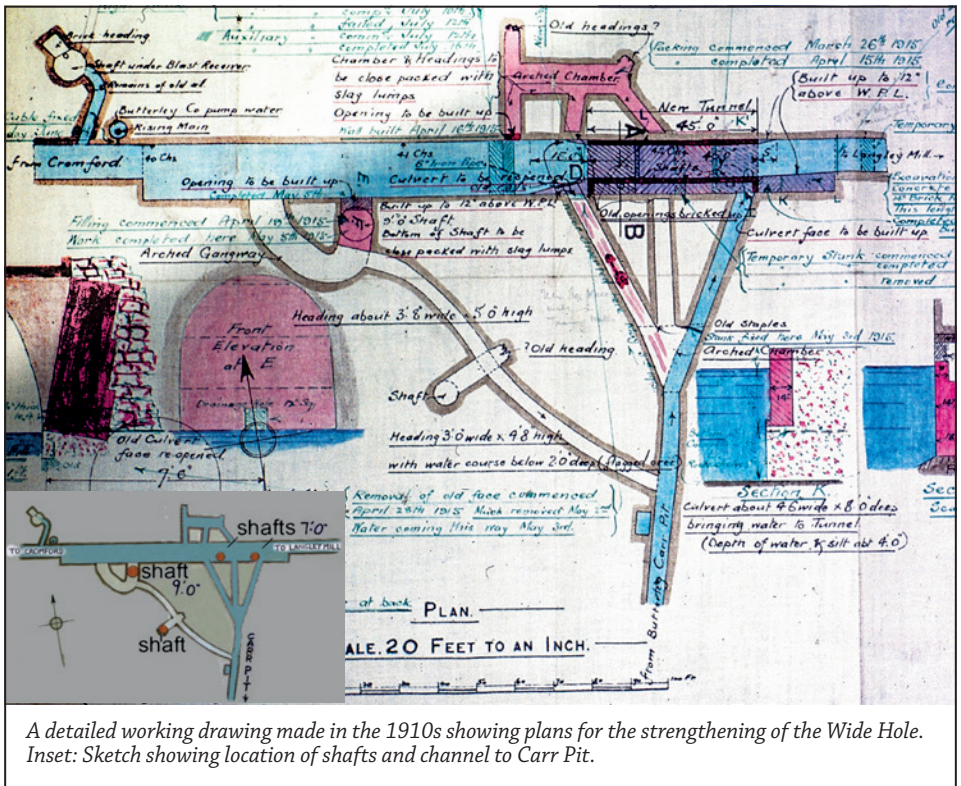
The Derwent Valley Aqueduct was constructed around 1910 to feed water from the Derwent Dams to the cities of Derby, Nottingham and Leicester. After passing the 'underground' storage reservoir at Ambergate the line split into two. One crossed the canal at the existing pipe bridge at Ambergate, just short of where the canal was eliminated for the gas works site. The second, until very recently, crossed the line of the canal in the former Stevenson's Dyeworks site, currently being redeveloped for housing (with the canal line protected).

Severn Trent Water decided that it would be better to re-route the pipeline to cross the canal route underground rather than over, and so negotiations took place with FCC to ensure that there will be adequate clearance beneath the canal when it is rebuilt. We are assured that this has been done.

When we visited at the end of March, work was well underway, with the water flowing around a temporary diversion whilst the old pipe 'bridge' was removed and replaced by an underground pipe in modern plastic. ■

BUTTERLEY WIDE HOLE

By Simon Waller



A detailed working drawing made in the 1910s showing plans for the strengthening of the Wide Hole. Inset: Sketch showing location of shafts and channel to Carr Pit.

One Sunday in January 1806 George Mushet, brother of David – manager of the fledgling Alfreton ironworks at Pye Bridge – took himself off for a Sunday stroll to check out the competition: Butterley Ironworks. Whether this was innocent curiosity or industrial espionage we will never know. The fact that he tipped his guide (presumably a Butterley employee) handsomely would point to the latter! His description of the works – “ruin desolation and confusion seeming to exist in a rude mass of architecture” – was in contrast to Alfreton ironworks which was well known for its efficiency.

The Butterley works stood on two main levels. On the lower level the blast furnace hearths opened into roofed casting beds, with subsidiary buildings sitting in a semi-circle around the base of the furnaces. The top plain, around 30ft higher, housed coke ovens and was a storage area for coal, iron ore and limestone, giving level access to the charging platforms on top of the three blast furnaces. At first glance this was the extent of the site, but several sets of headstocks with winding gear were evidence of another part of the works, hidden deep below Mushet's feet.▶

The Underground Wharf

The heart of the Butterley underground wharf – or wide hole – was the winching system used to raise minerals for the ironmaking process up from the canal or lowering the resulting pig iron ingots down to the waiting boats almost 100ft below. From the earliest days of the canal wharf, horses provided the power, using a counterbalance system to maximise their strength.

