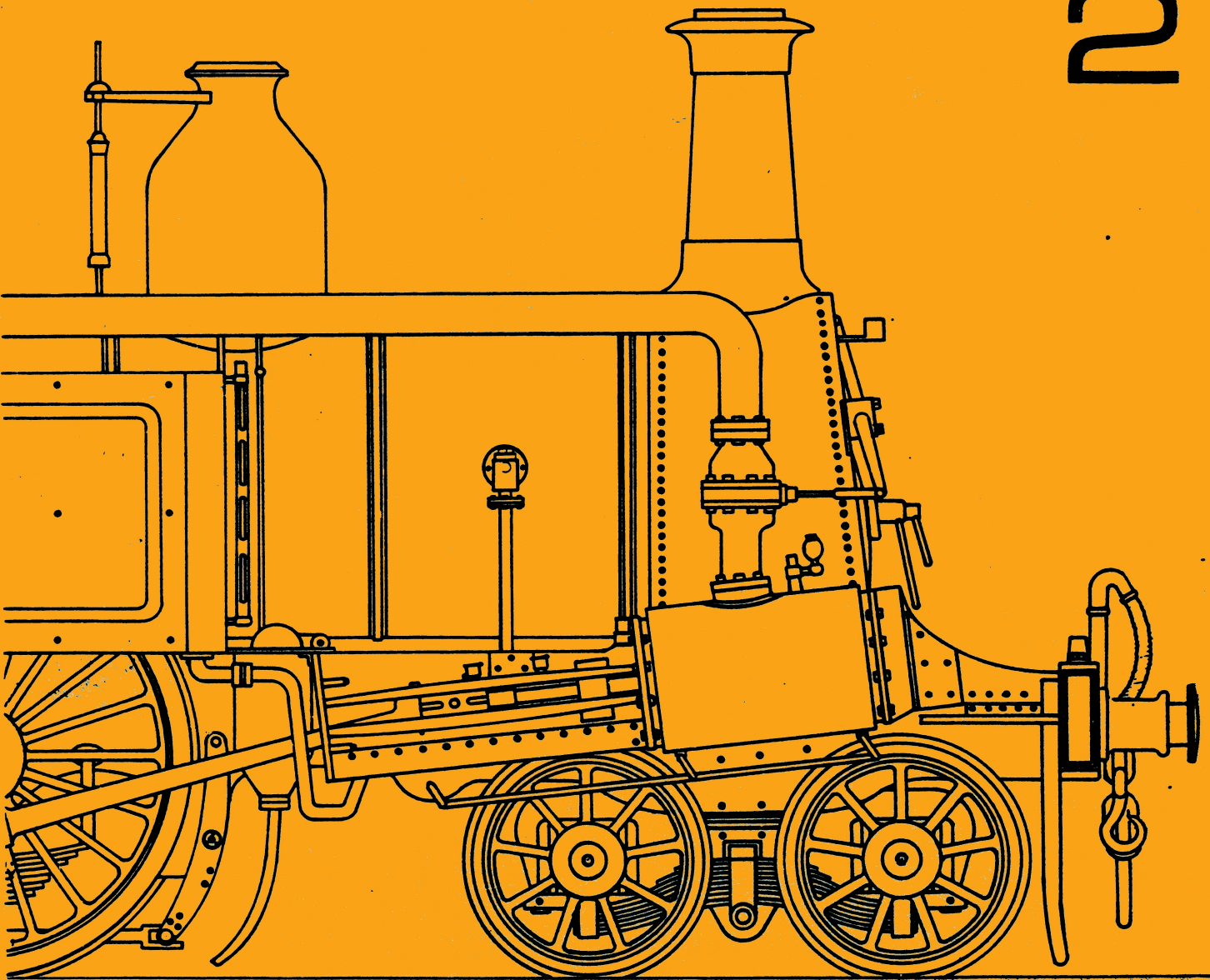


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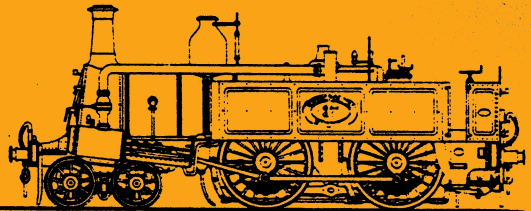
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JOURNAL OF THE  
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SOCIETY      NUMBER 2



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1976-77**

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## SOMERSET INDUSTRIAL ARCHAEOLOGICAL SOCIETY

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### CONTENTS

|                                                                                                              |                          |
|--------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Editorial</b>                                                                                             | <b>2</b>                 |
| <b>The Prehistory of the West Somerset Mineral Railway</b><br>M. H. Jones                                    | <b>4</b>                 |
| <b>Stogumber Brewery, 1840–1973</b><br>F. and P. Hawtin                                                      | <b>15</b>                |
| <b>The Langport, Somerton and Castle Cary Turnpike Trust</b><br>C. A. Buchanan                               | <b>20</b>                |
| <b>A Proposed Extension of the West Somerset Mineral Railway to Eisen Hill</b><br>R. A. Bye and T. H. Lovell | <b>24</b>                |
| <b>The County Bridge Papers</b><br>D. J. Greenfield                                                          | <b>27</b>                |
| <b>Documentary Evidence of Windmills at Walton</b><br>M. Watts                                               | <b>31</b>                |
| <b>A Willow Boat from Curload, Stoke St. Gregory</b><br>A. P. Ward                                           | <b>33</b>                |
| <b>A Patent Road Scraper</b><br>C. A. Buchanan                                                               | <b>34</b>                |
| <b>Newland Quarry</b><br>D. W. Warren                                                                        | <b>36</b>                |
| <b>The Manufacture of the Van Heusen Collar</b><br>W. Hordle                                                 | <b>40</b>                |
| <b>Notes and News</b>                                                                                        | <b>43</b>                |
| <b>Location Map</b>                                                                                          | <b>Inside Back Cover</b> |



## EDITORIAL:

# BRIDGWATER DOCKS: OUR INDUSTRIAL HERITAGE

B. J. Murless

" 'Tis pleasant, when the summer breezes play  
Along the Parret's winding banks to stray,  
To meet the vessels with their flowing sails  
Bearing their cargoes from the coast of  
Wales . . . "

G. Parker, 'A Sketch of Bridgwater  
and its Neighbourhood'

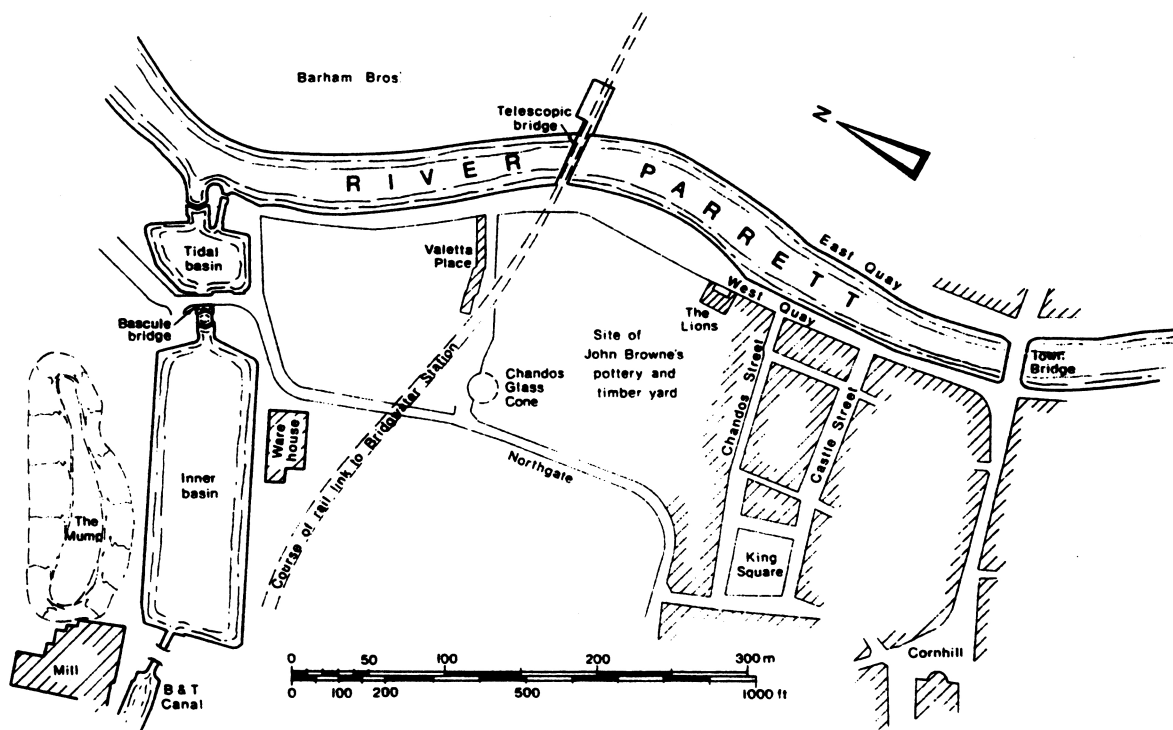
When the definitive work is written about the impact of the Industrial Revolution on the Somerset landscape, the picture to emerge will not be of a canvas drenched in greys and blacks, but rather a pattern of blots where the technological advances of the 18th and 19th centuries were superimposed upon the existing craft industries of town and country.

This lack of industrial concentration makes the task of conservation and preservation of Somerset's industrial heritage more difficult than elsewhere. Although it may be possible to schedule a brick kiln as an ancient monument or to list a factory building, the opportunity to preserve for

posterity sites where different industries may be seen in a juxtaposition to each other in a small area occurs much more rarely in Somerset than in other areas of England. Such a collective approach to preservation has been successfully achieved, for example, at Ironbridge Gorge in the Severn Valley where it could be said that the industrial revolution began. Another example which is closer, geographically speaking, to Somerset is at Morwelham in Devon, where a series of industrial features provide an enlightening glimpse into the history of this area of the Tamar Valley.

Somerset is not so fortunate in the availability of areas of this kind. There are locations on the Brendon Hills or on the Mendips where relics of the iron and lead mining industries could perhaps form the basis of an open air museum but regrettably, various factors combine to make these sites impracticable for this purpose.

The docks area of Bridgwater however, lends itself particularly well to this kind of treatment. The accompanying plan illustrates the combination of factors which has given rise to an interest being taken by this society in that area of



the town and in its future development. Three aspects of industrial archaeology are here represented: surviving structures of local industries with examples of their products; communications systems of rail and water, and buildings associated with trade and industry.

Of the first category there exists in Bridgwater a chronological representation of the local industry, that of the manufacture of bricks and tiles. In the buildings of Castle Street, or at "The Lions"—once the home of the street's Architect, Benjamin Holloway—there survive examples of 18th century handmade bricks fired locally in primitive kilns, as well as of pantiles and of double Roman tiles, two patterns produced by Bridgwater brickyards which achieved international recognition. Of the clay industry itself, portions remain in the yard of Barham Brothers at East Quay. Here the mid 19th century conical updraught kilns are the only survivals of their type in the County. Of the second category, communications, there still exist two distinctive bridges: the retractable telescopic bridge of 1871 which carried the rails of the Great Western Railway into the docks; and the lifting bascule bridge carrying the road to Chilton Trinity between the dock and the Basin. Although the River Parrett, with its tributaries the Isle, Tone and Yeo, had been an important navigable waterway since medieval times, the extension of the Bridgwater and Taunton Canal to the Docks in 1840 led to the superimposition onto this waterway of a new network of water communication from the town along canals to Chard, Langport, Taunton, and as far west as Tiverton.

With regard to the third category it is probably not generally known that when the first Duke of Chandos began his commercial investments in Bridgwater in the 1720's, he envisaged the elegant Georgian terraces of Castle Street as dwellings for the skilled artisans whom he hoped to attract to the town. From the 19th Century the dockside warehouse and mill are reminders of the time, not so long ago, when ships of up to 600 tons dead weight tied up at Bridgwater to unload their coal, grain and timber, often in exchange for bricks and tiles. Valetta Place, from the same period, once housed employees of John Browne's pottery works at West Quay.

Two further factors favour the consideration of this area of Bridgwater for comprehensive conservation: firstly the expressed interest of local authorities and other bodies in the area, and secondly the existence of several listed buildings and sites of archaeological interest. The County Council's plans for the docks, which they own, are still in a formative stage. But the inclusion of

Bridgwater's Georgian streets within a conservation area, and the possible development of the Bridgwater and Taunton Canal as a linear park lend weight to proposals to blend imaginative new development into an area of conserved historical structures of which the docks would form the focal point. This Society has made its views known to the Council's Officers, but no final decision has yet been taken. It is to be hoped that our elected representatives will be aware of the need to preserve industrial monuments. They may care to study other dockland areas such as those of Bristol and London, where the retention of dockside structures has led to economic as well as cultural benefits to local communities. What should also not be overlooked is the fact that at Bridgwater the several diverse elements in the Docks area form a microcosm of the County's industrial history and therefore should be retained "in toto".

As well as lending its whole hearted support to any scheme which envisages the sympathetic development of Bridgwater's dockland, while retaining what now exists of its industrial past, this Society would urge that consideration be given to the establishment of a museum of industrial archaeology within the area, perhaps in part of the dock warehouse. Indeed, as a gesture of faith in the docks area's future, the Society has, during the past year, undertaken a major excavation of the Chandos Glass Cone.

We can never return to the Turneresque scene of 1854, described in the poem which pre-faced this editorial. We may, however, contribute to the creation of an environment at Bridgwater which, while acknowledging its debt to the past, provides a worthwhile investment for the future. This surely is the way in which an industrial archaeology society may be of value to the community.

It is hoped that the publication of this Journal will encourage others to contribute to further numbers.

The Editor reserves the right to amend material prior to publication.

The mention of a site in the Journal under no circumstances implies a right of public access to it and permission should always be obtained from the owner prior to investigation.

# THE PREHISTORY OF THE WEST SOMERSET MINERAL RAILWAY

M. H. Jones

This article attempts to summarize references in the Rowcliffe Papers to the several projects for a rail connection between the Brendon Hills and Watchet which were mooted between the first recorded working of iron ore in 1839, and the Act of Parliament of July 1855 which sanctioned the railway actually constructed.<sup>1</sup>

## The First Lethbridge Tramroad Scheme (Figure 1, Route 1)

In 1839 Sir Thomas Lethbridge of Bishops Lydeard, who had financial interests in the Pentwyn iron works near Pontypool, was prompted by the numerous old surface workings on his Brendon Hills estate to investigate the mineral potential of his property there. He began a systematic search for iron ore in that year, and at the same time asked Charles Rowcliffe, his solicitor, of Stogumber, to prepare a draft agreement with several adjoining landowners for the construction of a tramroad to convey the ore that he expected to find from the Brendon Hills to the sea.

A draft of this agreement has survived and indicates that the tramroad was to consist of two branches, one "from the summit of the Brendon Hills to the seaport of Watchet", and the second "from Syndercombe Farm . . . to Cutcombe Village". The first line was intended to join the second at a point shown on a plan which has not survived, but it is likely that the junction would have been near the saddle in the hills just to the west of Leather Barrow near to Sir Thomas' most promising iron mining site at Lothbroke.

There is nothing in the Rowcliffe papers that records the discussions that in fact took place with the landowners over whose property the tramroad was intended to pass, but in the Wyndham Papers (DD/WY Box 153) are several letters which record the subsequent history of this tramroad scheme.<sup>2</sup> When he was first approached in January 1839, the Earl of Egremont raised no objection to Sir Thomas' proposal. He sought and received Sir Thomas' assurance that he was the sole participant in the tramroad scheme and that he had a ready market for the ore. In February a meeting was held at Sweet's Hotel in Taunton attended by Sir Thomas, Rowcliffe, Easton and W. Tripp, the Earl's agent. The line must already have been modified, (Figure 1, Route 2) as it was then described as commencing at Treborough Common and continuing down the

valley "opposite the slate quarry to Fair Cross", thus implying a route down Druids Combe to Roadwater, thence to Beggearn Huish and Fair Cross, and, from an earlier reference in these papers, on by the side of the turnpike road to Watchet.

In May 1839, however, Sir Thomas and the Earl of Egremont quarrelled about the mineral rights on Withiel Common near Gupworthy, an area that appeared likely, from small trials Sir Thomas had made, to be rich in iron ore. The Earl's view was that his right of pasture and of turbary on the Common included also the mineral rights. He proposed a division of the common and added that if Sir Thomas objected to this proposal, then he could take his tramroad elsewhere. A month later, Sir Thomas replied, claiming mineral rights over the whole area of the common: but the Earl simply reiterated that the physical division of the Common was a condition precedent to his agreement to the tramroad scheme. In July Tripp confirmed that this was "the Earl's fixed determination", to which Sir Thomas replied "it is my fixed determination not to accept such a condition", and on this rock both the tramroad scheme and the mining venture foundered.

## The Brendon Hills Coal Depot and Tramroad

Sir Thomas decided to let the mine at Lothbroke and leave the problems of transport to others. It was his failure to find a lessee that led him, early in 1841, to ask Rowcliffe to approach the Earl of Egremont again in order to try once more to secure an agreement for the tramroad. After an interview with Tripp, Rowcliffe drafted a long letter to him on the 25th January 1841.

The letter proposed a scheme for a coal depot on the summit of the Brendon Hills, supplied by a tramroad from Watchet. Rowcliffe drew the Earl's attention to the high cost of transporting coal to Bampton, Tiverton, Culmpton, and other places lying to the south and west of the Brendons, facts that Rowcliffe himself, as the owner of considerable property near Bampton knew only too well. He also underlined the advantages to West Somerset in general and to the Earl of Egremont in particular, that would flow from the considerable import of coal through Watchet harbour, and from the sale of Watchet lime to farms in the hinterland.

Sir Thomas Lethbridge's tramroad proposals:

- ① the first scheme - conjectured original route, early 1839
- ② the first scheme - Sweets Hotel discussion, February 1839
- ③ the third scheme - March 1843

Bridgwater to Minehead Railway, 1845:

- ④ main line (part), Watchet branch, Pooltown branch

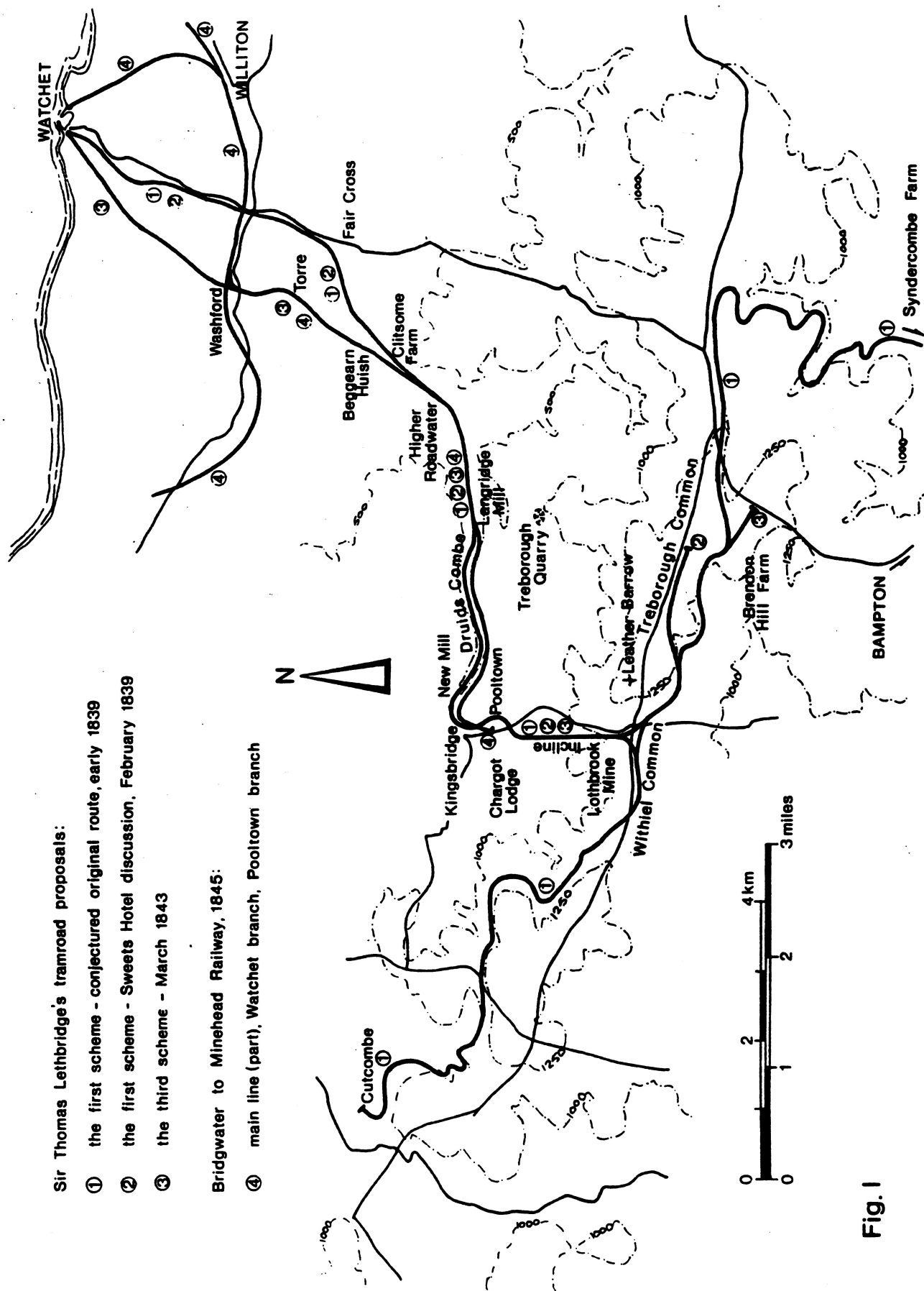


Fig. 1



Rowcliffe further suggested that coal could be taken by tramroad to the summit of the hills, and drawn thence by horse and cart downhill over the common roads to any of the towns mentioned, and even as far as South Molton and to within six miles of Exeter, more cheaply by this means, than by the Grand Western Canal or by road from Bridgwater. The letter went on to draw the Earl's attention to the low capital outlay required for the construction of the tramroad, the cost of which Rowcliffe estimated at nearly £12,000; but Rowcliffe only briefly referred to the export of between 6,000 and 10,000 tons of iron ore a year from the Brendon Hills, as an added inducement to the Earl to permit the sale of land for the tramroad and the use of Watchet harbour. Neither the route nor the southern terminus is described in the letter, but it is reasonable to suppose that it would have followed the routes of the earlier schemes, and terminated on the Watchet to Bampton road.

This letter has survived in the Rowcliffe Papers in the form of a copy, which has been altered in several places, and it is not clear whether it was ever sent or not; but in either case it indicates the concern that Sir Thomas must have felt about the difficulties of transport. Only three months later, however, in April 1841, Sir Thomas once more offered Lothbroke mine on lease, so that it is clear that the rift between the two land-owners had not been healed.

#### **The Third Lethbridge Tramroad Proposal (Figure 1, Route 3)**

The next document which relates to a rail connection between Watchet and the Brendon Hills is an undated, unsigned and handwritten prospectus posted in Taunton the 13th March 1843 to Charles Rowcliffe at Stogumber. Separated from this prospectus in the papers is another document written in the same hand, and signed Pether Henderson, and dated Taunton, March 1843, which gives an estimate of cost (£11,869) of "the intended tramroad from Watchet harbour to the Brendon Hills". It is reasonable to suppose that the two documents refer to the same scheme, and that the breakdown of cost on a separate sheet was intended for Sir Thomas' information only.

The names of the Solicitor, Engineer, Secretary, and Bankers are left blank in the prospectus, which provides for the capital of the Company to be £12,000 comprising 120 £100 shares. The Earl of Egremont's continuing opposition to the scheme is apparent, as it was envisaged in the prospectus that an Act of Parliament would have to be obtained for the construction of the

tramroad. The plans were prepared by "Mr. Henderson and may be seen at his offices, Taunton or Roadwater". The route is described as commencing "at Watchet harbour passing near Bye Farm, through Washford, near Cleeve Abbey, Tarr, (sic), Clitsome Farm, Roadwater, Langridge Mill, New Mill, Pooltown, up Langham Valley to the Brendon Hills and terminating on the road from Watchet to Bampton". In a section headed "Character", reference is made to "an inclined plane from Wishers Cottage near Pooltown up Langham Valley to the top of the Brendon Hills". Later in the prospectus the terminus is more accurately described as being at "Brendon Farm", presumably Brendon Hill Farm, on the Bampton turnpike, a distance which the prospectus stated was by tramroad, 11 miles and 64 chains from Watchet harbour. It was expected that one horse "will be able to draw 10 tons to Pooltown and return with a similar or greater load every day". The cost estimate indicates that the tramplates, which would have weighed about 48 lbs. per yard, were expected to cost £3,840: the forming of the track £2,640, the land £200 and the "machinery for inclined plane", £500.

