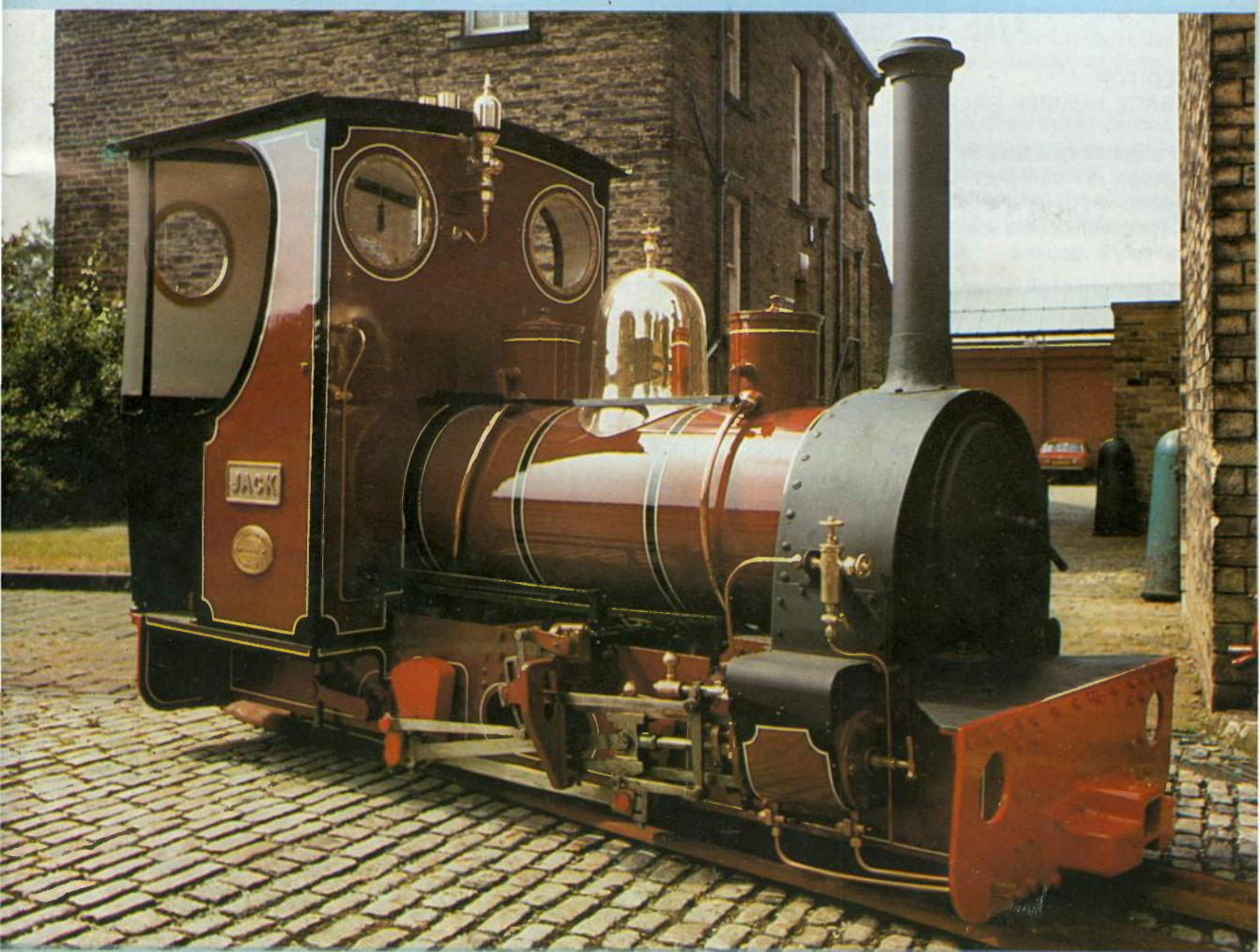


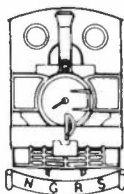


THE NARROW GAUGE

No.100



NARROW GAUGE RAILWAY SOCIETY



NARROW GAUGE RAILWAY SOCIETY

Serving the narrow gauge world since 1951

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The Society was founded in 1951 to encourage interest in all forms of narrow gauge rail transport. Members interests cover every aspect of the construction, operation, history and modelling of narrow gauge railways throughout the world. Society members receive this magazine and *Narrow Gauge News*, a bi-monthly review of current events on the narrow gauge scene. An extensive library, locomotive records, and modelling information service are available to members. Meetings and visits are arranged by local areas based in Leeds, Leicester, London, Malvern, Stoke-on-Trent and Warrington. Annual subscription currently £6.00, due 1st April.

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EDITORIAL

As all members will know, Mike Swift, the Hon. Editor of the magazine is at present working in Australia for at least six months, no doubt spending his spare time collecting a lot of material for future issues on his return next year. I took over the editorship at short notice — no easy job to follow Mike at any time, but with this, the 100th issue of the "Narrow Gauge", the task was a daunting one, to say the least. Fortunately, I have a lot of friends among the membership and I have had to lean on several of them rather a lot, and here is the result of our labours!

I hope with the restricted space of one issue we have covered the wide world of our mutual hobby, from the superb restoration of a tiny locomotive in Yorkshire saved originally by our Society, to the world's largest narrow gauge railway preservation project in America. Considerable space has been devoted to unashamed nostalgia for those days when most of us did not have cars, and we made our way by bus, van, autocycles, and even tandems to soak up that unique ambience that is the spirit of the narrow gauge.

As Chairman of the Society as well as strictly part-time editor, may I take this opportunity on behalf of the Committee of the Society to thank all members for their support over the years and to wish you all a lot more successful narrow gauging in the future as we move on to Issue No. 200, and I catch my breath and wade into Issue 101. Here's hoping to hear from all of you with your views and articles.

RONALD NELSON REDMAN 14A Oliver Hill, Horsforth, Leeds, LS18 4JF.

COVER PHOTOGRAPH. The culmination of hours of devoted and skilful restoration — "JACK" poses for a "good as new" official photograph — outside the workshops of the Bradford Industrial Museum. Only one owner since new but definitely not up for sale!

(R. S. Fitzgerald)

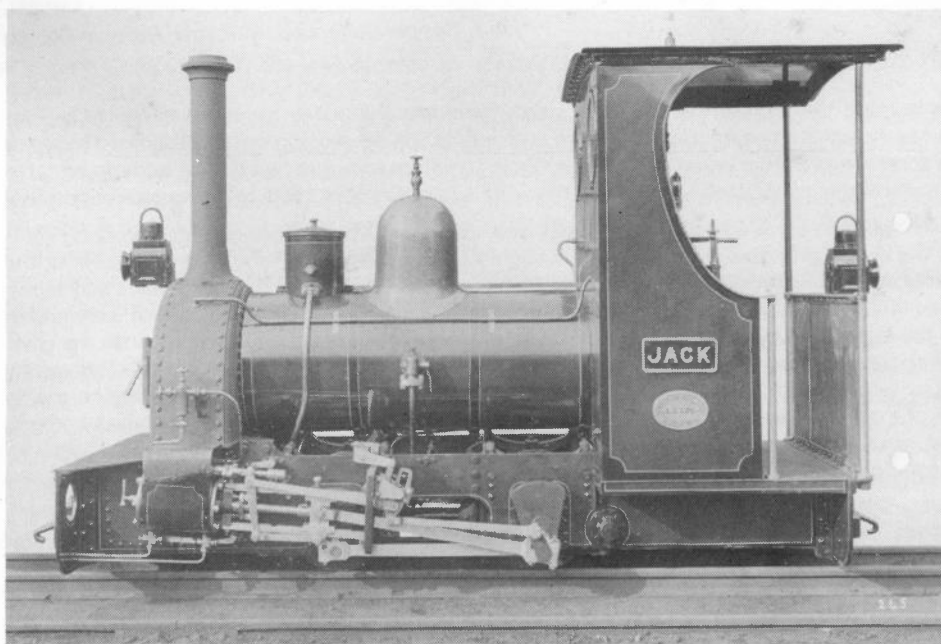
THE RESTORATION OF HUNSLET ENGINE CO. NO. 684. "JACK"

Ronald S. Fitzgerald (Keeper of Industrial Archaeology Leeds Museum)

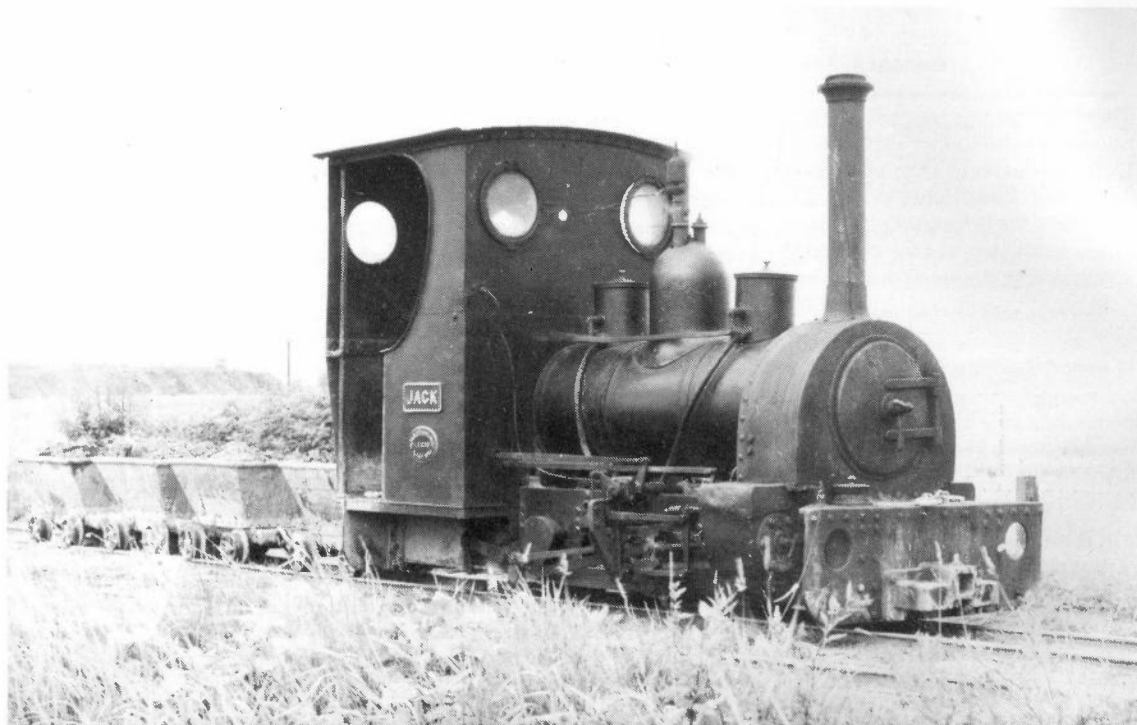
There can be few readers of this magazine who have not heard of the diminutive 0-4-0 W.T. "Jack". Indeed a number of the longer standing members of the N.G.R.S. were instrumental in securing her future in Leeds in 1958. The earliest negotiations with John Knowles and Company, the then owners, were undertaken by Eric Cope, and John Alcock of the Hunslet Engine Company and brought to a successful conclusion by Dr. Peter Lee. To chronicle the ensuing 20 years would make unedifying reading so suffice it to say that along with two other major examples of the work of the Leeds locomotive building industry she was consigned for this period to unmerited obscurity within the stygian gloom of the Leeds Museum's Copley Hill Store.