There were four vertical loading shafts – a pair, side by side, opening in the roof of the canal for loading and unloading directly from the moored boats, then a wider one, opening into a horseshoe-shaped chamber allowing the storage of goods on hard standing away from the base of the shaft. Sockets in the wall of this arched chamber suggest cranes would have been used to transfer goods to and from boats.

The fourth shaft was set away from the line of the canal, and provision for water to flow away under the adjacent walkway would suggest it was a counterpoise water bucket shaft – possibly for use in conjunction with the wider shaft.

The counterpoise system used a (very) long rope, which in the case of the paired shafts ran up one, from canal level, over a winding wheel at the top, several times around a large horizontal drum powered by horses, then back over another winding wheel down to the second shaft. On one end of the rope was the payload, contained in a cage or tram box. On the other end was a large water bucket which would be filled from a reservoir to match as closely as possible the weight of the payload. The bucket would have had a valve or tap to empty water to adjust the weight.

When a winched-up load reached the surface, a large wooden trap door was slid over the shaft, allowing a wheeled chassis to be pushed under the dangling payload. This was early container freight. The boxes, being of standardised dimensions, could be dropped into any wagon body on the Butterley site (or Butterley-owned sites elsewhere).

A network of plate rails allowed the wagons to be pulled around the works by horses, and as the rails rather than the wheels were flanged, the wagons could run off the end of the rail system and continue as road carts.

There were no steps down from the ironworks to the canal level (as far as we know) so Butterley workers assisting with transferring goods on the boats would have had to use the shafts. A purpose-built cage would have been the most civilised way to travel, but it's more likely they would have ended up standing on the tram boxes or water bucket. Getting about at canal level would be by boat as the only paved tunnel linked the loading wharf to the Carr Wood colliery culvert. This culvert came from Butterley's Carr colliery near Ripley.

Coal for the ironworks' use would be bought in tub boats along this flooded tunnel to the foot of the loading shafts, propelled by workmen lying on their backs and walking on the arched roof. The width of this tunnel was around 4ft 6in so conventional legging wasn't an option. The transport of coal in this way was discontinued after a relatively short period, one theory for this being fluctuating water levels leading to boats grounding (or the workmen not being able to reach the roof with their feet perhaps!).

Photographs from explorations of the culvert show a huge build-up of rust-coloured sediment, which suggests rich ironstone deposits in the old workings as well as coal. The culvert split into three tunnels on entering the main canal (I would guess to provide mooring for tub boats awaiting unloading) and after the Midland Railway took ownership of the canal this section of the Wide Hole and the twin loading shafts had to be extensively reinforced.

During the building of the wide hole and associated tunnels it was found that Butterley ironworks stood on thick seams of coal, and although some collieries in the wider area were occasionally allowed to undermine the rest of the tunnel (with concessions of cheap coal for Butterley) as far as I know there was never any mining directly under the Ironworks.▶



Simon Waller's 00-scale cut-away model showing the Butterley site and the shafts leading down to the Wide Hole below. On the left is the horse gin with the tram box at the top of the left-hand shaft and the counterbalance water bucket at the bottom of the right shaft.

There are several unfinished structures in the underground wharf – a partially excavated shaft, and several abandoned workings which suggest the layout was still being developed right up to closure. In later years steam winding engines replaced the horse gins, but with the building of Butterley's Codnor Park site in 1810 with access to the canal at ground level, the subterranean wharf, having severe limitations on the size of castings which could be loaded onto boats, became impractical.

Model Making

This article came about as a result of research for building a model of the wharf and ironworks. Certain questions came up as to the everyday running of the site which I couldn't find answers to. For instance, How, when you are legging a boat through a 9ft wide canal tunnel do you continue when it opens out into a 15ft wide by 180ft long underground wharf? Is it possible to punt the

narrowboat along using bargepoles – or are the square sockets at regular intervals along the walls evidence that railing or ropes were installed to allow the boat to be pulled along?

Does the fact that the wharf was wide enough to accommodate two boats side by side explain the recorded instances of leggers taking narrowboats into the tunnel at times allocated for boats coming in the other direction. Did they know the tunnel well enough to take a gamble on reaching the wide hole in time for both boats to pass?

Take a Look Inside!

There have been various explorations of the Butterley tunnel over the years, producing some spectacular photographs. Check out the Butterley Tunnel page of the FCC website (and in particular the link at the end to Tina Cordon's visit in 2006) - or for a fly through the ironworks visit YouTube and search for 'Butterley Ironworks Wide Hole'. ■

BUTTERLEY TUNNEL FATALITIES

Newspaper reports remind us how dangerous commercial canal boating was



The well-known posed image of leggers emerging from Butterley Tunnel's west end, which is used in the FCC's logo. The photograph dates from 1907, and it is not known if the beams overhead were present in 1862 and so could have been the ones that caused the second fatality.

