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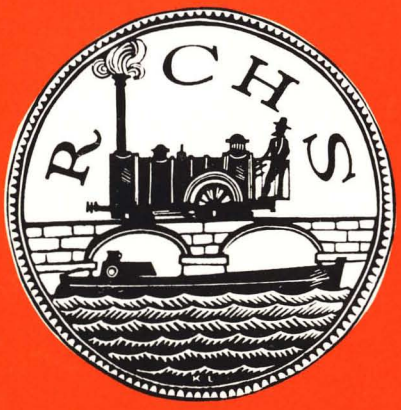
of the

Railway and Canal Historical Society



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November 1975

The New Journal

Those members who have read, or even just glanced at, the July issue of the *Journal* will have realized that it is now being done on the Newprint plan, and it is hoped that some economies will be possible in these disastrous financial times.

The printing of the *Journal* is now programmed, and all material will go to the printers on a certain date, usually about two months before the first of the month of publication (March, July and November). All material *means* All Material, and includes any advertisements, change of Local Group Secretaries, photographs, maps and plans. The printers will do all they can to help, but once an item of work like the *Journal* is slotted into a schedule, like a train slotted in to a particular path, it must keep to time. And most of us know what can happen to a Q train; and even worse, to a train that starts off late and loses its path.

It was hoped, also, that there would be enough economy to produce a 32 (if not 40) page *Journal.* So far, the outlook is considerably more gloomy than usual, with *one* article in hand for the March issue, which will go to the printers shortly before Christmas. This article will produce a six-page issue, with an additional eighteen pages of blank paper, 24 pages being the minimum under the agreement. Is no one going to help? In the last 21 years the Editor has made seventeen different appeals to members to Write Something. Surely they are not *all* up to their eyes in work? There must be somebody who can do some original research on Permanent way or Parcels traffic, Railway road motors or Freight traffic, Pullman Cars or Slip Coaches, Water supplies or Escalators (and lifts) or Architecture. As for Waterways, even Charles Hadfield has not written the complete history of every canal in the country.

Book Reviews had to be diverted to a separate issue, as the delay in publication became wider, due, one might add, in many cases, to reviewers who never bothered to do anything about it. It would be an admission of defeat to reintroduce them in to the *Journal* simply to fill up space.

Unfortunately, as most authors – and one must say "most" to exclude any shocked member – as most authors are temperamental, selfish, opinionated and conceited, they are only interested in seeing themselves in print *and at once;* any delay, and the Editor receives letters that the Post Office would not carry if they knew the contents. But this should not deter would-be authors from making an effort.

So, unless the *Journal* is to die – and with it perhaps even the Society – please let us have a good stockpile of articles. There must be many notes of Society visits which the majority of members could not get to, and which could be written up to form short or long articles. This is only another suggestion, but something could be made of it.

Mr. Michael Stimpson, of 83 Sunny Bank Road, Potters Bar Herts EN6 2NL, has taken over Publicity and Advertising. Any advertisments for the *Journal* must be sent to him in good time to allow the Editor to receive everything at least a fortnight before the first day of the month in which copy goes to the

printers, which is two months before the first day of the month of publication. When you have worked that out, do not put down your pen, but start on an article.

The First Railway Act?

BY FRANK A. SHARMAN

A discussion as to which Act of Parliament can lay claim to the title of the first railway Act is one of some interest even if it is of little practical utility. To a large extent it is all a matter of definition, so that a number of champions may be in the lists at the same time. If one is to say that the first railway Act is that Act which is the first to mention anything identifiable as a railway, or, indeed, to authorize its being built, then it appears that the Stour and Salwarpe Act of 1662[1] must take the title. In this Act the undertakers were authorized not only to improve the rivers but also to provide "ways, passages, foot-rails or other conveniences for the carrying and conveying of coals or other carriages" to the improved rivers: and there, in the "foot-rails", is the first statutory mention of a railway. It will, of course, be noted that it was not a railway in a particular place, for, within the powers under the Act the undertakers could have built it anywhere. From this date onwards such relatively incidental references to railways appear in a number of statutes – for example in the "Divers Rivers" Act of 1664–5[2] which authorizes the undertakers to provide "foot-rails of timber for the carrying of waggons" to any river improved under the Act.

Such passing references to waggonways hardly constitute railway Acts. If one therefore turns to Acts which are devoted exclusively or even primarily to railways, then the next claimant to the title of the first railway Act appears to be the Middleton Colliery Act of 1758[3], which has often enough been granted the distinction [4]. It is, therefore, proposed to consider this Act in this article, not in an attempt to make a final assessment of its claims to legislative priority but primarily for the reason that, the claim having been made for it and its actual contents being practically unknown, the Act may be of interest in itself.

Middleton Colliery lay to the south of Leeds, which city was naturally its main potential market. However it was at a competitive disadvantage compared with the collieries nearer Leeds at Beeston, Hunslet and Halton. The owner of Middleton Colliery was Charles Brandling, who came from a family which owned pits on Tyneside, so that he would have been well acquainted with the advantages of waggonways for coal haulage. He therefore set himself to making his Middleton pit more valuable by making a waggonway down to Leeds where he would not only be able to sell to the City itself but would also be able to ship the coal by the River Aire to the towns of eastern Yorkshire.[5] However, as he did not own all the land between his colliery and the river he had to get wayleaves – that is, grants of rights of way – to cover the two miles of land that lay between Leeds and the Manor of Middleton of which Brandling was Lord of the Manor. He negotiated all the necessary wayleaves sometime between 1755 and 2 January 1758 on which latter date he entered into a way-leave agreement with all the intervening landowners.[6] However, this agreement was not sufficiently secure for him to make the necessary investment in the

waggonway solely on its own strength, for many of the landowners concerned were, as a natural result of the complexities of eighteeth century land law, only "limited owners" or "owners under a disability", being for example, married women, infants or tenants for life of settled land. This meant that their agreement with Brandling, whilst it might be binding on them personally, might not, for instance be binding on their trustees or their successors in title. It was, therefore, necessary for Brandling to secure his position by getting a private Act of Parliament to confirm the agreement and to make its arrangements permanently binding on all comers, despite the ordinary rules of Common Law and Equity.

The petition for the Act first appeared before the House of Commons on 1 February 1758 and thereafter followed the usual course, meeting no particular difficulties, no opposition and suffering only minor drafting amendments. The only features to note in these proceedings are the fact that two supporting petitions were presented by "The Mayor, Recorder and Aldermen, Gentlemen, Clergy, Merchants and other principal inhabitants" of Leeds and Hunslet and another by the "Gentlemen, Clergy, Freeholders and other inhabitants of the Towns of Knaresborough, Ripon, Boroughbridge, Aldborough and Ripley", all of whom doubtless looked to benefit from cheaper coals; and the fact that evidence before the Commons Committee showed that the annual consumption of coal in Leeds was estimated at 30,000 dozen corves each year at an average price of about 7½d. per corf. The Act itself is careful to define a corf as "containing in weight about 210 pounds and in measure 17,680 cubical inches". Brandling declared that he hoped to sell 20,000 dozen of such corves each year at 4¾d. per corf.[7] The Bill had an equally uneventful passage through the Lords and received the Royal Assent on 9 June, 1758[8].