The beginning of the renaissance for these locomotives was a product of the emergent Leeds Industrial Museum at Armley Mill. After a long faltering start the new museum began to take practical shape in late 1979 when a strategy was formulated which envisaged a museum, the principal concern of which was to be the industrial and technological development of the Leeds area. As the 19th century basis for industrial diversification had been the textile industry and as the museum occupied a textile mill of considerable historical importance initial energies were concentrated upon depicting the woollen textile trade, but the central position occupied by Leeds in the manufacture of railways locomotives and equipment demanded that this area be treated adequately. After the textile industry this was to be the next priority.

It is an essential part of the philosophy of this museum that exhibits which can be operated, given the limitations of the site, should do so and thus when consideration was given to the restoration of the locomotives it was decided that provision should be made to run at least the narrower gauge exhibits. To this end a dual gauge 18" x 24" track was laid out in the grounds. It is, however, important to emphasise at this point that the ultimate objective of the collection is the preservation of Leeds-built locomotives, not the operation of a working line, and should the two be in conflict then primacy should be given to the former.



*The Works official photograph of "JACK" at The Hunslet Engine Co. Works in 1898.
(Hunslet Holdings Ltd.)*



"JACK" in service at Woodville on a short four tub train in 1952.

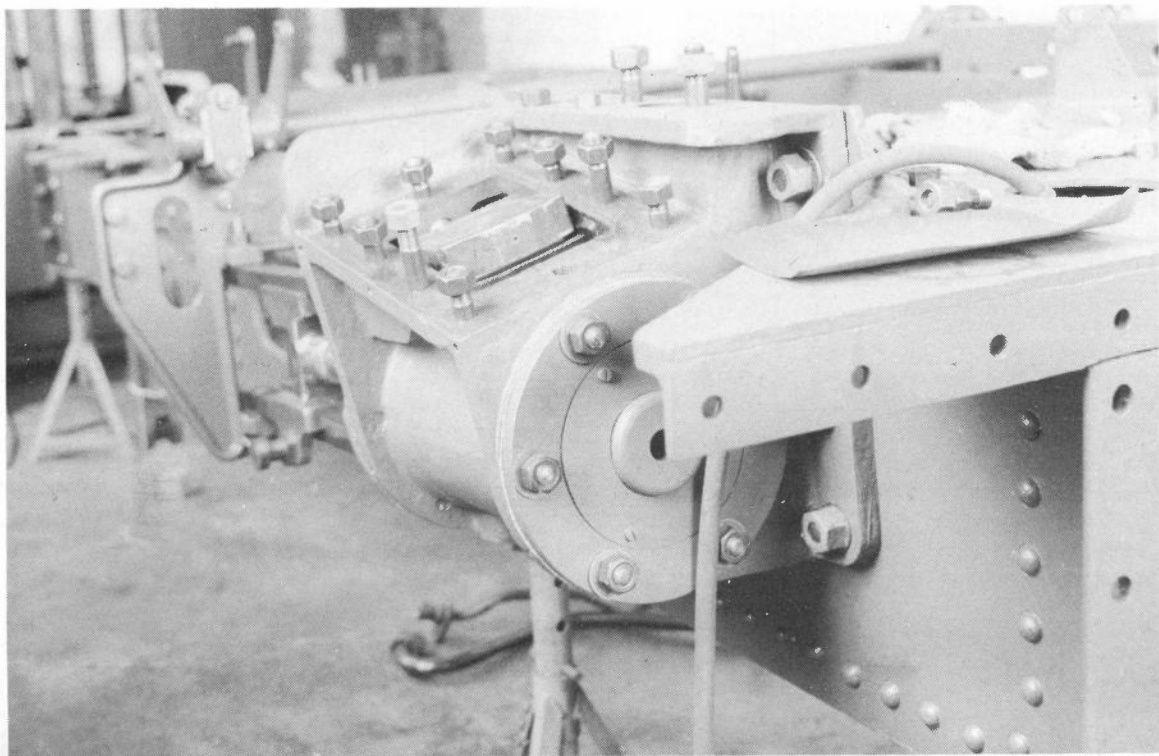
(K.J. Cooper Collection, Industrial Railway Society)

With this in mind the most attractive proposition to initiate the policy appeared to be Jack. The workshop facilities and technical staff at Armley Mills were at this time still developing but the Bradford Industrial Museum housed the central restoration workshop for the West Yorkshire area and had the capacity to undertake the job. They were accordingly contracted to carry out the work and in October 1980 Jack was moved to Moorside Mills.

The initial inspection revealed a dismaying state of dilapidation. The ravages of a hard working life were clearly apparent in the boiler, cylinders and wheels. Although the boiler barrel and tube plate were sound, the insurance report noted considerable wastage of the copper firebox wrapper, generally defective stays and tubes and minor wastage in other areas. Of equal concern was the state of the cylinders. A combination of wear and corrosion of the bore of the right hand cylinder had created a situation whereby steam was escaping into the cavity between the cylinder and the frame plate. There was in fact a difference of $\frac{1}{2}$ " in the bore of the left hand and the right cylinders. The wheel treads had also worn badly, and seemed as though they would require major attention. Additionally, the situation was not assisted by two burglaries at Copley Hill which had resulted in the loss of most of the non-ferrous fittings, including the dome cover and one of the safety valves. It was evident at this stage that the restoration programme would be an extensive one and that a policy was needed to govern the approach.

The criteria outlined above implied that any conservation should be in keeping with the historical integrity of the exhibit. For Jack this meant that restoration which we had planned to be to running condition must not materially detract from the locomotive itself and henceforth the progress of the project was often a matter of attempting to effect a compromise between the often conflicting objectives of running and restoration.

At the time of withdrawal the locomotive had been in service for 60 years and over this span her appearance had altered several times. Three courses were open to the restoration. We could accept the locomotive as she stood in 1958, we could attempt to restore her to the condition in which she left the Hunslet works as new, or we could select a period between the two extremes. To understand how the final choice was made it is necessary to know something of the history of the locomotive.

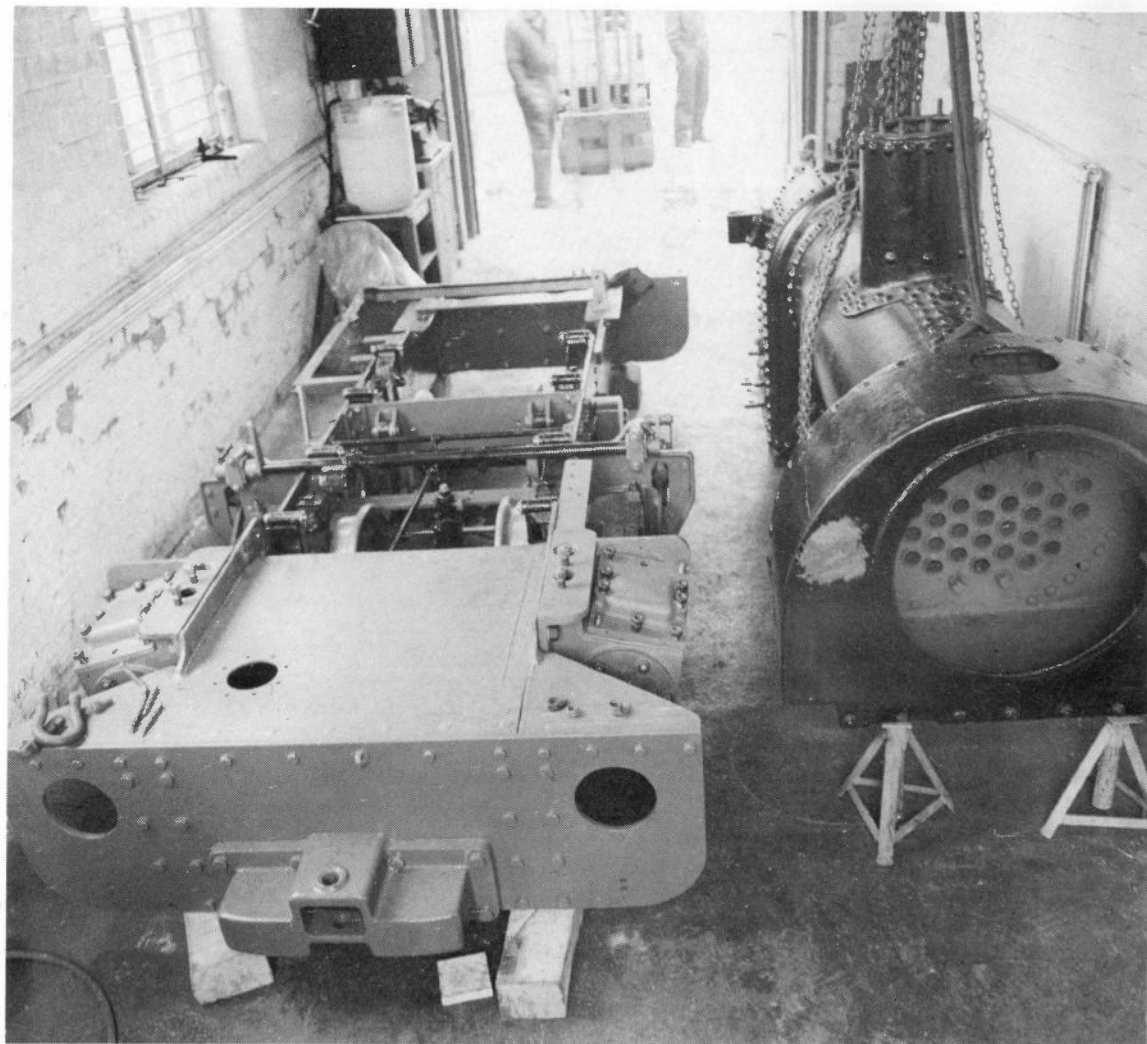


*Two years into the restoration and the right hand refurbished cylinder is mounted on the frames.
(R.S. Fitzgerald)*

Hunslet Engine Company No. 684 was ordered by Messrs John Knowles on Christmas Eve, 1897, for their Mount Pleasant fireclay works. This works dated from 1849, and owed its origins to the founder's career as a railway contractor building the local line. As was so frequently the case the progress of construction revealed geological deposits of commercial value, which Knowles set about exploiting. The date at which the company established its private railway system is not known although in view of Knowles' previous occupation it is probable that it was relatively early. Hunslet Engine Company records show a standard gauge 0-4-0 delivered in 1879 followed by another two years later. Jack seems to have been the first venture into 18" gauge mechanical traction. The narrowness of the gauge may well represent an extension of an existing underground system for overground use, although the gauge had been in use since at least 1874 at the Crewe works of the LNWR, at Beyer Peacock's Gorton Works, at the L&YR's Horwich plant and the government establishments at Woolwich, Chatham and Aldershot.