The draft prospectus was considerably altered by Rowcliffe to make it more attractive to prospective investors, but no further action seems to have been taken to implement the scheme, which represents the final attempt by Sir Thomas Lethbridge to form a tramroad connection between the Brendon Hills and the sea.

The draft lease of Lothbroke Mine by Sir Thomas Lethbridge to Robert Mushet dated 1st January 1847, a copy of which is among the papers, makes only a passing reference to the construction of a tramroad. It is allowed "free liberty, licence and authority . . . to erect, build and set up any bingstead, storehouses, smiths, forges, mills, engines, hovels or other buildings, railways, tramways, or machines in or upon the said lands and hereditaments or any part thereof . . .". As this applied only to Sir Thomas' own land, it was doubtless one of the factors, together with the heavy royalties of 3/- per ton, and a rent of £50 a year, which deterred Mushet from proceeding any further with the matter.

#### **The Bridgwater to Minehead Railway (Figure 1, Route 4)**

During the railway mania of 1845, a scheme for a railway from Bridgwater to Minehead was proposed. The intention of the promoters was to develop the harbour at Minehead sufficiently to make it attractive as a port of disembarkation for Irish immigrants, and to construct a railway that

would connect Minehead pier with the Bristol and Exeter line at Bridgwater.

Among the Rowcliffe Papers is an undated draft petition to Parliament, praying that the Preamble of the proposed Bill should not pass Standing Orders so that the project would fail. The petition was drafted on behalf of the inhabitants of several parishes in West Somerset, including St. Decumans, Old Cleeve, Crowcombe, Stogumber, Elworthy and Nettlecombe, who claimed that the line would be of no benefit to them as their natural line of communication was through Taunton, and further that there was no inducement to the shipping companies to use Minehead when Milford Haven was 100 miles nearer Ireland. In short, according to the petitioners, the line would not be a sound economic proposition.

The proposed route included a trailing branch to Watchet from Williton, and on the deposited plan, signed by "G. Hennet, Engineer"<sup>3</sup>, another branch has been added in manuscript from Washford through Roadwater to a terminus at Pooltown. It would seem that this branch was perhaps added to encourage the petitioners, who were presumably the principal landowners, to withdraw their opposition to the proposal. Neither the proposal nor the petition seem to have been taken further however, and the scheme lapsed.

#### The Welsh Interest

Early in 1849, a partnership comprising Samuel Holden Blackwell of Russells Hall Iron Works, Dudley, and his son-in-law Ebenezer Rogers, a coal owner of Abercarn in Monmouthshire, began negotiations with Sir Walter Trevelyan for a licence to search his Brendon Hill property for iron ore. As Trevelyan's solicitor, Rowcliffe was responsible for preparing the licence, and a draft of it has survived among his papers. The licence was not executed in that year however, and the surviving draft has been considerably amended in pencil, with the name of Thomas Brown being substituted in every case for that of Samuel Blackwell, and the year being altered from 1849 to 1852, when Blackwell withdrew from the partnership with Rogers. It was at that time that Rogers arranged to sell the concern to Thomas Brown for an annuity of £1,000 payable for 60 years from the date of the granting of the first mineral lease on the Brendon Hills to Brown.

Thomas Brown was one of the partners and acted as general manager of the Ebbw Vale iron works in South Wales. Although established in the eighteenth century, the old company had gone bankrupt and had been sold in 1848 to Abraham

Darby IV of Coalbrookdale, who with Joseph Robinson, financial director and sales manager at the Ebbw Vale London house, and Brown, the practical ironmarker at Ebbw Vale, were the active partners in the management of the company. In view of the rapid depletion of the local supplies of iron ore in South Wales and the policy of expansion and technical innovation upon which the partnership had embarked, it became a matter of considerable importance for the partners to secure new supplies of iron ore ahead of the other great South Wales ironworks who were all at this time finding themselves in a similar predicament. Thus the £1,000 annuity was a reasonable consideration for Brown to pay, in order to secure for the partners what was represented by Rogers as an almost inexhaustible supply of high grade ore on the Brendon Hills.

Rogers introduced Brown to Rowcliffe who was not only solicitor to the late Sir Thomas Lethbridge's Trustees and Sir Walter Trevelyan, owners of much of the land for which the licence was being sought, but was also on good terms with the local agents of Lord Carnarvon and the Trustees of the late Earl of Egremont who owned much of the remainder, together with Watchet harbour through which the ore would have to pass. According to Rowcliffe's first account to Brown for professional services which has survived in the papers, Brown, Darby and Rogers met at Rowcliffe's office at Stogumber for the first time on 24th November 1852. They first discussed a tram-road connection from the Brendon Hills to the sea and Rowcliffe lent Brown the draft agreement he had prepared in 1839 for Sir Thomas Lethbridge:

"also discussing as to Mr. Brown's name being added to the leases of mines on Brendon Hill proposed to be granted to Mr. Rogers by Sir Walter Calverley Trevelyan and the late Sir Thomas Buckler Lethbridge's Trustees and Mr. Brown's becoming partner in the works and the terms thereof and various other matters when Mr. Brown desired as to hold ourselves engaged as Solicitors for the company as we had been for Mr. Rogers in this district".

The reasons for Rogers' sale of his interest in the Brendon Hills district are not known: it may be that he did not have the financial resources to exploit the mines and construct a railway on his own, although he appears to have made a feasibility study for a rail connection, as there is a note on a fragment of paper written by Row-

cliffe in October 1854 referring to "Roger's Line", and listing places through which it was to pass, but only the words "Bye Farm and Washford" remain. Another possible reason for Rogers' withdrawal is that he was too headstrong and impetuous to form a good working relationship with a more cautious and prudent man like Brown. As Robinson said in a letter to Rowcliffe in September 1854, "you know that we had first Mr. Rogers, who I need hardly say is so sanguine and indiscreet in his expressions that it would have been impossible to do anything in direct connection with him—in saying this, I wish to speak with all respect of Mr. Rogers' honor and integrity which I do not doubt". Or it may simply be that Rogers, being a coal owner, had only intended to engage in a speculative venture in establishing the mineral potential of the Brendons, and had never considered exploiting the lodes himself. His attendance at this and subsequent meetings was apparently only for the purpose of introducing Brown to the country, and, through Rowcliffe, to the landowners involved in the granting of leases. He hoped thereby to ensure that he would become entitled to receive his £1,000 annuity, which, according to the terms of the agreement between them, (which has not survived), was payable only from the date of the granting of the first lease to Brown.

Nevertheless, Rogers continued to interest himself in mining in Somerset: correspondence between F. W. Knight at Simonsbath and Rowcliffe indicates that Rogers was at this time proposing to take mineral licences on Exmoor. So, incidentally, was Thomas Brown himself in 1854, but Rowcliffe was kept fully informed about developments on Exmoor by Charles Bailey, of Lee Abbey, Lynton, Lord Sherborne's Agent, and he advised Brown not to become involved in any way on Exmoor, except at Wootton Courtney<sup>4</sup>.

#### **Brown's Tramroad Survey (Figure 2, Route 6)**

Towards the end of 1852 Brown was becoming anxious to press forward the development of the mines on the Brendon Hills, and at the same time to obtain leave to construct a tramroad, which he realised was essential to the success of any mining venture there. But until he had a thorough knowledge of the lodes he was unsure how best to proceed. Early in December 1852, Rowcliffe and Rogers discussed possible routes for the tramroad and listed the names of those through whose land it was likely to pass. According to his account to Brown for professional services on the 23rd, Rowcliffe attended "very long on Mr. Rogers and Mr. Doyne your engineer

and surveyor conferring and advising fully as to the tramroad—your desire communicated to Mr. Doyne to run in upon and to lay down rails on the Watchet Quay etc."

The "Mr. Doyne" referred to was one of two brothers, William T. and Philip Doyne, of Newport, who were surveyors with ambition to make a name for themselves in the railway world. During 1852, they had been engaged on "some trifling matters" for the Ebbw Vale Company, apparently on the recommendation of Richard Fothergill another South Wales ironmaster, and in November of that year were employed by Thomas Brown for the survey of a railway from Ebbw Vale to Risca, on the route of Sir Benjamin Hall's tramroad, with the object of making the Ebbw Vale partners independent of the high charges of the freighters on that tramroad.

According to a printed letter prepared by Doyne for insertion in a national newspaper in November 1854, "I entered on it at once, examined the ground, engaged surveyors, and added considerably to my own staff and office, all with Mr. Brown's fullest knowledge". In December, Doyne continued, "Mr. Brown engaged me to go over to Somerset and report on the best course for a line to carry down iron ore from the Brendon Hill mines, which he had purchased, to the water's edge, to transport to Ebbw Vale". Doyne makes it clear that he was given the impression by Brown that cost was a secondary consideration to speed in the completion of the survey. The Doyne brothers had engaged four assistants for the surveys: while two were working in South Wales, the third surveyed Watchet harbour for ten days late in 1852, and the fourth surveyed the route from Watchet to Roadwater. After taking measurements in the field, the party returned to Newport to prepare the drawings.

Doyne, Brown, Rowcliffe and Rogers met frequently to discuss possible routes for the line. No final decision was taken however as it was still not known from which area of the hills the bulk of the iron ore was to come. The partners seemed to have decided to keep their options open by having two routes surveyed for a railway or tramroad: one from Watchet through Roadwater to Tinwood, and a second branching from it, south of Roadwater, westwards up the valley, and terminating near Chargot Lodge. It was intended to connect the mines to the head of the selected line by means of feeder tramroads, as was the practice in South Wales.

In spite of Brown's request for as rapid a completion of the survey as possible, the Doyne

Feeder tramroad from Gupworthy Mine:

- ⑤ Babbage's recommended route, March 1854

W. Doyne's surveys for Brown:

- ⑥ Watchet to Timwood, Watchet to Pooltown routes, 1852-3

Charles Rowcliffe's suggested route:

- ⑦ Gupworthy to Raleighs Cross to Watchet, September 1854

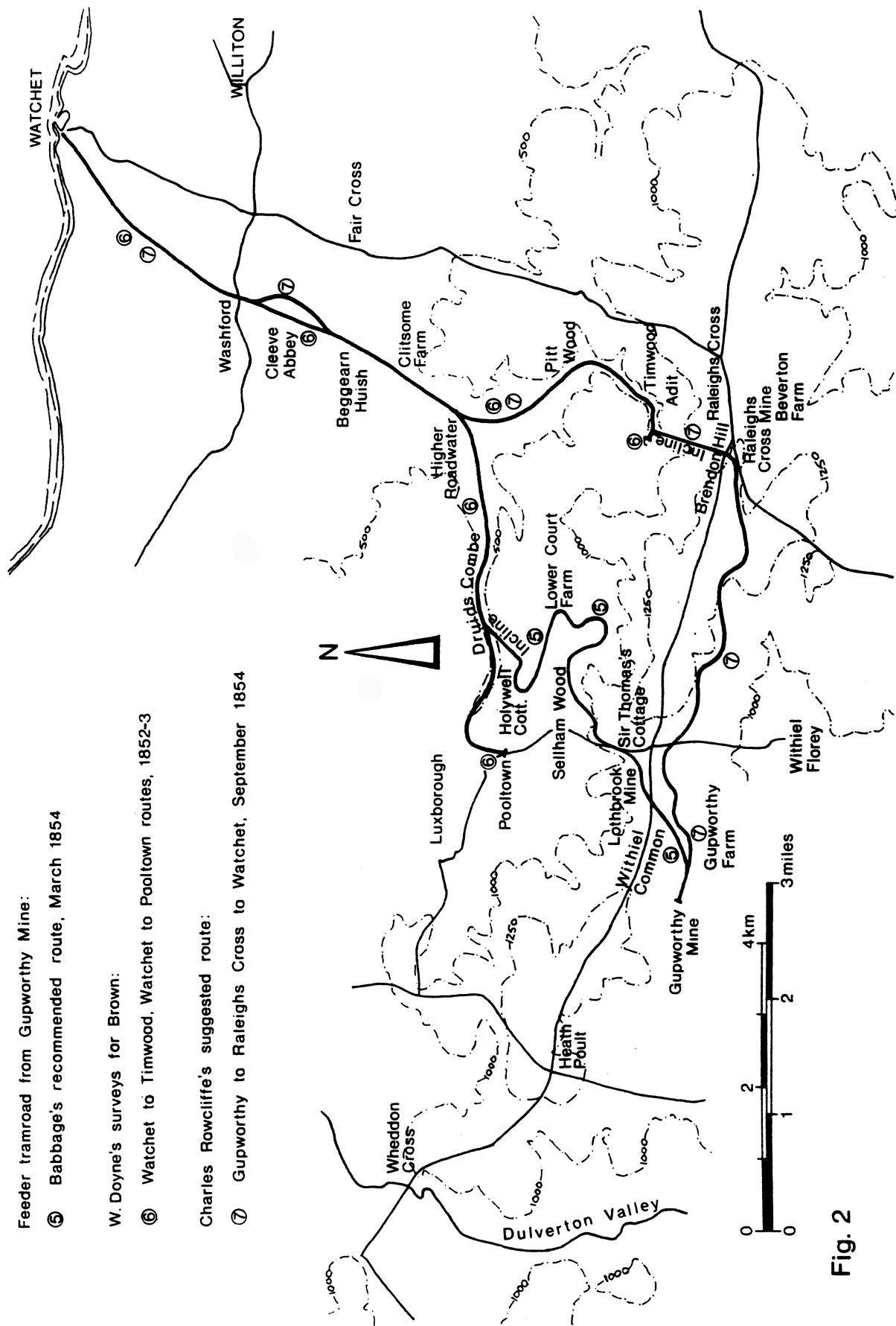


Fig. 2

brothers appear to have been rather dilatory and unreliable in their performance. Rowcliffe later noted in an affidavit that when he called on them at their hotel at Williton, they were usually absent: when he made appointments to meet them, they would reply that they were unable to attend. In spite of this, or perhaps because of it, they seemed to have taken far longer than was necessary to survey the selected routes. In his printed letter of 1854 Doyne claimed that this was because he was asked to do all kinds of work not connected with the survey for which he believed he was engaged. He had, for example, to ascertain the names of all the landowners along the routes and survey parts of their lands. In addition he had to carry out a survey of the mine at Gupworthy, he also claimed, probably with some justification, that the instructions which he was given were lacking in clarity, frequently countermanded, and that this resulted in much abortive work.

There is no doubt that lack of clear instructions from Brown were in large measure responsible for the dispute which later arose. It seems that in view of his great uncertainty about the lodes, all Brown had intended Doyne to prepare was a feasibility study of possible routes for a tramroad, whereas Doyne interpreted his instructions as requiring the preparation of an exact survey of alternative routes, and working drawings sufficiently detailed to construct either a tramroad or railway on either route. In consequence, the survey and the preparation of drawings took far longer than Brown envisaged and Rowcliffe imagined: it is not surprising that relations therefore became strained.

Brown decided to watch Doyne's activities more closely: on Rowcliffe's recommendation he engaged as supervisor James Babbage, who had been a bailiff on the Trevelyan estates since 1830. On the 18th January 1853, Rowcliffe met Doyne with Babbage, and, starting at Watchet they walked over the whole of the proposed line of the tramroad and suggested "alterations in his intended line in order to avoid as much as possible interfering with the meadows and to keep as much to the east of the Abbey at Washford as possible". It was at this meeting that it was agreed "that until it had been ascertained what the late Earl of Egremont's Trustees would do it would be better not to say anything to the other landowners (about the tramroad) as if terms could not be made with the Trustees there would be an end of the scheme as far as Watchet was concerned". Here was another difficulty: if the Trustees refused to allow the line to cross the land in their charge, or to run out on to the quay at Watchet, the whole venture would probably have had to be

abandoned.

It was with this refusal in mind that investigations into the possibility of working the lodes solely by means of levels running east and west from "the Dulverton valley" with a rail connection from Wheddon Cross to Minehead were started. This was quickly dismissed by William Addams, the company's chief mining engineer, as being impracticable and too costly. He had realised by now that the lodes were not continuous and that they must be worked from various points on the surface of the hills. It was also clear to him that if the lodes fulfilled expectations the ore would have to be taken through Watchet.

Nor was Brown the only man in the field. It is clear that at this time there was a great scramble for mineral leases on the Brendons and surrounding areas, and Rowcliffe was much troubled in his negotiations with landowners by offers made by other parties, who at first seemed just as financially sound as Brown. It was only by careful investigation of their backgrounds, and when necessary by exposure of their underhand approaches, that he was able to secure leases for Brown and his partners. Apparently, one of the rival partnerships even tried to obtain Doyne's services and Rowcliffe had to hurry to London in January 1853 "to endeavour to find out and get to the bottom of it".

A synopsis of Doyne's accounts as far as his activities in Somerset were concerned have survived in the Rowcliffe papers. These indicate that from late in December 1852 until the 31st March 1853, Doyne had spent 97 days on the Somerset surveys, for which he had been paid £550 in fees and expenses, but there remained £240 still owing to him. For this, all that Doyne appears to have provided was "a map of the proposed line from Watchet to Roadwater and of the lands adjacent thereto."

By mid May 1853 Doyne had furnished the partners with a sketch of the proposed line from Roadwater to Luxborough (Pool Town), which was checked by Babbage a few days later. Unfortunately, Mr. Luttrell refused to allow the tramroad to follow this route over his land on the north side of Druids Combe between Roadwater and Luxborough, and Doyne was therefore engaged to move the line to the south of the Combe. This alteration would have necessitated a sharply curved tunnel between New Mill and Kingsbridge.

Two weeks later Doyne wrote to Rowcliffe and pointed out that the tramroad could not be constructed on this alternative route as the gradi-

ents were too steep. Brown was therefore advised that he must either apply for an Act of Parliament in order to obtain the compulsory purchase powers to run the line over Luttrell's land, or he could "make the line to Timwood which would serve all the various works". Brown decided on the latter course and Doyne was therefore instructed to prepare drawings for the line to Timwood.

Early in June however, according to Doyne's printed letter of 1854, Joseph Robinson suddenly wrote to Doyne ordering him to cease all work both in South Wales and in Somerset, forthwith. Although Robinson's letter has not survived in the Rowcliffe Papers, it undoubtedly resulted from the amounts of the accounts which Doyne had submitted at the end of May, for surveys in both South Wales and Somerset, which Robinson regarded as being quite exorbitant. Brown and Robinson considered that they were being treated as financial milch cows by the Doyne's, and decided to cut their losses, as far as these engineers were concerned. William Doyne, believing that the difficulty was chiefly due to Brown's uncertainty as to what he wanted, and to lack of clear written instructions, remonstrated with Brown. He even offered to submit the matter to arbitration, but Brown and Robinson refused to have any further dealings with him whatsoever. In December 1853, Doyne therefore informed Brown and Robinson that he would commence an action against them to recover the balance of his fees.

The remainder of 1853 was spent by the partners securing leases and licences and making systematic search for ore all over the hills. The lie of the lodes was now beginning to emerge and there were constant discussions between the partners and Rowcliffe about the best means of working them.

#### **Feeder Tramroads (Figure 2, Route 5)**

Doyne's tramroad proposal appears to have been shelved for the time being, while consideration was given to feeder tramroads which would connect mines at the summit of the hills with one of the proposed tramroads in the valley. In March 1854, Babbage was asked to reconnoitre the route for such a feeder from Gupworthy mine. He gave it as his opinion "that a tramroad might easily be laid down from the mouth of the tunnel (Gupworthy level) passing near to on the north side of Gupworthy House, through that farm, crossing the Cutcombe Road, through the ground between that road and Charget Wood, bearing eastward to Sir Thomas' cottage at the slack under the Leather Barrow, passing by said cottage north-

eastward to and crossing the road coming from Pooltown, at or near which point the line from Sir Walter's mine (Raleighs Cross Pit, presumably) could join it". The next few lines are mostly missing, but from the fragments of words that remain it is clear that his route would then wind round the head of the gully in Parsons Close Plantation, turn east through Sellham Wood and then north, passing close to Lower Court Farm and across the spur of the hill to a point near Holy Well Cottages. From here there would be an incline which Babbage said would only be between 200 and 400 yards long down to Druids Combe and the junction with the main line.

Although this route was reasonably graded, it is clear from its serpentine nature and from the sharpness of the curves that would have been involved that it was suitable only for a narrow gauge tramroad. There was therefore no question at this time of making a railway on the summit of the hills.

In April 1854, Robinson wrote to Rowcliffe saying that Brown's duties as High Sheriff of Monmouthshire were preventing him from devoting as much attention to his affairs on the Brendons as he would have liked, and in particular to the consideration of a route for the railway. Rowcliffe had been concerned that the partners were not pursuing the development of the mines actively enough and that they were, by consequence, in danger of having their licences withdrawn. In a further reply, Robinson stressed that the partners intended to exploit the minerals on the Brendons to the full.

At this time no decision had been taken as to whether the line from Watchet to Timwood was to be a tramroad or a railway. Doyne seems to have intended the Luxborough route for a tramroad and the Timwood route for a railway, but the partners considered that in view of the narrowness of the valleys and the steepness of the gradients, a tramroad might be more appropriate for the Timwood route also. But which route should be followed? This was a matter on which a decision was urgently needed, and in his reply to Robinson, Rowcliffe made it clear that he favoured the route to Timwood not only on the grounds of it presenting fewer engineering difficulties, but also on the grounds that the landowners between Roadwater and Timwood be easier to deal with than those between Roadwater and Kingsbridge.

#### **Doyne v Brown**

The case of Doyne versus Brown was due to be



heard at the Court of Queen's Bench in London in June 1854. Late in May, Doyne subpoenaed Rowcliffe, Babbage, and Samuel Dunn, landlord of the Egremont Hotel at Williton where he had stayed while making the survey, to appear as witnesses on his behalf in the action. At the same time, he wrote a letter to Rowcliffe which highlights the uncertainty which he felt at the time of his appointment in December 1852. It is clear with hindsight that the letter should have been written at that time, and not eighteen months later.

The action was heard in the Court of the Queen's bench in London in June 1854, and Rowcliffe, Brown, Dunn and Babbage stayed at the Gray's Inn Hotel during the hearing. As the London partner of the Ebbw Vale Company, Joseph Robinson availed himself of the opportunity of having frequent conferences with Brown and Rowcliffe about developments in Somerset, and several messages have survived making appointments for these meetings on which Rowcliffe has noted, for example, "received in bed 10.15 p.m."

The outcome of the Queen's Bench hearing was that the matter was referred to an arbitrator for decision, and a barrister called Barstow was appointed for the purpose. The hearing was to take place at the Law Institution in Chancery Lane on the 9th October 1854. Counsel anticipated that the arbitration would last for five or six days. In preparation for the arbitration, Rowcliffe took affidavits of the evidence of those who were involved, and fragments of the drafts of these have survived. As far as can be seen, Rowcliffe's own affidavit reproduces the same information as is included in his account for professional services. Babbage's affidavit, although in almost illegible fragments, indicates that he suggested to Doyne that the route of the line up to Timwood would be better through Pitt Wood on the east side of the valley, which "did not appear to have occurred to Mr. Doyne before. He said he had intended to take it at the other side of the valley there through Mr. Gatchell's land. It told him if he did, his road would not stand, because he would have to cut it on the face of the slate instead of on the back of it, and the land would continually slide down—and I pointed out to him what had happened in that way at different places in the field".