The Act opens by reciting Brandling's intention of delivering his coal, in the quantities and at the price already mentioned, at "a certain field or open place called Casson Close near the Great Bridge at Leeds"[9] and, with a remarkable faith in the stability of costs and prices, his intention to continue doing so for the next sixty years or such longer time as his mines continued to be productive. It is then recited that "it will be absolutely necessary for carrying the said proposal into execution that a waggonway (such as is used for and about the coal works and coal mines in the Counties of Durham and Northumberland) should be made" and that the landowners concerned had consented to this being done upon Brandling's paying them an annual rent. There then follows the usual type of recital in which public benefit is pleaded as a reason for Parliament's giving a private privilege: the reduction in the price of coal in Leeds "will be a great ease and relief to the persons employed in the woollen manufactory and tend to the encouragement and improvement of trade and commerce". Finally, there is recited the difficulty arising from the nature of limited ownership, and ownership under a disability and the consequent need for this Act.

The operative part of the Act starts by authorizing Brandling to make his waggonway over the agreed line and for this purpose to "carry, convey, fix, lay and place wood, timber, bricks, stone, earth, gravel, iron, rails, sleepers, and other materials" and also to make "trenches" and bridges. His right to do so is to continue for sixty years from 1 May, 1758 and is to be "freed and discharged and absolutely acquitted and exonerated of, from and against all the uses, estates, limitations, and interests" of all the landowners, provided that he continues to pay the agreed rents. However, if at any time the rent is not paid within forty days of its becoming due, then the unpaid landowner is entitled to stop all waggons on the waggonway "and to keep and detain the said waggons

and the loading thereof" until he is paid not only the rent due but all his costs in recovering it. In order to avoid disputes about the amount of the rent due – though why such disputes should occur is obscure as it is evident that they are laid down in the agreement already made – each landowner is to enter into a lease with Brandling and the lease is to be lodged in the West Riding Deeds Registry.

The Act then provides that if the mines fail, or become unworkable "by fire, water or other inevitable accident", or if Brandling fails to deliver the quantity of coal specified at the price specified, then he automatically loses all his rights of way but may, nevertheless, recover "all the timber, wood, iron materials and utensils" used on the waggonway, and must fill up all the ditches and level all the embankments. And that is all the Act contains.

In what sense is that a railway Act? Only in the sense that it is solely concerned with a railway. But in its form and content and the fundamental reason for its being promoted and passed at all – namely, the difficulties arising from contemporary land law – it is much more reminiscent of an estate Act or enclosure Act. A railway Act, as most usually encountered, finds its legislative precedent in canal Acts, not estate Acts, and has different intentions from the Middleton Colliery Act. It is true that one of the functions of a railway Act is to deal with the problems of limited owners but, more importantly, a second and vital function is to enable the railway undertakers to acquire land compulsorily. Its third purpose is to enable the undertakers to interrupt or alter public rights, such as public rights of way, which can not be extinguished or amended other than by Act of Parliament[10]. Thus, if there were no limited owners and all the fee simple owners consented to the line, this factor alone is likely to force the promoters to seek legislation. The fourth function of a railway Act is to incorporate the proprietors, giving them, within the limitations of contemporary legal development, the advantages of a modern limited liability company. If none of these matters needed to be attended to then no Act was needed – and, in this way, a number of small private canals was built and all the earliest waggonways. Thus, in one respect only can the Middleton Colliery Act claim to be a railway Act; it might be more accurate to classify it as an estate Act and to look for a new claimant to the title of "The First Railway Act".

NOTES

1. 14 Car.II c.xiv
2. 16 & 17 Car.II c.xiii
3. 31 Geo II c.xxii
4. e.g. Betram Baxter, *Stone Blocks and Iron Rails*, David & Charles, 1966, at p. 22
5. Gordon Rimmer, *Middleton Colliery at Leeds, (1770-1830)*, Yorkshire Bulletin of Economic and Social Research, Vol.7, 1955, pp.41–57; M. J. T. Lewis, *Early Wooden Railways*, Routledge and Kegan Paul, 1970, pp.130-131
6. *Journal of the House of Commons*, Vol. 28, p.104
7. *Journal of the House of Commons*, Vol.28, *passim*
8. *Journal of the House of Lords*, Vol.29, *passim*
9. All quotations from the Act are transcribed from the original Parliament Roll in the House of Lords Record Office, no printed copying appearing to be available. Punctuation has been added.
10. The procedure by way of the writ *ad quod damnum* was obsolete before the eighteenth century.

Henley-on-Thames: Pre-Railway Road Services

BY HAROLD W. HART

"Henley, a market town and one of the neatest, cleanest, and most respectable in the county . . . . . " *Pigot's Directory 1830.*

As bridges are an essential part of the inland transport system, mention of the bridge at Henley-on-Thames makes a suitable starting point when considering that town's transport facilities over a period of a century and a half until it was linked with the main line of the Great Western Railway.

The present structure, at least the third at this point on the river, dates from 1786 and is of five arches and commendable design. In particular it provides a link with the roads serving the eastern corner of Berkshire which in turn lead to those serving the south-eastern part of the country whereby travel through the inner and outer London areas is avoided.

Of more importance to the town itself, the bridges have provided an outlet south of the Thames for its corn, glass, lace, malt and wool industries which were built up over the seventeenth and eighteenth centuries, the sale and transport of corn and the provision of malt making considerable progress. Closely associated with these operations has been Henley market which was granted by King John; the town was incorporated in 1526.

The subject of Henley's aquatic events with Henley Royal Regatta well in the lead are well known and are not of course connected with the subject under review, but a comprehensive folder issued from the Secretary's office at Regatta House contains a piece of information which is a neat example of present day directions to a particular direction: "Henley is about 40 miles west of London, and can be reached by road from the M4 Motorway (Interchange 9, near Maidenhead) or by rail from Paddington station."

It can lead conveniently to the remainder of this essay, or suitably end it.

In the matter of public transport, the town was served during what is generally, and perhaps somewhat loosely, termed the coaching age over the road which, out of London, passed through Hammersmith, Brentford, Hounslow, Slough and Maidenhead, and the following information, which has been adapted from the 1798 edition of Cary's *New Itinerary,* shows it in detail with distances in miles and furlongs.

The main London to Oxford route was semi-officially known as the London, Oxford, Gloucester and Milford Haven Road.

The year 1700 is a suitable one to take as a basis for showing details of stage coach services, as by then a period of nearly half a century had elapsed since the introduction of these facilities with the London and Chester stage, and some standard form of vehicle and agreed mode of operation had been evolved, rudimentary though it was. Unfortunately, so far as Henley is concerned, there

is no evidence of any established facility, and the roads guide for 1699 details only the route, the would-be traveller having to find for himself what, if any, conveyance operated from any of the places mentioned.