The *Derbyshire Courier* of 15th May 1852 reported:

“On Thursday last a lad of the name of Key, of Heage, who was employed on the canal, and as the boat he was in was about emerging from the tunnel on the Cromford Canal at the Codnor Park end, he proceeded to tie the rope on the towing post. Whilst doing so his head was jammed between the post and one of the cross pieces that support the roof of the tunnel, and so badly crushed that he died shortly after. An inquest was held on Saturday last at the house of Mr Fletcher, the Old Dog Inn, Pentrich, before Mr Whiston, coroner, and a respectable jury, when a verdict of Accidental Death was returned.”

The ‘lad’ was German Key, 15-year-old son of Joseph Key and brother to George. The Key family was long associated with the canal right up until the end of traffic in the 1930s.

A Second Fatality

A decade later, the *Derby Mercury* of 11th June 1862 reported another fatality:

“On Tuesday morning the 3rd inst. between 12 and 1 o'clock, a boat belonging to the Grand Junction Canal Company, called the *Sydenham* was passing through the Butterley Tunnel (the boat was nearly through with the exception of the cabin) when two of the men belonging to it, named Thomas Phipps and Robert Brighton who had been (what they call) ‘legging’ the boat through, and were at the top of the cabin, were struck on the head by a beam, which projects across the entrance of the tunnel. The man Phipps escaped with a cut to the head, but Brighton was severely crushed, and his head frightfully cut.

“The boat was bound for Lea, for lead from the smelting mills of Messrs Wass & Son, and on its arrival the Captain of the boat, William Harris, immediately applied to Mr Smedley, of Lea Mills, who kindly sent a conveyance with a bed, and had the man taken to his hospital, when two medical gentlemen were immediately in attendance, and every attempt made to revive the unfortunate man; but the injuries he had received were so severe that he expired in about 2 hours after his removal to the hospital. An inquest was held on the body, and a verdict in accordance with the facts returned.”

It is interesting that the captain continued on the boat to Lea before any medical assistance was offered to poor Robert Brighton.

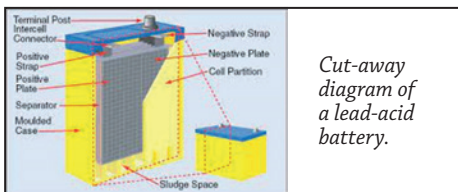
It is also worthy of note that the two men were apparently legging from the cabin roof, rather than from the bows of the boat as is the norm and as is illustrated in the well-known photograph of leggers emerging from the tunnel. ■

POWERING BIRDWOOD

Kerry Green explains the technicalities behind Birdwood's almost silent motion

Lead Acid batteries are a bit like old cars; if you use them on a regular basis they go on working for years, but if you leave them standing then they become unreliable and prone to breakdowns.

So a little bit about the *Birdwood* batteries. The best value for money, assuming weight and size is not an issue, is the Lead Acid Wet Cell. It is available in 2V cells, because that's the natural voltage produced by the metal lead. Other materials produce different voltages, which is why your AA or AAA torch batteries are 1.5V; different chemicals you see.



Cut-away diagram of a lead-acid battery.

An application such as *Birdwood* needs a certain voltage, which in our case is 48V, so we put 24 of these cells in series connection to get our 48V nominal. We work on nominal as a reference but in actual use we go from about 54V fully charged down to about 45V fully discharged.



Birdwood's 24 805AH cells disconnected awaiting loading for reconditioning.

Next we need enough energy in the battery to do what we want, in the case of *Birdwood* we like to have enough energy for at least four trips. We measure the energy stored in a battery in Ampere Hours (Amp hours or Ah). *Birdwood's* batteries are 805Ah @ 5 hour rate. Total power therefore is $48 \times 805 = 38.64$ kW hours (believe me!).

To put this into perspective, boiling a kettle for a cup of tea uses 2.2kW for 1.5 minutes, so *Birdwood's* batteries provide enough energy for making 702 cups of tea.

However it's not permitted to use 100% of a battery's energy as it would be permanently damaged; in fact 80% use of energy is the maximum so we have 644Ah or 562 cups of tea. One other peculiarity of batteries and their energy is related to the 5 hour rate. Again this is used as an industry reference, if you take the energy out more slowly then you magically get more Amp hours to use, if you take it faster than over 5 hours then you get less Amp hours. They really are wonderful pieces of electro chemical engineering and we have a special component on board that measures this for us and tells us when we are full and empty, besides logging every charge and discharge of the battery.

