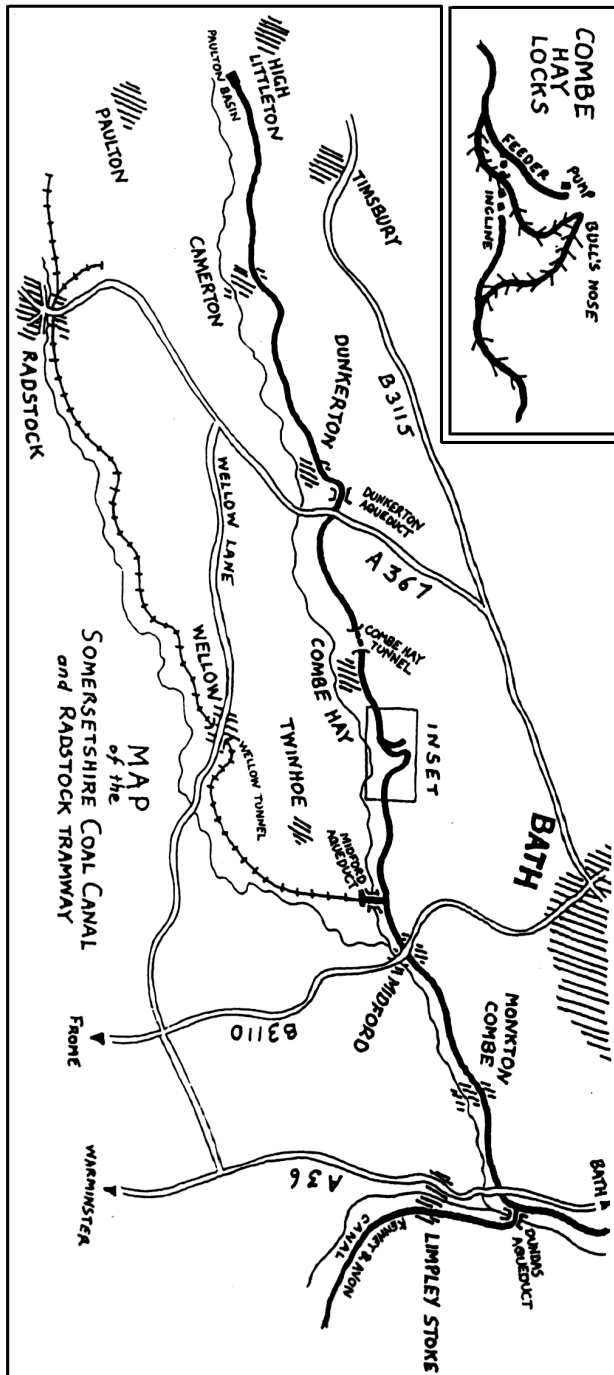


WEIGH-HOUSE

THE MAGAZINE OF THE
SOMERSETSHIRE COAL CANAL SOCIETY



Website: <http://www.coalcanal.org>



Nº 67

FEBRUARY 2014

EXECUTIVE COMMITTEE

CHAIRMAN – PATRICK MOSS

☎ 07736 859882 *E-mail:* chairman@coalcanal.org.uk

VICE CHAIRMAN & WORK PARTY ADMINISTRATOR – DERRICK HUNT

43, Greenland Mills, Bradford on Avon, Wiltshire BA15 1BL

☎ 01225 863066 / 07986 972984 *E-mail:* workparty@coalcanal.org.uk

SECRETARY – VACANT

TREASURER – DAVID CHALMERS

'Shalom' 40, Greenleaze, Knowle Park, Bristol BS4 2TL

☎ 0117 972 0423 *E-mail:* treasurer@coalcanal.org.uk

MEMBERSHIP SECRETARY – JOHN BISHOP

73, Holcombe Green, Upper Weston, Bath BA1 4HY

☎ 01225 428738 *E-mail:* membership@coalcanal.org.uk

SECRETARY TO THE COMMITTEE – JOHN DITCHAM

☎ 01225 8308711 *E-mail:* secretary@coalcanal.org.uk

PROJECT OFFICER – TONY YATES

☎ 01225 781312 / 07748 113832 *E-mail:* projects@coalcanal.org.uk

HISTORICAL ADVISOR – MIKE CHAPMAN

51, Newton Road, Twerton, Bath BA2 1RW

☎ 01225 426948 *E-mail:* history@coalcanal.org.uk

ENGINEERING ADVISOR – RICHARD HIGNETT

☎ 01793 855631 *E-mail:* engineering@coalcanal.org.uk

MAGAZINE EDITOR – ADRIAN TUDDENHAM

88, Mount Road, Southdown, Bath BA2 1LH

☎ 01225 335974 *E-mail:* editor@coalcanal.org.uk

ARCHIVIST – ROGER HALSE

4, Westminster Gardens, Chippenham, Wiltshire SN14 0DF

☎ 01249 652846 *E-mail:* archive@coalcanal.org.uk

COMMITTEE MEMBER – DAVID FRY

☎ 0117 961 4687

COMMUNITY & LANDOWNER LIAISON OFFICER – TIM RICHARDSON

☎ 07540 222659 *E-mail:* liaison@coalcanal.org.uk

PUBLICITY OFFICER – DAVID JESSEP

☎ 07967 958486 *E-mail:* publicity@coalcanal.org.uk

VACANCIES: SECRETARY, EVENTS ORGANISER, WORK PARTY ORGANISER.

Website: <http://www.coalcanal.org>

The Somersetshire Coal Canal Society was founded in 1992 to:

'FOCUS AN INTEREST ON THE PAST, PRESENT AND
FUTURE OF THE OLD SOMERSETSHIRE COAL CANAL'

The Society became a registered charity in 1995 and now has the
Objects:

- 1) To advance the education of the general public in the history of the Somersetshire Coal Canal
- 2) The preservation and restoration of the Somersetshire Coal Canal and its structures for the benefit of the public

Registered Charity N° 1047303

Registered under the Data Protection Act 1984 N° A2697068

Affiliated to the Inland Waterways Association N° 0005276

Inland Revenue reference code for tax purposes: CAD72QG

MEMBERSHIP FEES

(as at 1st June 2003)

£7.50 (Family / Individual) £5.00 (Senior Citizen / Student)
£150.00 (Life) payable by lump sum or four annual instalments

Membership Application Forms are available from
the Membership Secretary, **John Bishop**

73, Holcombe Green, Upper Weston, Bath BA1 4HY

☎ 01225 428738 *E-mail:* membership@coalcanal.org.uk

Society Website: <http://www.coalcanal.org>

THE VIEWS AND OPINIONS EXPRESSED IN THIS MAGAZINE DO NOT
NECESSARILY REPRESENT OR CONVEY THOSE OF THE SOCIETY

The Editor welcomes any letters, articles, photographs *etc* for inclusion in
WEIGH-HOUSE and will try to include them in full, but reserves the right to shorten
them if space is limited.