London to Henley
from London, General Post Office, in Lombard Street[1]

	M.	F.
Hyde Park Corner	3	2
Hammersmith, *Swan*	6	4
Turnham Green, *Pack Horse*	8	2
Brentford, Market House	10	1
Hounslow, *George*	12	4
Cranford Bridge, *White Hart*	15	3
Longford, *King's Head*	18	1
Colnbrook, *White Hart*	19	7
Langley Broom	21	3
Slough, Post Office	23	5
Salthill, *Windmill*	24	2
Maidenhead Bridge	28	3
Maidenhead, Market House	29	1
(Roadside) *Golden Fleece*	29	7
Hurley Bottom	33	6
Henley, *Bell*	38	2

Henley to Oxford

	M.	F.
Bix, Turnpike Gate	40	6
Nettlebed, Post Office	43	0
Nuffield Heath	44	3
Beggars' Bush	47	0
Bensington	49	2
Shillingford	50	5
Dorchester, *White Hart*	52	2
Nuneham Courtenay	54	6
Sandford	57	5
Littlemore	58	4
Oxford, *Angel*	61	1

After a lapse of some forty years the traveller to and from Henley was given some information, for it was set out in the *Intelligencer and Merchant's Assistant* (1738) that coaches from Henley to London arrived at the *White Horse* in Fleet Street on Mondays, Wednesdays and Fridays and returned on Tuesdays, Thursdays and Fridays. Mention was also made of a carrier's cart which made the return journey once a week to and from the *King's Head* in Old Change, and of a further vehicle, a caravan or covered cart, which at the London end was based on the *Talbot* in the Strand.

By the time another fifty years had elapsed a marked improvement was evident in the Henley service, as indeed throughout the country, and *Lowndes Guide* (1784) shows a weekly provision of four coaches to and from the *Black Lion* in Water Lane, London, while weekly return services started from the *Angel*, St. Clements, the *George*, Holborn, the *White Horse*, Friday Street and the *Bell* in Warwick Lane. The information concluded with the mention of river barge facilities to and from a wharf close to London's Queenhithe; no further details were given and this was one of the instances of those days where enquiries direct were necessary.

The Stage and Royal Mail services along the Henley route to Oxford increased to the extent that by 1830, the year that saw the opening of the Liverpool & Manchester Railway and a period that can be said to have marked the zenith of road travel, facilities were adequate. The *White Hart* at Henley was the starting point for most of the town's departures and arrivals, but some other inns were concerned, and this will be seen from the following table which has been based on information appearing in Pigot's *National Commercial Directory* for the year in question.

Henley to London in 1830: Passenger Services.

Vehicle	*From*	*Henley departure point*	*Time*	*Frequency*
"Royal Mail"	Gloucester and Stroud	*White Hart*	2.30 am	Daily
"Rocket"	Shrewsbury	*White Hart*	5.00 am	Weekdays
A coach	Started Henley	*Red Lion*	5.00 am	Mondays only
A coach*	Started Henley	*Red Lion*	7.00 am	Tues, Weds, Thurs, and Fris.
A coach	Started Henley	*Red Lion*	9.00 am	Saturdays only
"Regulator"	Wallingford	*Black Bull*	9.00 am	Mons, Tues, Thurs and Sats.
A coach	Wantage	*Catherine Wheel*	11.30 am	Mons, Weds & Fris.
"Alert"	Oxford	*White Hart*	11.30 am	Daily
"Defiance"	Oxford	*Catherine Wheel*	12 noon	Daily
A coach	Farringdon	*White Hart*	1.30 pm	Tues, Thurs & Sats.
"Berkeley Hunt"	Oxford	*Catherine Wheel*	1.30 pm	Daily
"Magnet"	Cheltenham	*White Hart*	2.00 pm	Weekdays
A coach	Stroud	*White Hart*	2.30 pm	Daily in Summer, Mons, Weds & Fris in Winter.
"Sovereign"	Worcester	*White Hart*	4.00 pm	Daily
"Triumph"	Holyhead	*White Hart*	4.30 pm	Daily

*This information could have been shown more clearly by Pigot, and there remains the possibility that there was a 7.00 am on Mondays and Saturdays. Regular Oxford services were also covered by the Royal Mail.

Henley to London in 1830: Freight Services

Carriers	*Henley departure point*	*Frequency*
M & G Morgan	Own warehouse	Mons, Weds and Fris.
W. Burnett	Own warehouse	Mons, Weds and Fris.
S. Hanks	*Swan*	Fridays only.
Waggoners		
J. Kent	*Bear*	Weds, Fris and Sats.
T. Wilkins	*Three Tuns*	Mondays only.
T. Appleby	*Three Tuns*	Mondays only.
A. Cooke	*Bear*	Wednesdays only.
(From Sodbury)	*White Horse & Star*	Twice daily.
Bargemen		
R. Webb & J. Byles*	Own wharf	Fortnightly.

***Webb & Byles also provided water transport to Bath, Bristol, Reading and Marlow.**

It was the custom for carriers and waggoners to accept passengers providing there was room among the merchandise.

Development of the railway system was usually accompanied by a running down of the coach and road wagon facilities over the same general routes, but the town of Henley was one of the places which were slow to benefit directly from the new mode of travel and, with a station four and a half miles away on the Great Western main line at Twyford, it was a case of so near and yet so far. Coaches which had hitherto been operated over the road from London through Slough and Maidenhead began to fall away after the stations on the London side of Reading were brought into use and, by 1840, the year in which the station at Reading was opened, the Henley traveller was put to some inconvenience in the matter of change of conveyance on route until the June morning in 1857 when the first train ran to the new Henley station.

During this seventeen year period, Henley's links with London and towns in the nearer Thames Valley area kept to a general pattern. So far as coaches were concerned there was a conveyance to and from London which provided a service on all days except Sundays. This was known as Dixon's coach, and continued to serve the public at least until 1850 when it was advertised as two services each way. Carriers' carts, and vans of various kinds, for passengers and freight, continued to be operated between Henley and several of the Reading inns, most of them being owned by Reading drivers, while by 1847 omnibuses had been established over the same road. Earlier still, by 1844, another omnibus was linking Henley with the railway station at Twyford, albeit with but an infrequent service. In addition, it was possible for Henley to be reached by rail passengers who had travelled to Reading station, from which point the road services mentioned above could be used.

The Great Western opened its line from Paddington (Old) station to Maidenhead on 4 June 1838, and Reading and the west being the firm intention of the directorate, Twyford was opened on 1 July 1839, and Reading on 30 March in the following year. In due course, after some earlier attempts to do so the Great Western opened its Twyford to Henley branch, a single track line[2] constructed to Brunel's broad gauge, which crossed the Thames by means of a timber viaduct at Shiplake, where an intermediate station was provided[3].

The long awaited arrival of the railway was celebrated in a modest manner, and the national press gave the event scant notice. Jackson's *Oxford Journal* in its issue of Saturday 6 June did however mention a public breakfast at Henley Town Hall at which the Mayor, the Rector, and a body of railway officials and persons who had been closely connected with the project were present. The Rector, the Reverend T. R. Morrell, provided his own form of celebration, if at second hand, for it is stated in the *Journal* that "the church bells rang merrily throughout the day and contributed in giving a holiday feature to the occasion." Mention was also made that the trains, of which there were six to and from Twyford during the day, were "tolerably well patronized." Under "Railway Intelligence" *The Times* of 2 June gave out: "Great Western: this Company's branch line from Twyford to Henley was opened yesterday for public traffic."

NOTES

1 The General Post Office in St. Martin's-le-Grand was opened in September 1829.

2 The permanent way between Twyford and Henley underwent some changes. In March 1876 it was converted to standard gauge, and twenty years later it was improved to a two-track system. In 1961, under one of British Railways' economy schemes it returned to its status of 1876, a single line.
3 Wargrave station was not opened until 1909.