In order to strengthen his case against Doyne further, Brown engaged Rice Hopkins to examine Doyne's plans and report if they were satisfactory. He also engaged Joshua Richardson as an expert witness to corroborate Rice Hopkins'

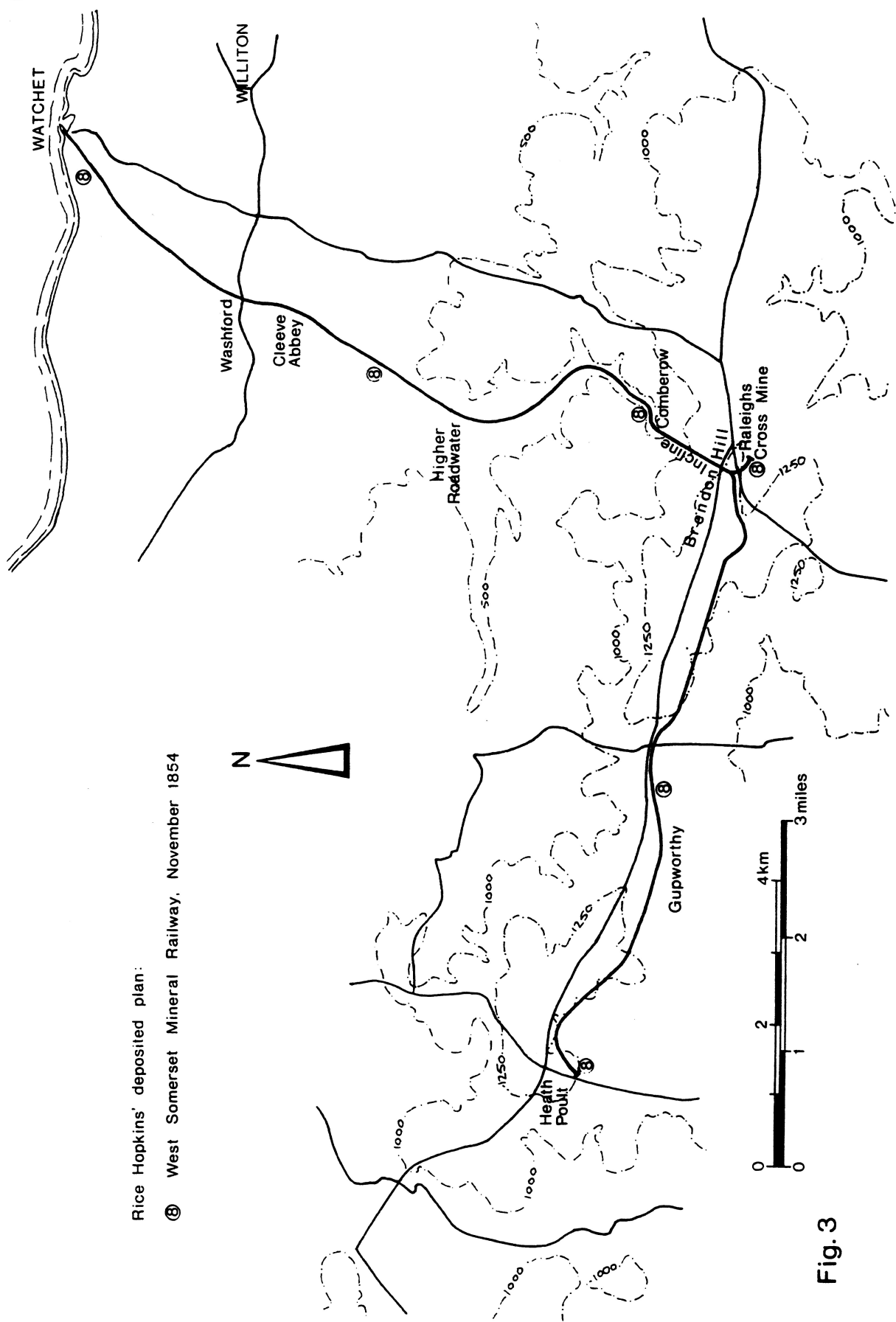
findings. Hopkins made his examination of Doyne's drawings immediately after the matter had been referred to arbitration in June 1854, and at the end of that month he and his assistants went to Victoria, just south of Ebbw Vale, in order to set out on the ground, a length of the railway which Doyne had designed. In July Rice Hopkins visited Somerset and spent two days examining Doyne's route from Watchet to the Brendon Hills. There is nothing to indicate that from an engineering standpoint Hopkins could find any fault with Doyne's work. Nevertheless, these examinations and reports, together with Rice Hopkins' attendance as an expert witness at the arbitration, cost Brown £220 in fees.

#### **Rowcliffe's Tramroad Proposals (Figure 2, Route 7)**

Early in September 1854, six weeks before the arbitration, Rowcliffe penned a long letter to Joseph Robinson in which he again suggested that unless the partners were more active in their work on the Brendons, the landowners may withdraw their licences to search for ore. He said that Mr. Lethbridge had told him "of the disappointment he had experienced in the non-fulfilment of those large expectations which were held out to Mr. Llewellyn (the Trustee's mineral agent) and Mr. Bowker (the Trustee's Solicitor) as the inducements to the grant of that extensive lease to you: and I have since then been again reminded thereof by Mr. Llewellyn. To both gentlemen I could say no more than I have said many times before, that I fully understood and believed it to be your intention, to fulfil all you had represented, when the mines were developed".

After writing at length on these lines, Rowcliffe then turned to the question of transport. He first demonstrated that transport by horse and cart over the common roads was "plainly impossible". He drew the partners' attention to the fact that they were spending 6/4d. a ton transporting ore to the sea when they should be spending 2/- per ton at the utmost by means of a locomotive railway. He also pointed out that the steam engine which had been installed with considerable difficulty and much expense at the Raleighs Cross mine in August 1853 was costing nearly £100 a summer to run.

In Rowcliffe's view this cost could be saved simply by driving an adit from Timwood to intercept the water at depth, and not, as had been suggested by Brown's agent, by means of an adit from the valley of the Tone near Beverton Farm. He then went on to discuss the costs of driving the Timwood adit, (the suggestion for which had



Rice Hopkins' deposited plan:

⑨ West Somerset Mineral Railway, November 1854

Fig. 3

apparently been made originally by the partners' mining engineer, William Addams), and although parts of the letter are missing at this point, the conclusion he reached was that the adit would be 1,000 yards long and would cost £3,000 to drive and equip with a tramroad. He then proposed a tramroad 4½ miles long from Gupworthy to Raleighs Cross. From there it would descend by means of an inclined plane into the Timwood Valley. He estimated the cost of the tramroad as £4,750, excluding the inclined plane for which he allowed the ludicrous sum of £1,500. He estimated the cost of 6 miles of tramroad from Timwood to Watchet at £6,300, so that the total outlay would be approximately £16,000. In Rowcliffe's view once this money was spent Brown's drainage and transport problems would be at an end.

He also briefly returned in the letter to the question of the back freight of coal, and reiterated his proposal for a coal depot on the top of the hills. Finally, he added that "the tramway, with horses, may hereafter at leisure be converted to a more expensive railway, with locomotives, as that may be desirable."

This brought a swift and lengthy reply from Joseph Robinson to the effect that Rome was not built in a day, that the lodes were fickle, and that before the construction of a railway could be undertaken, the partners had to be completely certain that the ore existed in sufficient quantity to justify it. He criticised what he referred to as "some minor errors" in Rowcliffe's costing, and said that in due course he and Brown would visit Rowcliffe to take a final decision on the question of the railway.

By the 29th September 1854, following a visit by Brown and Robinson to Somerset, the decision had been taken. In a document of that date accompanying a letter from Thomas Brown,, headed "memoranda for Messrs. Rowcliffe and Son" the first item is "to purchase or lease sufficient land for making a railroad 4 ft. 8½ in. gauge from Watchet to Higher Roadwater to Timwood Farm to summit of hill at Raleighs Cross and from Raleighs Cross to the hill above Gupworthy level".

#### The Arbitration Award

After a hearing of six days and two evenings, the arbitrator announced his award in the case of Doyne versus Brown on the 1st November 1854. In a letter to Rowcliffe on the 3rd November, Brown said that of the £2,221 10s. 5d. which Doyne had claimed, the arbitrator had allowed

him £975 and no more. In the same letter he revealed that Doyne had offered in August to take £1,500 in full settlement and that later Doyne's Solicitors had offered to compromise between £1,100 and £1,200. But the arbitrator also awarded Doyne his costs in the reference as well as in the action in the Queen's Bench, and as Brown said, "this is the part of the decision not palatable to me", although in a letter from Rowcliffe to Brown's solicitor in Abergavenny, Rowcliffe intimated that the costs were not likely to be great.

With that matter settled, and the decision for a railway taken, Hopkins was appointed Engineer and started the preparation of drawings at once. Within a week, Rowcliffe had written to the editor of the Taunton Courier asking him to insert a notice, which was published on the 15th November 1854, announcing that application would be made for an Act of Parliament for the railway. By the end of November the plans and the book of reference were complete (Figure 3, Route 8).

#### Notes and References

1. R. J. Sellick, 'The West Somerset Mineral Railway and the Story of the Brendon Hills Iron Mines' (2nd ed., Newton Abbot, 1970) provides the historical background for this article. Letters from the Rowcliffe papers, which will be deposited in the Somerset Record Office in the near future, are the source of the quotations unless otherwise indicated.
2. The Wyndham Papers, referred to in the text, are deposited in the Somerset Record Office.
3. G. Hennett, Engineer, whose signature appears on the plan of the Bridgwater to Minehead Railway, is almost certainly George Hennet, the owner of the Bridgwater Iron Works at Colley Lane, Bridgwater. For additional information see article, 'Hennet, Spink and Else', in the 'Notes and News' section of this issue.
4. Rowcliffe later became connected with Bailey and Brown by marriage, as his first and third sons married daughters of Brown in 1857 and 1866, and his second and fourth sons married daughters of Bailey in 1853 and 1861.

# STOGUMBER BREWERY, 1840-1973

## F. and P. Hawtin

"And he who ruddy health enjoys  
If crossed by aught that health annoys  
Should quaff Stogumber Ale."

These lines, written at Trinity College, Cambridge, in the middle of the 19th century, are part of the poetic celebration of the medicinal virtues of the beer brewed from "Malt, Hops and Water only" in the little village between the Brendon and the Quantock hills. The water referred to came from Harry Hill's Well, still considered by some to benefit sufferers from rheumatism. An engraving (reproduced on this page) of "A Peasant Girl in the act of offering to an Invalid a draught of the renovating water from Harry Hill's Well, Stogumber, Somerset" became the trade mark of Stogumber Brewery.

The earliest reference found to the brewery (ST 096372) is in the Williton Poor Rate Assessment Book of 1840 in which, on 22 July, one "George Ellers Esq.," paid rates on a brewery situated in Stogumber.<sup>1</sup> In a directory published by William Bragg of Taunton in 1840 it states that "a large brewery has been recently established here by Mr. Ellers which has much increased the commerce of the place."<sup>2</sup> A further entry lists under 'Maltsters': "Ellers, George (and Brewer)."

Pigot and Co.'s Royal National and Commercial Directory of 1842 shows George Ellers Esq., in the list of Nobility, Gentry and Clergy for the district, and the information on Stogumber states "There is a considerable brewing establishment here (called the Stogumber Brewery) the malt liquor from which is held in great estimation; it is said to owe its celebrity in a great measure to the peculiar quality of the water, which is so well adapted to the process of brewing".

In 1875 the brewery was still under the same ownership (Kelly's directory) and during this period the ale produced had merited a national reputation for health-giving qualities. In the Times of 1 February 1848 appeared the following:

"A spring of Delicious Water possessing medicinal virtues, at Stogumber, in Somersetshire, similar to that at the Cataract at Launceston in Van Diemens Land, is now being used in brewing pure Pale Ale (from Malt and Hops only,) first introduced at Exeter, in cases of indigestion, constipation, and consumption, through the advice

of the Faculty, and now drank (sic) by the clergy, gentry and most families throughout the West of England. N.B. Persons are earnestly and most respectfully invited to inspect Mr. Herapath's analysis of the Water, at the different agents."

Also the following letter which is headed Royal Polytechnic Institution February 24th 1848,:

"Sir,—I have carefully analyzed the ale sent to me for examination. I find it absolutely pure and unadulterated; and from the excellence of the water employed in its manufacture, and the well-proportioned quantity of good hop, I should recommend it most strongly to invalids, and to persons generally who require tonics. John Ryan, M.D., L.L.D., Professor of Chemistry."



HARRY HILL'S WELL

The buildings were evidently modified in 1849 since at the south end of the connecting footbridge between the Maltings and the Brewery (shown in the drawing)<sup>3</sup> was an apparently unfinished stone plaque bearing the date 1849 and the name of a builder called Lovell. No reference has been found to this builder in Stogumber at this date.

On April 1850 an unknown cleric from a Vicarage near Exeter, penned the following verses which were printed in Woolmer's Exeter and Plymouth Gazette.

"A Grateful Effusion.

From one whose health has been greatly  
benefited by the use of the Stogumber Medicinal  
Pale Ale.

Stay, Reader! Stay a little while,  
 Whilst Fifty thou canst scarcely number,  
 And read, pourtray'd in homely style,  
 The praise and virtues of stogumber.

Go search the Kingdom thro' and thro'—  
 From Royal Thames to Northern Humber,  
 No Ale, or Porter, Man can brew,  
 Will bear the prize from bright Stogumber.

Ye cider Sellers, hide your head;  
 Rejoice each Painter and each Plumber,—  
 You all who dabble much in Lead,  
 May safely quaff the pure Stogumber.

Does pain of Mind, or pain of Body,  
 Weigh you down and banish Slumber?  
 Fly from Brandy—Gin—or Toddy,—  
 But take a Glass of rich Stogumber.

Do Aching Thighs (whene'er you move),  
 And stiffening joints, your walk encumber,  
 Would you move brisk? then haste and prove  
 The strengthening power of pure Stogumber.

But one month since, my Legs were lank,—  
 Each Rib with ease I then could number;  
 But now I'm plump, and how? I drank  
 Each day, a pint of pale Stogumber."

They were subsequently used as part of an advertising poster on the back of a copy of which, found in the ruins of the brewery, another anonymous hand has pencilled "Hang this near and never fear Stogumber watches over—drink hearty."

In Kelly's directory of 1861 the first reference appears to a dwelling house known as Springfield Lodge" the address of "Elers', Charles George, Esq." During the last quarter of the nineteenth century the brewery appeared under the names of "Sloman and Brander", and Major John Sloman lived at Springfield Lodge. In their advertisement they stated, "The microscopical examination shows the water to be free from the germs of animal and vegetable life, whilst in the chemical examination we find an absence of nitrates with a mere trace of chlorides, the water therefore is thoroughly pure and wholesome. The Proprietor guarantees the Ales brewed from Malt, Hops and Water only, they are of first class quality and keep well. Prices from one shilling per Gallon. Orders to the Manager, Stogumber and West Somerset Brewery, Taunton<sup>4</sup> will receive prompt attention."

Kelly's directory of 1894 records Stogumber Brewery as being run by Messrs. Scutt Brothers,

Brewers and Malsters, and Ernest Scutt and George Decimus Scutt lived at Springfield Lodge. An advertisement of that date reads "Stogumber celebrated Pale Ale. Highly recommended by the Faculty. Brewed solely from malt, hops and the Medicinal Waters of Harry Hill's Well. Strongly recommended to invalids as renovating and delicious. For testimonials and prices of ales and malt apply to

Scutt Brothers  
 Brewers and Maltsters  
 The Brewery, Stogumber, Nr. Taunton."

Prices given in a poster of the period quotes

"Good dinner ale 10d a gallon.

HH ale brewed especially for private families 1/-  
 XX The Celebrated Pale Ale 1/2 and 1/4

XXX Ale Strongly Recommended to Invalids who  
 require tonics 1/3 and 1/6.

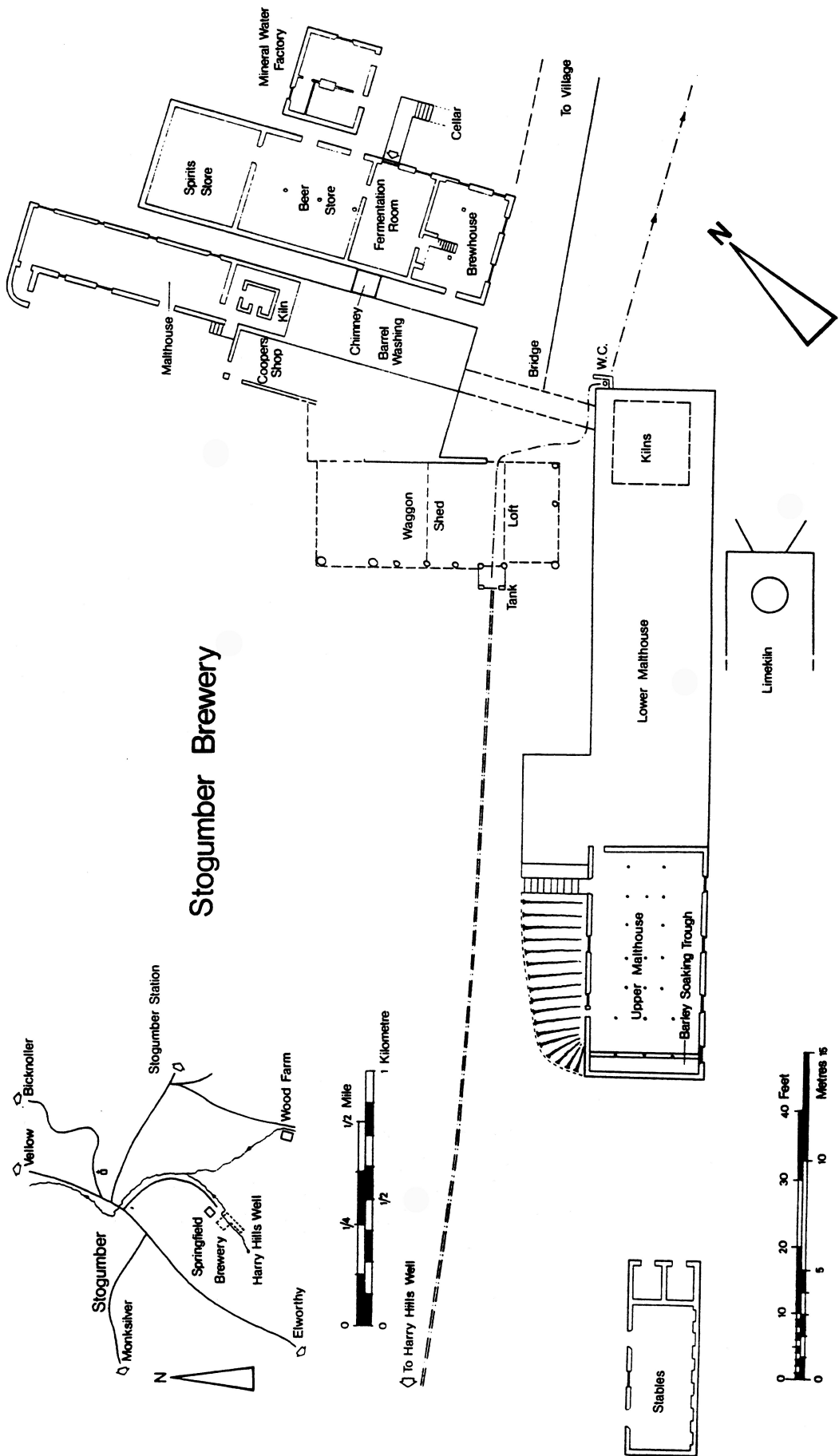
XXXX Good Strong Beer (Mild or Old) 1/2, 1/4  
 1/6.

Carriage paid to any station within 100 miles of  
 the Brewery."

At this time Scutt Brothers were also "Barley factors, Wine and Spirit Importers, Hop Merchants and Manufacturers of Mineral and Aerated Waters." The Stogumber Mineral and Aerated Water factory was producing "Ginger beer, Lemonade, Orange Champagne, Kola Champagne (made from the Kola nut), Potash Water, Seltzer Water, Soda Water, Pineapple, Ginger Ale, and various other kinds." A label discovered in the buildings bears the words "Winter Cheer—non-alcoholic stimulating beverage." All these utilised the water from the well in their manufacture.

By 1902 Kelly's lists "The Stogumber Brewery Co. Ltd." with no name of a proprietor and Alfred Leonard Brandon living at Springfield Lodge. This is the first mention of a limited company owning the brewery and so Mr. Brandon might have been the manager or main shareholder.

Matthew Mossman brewer, Springfield Stogumber is listed in the 1906 edition of Kelly's directory which also says "in the village is a brewery." In 1908 Frederick John Bryant, nicknamed 'Daisy' from his propensity for singing "Daisy, Daisy give me your answer do" from his earliest days up to the time when, as an octogenarian he performed at village socials, went to work for Mr. Mossman in the brewery at a wage of fourteen shillings a week. In a tape recording made a couple of years before his death he described how he used to deliver watered beer called "bunker, at 10d a gallon to the farmers towards Minehead





Bridgwater and on the Brendons, when they runned out of cider." He drove a trap, drawn by a horse called General which knew its way home in the fog.

Information gathered from the memory of another of Matthew Mossman's employees, Mr. W. Yeandle, indicated that the brewery was then rented from Alfred Leonard Brandon and that brewing finished in 1912. Certainly by 1914 Springfield was occupied by Brandon, described as a maltster, and from then until 1927 Kelly's continues to list him as such. Mr. Yeandle further recalled that the hops used in the brewing came from Kent. After fermentation the beer was boiled in a copper ("... made of real copper") and this used to be cleaned by being scoured with ashes. At that time the Government excise man lived in the village and used to call once, or sometimes twice, each day to inspect the cleanliness of the machinery and utensils, including the copper pipe through which the beer was fed from the brewhouse to the barrels in the cellar. The filled barrels were rolled on a pair of metal rails let into the floor of the passage, on the way from the cellar to the foot of the stairs leading to ground level. From here they were lifted by a hoist suspended over the stair well, and this hoist bore a plate with the inscription 'H. KING PATENTEE TEWKESBURY'.

A cooper's shop was part of the original brewery, but during this century barrels were

only repaired and not made on the premises. In the space between the brewhouse and the barrel-washing shed, to the SE of the square brick-built chimney, (see plan) was the boiler house of the engine which, amongst other operations, drove the pump for lifting the beer to the cooling tower. There was also another engine in the lower malt-house for driving the elevator—an endless leather belt with metal buckets attached—which carried the malt to the drying floor above the kilns. The floors of the three malthouses supported on cast iron stanchions 5' 3" high, were made of timber spread with sand, the whole being covered with a one inch layer of lime.

During a survey of the brewery buildings in 1967, a circular plate at one end of a tie bar through the walls of the brewhouse was recorded, bearing the insignia 'W. N. NICHOLSON TRENT WORKS NEWARK', and found a perforated tile from the drying floor above the kilns in the lower malt-house which was stamped 'FISON + STOW-MARKET'. Its pattern of ventilation holes took the form of a series of one inch squares, each with sixteen perforations. Other unnamed tiles from the same floor had seven holes arranged in circles  $\frac{3}{4}$ " diameter, with an eighth hole in the centre of each. These tiles are all one foot square.

The renowned water from Harry Hill's Well, 100 yds. away on the higher ground to the SW of the premises, ran into a storage reservoir and was then fed by gravity both to the brewery and to



STOGUMBER BREWERY c 1900

Springfield. In 1939 Major and Mrs. May took the house which was soon commandeered by the Women's Land Army when the war began. Afterwards the War Department paid compensation to the Mays for dilapidations, but subtracted the cost of connecting the house to the mains water supply. Major May had samples of the water, and of the mains water, analysed and the well water proved to be the purer sample! His daughter recalls that he, half-humorously, considered making a counter claim against the War Department for connecting the house to an impure water supply.

Before the second World War the Stogumber Rifle Club used the safe confines of one of the pair of cellars under the brewery as a shooting range, as later, did the Home Guard. In the 1950s, during the Suez war, there was a local revival of .22 rifle shooting, and Mr. Lyonel Cornish of Cushuish Farm, Kingston St. Mary, remembers contests between Bishop's Lydeard and Crowcombe clubs being held there.

A decade later the lower malthouse, in a ruinous condition, was used to house poultry by Major and Mrs. May who eventually sold the premises in 1966 to Mr. and Mrs. Riley who lived in Springfield Maltings, as the house was then known, for four years. In September 1970 Mrs. D. D. Lewes bought the property and is the present occupier. Worried by the danger presented to children and animals, she had the tumbledown brewery and malthouses demolished in October 1973.

So the story of the Stogumber Brewery has been traced from its beginnings in 1840, through its nationally famed and successful period under one owner, George Elers, until about 1875; then to its diversification to include the production of aerated mineral waters under the Scutt Brothers; to its decline after the first decade of this century and its ending as a maltings.

## NOTES AND REFERENCES

1. Somerset Record Office, D/P/stogm 13/1/3.
2. Although the trade directories referred to in this article can be found in many libraries, a particularly comprehensive collection is located at Taunton Castle, Taunton, Somerset, in the Local History Library and the adjacent library of the Somerset Archaeological & Natural History Society.
3. The drawing, showing the buildings, delivery vehicle and employees, is based on a surviving photograph.
4. The West Somerset Brewery was at Coal Orchard, Taunton (ST 227248). The former manager's residence, known as the Old Brewery House, is now part of the Taunton Theatre complex.

## Acknowledgements

In 1967, as a follow-up to a series of W.E.A. lectures on local history, a group of students bravely undertook a survey of the decaying remains of the brewery buildings. Their painstaking labours have made this report possible.

The premises were owned at that time by Mr. Riley who lived in the adjacent house known as Springfield Maltings. Grateful thanks are due to him for his wholehearted and tolerant co-operation.

The plans and measurements produced by this W.E.A. exercise, too numerous all to be reproduced here will be deposited, together with photographs, in the Somerset Record Office.

