THE RAILWAYS OF THE LEICESTER NAVIGATION COMPANY

by

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Reference to most authors on the early history of railways will reveal a mention of the railways associated with the Leicester Navigation Company, generally under the title of the Loughborough and Nanpantan Railway. The chief claim to fame of this line which has brought it to the notice of these authors seems to have been its use of cast-iron edge rails at a very early date. Even as recently as 1939, however, we find Mr. Charles E. Lee mentioning the difficulty of obtaining accurate information about this line. Since that date examination of the documents of the Company deposited in the Archives Department of the Leicester City Museums and in the British Transport Commission Archives has made it possible for the facts about this interesting venture to be assembled.

It is only necessary to outline the salient facts about the Leicester Navigation Company as laid down in the original Act of Parliament, for the general history of the Company in its early days has already been written by A. Temple Patterson. The Leicester Navigation Company's Act was obtained in 1791 for making the River Soar navigable between Loughborough and Leicester and for "a communication by Railways or Stone Roads and Water Levels from several places and mines" in the Coleorton and Swannington districts to Loughborough, whence the coal and merchandise could be shipped to Leicester via the new canal. The railways were to be built from the pits to Thringstone Wharf at the western end of the line, and from a point near the village of Nanpantan to Loughborough Wharf at the eastern end; the two lengths of railway were to be joined by a canal. It was hoped that by this means coal from the Leicestershire mines could be sold in Leicester at a cheaper rate than the Derbyshire coals.

On 5 July 1791 William Jessop, the well-known engineer, was appointed Engineer to the Company at a salary of £350 per annum, and Christopher Staveley Surveyor at £200 per annum, both remunerations to include expenses. The line was surveyed by Staveley, and Jessop provided an estimate of £43,166 for the whole of the works, railways and canals. In actual fact this estimate was soon found to be hopelessly inadequate and frequent calls had to be made on subscribers for increases in their subscriptions. Ultimately the total cost was in the region of £96,000.

Messrs. Pinkerton were employed as contractors on the water-levels during 1791, and on 24 February 1792 a contract was drawn up with the same Company for the construction of the railways. In spite of regular payments to this firm the work did not proceed as quickly as the proprietors desired, and at the half-yearly general meeting on 2 July 1792 it was resolved that an incentive payment of £50 per week be offered to Pinkerton's for each week in advance of 29 November 1793 that the canals and railways should be open to traffic. This inducement was ineffective in spurring the contractors to greater efforts and Jessop was asked to report on the progress
THE FOREST LINE OF THE LEICESTER NAVIGATION COMPANY
Based on the Survey by Christopher Staveley 1790
of the work. The Engineer's report was unsatisfactory and Pinkerton's contract terminated. The workmen were taken under the direct control of Staveley, and to assist him in this work William Read was appointed at a wage of a guinea and a half per week. In passing it may be mentioned that at this time also we find the name of another famous engineer cropping up, Benjamin Outram, who paid several visits to measure the water in the Blackbrook Reservoir, for which he received a fee of £21.5.

Under Staveley's direction the work progressed satisfactorily and by March 1793 the works on the Forest Line were ready to receive the permanent way. An order was placed with Coleman, Burbidge & Co., canal carriers, for the shipping of the cast-iron rails from Butler's of Chesterfield. However the proprietors' desire to get at least part of the system working led to an order to Staveley to leave work on the Forest Line and press on with all despatch to get the canal from Loughborough to Leicester ready for traffic. This was done and the canal formally opened on 21 February 1794.

Work was now continued on the Forest Line and John Gildart appointed toll-collector at Thringstone Wharf at a salary of £40 per annum, to take up his duties as soon as the line was ready for traffic.

On 24 October 1794 the Committee was gratified to receive the news that a boat-load of coals of nearly ten tons from Mr. Burslem's Colliery at Coleorton had passed along the water-levels and railways to Loughborough. The whole of the Navigation was now open as provided for in the original Act, but before this date the colliery owners and tenants had lost faith in the Forest Line as the solution to their problems. Correspondence with Fenton & Raper shows that this Company had made no attempt to build wagons and boats for conveying their coals over the Navigation as they had intended to do. In fact the initial opening of the Forest Line appears to have been no more than a gesture.

Jessop's contract had now terminated and Christopher Staveley was appointed Superintendent of Works at a salary of £70 per annum. This considerable reduction in his salary is consistent with the general policy of the Company at this time. Their finances had reached a dangerously low level, such in fact that a resolution was passed that, in future, members at general meetings must pay for their own lunches and club together for the liquor so that "the Company may only have to bear the cost of Gratuities to the Servants". The salary of Mr. Orchard, Superintendent on the Forest Line, was reduced to 15s. per week.