Information in respect of road services during the later years has been obtained from:

Pigot & Co.'s Royal National and Commercial Directory and Topography (1842)
Snare's *Berkshire Directory* (1844, 1847)
Kelly's *Directory of Berkshire* (1847)
Slater's *Berkshire Directory* (1850, 1854)
Macaulay's *Berkshire Directory* (1853)
Billing's *Directory and Gazetteer of the Counties of Berks and Oxon* (1854)

Cast Iron Aqueducts in England and Wales

BY STANLEY TYSON

The successful construction of the Iron Bridge in Shropshire by Darby in 1777 brought to the notice of entrepreneurs the possibilities of future use of this metal. Where canal proprietors also had financial interest in foundries, the introduction of cast iron to canals was inevitable. Whether Telford was persuaded, or naturally convinced, we shall never know. He was forestalled in completing the first cast iron aqueduct by Outram on the Derby canal by a narrow margin.

The era 1777 to about 1825 covers the time when structural principles were being formulated and crystallized. Just as Darby's iron bridge clearly demonstrates the inability to break away from traditional timber jointing techniques in its construction, so Telford continued his segmental (wedge-shaped) elevation of the cast iron plates in imitation of voussoir arches.

I have never found any evidence of a formal structural analysis for these aqueducts. Some are highly redundant and virtually incapable of an accurate structural analysis, e.g. Leamington and Edstone. Surprisingly, the aqueduct at Stanley Ferry presents the least problems in its analysis. The majority function as multispan continuous beams with the assistance of cast iron arches and, in a few cases pierced cast iron beams.

The writer of this paper regrets that the following list and information is deficient. Most of the quoted dimensions were made single-handed on site, consequently there may be small errors. Few drawings and documents exist, and technical journals and learned societies with their transactions did not come into existence until well after most aqueducts were completed. The writer would be very grateful for help from any reader who has further technical or historical information on this subject.

The Aire & Calder Canal

1. *Stanley Ferry* — *Nat Grid Ref SX 355250*
Over the R. Aire near Wakefield — *Still in use*

A drawing of 1827 suggests that an iron trough supported between lattice girders on six piers had been considered. In 1828, Telford had approved it, but it was not until 1834 that Geo. Leather was instructed by the board to prepare drawings and the contract was let in November of the year. It consists of two cast iron arches of bolted sections with the trough between. This trough is supported by wrought iron hangers, lining up the assembly and load distribution being effected by turnbuckles in these hangers. The masonry and foundation contractor was Hugh McIntosh of Bloomsbury, and the ironwork contractor was Wm. Graham & Co., the Milton Ironworks near Sheffield.[2]

The ends are lavishly decorated with psuedo-classical features and the sides with non-functional pillars, likewise classical and all in cast iron. McIntosh lost heavily on the contract and in 1840 was awarded an ex-gratia payment of £2,000.

The first pile was driven July 20 1836; The foundation stone laid May 12 1837; The aqueduct opened August 8 1839.

The trough is 166′ long, 8′6″ deep and 24′ internal width. When full of water weighs 940 tons.

The distance between the centre lines of the arches is 30′6″ and each weighs 101 tons.

There are 35 hangers each side, each 2¼″ dia. and spaced 3′ apart. The total weight of cast iron 230 tons. The total weight of wrought iron 430 tons so that the total weight of the aqueduct approaches 1,700 tons.[3]

Today, the towpath has been removed, side plate shock absorbers have been installed in its place for there is concern that impact from the oil tankers does not increase leakage at the abutments. The arches are already slightly out of line.

Birmingham Canal Navigation

2. *Engine Arm*[4] — *Nat Grid Ref SP 049874*
Near Rotten Park Reservoir, Birmingham — *In use as a feeder*

By Telford. This consists of a branch canal of the old main line at a height of 3 locks above the cruiseway. The work is contemporary with Telford's straightening of the Birmingham–Wolverhampton route. There are six ribs. It is interesting to note that the substructure is almost the same as that on Telford's bridge at Tewkesbury.

Cromford Canal

3. *Cromford* — *Nat Grid Ref SK 320555*
Over the railway, Ripley to Ambergate — *Unused but holding water*

This is a trussed (braced) trough of approximately 48′ skew span. A close examination suggests that the bracing, which is both internal and external, is post construction. It is in sound condition with negligable leakage. The plates are carried into the abutments about 4′6″, and there are 16 panels each side. Cast iron girders support a path either side 8′6″ wide on the north side with railings, and 2′3″ wide on the south side.

4. *Bull Bridge* — *Nat Grid Ref SK 359522*
Over the R. Amber, and the Railway — *Demolished*

It formed part of an aqueduct over river, road and rail and was demolished in the 1960s. Originally constructed by Outram.

The Derby Canal

5. *The Holmes*[5] — *Nat Grid Ref SK 361359*
Was on the site of the current bus station — *Demolished 1971*

This was a curious combination of railway bridge over the canal which was contained in a cast iron trough 15′4″ wide, 5′6″ deep. Adjacent was a stone lined culvert. This assembly, in its turn, was above an open conduit over the R. Derwent. The panels on the railway bridge showed that this section was constructed in 1861. The engineer for the canal scheme was Benjamin Outram who had been a partner with William Jessop at the Butterly Ironworks. It seems likely that the cast iron trough was cast by them in 1796. The trough plates were 1″ thick the bolts 1″ dia., and the freeboard 6″.

The Grand Union Canal

6. *Southall* — *Nat Grid Ref TQ 143797*
Southall Middlesex — *Still in use*

This triple level assembly consists of a road bridge over the canal, in turn all above the railway. The centre lines of each intersect at a common point at approximately 60°. Since the railway is virtually in a tunnel with heavily buttressed masonry only the ends of the trough are cast iron and carried far enough until they effectively join the natural ground level beyond the complex. The crown of the railway tunnel, which in part forms the base of the trough is cast iron. The trough holds 3′6″ of water and is about 30′ wide. The original drawing describes the railway as the "Bristol and Thames Junction Railway", and the canal as the "Paddington Canal". A Lithograph of the arrangement can be found in *The Public Works of Great Britain* ed. Sims.[6] see[7]

7. *Wolverton* — *Nat Grid Ref SP 800418*
Over the R. Ouse near Newport Pagnell — *Still in use.*

This double span trough replaces a masonry arched aqueduct designed by Jessop which had been destroyed by river floods on 8 February 1808. The secretary, Charles Harvey, and the engineer Bevan (then The Grand Junction Canal) visited Chirk, Longdon-on-Tern and Pont Cysyllte and as a result quickly recommended cast iron. The foundation stone was laid 9 September 1809.[8] The design reflects Telford's voussoir pattern. The tenders of both Reynold's (Darby's son-in-law) and Hazeldine were considered in the April. Reynolds attended a meeting of the canal committee along with his partner Anstice,[9] and as a result they agreed to supply and erect the trough on piers and foundations prepared by the canal company, and to guarantee it for two years for the sum of £3,667 10s. 6d. The total cost of the aqueduct was about £6,000. The scheme included a towpath and two cattle creeps. Repairs to the facings of the piers and abutments were carried out in the 1920s. It was opened 22 January 1811.