For the Hunslet Engine Company the gauge of 18" represented a novelty, and to a large extent dictated the distinctive features of the design. The general form of the Hunslet built locomotive for the narrower gauges had been established on the 1-10 $\frac{3}{4}$ " North Wales lines in the early 1870s and Jack's outline to some extent drew upon these although more specifically locomotives 601 Silurian and 634 Samson, the former a 6" x 8" O.C. 0-4-0 ST for 1.11 $\frac{1}{2}$ " gauge, and the latter an engine of similar proportion for 2'9" gauge, formed the general basis for the design. The narrowness of the gauge suggested a well tank under the smoke box rather than a saddle tank, to lower the centre of gravity. This in turn precluded the use of inside cylinders or valve chests and favoured outside valve gear. The latter's vulnerability led to the choice of Walschaerts gear in preference to Stephenson's and this seems to be the first instance of Hunslet Engine using this gear on so narrow a gauge.

As delivered to Knowles in October 1898 the locomotive had 6" x 8" outside cylinders driving four 1'6" diameter coupled wheels on a 3'0" wheelbase. The heating surface totalled 86 square feet of which 72 square feet was tubular and 14 firebox surface, with a miniscule grate area of 2.3. The working pressure was initially to be 130 psi but this was raised to 160 psi. The weight empty was 4 tons 13 cwt and the tractive effort at 75% of boiler pressure, 1,518 lbs.



The boiler about to be reunited with the frame assembly.

(R. S. Fitzgerald)

In 1915 Jack hitherto the sole representative of its class was used as the model for a further twelve locomotives of the same general outline. These were delivered between 1915 and 1917 to the government meat depot at Deptford. They differed from Jack principally in that the cylinder diameter was $\frac{1}{2}$ " greater and the boiler correspondingly larger. The wheelbase was 6" longer and they carried a slightly enlarged water tank. The nature of their working environment probably conditioned the choice of oil rather than coal firing. The most obviously visible difference lay in the boiler mountings. Jack's safety valves were of the Salter pattern mounted above the backhead but the Deptford engines carried two Ross Pop valves mounted upon the dome, the cover of which was flattened for the purpose. A second sandbox was also mounted on the boiler behind the dome.

Jack's original boiler was short lived for in May 1915 a new boiler was supplied by the Hunslet Engine Company, with a copper firebox and brass tubes along with a new smokebox and chimney. The running gear also underwent repair. Shortly after a second sand dome was added to the boiler top bringing the outline into closer conformity with the War Office engines.

When in 1920 a second locomotive was delivered to John Knowles for the 18" gauge line the Deptford design was more closely adhered to and No. 1404 GWEN differed only in as much as she was designed to burn coal. Six years later in a visually disastrous attempt to make Jack conform further with her younger sisters, the Salter safety valve was removed from the top of the firebox and replaced by two Ross Pop valves mounted upon the dome. The aesthetics of the dome outline were further violated in 1928 when the LMS style whistle was also allowed to clutter the dome cover. Thereafter changes to the locomotive's appearance were minor, the Roscoe No. 1 cylinder lubricators were replaced by a positive action mechanical lubricator and the cab backsheet was extended for better crew protection when working in reverse. This was substantially Jack's condition in 1958 when she ceased working.

I have already described the areas of worst deterioration and without pursuing further the casuistry of restoration it seemed to us at that time that we were in danger of ending up with a locomotive built by the Bradford restoration workshops rather than the Hunslet Engine Company. It was also the case that extreme measures such as the total replacement of the defective cylinder or the entire boiler might prove a ghastly expense. In the event we decided that wherever possible the original components would be retained and restored rather than replaced. The ultimate appearance of the locomotive when restored was necessarily somewhat arbitrary. We felt that her lines had not been enhanced by the resiting of the safety valves and whistle but that the addition in 1917 of the second sand box for reverse running would be of material assistance in the future operation of the locomotive whilst also conferring upon it a more symmetrical appearance. These factors and several other details prompted the decision to opt for the period between 1924 and 1928 as the basis.

Attention focussed first upon the boiler. The barrel and outer firebox wrapper required only minor attention but the inner firebox which was of copper was badly wasted along with the tubes and stays. Such platenwork was beyond the resources of the Bradford workshop as a consequence of which the work was contracted out. Two firms were invited to tender. Messrs. H.A. McEwen were successful and the boiler was despatched to their Keighley works towards the close of 1980. They commenced work immediately removing the firebox stays and tubes. The firebox was irreparable and was scrapped. A move which obviously entailed losing a major part of the substance of the boiler but this was unavoidable for without it running could not be contemplated. From a conservation stance its replacement should have been copper on a like for like basis, but cost considerations allied to the argument that it was a new firebox in any case, tipped the scales in favour of steel. A similar line of argument applied to the tubes and stays which were also replaced in steel. Minor corrections to the grooving of the barrel and some shell wastage were also dealt with at this time by welding. Over the duration of the work, the insurance inspector monitored the standard of workmanship and on the 31st of March 1981 the completed work was subjected to a hydraulic test to 14.5 bar for 30 minutes and passed.

At Bradford the frames and buffer beams were receiving attention. The water tank situated below the smokebox was heavily corroded but rather than scrapping the old tank entirely we retained as much as possible of the old fabric and rebuilt the wastage by new platenwork and welding. The right hand frame plate had corroded and this also had to be reinstated by welding. Less subtle means were employed to straighten the front buffer beam.

Of all the problems encountered in the restoration the condition of the cylinders was the most worrying. At first it was feared that a new casting might be necessary for the right hand side at least. With a great display of resourcefulness this drastic step was obviated by the Bradford staff who chose instead to produce two cast iron liners which were inserted into the old shells and bored to 5½" diameter. This reduction in the cylinder bore size rendered new pistons necessary.

Patterns for all this work and for subsequent castings were produced at Bradford and the casting was carried out to a uniform standard of excellence by Messrs. Bonar Westcroft Castings of Bradford. To complete the work on the cylinders a considerable amount of detail work was necessary including some reinstatement by welding of corroded areas.

Second only to the cylinders as a cause for concern were the wheel treads. The tyres which were of steel were heavily grooved. Although re-tyring was an option, if an expensive one, it was decided that re-machining would by a small margin leave the treads within the permissible allowance. Although the gap bed of the lathe would swing 11" the wheels could not be removed from their axles for machining. Again Bradford produced an original solution to an obtuse problem. The axles were supported upon the lathe bed by steadies built for the purpose and the crank pins used to rotate the wheels by contact with the jaws of a substantial 4 jaw chuck.

The springs and axle boxes required only minor attention but the boiler feed pump which was axle driven by an eccentric between the frames had a badly worn plunger. This was rebuilt by hard chroming and reground to size. The completion of this job marked the point at which the chassis could be re-assembled and the boiler reunited with it.



"JACK" mounted on blocks and back in steam for the first time in 25 years, Wednesday evening 18th August, 1982.
(R. S. Fitzgerald)

Most of the boiler fittings had been stolen in the past burglaries amongst them the dome cover. This had been of brass sheet built up in three pieces, the hemispherical top, the cylindrical barrel and the flared boiler barrel interface. The three sections were assembled by dovetailed joints brazed with spelter of appropriate colour. The technique appeared now to be extinct. Instead a cast dome was decided upon. The brassfounders responsible were Messrs. Haigh & Co. of Halifax who dealt with this complete piece of moulding in a way that reflects the greatest credit upon the craftsmen involved and the firm itself.

Only one safety valve remained and it is perhaps here opportune to extend our gratitude to the Hunslet Engine Company, particularly Mr. Don Townsley and Mr. Geoff Horsman for their assistance in replacing the missing valve and other items to be mentioned later. In keeping with the period chosen for the restoration we had decided to re-site the valves over the backhead and within the cab. Originally a brass manifold had carried both the safety valves, the whistle cock, the blower valve and the pressure gauge. A pattern was made and a new brass manifold cast. This was proof tested hydraulically. Two brass tubes were also necessary to carry the steam vented by the valves clear of the cab.

The correct functioning of a further backhead fitting we also owe to the Hunslet Engine Company. The Greshams No. 3 backhead injector was incomplete but the cones were still within. The Hunslet Engine Company replaced the missing brass fittings, and restored the injector to working order. The water gauge had also been abstracted in the course of the felonies. This was replaced from stock by Messrs. Chanters of Bradford. The chimney barrel

had suffered badly and this was replaced retaining the flared base and the cast iron cap of the original. Of the boiler pipe fittings the live steam pipes from the regulator had to be replaced and the regulator valve faces recut, a new stuffing box for the regulator spindle was cast, and machined and a new blower ring fabricated.

Much of the success of the restored locomotive's appearance is owed to the attention that was bestowed upon the period detailing. A tallow lubricator for the regulator port faces was made from Hunslet drawings and two tallow lubricators for the cylinders similarly produced. The mechanical cylinder lubricator had disappeared between 1958 and the present and instead the original pattern of Roscoe No. 1 smokebox mounted displacement lubricators were restored. Again, we owe this to the assistance of the Hunslet Engine Company.

It remains to describe the final painting. Research by Geoff Horsman and Don Townsley at Hunslet revealed that the engine was delivered to Knowles resplendent in Midland Railway express passenger red and a works photograph of the period confirmed that the lining out conformed to the Midland pattern. Needless to say the extravagance of the Midland finish was worth emulating. There were several accounts of how this was obtained some of which conflicted according to the period and source of the information. Ultimately the procedure described by F.C. Hambleton in his book *Locomotives Worth Modelling* and Dow in his book *Midland Red* were the basis for Jack's livery.

Preparatory to painting all the surfaces were cleared with a needle gun to base metal. Two coats of zinc chromate primer were then applied, each rubbed down. The frames were treated to two coats of undercoat and three top coats, the interior colour being vermilion and the exterior lined Midland Red. The finish for the upper works was more elaborate and entailed five coats of undercoat and six coats of matt, top coat finished with three coats of varnish. The ticklish job of lining out we felt to be beyond our capacity and instead the job was contracted out to W.P. Davisworth of Armley, Leeds. The results vindicated the choice.

This virtually completed the account of Jack's restoration. The locomotive is now temporarily on display in the transport gallery at the Bradford Industrial Museum, pending the completion of the track and accommodation at Armley. Its return will, we hope, signalise the beginning of an attempt to cover more adequately the history of what was probably the greatest concentration of locomotive building activity in the world.



One of the most photographed Penrhyn locomotives "WINIFRED", Hunslet 364/1885 captures all the atmosphere of the good old days. (Ivo Peters)

THOSE WERE THE DAYS—PART ONE

Whenever narrow gauge enthusiasts get together at meetings or visits, or more likely over a pint, the conversation inevitably turns to recollections of past journeys and visits, usually to lines long gone, or at best changed virtually beyond recognition.

With this in mind, here are a few short stories intended to capture in words and pictures some of the flavour of the good old days! If it encourages you, the reader, to dig into your store-house of memories or to dust off the pages of some of your early photo albums, the editor would be delighted to hear from you.