Please send articles and correspondence for the next edition of **WEIGH-HOUSE** to:

Adrian Tuddenham 88, Mount Road, Southdown, Bath BA2 1LH

☎ 01225 335974 *E-mail:* editor@coalcanal.org.uk

Sunday 4th May —10:00

WORK PARTY — Location to be advised

For further details please contact: *Derrick Hunt* ☎ 01225 863066

Sunday 18th May —10:00

WALK — THE DORSET & SOMERSET CANAL — COLEFORD TO HIGHBURY

Meet: At The King's Head public house, but please park elsewhere.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

Sunday 1st June —10:00

WORK PARTY — Location to be advised

For further details please contact: *Derrick Hunt* ☎ 01225 863066

Sunday 15th June —10:00

OPEN DAY — TIMSBURY, PAULTON & RADFORD

For further details please contact: *Derrick Hunt* ☎ 01225 863066

Tuesday 17th June —19:30

ANNUAL GENERAL MEETING

For further details please contact: *Patrick Moss* ☎ 07736 859882

FUTURE EVENTS

We are now planing the programme of walks and talks for next Winter. If anyone has any suggestions, please contact Derrick Hunt. *E-mail:* workparty@coalcanal.org.uk



Photograph: Dave Wedd

WEIGH - HOUSE N^o 67

EDITOR'S NOTES	3
CHAIRMAN'S NOTES	4
NOTICE OF A.G.M.	4
NEW MEMBERS	4
DONATIONS	4
A GIFT OR A LEGACY?	5
NAVYING NOTES	7
RESTORATION	9
SOMERSET COAL CANAL SHAREHOLDERS	
by Mike Chapman	10
THE STANDARD BRIDGE PATTERN OF THE S.C.C.	
by Adrian Tuddenham	12
A LANDOWNER'S DREAM	
by Richard Fox	16
BOAT WEIGHING MACHINE	18
FOR SALE, A CANAL — DERELICT VENTURE GOING CHEAP	
by Roger Halse	19
WEBSITE PHOTOGRAPHS	20
WILLIAM SMITH ARCHIVE VISIT	20
DATES FOR YOUR DIARY	21
FUTURE EVENTS	22

EDITOR'S NOTES

One week into January, this edition of Weigh-House consisted of one article; eleven pages were totally blank and the rest were incomplete. Suddenly there was a flood of articles, every one of which had to be included because every one was so good.

On page 10, Mike Chapman begins another chapter in the history of the S.C.C. shareholders and promises there is more to come. The sudden change in the Society's focus has demanded a much longer than usual 'Navying Notes' and an explanation of what is happening at Paulton. To follow that, we have subjects as diverse as a dream, a boat weighing machine which has found a new home and a study of the geometry of S.C.C. bridges.

Finally, arriving only just in time to meet the publication deadline and crammed in at page 20, we have been given an invitation to a private viewing of the William Smith Archive in Reading — the S.C.C.S. has arrived on the map in more ways than one.

ADRIAN TUDDENHAM

CHAIRMAN'S NOTES

I am writing these notes on the 08:00 train from Bristol to Birmingham, a city-region that claims to have more miles of canal than Venice. Certainly the Black Country has over 100 miles of navigable canals, and this is reduced from a peak of 160 miles less than 100 years ago. The Birmingham canals ate and drank coal (they never slept, working 24 hours a day) for, like our own waterway, their trade was from the mines: unlike ours, so was the water, pumped to keep the subterranean workings from flooding.

On the eve of celebration for the 200th Anniversary of William Smith's first map of stratigraphy, we are reminded that he made his initial observation as a mining engineer and that his work made the search for coal easier and more fruitful. Canals then carried this commodity and gave impetus to the industrial revolution, carrying raw power from previously inaccessible coalfields to new centres of industry.

The S.C.C.S. Committee is now working directly with landowners on another aspect of William Smith's legacy, the Coal Canal. A new sub-group, dedicated to the restoration of our canal, aims to put the structures and agreements in place that will allow the current work of many work parties between Paulton, Timsbury and Radford to continue and expand, with the aim of restoring over half a mile of canal in that area. To have a boat floating on the western end of the Coal Canal, a canal engineered by Smith for the mines in the area where he worked, studied and formed his ideas, would surely be a fitting celebration of his genius.

PATRICK MOSS

ANNUAL GENERAL MEETING

The next Annual General Meeting of the Somersetshire Coal Canal Society will be held on
Tuesday 17th June 2014
at the Radstock Museum, Waterloo Road, Radstock, commencing 7.30 pm.

NEW MEMBERS

The Society welcomes the following new members:

J. and D. Griffin	Timsbury	Mr. D. Lavender	Radstock
A. Tod and F. Blades	Hinton Charterhouse	Mr. D. Britten	Abbotts Langley
Mr. P. Collins	Birmingham	Mr. B. Wallis	Paulton
Mr. E. Gould	Paulton	Mr. S. Panahinejad	Uckfield
Mr. A. Jessep	Sidcup	Mrs. C. L. Simper	Radstock

DONATIONS

The Society wishes to thank the following members who have generously made donations:

Mr J Smith
Mr D Storey

DATES FOR YOUR DIARY — 2014

Sunday 16th February —10:00

WALK — MIDFORD

Meet: Twinhoe Lane, Midford. (Please do not use the Hope & Anchor car park unless you are a patron)
For further details please see website or contact: *Mike Chapman* ☎ 01225 426948

Thursday 20th February— 19:30

SOCIAL EVENING — THE PLANNING & CONSTRUCTION OF THE S.C.C. — Part 2.

by Patrick Moss

Meet: The Radstock Working Men's Club.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

Thursday 27th February

VISIT TO THE WILLIAM SMITH ARCHIVE, OXFORD

See page 20 for further details

Sunday 2nd March —10:00

WORK PARTY — Location to be advised

For further details please contact: *Derrick Hunt* ☎ 01225 863066

Sunday 16th March —10:00

WALK — THE DORSET & SOMERSET CANAL —EDFORD TO COLEFORD

Meet: Duke of Cumberland, Edford.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

Thursday 20th March— 19:30

SOCIAL EVENING — A PICTORIAL JOURNEY

by Roger Halse

Meet: The Radstock Working Men's Club.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

Sunday 6th April —10:00

WORK PARTY — Location to be advised

For further details please contact: *Derrick Hunt* ☎ 01225 863066

Sunday 13th April —10:00

WALK — STROUD

Meet: 09:15 at layby on A46 south of M4 Junction 18 to car-share to Stroud
or 10:00 at Stroud Railway Station.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

Thursday 17th April— 19:30

SOCIAL EVENING — INCLINED PLANES of the S.C.C. and the SURROUNDING AREA

by Derrick Hunt, Adrian Tuddenham & Mike Chapman

Meet: The Radstock Working Men's Club.