# THE LANGPORT, SOMERTON, AND CASTLE CARY TURNPIKE TRUST: an introduction

C. A. Buchanan

Like most of the Somerset Turnpike Trusts, the Langport, Somerton and Castle Cary received its first Act of Parliament in the middle years of the eighteenth century, within the period (1751–1772) of the so-called 'Turnpike Mania' during which 389 new trusts were established in Great Britain<sup>1</sup>. In the main these trusts consisted of local landowners, farmers and business men who had a direct financial interest in the improvement of transport facilities.

The development of the L S & CC road network took place in three main periods. In the earliest, following their initial Act of 1753, the trustees turnpiked three lengths of road. The longest of these was from the termination of the Taunton Trust's road at Red Post in Fivehead, through Langport, Somerton and Keinton Mandeville to link with the Shepton Mallet and Sherborne Trusts at Butwell in Ansford. The two other lengths ran from Curry Rivel southwards to the Ilminster Trust's road at Park Gate near Barrington, and northwards from Cary Bridge, Somerton, to Street Cross where a link with the Wells Trust was established. In 1777 and 1778 the Trust secured powers from Parliament to turnpike several other roads, many of which were abandoned within twenty years, presumably because they had proved unprofitable. However, two of the roads were successfully developed: that running southwards from Cary Bridge to the Ilchester Trust road at the bottom of Kingsdon Hill, and that from Marshall's Elm westwards along the Polden ridge to Pipers Inn, where it connected with the Taunton and Bridgwater Trusts roads.

The second period of development came in the early 1790's, during a speculative boom in turnpike promotion which mirrored the more famous 'Canal Mania' of the same years. The L S & CC extended its network by taking over the road from Sparkford to Castle Cary, and the branch running from Galhampton Cross to the Sherborne Trust's road south of Castle Cary. The Trust also adopted the road from Langport via Huish Episcopi and Long Sutton to the Ilchester Trust road at Kingsdon, with a short branch southwards from the Quaker Meeting House in Long Sutton to join the Martock Trust's road running from Martock to Somerton. The Polden ridge road was extended from Marshall's Elm to join the main Trust road at Kingweston.

The promotion of transport improvements

suffered nationally from lack of funds during the long period of warfare with France between 1793 and 1815. Even after Waterloo it took several years for an economic climate favourable to such developments to re-assert itself. When interest in road developments did revive in the 1820's, the L, S & CC embarked on its last period of extension. In 1824 permission was granted for extensions from Kingsdon to join the Ilchester to Wincanton road east of Podimore; from Huish Episcopi southwards via Muchelney (where a new route was made), Kingsbury Episcopi and West Lambrook to Broom Bars, about a mile north-west of Lopen Head on the Lopen to Shepton Beauchamp road; and from Huish Episcopi to the Bridgwater Trust's road at Langport Bridge in Chedzoy, by way of Aller, Othery and Weston-zoyland.

Although the Trust was authorised to make further extensions in an Act of 1831, it apparently never took advantage of this power. Turnpike trusts nationally were beginning to feel the chill wind of competition from the railways, and certainly the writing was on the wall for the horse-drawn carriages. In 1842 Taunton was first linked by rail with London, and the Bristol and Exeter Company's line from Durstonto Hendford (Yeovil) was completed in 1853. In 1857 the Wiltshire, Somerset and Weymouth line was completed. Each of these lines must have reduced demand for transport facilities on the L, S & CC roads, although the line which most closely parallels the principal artery of its system was not opened until 1906, when the Castle Cary to Durston route, via Somerton and Langport, was completed. By this date the Trust had long since ceased to exist. In the early 1850's the Trust abandoned its interest in several roads, including that running from Pipers Inn to Kingweston. In 1857 the rate of interest paid to shareholders was reduced to 2%. The fifteen years after 1870 saw the demise of most of the Somerset trusts, and the L, S & CC was formally wound up by an Act of 1879.

Although the documents relating to the history of the Trust are fairly sparse, there is an excellent series of maps, compiled in 1830 and based on the survey of P. B. Hett dated 1820, in the Somerset County Records Office<sup>2</sup>. Figure 1 shows the Trust's roads as they appear in a map entitled 'Map Shewing the Langport, Somerton and Castle Cary Turnpike Roads, 1857', to be found within the volume of earlier maps. Included in Figure 1 are the sites of the toll houses and

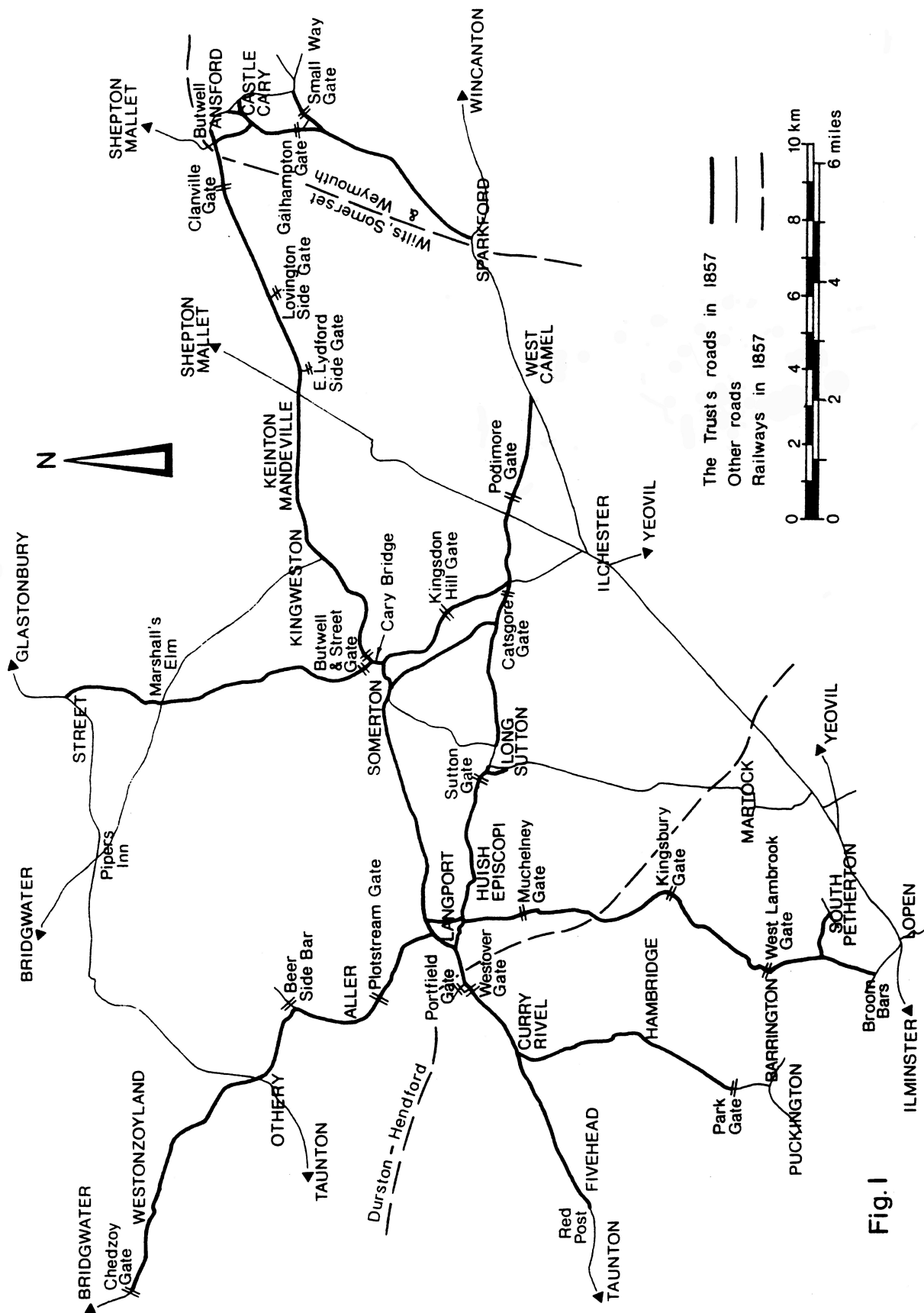


Fig.1

gates marked on this later map. Many of these, including Langport Westover Gate and Butwell and Street Gate, have now disappeared. Those at Muchelney, Kingsbury Episcopi and Plotstream have survived. The Clanville Toll House appears to be still standing, but the Galhampton Gates illustrate how difficult it can be to confirm the validity of contemporary records with present-day field work. There is today a splendid toll-house, built of the local Cary stone, at the junction of the A359 and B3152 roads (ST 6368 3030). Figure 2 shows the sites of two gates as they appear in the 1830's map. They appear then to have been called Shepherds Cross Gate and Hadspen Gate, the alternative names having been added to the map at a later date. The positions of the gates are repeated on the map of 1857, with the names Galhampton Gate and Small Way Gate. The Castle Cary Tithe Map of 1841 marks only the present site as belonging to the Turnpike Trustees, but notes that the premises were unoccupied at that time. This could indicate that the earlier Galhampton and Small Way Gates had been superseded by the structure which still stands at the junction of the road from Castle Cary with the main road from Bruton to Sparkford. However, this theory is undermined by the evidence in the Minutes of the Trustees which points to the existence of two separate toll houses at Galhampton and Small Way in 1850<sup>3</sup>. It could be that it was just the Galhampton Gate which was removed, and that the Small Way Gate continued to operate separately, although leased by the same tenant (Thomas White). Even this explanation is discredited by the 1857 map which simply confirms the positions established by the survey of 1830 and completely ignores the site where a toll-house stands today. No doubt an error could have been made in this later map, but it seems unlikely, and the problem remains unanswered.

Generally, toll houses were not very substantial structures, and it would not involve any considerable expense to replace them, or even remove them to a new site. In 1849 the Kingdson Toll House was burnt down, but it was rebuilt within a period of four months at the modest cost of £50<sup>4</sup>. The gates at Langport Westover and Butwell and Street also had weighing machines, but these do not appear to have survived.

Other relics of interest to the industrial archaeologist include the milestones and mileposts, of which some excellent specimens can still be found, particularly the mileposts, cast at the Wightman Foundry, which line the Sparkford to Castle Cary road. Not all the Trust's milestones have survived, and in some cases the cast-iron

plates have been removed, but the O.S. 1 to 25,000 maps show where stones are likely to be found, although the distance between stones may have changed where the course of the road has been altered.

Fortunately, the coaching houses of the turnpike era have in many cases survived to benefit from the age of the internal combustion engine. The L, S & CC Trust roads can boast some splendid examples. One is the 'Red Lion' at Somerton where the Trustees frequently met. Until recently, the stable arch at this inn was adorned with the legend 'LICENSED TO LET POST HORSES', and the town's post office was conveniently sited on the same premises. More thirsty industrial archaeologists may wish to complete a survey of the coaching houses which have survived on the roads that were once maintained by the Langport, Somerton and Castle Cary Trust.

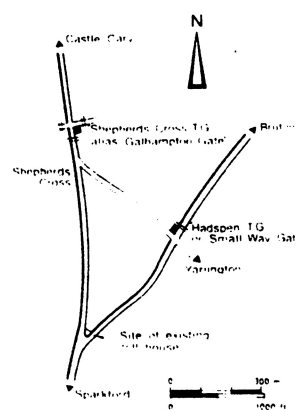


Fig. 2

#### NOTES AND REFERENCES

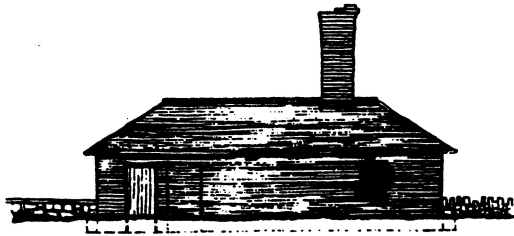
1. W. Albert, 'The Turnpike Road System in England, 1663-1840' (Cambridge, 1972) page 49.
2. Somerset County Records Office, deposited plans for the L, S & CC Turnpike Trust, 1830.
3. Somerset County Records Office, D/T/1sc, Minutes 1848-1857. 31/10/1850 reference is made to the fact that the Rev. Gray of Castle Cary had made an encroachment near Galhampton Gate, and immediately below this the Surveyor was ordered to get the Toll Board at Small Way Gate relettered, and to get the direction post where the roads to Castle Cary and Bruton diverge at Galhampton repaired.
4. Ibid 7/3/1849 and 27/7/1849.

#### Acknowledgements

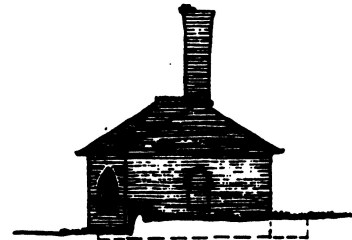
I am grateful to Mike Jones for the measured drawing of the toll house at Muchelney. The structure was surveyed by S.I.A.S. members under his direction in July 1975. Since that time the building has reached an advance state of dereliction.



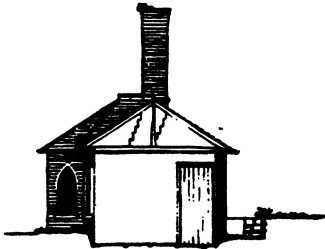
Mediaeval tile fragment used as ridge tile closer over porch



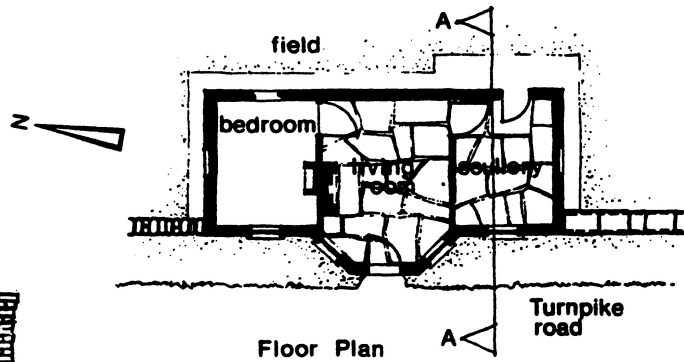
East Elevation



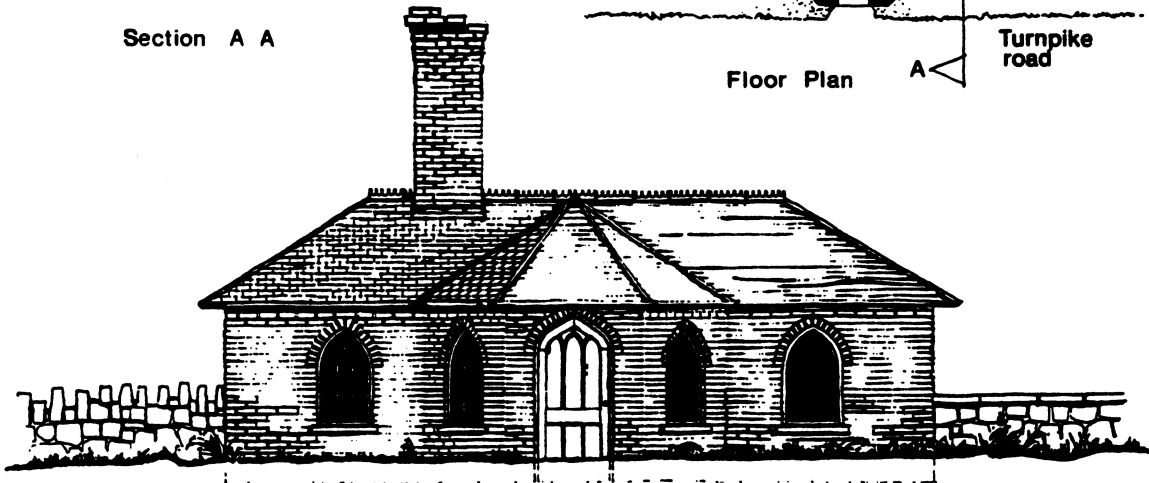
South Elevation



Section A A



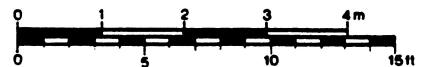
Floor Plan



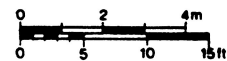
West Elevation

# THE TOLL HOUSE, MUCHELNEY

Scale for west  
elevation



Scale for remainder



# A PROPOSED EXTENSION OF THE WEST SOMERSET MINERAL RAILWAY TO EISEN HILL

R. A. Bye and T. H. Lovell

Although the Eisen Hill mines were among the earliest to be developed by the Brendon Hills Iron Ore Company, the complexity of the lodes seems to have resulted in a considerably fluctuating output. As long as output was small, the ore could, without undue difficulty, be taken by road to Minehead for shipment; but by the early 1860's, output from Eisen Hill was rising so quickly that its conveyance by road became inconvenient and expensive. The directors therefore recommended extending the West Somerset Mineral Railway westwards from Gupworthy to the Quarne valley to provide the Eisen Hill mines with direct rail connection to Watchet.

Late in 1864 the railway company advertised its intention of seeking Parliamentary power to construct the extension, but no further action appears to have been taken, and the proposal was dropped. Although the advertisement gave no details of the route of the extension other than the parishes through which it was to pass, it seemed reasonable to suppose, as Sellick did<sup>1</sup>, that its route would be west from Gupworthy to Quarne Hill, from where it would descend to Joyces Cleeve by means of an easily constructed haulage incline at an even gradient of 1:10.

That this route was not intended has now been shown by the discovery in the Rowcliffe papers of an undated plan on 3 sheets to large scale of the proposed extension. Because it shows the extension beginning from the actual terminus at Gupworthy instead of from the originally proposed terminus a mile and a half farther west, this drawing is almost certainly the plan prepared in 1864 with a view to obtaining an Act. The drawing shows that no incline was envisaged. Instead the extension was to descend by a circuitous route eight miles long from Gupworthy to Joyces Cleeve passing through Wheddon Cross and Luckwell Bridge.

The route is shown in Figure 1, the sequential numbers referring to the assumed points of change of horizontal alignment, which occur at fairly frequent intervals along the route. The total track length is 12,975 metres (8.06 miles). The maximum curvature, 175 metres (574 feet) radius over a length of 200 metres (656 feet), occurs between points 31 and 32. Figure 2 shows a longitudinal section of the ground surface over which the proposed extension would have run,

with a suggested vertical alignment to test the engineering feasibility of the route. From this some interesting conclusions are reached.

The rising gradients, whilst workable, would have been severe in places, bearing in mind that the intention was to raise loaded trucks of ore from the bottom of the valley. The steepest section would have occurred between chainages 5,050 and 8,700 metres, where a gradient of 1:41 is indicated.

To the west of Luckwell Bridge, however, variations in ground level of the order of 50 metres (164 feet) over a length of one kilometre would have necessitated a deep cutting followed immediately by an embankment 30 metres (98 feet) high or a viaduct.

In comparison, local differences between track and ground level at chainages 1,650, 2,100, 2,450, 2,750, 4,350, 4,900, 6,400, 7,100, 8,350, 9,100, 11,200, 12,100 and 12,700 metres are small, but with the vertical alignment shown, five of these positions show a requirement for a structure such as a viaduct. These are in addition to four overbridges and seven underbridges which would have been necessary if existing rights of way were to be preserved.

Calculations have shown that there would have been an imbalance of earthworks between cutting and embankment, but that sufficient material would have been available to replace four structures by embankments, assuming this was acceptable from an engineering point of view. Under these circumstances the total amount of earth moved would have been 553,000 cubic metres.

The ingenuity of the route chosen demonstrates that it was carefully surveyed, with due regard to the very difficult terrain, and the fact that virtually all the excavation would be in the heavy Devonian slate of the Brendon Hills.

## Reference

1. R. J. Sellick, 'The West Somerset Mineral Railway and the Story of the Brendon Hills Iron Mines' (2nd ed. Newton Abbot 1970).



# PROPOSED EXTENSION OF THE WEST SOMERSET MINERAL RAILWAY TO EISEN HILL

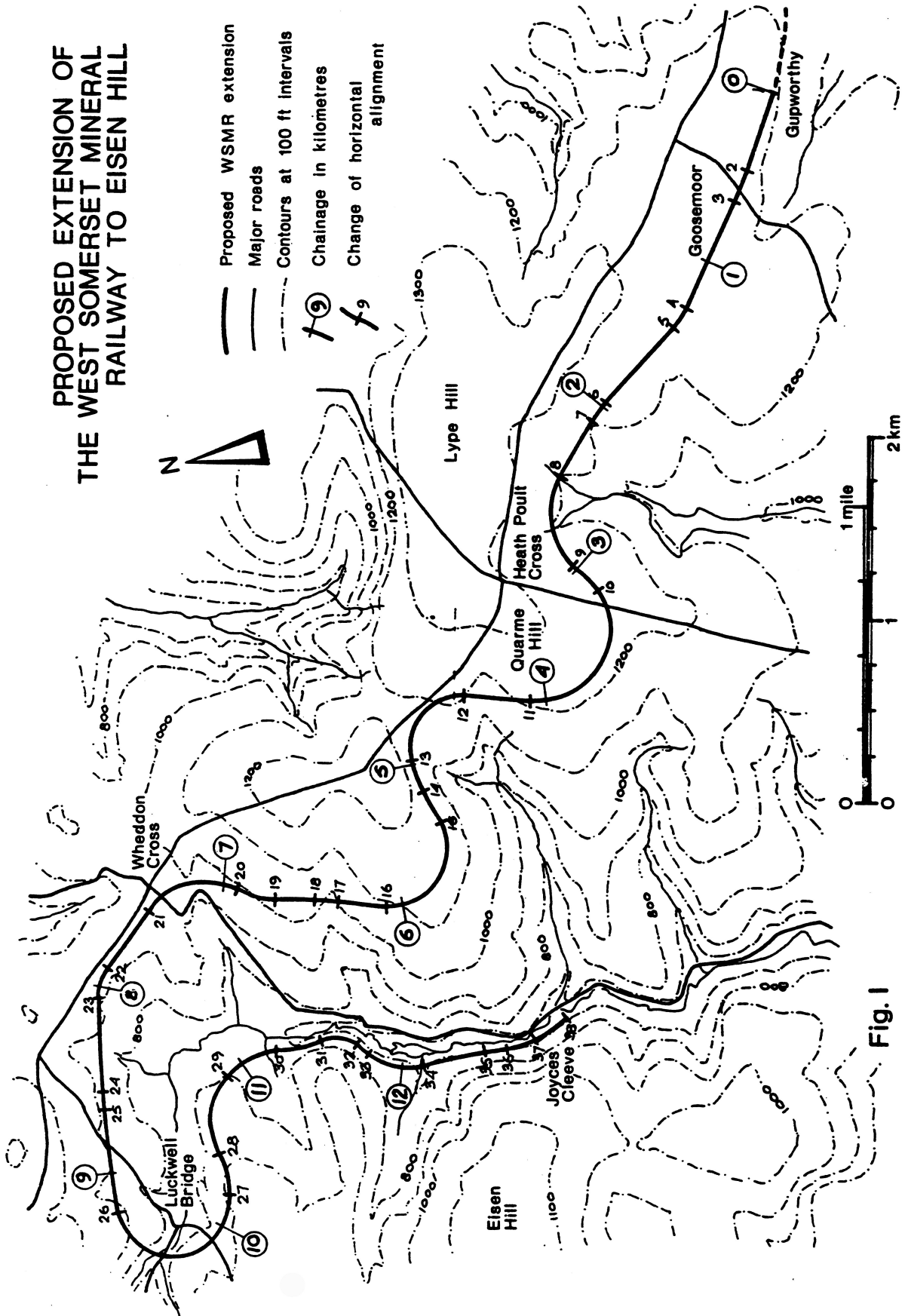


Fig.1

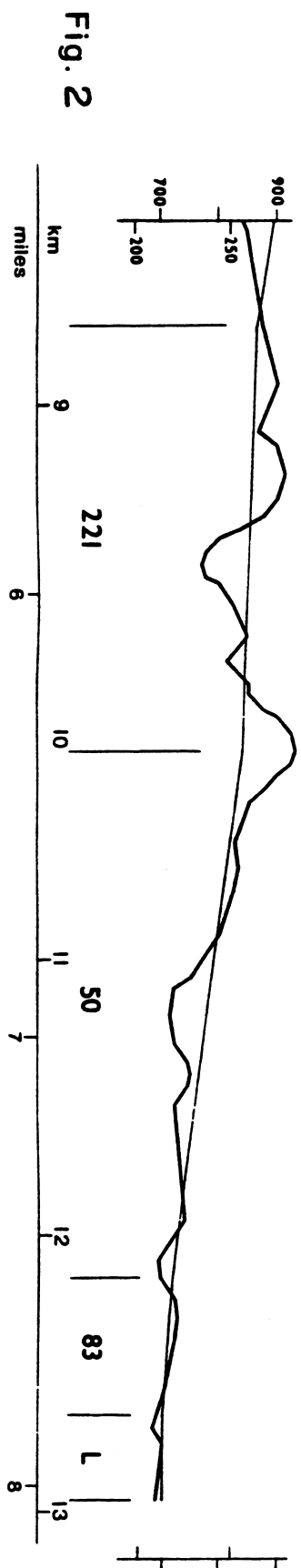
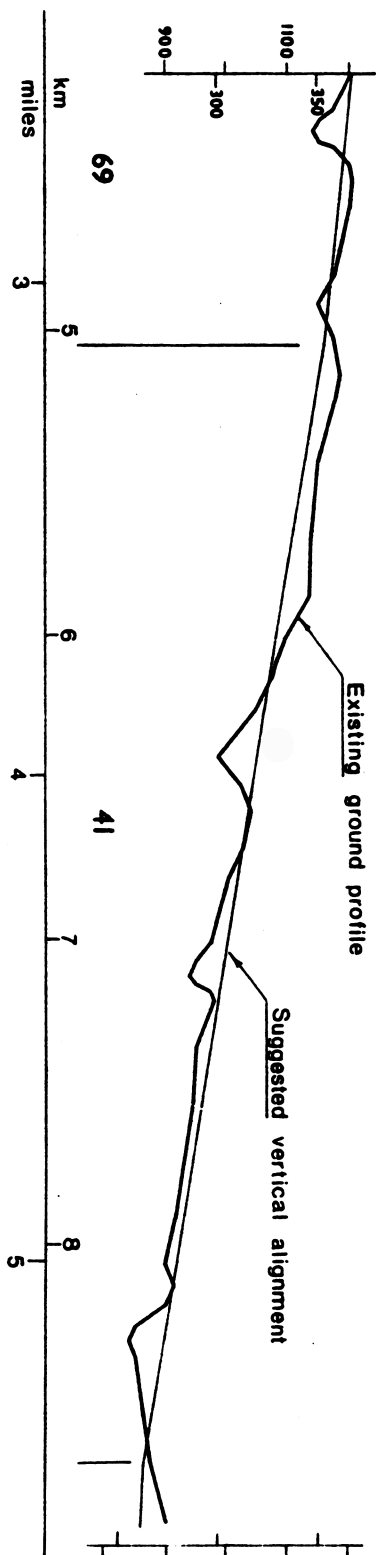
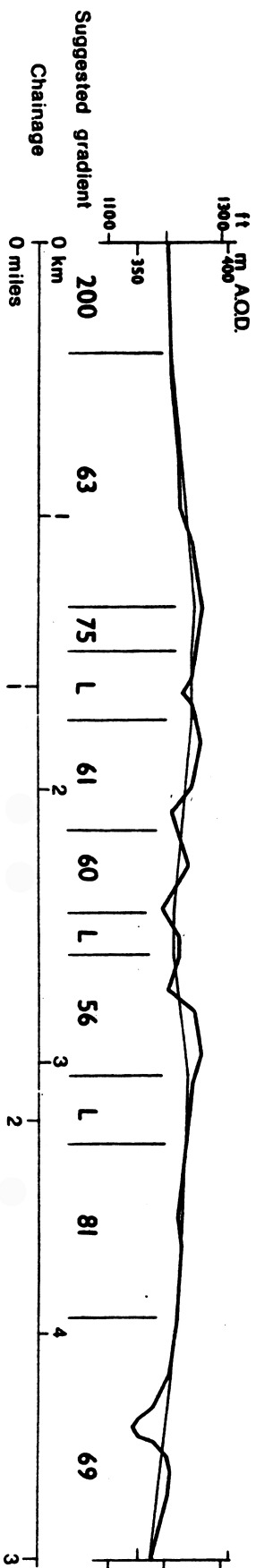