RAVENGLASS—1925

Jack Steel

In 1925 the family holiday was at Grange-over-Sands, so there would be a visit to Ravenglass—R. Proctor Mitchell had been a neighbour of Mother's before her marriage—so that may have had something of a bearing on the visit.

We travelled behind the 'new goods engine'. 'The only 2-8-2 in Great Britain' my father told me. The loco was, of course, 'RIVER ESK' and I remember seeing one petrol loco, possibly ICL 1(?) and the 'wet weather' i.e. Heywood coaches standing round. We, of course, rode in the 'Toastracks'. Incidentally, I have still to travel in a closed coach on 'Ratty'.

We were accompanied in our 'compartment' by our two collie dogs and, approaching Irton Road on the up journey they spotted a hare, leapt out of the jogging train and by a planned pincer movement, caught the hare. As the driver had stopped the train, to the cheers of the other passengers, he got the hare!

Another visit on the same holiday was to Williamson Park at Lancaster, and we turned to the city centre by corporation tram on 3'6" gauge. No ordinary tramcar this, but a Demi-Car. The driver did not give change so it cost sixpence, although the fare was only fourpence. The thing just crawled along making an awful moaning noise. The result of Mr. Raworth's patent no doubt? It was a great relief later in the day to ride on a Morecambe horse tram, also 3'6" gauge and travel at a reasonable speed and in comfort.

EASTRIGGS—1939

Ken Hartley

This 60cm gauge Light Railway, which connects the Eastriggs Royal Ordnance Factory with the B.R. (ex L.M.S.) line between Annan and Dumfries, was briefly seen in the Spring of 1939, but no rolling stock, or loco, was in sight. The pristine appearance of the track suggests that the Light Railway was of fairly recent construction. Early in August 1939, I was again in the area and was able to take a photograph, from the road overbridge, of a fairly early Rushton-Hornsby 4-wh, 16-20 h.p., diesel loco (with transverse, cylindrical petrol tank mounted just in front of the cab).

The train consisted of nine, 4-wheel, flat trucks loaded with what appeared to be ammunition boxes and is seen about to go beneath the main road. A similar R-H loco arrived from Eastriggs at Barlow N.C.O.S.D. (near Selby) a week before I retired, but I was able to get a 'shot' of it—oil leaks an' all! I took it for a run on the depot track—but it was a pretty 'rough' loco!

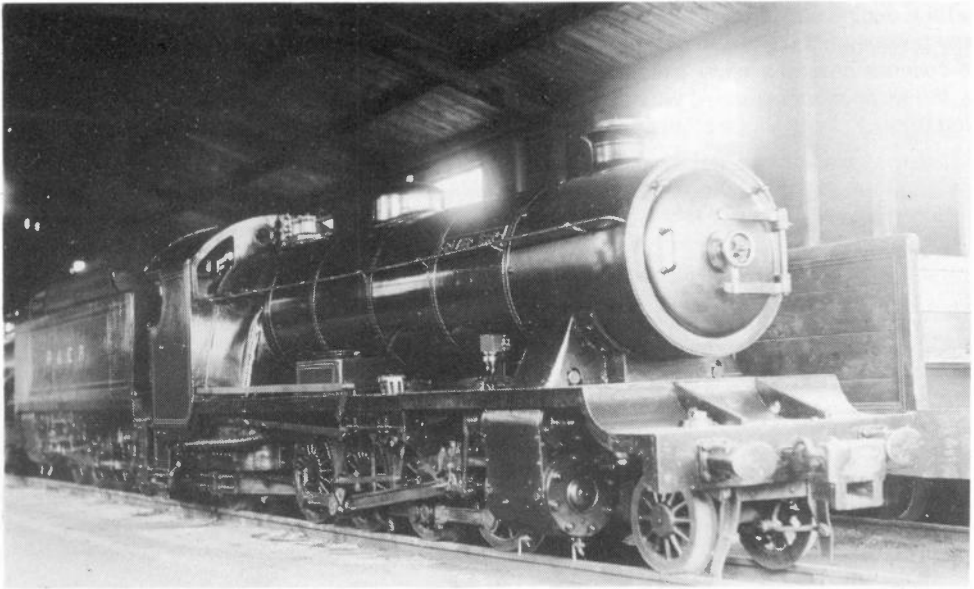
1952 AND ALL THAT!!

Henry Holdsworth

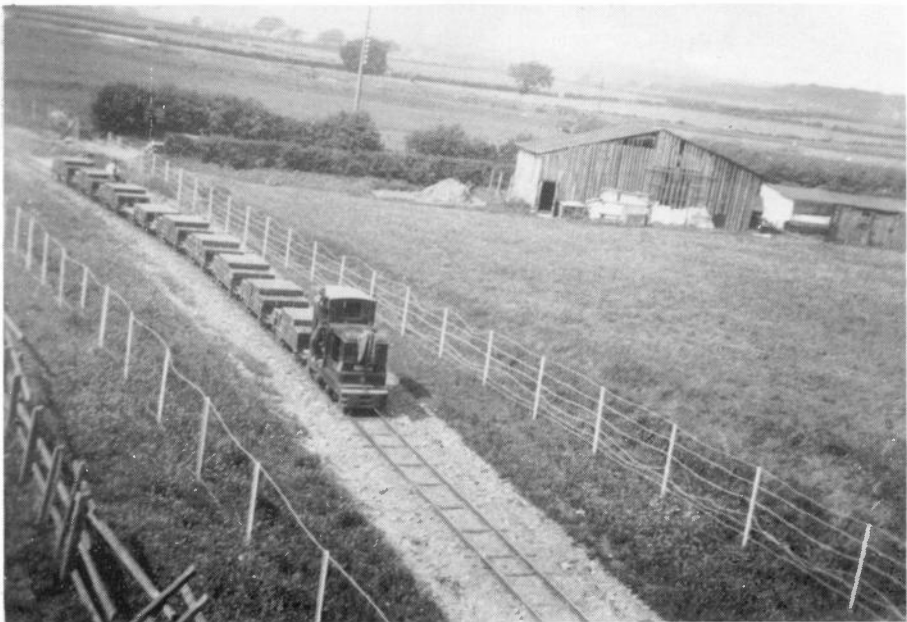
In 1952 my wife and I set off on a touring holiday covering the South East coast as far as the Isle of Wight. In those days we relied on pedal power rather than petrol and regularly covered 80 to 100 miles a day on our tandem.

We left Leeds on the 10.15 p.m. slow train to St. Pancras, arriving in London early on Saturday morning for a day's sightseeing, starting at Marble Arch 6 a.m. without a car or bus in sight. During the afternoon we took a water bus along the Thames to the Festival of Britain (1951) site at Battersea to see the Pleasure Gardens, left there when the Festival closed.

As a long time admirer of Rowland Emmett cartoons on transport themes, I was anxious to see his 15" gauge creation 'The Far Tottering & Oystercreek Railway'. This was in operation and we rode behind 'Nellie', unfortunately my '120' snapshots are indifferent, but I enclose 2 postcards showing the locomotive and the surrounding buildings.



Greenley's impressive 15" gauge 2-8-2 "RIVER ESK" on the Ravensglass & Eskdale Railway in its rebuilt Poultney articulated form with the additional 0-8-0 tender power unit. Photographed Circa 1930.
(Collection R. N. Redman)



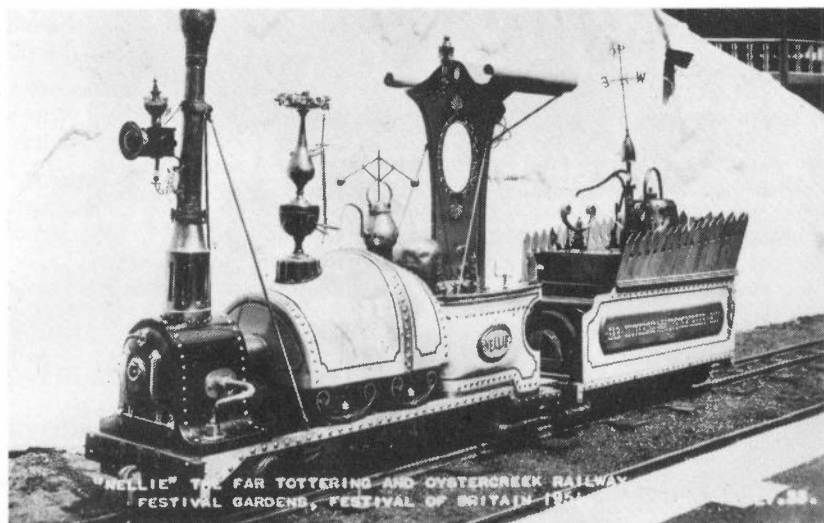
A Ruston diesel heads an ammunition train on the 60cm gauge, Easttrigg Ordnance Factory Railway in 1939.
(K. E. Hartley)

I noted the engine was attractively painted with turquoise boiler and cab, maroon footplate and smokebox, with many polished brass fittings. The 4-6-2 was driven by a diesel engine in the tender and hauled 3 open and 3 roofed coaches around a short circuit. I believe the rolling stock was supplied by the Southport Miniature Railway, the locos were scrapped when the Park closed and the coaches returned to Southport. It would be interesting to see a photo of the other engine and details of the Emmett designed buildings and layout plan.

We pedalled on via Margate (Dreamland had only a diesel running) and arrived at Hythe by Tuesday evening. The last train of the day ran to Romney at 7.45 p.m. and so we asked the friendly Station Master how we could manage a trip and take the tandem. The problem was soon solved and the cycle laid flat across one of the 20 seater open coaches, and we were off in fine style behind 'Doctor Syn'.

We did see steam on the Isle of Wight, but for some reason did not photograph it—there was nothing unusual about standard gauge steam in 1952!

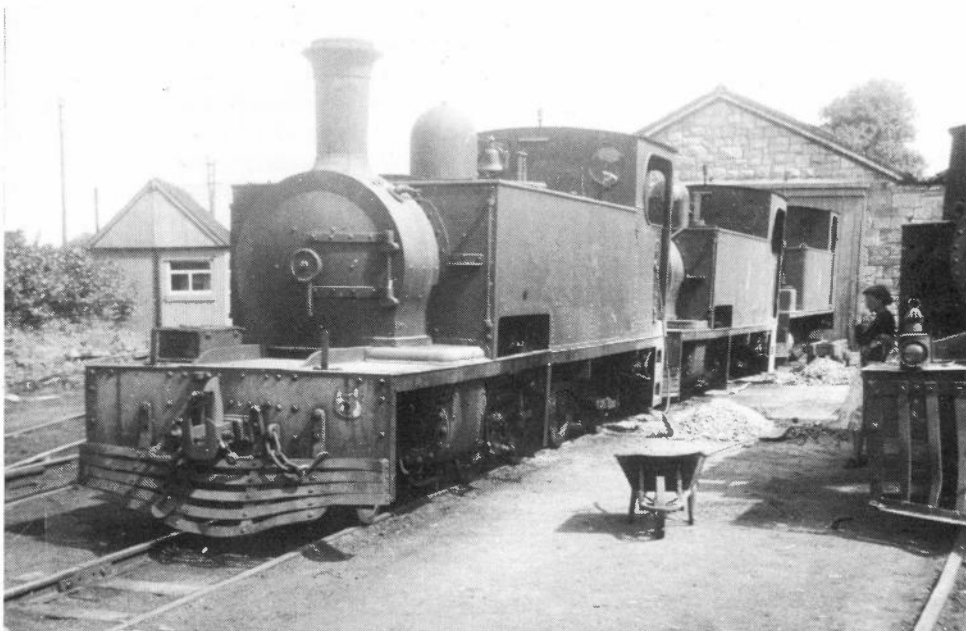
On a personal note may I congratulate the Society on achieving Magazine No. 100 and offer my thanks to the present Editor and his able helpers for the standards now being set with each issue. As Editor (temporary) from No. 37—February 1965 to No. 58—August 1971, I know how much thought and hard work goes into each issue.