On 10 April 1795 there is reference to the proposed working of a further load of coal over the Forest Line on the following Thursday, and this was apparently considered to be such an event that the Chairman and two other Committee members were instructed to attend. Whether the load was actually worked is not stated. In any case the Line was in no fit state for regular traffic and we find Mr. Burslem, tenant of one of the Coleorton collieries, complaining that he could not carry on without assistance as owing to the inability of the Navigation to transport them, stocks of coal were piling up at Thringstone Wharf. By 3 July there were 400 tons stacked. Ultimately this coal was purchased by the Navigation Company and resold at cost. In spite of this, Burslem was one of the colliery tenants to go out of business shortly after this date.

Further delay to the reopening of the Forest Line was occasioned by the necessity of building a new reservoir at Blackbrook to maintain the
height of the water in the canal. As there was no work for him to do, Mr. Gildart the toll-collector at Thringstone was given notice on 8 April 1796. Later a resolution was passed that a certificate of character be drawn up and sent to him along with his bond of £200.

Between May and July of this year there are receipts for small amounts of tolls taken on the Line, £4 17s. 9¾d. in May, £8 9s. 4½d. in June, and £1 3s. od. in July, but there are no subsequent entries apart from two small sums paid in by Staveley in 1798. Whether these receipts were in respect of coal carried, or whether for other merchandise, is not stated.

A resolution was passed reducing the tolls payable, but by now the colliery owners had either returned to the old methods of transport, horse-drawn waggon or packhorse, or had gone out of business. The cost of transhipping the coals from waggons to boats and back again to wagrons had pushed up the tolls to such an extent that even when the Line was working the coals could not be sold in Leicester at less than the Derbyshire coals, which were sent throughout by boat. In a letter to Lord Moira dated 15 June 1796 Mr. Deakin, Chairman of the Company, states that “Although the water-levels and railways to communicate between Loughborough and the Leicestershire Collieries have been for some time in a useable state, and the reservoir to supply the water-levels is now finished, yet little or no use has been made of them; it being pretty well ascertained that the coal from these collieries cannot be brought into competition with the coals from the Erewash—as the latter coal is now selling at Leicester for 8d., 7½d., and some even for 7d. a hundred, and upon the most economical way of bringing the Leicestershire coals along the railways, water-levels, etc., they cannot be afforded at Leicester for less than 9d.”.

In spite of the failure of the Forest Line, the canal between Loughborough and Leicester had been doing reasonable trade and in January 1798 the Company was able to declare a dividend (at the rate of 3½%) for the first time.

In the following May the Company received a letter from the agent of Sir George Beaumont of Coleorton setting forth the terms upon which Sir George was prepared to use the Forest Line, should it be made useable. He asked for a sufficient number of cast-iron rails to construct a further 200 yards of permanent way to connect his colliery up with the existing line. Sir George was also careful to point out that the weight of the wagons should not be included in the reckoned tonnage. In his reply to this letter Mr. Deakin conveys the Company’s willingness to supply the rails and in a postscript gives an interesting note on the rolling stock employed: “I beg leave to recommend that in making the necessary Waggons, the same be made as light as possible consistent with the proper degree of strength; as those which were provided by Mr. Burslem are unnecessarily heavy and in my opinion would do considerable injury to the railways”.

The final blow, however, was yet to fall. During the thaw following the severe winter of 1798 the reservoir burst its banks and did considerable damage over a wide area, destroying part of the earthworks of the Navigation and costing the Company £2,025 in compensation.

There was now no question of the Line being put into a useable state, at least not for a considerable period, and the last of the Swannington and Coleorton pits closed down, to remain closed until 1833 when the Leicester & Swannington Railway was opened throughout.
The Forest Line was still the property of the Navigation, although the Line became overgrown and the canal dry. The rails and sleepers were taken up in 1820, and in 1824 the stock of rails was put up for sale at a price of £10 10s. per ton. Only a small quantity was sold and about 200 tons was left on the Company's hands. Then in 1826 the land along the Forest Line was let, and thus came to an end the first chapter in the history of the Line.