For further details please see website or contact: *Derrick Hunt* ☎ 01225 863066

to the metropolis. In one part of its course, between Combe hay and Southstoke, it bears some resemblance to the famous Gotha Canal, inasmuch as within a distance of about two miles there are no fewer than twenty-two locks. These were made in substitution for an inclined plane which, according to the original scheme, was designed to overcome the difference in level, and alteration which cost the proprietors the sum of £45,000. The preamble of the Act under which the canal was constructed states that it "will open a communication with several considerable collieries, stone, freestone, and other stone quarries in the said counties of Somerset and Wilts, whereby the carriage and conveyance of coal, lime and stone, marl, fuller's earth, and all kinds of merchandise, to and from the different places bordering on or near the said intended canal . . . will be greatly facilitated and rendered less expensive than at present . . . and the said undertaking will in other respects be of great public utility."

It is melancholy to think that a career which for many years fulfilled these sanguine anticipations should be totally destroyed for want of a helping hand to rescue it from dereliction. Yet that such will be fate of the Somersetshire Coal Canal unless something is done, and that quickly to infuse new life into its expiring system, is as certain as that the sun will rise to-morrow.

WEBSITE PHOTOGRAPHS

A recent check to find out which parts of the website get the most 'hits' from visitors revealed that the picture gallery was almost at the top of the list. This was rather unfortunate, because the S.C.C.S. gallery is woefully short of photographs compared with other canal websites — so there must have been a lot of disappointed people leaving our site and going elsewhere after a few fruitless mouse clicks.

There has been no actual shortage of photographs themselves, but there simply hasn't been enough time to sort them out, upload them to the website and make sure they are properly organised and suitably captioned. Following David Jessep's recent appointment to the post of Publicity Officer, he has now opened an account on the "Flickr" website, which will act as a showcase for the Society's photographs. Within a few hours of setting up the account, David had already uploaded several dozen photographs; so, by the time you read this, the site should be taking shape nicely and contain enough material to keep our visitors happy for many hours. The site can be viewed at:

<http://www.flickr.com/photos/114362147@N06/>

If you have your own pictures of the canal, which you think would look good on our website, please send them to David with suitable captions and an indication of where and when they were taken. *[Please only send photographs which you took yourself and do not include anything copied from elsewhere, as this might cause us a lot of problems with copyright issues.]*

David can be contacted at: publicity@coalcanal.org.uk

THE WILLIAM SMITH ARCHIVE VISIT

The SCCS has received an invitation to visit the William Smith Online resource at Oxford University Museum on Thursday 27 February, one month before its public launch. There will either be a coach from Bath or shared transport. Places are limited, so there are no guarantees, but if you are interested please contact Tim Richardson: liaison@coalcanal.org.uk.

A GIFT OR A LEGACY?

— How to Make a Real Difference to Restoration

It is now six years since we changed our constitution to allow us to pursue restoration of the Somersetshire Coal Canal, rather than simply aiming to preserve it. It is fair to say that nobody, including myself, expected such rapid progress. We have not only raised our own sights but we have raised the expectations of those who live in the area around the canal, so it is important that we are able to match our ambition to our resources, and vice versa.

We have now commenced restoration in earnest and need funds to restore the section of canal from Timsbury Basin through to Radford Mill Farm. We have landowners who wish to co-operate with us and we are taking the restoration forward as far as we can with voluntary effort together with the financial support of the Society. We need the finance for plant hire and for materials such as clay, high density blocks and Bentomat to ensure that the canal is restored to a high standard and does not leak.

Could you make a donation to assist with the restoration of the S.C.C. or could you remember the Society in your Will? Is there another way you would like to assist us? Anyone cruising the Kennet and Avon Canal or the Warwickshire Avon, for example, will have noticed locks and structures named after individuals who have either sponsored these structures whilst living, or wished to be commemorated and live on with "their canal". Many more works have been undertaken with generous donors who preferred to remain anonymous. Full restoration of the S.C.C. may well take 50 years, as did the Droitwich Canals. This is the opportunity for us to leave the legacy of restored sections of canal which future generations will eventually link together, a method of restoration known as the "String of Pearls" approach. To do this, we must be in a position to buy land when opportunities arise and have significant sums to be part of our matched funding bids. Our achievements will be heavily dependent on voluntary gifts and legacies from our supporters. You don't even need to be a member to help us!

Legacy Guide

Leaving a legacy to the Somersetshire Coal Canal Society, a Registered Charity, is an ideal way of passing on the maximum benefits of your estate as it will be entirely free from inheritance tax. You can make a bequest:

- a) As a specific sum of money
- b) As an item of value such as jewellery, shares or a piece of land.
- c) As the residue of your estate — i.e. what is left after all your specific bequests have been made and debts, tax and costs accounted for.

If you would like to leave something to the Somersetshire Coal Canal Society simply ask your solicitor to include your bequest in your will. If you have already made a will it can be amended, without having to make a new one, by means of a Codicil. This should be done through your solicitor. If you leave a gift to charity in your will, its value will be deducted from your estate before Inheritance Tax is worked out.

As a Registered Charity we rely on voluntary contributions to provide funds for the restoration of the SCC. By including us in your will you can have the satisfaction of securing these canals for the enjoyment of future generations.

Bequests should be made payable to:

The Somersetshire Coal Canal Society (Reg. Charity 1047303)

For further information contact me on 07736 859882

PATRICK MOSS

NAVYING NOTES

There have been some dry days this Autumn and Winter — but there weren't many of them and they didn't coincide with any of our work parties. In spite of this, amazing progress has been made in the Paulton area thanks to the help given by the Waterway Recovery Group and the landowners in that area.

The weekend weather during the last three months of 2013 seemed to consist mostly of gales and torrential rain as work party after work party was reduced to futile misery. On one occasion only four people turned up; after an hour spent dragging all the equipment to the site, we dashed for cover as the sky turned black and the drizzle turned into a turmoil of rain sleet and hail. As it became obvious that our makeshift tarpaulin shelter was inadequate against a near-horizontal onslaught such as this, we crammed ourselves into the cab of Richard Hignett's Land-Rover and waited for the storm to abate. After half an hour of fury, the storm died down and a small clear patch appeared in the sky. We decided to use this temporary lull as the opportunity to pack up our kit and get back home as quickly as possible. It wasn't until two days later that the rain finally stopped for long enough to allow the mud-spattered kit to be removed from the car and cleaned down— some of it was still damp a fortnight later.

Into this pitiful scene, like knights in shining armour, rode The WRG and The Landowners.

The London branch of the Waterway Recovery Group actually draws its membership from a much wider area than just London and, as well as tackling scrub-bashing, they have the expertise to undertake construction work such as repairing stonework. Richard Hignett had already made a start on rebuilding the drainage culvert at the S.E. corner of the Dry Dock, so some of the W.R.G. team of stonemasons pitched in and completed it. At the other end of the Dry Dock there had once been a stop plank point. Old photographs showed how the



CASTING A NEW 'STONE' AT THE STOP PLANK POINT



AERIAL VIEW OF REBUILDING THE DRY DOCK CULVERT

stonework had been cut away to take the planks; but the original stones had long been lost so two new 'stones' had to be cast in concrete, complete with rebates. The local farmer moved the heavy materials onto the site for us and generously provided us with some massive railway sleepers to use as stop planks. With two generators, an electric cement mixer and an assortment of power tools, this was our first taste of a 'real' restoration worksite. In one weekend we made more progress than our normal work parties could have achieved in several months.