The overall length of the trough is a little over 101′, 15′ wide internally and 6′6″ deep with negligable freeboard.

Grand Western Canal

8. *Over R. Tone near Wellington*[10] — *Nat Grid Ref ST 146223*
Dry and abandoned

This trough consists of six segments which are neither rectangular nor segmental nor are they of uniform dimensions. The overall length is 42′ and it is slightly skew. It is 8′2″ wide and 4′3″ deep. The plates 1¼″ thick and such bolt holes as are visible are square. The towpath is a brick arch 5′ wide and it has lost its parapet.

The Oxford Canal

9. *Rugby* — *Nat Grid Ref SP 503771*
Over a minor road to Cosford — *Still in use*

This trough is composed of 5 complete segmental plates each side with additions partly embedded in the masonry abutments. The roadway is 22′6″ wide. It was originally supported on 5 cast iron arches springing from castings bedded into the abutments. Presumably, due to low headroom some of these have broken and are now replaced with steel beams. The curved wing walls, the cast iron railings and the masonry pillars strongly suggest Telford's influence, but I have no documentary evidence.

Shropshire Union Canal

10. *Watling St.* — *Nat Grid Ref SJ 873 107*
Over the A5 — *Still in use*

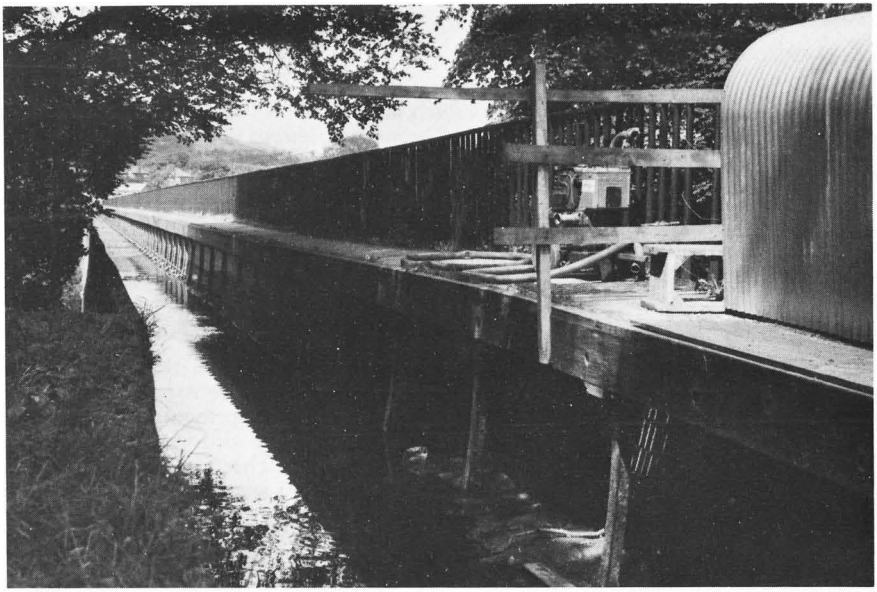
This carries the summit pound of what was originally the Birmingham & Liverpool Junction Canal, the feeder reservoir being close by. The curved wing walls and parapets are terminated in 3′ dia. stone pillars capped with ornamental stone turned pieces. Flat cast arches, 6 in all support the trough, each composed of 5 rectangular (NB not segmental) plates, with additional plates embedded in the ends. The railings, also in cast iron may be described as elegant in their simplicity. There are two identical towpaths 3′9″ wide cantilevered from the sides and over the trough leaving a clear width of water of 12′6″. This arrangement would reduce drag and largely eliminate the Bernoulli effect. The water depth is around 5′6″. The middle plates of the opposite faces have cast, in raised lettering enclosed in a square border the legend,

THOS TELFORD F R S & E
ENGINEER
1832

It was opened on 2 March 1835, after Telford's death.[11]

11. *Congleton* — *Nat Grid Ref SJ 866622*
Hargreave's Wharf — *Still in use*

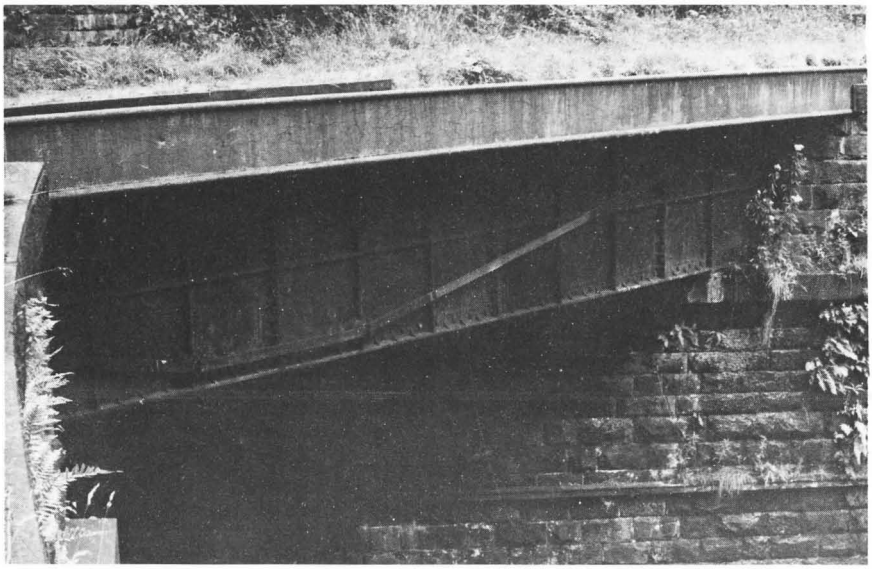
A slightly skew span of 25′, with curved wing walls masonry parapets and pillars and cast iron railings cast on the curves at Watling St. Although no names or date are cast on it, this aqueduct can be attributed to Telford purely on stylistic grounds. There are 5 plates each side each 74″ wide and rectangular. Half width plates, invisible from the roadway carry the trough into the



PONT CYSYLLTE Canal emptied. The broken pieces are under first arch, nearest camera. July 1975.

BROWNHILLS Navigable feeder from Chasewater.

LONGDON-ON-TERN General View.



CROMFORD CANAL Bracings to the trough (2 internal and 2 external).

side walls. Also known as Lime Kiln Wharf, the owner of the adjacent property and the lime kiln tells me his deeds are dated 1835, which must approximate to the date of construction of the aqueduct.

12. *Nantwich* — *Nat Grid Ref SJ 643526*
Over the A51T — *Still in use*

This was completed in 1835, 6 months after Telford's death and bears a striking resemblance to his others at Watling St. and Nantwich. Of square 30′ span, there are only 3 rectangular plates completely visible. Beneath are cast iron jack arches rising 1′4″.

13. *Duke of Sutherlands branch* — *Nat Grid Ref SJ 686165*
Sited near the Duke's drive[12] — *Dismantled in the 1960s*

This aqueduct of comparatively small span had many features of Telford's style, but I have found no documentary evidence here to confirm this. It carried the narrow boats on the Newport branch. Enquiries show that the metal went for scrap most of the stones were used for filling in the cart track it spanned, but some of the dressed stones were re-used locally in the village hall at Kynnersly, SJ 673168.