The superb 15" gauge recreation of Emmett's locomotive 'NELLIE' on the Festival of Britain Railway at Battersea Park in 1951. (Collection H. Holdsworth)

'NELLIE' and train standing in the main station at Battersea Park on the Far Tottering and Oystercreek Railway in 1951, the luggage at the platform end looks like pre-war 'Hornby Tinplate'. (Collection H. Holdsworth)





Not quite what it seems! Tralee & Dingle 2-6-2T No. 5 & 2-6-0Ts 3 & 4 outside Ballinamore shed on the Cavan & Leitrim railway in August 1953. The two 2-6-0Ts were unfortunately scrapped when the line closed, but No. 5 can still be seen in Eastern U.S.A. (P.S. Halton)

BALLINAMORE—1953

Peter S. Halton

It was possible for the first time ever, to travel from Kilkee on the West Clare railway to Ballinamore on the Cavan & Leitrim in one day in the summer of 1953. True, it took a long time and with delays on the single lines our arrival at Dromod for our final connection to Ballinamore was quite late. The connection was held and as soon as we were in the coaches of the train in the narrow gauge platform, we were off behind C. & L. 4-4-0T No. 3. In the gathering gloom we watched the inevitable puddle in the glass bowl of the gas light slop about and a crossing keeper slowly open the gates for us before darkness took over just before our arrival. The next day being Sunday, the only thing to do was roam about the yard photographing attractive looking locos, although my wife standing by No. 3 was obviously beginning to lose interest! The line up in the photo was quite by chance but on shed also were C. & L. 4-4-0Ts 2/3/8 and the ex Cork and Blackrock 2-4-2T 10/2. The latter were inside the works, one getting some attention and C. & L. No. 2 in the weeds at the back of the shed. It was a lovely tranquil scene, so typical of the country railway. Now the place is a school and I should think anything but tranquil!

On Monday we left for home, again behind C. & L. No. 3 so that we were not able to have a ride behind T & D Nos. 3, 4 or 5. Perhaps I may yet manage one behind No. 5 if I go to the States again, who can tell?

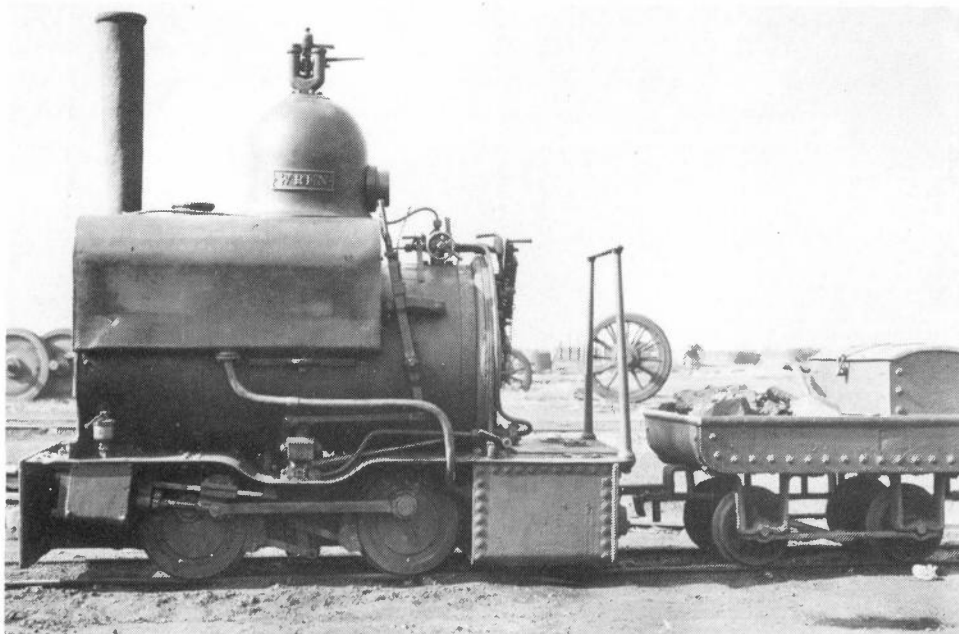
HORWICH LOCOMOTIVE WORKS TRAMWAY—1959

Ron Redman

The London Midland Region of British Railways granted permission for a society visit on Sunday morning, the 4th October, 1959. We duly turned up at the works gate at 10 a.m. as requested, expecting to meet our guide, and that's when the problems started. The gateman made us welcome enough but explained that he had worked there for over 20 years and did not know of any narrow gauge railway within the works. Despite that we were invited to look round and take photographs to our heart's content, but we had to be out of the plant for 12 noon. It was super! We even found the body of an ex L. & Y. steam railcar used as yard hut and the frames of an L. & Y. "Atlantic" in use as a boiler trolley and best of all, we came across what was the remains of the 18" gauge tramway at the back of the works, a system that had once stretched to over seven miles of trackwork. The working locomotive was the tiny 0-4-0 Ruston diesel Works No. 416214 built in 1957 in its striking livery of black and yellow diagonal stripes, but it was the spare engine "WREN" we had all come to see. She was nesting in the back of the shed, but not for long. We soon had her out in the sunshine, (it did not rain in the good old days!).

Its rather dusty appearance was not considered fit for the colour films then becoming popular and two volunteers armed with rags and a bucket of diesel oil soon had a shine on the vintage locomotive.

After a walk through the erecting and paint shop we were about to make our way home when it was suggested that a nearby peat railway was possibly worth a visit. We were soon in a yard full of slatted wood sided wagons and about to photograph and note all those of interest, when the peace was shattered by a very irate gentleman armed with a double barrelled shotgun, accompanied by his dog, who escorted us off his premises with indecent haste and would not even enter into any form of conversation. Still, let's face it, you can't win them all!



*A superb study of "WREN" the last Horwich Works 18" gauge tramway steam locomotive.
(N. G. R. S. Library Collection)*

BOWATERS, 1963

BOB SCHOFIELD

In June 1963 the Society organised a Saturday morning visit to the 2'6" gauge system at Bowater Lloyds Sittingbourne Paper Mill.

Members from Yorkshire travelled on the overnight train from Leeds. The journey was totally sleepless, due to certain well known personalities relating hilarious tales of Apprenticeships at B.R.'s Holbeck Loco Shed and in the Leeds loco trade.

We travelled from London to Sittingbourne in a mini bus of doubtful reliability, the driver having great difficulty in persuading it to stay in top gear for any speed above 35 mph. The other memory of this run is that Ivan Stephenson, one of the main perpetrators of our sleepless night, slept the whole way whilst the rest of us remained awake and bleary eyed!

Together with members and friends from all over the country we were greeted by Mr. Ashdown, the Company's Engineer, who gave us a brief history of the line and explained its place in the Company's operations.

In the yard we found KS 0-4-2 ST 'PREMIER' shunting wagons of waste paper and on shed a similar Loco 'LEADER' (KS 926/06) having a boiler washout. As we watched these operations our special train, consisting of two pulpwood wagons hauled by 0-4-2 ST 'EXCELSIOR' (KS 1049/08) drifted into the sidings. Once on board we were away, over the viaduct section of the line towards Kelmsley Mill.

At Kelmsley, threading their way between mountains of pulp wood, four Bagnall locos were in steam—0-6-2 Tanks 'TRIUMPH', 'ALPHA', 'SUPERB' and the 0-4-2 Fireless 'UNIQUE'. The other fireless loco 'VICTOR' was out of use in the sidings. The Company's workshops were also situated here and we found 0-6-2 T 'SUPERIOR' and 0-4-2 T 'MELIOR' both having major overhauls and boiler repairs in these very well equipped works. 'MONARCH' rattled past on a workmen's train as we made our way back across the sidings.

From Kelmsley, we boarded a regular empty stock working hauled by 'SUPERB' for an exhilarating fast run to Ridham Dock, the end of the line. First stop here was the loco shed to see yet another Bagnall 0-6-2 T 'CONQUEROR' and for my money, the pride of the line, Manning Wardle 0-6-2 T 'CHEVALIER'. Both these engines were in immaculate condition but in a poor position for photographs and Mr. Ashdown, realising our problem, moved each loco down the yard with such gusto that it seemed he had been waiting for just such an opportunity all morning. The Standard Gauge shed was also at Ridham Dock where the locos were placed outside for photographs.

Back on the Narrow Gauge, 'MONARCH' had returned and was posed surrounded by the N.G.R.S. contingent for the 'official' photo. 'MONARCH' was later coupled to the passenger train for our run back to Sittingbourne and because the railway was operated to a strict timetable, last minute photographers had to be chased up or left behind—we all made it, just!



The combined forces of the Northern & Southern areas of the Society just about hide the 0-4-4-0 Tank 'MONARCH' during that never to be forgotten visit to Bowaters 2'6" gauge Empire, way back in June 1963.
(G. Lumb)

PENRHYN QUARRIES—1964

Ivan Stephenson

Where else almost twenty years ago could you find 16 narrow gauge steam locos on a drive up, ask at the office, instant admission visit with almost free reign to go anywhere without a guide? Probably nowhere, and it would be impossible today, even if you could find 16, 1ft 10¾ ins gauge steamers on an industrial site anyway.

My record book tells me that on the 3rd September 1964 on just such a visit, four young Yorkshire area members found GLYDER (AB 1994) and NESTA (HE 704) freshly repainted in the works prior to sale, bits on BRONLLWYD, plus LILIAN, KATHLEEN and the brake van made from STANHOPE in the scrap line, whilst the wonderful gloom and grime of 'the long shed' held the almost forgotten PAMELA, HUGH NAPIER, GWYNEDD, GEORGE SHOLTO, MARGARET, SYBIL MARY and ALAN GEORGE, which before very much longer yours truly would be assisting to restore to working order.

A long hot trek to the top of the highest tip allowed us to take in the active locos. OGWEN, MARCHLYN, CEGIN and WINIFRED, the oldest of the 'workers', born in Leeds in 1885 and the cleanest of all, despite being replaced the day after our visit by a diesel and not expected to run again, not that the other three had long to go, for Sir Alfred McAlpine's dumper roads were being constructed all over the place much to the disgust of the rank and file—'Bloody fool, he'll pull the whole mountain on top of him, boyoh' said one. He hasn't done it yet, but what a poorer place Bethesda is, twenty years on.