FOR SALE, A CANAL — DERELICT VENTURE GOING CHEAP

Copy of an article from the Pall Mall Gazette – November 11th 1902, contributed by Roger Halse

It seems strange that while, on the one hand, so much has been said and written of late years with regard to the expediency of resuscitating the inland waterways of this country and utilizing them once more for the purpose for which they were originally designed, on the other hand such a heading as we have adopted for this article should be indicative, not of a mere pleasant conceit, but of a serious and solid fact.

The Somersetshire Coal Canal, which was authorized to be made by an Act of Parliament passed in the reign of George III., after surviving for upwards of a century, has at length found itself compelled to close its doors—or, rather, its locks—and to file its petition or take other equivalent and appropriate means to announce itself bankrupt.

That such a state of things should be possible is much regretted when we remember that even so recently as a few months ago a deputation from the Associated Chambers of Commerce waited upon the President of the Board of Trade to urge the Government to grant facilities for the progress of the Canal Traffic Bill through parliament.

Mr. W.H. Holland, M.P., in introducing the deputation, then said that in view of the improvement of internal waterway communication made during recent years by foreign nations (notably by France and Germany), and the keen competition with British trade everywhere existing, it was imperative that they should extend the powers already conferred on the Board of Trade in respect of derelict canals and authorize the formation of public canal trusts, as was proposed by the Canal Traffic Bill. Mr. Gerald Balfour, who at that time presided over the Department, fully admitted the importance of the improvement of the different internal waterways of this country, and said that, speaking for himself, he had no objection to the principle of the measure. Yet, notwithstanding this official recognition of the expediency of maintaining in a state of efficiency and existing system of inland navigation originally constructed a great cost and which it is admitted might still be useful as a means of transport for heavy goods where speed in transit is not essential, we are confronted with the fact that a canal, ten miles in length, and which is stated to have cost about £200,000, is to-day reduced to such deplorable condition that the unfortunate proprietors, it is believed, would welcome an offer of £2,000 for the whole concern. The canal was, in fact, put up for sale by public auction some eight years ago in London, but was withdrawn, the highest bid having been only £3,900. It was stated on that occasion that the canal had had a prosperous career down to 1872, and that at that time tolls had been taken on 157,000 tons yearly. From 1884 to 1888 the tonnage averaged about 24,000 tons yearly, producing £1,547 in tolls, while the average yearly expenditure was £1,284. The yearly profit was therefore £263, which, with the amount received from rents of land and buildings, brought up the net income to £340. Subsequently, after experiencing many vicissitudes, the canal made losses instead of profits, and eventually went into voluntary liquidation in 1893.

The canal extends from Gossard Bridge in the parish of High Littleton in Somersetshire through the several parishes of Timsbury, Camerton, Dunkerton, Combes Hay, Southstoke, and Monkton Combe to the Dundas Aqueduct, near Bath, where it joins the Kennet and Avon Canal, thus providing direct water communication from the Somersetshire collieries



Notes:

The spelling, grammar and punctuation are exactly as printed in the original newspaper article.

The *Pall Mall Gazette* was first published in London in 1865. In 1923 it merged with the *London Evening Standard*. (Source: British Library - *History Of The British Newspaper*).

BOAT WEIGHING MACHINE

The only surviving canal boat weighing machine in Britain has now been completely refurbished and put on display at the National Waterfront Museum in Swansea.

After falling into disuse, the machine was dismantled in the 1950s and re-erected at Stoke Bruerne canal museum in 1963. About 12 years ago, British Waterways was planning a reorganisation of Stoke Bruerne and offered to return the machine to Wales, but there was no suitable site available at the time. After the creation of the National Waterfront Museum at Swansea in 2005, circumstances changed and the machine was accepted for renovation and display by the National Museum of Wales.

The renovation work has been undertaken by experienced contractors, Penybryn Engineering Ltd. of Ystrad Mynach. All the components were grit blasted to clean them off. It was hoped that some foundry marks, giving a clue to the machine's origins, might come to light during this process; but sadly nothing was found. The capitals of some of the pillars had not been cleaned out for years and the accumulation of debris had encouraged the formation of rust which had cracked the castings. New castings were made and welded in, with a slight change in the design so as to make the structure self-draining. Some of the beams in the upper works had snapped-off ends, which were repaired by means of cast-iron welding — no small task on castings of that size.

The machine has now been re-erected in fully-working order at the National Waterfront Museum in Swansea. To display the machine in a way which would clearly demonstrate the functioning of its mechanism, the museum mounted it on pillars, rather than sinking it into an artificially-created length of canal. Later this year they will mount a representation of a canal boat on the weighing cradle; with a maximum capacity of 40 tons, the machine can then be demonstrated weighing anything from parties of school children to groups of portly adults.

If any members (portly or otherwise) are interested in visiting the museum, it is open from 10:00 to 17:00, 7 days a week. Admission is free.



Photograph: Stephen Rowson

THE WEIGHING MACHINE DURING RECONSTRUCTION AT SWANSEA — 10 December 2013

A month later we were visited by B.I.T.M. W.R.G. (in case you are puzzled by the initials, they stand for “Bit In The Middle”, but the reason for this is lost in the mists of time and the murk of canal lore). They also have a speciality in addition to scrub-bashing: they pull up trees — yes, “up” as well as “down”. The towpath wall between Paulton Basin and Radford was very badly overgrown in parts and access was restricted by various rural barriers such as fences and trees. As we could foresee the need for good access all along this part of the canal, particularly as this is the stretch we hope to restore first, we got the permission of the landowners to make holes in some of the barriers big enough to get the necessary equipment through. Even after a tree has been cut down, the stump can form an obstruction for years until it rots away and this is where the B.I.T.M. Tirfor gang gets to work.

A Tirfor is a kind of winch which claws its way along a heavy steel hawser in rather the same way that a monkey climbs a pole; if the hawser has been attached to a tree stump, slowly but surely that stump will eventually succumb to the immense force which the low-g geared Tirfor can exert. As well as big tree stumps, there are other recalcitrant roots whose removal benefits from the attentions of a Tirfor, in particular, blackthorn is a species which doesn't give up easily. Several patches of blackthorn had grown up along the towpath in recent years and they were rapidly becoming an unsightly



BARBARA OPERATING A TIRFOR



obstruction. Not only did the group succeed in removing all trace of one patch and most of another, they tried setting fire to the sopping-wet arisings and actually succeeded in getting them to burn. [See picture on page 22]

In contrast to the spectacular work of the Tirfor gangs, the scrub-bashers beavered away almost invisibly, practically obscured

→

CLEARING THE OVERGROWN TOWPATH HEDGE AND BLACKTHORN PATCHES

from view by the dense thickets they were clearing. It was only by the Sunday afternoon that they finally broke cover, revealing a long section of cleared canal wall and producing a substantial bonfire.

Thanks to WRG, we are a few hundred yards of towpath and wall nearer our goal; but we still have nearly a mile to go, including at least a quarter of a mile of infilled canal bed.