So these magical cells contains plates resembling tiny square tennis rackets made either of lead antimony or lead calcium. A paste of what's referred to as 'active material' is then bonded to the plates; sponge lead for the negative plates, and lead dioxide for the positive. The plates are kept apart by insulated separators and submerged in a sulphuric acid solution. When charged the plates absorb the electrical charge and then when we go on a trip the electrons are discharged through the electric motor to turn the propeller.▶

The likes and dislikes of a lead acid battery

- Likes to be fully charged and fully discharged to 80%;
- Does not like to be half charged or half discharged;
- Likes to have acid over the top of the plates in the cells;
- Does not like to dry out and have the lead plates exposed;
- Likes to be charged at 1/7 of capacity;
- Does not like to be trickle charged.

To meet these requirements *Birdswood* has a battery monitoring system and we see the charge status on a gauge. *Birdswood* will also automatically go into a reduced-power mode if the batteries get to 80% or less. The batteries have a semi-automatic filling system which allows volunteer Nigel to put deionized water back into all the cells at just the right level.

Batteries breathe out hydrogen when charged and generally sweat water when they are used and warm up. There are vents in the roof of *Birdswood* where this exhaling is piped out. We would like to charge the batteries at $805/7 = 115$ Amps but we do not have this much power at the mooring point so we can only manage 50 Amps, else we would blow the fuses in the Wharf Café – then there would be no cups of tea!



"Tommo" from WB Powersource carrying a cell which weighs 45kg!

Pandemic Problems

All in all this has worked well for *Birdswood* since the batteries went into service in 2013. Then the pandemic happened and the batteries, the boat and the volunteers all went into lockdown. The batteries were left for about a year without being used although they were put on charge a few times. When we came to use *Birdswood* again we found the capacity had fallen from our 600+ Amp hours to about 150Ah, so the batteries were not well. What had happened?

Well batteries can have a few ailments; one is sulphation on the plates – think of this as similar to the limescale build up you see in your kettle. On a battery it insulates the surface area of the plates so they can't pass or receive electrons any more.

Another ailment is stratification of the acid, so instead of it being nicely mixed up, it becomes dense at the bottom and thin at the top, just like orange squash left still too long. Finally you can get sludge build up at the bottom of the cells caused by the plate materials falling out and settling, similar to silt in a canal. Regular use prevents this from happening.

Suspecting that the batteries had one or all of the ailments we contacted Anne Morris at WB Powersource in Birmingham. For a very reasonable price (as we are a charity and everyone likes to be charitable) they came out to *Birdswood*, removed each battery, cell by cell, and took them away to their battery hospital. Here the individual cells are put on a very high power charger which effectively blows off all the sulphates and gives the acid a stir due to the release of hydrogen gas. They run this test a number of times with different voltage and current settings and measure the capacity of the cell and ensure the cells are back to full strength. They did find a defective cell which they replaced as part of the service. A battery is only as good as the weakest cell, just like a chain is as strong as the weakest link. After this they returned and rewired all the cells and we now have a good battery for the 2022 season.

Thanks to Keith who supervised the collection and return of the cells in mid-winter, and to Nigel who regularly waters the batteries throughout the season. ■

UP AND DOWN THE CANAL IN SPRING

A selection of images taken on the canal in the last few months



Mike Kelly puts the final touches to the new water level gauge which was installed alongside the earlier less readable gauge.



Our resident swans Bert and Grace have chosen their usual spot just south of Whatstandwell and when Sheila Price photographed the nest, there were five eggs. Let's hope they hatch successfully.



Not a sight you see often (possibly because it is not generally permitted), these canoeists brightened up the scene as they left Gregory Tunnel.



The parapet above Buckland Hollow Tunnel was once again damaged by traffic, causing the temporary closure of the towpath beneath, happily now reopened.



Bluebells were prolific on the stretch of watered canal between the A610 and the western portal of Butterley Tunnel.



Possibly due to lack of rain in April, the water level in the length to the west of Butterley Tunnel was unusually low.



The parapet of the original Brickyard Bridge at Sawmills (adjacent to the 4-arch bridge by Lockwood's entrance) is in dire need of TLC which it is hoped the lime-mortar-trained work party will be able to gain permission to do.



Water voles have been spotted more often than usual this year, and David Taylor was lucky enough to be able to photograph one lurking in the undergrowth. Keep your eyes open between Cromford Wharf and High Peak Junction.

OUTRAM'S IRONWORKS - WHY AT BUTTERLEY ?

Tim Castledine was challenged to answer the question



Sanderson's map of 1835 shows the area around Butterley Hall, the ironworks and the canal tunnel.

Recently, someone asked Hugh Potter if he knew why Benjamin Outram built his first furnace at Butterley and why he selected a location above the canal tunnel which required an expensive underground wharf to handle his raw materials. Whilst this seems a simple question, it is perhaps not an easy one to answer. Hugh's reply was that whilst he did not know, he knew "a man who might", hence the appearance of the question on my desk as a Butterley Ironworks Trust member.