Fig. 2

# THE COUNTY BRIDGE PAPERS

## D. J. Greenfield

The various Turnpike Trust records to be found in the Somerset County Records Office and elsewhere have long provided source material for the student of the development of Somerset's highway network. A supplementary source, perhaps less well-known, is the collection of County Bridge Papers connected with the Quarter Sessions records. This article is an attempt to illustrate, with reference to one bridge, the type and variety of information contained in these papers.

From very early times the duty of repairing bridges of public utility was primarily imposed upon the county, rather than the parish which was at common law bound to repair all public highways; hence the expression "county bridge". In addition, the highways at the ends of county bridges built prior to the Highways Act of 1835<sup>1</sup> were considered as extensions of the bridges themselves and were accordingly repairable with the bridges by the county. The Statute of Bridges of 1530 specified three hundred feet from the ends of bridges<sup>2</sup>.

Hurstbow Bridge is located on the south-western outskirts of Martock (ST 4582 1894), carrying the Martock to Crewkerne road (now the B3165) over Hinton Meads Brook. The length of this road from Martock through Hurst and Bower Hinton to the Fosse Way was turn-

piked in 1760. The road branching westwards immediately to the south of the bridge towards South Petherton via Cary's Mill Bridge over the River Parrett was turnpiked in 1802. However Hurstbow Bridge, at that time a masonry structure of two arches, was a county bridge.

The County Bridges Act of 1815<sup>3</sup> empowered the justices of the peace at their quarter sessions to enter into contracts for the repair of county bridges, for terms not exceeding seven years. Such a contract, dated 25th August 1847, is found in the Bridge Papers for Yeovil Division, in which Charles Harris and John Wheeler Bourne, both of Ilchester and described as "Road Surveyors", contracted with the Clerk of the Peace for Somerset for "keeping in repair the Parapet Walls and Roads of certain County Bridges in the Magisterial Division of Yeovil for 5 years from 20th October 1846 at £37.8.10 per annum".<sup>4</sup> The bridges involved were Haselbury, Frickers, Hurstbow, Mudford, Yeovil and Ilchester.

However, at the Epiphany Quarter Sessions held at 4th January 1848, a report was read of Hurstbow Bridge being "represented as requiring improvement and widening".<sup>5</sup> The bridge would be "presented" at that Session and the Turnpike Commissioners had agreed to pay half the expenses. The "presentment" of a county bridge was one method of enforcing the county to repair a bridge, the Highways Act of 1773<sup>6</sup> enabling a

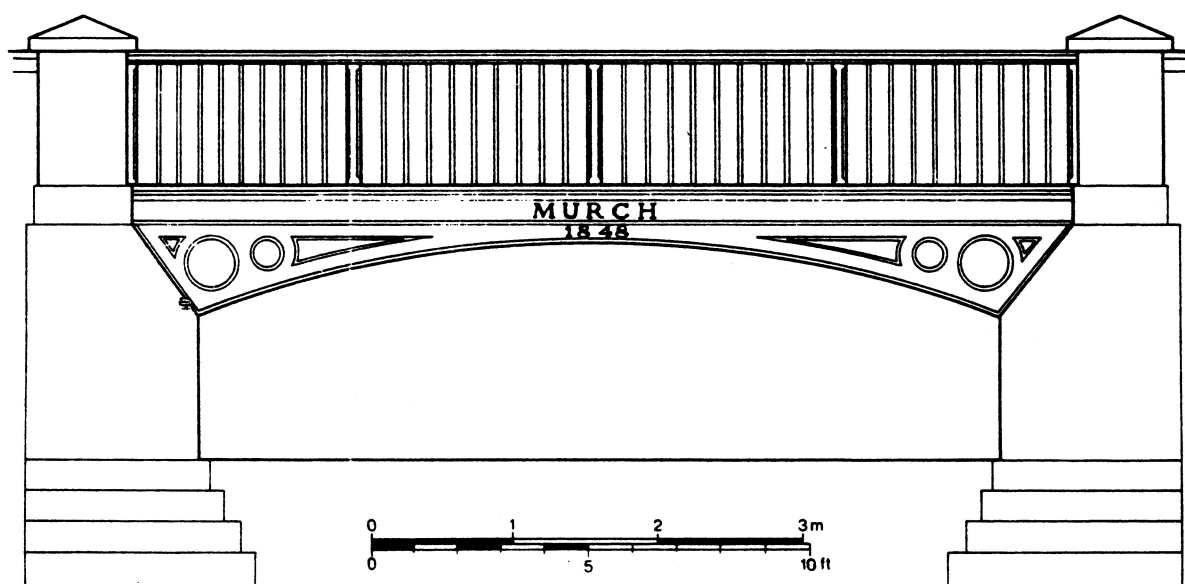


Fig.1 HURSTBOW BRIDGE, MARTOCK  
Elevation based on Richard Carver's drawing of 1848

single justice of the peace, either on his own view or on information, to present at quarter sessions any bridge not well and sufficiently repaired. Moreover, the County Bridges Act of 1803<sup>7</sup> enabled the justices to order the rebuilding of a county bridge so as to be more convenient to the public, provided that the bridge had been presented as being insufficient, inconvenient or in need of repair. Accordingly the County Surveyor, Richard Carver, was ordered to inspect the bridge and "report thereon at the next Session as to its present Condition and the requisite repairs to be made thereto, together with an Estimate of the Costs thereof".

The County Surveyor's report having been read at the Spring Session on 28th March, 1848, the Court consented to allow a sum not exceeding ninety pounds towards the expenses of rebuilding the bridge, and "for the purpose of widening and improving the Roadway and approaches thereto according to the Plan of the County Surveyor . . . Upon Condition that the remainder . . . be provided by the Trustees of the Martock Roads". Acquisition of a small area of land was required for the improvement but it appeared "there will be no difficulty in arranging with the Owner to give up the corner of a shed to the old Turnpike House in Exchange for a piece of Ground to be taken, in by reversing the line of Pallisade in front of Mr. Humphrey's Garden".

The Turnpike Trustees having approved the plan in a letter of 30th May, Carver prepared a specification and working drawings, dated 20th June, presumably in time for the Midsummer Session of 27th June. At that session, it was "ordered that the [order of Court made at the last session] be rescinded and upon reading and considering a Presentment now made to this Court by Mr. John Wood that the said Bridge is insufficient and inconvenient and in want of due reparation and amendment . . . This Court doth consent to allow out of the public monies of this County a Sum not exceeding Ninety pounds towards the expense of taking down and rebuilding such Bridge . . . according to the Plan of the County Surveyor now produced and approved". The condition that the remainder of the sum be provided by the Turnpike Trustees was repeated, and the Clerk ordered to prepare a Conveyance for the land required. It would appear that the statutory procedure regarding a presentment had not been carried through at the two previous sessions, making it necessary for John Wood, a magistrate, to present the bridge formally at this session.

In a Memorandum dated 8th July 1848,

George Pearce, "a Mason and Builder of Martock", agreed "for the sum of one hundred and eighty pounds (one half to be paid me by the County of Somerset and the residue by the Trustees of the Martock Roads) to pull down and remove, and provide a temporary Bridge for the Public, and rebuild the Bridge known as Hurstbow Bridge and to complete the work by the Michaelmas Quarter Sessions next ensuing". The agreement is witnessed by Nathaniel Thomas, Surveyor of Martock Turnpike. Pearce agreed also to enter into a Bond with Edwin Lovell, the Clerk of the Peace, "for the due and punctual performance of the several works so contracted", with Edward Murch the Bridgwater iron founder as his surety<sup>8</sup>. In sending the final plans and specification to Lovell for attaching to the Contrast on 13th July, Carver stated he was "perfectly satisfied with the ability of [Pearce] to execute the work properly."

The contract drawings and specification show the bridge to consist of Hamstone abutments carrying two external and six intermediate cast iron ribs to support the roadway (Figures 1 and 2). The skew span of the ribs is 18ft. 6ins., although due to the heavy skew the square span is 16ft.; the roadway width is 24ft. The "external or face ribs including the arched piece flanch and two beads up to the capping line to be each rib of the weight of twenty hundred of 112 lbs each" and the "intermediate arched flanch ribs to be suently<sup>9</sup> cast of the average of 36 lbs to the foot superfital . . . the entire space between the Cast ribs . . . to be covered with full  $\frac{3}{8}$  inch Cast Iron Plates arched widthways to Camber  $1\frac{1}{2}$  inch". Wrought balusters were to be screwed and rivetted between cast iron cappings on the outer ribs and cast cappings serving as the handrails. The parapet walls and piers were also of Hamstone. "The six intermediate ribs and plating and the inside of the face ribs and binding rods to be Painted twice with Coal Tar and the face of the outside ribs, the edges thereof, and the two lines of capping and the Balustrade to the Painted Stone Color three Coats in Oil".

A dispute now seems to have developed between Carver and William Palmer regarding the value of Palmer's land which was proposed to be taken for the works, until the Clerk of the Peace confirmed on 24th August that Mr. Wood had settled the dispute, and that £8 was agreed. The following day Lovell wrote to Pearce enclosing the draft Contract and Bond for his perusal, and on 4th September wrote again, asking for the return of the draft. Pearce replied the same day, returning the documents and stating that he hoped to complete the work at the end of that week—excellent progress considering that the

original agreement had been signed but two months previously.

The Michaelmas Quarter Session was held on 17th October 1848, when Carver's Certificate was read that the works were completed, although "in the progress of the work it had been found prudent to increase the strength of the Ironwork in a slight degree and that one of the fence Wing Walls had been materially lengthened beyond the spot laid down on the Plan to protect the public against apprehended flood water", necessitating the expenditure of an additional twenty pounds five shillings and ninepence. The Treasurer was ordered to pay Pearce the Contract sum of ninety pounds, and in addition seven pounds thirteen shillings and ninepence, the Trustees of Martock Turnpike Roads having agreed to pay the sum of twelve pounds and twelve shillings. With the order to the Treasurer to pay William Palmer eight pounds the records of the rebuilding end.

The Quarter Sessions records reveal that a Bridge Committee was set up in 1851 and that this committee recommended an inspection by Richard Carver of all county bridges, with a report on the condition and an estimate of the repairs for the next seven years. Carver's report for Hurstbow Bridge, dated 25th October 1851, states "This Bridge has been lately rebuilt and made commodious by Stone Piers, an Iron Arch and Pallisade, and is in perfect and substantial repair".<sup>10</sup> He estimated £3 to paint the ironwork, plus 7s.6 per annum for maintenance of the bridge and £3.10.0 for repairing the road surface of the approaches.

The Bills and Salaries listed for the Michaelmas Quarter Session of 1852 include a sum of £1.7.6, paid to Nathaniel Thomas for "repairing Hurstbow Bridge", although the repairs are not described. Amongst the Bridge Papers for Yeovil Division, a "report of the Yeovil Highway Board as to the condition of the structure of every County Bridge within its District and the condition of the road over each of such Bridges", includes for Hurstbois (sic) Bridge as at 30th May 1868, "The Iron fence, Stonework, Masonry and Road are in good Condition". Similar comments are made for the report of 3rd June 1869.

Finally, mention should be made of two volumes of county bridge plans prepared by the County Surveyor, by then Arthur Whitehead, for the Midsummer Quarter Session of 1874.<sup>11</sup> In the volume for the western area, Hurstbow Bridge is illustrated by a simplified elevation and cross-section, with a plan at a scale of 1 chain to the inch showing the extent of the approach roads which were repairable with the bridge.

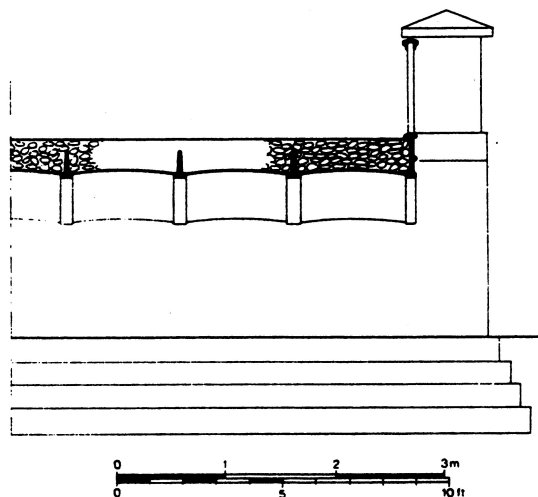


Fig. 2 HALF SECTION THROUGH DECK (after Carver)

Bringing the story up to date, during a route inspection by the County Council's Bridge Inspector in 1975, cracks were found in the bottom flanges of most of the intermediate ribs and, in the interests of safety, a weight restriction of 5 tons was placed on the bridge while a remedial scheme was being prepared. The scheme involved stripping out the intermediate ribs and the cambered plates carried by them, and their substitution by a reinforced concrete deck. During these works, the actual construction features of the bridge were compared with Carver's original drawings and specification, and found to match in all respects, except for slight modification of the rib's bearing on the abutments. With the exception of the cracked flanges, all the components were found to be in good order. The new deck was designed to be hidden by the outer ribs when viewed in elevation, and the final appearance of this handsome structure is exactly as its original, with the substitution of white paint for the original "stone color".

Carver's elevation drawing shows the outer ribs to be decorated with moulded features, but the actual ribs carry in addition the moulded legend "MURCH 1848", which taken with Murch's obvious financial interest in securing the carrying out of the work provides strong evidence that all the ironwork was supplied by Murch (see Figure 1).

So amongst this representative selection of records will be found an interesting collection of civil engineering drawings and land plans, with references to the Martock Turnpike Trust and the "old Turnpike House" adjacent to the bridge, added interest being provided by the personalities. Of particular interest at this time are the references to John Wheeler Bourne, referred to in this Journal in another context,<sup>12</sup> and Edward Murch, whose name and work live on in cast iron.

## Notes and References

1. Highway Act, 1835 (5 & 6 Will. 4, c.50).
2. Statute of Bridges, 1530 (22 Hen. 8, c.5)—section 7" . . . suche parte and porcion of the high wayes . . . as lye next adjoynynge to any to any endes of any bridges within this realme distaunt from any of the said endes by the space of CCC fote, be made repayed and amended as often as nede shall requyre . . .".
3. County Bridges Act, 1815 (55 Geo. 3, c.143, section 5).
4. Somerset County Records Office—Q/AB, Bridge Papers for Yeovil Division 1813–1897.
5. References to the proceedings of Quarter Sessions are taken from Somerset County Records Office—Q/AO, Somerset Order Book, Civil Concerns of the County, commencing Spring 1847, ending Michaelmas 1852. All other information relating to the rebuilding of Hurstbow Bridge is from reference 4 above.
6. Highway Act, 1773 (13 Geo. 3, c.78, section 24).
7. Lord Ellenborough's Act, 1803 County Bridges) (43 Geo. 3, c.59, section 2).
8. Edward Murch appears in Pigot's Directory (1830) under 'Brown, Watson & Murch, iron founders, Eastover, Bridgwater'. Bragg's Directory of 1840 names only Edward Murch and the business does not appear to alter its title until 1861 when it is referred to as Murch and Spence 'iron and brass founders, mechanical engineers and agricultural implement makers' (Kelly's Directory). Millwrighting is also added in the same directory for 1875 but after this date no further entries to the company can be traced. P. J. Squibbs, 'A Bridgwater Diary' (Bridgwater, 1968) p.122, refers to the business of Murch and Culverwell in the 1880's but trade directory evidence does not support this. There was, however, a James Culverwell, engineer and iron founder, in Bridgwater at this time and it is probable that his company was the successor to that of Murch and Spence.
9. Suently, from suent, variation of suant—"even, smooth, regular" (S.O.E.D.).
10. Somerset County Records Office—Quarter Sessions, County Bridges, Surveyor's Reports (alphabetical) 1851.
11. Somerset County Records Office—Q/AB, Plans of the County Bridges and Bridge Roads in Somersetshire Laid Down from Original Surveys made by Arthur Whitehead MICE County Surveyor and submitted to the Court of Quarter Sessions Midsummer 1874.
12. See C. A. Buchanan, 'A Patent Road Scraper'.

## Acknowledgement

The information regarding the re-decking works of 1975 was supplied by my colleagues Michael White and

Barrie Baker, in the Somerset County Council's Bridge Section, whose interest and help ensured that the structure has been recorded.

# DOCUMENTARY EVIDENCE OF WINDMILLS AT WALTON

M. Watts

Building accounts for medieval windmills are generally rare and the publication of such an account for the building of a post mill at Walton in 1342-3 was an important contribution to local windmill history (Keil, 1961 2, 151-4). The windmill was built on part of the estates of Glastonbury Abbey and cost a total of £11.12.11, of which over half was spent on the labour of the three main craftsmen involved, the carpenter, smith and mason. As Ian Keil points out, it is difficult to envisage the size of this post mill and one can only rely on medieval manuscript illustrations and local church bench end carvings for perhaps rather stylised information (Salmon, 1941, 88-102). An interesting fact relating to the two good bench end carvings in Somerset, at Bishops Lydeard and North Cadbury, is that in both cases the trestle or sub-structure of the post mills depicted appears to be buried in a mound and archaeological excavations have revealed several such 'sunk' post mill sites in the county.

There is no evidence to suggest that the Walton post mill was 'sunk', however. The early mill appears to have worked with a single pair of stones, each stone coming from a different source; the first, from Bridgwater, was possibly a so-called 'Forest of Dean' stone, a conglomerate from the Upper Wye valley, (Tucker, 1971, 229-239), imported through Bridgwater, and the second, from "La Penne", was possibly from the district of Yeovil, as suggested, or from the Pen Pits, where stones for grain milling were quarried from pre-Roman times (Pitt-Rivers, 1884, 3-13).

It is not known if the 14th century post mill was the first windmill on the manor of Walton, but it seems likely because the Abbey was undertaking a series of capital improvements at that time. The windmill was still at work in 1358, but records for the rest of the middle ages have not yet appeared. It is also uncertain that the early windmill occupied the site where the tower of the last windmill to work in the parish now stands, for documentary evidence for this site does not extend further back than the mid 17th century when a windmill symbol appears on Walton Hill on Ricardus Newcourt's map of 'Sedgemoor with Adjacent Places' of c.1660.<sup>1</sup> 'Walton Windmill' and a symbol are recorded on John Ogilby's 'Bristol to Barnstaple Road Map' of some 15 years later.

A series of documents now in the Wiltshire

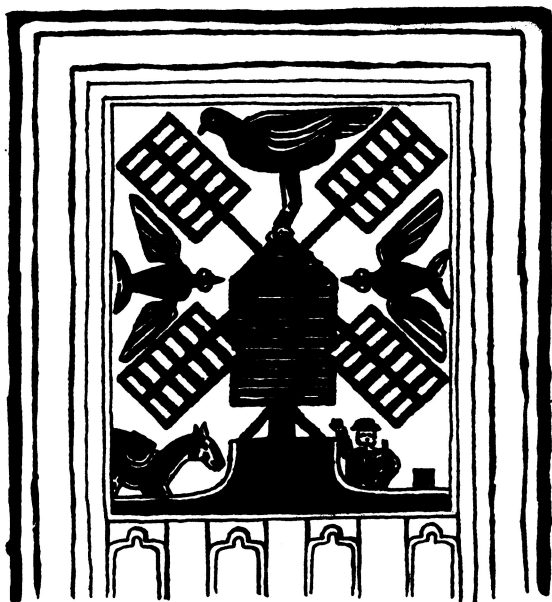
Record Office (MSS. Longleat 845) give an interesting insight into the history of this sight during the 18th century. An indenture of 28 July 1725 "All that Wind Grist Mill lately standing and being in the parish of Walton in the county aforesd. but now fallen down . . ." and ten years later the same "late windmill" was leased, with ½ acre of ground to John Gipson of Ashcott, Yeoman, for one year at 5s. rent. Gipson rebuilt the windmill between 1735 and 1741 and in the latter year he is referred to as 'Miller', when he in turn leased his "windmill lately erected" to Peter Ralls of Ashcott, Carpenter.

In an indenture dated 10th March 1742, the windmill is referred to as "all that Stone-windmill . . .", implying that it was a stone tower mill. Whether the windmill which had fallen down before 1725 was a post mill or a tower mill is a matter for conjecture, but the period of stone tower mill building in Somerset seems, from available evidence, to have been from about 1730 to 1830, and Gipson's tower mill quite possibly replaced a post mill. A similar replacement is said to have occurred at Chapel Allerton, where Ashton Mill was built in the mid 18th century to replace a post mill which had burnt down (Higgs-Coulthard, 1961, 77). Gipson's mill apparently worked under several different lessees until the 1790's; in 1784 it is recorded as being held by John Ralls or Rawles in White's Survey of the Parish (Wiltshire Record Office). In 1793 it was purchased by Thomas, Marquis of Bath, and apparently milled by one Thomas Davis.<sup>2</sup> In 1797, however, a lease was granted by the Marquis of Bath of James Chancellor of Walton, Yeoman, of "a new erected windmill sit on Walton Hill with a plot of ground adjoining", and this was the windmill of which the tower survives.

That Walton windmill worked on corn milling throughout the 19th century is substantiated by various references. In 1826 Samuel Wilkins held the house, garden, bakehouse and windmill, having taken over a 99 year lease on Chancellor's death; William Crane was miller there from the mid 19th century until at least 1889 and from 1894 to 1906 Charles Phillips is recorded as 'Windmill, Baker & Grocer' in the trade directories. The house and bakery can still be seen to the north-west of the tower, on the roadside.