14. *Longdon-on-Tern* — *Nat Grid Ref SJ 617156*
Near Wellington, Shropshire — *Abandoned and dry, in situ*

Possibly the earliest cast iron aqueduct. It was constructed between 1795 and 1796. It consists of 4 spans between masonry abutments. There are 3 knee braced sets of supports of cruciform section. The dimensions and disposition of the brick and masonry abutments indicate clearly the possible existence of an earlier masonry or brick aqueduct. Indeed it had been destroyed by a flood in the winter of 1794–5. Thomas Eyton, one of the Ellesmere canal treasurers is believed to have suggested the use of cast iron, in fact the idea was approved March 14. Since Wilkinson and Reynolds were committee members of the canal company, no doubt they made some influence on the decision. At a meeting on 14 March 1795, "ordered that an iron aqueduct be erected at Longdon (agreeable to a plan to be approved by Mr. Telford), by Messrs. Wm. Reynolds & Co. at a cost not exceeding £2,000". In a letter of 18 March, Telford described it as being upon a principle entirely new. Subsequently Telford and Hazeldine made tests at Ketley to determine the strength of cast iron, before the plates were cast.[13]

The overall length is 186′ with short amounts penetrating beyond the abutment. The ends terminate at brick walls with thick rubber blocks in between, presumably to take up variations in length due to temperature. The metal plates being in contact with large masses of water would not experience any significant changes in length. The depth of channel is 4′6″ and the inside width 7′6″, the plates 1″ thick. The side plates are segmental, (the arch still in mind). Clear spans are 47′8″, i.e. between verticals. The bolts appear to be 1″ dia. and seemingly not interchangeable (Whitworth's ideas on interchangeable threads came later). The towpath is separately supported and is 41″ wide with rails 31″ high. The base plates are liberally supplied with snugged holes 3½″ dia., although it is difficult to see why so many were needed. The aqueduct was completed March 1796, serious deterioration was noted by 1899 and it was officially abandoned in 1944. It contained water as late as 1965.

15. *Pont Cysyllte (pronounced Cushulter)* *Nat Grid Ref SJ 271420*
Over the R. Dee near Ruabon *Still in use*

Before about 1800 the hierarchy of engineering responsibilities and their respective titles had not been clearly defined, consequently there has been much discussion as to the relative authorities of Jessop and Telford. It is quite clear that Pont Cysyllte is Telford's masterpiece. It consists of 19 spans, 53′ centre to centre, 45′ clear, 3 of them containing the river Dee, with columns founded on rock. Jessop made suggestions for sizes, but Telford amended them increasing the trough size from 9′ by 5′ to 11′10″ by 5′3″, also necessitating an increase in column size, and to save weight only the lower 70′ of them are solid, above they are hollow.

Work began 25 July 1795 and it was opened 26 November 1805 after being tested by allowing to stand full of water for six months. The plates, mainly 2″ thick were cast by Wm. Hazeldine at the Plas Kynaston Ironworks, the contract being let to Wm. Hazeldine, John Simpson and Wm. Davies. The masonry foreman was Matthew Davidson a fellow mason from Telford's Langholm days, and James Varley. Attention must be drawn to the very thin horizontal masonry joints. In Field's diary of a tour in 1821 we read, "the trough is put together with flanches and has flannel in the joints. From pier to pier there are 5 ribs cast in three pieces to support the trough which has 11 pieces in the sides of each arch radiating. Expansion and contraction seems to have produced little effect. I did not see a single drop coming from under it . . . we left the aqueduct and went to the foundry at which Mr. Hazeldine casts his iron bridges".[14]

There is a cast iron plaque at the foot of a pier to the south which reads:—

The Nobility and Gentry of
the adjacent Counties
Having united their efforts with
The great commercial interests of this Country
In creating an intercourse and Union between
ENGLAND AND NORTH WALES.
By a navigable communication of the three Rivers
SEVERN DEE and MERSEY
For the mutual benefit of Agriculture and trade
Caused the first stone of this Aqueduct of
PONT CYSYLTE
To be laid on the 25th day of July 1795
When Richard Myddelton of Chirk Esq., M.P.
One of the original patrons of the
ELLESMERE CANAL
Was Lord of this Manor
And in the Reign of our Sovereign
GEORGE THE THIRD
When the equity of the Laws and
The security of Property
Promoted the general welfare of the Nation
While the Arts and Sciences flourished
By his Patronage and
The conduct of civil life was improved
By his example
TELFORD

The opening ceremony was memorable. The Royal Artillery Company fired a salute. Six boats went over, the first two carrying the proprietors the next carried the band of the Shropshire Volunteers, the fourth, engineers and staff, and the last two commercial products.

The towpath is cantilevered from the inside of one face and has a hand rail, the other face has little freeboard and no rail. One person was killed on the job. It had cost £47,018 and taken 10 years to erect.

The water is tapped from the R. Dee at the Horseshoe Falls, 2 miles from Llangollen supplying 6¼ million gallons a day, mainly to the Mid-Cheshire Water Board, on a falling gradient of 1 inch per mile. The difference between the aqueduct and river levels is about 126'.[15]

16. *Chirk* — *Nat Grid Ref SJ 287373*
Over the R. Ceiriog — *Still in use*

This aqueduct was intended to be entirely of masonry but the idea of using puddled clay was changed to using cast iron lining plates. Work began 1796, seemingly under Jessop's orders with Telford as engineer. The plates in 11'3" lengths and 1" thick were cast by Wm. Hazeldine at Plas Kynaston. The total cost was £20,898. The channel is 11' wide and 5' deep. There are 10 semi-circular masonry arches 40' span. The overall length being 710', difference in water levels 70'. There are paths on boths sides each 5'6" wide with Telford's original railings. It was completed 1801.

The Stratford on Avon Canal

17. *Bearley (Edstone)* — *Nat Grid Ref SP 162609*
Still in use

Engineered by William Whitmore, there are 14 spans on brick piers, with 35 plates each side, 14' long and 1" thick, with a hotch-potch of joints and seals. The trough is 8'6" wide and about 3'9" deep with a 4'6" wide cast iron tow-path and railings alongside. The overall length is 520'7½".

The piers do not coincide with the vertical trough joints and between the piers are cast iron beams 6" broad increasing in depth towards the centre and having pierced square holes in the web. It represents an example of an early continuous beam and the fact that there is no leakage along its length suggests that there has been no settlement in the piers. There is some leakage at the abutments probably because the plates are not continued into the abutments by an adequate amount.

18. *Wootten Wawen* — *Nat Grid Ref SP 159630*
Over the A34 — *Still in use*

This aqueduct consists of a series of rectangular plates of unequal length, mainly 8'5½" long and resting on brick piers. These spans, four in all, were originally supported on cast iron rectangular beams 4" thick and 12" deep, but on the span over the road these have been replaced by steel joists. The depth of water is 3'7". The water faces of the plates are curiously pitted, whether this is the result of corrosion or badly finished castings from the foundry would need a deeper investigation. A plaque on one face reads:—

W. James Deputy Chairman
Stratford Canal Co.
Oct. 1813
W. Whitmore Engineer.

19. *Yarningdale*[16] *Nat Grid Ref SP 185664*
Still in use

(This was difficult to locate. It can be reached by a footpath off the lane from Lowson Ford to Preston Bagot. It can also be approached down the towpath from Lowson Ford past Locks 32 and 33. This latter approach is down a rough road for cars but parking is possible by the general store near the locks).