Outram knew of the rapidly increasing demand for pig iron, to be used either for bar (wrought) iron or as cast iron for items such as plate rails and pipes. As such, he began to plan and build his first furnace in 1788/9, producing iron by 1791 following the formation of Outram & Co in 1790. This was approximately three years before the canal was fully opened.

The furnace was built on land previously owned since the 1660s by the Horne family. The last Horne to live at Butterley Hall was Charles Horne who died in 1784. The estate eventually passed on to a nephew, Edward Warren who changed his name to Horne. It is suspected that this was perhaps for legal and financial gain by quickly putting the Hall up for sale, eventually to be bought by Outram's business partner Francis Beresford in 1790 on behalf of the Company. Possibly by the time that Outram had started to build his furnace in 1788/9, negotiations to buy the Hall were far enough developed as to allow furnace construction to begin.

The land attached to the Hall was relatively small (200 acres). To the east, around Golden Valley was the larger Butterley Park owned by the Wright family (John Wright eventually ►

becoming a partner). Further to the east was the much larger Codnor Park. To the west along the proposed line of the canal towards Ambergate, the land belonged to Francis Hurt who was involved in smelting at Morley Park. It is fair to suggest that Outram preferred to set up his operation on home turf, ie on Butterley Hall land, with its lucrative mineral wealth beneath it. Using the canal tunnel to bring materials to a position directly beneath his furnace would avoid long and arduous transportation by horse drawn tramways.

Early furnaces were often built into a hillside to facilitate easy charging of the materials. The best place for his furnace was on his own land due to its ideal topography rather than locate it on other sections of the canal. The land slopes downwards from the Hall until it reaches a large flat area on which the Cromford View housing estate has now been built. In earlier times it was known as the Top Plain, being used in the late 19th and 20th centuries for storage of raw materials, test erections of large structures and a complex network of railway sidings. It is possible that the area was developed by Outram as a flat area to store coal and coke and to calcine vast quantities of iron ore believed to have been brought by horse-drawn tramways from Golden Valley, where early maps show many small mines (the caravan park currently covers part of this area).

The first furnace was built on what is now known as the Works Yard. It was located slightly off the line of the tunnel and was about 40ft below the level of what was to become the Top Plain, the top of the furnace being at a convenient height for charging the raw materials into it.

With the intention of bringing in his raw materials by boat, he would have realised that movement of 7ft wide boats through a 9ft wide tunnel would have required strict compliance to a one-way system. To avoid his boats blocking the flow of canal traffic, they would have to moor up against a wharf set into a widened section of the tunnel.

One major problem stood in his way, namely that the creation of a double width section was not in the canal plan and the committee would certainly block its construction on the basis of extra costs. To overcome this, he had to convince the canal committee of its benefits both to himself and the canal and agree to finance the Wide Hole's construction, which he eventually did.

From a practical viewpoint, creating a double width section and digging two access shafts plus two more nearby to act as counterpoise shafts would have presented relatively few problems as the construction of the tunnel was based upon the principle of digging 33 shafts between the west and east portals, digging tunnels between them.

Since the main furnace raw materials such as limestone from nearby Crich and fluorspar from the Peak district were eventually to be transported by the canal, it is fortunate that the Wide Hole and furnace were only a relatively short distance (approximately 40 chains - 880 yards) from the West Portal, thereby minimising the distance and time the heavy loaded boats would have to be legged into the tunnel.

During the 1790s, coal was mined from Carr Pit, lying a few hundred yards south of the Wide Hole. Outram had the idea to move the coal directly from the pit bottom to the Wide Hole via a connecting tunnel and ship it east via the East Portal for potential customers further down the canal. Carr pit closed in 1813. The Wide Hole wharf provided an ideal solution to loading the coal into a moored boat before sending it down the tunnel.

Given some degree of speculation, it is considered reasonable to conclude that Outram did select the best available site for his ironworks. It must also be remembered that on this site, over the next 209 years, the Company was able to develop into an internationally famous engineering organisation. ■