The windmill was fortunately photographed several times at the end of its working life and





Bench End—Early 16th C  
St. Mary the Virgin  
Bishops Lydeard

during its early stages of decay and these illustrations, taken together with the surviving tower, provide some facts about its working. The tower itself is of coursed lias stone blocks, 15ft. 3in. internal diameter with a 3ft. 0in. thick wall some 30ft. 0in. high to the original curb. The tower is generally larger than other surviving Somerset towers (Watts, 1973, 21–31). The mill contained four floors and possessed the rather typical solid cylindrical form usual in the county, with two opposite doorways at ground level, orientated approximately east-west, and the same at first floor level, orientated at right angles to those below. To the south side first floor door a short flight of masonry steps provided access and on the north side the tower appears to have had a low projecting masonry and earth base extending outwards, as formerly at Watchfield tower mill. The cap, of the West Country gable form, was thatched with timber boarded gable ends and with a tailbox under the rear which housed the winding gear. This presumably was operated either by an endless chain hanging to the ground, as at Ashton Mill, or internally by a hand crank geared to the cog ring on the curb. The mill worked with four common, cloth-set, sails which appear to have been fixed to the windshaft by a coffin-cross poll, as at Stembridge Mill, High Ham, and the stocks were braced to each other near the poll end, similar again to Stembridge Mill before restoration and Ashton Mill before 1900. The windshaft, presumably of timber, carried a clasp arm timber brakewheel which

must have driven an upright shaft as the mill worked with two pairs of stones, either overdrift, as Stembridge Mill, or underdrift, as Vale Mill, Worle. There are three French Burr millstones embedded in the ground outside the tower, two of 4ft. 6 in. diameter and one of 4ft. 2in. In a photograph of the mill c. 1907,<sup>3</sup> a large belt wheel can be seen on the outside of the northerly first floor door, suggesting auxiliary drive from a portable engine on windless days.

The windmill is not recorded in use from c.1910, and in 1926 the tower was gutted, extended to form a parapet, and converted into a summer house residence by the Rev. G. M. Evans of Westonzoyland. Within the tower a stone inscribed GME commemorates this.

#### NOTES

1. A dyeline copy is deposited at the Somerset Record Office.
2. A stone built into a fireplace in the tower is initialled and dated sometime in the 1790's, but unclear. My original interpretation of 'IT 1792' finds no documentary support, but it could possibly read 'TD 1793', and refer to Thomas Davis.
3. Lantern slide in the Somerset Archaeological & Natural History Society's Collection at Taunton Castle, Taunton.

#### REFERENCES

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 Pitt-Rivers, A. (1884). 'Report on the Pen Pits', 10 July.  
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 Tucker, D. G. (1971). 'Millstone Making at Penallt, Monmouthshire', Journal of Industrial Archaeology, 8.  
 Watts, M. (1973). 'Windmills of Somerset', Journal of the Bristol Industrial Archaeological Society, 6, re-issued in revised form as 'Somerset Windmills', Keynsham: Agraphicus, 1975.

#### Acknowledgements

I am grateful to Kenneth Rogers of the Wiltshire Record Office for bringing to my notice the Longleat MSS, to Alfred J. Coulthard for his helpful and informative correspondence and to Godfrey Shove for much hard work in locating valuable photographs of this windmill.

# A WILLOW BOAT FROM CURLOAD, STOKE ST. GREGORY

A. P. Ward

Boats of this type were used for moving bundles or 'bolts' of harvested withies along the rhines which traverse the low lying growing areas. Following improvements in drainage, brought about by the introduction of steam pumping engines and later by the use of tractors as a means of transport, the boats were no longer needed.

The boat illustrated in the diagram was found in 1975 beside a rhine at Oldmead Drove, Curload, Stoke St. Gregory (ST 33752785).<sup>1</sup> It measures 4.52 metres (14ft. 10in.) in length by 1.28 metres (3ft. 11in.) in breadth at its widest point. The flat bottom consists of 19mm. ( $\frac{3}{4}$ in.) deal planks and the sides are formed by two tongued and grooved planks 16mm. ( $\frac{5}{8}$ in.) thick. Simple timber frames 75 x 50mm. (3 x 2in.) were used for the floors and 64 x 50mm. (2½ x 2in.) for the ribs. These are connected together by iron angles 203 x 203mm. (8 x 8in.) long, 25mm. (1in.) wide and 10mm. ( $\frac{3}{8}$ in.) thick. The angles are nailed in place on the inside of the frames.

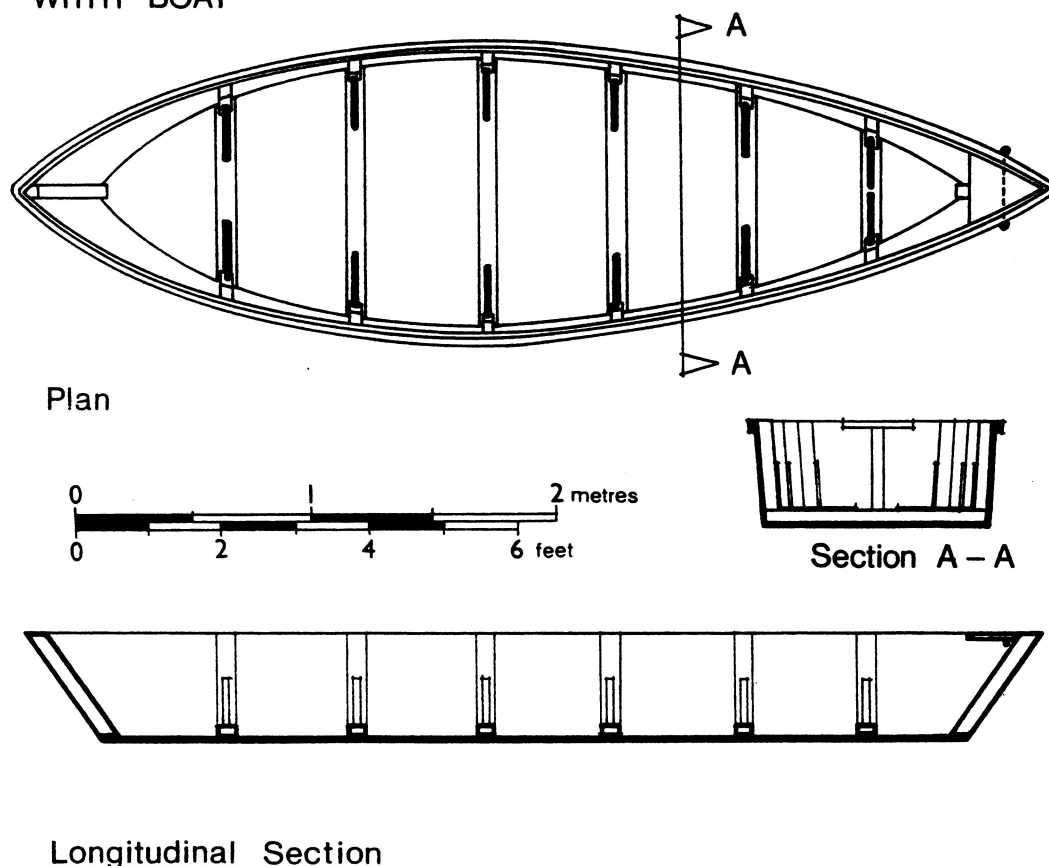
The sides of the boat are angled outwards to 25mm (1in.) at the widest point. 50 x 25mm. (2 x 1in.) gunwales are bolted inside the frames and outside the planking. The whole boat is heavily tarred both inside and outside. A bolt and towing chain is fitted at one end.

Students of inland navigation craft will recognize the similarity between this willow boat and the willow boat in the collection of the Somerset Rural Life Museum.<sup>2</sup>

## NOTES AND REFERENCES

1. For a location map of the area see A. P. Ward, 'A Withy Boiler At Burrow Bridge', J.S.I A.S., 1975, Figure 1, p.12.
2. The Museum's craft is described in M. Brown, 'Two Boats from the Somerset Levels', Notes & Queries for Somerset and Dorset, Vol. 30, 1975, Part 302.

WITHY BOAT



# A PATENT ROAD SCRAPER

C. A. Buchanan

An entry in the Minute Books of the Langport, Somerton and Castle Cary Turnpike Trust, reminded me of the survival of a small number of machines which appear to have been pioneered in Somerset. Under the heading of "Income" in the Annual Accounts for 1848-49 is the sum of £80.1.0d. for "Road Scrapings & Incidental receipts."<sup>1</sup> Before the days of tarmac, the surface of the macadamised roads soon became rutted with the wheel marks of waggons and carriages. It was desirable that these impressions should be wiped out regularly for the benefit of all road users.

In 1832 a patent was granted to John Bourne for a machine which claimed to accomplish this "scraping and cleansing" of roads. The patent was dated 22nd December, 1832. The machine was described as being "formed of a series of scrapers fastened to wooden rods, or bands acting on a common axis, yet rising or falling singly and independently of each other, so as to meet the inequalities of surface. They are all inserted into a frame, the lower part of which presses on the scrapers, the upper part being the handle: the machine is then fixed on wheels, and the mode of using it is by hand. The workman commences at a given place, by elevating the handle which sinks the scrapers, and he drags the machine across the road at right angles to the line of draught. When he has dragged the mud to the opposite side, he depresses the handle, and the scrapers rising deposit their gatherings. The independent action of each scraper enables the whole to enter and cleanse out any holes or depressions of the surface, or to get over any hard projection; and, in short, enables the machine, as a whole, to adapt itself to any state of road or any kind of surface."<sup>2</sup>

A letter was published in the same edition of the Taunton Courier as that which carried the description of the new machine. It was written by "A Surveyor of Turnpike Roads". He was very enthusiastic about the merits of the device, which was being manufactured by Messrs. Bourne and Harris of Ilchester. He wrote, "I beg leave to say, that I have seen the beneficial effects of their use for some months past, and I am quite sure that nothing but seeing them used can be necessary to convince every liberal-minded man that (at least on Turnpike Roads) they ought to be universally employed." He continued, "By the use of this machine, the road may be cleaned fre-

quently at a small expense, and the Surveyor may embrace every favourable change of the weather to clean his road throughout." The machine was worked by one man, who it was claimed, was able to accomplish the work usually done by four men. In addition, the work was done better and more thoroughly, "particularly when in a liquid state."<sup>3</sup>

These machines continued in production until the outbreak of World War I in 1914. Between 1832 and 1883, 4,895 machines were sold, 1883-1893, 620 were sold; 1893-1903, the figure was 479 and in the next ten years 441 were sold. In other words, production continued well into the age of tarmacadam, although this superior road surface was adopted only slowly on the less important roads.<sup>4</sup> During the period that the road scraper was in production it does not appear to have been exclusively by the firm of Bourne and Harris. In 1864, John Stone, described as "Carpenter and Blacksmith", of Ilchester was producing a 60ins. machine at £2.4.0d. and a 44ins. model for £1.16.0d.<sup>5</sup>

The last machine produced, No. 6435, is in the custody of the Somerset County Museum.<sup>6</sup> Others have survived but, because they are constructed principally of wood, there cannot be many. Mr. H. Fry of Netherton, who first showed me a working example of the machine, has displayed this in his collection of rural implements at local shows and rallies.<sup>7</sup> The machines are interesting relics of the turnpike roads, and the products of their scrapings—especially from limestone roads—was much sought after by builders' merchants, for use as plaster inside houses. Although Mr. Bourne's patent scraper may now be obsolete, it is more than likely that many interior walls in Somerset are literally plastered with the products of his machines.

## NOTES AND REFERENCES

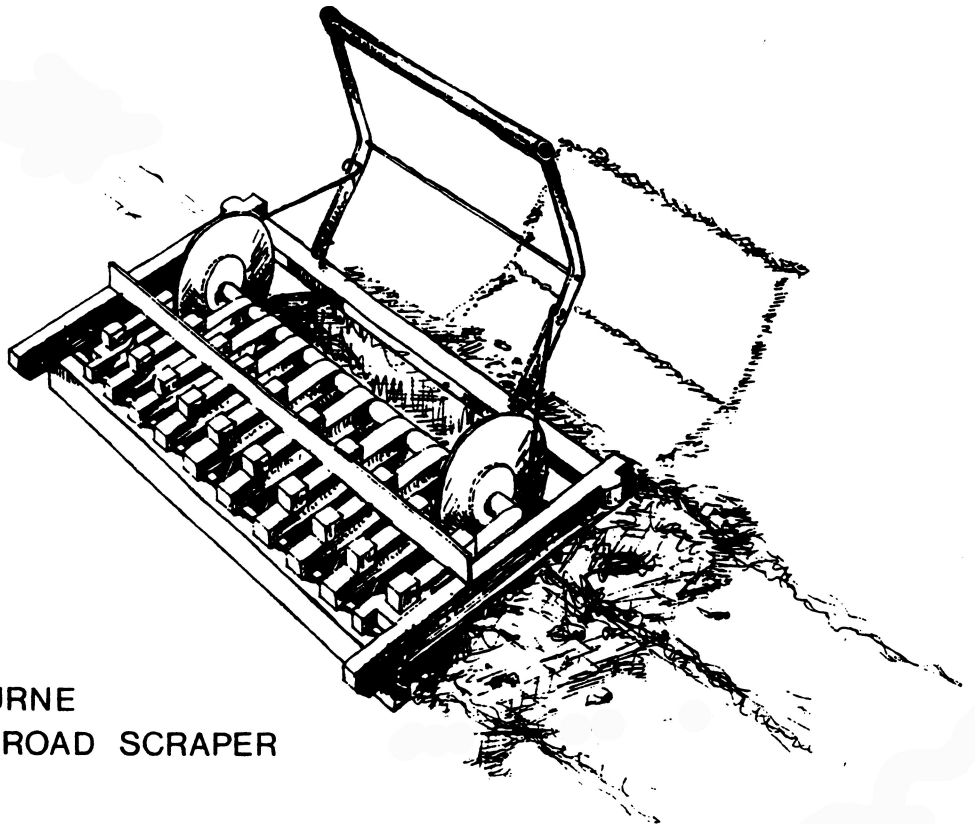
1. Somerset Record Office, D/T/1sc, Minute Book, 7.3.1849.
2. Taunton Courier, 6.2.1833, p.8.
3. Ibid. p.3. In 1833, J. W. Bourne was an assistant to Charles Harris, Surveyor of Roads and both were referred to earlier in this issue (see 'The County Bridge Papers'). It is therefore a possibility that one of these gentlemen wrote the newspaper article.
4. For an account of the introduction of improved road surfaces in the early 20th century, see W. H.

G. Armytage, 'A Social History of Engineering', 1961, pp. 225-7.

5. J. S. Cox, 'The Topography of Ilchester', p. 210. Facing p. 204 of the same work is a photograph of Ikey Harding with J. W. Bourne's patent road scraping machine, about 1860. A further illustration appears in D. Bromwich and R. Dunning, 'Victorian and Edwardian Somerset from Old Photographs', London, 1977. Photograph No.

30 is entitled 'John Stone of Ilchester with one of John Wheeler Bourne's patent road scrapers, c.1865'.

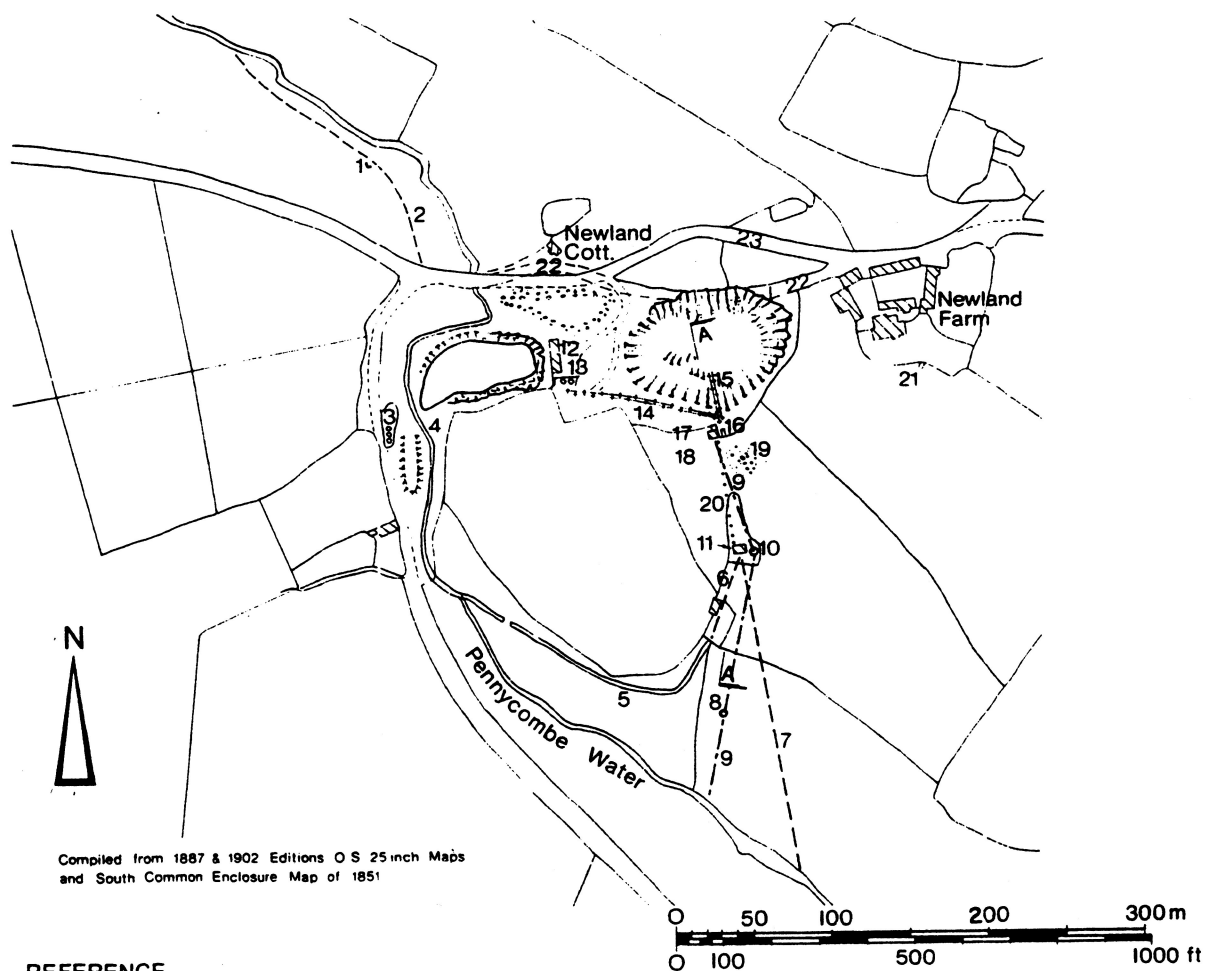
6. At the present time (1977) this machine is being stored. It will be eventually displayed at the Somerset Rural Life Museum, Glastonbury.
7. Mr. Fry's machine was manufactured by Baker and Stone, Ilchester.



J. W. BOURNE  
PATENT ROAD SCRAPER  
c. 1860

# NEWLAND QUARRY

D. W. Warren



## REFERENCE

- |                             |                           |                         |
|-----------------------------|---------------------------|-------------------------|
| 1 Abortive iron mine adit   | 9 Drainage tunnel         | 17 Shaft                |
| 2 Course of leat            | 10 Inspection shaft       | 18 Smithy & T-bob house |
| 3 Collapsed kilns           | 11 Wheel house            | 19 Hand winch           |
| 4 Site of first water wheel | 12 Lime store & cart shed | 20 Line of flat rods    |
| 5 Leat                      | 13 Kilns                  | 21 Drum to farm         |
| 6 Culverted leat            | 14 Tramway                | 22 Old road             |
| 7 Tail race tunnel          | 15 Incline                | 23 New road             |
| 8 Inspection shaft          | 16 Incline winding drum   | 24 Pump                 |

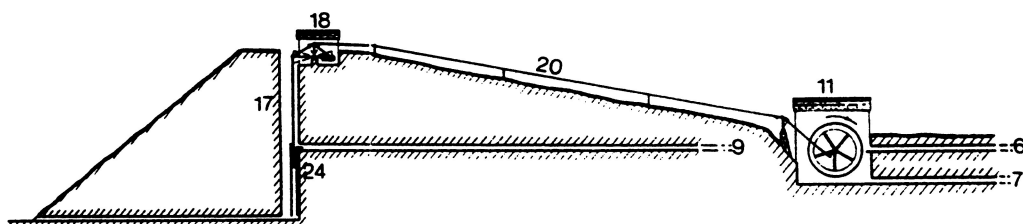


Fig. 1

## NEWLAND QUARRY

Newland Quarry is situated to the west of Newland Farm (SS 824385) in the Parish of Exford, at an elevation of 1,050 ft. The stone quarried was an outcrop of Roadwater Limestone in the slates and shales of the Ilfracombe Beds. The site (Figure 1) comprises two deep pits, now both flooded. The western and older of the two, being about  $\frac{3}{4}$  acre in extent, served three small kilns and was disused by 1887. The larger pit, of about  $1\frac{1}{2}$  acres, was in operation until 1914. Here are the remains of two much larger kilns, inclines, a lime store, cart shed, smithy, T-Bob house and seating, and a lime burner's cottage. The T-Bob house (Figure 2) could well be the sole surviving example of this type of structure in Somerset. Other visible features near this pit are a pump shaft and drainage tunnel, leat, wheel-pit and a tail race tunnel.

### History

Quarrying commenced sometime between 1769<sup>1</sup> and 1829<sup>2</sup> and the Tithe Map of 1839<sup>3</sup> shows that it lay in Common Ground of Exford Parish. The South Common Enclosure Act of 1851 included the quarry in the allotment made to the owner of Newland Farm (then South Newland), John Comer. Francis Comer, whose relationship to John is unknown, is shown, on the 1851 Census, as living at Newland Cottage. He was then aged 49, and was a lime burner, as were his sons John, 17, and Frederick, 14, who lived with him.

Ten years later, Francis, in addition to being a tenant of Sir Frederic Knight of Exmoor at Picked Stones Farm, was now living at Newland Farm and is referred to as a "farmer of 517 acres and lime merchant" (1861 Census). In 1871, William May, a lime burner, was at Newland Cottage and at some time between then and 1876, John Clarke bought the farm and lime works<sup>4</sup>. Clarke's brother, Isaac, lived at the farm and subsequently owned it although by 1888, when he applied to alter the course of the road north of the quarry, he had moved to Lynch Mill, Bossington<sup>5</sup>.

Once a year all who purchased their lime from Mr. Clarke were entertained by him to a dinner at the 'White Horse', Exford, and "were expected to pay their bills on that day"<sup>6</sup>. In 1894, Newland Quarry passed into the ownership of John Westcott who worked it until its closure in 1914<sup>7</sup>. During this latter period the lime burner was called Marley. He was paid 12/- per week and worked from 7 a.m. to 5 p.m. Marley's son, Richard, pushed the tubs from the top of the incline to the kilns, when not at school, for which he earned 6d. a week<sup>8</sup>. The story is told in Exford of the disappearance, in 1870, of a casual labourer at the quarry. He lived rough in the area and it was assumed that he had wandered off. But when next the kilns were cleared out the steel toe-caps of his boots were found. Presumably he had sat at the top of the kilns for

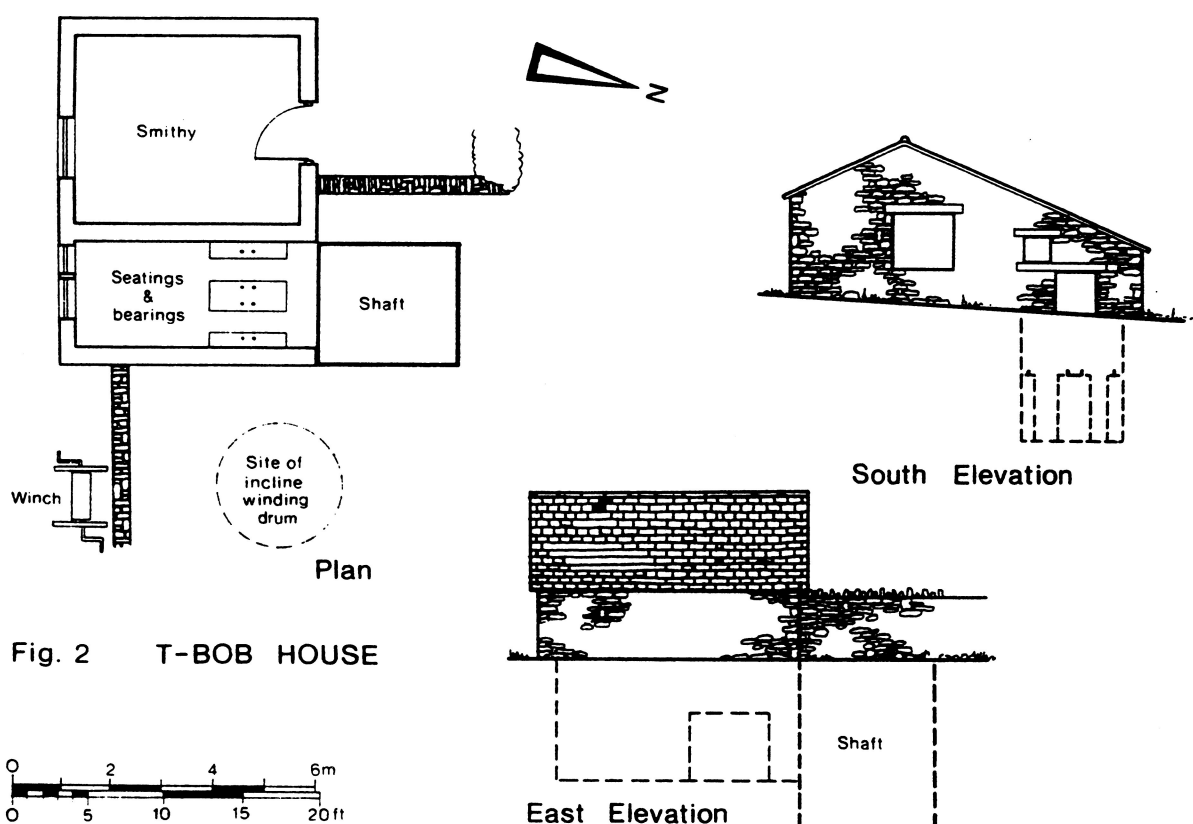


Fig. 2 T-BOB HOUSE

warmth, was overcome by the fumes, and had fallen in. At that time the Chapel at Withypool was being renovated so it was decided to replaster it with that lime and so give the labourer a Christian burial!