Summer at Penrhyn 'CEGIN' (A.B. 1991/1931) photographed June 1955.

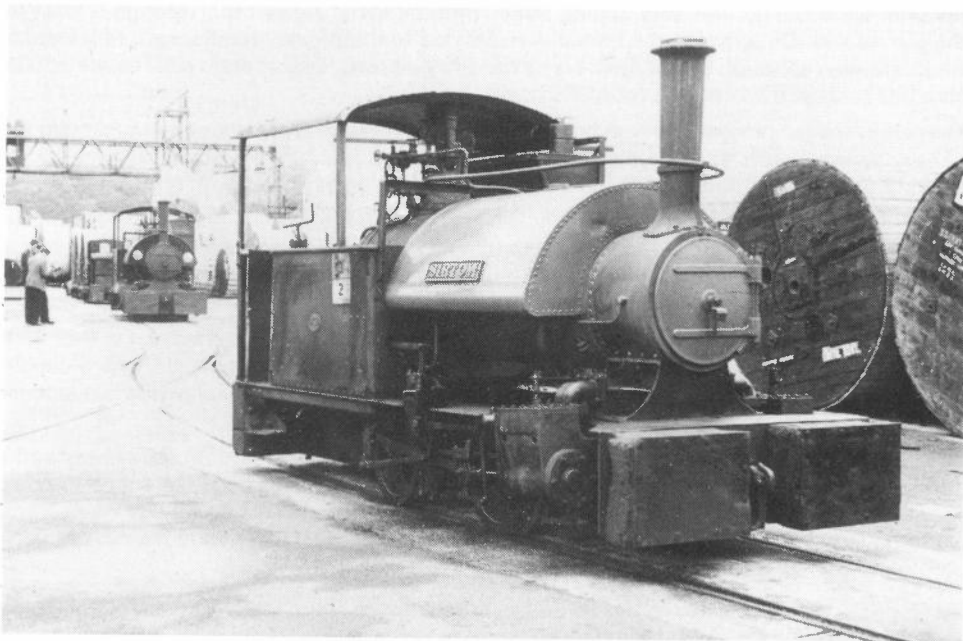
(K.P. Plant)

BRITISH INSULATED CALLENDER CABLES 1964

ANDREW NEALE

Looking back, it now seems incredible that a Society visit to see working industrial narrow gauge steam in the London area could attract so few members. But when Nick Howell and I alighted at Belvedere Station we found only seven more people had bothered to turn up for the visit to B.I.C.C. 3'6" gauge system, despite the Company's promise to have one of their oil fired Bagnall's in steam for us.

At the works we found WOTO simmering outside the little brick loco shed, whilst one of the pair of elderly Ruston diesels did a little shunting. We soon had WOTO pulling out brother loco SIR TOM for photographs and then in twos and threes we jointed WOTO's driver for a run round the works. WOTO only being a standard 7" Bagnall 0-4-0 ST, footplate, conditions became somewhat crowded and, when it came to my turn, I was somewhat horrified to find myself jammed in the middle with a pool of fuel oil slopping round my feet. As little tongues of flame kept wandering out from under the firehole door towards this pool, I'm afraid my thoughts turned more and more to what the flashpoint of gas oil was, and less and less to the delights of riding on narrow gauge steam locomotives. Fortunately, flame and oil pool never quite met and all of us lived to tell the tale and enjoy the rest of the trip. This consisted of a wander round the remains of Parish's Loam Works 4'0" gauge line at Erith, a hilarious lunchtime drinking session at a pub conveniently situated by Parish's old riverside wharf, after which those party members still in a fit state to do so, spent the afternoon exploring the various steam worked standard gauge industrial steam systems which then existed in profusion in the Dartford area.



Bagnall 0-4-0 ST SIR TOM (WB 2133/19254) stands outside the shed at BICC Belvedere, while in the background a group of Society members examine sister loco WOTO (WB 2133/1924) and 16 HP Ruston diesel 170199 of 1934.

(Andrew Muckley)

THE NORTH INGS FARM RAILWAY

T.W.F. Hall

Although the days of extensive narrow gauge railways serving the Lincolnshire potato estates are unfortunately a thing of the past, one such railway has been opened in recent years, and although changing economic circumstances have removed its original function, it still has a bright future. Our farm at North Ings between Sleaford and Lincoln reared chickens and until the 1971/2 winter, relied entirely on dumper trucks for transport within the farm. That winter was extremely wet and caused us to think of an alternative transport system, after much discussion we decided to install a light railway.

For the sum of £150 we purchased the remaining railway equipment from the Whisby gravel pits of Robert Teal Ltd. Teal's sold us a LBT class Ruston diesel locomotive, two skips and 50 yards of two foot gauge track at this low figure on the condition it was for further use, not scrap. The locomotive, RH 371937, was originally an experimental machine, demonstrated at various sites before sale to Teal's in 1956.

The locomotive and stock duly arrived and were unloaded in our farmyard, the loco being run onto a short length of track near to the spot where its own shed now stands. It stayed there for about 6 weeks as work progressed at fever pace to lay track and a left hand set of points in concrete outside the egg packing shed, the poultry food store and along the length of the main yard. Our aim was to have a length of track laid to some chicken sheds before winter set in again so we could evaluate the total amount of work a narrow gauge railway could undertake on a large poultry farm. This length of track was laid and ready to run on in approximately ten weeks, more 20lb/yd rail on metal sleepers being bought as work progressed. Today this section forms the spur line serving pens 1 to 5.

At last the great day came, the locomotive and two skips running the first feed train in November, 1972. In the meantime the loco had been repainted in red oxide and this is how it ran for its first winter under our ownership. After a very successful winter it was decided to set aside £500 for rolling stock and rail to extend the line to serve the other fourteen sheds on the rest of the poultry site. Track was bought from many sources, the two main ones being Messrs. Smiths Potato Estates at Nocton and Nene River Board at Spalding. At the time a six yard length of 20lb/yd track on metal sleepers could be bought for as little as £1.50 second hand. Track-laying continued throughout the summer of 1973 at the rate of twelve yards per day ready to run on.

About this time we acquired four side tipping skips made by Wm. Jones Ltd., through a local machinery dealer for the sum of £40. On arrival at the farm it was decided to make them into flat cars with fixed ends. We still use them to this day, although two of them are rather different now. One of them was made into a coach and the other has a box body and is used as a shunter's truck.

On the cost side of things, prospects looked bright. The money saved in time, labour and fuel more than paved the way to a very certain future for our system. It was found the money normally spent on tyres and spares for the dumper trucks now paid for fuel, oil etc. for the loco with quite a considerable amount left over. Mud knee-deep is now a thing of the past, as rails laid on stone ballast make very good paths on which to walk.

By the middle of 1974 the railway had become a way of life on our farm and we were finding that we could move very large loads at a time. It was not unusual to have six flat cars loaded with live birds to the tune of about 1200 of them at a go, the locomotive coping easily with such loads.

Around this time the loco was painted in our own livery which is Saxon Green lined out in Brunswick Green and off-white, with black chassis, red wheels and buffers. A locomotive shed was built, with a concrete floor, south-facing windows and heating for the winter months. At the same time a siding was laid alongside it for rolling stock when not in use, this being reached with the aid of a portable turntable.

As well as feeding the poultry, eggs were collected and brought up to the yard on the railway and the birds themselves came in and went out every fourteen months by it. The busiest time occurred during the cleaning out of the poultry houses at the end of each flock. At such times the loco worked a seven day week, twelve hours each day shunting "Hudson" ½ cu.yd. tippers between the pens being cleaned out and the manure tipping dock, 4 skips to each train.

While four were being hand loaded in the pen on temporary track, four more were waiting outside and the other four were in the charge of the loco being propelled to or from the tipping dock. On average it took between forty and sixty truck-loads per pen, depending on the size of the pen. Usual time for each pen was a day. The ruling grade for the line is 1 in 35 with the loaded train, so the loco only works on empty trucks for return. At the end of each day I drove our own "Ruston Bucyrus" 10RB dragline and emptied out the tipping dock ready for the next day's cleaning out trains. This method of working continued unchanged for several years. The line appeared to have a secure future, despite the closures happening on narrow gauge lines throughout the country.

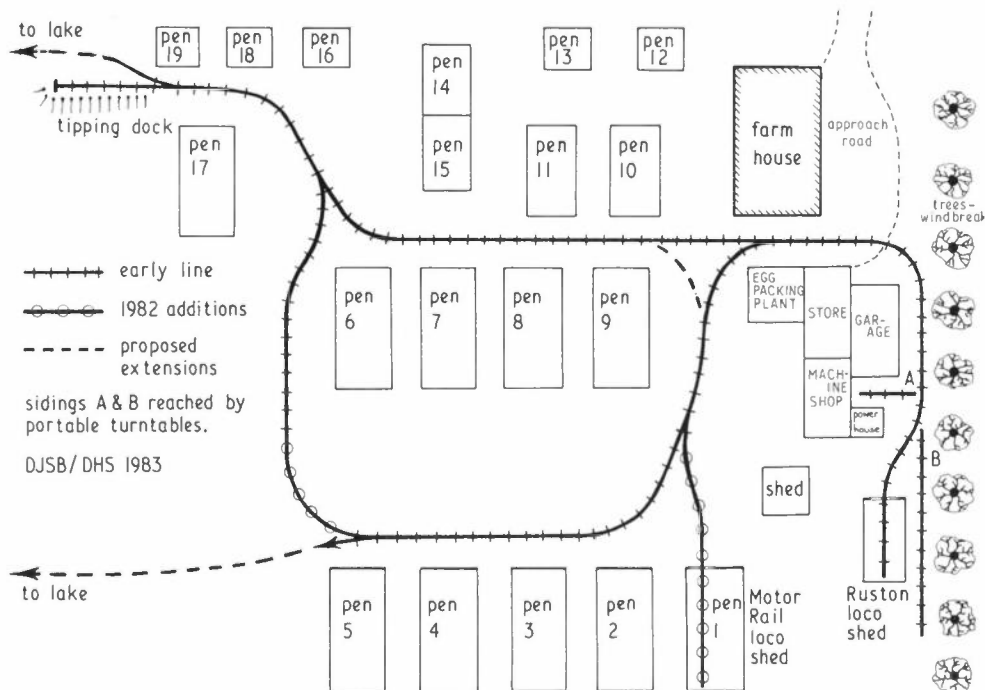
Occasionally visitors came to see and photograph the line, and amongst these was Dave Billmore. His job brought him to Lincolnshire in 1980 and I agreed he could bring his narrow gauge equipment to North Ings. The first arrivals during the summer of 1980 were four 1 cubic yard Hudson skips and a man-riding wagon from Chesterfield Sewage Works. These were followed in Spring 1981, by Motor Rail 7403, a standard 20/28 HP plate frame 4wDM formerly at Joseph Arnold & Son's sand pits at Leighton Buzzard. Unfortunately, this locomotive is in poor condition and has not run since its arrival.