LEAWOOD JOTTINGS

By Ian Yates

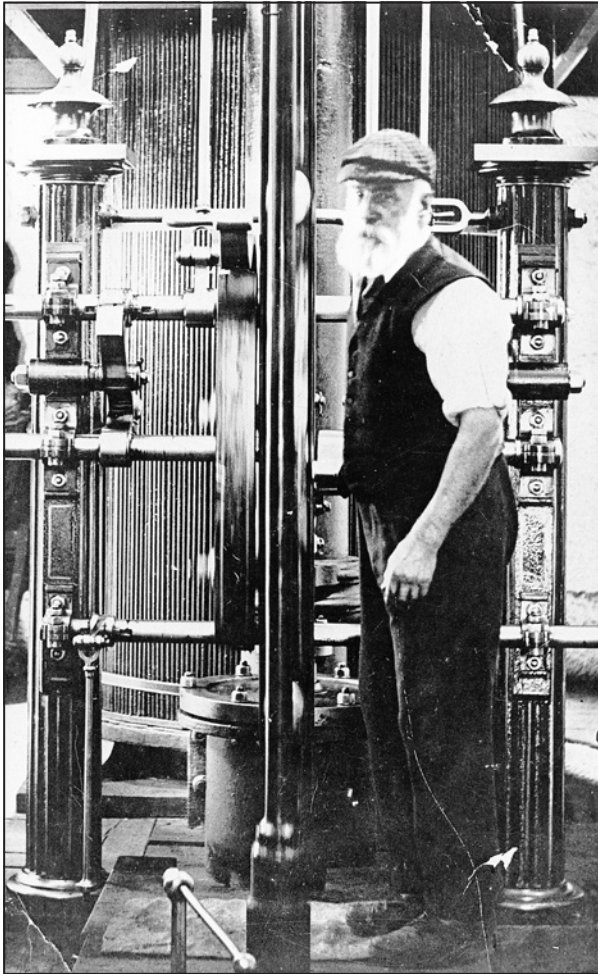
It is with sadness that we start this latest news from Leawood Pumphouse. A very respected and knowledgeable volunteer, Dave Caroline, has passed away after a short illness. He was a regular at the pumphouse for around 25 years, always there and if there were any jobs a bit out of the ordinary that needed doing, he always came up with an answer or a way to carry out the task.

Affectionately known on site as 'The Hairy One' for obvious reasons, he was usually found driving the engine on steaming days. He had a varied career ranging from welding aluminium truck bodies to designing copying machines and later fitting double glazing but whatever he did was done well. When we required new blocks for the air pump, an initial cost of around £1000 was quoted but with his ingenuity in making up a jig and modifying router cutters to suit the required radii, we ended up paying £60 including the Western Red Cedar.

He was not one for having his photograph taken but Hugh Potter once persuaded him to recreate the photograph of the old engine driver taken in the engine's early days, both of which are reproduced here. His house is absolutely jam packed with books, magazines, television equipment etc; there is even a BBC outside



broadcast vehicle in the garden! If anyone knows an outlet, please get in touch and we will pass on the details to his brother and sister who have the unenviable job of sorting it out. He will be sadly missed by all who knew him.▶



Work at the Pumphouse

Work at the engine house has proceeded slowly. We have fitted the new insulation to the boilers and are now in the process of modifying and reinstating the crinoline that holds the cladding sheets in place (crinoline supports the metal outer casing clear of the insulation).

These have not been used for a long time but to assist in refitting the sheets after an inspection we are replacing the missing bits and putting studs in place to hang the sheets on. The crinoline parts that needed

bending have been taken to Clay Mills Victorian Pumping Station and bent using the forge on site there.

We have had to find another source for coal after the Welsh Steam Coal became unavailable earlier in the year. We are not sure of its place of origin, probably Columbia; it burns well but unfortunately it produces more smoke. But it's our only option, as the manufactured products using environmentally sourced ingredients are still in the development stage with varied success on preserved railways but at a price we cannot really cover at the moment.

The other issue with the boilers is the firebars. We really only have one complete set, and new cast ones are expensive. We have trialled steel bars at Clay Mills on the large boilers and they have been a success up to now. We hope to do the same at Leawood and hope they will last a lot longer.

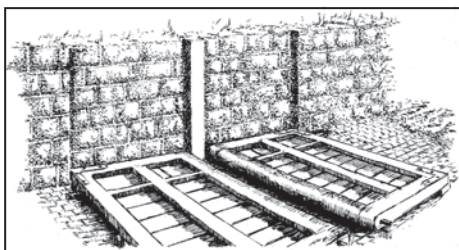
The first two steamings were a reasonable success with donations nearly covering costs many people being very generous and accepting the issues we have regarding the coal supply and its

cost. We are opening on several Thursdays with learning events in the Valley with the engine static and no steam on site, but the first ones have not been a success with few visitors; hopefully this will improve. These days do help to cover the costs with no fuel being used but giving the opportunity to see the engine house open. The new sign to go on Cromford Wharf should be ready shortly so visitors to the Cromford Mill and Wharf will also be reminded of our existence further down the valley. It will inform them whether the engine is in steam or just open for viewing. ■

LETTERS TO THE EDITOR

Brindley Gate

In the last *Portal* John Boucher speculated on the possibility of a Brindley gate lurking in the mud underneath Brown's Bridge as suggested by shallow recesses in the stonework detected by the 3D laser scans. He also mentions not previously having seen a Brindley gate in connection with a swing bridge. I can confirm to him that at least one exists as I discovered one underneath Hill End Swing Bridge, Salwarpe, on the Droitwich 'Barge' Canal.