#### **Newland Cottage**

Built of undressed stone, it originally had a slate roof with ridge tiles. This covering has now been replaced, on the same rafters, by one of corrugated iron. The ground floor partition wall is of brick whilst upstairs the partition was of wood. To one side of the fireplace is an iron doored oven. Most of the interior has been gutted but sufficient evidence remains to interpret its layout

#### **The West Quarry**

This was excavated westwards across the watercourse of Pennycombe Water which was diverted in a channel around its western perimeter. A waterwheel, which could have been used for pumping, is shown to the south on the South Common Enclosure Map with a leat to it; the upper portion of the leat can still be traced. The three kilns which the quarry served were small—they could not have been more than 8 ft. deep—and were built of stone. There are visible remains of one kiln, the other two appearing only as indentations in the ground surface. The flooded quarry now keeps at a constant level as an open drain leads into Pennycombe Water at a point about 25 yards from the end of the perimeter channel.

#### **The East Quarry Power**

About 100 yards south of the East Quarry, a contour leat led from Pennycombe Water to 170 ft. south of the wheelpit where, to avoid a deep cutting, it was carried in an arched, stone culvert 3 ft. in height and 3 ft. in width. The stone base of the trough is 8 ft. below ground level. The wheelpit is dug into the rock of the hillside and its base is 21 ft. below the surface. It was originally covered but only traces of the building now remain. The wheel, installed prior to 1887<sup>9</sup>, was mid-breast, 25 ft. in diameter and 3 ft. wide. It was of iron construction but with an oak sole<sup>10</sup>. At one side, on its axle, was a crank about 2ft. 6 in. between centres, and on the other side a drum, around which passed a continuous cable transmitting power to the incline winding drum. This was later extended to Newland Farm where it powered an in-barn thrasher, a chaff-cutter and other farm machinery. Details of this are not known. The wheel would have had about 4–6 r.p.m. The tail

water was expelled via a 3 ft. wide, 5 ft. high tunnel cut through the rock. Nearly 100 yards south of the wheelpit there is a small stone-capped inspection shaft, and here the tunnel is replaced by a cut-and-cover culvert until its outfall into Pennycombe Water.

#### **Extraction and Kilns**

In its initial stages the stone could have been carted directly to the kilns but as the depth increased two inclines were made with a gradient of 1 in 2, the upper lengths of which are still visible together with the site of the incline winding drum. Before the wheel was installed a hand winch, made by Picksley Sims Co. Ltd. and still 'in situ', was used to haul up the tubs. No rails either on the incline or to the kilns remain. The stone front of the kilns, with two identical stone arches, is well preserved (Figure 3). One kiln has been demolished for the re-use of its bricks but in the other the brick lining is almost complete and measures 10 ft. in diameter and is 20 ft. deep. Two makes of brick were used and are stamped 'Crown' and 'Broch(k?)airn'. Adjacent to the kilns is a stone built lime store with a slate roof, and a cart shed, 50 x 10 ft., which has partly collapsed. The culm for burning the lime was obtained from South Wales and was brought by Mr. Clarke's own boat into Porlock Weir. Lime was sold by the hogshead (a large cask of about 56 lb.) for 3s. 6d. and by the 'butt' (a three-wheeled cart) load for 7s. 6d. to 10/-. Distribution covered West Somerset and North Devon.

#### **Drainage**

At the top, and to one side of the incline, is an 8 ft. square shaft now partly field with debris and adjacent to that is a stone building with a slate roof. The larger part was a smithy and the smaller, with a floor 8 ft. below ground level, housed the T-Bob, in which the seating and the bolts securing the bearings remain (see Figure 1, diagrammatic section). There is an aperture at ground level through which passed the flat-rods, connecting the T-Bob with the crank on the waterwheel. By the wheel, and in line with the aperture, are two masonry pillars—7 ft. high, 2 ft. 6 in. square at the base, 2 ft. square at the top and 3 ft. 6 in. between centres—which held the bearings of the angle crank. There would have been rollers or sheaves carrying the flat-rods to the T-Bob but no trace remains.

Lying unattached by the shaft is the 46 ft. long, 1 in. diameter, wrought iron rod which connected the arm of the T-Bob with the pump

part way down the shaft. There is an eye at one end and a U-shackle at the other. This gives the approximate depth of the shaft—assuming it to have been a suction and not solely a lift-pump—as 70 ft. At about 40 ft. down the shaft there is a tunnel carrying away the pumped water. 12 ft. east of the wheelpit is a 15 ft. deep, 3 ft. diameter, stone-capped inspection shaft. From this point the tunnel passes over the tail water tunnel to an outfall into Pennycombe Water some 100 yards upstream from the other outfall, the last section being a cut-and-cover culvert. It is probable that this tunnel was first used to drain the quarry by gravity before its depth made this impossible. Had it been driven at the same time as the wheel and pump were installed, two lengths of tunnel below the wheel would have been unnecessary as the drainage water could have been discharged into the tail water, which is at a lower level. At present the water level in the quarry is 42 ft. below the ground level at the incline and appears constant.

#### Notes and References

1. The accounts of Baker's Charity in Exford (1754–1897) show that lime for the rebuilding of Lower Mill was obtained from Allercott, Cutcombe and Selworthy but not from Newland which was much nearer.
2. C. S. Orwin and R. J. Sellick, 'The Reclamation of the Exmoor Forest' (Newton Abbot, 1970) p.62.

3. With the exception of the tithe award a copy of which is deposited in the Somerset Record Office, the parish documents referred to in this article are in the custody of the incumbent.
4. 1871 Census and Parish Valuation List.
5. From the Parish Valuation List it appears that Isaac Clarke had acquired Newland Farm by 1883. Evidence for the road alteration comes from the Exford Vestry Minutes.
6. C. M. Hamilton, 'A History of Exford' (Exford, 1953) p.29.
7. Parish Valuation List.
8. Richard Marley of Chibet Ford—verbal.
9. 1st Edition Ordnance Survey Map (1887), 25 in. scale.
10. Mr. Marley (q.v.) recalls that Captain Brayley of Exford, who was the Mine Captain at Blackland Iron Mine, effected minor repairs to the machinery and wheel. It is probable that the wheel was made by Brayley's brother, a millwright of Molland, Devon, who was in business at the time the wheel was installed.

#### Acknowledgements

I am indebted to Mrs. M. Freeman-Archer of the Exford History Group for many of the historical references; to Dick Marley for his long conversations with me and to the Brendon Hills Mining Group of S.I.A.S. for exploring the tunnels.

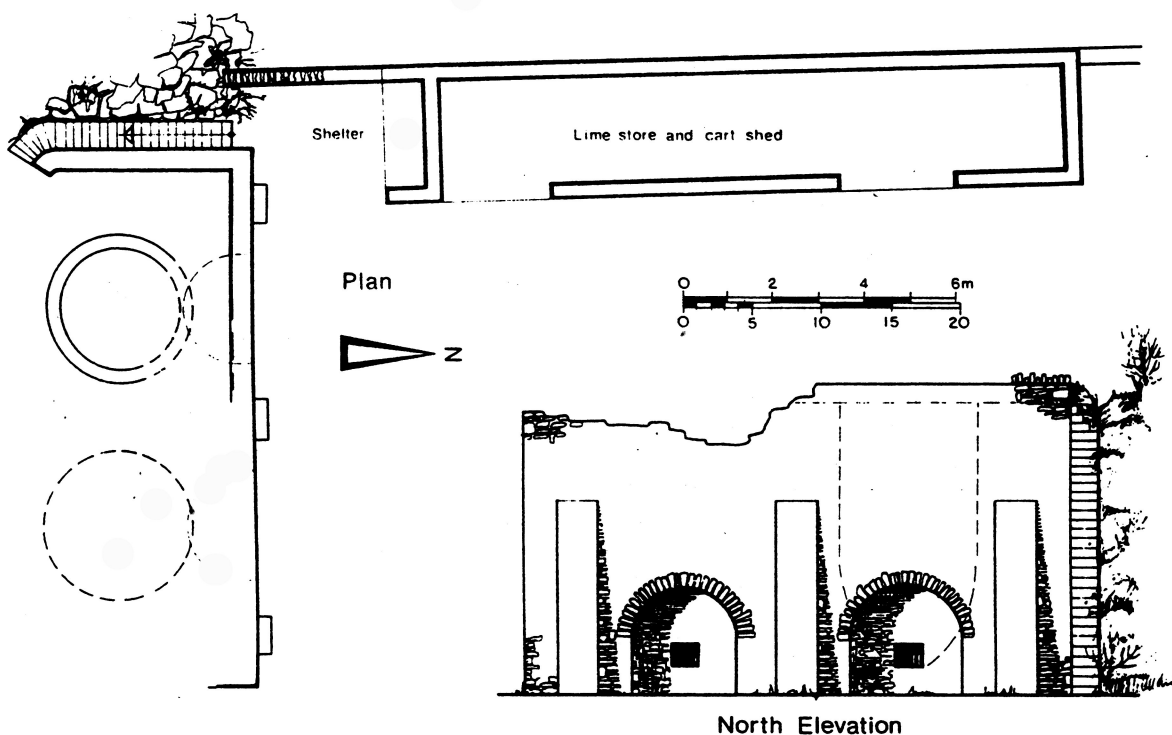


Fig. 3

THE KILNS



# THE MANUFACTURE OF THE VAN HEUSEN COLLAR

W. Hordle

In February 1922, there arrived at the Taunton Factory of Robert M. Moody in Viney Street an Ambassador of Commerce from an American textile manufacturer based in Boston, U.S.A. The firm was engaged in the manufacture of a one-piece collar which had had great success in the U.S.A. in replacing the former heavily starched and uncomfortable stiff collar which for generations had been man's fashionable neckwear. The new arrival was John Manning Van Heusen, the son of John Manning Van Heusen who, together with C. L. Harding, had started the Boston firm which had decided to extend its activities beyond the American shores and thus came to the United Kingdom. Negotiations were concluded with R. M. Moody to use part of the Viney Street factory for the manufacture of these new styled collars, an arrangement which was well received as the collar trade in Taunton was in the doldrums and the factory was only working half time. The factory premises at that time were extremely small. Agreement was also reached with J. & J. Ashton Limited of Hyde, Cheshire, to weave the multi-ply fabric for the collar, and also with the Victoria Smallware Company of Besses o' th' Barn for the manufacture of the tape which was a necessary component of the collar.

Various items of special equipment such as a stamping machine and patent turning machine, arrived from America and the Van Heusen International Company commenced to train operatives to make the most famous collar ever to be put on the market, in this country to start with, and later on in well over one hundred other countries. Because this was an entirely new method of collar making, various teething troubles were encountered which had to be overcome, and by late summer, the company produced some sample collars. At the end of the year, the first case of 90 dozen collars was despatched to Carson Pirie Scott & Company, the selling agents appointed by the Boston firm. The collar fabric at this time was made from unbleached yarn and the product had to be bleached during washing. This was not entirely successful with the equipment provided, and it was then arranged for a firm of bleachers at Dukinfield to bleach the collars which were then returned to Taunton for washing. Finally, it was arranged to have the yarn itself bleached before weaving and this provided a speedier operation and proved to be an excellent decision.

Production was slow, as the company were more concerned with quality than quantity, and in 1923 little more than 400 dozen collars were produced. There was a range of three styles initially, but later 13 styles were produced. When production of collars ceased at the end of 1971, almost 50 years after the start, it was one of the three originals which was the last to be manufactured. In 1924-5, contracts were placed for the production of collars in Czechoslovakia and France and, to that end, cutting knives and patent turning equipment was despatched there. Early in the '30's, similar machinery was sent to Germany and Japan and, at a later date, to Australia. In 1928, the company changed its name to Harding Tilton & Hartley. Mr. Harold Hartley had been the General Manager of the old company since the end of 1923, having succeeded Mr. Felix Doubleday, and he—Mr. Hartley—now became 1st Chairman & Managing Director. Under his leadership, the name of Van Heusen collars was popularised throughout the world and by 1938 a quarter-million dozen collars were being produced per year. The British Van Heusen Company Limited came into being in 1952, and there followed further successful years of manufacture, the most successful being in 1956 when the colossal figure of 6,336,000 units was achieved. Collar production, however, ceased in 1971 owing to the modern demand for a collar-attached shirt, but in the years from 1922 there had been made 11,562,370 dozen collars—almost 138½ million units.

## The Collar Fabric

Collar fabric had several unique characteristics:—

- (1) It was woven on a curve in a continuous strip, the width of the collar blank to be cut from it;
- (2) It was multi-woven. The warp yarn for the face and the back was wound on separate beams with a separate beam carrying the binding warp which bonded the face and back into one piece of cloth.
- (3) A fold-line was incorporated along the whole length at a specified distance from the fabric edge.

The continuous curve was obtained by winding the warp yarn on conical beams. When the

loom was operating and the beams turning to feed the warp yarn through, slightly more yarn came off the wide end of the cone than off the narrow end. The angle of the cone determined the differential of the feed at the opposite edges of the fabric, and in this fabric the angle gave a 360° curve every 33 feet on the fold line and just the right amount of arc to give a comfortable fit to the finished article. The loom beams carried enough yarn to weave 600–650 yards of fabric at the rate of 100 yards per week for each loom. At the peak period of production, there were nearly 1,200 looms available. Apart from the complex weaving operation, the fabric had a distortion problem during shrinking when the collar was washed the first time. This was overcome by offsetting all the collar shapes at the points by 5/32in. away from the centre of the collar at one end and the same amount towards the centre at the opposite point. This cancelled out distortion and made the two ends of the collar coincide.

### **Singeing**

Before the fabric was cut into collar lengths it was measured and singed. This operation necessitated a curved frame with the same radius of arc as the fabric. The frame was surmounted by two layers of conical rollers, three on the top layer spaced out and two beneath. In front of this layout was a measuring clock, the flywheel of which revolved against a roller. Beneath the two lower rollers were flame jets running parallel to them. When the fabric (which was first passed under the fly wheel of the measuring clock and then over and under the rollers) was pulled through the singeing frame, the gas jets burned off the fluffy nap from the face side of the fabric. This operation gave the fabric the smooth surface necessary to produce that highly polished finish to the laundered collar. One singeing frame could handle approximately 15,000 yards per day.

### **Inspection and length cutting**

The fabric was then inspected to eliminate various weaving and yarn faults and marked out into the required lengths. The lengths were cut off by laying the fabric across a moveable slotted board and pushing this against a circular guarded knife set into a table. The cut strips were then counted into grosses and laid up ready for the collar cutter.

### **Cutting**

Each knife was made to the shape of the template cut for each size and shape of collar. A set of knives for one style of collar would

range from 12½in. to 19in. in quarter inch sizes—27 knives with popular centre sizes being duplicated. Over the years, more than a dozen different shapes—quite a large range of knives. Each knife was made with the allowance for the fabric distortion built-in. Eighteen strips of fabric were placed face downwards on top of each other. A gauge was used to locate the position of the back of the collar blank and locating marks on the tabends of the knife indicated where the knife should lay on the foldline. The bottom edge of the knife would then lay along the bottom selvedge of the fabric. The knife was then punched through the cloth. For this operation, shoe cutting equipment was used. Under normal circumstances, a skilled cutter would average about 400 dozens per day production.

### **Stamping**

The collar blanks were stamped with the Van Heusen name. The style, size, batch number and date code were also stamped on, and the collars were stacked ready for the next operation—patent turning.

### **Patent Turning**

The patent turning machine which was electrically heated and pneumatically operated consisted of a frame carrying a detachable pair of plates recessed to the shape of the collar to be turned. These plates could be extended or contracted to accommodate the length of the collar to be turned, and were interchangeable for different styles. Beneath these were situated folder plates. The collar blank was placed face downwards in the recesses and by foot pedal operation a collar template carried on an arched arm swing down to locate itself on the blank, leaving a ¼in. fabric overlap. At this point the air valve opened. A pair of curved collapsible slotted rails attached to four diagonally moving corner blocks carried the folder plates which, in turn, pushed the excess fabric over the edge of the collar template. The template returned to its former position, carrying the turned blank with it. When the foot pedal was released, a small stud in the centre of the template made an impression on the fabric to mark the position of the back buttonhole.

### **Taping**

The taping machine was double-needled. Tape from a reel located beneath the machine bench was threaded through a folder placed in front of a horizontally slotted machine feed, the slot going from front to rear of the feed. One edge of the folded tape was threaded along the slot in

the feed, the other edge lying across the top of the feed. The turned edge of the collar was inserted under this edge of the tape. When the machine was operated, the double needles stitched the tape to the collar, binding the edges to prevent fraying. Every collar was then inspected.

#### **Button-holing**

These machines first made the buttonhole stitching and then the knife dropped to sever the fabric between the stitching. For making buttonholes at each end of the collar, each operator had two machines. The collar was placed in the machine with the throat against a stop and the metal pointer lying along the foldline. The band edge was located against another stop. The machine foot clamped the collar firmly, while the buttonhole was being stitched, leaving the operator free to put the other end of the previously worked collar into the second machine, and so on, alternately feeding the machines. The back buttonholes were worked on a separate machine. Each buttonhole was then inspected.

#### **Trimming and Examination before washing**

The collars were then trimmed of all cotton ends and rigorously examined for any faults which would be far more difficult to repair after washing.

#### **Washing & Ironing**

The collars were washed in rotary washing machines. The drum of the machine was divided into sections to keep the contents evenly distributed, to give freer movement and to keep the motor balanced for smooth running and less wear. A large machine would be loaded with 16 gross of collars, 192 dozens, and a small machine with half that quantity. An initial run with a specified volume of cold water for 20 minutes practically exhausted the shrinkage allowance (3 inches per yard or 8.33%). This was followed by two further washes with soap and washing agents at specified temperatures. A warm rinse and cold rinse with blueing completed the sequence.

The collars were then put into the hydro extractor which gave the required ironing humidity, after which they were "pulled out", counted in gross packs and sent to the ironing machine. The collars were laid face downwards on the ironing bed which moved back and forth beneath heated, reciprocating, spring-loaded rollers for a given time; it then turned so that the face of the collar was presented to the roller. The result of the initial singeing was now apparent in the high

gloss of the finished product.

After final measurement and inspection, the collars were folded, each collar being put into a separate bag, boxed and labelled, taken into the packing room for order assembly and despatched to customers world-wide.

#### **Footnote**

Martyn Brown, Assistant Keeper of Rural Life, Somerset County Museum, writes:

"In 1975 The Somerset County Museum was given a large collection of obsolete collar-making machinery by the British Van Heusen Company Ltd., Watchet. The above article, by Mr. Walter Hordle, spans the years from 1918 to 1968 when he was employed by the Company and the machinery in the collection was in use. Both the accuracy and detail of the article are a tribute to the knowledge acquired by Mr. Hordle during his lifetime's work."

## NOTES AND NEWS

### The Rowcliffe Papers

Much of the information on which two of the articles about the West Somerset Mineral Railway in this issue were based was obtained from the papers of Charles Rowcliffe, the 19th century firm of solicitors at Stogumber.

Charles Edward Rowcliffe was born near Tiverton in Devon in 1794, and was articled to the firm of Leigh Warden & Co. at Bardon, near Washford. At about the time of his marriage in 1819 to Sarah Lee of Minehead, Charles became Clerk to John White of Stogumber, whose practice seems to have included some of the more important local landowners. In 1826, Charles Rowcliffe succeeded to the practice on White's retirement, and by his tact, firmness and perhaps a certain amount of charm, Rowcliffe became a solicitor of some repute and a gentleman of substance in West Somerset.

In 1845, he was joined in the practice by his eldest son, also named Charles Edward: it was he who in 1857 married the eldest daughter of Thomas Brown, one of the principal partners in the Ebbw Vale ironworks, and who from 1856 until his death in 1877 was Secretary of the West Somerset Mineral Railway, and, for some years, of the Seaton and Beer Railway in Devon.

In 1974, when the Stogumber office of Rowcliffe's successors, Dodson, Harding and Couch, was closed, permission was generously given to S.I.A.S. to search through the office papers for items of industrial archaeological interest. The quantity of documents was enormous, enough to fill two 15 cwt vans, and it soon became clear from a preliminary examination that a more thorough investigation of the papers was essential. This is now in train, and there is little doubt that the papers will provide considerable scope for studying at first hand the impact of the industrial revolution on the people and landscape of West Somerset. It is the Society's intention, when the process of sorting and collating the papers is complete, to pass them into the keeping of the County Archivist.

Thus the Society owes a considerable debt of gratitude to the firm of Dodson, Harding and Couch. This is hereby acknowledged.

### Chandos Glass Cone, Bridgwater

In December, 1975, work was commenced by S.I.A.S., with the help of the Bridgwater and District Archaeological Society, on the excavation of the remains of a glass cone at Northgate, Bridgwater (ST 298375). A glass factory was constructed in 1725 under the patronage of James Brydges, First Duke of Chandos, and was one of several investments of a commercial or industrial nature undertaken by the Duke in the town. The factory is thought to have operated until about 1773 but the cone was utilized during the 19th and 20th centuries when three smaller pottery kilns were housed within the structure. In 1943, the cone, which stood approximately 100 ft. high was demolished, ostensibly to provide hard-core for the runways of wartime airfields.

Investigations so far have revealed the circular base of the cone which has an external diameter of 64 ft. at existing ground level with a thickness of brickwork of 4ft. Attached to the outside of the cone's perimeter are the remains of a pump house and the manager's office. Piled up against the latter was a mass of ash containing slag and glass waste including parts of 18th century onion-shaped wine bottles.

Centrally placed within the circle is a substantial brick platform which is possibly the original glass furnace and corresponds to a similar structure excavated at Catcliffe, near Sheffield in 1962 (Lewis, 1965). In and around this structure was a considerable quantity of glazed earthenware. Mr. Edmund Porter, a retired brickworks manager, recalls that when pottery operations took place on a floor built above the level of the suggested glass furnace, waste material was dumped below.

Negotiations with the Department of the Environment, the Somerset County Council and the developers of the site, George House Holdings Limited, make it hopeful that the remains of the cone, when fully excavated, will be conserved and retained as a public amenity area. The excavation is being directed for S.I.A.S. by Frank Hawtin.

### Reference

Lewis, G. D. (1965) 'The Catcliffe Glassworks', *Journal of Industrial Archaeology*, Vol. 1, No. 4, pp. 206-11.