In 1828 the Leicester & Swannington Railway was proposed and it became apparent to the proprietors of the Navigation that this might have a deterrent effect upon the revenue accruing from the shipment of Derbyshire coals over the canal section from Loughborough to Leicester. A meeting was held to discuss the action to be taken and it was decided not to oppose the scheme openly. Instead it was proposed that a petition be made to Parliament to absolve the Company from all responsibility of putting in order “the Forest line which they had been obliged to make at a cost of nearly £40,000 in direct opposition to their wishes for the convenience of the Swannington and other neighbouring Collieries, but which line from the time of its completion to the present time, a period of 35 years, has not been used either by the Swannington or any other Colliery, but has been and still is entirely useless and still occasions an outlay to them of upwards of £100 a year”. However, it was not possible to get this clause inserted in the Bill, and in November 1830 there came a bombshell in the form of a letter from Lord Stamford's agent stating that it was imperative that the communication as directed by the Act, to convey limestone and other goods from Breedon, be put in order.

The Committee were completely discomfited by this letter as they feared that other owners of quarries and collieries were only awaiting the outcome of Lord Stamford's action before pressing claims for the complete reopening of the Forest Line. Their reply to the letter was that if legal action was taken, and such action was successful, they would only reinstate the Line as a mixture of “Railways and Water-levels on the old principle”: in other words the Line could not be used for steam-hauled trains. It was proposed that a deputation be sent to wait on Lord Stamford, but that noble gentleman would have nothing to do with the business, entrusting all the negotiations to his agent. The correspondence became more and more forthright until a very curt letter from the Company's clerk, Halford Adcock, expressed the unanimous opinion of the Committee that they could not proceed further with the business.

With the Leicester & Swannington Railway Act now obtained, the pits in the Swannington and Coleorton area were reopening, and rather late in the day the Committee of the Navigation Company suffered a change of heart and decided that it would be desirable to gain access to the coalfields once again. Consequently H. A. Provis was employed to survey the Forest Line and to provide an estimate for the cost of putting it into working order.

The reports of Provis give us much interesting information regarding the topography of the Line. His first report tells us that the Line at the Loughborough end was on a rising gradient to the end of the water-level, the final length of 30 chains being at 1 in 30 and another section 48 chains in length at 1 in 70. These gradients were considered to be too steep for steam engines and Provis also states that the gradient of 1 in 30 was not
practicable for horse working as "the descending loads would press too rapidly upon them [the horses] unless a Lock or Break were applied to the Wheels which would cause serious wear on them and the rails". To ease the gradient he suggested that the length of the incline should be extended along the line of the old canal.

The water-levels were still in a reasonable state though dry, but as it was the cost of transhipment which had made the line an uneconomic proposition when first built, it was decided to adopt a form of railway throughout. The suggestion was put forward that boats might be designed equipped with rails so that the loaded waggons could be taken directly on board, but the scheme was not adopted. It may be from this proposal that the oft-quoted story that such boats were actually used on the Line has arisen.10

Provis's initial report came to the conclusion that the simplest, cheapest, and most expeditious means of putting the Line in order was to lay it throughout as a railway to be worked by horse-drawn waggons. The cost of easing the gradients, and the sharp curves along the canal line, was considered too prohibitive to make the Line suitable for steam traction. Besides the engineering works involved, several pieces of valuable land would have to be purchased.

The remarks of Provis regarding the permanent way to be used afford an interesting account of contemporary engineering thought. The Company still had about 15,000 of the three-foot cast-iron rails and it was proposed that these should be used on the steepest parts of the Line, but that along the old canal level five-yard lengths of wrought-iron rail similar to that used on the Liverpool & Manchester Railway should be laid, the advantages being that these lengths could be bent to negotiate the numerous curves and that at the same time the fewer joints would reduce friction. The greater friction imparted by the greater number of joints and the rougher surface of the cast-iron rails was to be usefully employed in checking speed on the steep gradients; hence the reason for their proposed use there. The whole cost of the work was estimated at £19,654 17s. 2d.

Legal advice was that an Act of Parliament would be necessary for the conversion to railway throughout, and on 27 August 1832 Provis was asked to submit a further report after reviewing the Line to see what improvements could be made. It is obvious that having seen the successful opening of the Leicester & Swannington on 17 July the Committee had had second thoughts about the use of horse traction. Provis's second report11 contains proposals for easing the gradients and curves still further to enable steam traction to be used. It was proposed that the track should be single with three turn-outs or lay-bys per mile.

In the mean time Sir George Beaumont was going ahead with his plans for the Coleorton Railway from the end of the Leicester & Swannington, and Provis discusses the possibility of linking this up with the Forest Line.

The Plan and Section of the rebuilding were now complete and were deposited with the Clerks of Peace for the County and Borough of Leicester on 26 November 1832, and a General Meeting of the Company called for Christmas Eve.

At the meeting much time was taken up with discussing whether the Company could convert the Line to railway throughout without the expense of obtaining an Act of Parliament. This question was passed to the Company's legal adviser, David Pollock, whose opinion was that an Act
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would be necessary as the original one specified railways only in certain places, the rest of the Line to consist of waterways.