A pair of Brindley gates drawn by Edward Paget-Tomlinson. Here, one the gates is designed to automatically close if there is a breach and prevent water draining from the opposite side. Evidence of such gates occurs at several bridge holes on the Cromford Canal including Lawn Bridge near Cromford where the recess in the stonework on the offside can be clearly seen from the towpath.

At the time – early 1977 – we (Droitwich Canals Trust) were dredging the summit level of the canal working from Salwarpe towards Ladywood. This section of the canal was drained and we were operating a Priestman skimmer excavator in the bed of the canal loading spoil into tipper waggons on our two foot gauge railway for transport to the tip. The bridge at Hill End had been fixed for many years and was beginning to fall apart so the Colonel whose house it lead to allowed me to take it down so that I could drive the machine through, on a promise that we would rebuild it in the near future.

Lying in a brick-lined recess beneath was a substantial wooden structure the full width of the opening and some 3ft to 3ft 6in wide but apparently free to stand on (either) edge if required. As the bridge at Hill End is near to the start of a long section following the contour along the side of a hill we guessed the purpose of this interesting artefact but it was many years before I could put a name to it. The mystery is that as the Barge Canal's summit was supposed to have been built 5ft deep and later deepened to 6ft was not the gate somewhat lacking?

Sadly I do not recall photographing the gate and neither do I recall what happened to it. I do remember that my old friends in WRG North West did most of the work rebuilding the bridge using recycled materials.

Dave Turner

Stella's Origins



Stella and the Hoover Dam.

Whilst looking through some old photographs I came across this photograph of 'Stella' the stegosaurus which I had built a couple of years earlier (by now in her second paint scheme). The pools were made by damming the spring which runs down the hillside; the dam was inscribed Hoover Dam 2. The wharf by the canal



The garden centre when first opened as seen from the canal

had been recently finished by my friend Doug Sanders. As signs for the garden centre were not allowed on the A6, the owners hoped one day to get more customers by allowing passing boats (how far sighted!) to drop passengers off to use the café and buy plants, then catch the boat on its return journey.



The ram pump that was driven by the water reservoir featured in the last Portal.

Incidentally, I also found a photograph I had taken of the ram pump mentioned in the last issue, although I do not recall its location.

Simon Waller

Boundary posts

A mystery misnamed milepost was recently discussed on the FCC Facebook group (always a good place to post queries). A photograph in the Railway & Historical Society's new Image Archive (rchsimagearchive.org.uk) purported to show a milepost one mile from Cromford but it was decided in the end that this was the rear of a Midland Railway boundary post, such as were frequently used to mark the property boundary when the canal was owned by the railway.

By coincidence, another previously unknown MR boundary post was discovered by the FCC work party at Pinxton.

John W. Chambers



The image originally thought to be a milepost which turned out to be the reverse of a boundary post.



The Midland Railway boundary post found at Pinxton

THE POWER OF ADVERTISING

Hugh Potter wonders just who Deacon, Harrison, Shenton & Co were

An advert in the *Leicester Journal* of Friday 12th August 1814 featured Deacon, Harrison, Shenton & Co's Fly Boats which apparently offered a service between Leicester and the Cromford Canal. The boats were said to "Convey goods every Tuesday, Thursday and Saturday nights, from . . . Alfreton, Belper, Cromford, Mansfield, Chesterfield, Sheffield . . .", amongst other locations across England.

Little is known about this company, although what may have been constituent companies did run boats on our canal.

Nathaniel and German Wheatcroft's Fly Boats, from their wharf, Crescent, Birmingham, load three days a week for Derby, and works forward to Buckland Hollow, and Cromford, which meet their waggon's daily for Sheffield and all parts of the North. This line of conveyance shortens the distance in the land carriage thro' Chesterfield to Sheffield, and is the only direct conveyance by the same proprietors throughout to Sheffield, and from thence by Deacon, Harrison, and Co. to Barnsley, Wakefield, Leeds, &c. Goods for Stamford, Peterboro', Kettering, Harborough, and Milton, are forwarded by their Leicester boats; also for Shardlow, Mansfield, Nottingham, Newark, Lincoln, Boston, Grantham, Hull, &c. by their Nottingham Boats.

The Trent Gauging Tables reveal three boats owned by Deacon Harrison & Co: two gauged in 1815, one in 1829. The earlier two were recorded on the Cromford Canal in 1816 operating a regular trade between Codnor Park and 'Grand Union', a destination which is frustratingly vague, but presumably somewhere on what we today call the Leicester Section of the Grand Union (Today's Grand Union mainline was then known as the Grand Junction Canal).