The original aqueduct was built about 1834 but was destroyed on 28 July the same year by the stream in flood which normally would have passed under it. Today's aqueduct was made by the Horsley Ironworks and was opened 23 August 1834. There are 5 plates each side each 8'5½" long. Although the stream width is only 16', about 12' of trough is carried through each end, through the abutments and into the ground.

Warwick And Napton Grand Union

20. *Name?* *Nat Grid Ref SP 304653*

Between Leamington and Warwick, over the railway *Still in use*

This skew bridge has four identical spans, two being over the railway. At either side the towpaths are carried on brick arches. The square span is 14'4", the skew span 20'6". The channel is 17'10" wide, the towpaths 6'4" wide with cast iron plate parapets. Between the brick columns are cast iron arch ribs, six in number to a span each made from 5 irregularly shaped pieces bolted together and, being on the skew, represent excellent examples of the art of pattern making and foundry work. The Warwick and Napton plate is on a notice nearby.

21. *Brownhills*[17] *Nat Grid Ref SK 053064*

Over the Walsall to Lichfield Railway *Still in use*

Here are two spans between abutments with a central brick pier between the two railway tracks. The side plates of each trough are three in number not of equal length. The railway bridge is numbered 74. Each trough is carried on small cast iron arches. There is a path on either side about 8' and 3' and each is carried partly on the trough and partly on cast iron flat arches covering both tracks in one span. The whole is slightly skew. It carries the feeder of the Anglesey arm, being also navigable.

Tavistock Canal[18]

22. *Name?* *Nat Grid Ref 466721*

The towpath side is masonry faced and the trough is exposed on the opposite faces.

Montgomery Canal[19]

23 *Welshpool* *Nat Grid Ref?*

The trough has vertical joints and the towpaths on either side are in the form of of brick arches. An engraved stone declares "J. S. Word Engineer 1836."

NOTES

1. *The History of Bridges of Pennsylvania,* by W. H. Shank published by the American Canal and Transport Centre illustrates such an aqueduct at Jackstown on the Juniata division.
2. See Hadfield: *Canals of Yorkshire and N.E. England Vol 1. p150.*
3. Information from a lithograph by J. C. Bourne in the B.W. Board's office at Castleford. This also says the aqueduct is by Geo. Leather & Son. The lithograph was published in Leeds 1834.
4. The District Engineer B.W. Board Birmingham tells me he has no drawings of this aqueduct.
5. I am greatly indebted to Mr. M. D. P. Hammond of Nottingham who very kindly presented me with a measured drawing of this scheme.
6. A copy of this book is to be seen in the British Library, Boston Spa.
7. The road bridge is of plate girder design today, the original was a cast iron arch-cum-suspension style.
8. See Faulkner, : *The Grand Junction Canal,* pp.68 to 70.
9. Both Reynolds and Anstice are buried under cast iron memorials.
10. Location and information kindly supplied by K. G. Parrot of Rugby.
11. Thomas Telford. born 9 August 1757, died 2 September 1834.
12. There is an illustration of this in L. T. C. Rolt, p.99.
13. See Rolt: *Navigable Waterways* p.101.
14. Transactions of the Newcomen Society Vol 13.
15. See Smiles: *Lives of the Engineers.* It also contains information on Chirk. See Rickman's Thomas Telford. See Ellesmere Canal Co's Committee Books.
16. See Hadfield: *Canals of East Midlands* p.80 and Rolt: *Navigable Waterways* p.99.

17–19. Location and information kindly supplied by K. G. Parrot of Rugby.

ADDENDA.

Pont Cysyllte.

Early in July 1975 two of the inclined members transmitting forces from the underside of the trough to an inside arch failed. The B.W.B. drained the aqueduct and as a result it is quite plain that it is built with a slight rise towards the middle.

Correspondence

Northumberland & Durham Coal Company

Sir, – With reference to p.17 of the *Journal* for March 1975: Mr. Mountford says he lacks knowledge of the Blackwall area and that is presumably the reason why he has confused three different schemes, two of which had nothing to do with the North London Railway. It is hardly necessary to say that the proposal to construct a railway from Blackwall to join the Croydon Railway was stillborn.

It is probably correct that the first train of coal to Hackney ran on 15 October 1851 but to say that the coal company controlled the line from its construction stage is quite contrary to what is stated in the Minute books of tne N.L.R., which I have re-examined.

From the date of opening the N.L.R. had run a 15-minute service of passenger trains to and from Fenchurch Street via Bow, and the railway company had complete control. The coal company were informed that the coal trains could only be worked during the night. Palmer was not in a position to sell the North London Railway to anybody; perhaps it was the coal company's wharves he was prepared to sell, but there is no trace of this in N.L.R. records.

H.V. BORLEY

Chatham Subterranean Canal

Sir, – A recently discovered lengthy Letter from Sir Marc Isambard Brunel to Sir Thomas Lauder, Grange House, Edinburgh, dated 7 March 1839, contains the following remark

> "My own works in the Dock yard at Chatham have a peculiar character. There the Timber is all brought up the yard chiefly by a subterranean canal, then taken up about 56 feet in height, then carried and stacked, all mechanically . . . then brought to a sawmill, from the stack, converted and served out to the different Ships on Dock without any team of Horses, as was done before. I might add to this several other machines which are now in general use."

I cannot recall having previously heard of a "subterranean canal" at Chatham. Is anything known of this?

E.S. LOMAX

Recent Literature

BY WILLIAM J. SKILLERN

BUSHELL, J. The World's oldest railway: a history of the Middleton Railway. 1975. (Turntable Publications, 70p)

DAVIES, Hunter. A Biographical study of the father of railways, George Stephenson. 1975. (Weidenfeld & Nicolson, £4.95.)

DAVIES, W. J. K. (Compiler). The Bedside Ratty: [extracts from contemporary writings on the Ravenglass & Eskdale Railway. 1974]. R. & E. Railway Co., Ravenglass, Cumbria, 75p)

DORMAN, C. C. The London & North Western Railway. 1975. (Priory Press, 101 Grays Inn Road, London, W.C.1, £3.50)

DUNCAN, W. (Editor). The Stephenson centenary, 1881; [facsimile of 1881 publication]. 1975. (Frank Grahem, £1.80)

FAIRCLOUGH, Tony and SHEPHERD, Eric. Mineral railways of the West Country. 1975. (D.B. Barton, £3.50)

FERNEYHOUGH, Frank. The History of railways in Britain. 1975. (Osprey, £6.50)

INDUSTRIAL PAST: an industrial and transport archaeology review. Quarterly from No. 1, Spring 1974. (John Keavey, 17 Uplands, Skipton, North Yorkshire, 20p or subscription £1 p.a.)