Meanwhile... back at the Dry Dock nothing was happening. Several of our work parties having been planned and then abandoned because of the weather, we were beginning to despair of ever completing the work we had started. A big pile of clay and earth was standing in the rain, waiting to cover up the newly-built culvert and getting wetter and more difficult to handle all the time. The new stones were still without their stop planks, but even if these had been fitted, any rise in canal water level would have just resulted in water flowing freely between the sides of the new blocks and the arch abutments, where so much of the stonework was missing.

This was the point where The Landowners stepped in. A small select gang of workers from Radford Farm descended on the culvert. They shovelled up the horrible messy pile of clay and used it to fill the culvert trench, building dry stone retaining walls each side as they went. The causeway over

the top was reinstated and covered with some stones and gravel to make it a little less sticky. Then one of the landowners admitted to having been a stone mason in his younger days and cheerfully set about rebuilding the walls at the stop plank point, with assistance from local volunteers. Finally, the stop planks were sawn to length and a couple of them dropped into place. No sieve ever leaked more than that stop-plank point, but the next S.C.C.S. work party rammed a mixture of clay and mud into it until finally a good seal was formed.



INFORMAL WORK PARTY

Local volunteers at Paulton Dry Dock — December 2013

Next a mini-digger was brought in. Richard Hignett had begun excavating the southern wall of the dry dock by hand some months ago, but the work was slow and extremely tiring. The mini-digger was a lot quicker, but great care was needed to avoid damaging the sides or the walls of the dock, and some hand digging was still needed. The whole of the southern wall has now been exposed and this has shown up an unexpected gap in the stonework about 10ft from the S.W. corner. Plans are under way to clear out the entire dock in the next few months, so we may then find the explanation for the gap and for a number of interesting arrangements of stonework in the parts of the floor so far uncovered. There is now no shortage of jobs for the work parties to do and there is plenty already happening to the canal in the area of Paulton Basin; you will need to visit the site regularly if you want to keep up to date with the latest changes.

By now you may be wondering what is driving this sudden flurry of activity. The answer, which is explained in more detail on the following page, is that the S.C.C.S. is now entering a phase of... ➔

But chance intervened — we ended up keeping the entire farm, growing vegetables and producing yoghurt, rebuilding the farmhouse and neglecting the Mill; there was no time or money for that original dream: the Mill floorboards went for firewood, the back wall had an ominous bulge, the ends of all the roof timbers were rotten, and the thought of rebuilding a four-storey, 65-foot long building was beyond my ability to comprehend.

So we mowed the grass in what we called “the canal field”, put drainage ditches and waterpipes and electric cables across it, accepted BANES' offer to build a “boardwalk” across the permanently boggy area, and years passed, full of many interesting projects; some ambitious ones, some failures, some successes. In 2011 we continued our annual tree-planting scheme and among the 200 planted on the farm that year about 25 trees (sweet chestnut, ash, oak and weeping willow) went into the canal field. — Another year passed.

One rainy Sunday afternoon an ancient and somewhat scruffy Land Rover pulled up near my cottage at Radford Mill, and I went out to meet Richard Hignett, who with Elaine had just come to view the canal near Mill Lane. Richard explained the “string of pearls” approach to restoring the entire length of the canal, and for the first time I began to see this fantasy dream I had entertained for three decades might actually become a reality. Elaine sensibly stayed in the Land Rover while Richard and I talked and walked for about an hour up and down the towpath, slipping and sliding in the relentless rain. As the light began to fade Richard drove off and I thought:

“... yes!” and “... not very likely” and “... maybe ...”.

I was very intrigued.

A month later I noticed a workparty on the Paulton Basin, half a mile west of my farm; and on another rainy Sunday a couple of months after that I wandered down to inspect the recent discovery of some features of the drydock which had recently been revealed. I volunteered my mini-digger and we soon uncovered the drainage culvert for the drydock, as well as the entire top of the wall which showed the actual dimensions.

So my “dream” was beginning to see the light of day. This was really exciting, and I found myself thinking about the design for the tickets for the first boat to Monkton Combe. And that level of excitement has remained with me and grown over the last several months. I've seen the S.C.C.S. begin the process of serious discussions about restoration.

Of course there are some “challenges” to overcome, but I believe that “canal mania” is about to return to the Cam Valley. Let's keep in mind that with oak trees and canals all the work is at the beginning, sprouting the acorns and nurturing the young trees in the first five years; after that they will just grow by themselves. What we need is some sensible, cool-headed, hard-nosed strategy discussions, followed by some SMART targets: Specific, Measurable, Aspirational, Result-based, Time-limited targets.

But we are on our way, and this landowner is moving those 25 trees that are in the way of progress. My mini-digger and JCB will both be seen in action over the next few months.

Can I sell you a ticket on that first boat?
There's a special discount price if you buy in advance.

A LANDOWNER'S DREAM

It was during the 1980s that I began wondering about the Somerset Coal Canal, part of which apparently crossed my farm but was basically non-existent. One of my neighbours, Don Yeates, owned a 275-metre stretch of canal just to the east, and there the canal was completely visible, totally unaltered except for the easternmost 15 metres which had been filled. Having spent many years living on and working around boats and water I have always been fascinated by things that float and travel. As I went about my daily business of repairing fences, mowing the grass, pulling out ragwort, chasing sheep and growing vegetables, I would muse on the fantasy of seeing a colourful boat drift through the middle of our fields with a collection of bicycles and waving children on top - - what an idyllic spectacle that would be.

I came to Radford Mill Farm by accident - - by chance: I had bought Radford Mill in 1976, and the neighbouring farmer agreed to sell me the nearest fields, as the derelict Mill came with only a car park. The farmer agreed to sell two fields which would provide me with enough land to keep a few sheep, and with both banks of the Cam Brook I could develop the Mill and have some water rights. I would build new machinery to drive weaving looms, and my partner (a professional weaver) would look after the sheep, card the wool and produce wonderfully coloured textiles. But it turned out differently; the farmer's bank blocked the sale and instead began foreclosure action against my neighbour, and I was told the land would be parcelled and sold at auction. To make a long story short the banker offered me a bridging loan to purchase the entire farm and I intended to sell most of it immediately and keep only the two or three fields nearest the Mill. The Canal, the farmhouse, and most of the fields were of very little interest to me, except I had to pay for them.

Of course, back in 1977 there was almost no interest in restoring canals — and this one was more or less non-existent; no “history”, no artefacts, nothing showing on the land except an inconvenient depression here and there. Sure, the Kennet and Avon was being restored, and I had walked through the Dundas Aqueduct when it was dry, but even in 1985 with the new development at Brassknocker Basin I still never thought that the water 10 miles away over “there” might some day be connected to this ditch in my neighbour's field.



A DREAM OR REALITY?

RESTORATION

At the 2008 A.G.M. of the S.C.C.S, two words were added to the Constitution of the society; they were “and Restoration”. Although a few people at that time might have had some vague idea about what they might lead to, for most of us the magnitude of the changes they have the potential to bring about is only just beginning to come to light.