Sadly, March 1981 saw the last flock of chickens depart. Feed costs had risen to the point where income from egg sales failed to cover them. After the final cleaning out of the pens the railway fell silent; without work for the first time since its inception. All was not lost, however, as it was decided to breed trout in a small lake on the farm, the railway being extended to reach the lake. The possibility of mushroom growing in the old chicken houses was also investigated.

A search started for rail for the extension and this led to the Escrick Tile Works of Henry Oakland & Son, manufacturers of clay tile drains, near York. The company presented the rail and locomotives from the line, on the condition that they were not scrapped and the locos were repainted in Oakland' livery.

On an extremely wet day in the autumn of 1981 a 35ft. articulated lorry arrived at North Ings. It turned itself round in the 36ft. wide farmyard, and Motor Rail diesels 9655 and 7493 slid down a makeshift ramp of rail and sleepers onto their new home line. Offloading of rails and a point followed, in the by now gathering darkness, car headlights illuminating the scene. MR 9655 came to life within a few weeks, thus becoming only the second loco to run under its own power on the line. Sadly it proved unreliable, with various clutch and engine top-end problems, as well as worn wheels, and it now awaits an overhaul.

During the winter of 1981/2 a stub point was manufactured as stage I of the extension and pen No. 1 was converted into a loco-shed for the new arrivals. In Spring 1982 the bottom of the line, serving pens 1-5, was joined to the siding alongside pen 6 by a new curve. This was followed during the summer by installation of a permanent connection into Pen 1 using the Escrick point. With undercover accommodation available the overhaul of 7493 proceeded apace. The wheels were turned by Alan Keef and the injection equipment overhauled by Lincoln Diesels Ltd.



RH 371937 trundles through the front yard en route to the locomotive shed. The track on which it is standing is the original, together with the point and line curving left. The main line runs straight on.
(D. Billmore)

March and April 1982 saw the arrival of two inside framed tip wagons from Knostrop Sewage Works at Leeds and rail and points from Goxhill Tileries on South Humberside. Since then three more locomotives have arrived. On Saturday, 26th June 1982 we took delivery of another LBT class Ruston diesel locomotive. This was RH 375701 built in 1954 and obtained from John Waller, a former fitter at Rustons who later set up in business on his own account overhauling Ruston locomotives at a scrap yard at North Hykeham, near Lincoln. RH 375701 had come from the mining contracting firm of Amalgamated Construction Co. Ltd. of Barnsley and was acquired by us less its engine, which Mr. Waller sold separately. During 1983 two Lister petrol locomotives have joined our fleet. The first was one of a pair of these locomotives obtained by Chalk Pits Museum in Sussex from Leeds Industrial Museum in exchange for other railway equipment and arrived on February 11th this year. It is in very poor condition and will possibly be cannibalised to assist the rebuild of the other locomotive. Finally, on 22nd October, Andrew Neale moved a second Lister to our farm for storage and rebuilding. This is Lister 962, a very early example being built in 1930 for the Birmingham Canal Co. but bought from Alan Keef Ltd.

Motor Rail 7493 roared into life in October 1982 and has since been the regular standby to Ruston No. 1. Although its overhaul is not yet complete cosmetically, it has proved to be mechanically sound, and easy to start. Both locomotives perform regularly on permanent way works and ballast trains, as well as for the edification of visitors, so the line is far from dead, despite loss of its staple traffic. The summer of 1983 should see the line extended to the lake and stocks of materials are being amassed for this purpose. A bulldozer has already graded the trackbed.

There is an assured future for the railway since it is liked for itself, as well as being useful as a means of transport. It may never again be as busy as in the hectic days of "cleaning out", but it will continue as one of the last living examples of an agricultural railway.

Locomotives (all 4wDM)

STOCK LIST

No. 1	RH 371937/1956	Normal working locomotive. Ex-Robert Teal, Sand & Gravel Ltd., Whisby, Lincolnshire.
*No. 2	MR 9655/1951	Has run at North Ings but laid-up waiting attention to engine and clutch. Ex-Henry Oakland & Son, Escrick Tile Works.
No. 3	MR 7493/1940	Spare to No. 1. Mechanically sound but further "cosmetic" restoration in progress. Ex-Henry Oakland & Son, Escrick Tile Works.
No. 4	MR 7403/1939	Complete but in poor condition. Stored pending restoration. Ex-J. Arnold, Leighton Buzzard.
*No. 5	RH 375701/1954	Discovered in a car scrapyard in North Hykeham, Lincoln. Minus engine. Stored pending rebuilding. Ex-J. Waller, North Hykeham.

*Number not carried at present.

Lister 4wPM in store:

L ?	One of L29890/1946 or L 35421/1949 (probably the latter) ex Leeds Industrial Museum. Stored awaiting cannibalisation or rebuild.
L 962/1930	Ex-Alan Keef Ltd., Oxon. Awaiting complete rebuild.

Rolling Stock

10	½ cu.yd. Hudson skps.
§ 1	½ cu.yd. end-tip skip, built from 2 standard Hudson skips.
4	1 cu.yd. Hudson skips, galvanised bodies. Ex-Chesterfield Sewage Works.
2	Inside frame 2 cu.yd. skips, believed Hudsons. Ex-Knostrop Sewage Works, Leeds.
1	Hudson skip chassis
§ 2	Flat waggons—William Jones chassis
§ 1	Fuel tank waggon—William Jones chassis
§ 1	Coach—William Jones chassis
§ 1	Shunter's truck—William Jones chassis.
1	Man rider, Hudson chassis, ex-Chesterfield Sewage Works
§ 1	Bird transporter—chassis ex-Ruston pipe shop, origin unknown
§ 1	Flat waggon ex-20" gauge Leys Malleable, North Hykeham, regauged.
§ 2	Brickcars. OOU at present. These will form the basis of a traverser for the Motor Rail loco shed.
§	Rebuilt from original form at North Ings.

Tim Hall trams a skip out of the pen on temporary track on to a portable turntable on the main line.

(D. Billmore)



Tipping a train of skips on the tipping dock.

(D. Billmore)

MR 7493 and train approaching the stub point to the temporary spur line laid in for construction work. This point was constructed from plain rail on site.

(D. Billmore)



THE SECRET OF LUZ MARIA

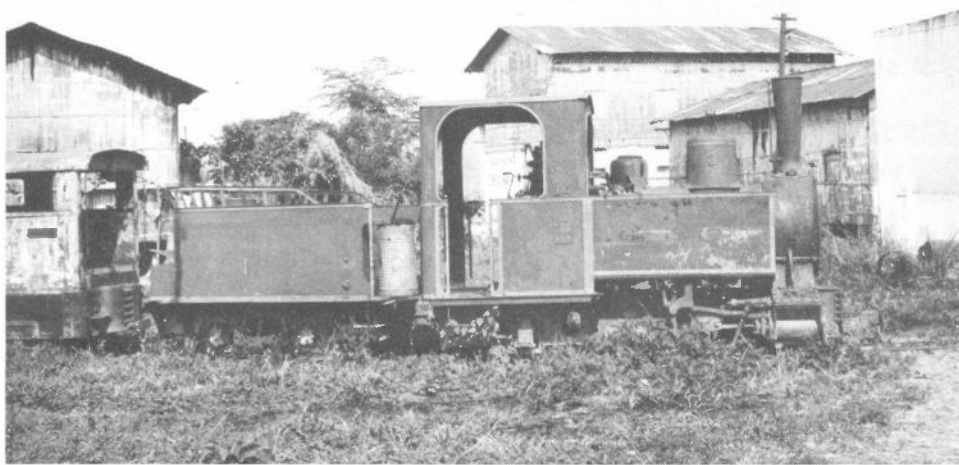
Keith Taylorson

Who would have thought that a 'new' steam locomotive—and a Decauville at that—could be unearthed as late as 1979!!

11th October 1979 was our last day in Ecuador; after 3 days of seeing steam at work over the 'Devil's Nose' (albeit only on freight) we were returning to Guayaquil and planned to chase the 12.15 Ducay—Duran 'mixto' at least as far as Milagro. We had no maps, so after photographing 2-6-0 No. 14 (Baldwin of 1901, rebuilt Duran 1959) leaving Bucay with its train of clerestory coaches, it was a case of 'following by instinct' on the maze of unsignposted dirt roads. Trains on this flat stretch travel remarkably fast for 3'6" gauge and we only got one good shot before Milagro. Here, the train runs right down the middle of the dusty main street, its bell solemnly tolling, in a scene straight out of 1920's America.

The main road from Milagro to Guayaquil goes away from the railway, so acting on impulse we took a dirt road to the south of the tracks. No. 14 highballed away in fine style, soon catching up our car and we screeched to a halt as the road abruptly ended. The sun broke through and we obtained our final shot of the little Baldwin. Strolling back to the car, we found we had stopped next to a works compound, containing shacks, apparently the homes of workers at the nearby Ingenio (factory) Luz Maria. In the middle of the compound stood a steam loco! Luckily a gate was open and we charged in to find that it was Decauville 0-4-2TT No. 190/ named 'San Nicolas'. She was in red livery and in good external order, though obviously unused for some years. Also dumped nearby were two Brookville 4-wheel diesels, I did not get any works numbers but they carried names 'Luz Maria' and 'Matilde'.

So far as we could interpret the local patois, the rail system had closed around 1970. All tracks had been removed, except for the short stretches on which the locos stood. We were told that some other locos had been transferred to the mill, but further exploration was discouraged by the presence of a guard armed with a 'spear'! Such is South America, so perhaps there remain to this day further secrets locked away in Luz Maria—Viva Vapor.



The Find of 1979—“SAN NICOLAS” the Decauville 0-4-2TT at Luz Maria. (Keith Taylorson)

Footnote

According to the surviving Decauville records, Decauville 190 was a 600mm lgauge locomotive weighing 7 tonnes delivered to the firm of Le Franc & Reynal (location and nature of this firm is unknown) on 13th March 1895 carrying the name SAN NICOLAS, Decauvilles 189 and 191 were similar locomotives, Dcv 189 going to the well-known Pithiviers tramway in France, but the customer for Dcv 191 is unknown. Our thanks go to Martin Murray for providing these details.

Andrew Neale.

The Humming Bird Line

Peter S. Halton



Ex D. & R.G.W. R.R. 2-8-2 Class K.36 No. 484 hauling the 'New Mexico Express' on the 4% grade about 4½ miles out of Chama on its way to the top of the pass at Cumbres, 27.9.80.

(Joseph P. Hereford Jr.)

It had been a fairly long drive over from Lake City, but as ever in this part of Colorado highly picturesque and interesting. Long drives being the order of the day, it was the end of the first interesting stage.