## Withy Boilers

Following his introductory article on the subject of withy boilers in Journal 1.<sup>1</sup> Tony Ward

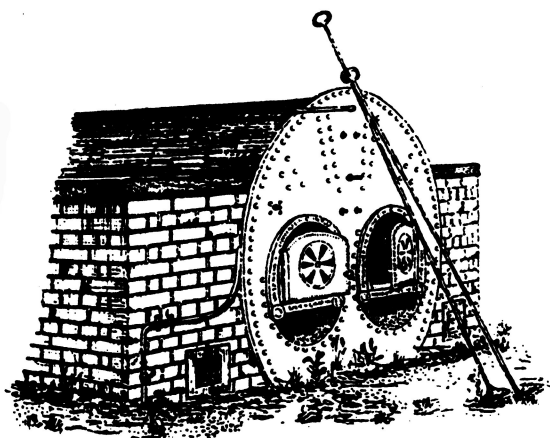
has now located further examples and details of these form an appendage to his Gazetteer:

| NO.     | LOCATION                                        | N.G.R.    | IN USE    | TYPE   | DATE                 |
|---------|-------------------------------------------------|-----------|-----------|--------|----------------------|
| 18      | Kingsbury Episcopi<br>(E. M. & H. J. Lock)      | ST 430219 | Yes       | B      | 1945                 |
| 19 & 20 | Kingsbury Episcopi<br>(Lock & Sons, Cox's Farm) | ST 433212 | No<br>No  | C<br>B | Pre-1900<br>Pre-1900 |
| 21      | Kingsbury Episcopi<br>(C. E. Male)              | ST 429224 | Yes       | B      | 1947                 |
| 22 & 23 | Kingsbury Episcopi<br>Stembridge                | ST 425202 | No<br>Yes | C<br>B | Unknown<br>1940      |
| 24      | Kingsbury Episcopi,<br>Thorney                  | ST 428227 | Yes       | B      | 1971                 |
| 25 & 26 | Kingsbury Episcopi<br>Thorney                   | ST 427228 | No<br>No  | B<br>B | Pre-1900<br>Pre-1900 |
| 27      | Westonzoyland                                   | ST 346340 | Yes       | B      | Unknown              |

### Abbreviations

B—box boiler

C—Cornish boiler



Disused Withy Boiler  
Stoke St. Gregory

Where possible some indication has been given of the date of each boiler,<sup>2</sup> and at two locations (Numbers 19/20 and 22/23) a boiler of the box type has been preceded on the same site by one of the Cornish type. Prior to the Second World War the withy growers in the Kingsbury Episcopi area relied on the service given by Bradford's Agricultural Depot at Thorney which has now closed. At this establishment two boilers (Numbers 25 and 26) were used and approximately twenty females were employed. Only the survival of the chimneys indicate the former positions of the boilers at their Thorney works (Number 24).

Of the four boilers in use in the Kingsbury area, two are oil-fired, one coal-fired and the other uses wood; elm disease is rife in the district and the timber provides a cheap fuel.

Acreage of withies grown has continued to fall over the last decade and young people in

general are not attracted to an industry which involves hard manual work on the open moors. In spite of the high costs of fuel and transport, the remaining growers are now able to sell all the withies that they can grow. The price of the home-produced product compares favourably with that of foreign withies. There has been a revival of interest in craft industries with the result that withy products have not been entirely ousted by their plastic counterparts as was once feared.

Many varieties of the willow have been tried in Somerset but the most widely grown is a type known as Black Mole. In the interest of higher production, the use of hot air driers has been tried in order to dry out the withies after boiling. This has not been successful, the dried withies being too brittle and therefore unacceptable to the basket makers. The original practice of drying in the open air provides a more flexible withy.

#### NOTES AND REFERENCES

1. A. P. Ward, 'A Withy Boiler at Burrow Bridge', J.S.I.A.S. 1, 1975, pp. 13-16. The illustration which accompanies this account is Number 12 in the Gazetteer.
2. Boiler Number 14, listed in Journal One, has an inscription on its chimney: "Built Joe England Builder 1906".

#### Industrial Archaeology and Planning

In March 1974, Somerset County Council appointed a field archaeologist, Mick Aston, to its Planning Department. His initial duties were to compile an inventory of all the known sites of archaeological importance. He was also to liaise with local and national bodies concerning the archaeology of Somerset and to advise the County Council, and County and District Planning Departments on all aspects of archaeological activity.

From the outset close links with archaeological and historical societies have been established so that local knowledge of important sites and areas of interest can be tapped and such information transferred on to a series of 2½in. scale base maps of the whole county. These can then be distributed to District Planning Departments, County Council Departments and Statutory Undertakers such as water authorities, and provide a basic outline of the known archaeology of an area to be compared with intended developments. In this way it is anticipated that advanced warning will be available about possible disturbance to sites.

S.I.A.S. has provided basic information which was transferred to these Sites and Structures

Record Maps through its Gazetteer, published in 1973, and through the individual interests of its members. So far base maps have been prepared for the districts of Sedgemoor and West Somerset and in 1976 S.I.A.S. submitted evidence for the forthcoming Somerset Structure Plan which is intended to serve as a basis for town and country planning in the future.

Having been alerted to the possibility of development on a site several courses of action are available. Usually the developer, whether public or private, is contacted and initial discussions take place in which the importance (or otherwise) of a site is pointed out and a programme of action suggested. The projects which have emerged so far, in co-operation with S.I.A.S. and Mick Aston, have involved opportunities for recording and field survey, an excavation and the provision for watching briefs. Of particular importance in the development of this relationship between the Society and the County's Field Archaeologist has been a mutual concern regarding the future of a number of structures in the vicinity of Bridgwater Docks, referred to earlier in this Journal.

#### Brendon Hills Mining Group

When S.I.A.S. was formed in 1972, one of the elements which contributed to its establishment was a group of enthusiasts who, since March 1970, had been locating and examining the remains of iron mines on the Brendon Hills. The following details have been contributed by the Group's Recorder, Andrew Bye.

Although the Group has operated on an informal basis with a number of interested helpers, the original nucleus consisted of Andrew Bye, Michael Clarke and Geoff Harding. Later they joined forces with Simon Bowditch and Chris Tilley, two others who had hitherto been carrying out their own independent research.

With sporadic field meetings organized by the Group, the Brendon Hills were systematically examined, all known sites located, and all remaining workings explored. Several surveys have been carried out and plans drawn up. The mines have been photographed in colour, descriptions have been written (and constantly amended), and a large collection of minerals analysed by the Department of Physics at Leeds University. The team continues to meet occasionally to re-visit certain sites where research is incomplete. The task of writing up the research in a scientific manner has yet to be accomplished.

Access to the mines is gained either by drift (an inclined shaft) or adit (a horizontal 'level' connected to the drift). Inside, the drift connects with any remaining levels which can sometimes be quite extensive as at Hoe Combe, Eisen Hill, where over half a mile of levels remain intact. Entering a drift is always dangerous and a careful system has been devised. Two independent ropes are used to lower persons down and raise them, and telephone contact is maintained whilst this operation is under way. Three or more persons can explore the workings together whilst at least three remain on the surface, often waiting several hours before receiving a signal to start hauling someone up from the deep.

Current research centres round Hoe Combe, where various levels are being explored and surveyed. Plans drawn up by Skewis, the mines captain, shortly before the mine closed c.1877, appear to bear no resemblance to the actual workings. This mine has produced a fine specimen of "kidney stone" ore, together with samples of magnesium silicate, the mineral from which talcum powder is made. There was originally a tramway inside Hoe Combe workings the rails have long since been removed but their exact position can still be seen. Numerous artefacts have been found here, including a crowbar, iron ladder rungs and an explosives barrel.

### Bath Bricks

Whilst assisting in the re-display of material relating to the brick and tile industry in the Blake Museum at Bridgwater during 1975, Brian Murless discovered a further four unrecorded Bath bricks. These can now be added to the list published as an appendix to his article in *Journal One* (Murless, 1975, 27). The details are as follows:

|      |                                                                          |         |                 |
|------|--------------------------------------------------------------------------|---------|-----------------|
| S.11 | BEST BRIDGWATER<br>BATH BRICK<br>ENGLAND                                 | (Plain) | 6½ x 3¼ x 2 in. |
| S.12 | BEST BRIDGWATER<br>BATH BRICK<br>MADE IN ENGLAND                         | (Plain) | 6 x 3 x 2 in.   |
| S.13 | EAGLE BRAND<br>BEST BRIDGWATER<br>BATH BRICK<br>FIRECLAY<br>PRODUCTS LTD | (Plain) | 6 x 3 x 1½ in.  |
| S.14 | BATH BRICK<br>HOLBROOKS<br>LONDON                                        | (Plain) | 6½ x 3¼ x 2 in. |

Also included with this group was an example of brick S.2 which had previously been noted as being of unknown origin. As the collection had been donated to the Museum by John Board & Company Limited, it can reasonably be deduced that S.2 was also made by them in their works at Bristol Road, Bridgwater.

It has been suggested, by persons formerly employed in the clay industry in Bridgwater, that surviving examples of Bath bricks are often hard burnt; that is, they have been fired in excess of the required temperature of approximately 750°C.

One further point has been clarified, namely the reference to Bath bricks as 'Flanders bricks' by some 19th century trade directories. In addition to the Flanders bricks of the 13th century, there were Dutch or Flemish bricks which were imported into England in the early 18th century (Lloyd, 1925, 15 n.1). Their dimensions were 6½ x 3 x 1 in. and were yellowish in colour. They sold for two pounds a thousand and were used for paving. The similarity between this product and Bath brick, with regard to colour and size, is striking.

### REFERENCES

- Lloyd, N. (1925) 'A History of English Brickwork', London.  
 Murless, B. J. (1975) 'The Bath Brick Industry at Bridgwater: a preliminary survey', *J.S.I.A.S.*, 1, 18-28.

### Nynehead Drive Aqueduct

The restoration of this structure on the Grand Western Canal (ST 144217) has continued under the leadership of Frank Hawtin.

Valued assistance has been received from the Somerset Emergency Volunteer Organization whose specialized techniques and equipment were needed to cope with the arduous and potentially dangerous task of lifting the capstones. Each of these weigh between eight and ten hundredweights had to be raised some twenty feet from the drive below to the level of the parapets. Half of the capstones have still to be lifted and they will then be recemented into position.

### Bridgwater and Taunton Canal (i) Crossways Swing Bridge

Amongst the structures listed during 1975 as being of historic or architectural interest is Crossways Swing Bridge over the Bridgwater and Taunton Canal at Huntworth (ST 3092 3531).

Although its outward appearance suggests that its structural condition is identical to that of the other timber bridges over the canal, the swing mechanism of this bridge is still extant. The mechanisms of the other swing bridges were removed, and the decks were fixed, as a defence measure during the Second World War. The question as to why this bridge should have been left in a potentially workable condition still remains to be answered in a satisfactory way. The mechanism itself bears a close resemblance to those of the Kennet and Avon Canal swing bridge (Boucher, 1963).

The bridge in its present position forms an obstruction to craft attempting to navigate the canal, and this situation would be exacerbated if the link between the Bridgwater Dock complex and the canal is restored as the size of such craft is likely to increase. A clash of interests would then arise involving the future of this bridge unless it can be restored to working order. Even if this latter course of action were pursued and a successful conclusion reached, there would still be problems regarding the ownership of the structure and the responsibility for its maintenance. The Inland Waterways Association is anxious that the condition of the mechanism is ascertained and S.I.A.S. intends to keep itself fully informed of any further developments.

#### REFERENCE

Boucher, C. T. G. (1963) 'John Rennie, 1761–1821: the life and work of a great engineer', Manchester.

#### (ii) Commercial Traffic in the Twentieth Century

Mr. C. A. S. Honnor has investigated the volume of commercial traffic on the Bridgwater and Taunton Canal during this century, through a close scrutiny of the Day Books of the Bridgwater Dock Office.<sup>1</sup>

The paucity of entries confirm the statement by C. Hadfield that after 1892 the canal remained virtually unused.<sup>2</sup> Between 1905 and 1912, only twenty-three barges appear to have travelled along the canal and these carried bricks, coals and sand. The initials 'C.S. & Co.' and 'S.T. & Co.' against a number of entries refer to the Bridgwater brick and tile companies of Colthurst Symons and the Somerset Trading Company. Three barges, the 'Ark', 'Katherine' and 'Welsh Prince' have the letter "X" prefixing their name. This may be an abbreviation for "ex-" and the barges in question could have been converted coasting vessels. The canal was capable of taking barges with dimensions of 54 x 13ft.<sup>3</sup> which could theoretically

hold 22 tons and had a draft of up to 3ft.

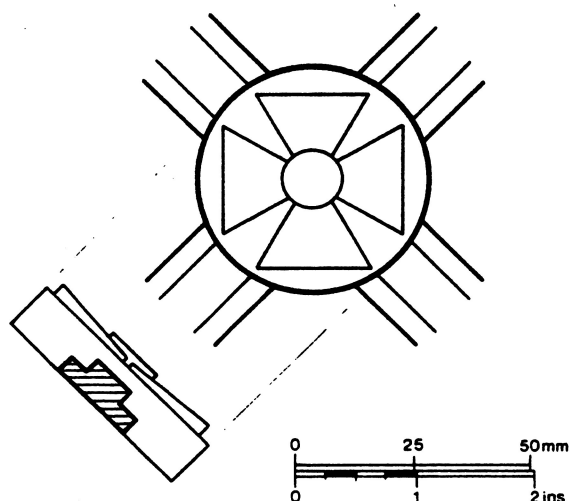
In addition to the above information, the Day Books contain some valuable source material concerning the coastal trade and would bear further study by anyone interested in this aspect of industrial archaeology.

#### NOTES AND REFERENCES

1. Somerset Record Office, DD/BWD c/2670, Items 1–11. The books cover the period 1905–1948 but are incomplete; there is no evidence for 1907, 1915–16 and 1925–30.
2. C. Hadfield, 'The Canals of South West England' (Newton Abbot, 1967) p.65.
3. Ibid. Appendix I, C, p.191.

#### Hennet, Spink and Else

Whilst compiling material for his article 'The County Bridge Papers', David Greenfield discovered a further link between Bridgwater iron foundries and Somerset bridges. The subject in question was Marsh Bridge over the River Barle about a mile north-west of Dulverton (ST 9070 2896). The following notes have resulted from this research and an inspection of the structure.



Marsh Bridge gives every appearance of being a hybrid, containing elements of four materials of construction: masonry, cast iron, steel and concrete. The existing structure is, however, the result of piecemeal alteration over the past 110 years. Until 1866 the bridge consisted of four masonry arches but in that year the two inner spans and the central pier were removed, and replaced by a pair of cast iron lattice girders, probably supporting a timber deck.<sup>1</sup>



These girders were themselves superseded early in this century by steel lattice girders which also carried a timber decking. However, the cast-iron pilasters and parapets of the cast-iron girders were refixed to the steel girders. The decking was renewed in 1946 using reinforced concrete planks instead of timber ones, and these carried a tarmac surfacing. No further structural alterations have taken place since.

The cast-iron fixtures, though often damaged by traffic, add some slight aesthetic interest to the strictly functional steel girders. They are also of interest to the industrial archaeologist, being the product of Hennet and Spink, the Bridgwater iron founders. George Hennet is referred to in the Tithe Award for Bridgwater<sup>2</sup> as the owner and occupier of an iron foundry. Hunt's Directory of 1848 gives the name of the premises as the Bridgwater Iron Works. By 1852 the business, located at Colley Lane, Bridgwater, was known as Hennet, Spink and Else, and Kelly's Directory (1861) describes them as "engineers, boiler makers and manufacturers of railway plant, fittings and rolling stock". Edmund Porter<sup>3</sup> states that the firm supplied parts for the Saltash Bridge in Devon and P. J. Squibbs<sup>4</sup> shows an illustration of a water tower at the works, used for testing the quality of iron and steel. The foundry is probably the one mentioned by Murray<sup>5</sup> where the whole of the pipes used for the 'atmospheric principle' upon the South Devon Railway were manufactured." No trade directory entries have been traced after 1872 and the premises were subsequently occupied by a timber company and an engineering works.

Unfortunately, the cast legend, on the north-east pilaster of Marsh Bridge, has been partly obscured and reads

HENNET & SPINK

ENGINEERS

BRIDGWA(?TER)

186(76)

The pilasters are all in the form of a rectangular box, open on one side to receive the end of the girder. The two sides parallel to the run of the girders are composed of open, cast-iron lattice-work. The intersections of the diagonal members of the lattices feature moulded discs bearing the figure of a Maltese Cross (see illustration). The cast parapet beams are also in the form of a lattice and are similarly ornamented.

Any information on the significance of the Maltese Cross design would be welcomed.

#### NOTES AND REFERENCES

1. Somerset Record Office—Q/AB—for further details see Note 11 in 'The County Bridge Papers' earlier in this issue.
2. Somerset Record Office, Tithe Award, 1847, 496.
3. E. Porter, 'Bridgwater Industries, Past and Present' (Bridgwater, undated) p.16.
4. P. J. Squibbs, 'Bridgwater Victorian Days' (Bridgwater, 1957) p.61.
5. J. Murray, 'Handbook for Travellers in Wilts., Dorset and Somerset' (London, 1859) p.195.

#### J. Chidgey and Sons, Watchet

With the combined co-operation of the owner, Bill Norman, and the Somerset County Museum, S.I.A.S. has been able to secure for preservation the machinery and tools from this 19th century foundry at Mount Pleasant, Watchet (ST 071433).

A group from the Society carried out preliminary photographic and survey work in May, 1976, and subsequent visits by members have resulted in the completion of an inventory of smaller items such as tools and wooden patterns from the workshops. All the items recovered from the foundry will, for an interim period, be stored until a suitable area can be prepared for their re-erection and display at the Somerset Rural Life Museum at Glastonbury.

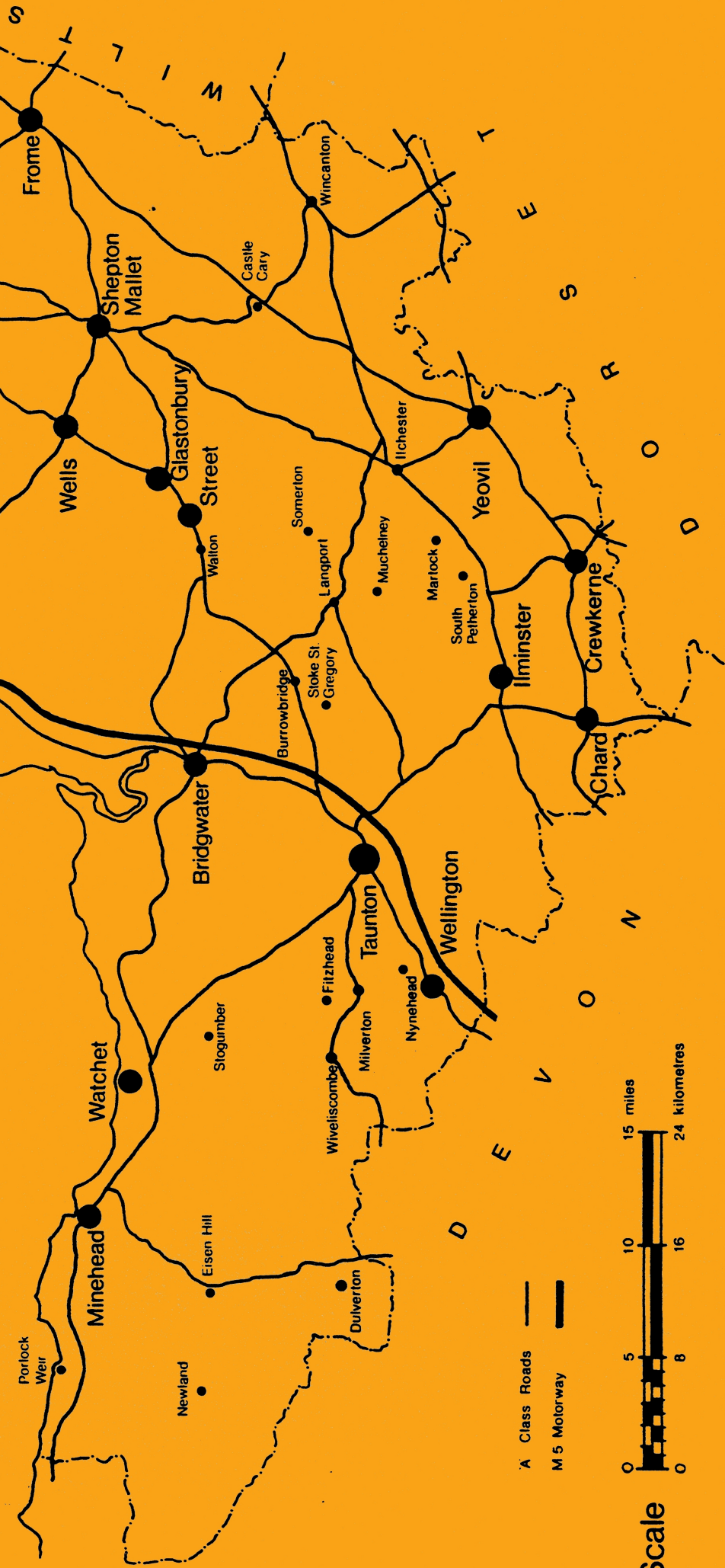
It is hoped that a more detailed account will appear in a future issue of this Journal.

# SOMERSET Location Map



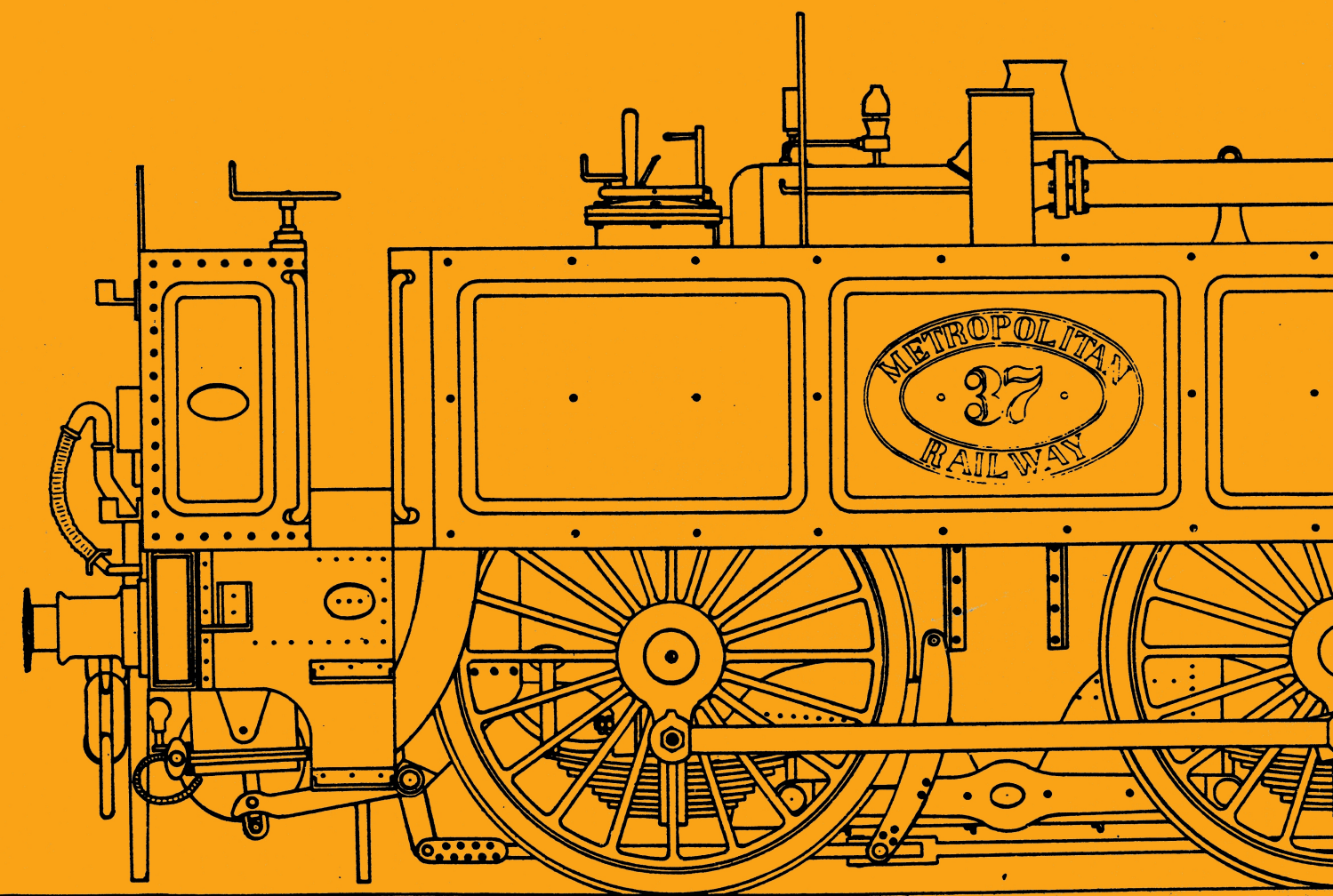
B R I S T O L C H A N N E L

A V O N



A Class Roads  
M 5 Motorway





Former Metropolitan Railway 4-4-0  
side tank Locomotive no. 37 used by  
the Somerset Mineral Syndicate on  
the West Somerset Mineral Railway  
1907-10 drawn by G. Harding