In December of 2013 a new sub-committee was formed from selected members of the existing Committee under the initials “R.S.C.” which stand for “Restoration Sub Committee”. The first meeting was a leisurely affair, which established the purpose of the committee and dealt with the usual preliminary business. Shortly after that, we realised that events were overtaking us and the landowners in the Paulton and Radford area were pressing ahead towards restoration far faster than anything we had ever imagined. Not only that, but they proved they were prepared to back up their words with actions and to spend their own time and money so as to get the work done more quickly — and one of them, who is also a member of the Society, was even prepared to sit through a Committee meeting in order to make his point. This proved to be a ‘first’ for the Society because, although our meetings have been open to the public ever since the Society was founded, no ordinary member has ever willingly turned up at one before.

The R.S.C. has now been hastily re-convened to consider the situation we find ourselves in. Having barely come to terms with the fact that we were pushing at an open door, we have suddenly found ourselves being pulled through it.

So, what is involved in restoring the Paulton-to-Radford stretch of canal? The section is in the hands of three landowners who are all keen to see it restored and, as far as we have been able to discover, all the other ‘locals’ are in agreement with this. The total cost of restoration is far beyond the resources of the Society, so it will have to be financed by grants and these will bring with them the inevitable burden of paperwork and legal agreements which we shall have to find the time to process. Some work can be undertaken immediately with only informal agreement, and this will count strongly in our favour when we come to apply for grants.

On the practical side, there are two public footpaths in the area which must be considered: one public footpath runs North-to-South and originally crossed the canal at the site of Terminus Bridge, the other runs East-to-West along the towpath and both of them crossed the Dry Dock entrance over the arch which is now missing. Although it is not essential for restoration, rebuilding the arch over the Dry Dock entrance would be a very good way to show that we mean business; everyone we have spoken to in Paulton has said they would like to see it replaced. The finances of the Society will probably run to this without the necessity for a grant. If the canal is to be filled with water to Radford, some sort of crossing will have to be provided for the public footpath at the site of Terminus Bridge — and eventually Terminus Bridge itself may have to be rebuilt. This would be a much more expensive undertaking; but, for initial purposes, a small wooden plank bridge might be all that is needed.

There are probably some leaks in Paulton and Timsbury Basins, although they do hold water fairly well at present. In the past, they have been sculpted into three pounds for fish farming, so some work will be necessary in order to return them to full navigation. The canal from Paulton Basin eastwards leaks badly; it can fill almost to navigable level in heavy rain and empty again within a few days. Depending on what is found when the leaks are investigated, this could involve a lot of remedial work.

There is a quarter-mile section to the West of Radford Farm that has been completely infilled. The owner is keen to have it dug out and is planning to do this himself, as long as the Society will support him by pressing the rest of the plan forward, so that navigation becomes a realistic possibility in the near future.

SOMERSET COAL CANAL SHAREHOLDERS

An Introduction to the Shareholders from the North Somerset Coalfield

Although the shareholders we have studied so far have been mainly business people involved in urban affairs, at least twenty per cent of the original 174 names listed in the Act can be identified with the coal mining industry in the countryside, the so-called 'Coal Masters' or 'Coal Proprietors' of North Somerset, who not only owned and ran the collieries, but were the promoters and managers of the canal in the first place. Since these men and their families belonged to a clearly definable social group or 'community' that exerted a strong influence in the region over the centuries, it was thought useful to introduce the group as a whole before turning to particular individuals.

At that time, little distinction would have been seen between them and their urban counterparts; both were businessmen with their own professional skills, inspired by the ideals of the 'age of improvement' and the patriotic and enterprising spirit symbolised in the image of John Bull. These too were the leaders of their respective communities, and although generally described in occupation as 'coal miners', should not be confused with the 'hewers', 'carting boys' and the like who they employed below ground. Nor were they all directly involved in the day-to-day running of the collieries. Some, the more financially independent, could carry the title of 'gentleman', whilst others were local professional people such as apothecaries and surgeons for whom coal mining was an additional interest.

Above them were the nobility who held the land under which the coal lay; the Earl of Waldegrave (Radstock), the Earl of Warwick (Clutton), Sir Richard Warwick Bampfylde, bart (Dunkerton), Lady Jones (High Littleton), the Duchy of Cornwall (Midsomer Norton), the Pophams (Farmborough) and the Jolliffes (Kilmersdon). Except for Thomas Jolliffe (discussed in WH issue 57), Alexander and Dorothy Popham, and Lady Jones, who held shares in the canal, the rest were content to receive the royalties on the coal raised from beneath their lands. However the coal masters themselves were always ready to acquire land where they could, affording them greater scope for the exploitation of the coalfield as well as long-term financial security, and over the centuries many families accumulated considerable estates of their own, even becoming 'lords of manor'. But land was difficult to obtain, and it was the reluctance of landowners to 'alienate' their land that John Billingsley blamed for the slow growth of coal mining in Somerset. Fortunately in the case of such large-scale industrial or trading enterprises as the coal canal, an Act of Parliament provided the powers to acquire the necessary land, thereby creating a further opportunity for investment which, from the repetition of the same surnames in the shareholders' list, was evidently taken up by more than one family member.

Naturally, each family had its base in a specific parish or locality; the Hills of Paulton, the Palmers, James and Crangs of Timsbury, Savages of Midsomer Norton, Moggs of Farrington Gurney, Tookers of Chilcompton, Langfords of Hallatrow and Adams of Hunstreet being among the most prominent. This did not however mean that they operated only within their own sphere. Sufficient capital could only be raised by forming partnerships with their neighbours (frequently reinforced by intermarriage) for the exploitation of any part of the coalfield where a favourable opportunity arose. These partnerships, set up as a Company, usually consisted of about eight or more individuals who would lease the necessary rights to mine the coal from the landowner. The number of shares allocated to each was calculated in proportion to their respective contributions, but in the case where one of the shareholders was the lessor (ie. landowner) a 'free share' was granted in lieu of a fixed royalty. This 'freeshare' system, which seems to have been a practice unique to this coalfield, removed many complications and, being based on profits made from the sale of coal, at a rate one eighth or one tenth of the selling price, could be of greater value to the lessor.

Outsiders and townsmen however were not excluded, particularly those involved in the new business of banking who were now interested in ways of investing their funds. It would also appear that some of

The next question was whether all the bridges on the S.C.C. had conformed to that pattern. Roger Halse supplied a collection of photographs of bygone bridges, which were scanned into the computer and scaled to match the geometrical pattern. In some cases there was a degree of distortion because of the angle from which the original photograph was taken, but it soon became abundantly clear that most of the bridge arches had been built to the same standard pattern as the arch of the Upper Midford bridge. This is not really very surprising because the timber 'centring', used to support the arch during construction, would have been expensive to make and would have been re-used as much as possible.