KEAVENEY, E. & BROWN, D. L. A History of the Manchester to Ashton-under-Lyne Canal. 1974. (Peak Forest Canal Society, 75p; available from M. Matthews, 163 Grange Avenue, Cheadle Hulme, Cheadle, Cheshire SK8 5NJ)

KEYS, R. The Churnet Valley Railway. 1974. (Moorland Publishing Co., Hartington, Buxton, £1.60)

MERSEYSIDE Metropolitan Railway Act 1975. (Eliz. II 1975, Ch. xi). (H.M.S.O., 95p; by post, £1.05)

NOCK, O. S. Railways, then and now: a world history. 1975. (Elek, £10)

POND, C. C. The Chingford line and the suburban development of Walthamstow and Chingford. 1975. (Walthamstow Antiquarian Society, Vestry House Museum, Vestry Road, London E 17, 60p)

REED, Brian. 150 years of British steam locomotives. 1975. (David & Charles, £6.50)

SEMMENS, P. W. B. Exploring the Stockton & Darlington Railway. 1975. (Frank Graham, 70p)

STOCKTON & DARLINGTON RAILWAY. Rail 150 Exhibition, Steam Cavalcade: souvenir guide. 1975. (Joint Committee for S. & D.R. 150 Celebrations, North Road Station, Darlington, 50p)

TUPLIN, W. A. Great Western power. 1975. (Allen & Unwin, £5.95)

TUPLIN, W. A. The Steam locomotive: its form and function. 1974. (Adams & Dart, £3.75)

TURNER, Susan. The Padarn & Penrhyn Railways. 1975. (David & Charles, £4.50)

UPTON, Neil. An Illustrated history of civil engineering. 1975. (Heinemann, £3.50)

WELLS, Matthew. First stop Maidenhead: [railway history of the area. 1975?] (M. Wells, 32 Laburnham Road, Maidenhead, 50p)

WINTON, John. Little wonder: the story of the Ffestiniog Railway. 1975. (M. Joseph, £3)

ARTICLES

Railway First Aid medals, by B.G. Faulconbridge. (*In* "Coins and Medals", Vol. 12 No. 9, September 1975, pp.20–23)

British steam locomotives on medals, by Howard Linecar. (*In* "Coins and Medals", Vol. 12 No. 9, September 1975, pp.16–19)

Isca Foundry and Engineering Co. Ltd., Mill Parade, Newport, by W.L.C. Phillips. (*In* "Presenting Monmouthshire", No. 39, Spring 1975, pp. 27–31)

Railways issue [postage stamps]. (*In* "Philatelic Bulletin", Vol. 12 No. 11, July 1975, pp. 5–9)

Items of Historical Interest

RECEIPTS *V.* EXPENDITURE OF A LOCOMOTIVE IN RUN OF 50 MILES: Receipts £11 8s. 1¼d., Expenditure £1 17s. 2½d. All this money goes into the air in a 50 mile run of engine. Wages 13s. 11¼d., Repairs 11s., Coal and Coke 8s. 11d., Oil and Stores 1s. 4½d., Water 10¼d., Salaries 9d., Gas 3¼d., Turntable 1d. (From *Harmsworth Magazine* May 1899).

KILSBY TUNNEL.—The work of relaying the rails in this tunnel has just been completed. The old stone blocks have been entirely removed, and both lines (amounting in the whole to three miles) have been relaid with new wooden sleepers . . . . . (*Railway Times* 4 March 1848).

NEWMARKET.—"the line is now opened for goods traffic which is gradually and satisfactorily developing itself, and no doubt exists that it will be in a fit state for the passenger traffic during the ensuing month. (*Railway Times* 4 March 1848)

SEIZURE OF A RAILWAY CARRIAGE FOR POOR'S RATES.—On Wednesday se'nnight a novel scene took place on the Chelmsford (Essex) station, on the Eastern Counties Railway — nothing less than the officers of justice marching upon the line, warrant in hand, and clutching, with the strong arm of the law, a first-class carriage, in payment of the sum of £31 for poor's rates due to the parish of Margaretting. It seems that the Directors imagined themselves aggrieved by the assessment of the overseers, and gave notice of appeal at the last quarter sessions, when it was thought the question was in a fair train for a decision; but they suddenly stopped short and abandoned the appeal. Still the cash was not forthcoming, therefore nothing was left but to resort to legal compulsion. However, as the trains made no stoppage at Margaretting, but went whizzing, and snorting, and whistling on, as much as to say "we wish you may get it!" and as cuttings and embankments, and trains and bridges, are not very saleable commodities, it was found necessary to put the law in motion in the neighbouring parish of Chelmsford. Accordingly, a warrant having been issued by a resident magistrate, the carriage, once laid hold of, was committed to the safe custody of strong lock; but we have not been informed whether it has yet been released from the house of bondage to the freedom of the rail. (*Railway Times* 13 November 1847).

IMPORTANT NOTICE

Members are asked to note that, for the issue of the *Journal* next March, there is *one* article only in hand. Material for the March issue will be going to the printers immediately before Christmas.

Charges for advertisements are as follows: for small advertisements, members 3p per word, non-members and commercial advertisers 6p per word. Minimum charge for any small advertisement 50p. Remittance should be sent, with the copy to Mr. Michael Stimpson, 83 Sunny Bank Road, Potters Bar, Herts., EN6 2NL to whom all enquiries regarding advertising should be made. Enquiries about half- and whole-page advertisements should also be made to Mr. Stimpson.

POTTER BOOKS LIMITED: We are interested in buying 19th c. railway and canal books, pamphlets and maps. If you would like to be sent (post free) our transport catalogue due 1976 please send your name and address to: Peter Whiteley, Potter Books Limited, The Raswell, Loxhill, Godalming, Surrey.

R. & C. H. S. Publications

The following publications are available from the R. & C. H. S. Sales Officer, at "Macrae", Stubbs Wood, Amersham, Bucks., HP6 6EX. All prices *include* postage; prices in brackets apply to Publication Fund subscribers.

HOW FFESTINIOG GOT ITS RAILWAY (M. J. T. Lewis). 63p (53p).

CUMULATIVE INDEX TO THE RAILWAY JUNCTION DIAGRAMS PUBLISHED BY JOHN AIREY AND THE RAILWAY CLEARING HOUSE, 1867–1939 (A. E. Bennett). £1.20 (90p).

CHRONOLOGY OF THE RAILWAYS OF LANCASHIRE (M. D. Greville). 40p (35p).

CHRONOLOGY OF THE RAILWAYS OF CHESHIRE (M. D. Greville). 40p (35p).

WATERWAYS AND RAILWAYS TO WARRINGTON (Peter Norton). £1.00 (90p).

CLOSED PASSENGER LINES OF GREAT BRITAIN 1827–1947 (M. D. Greville and Jeoffry Spence). £1.00 (80p).

NORTH EASTERN RAILWAY: HISTORICAL MAPS (R. A. Cook and K. Hoole). 75p (65p).

DECENNIAL INDEX No. 1 TO THE JOURNAL OF THE R. & C. H. S. (Volumes I – X, 1955–1964) (B. S. Cooper). 50p.

DECENNIAL INDEX No.2 TO THE JOURNAL OF THE R. & C. H. S. (Volumes XI – XX, 1965–1974). (B. S. Cooper). 65p.

A READY-RECKONER CALENDAR FROM 1600 to 1999 (A. E. Bennett). 10p.

PRINCIPAL RAILWAY ACTS OF PARLIAMENT OF 1866 (Geoffrey Webb). 10p.

Back issues of the Journal: 1965–1974 40p; 1975 50p.
(Many issues from 1965 onwards are still available).

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