There is also a Joshua Shenton of Leicester gauging boats in 1813 and 1826, and a Francis Shenton (or F Shenton & Co) of Mountsorrel has three boats pre 1912. I presume these two companies got together to offer the advertised service. Indeed, the Leicester office address is given as J. Shenton's Warehouse on Navigation Street.

Wheatcrofts in Birmingham

But even more interesting information came to light in an advert from an 1818 Birmingham directory. It refers to our very own carrying company, Wheatcrofts, who were based at Buckland Hollow and, later, Cromford.

The advert says:

"Nathaniel and German Wheatcroft's Fly Boats, from their wharf, Crescent, Birmingham, load three days a week for Derby,

DEACON, HARRISON, SHENTON & Co's, FLY BOATS,

CONVEY Goods every Tuesday, Thursday, and Saturday nights, from the undermentioned places. They beg leave to solicit the patronage and support of the public, assuring them that all goods entrusted to their care, will be forwarded with the utmost regularity and dispatch:—

London	Cromford
Northampton	Mansfield
Harborough	Chesterfield
Kettering	Sheffield
Leicester	Rotherham
Loughborough	Barnsley
Nottingham	Wakefield
Derby	Leeds
Alfreton	York, &c.
Belper	

—Rates of carriage, &c. may be had at their Warehouses in Leeds, Wakefield, and Sheffield; at the Commercial Inn, London-Wall, London; No. 6, Wharf Paddington; and at J. SHENTON'S Warehouse, Navigation-street, Leicester.

and works forward to Buckland Hollow, and Cromford, which meet their wagons daily for Sheffield and all parts of the North. This line of conveyance shortens the distance in the land carriage through Chesterfield to Sheffield, and is the only direct conveyance by the same proprietors throughout to Sheffield, and from thence by Deacon Harrison & Co to Barnsley, Wakefield, Leeds &c. Goods for Stamford, Peterborough, Kettering, Harborough, and Milton, are forwarded by their Leicester boats; also for Shardlow, Mansfield, Nottingham, Newark, Lincoln, Boston, Grantham, Hull, &c by their Nottingham boats."

We tend to think of today's adverts as superfluous, but who knows what they might tell historians in 200 years? **T**

DATES FOR YOUR DIARY

FCC Monthly Meetings

Speaker meetings are held on the 3rd Monday of the month (not July or August) at 7.30pm at Ironville Church Hall, Casson Street, Ironville NG16 5NN. Admission is £2.50. There is parking at the rear. A bar, tea/coffee, raffle and sales table for FCC products and other related items are available.

Monday 20th June

Coal in the Blood 36 Years On
by David Amos

Monday 19th September

Tracks Tramways & Towpaths
by David Amos

Birdswood Cruises

FCC's historic electrically powered passenger narrow boat Birdswood offers 2-hour cruises departing from Cromford Wharf at 11am and 2pm on Wednesdays, Saturdays and Sundays.

A new extended and fully guided 'Premium Trip' is now offered on certain days when Leawood is in steam – 12th June, 3rd July, 7th & 29th August; for more details see page 12. For full details and to book seats on any trip, or to enquire about charters, visit www.birdswood.org.

Leawood Steaming Dates

Below we list the days on which Leawood Pump will be in steam in the next few months. On dates labelled 'static' the pumphouse will be open but not actually pumping.

On static dates the pump house will be open 11am to 4pm. On operational dates it will be open 12 noon to 4.30pm.

June

Thursday June 2nd *Static*
Saturday 11th June *Static*
Sunday 12th June

July

Saturday 2nd *Static*
Sunday 3rd

June

Thursday June 2nd *Static*
Saturday 11th June *Static*
Sunday 12th June

August

Thursday 4th *Static*, Saturday 6th *Static*
Sunday 7th, Thursday 18th *Static*
Thursday 25th *Static*, Sunday 28th, Monday 29th

September

Saturday 17th *Static*
Sunday 18th

Jubilee Thursday Events at High Peak Junction

Thursday 2nd June

Railway Workshops Open Day

Entry to the historic railway workshops and the use of the fascinating Audio Tour is free. Have-a-go at being a blacksmith on the historic forge and make a poker to take home and keep. Cost: £10 per poker. Booking essential: contact 01629 533298.

Enjoy the amazing surroundings and landscape and either paint a special Jubilee paper plate or make a commemorative clay coaster. Drop in anytime 10am–4pm at High Peak Junction Visitor Centre. Free



BIRDSWOOD



NEW PREMIUM TRIP

**Three hour trip starts at 2pm on:
June 12th, July 3rd, August 7th, August 29th**

**Guided trip. See Leawood pump in steam.
Visit the Wigwell Aqueduct, The Nightingale
Arm & the newly restored Aqueduct Cottage.**

**For more information, booking
and prices, point your smart
phone camera at this QR code or
visit www.birdswood.org**



www.cromfordcanal.org