It would have been uneconomical to build all the bridges simultaneously, so it is most likely that a sequential system was employed. A team of groundworkers would move in and prepare the foundations; then walls and abutments would be built up to a certain height by a team of masons. When the work reached the height of the arch 'springs', the centring would be put in place and a team of skilled masons would build the arch. Finally the parapets and rubbing strips would be added by yet other teams. As each team finished its work, it would be moved along the canal to the next bridge site.

For a narrow bridge, like Upper Midford bridge, which is only 12'0" between outer parapet walls, the centring would probably be wide enough to build the whole length of the arch at once. Much wider bridges at main roads may have been built progressively, with sections of the centring being dismantled, moved and re-erected several times until the arch was long enough to give the required road width. In the case of Combe Hay tunnel, the old photographs show that the entrances conformed to the standard pattern and it looks as though this shape continued throughout the length of the bore. Tim Wheeldon has investigated the bridge under the A36 adjacent to Brassknocker Basin and discovered that the remains of the original narrow road bridge are still visible half way through it. When the road was widened, the original profile was maintained as the arching was extended each side.

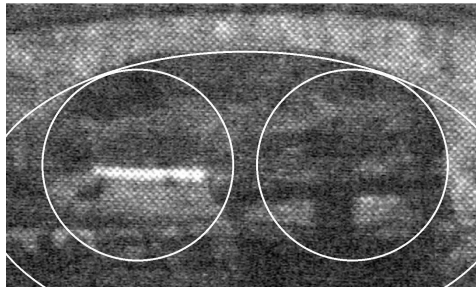
The exceptions to the rule are always the most interesting — and it is instructive to investigate in more detail the few bridges which do not appear to conform to the standard pattern. The road bridge below Lock 16 has very high abutments and looks like a bit of an oddity, but further investigation shows that the arch profile conformed to the standard pattern as far as can be judged from the only available photographs of it, which are rather indistinct. The road bridge under the A367 at Dunkerton is skewed because the road crossed the canal at an oblique angle, but the profile of the arch appears to conform to pattern once the skew is taken into account.

The Tucking Mill bridge is clearly a 'misfit', the arch is almost semi-circular and does not look like an S.C.C. bridge at all. History tells us that it was built by William Smith at his own expense. Not only did Smith have to use his own workforce, but we can also see that that he had to supply his own arch centring too.

The arch across the Dry Dock entrance at Paulton Basin was also non-conformist, being a segment of a circle. Old maps show that the Dry Dock was altered at various times and the construction of the arch abutments overlaps the wharfside stonework, so it is quite likely that the arch was built later in the canal's history by the dock contractors and not by the S.C.C. construction workforce.

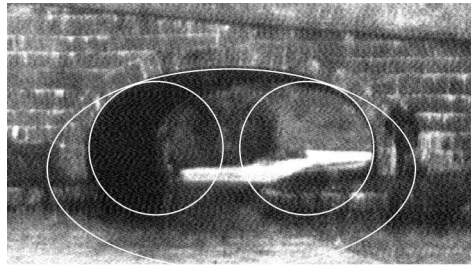
On the Stratford Canal there are a number of wayside cottages with arched roofs and it had been suggested that they were shaped like this because they were made from recycled timberwork left over from arch centrings. The "Powder House" near the S.C.C. at Midford also has an arch-shaped roof, which raises the question whether this too could have been constructed from redundant centring timbers. Sadly, it only takes a cursory inspection of the shape and internal construction of the building to show that there is no evidence for this quaint and attractive theory.

ADRIAN TUDDENHAM



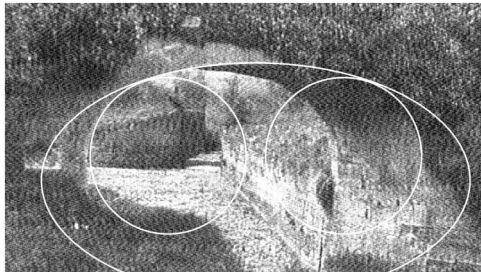
Paul De'Ath collection

BRIDGE AT DUNDAS BASIN



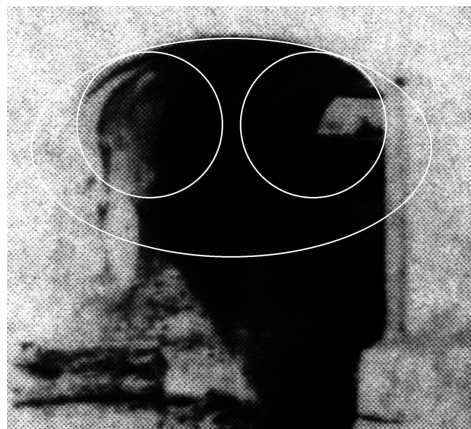
The Hall collection

A36 BRIDGE AT BRASSKNOCKER



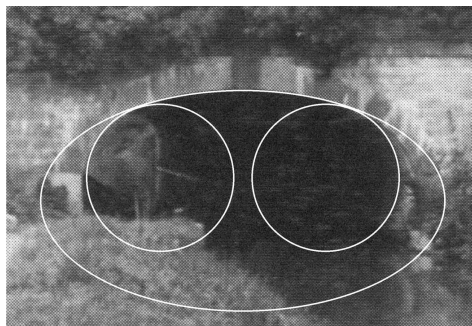
Tim Samler collection

SOUTHSTOKE BRIDGE



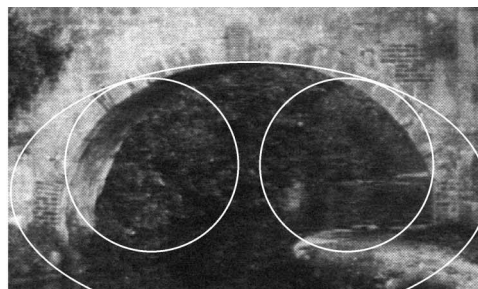
G.W. Boyling collection

BRIDGE BELOW LOCK 16



K.R. Clew / S.G. Thatcher

COMBE HAY TUNNEL



Tim Samler collection

TUCKING MILL BRIDGE

Note: These pictures were enlarged from coarse scans of Roger Halse's "Pictorial Journey" books, they are intended for measurement purposes only and are not representative of the quality of the original prints.

the Bailiffs (managers) of the pits were also able to participate. The Bailiffs, who had particular knowledge of underground conditions and methods, supervised the sinking of a pit and managed the day-to-day running of the business, assisted by book keepers and accountants, all of whom were answerable to the coal owners. The mine would have a foreman in charge of all the work on the surface and responsible for landing the coal, with an engineer in charge of the boilers and all the machinery. Below ground there would be another foreman or underground bailiff in charge of loading and overseeing the safe winding of the coal and men to the surface. The men themselves worked in 'teams' based around individual breakers.