The Committee, in the mean time, do not seem to have been at all confident that Provis's scheme was practicable. It was apparent to them that any application they presented to Parliament was going to meet with stiff opposition, and even if such application were successful, the scheme was going to cost a considerable sum of money. The shareholders also were not unanimously in favour of the new Line and on the first occasion that the Bill was presented to them, the motion that it be approved and presented to Parliament was defeated by 73 votes to 70 amidst some disorder. Nevertheless at a further meeting held on 7 January the Committee were authorised "to consider the propriety of forming a railway from the Leicester Navigation across the Forest to the Coal and Lime Fields of the western side of the county and to take surveys, estimates, and all proper steps for accelerating the eligibility of any particular line they may deem expedient".

Armed with these powers the Committee now set about getting surveys and estimates from other engineers in the hope of finding a cheaper solution than Provis had suggested. John Urpeth Rastrick of Birmingham submitted a report in which he stated that he was satisfied of the practicability of converting the whole Line to railway in spite of the sharp curves; the difficulties occasioned by these could be overcome by the use of his patent carriage, which had been found suitable on other lines. Although he mentions the possibility of steam traction, Rastrick's estimates of haulage costs are worked out on the assumption that the waggons would be drawn by horses, with the assistance of inclined planes 1,000 yards long, at the Loughborough end of the old water-level, and from Thringstone Wharf to a site near Peggs Green. His comments on the working of these planes are of some interest: "The loaded carriage will run down and by means of a Rope turning round a Pulley, bring up the empty carriages from the foot of the Inclined Plane, the carriages will run of themselves down to Loughborough, the Horses riding behind in a two-wheeled carriage—behind the loaded carriages—which saves the fatigue of the horses in running after the carriages and as they can eat their hay and corn during the journey downwards, they will be fresh for the work of taking the empty carriages up again and enabled by this means to do nearly double the work that they could do without this contrivance". In addition to the inclined planes Rastrick suggested that additional engineering works in the form of tunnels should be constructed under the Belton Road and at Thringstone. In view of these works it is not surprising that Rastrick's estimate came to £38,841 plus an additional £5,979 for the branch from Thringstone to Barrow Hill. This sum seems to have been too much for the Committee. Thomas Hill of Wakefield was next approached, and he submitted a rather sketchy report on 21 June 1833. Hill was obviously not impressed with the Forest Line and his report was principally concerned with restoring the old line at a cost of £19,082.

In the midst of these negotiations Edward Staveley, the Company's Surveyor, fled the country after embezzling nearly £1,700 of the Company's money. The younger Staveley had been appointed jointly with his father in 1825 and had continued as Surveyor and Engineer after Christopher Staveley's death in 1827.
Having as yet achieved no satisfactory solution, the Committee turned again to Provis who, after making further surveys, submitted in tabular form four further estimates. The first plan was for a complete reconstruction of the Line to make it suitable for steam haulage throughout; the second was similar but did not allow for the easing of the sharp curves, and made the ruling grade 1 in 70 instead of 1 in 90. The third and fourth schemes were not satisfactory from an engineering point of view, though they had the merit of being cheap. Provis showed more appreciation than any one of the needs of the Company and his sound summing-up of the various proposals led the Proprietors to approve his second plan on 5 November 1833. The estimated cost of the work was £31,849.

Notices of the proposed application to Parliament were inserted in the *Leicester Journal*, and the new plan lodged with the Clerks of the Peace. The Bill was presented to Parliament and in the early weeks of the new year satisfactorily negotiated its first two readings. The first serious obstacle arose when the Bill was placed before the Committee of the House of Lords. Lord Shaftesbury, the Chairman, insisted that a clause be inserted in the new Bill repealing a clause in the original Act of 1791 exempting tolls upon the Line of the Leicester Navigation from poor rates. In spite of the strenuous protests of the Company he would not relent and a complete deadlock was reached. Whilst negotiations were taking place numerous petitions against the new Bill had been lodged by the Leicester & Swannington Railway Company, the Coleorton Railway Company, the Soar Navigation Company, the Leicestershire & Northamptonshire Union Canal Company, Sir George Howland Willoughby Beaumont, Charles March Phillipps, Edward Dawes, Miss Tate and others, the Trustees of the Burleigh Bridge Road, the Trustees of the Turnpike Road from Loughborough to Cavendish Bridge, William Stenson & Co. of Whitwick Coal Mines. In face of this concerted opposition the Company had very little chance of securing their Act and they had no alternative but to withdraw the application. The idea of making a railway to rival the Swannington was consigned to the graveyard of lost causes.