Much of the information about the coal owners comes from the diaries of the Rev. John Skinner, Rector of Camerton, who was often involved in their social events. These might include balls, card evenings and cricket matches (which he did not enjoy), or guided tours (by him) of the historical monuments of the region (which he did enjoy). His opinion of them was somewhat qualified, noting that they had little interest in the miners themselves, and gave little support to him in providing schooling and religious instruction to their children. However in the interest of social order, he always supported them when they came into conflict with the miners who were now beginning to take strike action over their grievances against the coal owners, but noted that their powers were much restricted by the landowners, in particular Mrs. Jarrett, the Lady of the Manor of Camerton:

'What authority Mrs. Jarrett had to interfere with the management of the works is another question. She has only a free share, but this politic lady has one thing which gives her the fullest power over the men, and which, if the Proprietors ever come to open conflict with her, they find to their cost, renders her power absolute. She has authority over the residences of the colliers, who are only weekly tenants, and may be dismissed *ad libitum*.'

It is also unfortunate that, although Skinner was a scholar and learned gentleman, he had little intellectual contact with his neighbours who in many cases were themselves well educated and knowledgeable of the world in their day. Indeed, the eventual success of the canal and the whole coalfield can be credited to the coal masters who were ready to travel anywhere in the country in the pursuit of technological innovation and scientific knowledge. Hence it was they who first recognised the value of the new ideas about geology introduced by William Smith, as well as being prepared to adopt such experimental technology as the Caisson Lock.

The result was that the coal owners became an increasingly prosperous and influential group, shaping the life of the local community as it became more dependent on coal. However, by the mid 19th century the scale of the mining industry in North Somerset had grown to such an extent that the landowners themselves began to take the business into their own hands, starting with Frances Lady Waldegrave at Radstock and leading up to Sir Frank Beaucham in the 20th century. Leaseholders were no longer needed, and it was the new breed of educated managers employed by the landowners such as George Greenwell and James McMurtrie who now gained the limelight. Nevertheless, many of the original families continued to be involved in coal mining well into the 20th century until such things as royalties and private shares were swept away by nationalisation.

All that remains of their presence on the ground today is a scattering of fine mansion houses throughout the district, but enough information is available to form a picture of the personalities who lived in them. In the next issue we hope to make a start on the Paulton Coal Masters, exemplified by the S.C.C. shareholder Joseph Hill and his associates.

MIKE CHAPMAN

THE STANDARD BRIDGE PATTERN OF THE S.C.C

Many people who have become familiar with the S.C.C. would have no difficulty recognising a 'typical' S.C.C. overbridge, even one which they had never seen before. Roger Halse's two "Pictorial Journey" books abound with photographs of the picturesque bridges which survived long enough to attract the attentions of the early photographers and there is a strong visual similarity between most of them. Despite the obvious inference that they were all built to a standard pattern, no attempt appears to have been made to work out what that pattern might have been, or how the architect specified it.

Recently attention has been focussed on Terminus Bridge near Paulton Basin, which we would eventually like to rebuild in the characteristic S.C.C. style as part of the restoration of this section of the canal. This has highlighted the need to measure the few surviving bridges, and those shown in the old photographs, so as to be certain that they really did conform to a common pattern. We hoped to be able to specify that pattern with some degree of confidence and use it to form the basis for future bridge restorations along the length of the canal. Sadly most of the original bridges have been demolished, either because they got in the way once the canal was disused or as acts of deliberate vandalism. Fortunately there is one solitary example at Upper Midford which still remains complete and undisturbed. Although some of the stones have been split by the action of frost and the structure is beginning to crumble in places, it is still sufficiently intact to serve as a pattern from which to take measurements.

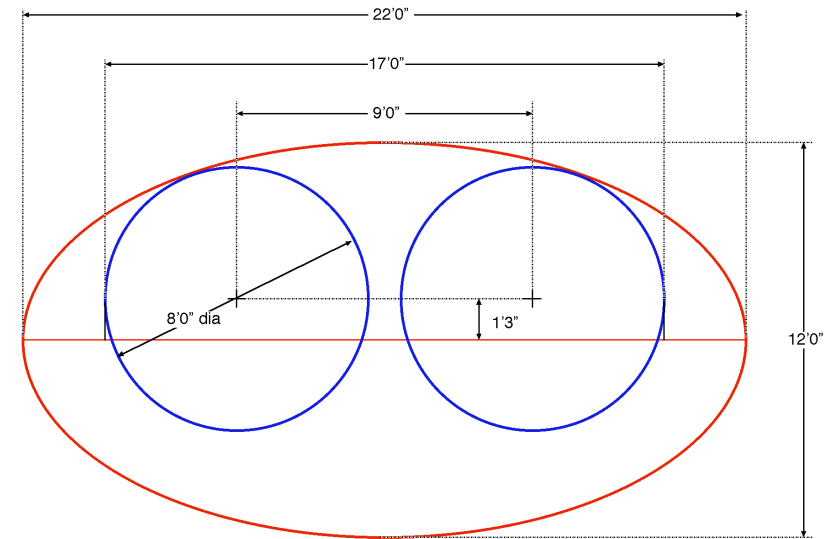
Rather than attempting to measure the shape of the arch by conventional means, it was thought that a photograph would give a more complete record of its shape. The actual dimensions could be derived later by scaling the photograph from one single on-site measurement[†]. In this case, the span of the arch was used as the datum measurement and it was found to be 17'0" wide at towpath level. In order to avoid the geometric distortion which can occur when taking photographs close to an object using a wide angle of view, the camera was set to maximum telephoto and then moved away from the bridge along the centre line of the canal until the image of the bridge just occupied the view-finder.

The resulting digital photograph was imported into a technical drawing program and scaled so that the 17'0" dimension of the span would occupy 17" of paper if the picture were printed. Various geometrical shapes were then drawn over the picture in an attempt to fit them to the curvature of the arch. The epicycloid curve, which is often recommended as optimum for bridge arches, could not be made to fit, no matter how it was scaled. An ellipse fitted the central section of the arch nicely, but the bridge abutments descended more rapidly than the ellipse would allow. Eventually it became apparent that the sides of the arch were in the form of quadrants of circles which merged into a central ellipse. A little juggling with a pattern made up from one ellipse and two circles finally produced a shape which matched the curve of the arch with about the same error as that caused by the irregularity of the stones.

The dimensions of the component shapes were then scaled from the drawing program and it was discovered that the two circles were 8'0" diameter with their centres 9'0" apart, and the ellipse was 22'0" wide and 12'0" high — which could be taken either as an incredible coincidence or as striking confirmation that this process had uncovered the exact dimensions specified by the original architect. The horizontal centre line of the circles was 1'3" above that of the ellipse, so that their curves touched and merged seamlessly. The horizontal axis of the ellipse corresponds to the surface of the towpath and this may well be the datum level for the whole stretch of canal (the water level could not be used as a datum because it varied from time to time). →

[†] These measurements were taken in Imperial units as that is what would have been used by the original builders, who often worked in whole numbers or fractions of feet for convenience. In this text, feet are represented by a prime' and inches by a double-prime". Thus 4'6" represents 4 feet 6 inches or four-and-a-half feet.

STANDARD S.C.C. BRIDGE PATTERN



THE GEOMETRY OF A STANDARD S.C.C. BRIDGE PATTERN



THE PATTERN FITTED TO A PHOTOGRAPH OF UPPER MIDFORD BRIDGE