The Committee did make one further attempt to set the Line in some sort of order by asking Crossley, the new Surveyor to the Company, to investigate the possibility of restoring the Line to its original condition. It is interesting that Crossley's report mentions that it might be practicable to construct waggons, whose bodies could be removed from their axles, loaded by crane direct on to the barges, and replaced on axles at the Loughborough end.

Crossley's scheme was the last one to be considered. What finally caused the Committee to abandon all ideas of reopening the Forest Line is not revealed in the minute books. It must have become obvious to them that, with the coal-merchants of Leicester queuing up at West Bridge to obtain the coal brought down by the Swannington Line, the Leicester Navigation with its longer route and the transhipment into boats at Loughborough could never hope to compete with its rival on even terms.

The official burial of the corpse which had taken so long to die took place at the half-yearly General Meeting on 4 July 1836 when the Committee informed the assembly that they thought it advisable to dispose of the Forest Line and had consequently inserted an advertisement in the Leicester newspapers offering the land for sale. The permanent-way stock consisting of 150 tons of cast-iron rails was sold to Messrs. Cort & Co. for £630 9s.
The fault of the Forest Line lay not in its conception but in the way it was laid out. If wiser counsel had been taken earlier and one method, either rail throughout or canal throughout, had been adopted initially, there seems to be no reason why the line should not have been a success. The initial costs of construction would have been higher but some return for expenditure would have been shown, which was certainly not the case with the route which was adopted.

The oft-quoted statement that the Forest Line was the first line to be laid with cast-iron rails as opposed to tramway plates cannot now be accepted, for recent research into the history of the Coalbrookdale iron foundries has shown that rails of this type were manufactured and laid there in the 1760s.17 It seems probable that the three-foot lengths of rail as laid on the Forest Line may have some claim to be the first of the fishbellied type to be used, for there is no evidence to show that the Coalbrookdale rails were anything but unshaped bar-rails.

In his notes to a Prize Essay on Railroads in 1824 Robert Stevenson infers that the Forest Line may have some claim to be the first public railway company.18 In actual fact the availability of the Line does not seem to justify such a sweeping statement as this. It is true that the Line was available for the use of several different collieries and workings, but the rolling stock was supplied by the collieries themselves and as far as can be ascertained there is nothing specific either in the original Act or in the Minute Books to indicate that the Company intended to allow the Line to function as a "common carrier".

The Forest Line left behind it memories of years of frustration, bitter wrangling, and needless expense, but the story of it is one of considerable interest to the railway historian. For too long that story has lain hidden between the covers of the records of the Company, and it is to be hoped that the facts set down in this account will answer some of the questions which historians have speculated upon in the past.

Ironically, one of the last references to the Forest Line is to be found in the Act for the Coleorton Railway,19 which, in the schedule of lands to be acquired for the building of the line, includes "Embankment of an old line of Railway owned by the Leicester Navigation Company".

Writing in 1842,20 T. R. Potter remarks that the derelict works of the Forest Line are unsightly and detract much from the beauty and value of the estates through which they pass. Today, whilst the embankments of the canal form an impressive memorial, almost all traces of the railway have disappeared.
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<td>Railway, Thringstone Bridge to B</td>
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**Branches:**

| Railway, B to Boulbee's new foundation at Thringstone Common at C              | o 4 7   |         |
| Railway, C to D                                                                | o 1 2   |         |
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Distances are based on Christopher Staveley's Survey, 1790.
NOTES


3. I am indebted to Mrs. A. M. Woodcock, formerly Leicester City Archivist, and to Mr. L. C. Johnson and his Assistant, Mr. J. Campbell, of British Transport Commission Archives for helpful advice during my examination of the records in their Departments.


6. ibid., 2 Jan. 1795.


9. ibid., 28 June 1832; 5 Oct. 1832; 6 Nov. 1832; 5 Nov. 1833.

10. John Farey, *General View of the Agriculture of Derbyshire* (1817), iii. 379: “The bodies of the trams were made to lift off, or to be placed on their wheels, by means of cranes erected on the Forest Lane and Thringstone Bridge Wharfs, so that the bodies of the trams only, stowed closely together, could be carried in the boats on the water-level”.


12. A close associate of Stephenson and Locke, and a man held in high esteem in railway circles at this time.


14. ibid., 26 Apr., 2 May, 17 May, 1 July 1833.

15. ibid., 7 July 1834.

16. cf. note 10 above.


19. 3 & 4 William IV, cap. 71.