Tucked away in a narrow cleft in the mountains, Creede was still very much a frontier town with many pre 1900 objects to attract one's attention. The town marshal has, for sure, changed his spurs for a car ignition key, but everything else was pure frontier style—holster tied with a leather thong around his thigh; a large revolver, large tin star and, an engaging personality. The depot too was of the last century. The D. & R.G. no longer used it, operating to a mineral point some miles out of town, but the overgrown tracks were still in place and it was possible to go in the depot as it was now the town museum. Yes, a lot could be written about Stage 1.

We, however, had to press on. Alongside the Rio Grande river and railroad to Del Norte and then over Wolf Creek Pass towards Pagosa Springs. Long fourteen mile climbs and descents—behind a runaway truck at one stage—brought us nearer to IT—today's main objective.

Just short of Pagosa Springs we turned off on to highway 160 which would bring us to our destination. We passed through Cromo on the way—at least that is what it was called on the map, but three derelict sheds and a new motel make you realise you have to rethink your ideas on places and distances in this huge land.

The New Mexico state line was crossed 18 miles before IT—CHAMA, the headquarters of the Cumbres & Toltec Scenic R.R. The old road bed of the line which originally joined Alamosa with Durango was first seen about 12 miles out and from there on it ran parallel to the road, mainly in view but at odd times disappearing on a more favourable alignment to re-appear shortly afterwards. It was a pity to see this trackless formation which was stretching back some 80 miles to Durango, but of course it was different ahead and, in time, having joined

highway 64, we saw Chama. On the very outskirts of town the picture changed and there on the road bed was track. It marked the very end of the Cumbres and Toltec and was in fact the turning wye, across two legs of which the road crossed. It was about 4 p.m. and the day's superb drive was over. Today was the 2nd of August and tomorrow we should be riding those attracting rails and thus achieve the first part of a long standing ambition to ride over Rio Grande (or successors) lines.

We were booked to ride the train to Osier, some 26 miles up into the hills towards Antonito. We were a little unlucky in that up to the previous year the full journey of 64 miles was possible by train one way and coach the other, but this was the first year of new style operation. In the event it turned out well since my travelling companions—my wife and two friends—were not rail fans and for them this was to be one concession to my interests; for all it turned out to be the best day of our whole 35 day holiday in America.

After booking in at the brand new Best Western Motel on the outskirts of town, we needed to explore. First, of course, food. "Good place about three miles out of town down the road you just came in on" said the helpful young desk clerk. Second, "where is the depot?"—well you can't miss the railroad in Chama, it runs parallel to the road, but quite a few feet below it. Seemingly masses of freight vehicles lined up in long sidings pointed the way to the depot where a really good wander about the place produced such a load of "goodies" that it was almost too much to take in. Certainly in all my narrow gauge travels I had not seen such a big narrow gauge set up as this and, it was obvious that in the time I had at my disposal I was not going to see everything, but at least I was there. Promptly at 5.30 p.m. there were sounds of activity, the train from Osier arrived behind 2-8-2 No. 488, hooter, bell and light to boot! Here it was, The Rio Grande in action—forget its new title—and the ambition of years fulfilled.

On the following morning I duly presented my letter to the lady booking clerk in order to pay for and collect our tickets. Disaster! "Sorry no booking in that name". However, it did not take long to sort out (somebody had decided that, as the seats had not been paid for after a few weeks they were not wanted and had crossed us off the list) and we were soon in our seats in a car towards the rear of the train. However, there was an open gondola at the very rear of the train and it beckoned...

The Cumbres & Toltec stretches 64 miles between Chama and Antonito and is the last operating section of the Denver and Rio Grande Western R.R. line from Alamosa to Durango, a distance of some 200 miles. It is there to serve as a living museum to the earlier days of Colorado and New Mexico and also to attract visitors, like ourselves, but it was not always so.

The San Juan Mountains of south western Colorado a hundred years ago were beginning to yield their secret—gold and silver, amongst other less glittering but nonetheless lucrative ores. The then Denver & Rio Grande R.R. pushed a 3ft gauge line from Alamosa roughly south to Antonito and then west to Durango to reach these deposits and so get into the money.

The first part of the new line through the San Luis Valley was easy going, but once the line turned westwards there were some formidable mountains to cross. Thus it was that after plans had been made in late 1879, a whole year was to elapse before the rails reached Chama, New Mexico. The choice for a major railtown here was pretty self-evident, since trains had either just crossed the formidable barrier or were about to do so. At this time also the locomotives were small, mainly 2-8-0's with a few 2-6-0's lingering on for freight and 4-6-0's for passengers. Trains were consequently short and even then needed on average three locos to haul them up the fourteen miles of 1 in 25 gradient from Chama to the summit and down similar grades at the other side. Initial facilities were comprehensive in the services provided, but originally fairly moderate. This changed and with the vast stands of timber in the area producing added business, there was quite a fleet of locos based there.

Over the years the small town changed little, but the railroad did. Heavier rail and larger locos meant fewer trains and so the size of the actual depot was reduced, but storage tracks appear to have been increased. Thus, the line continued, if not to actually prosper, at least to serve the scattered community through which it ran. The old stages went out of business as the passenger train offered a far more comfortable service and, until 1951 the daily San Juan ran from both termini, offering buffet service in the parlour car. Quite the most luxurious n.g. passenger service in America.

Unfortunately, the old menace steadily encroached on the railroad business. From the early 1930's branch lines were cut off and given out to trucks and buses, the railroad even cashing in on the newer form of transport. Inevitably, the cut back started to affect the main line, although a short reprieve was gained in the 1950's when oil was discovered at the end of the branch from Durango at Farmington, New Mexico. This boom required specially converted cars to convey 40ft lengths of pipes and both n.g. and st.g. vehicles were adapted to accommodate the long loads. Today the C. & T.S. has examples of the open ended pipe carriers and their idler vehicles, which were necessary to accommodate the overhang. Oil in the Chama area also brought a steady

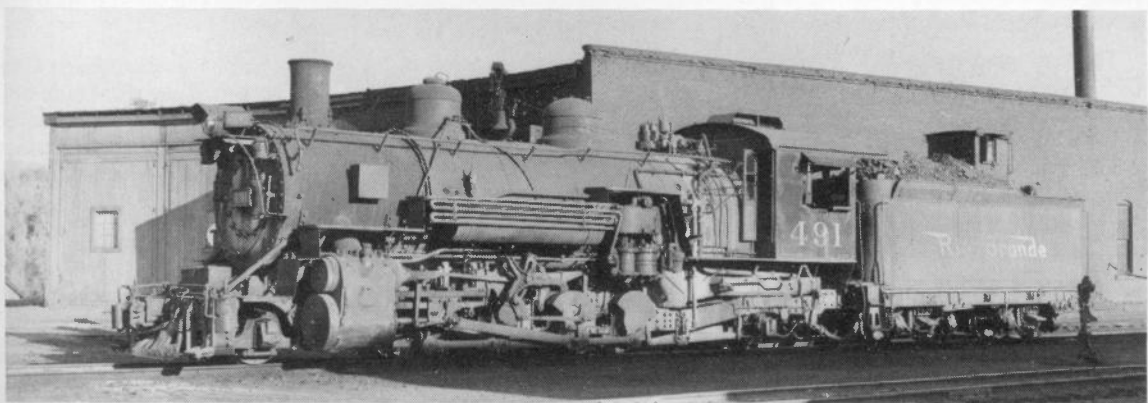


Denver & Rio Grande Western 4-6-0 Class T.12 No. 169 out of use at Alamosa 31.8.38. At New York World's Fair 1939 and then on show at Alamosa since 1941. (Robert Graham)



D. & R.G.W. R.R. 2-8-2 Class K.27 No. 454 in final superheated form with piston valves and Walschaerts valve gear. Seen at Montrose 16.8.53. In this form Nos. 453, 463 and 464 ended their days at Durango switchers, but this loco was scrapped at Montrose in 11. 1953.

(Harold Van Horn)



D. & R.G.W. R.R. 2-8-2 Class K.37 No. 491 at Chama in July 1956. These locos originally worked the Salida-Gunnison line when new, but for many years up to the end of Rio Grande operations worked the San Juan extension. Now working on the Durango & Silverton R.R.

(Frank King)

volume of traffic in later years, being conveyed in tankers lettered GRAMPS. It appears that grandfather owned the oil company and being a small concern settled on the unusual name as being suitably eye catching in and among tank cars with rather more well known titles.

Time trundles steadily onward and, in 1967 the passenger excursions which were run over the line, usually ending with at least a trip to Silverton if not to Farmington as well, finally ceased. The track was deemed no longer up to passenger train requirements and time now really was running out for the line.

Many attempts were made to save the line, but none successfully, and so it was that the law makers of Colorado and New Mexico approved the necessary bills allowing these two states to become the owners of a state railroad. This paved the way for the Interstate Commerce Commission to agree in July 1969 to the D. & R.G.W. request to abandon the line from Farmington to Alamosa. Hopes of the two states taking over the whole line could not be fulfilled but in July 1970, 64 miles of railroad from the junction of the narrow gauge with the mixed gauge at Antonito westwards to Chama were purchased by the two states together with a large quantity of rolling stock, spares and supplies. The San Juan extension of the Denver and Rio Grande Western may have been no more, but at least a sizeable piece had been preserved in working order and 1971 would see, once again, regular operations over the line. (Operations over the line in the last year could be counted on the fingers of one hand, with some to spare!)

It is fairly reasonable to assume that a lengthy main line such as the San Juan extension, as the D. & R.G. referred to the line, had much interesting equipment operating over its tracks. The locomotive situation when the line opened was small 2-6-0's and 2-8-0's for freight and 4-4-0's on passenger, together with a few 0-6-0T's for switching. In the latter case extra locos (5) were created by rebuilding some of the class 35 2-6-0's which were the first freight locos on the D. & R.G. In my notes I have some references to locos at Chama in the 1880-1883 period as follows:

Class 42 4-4-0 88 PTARMIGAN transferred from Chama to Gunnison 1883

Class 56 2-8-0 43 COPPER GULCH working out of Chama 1882

Class 2-8-0 58 FRYER HILL working out of Chama 1892.

These locos were not very powerful, the 4-4-0 had a tractive effort of 6,380 lbs and the 2-8-0 12,450 lbs and it was inevitable that larger and more powerful locos would be needed. These came along in the shape of 2-8-0's and 4-6-0's, but still most trains over the summit at Cumbres needed two or three locos. Things remained fairly static, however, from 1882 until 1903 when the railroad put into operation some 2-8-2 Vauclain Compound locos Nos. 450-64. Unfortunately, the weight of rail on the San Juan extension would not take these locomotives and for a number of years they were confined to the old main transcontinental line over Marshall Pass and through the town of Gunnison. However, the trend had been set and further development in the motive power department followed on these lines and all subsequent new stock was of the 2-8-2 wheel arrangement, but each one heavier and more powerful than the one before, although to all intents and purposes the last two are very closely similar. When track strengthening allowed the first type of 2-8-2 the K27, now mostly rebuilt with simple cylinders, piston valves and 'Walschaerts' Valve gear, the length of train could be increased and the number of trains decreased. The process continued when the largest locos (K36 & K37) arrived, so that in the final years of operations trains only ran when a maximum tonnage of 70 cars was to be moved.

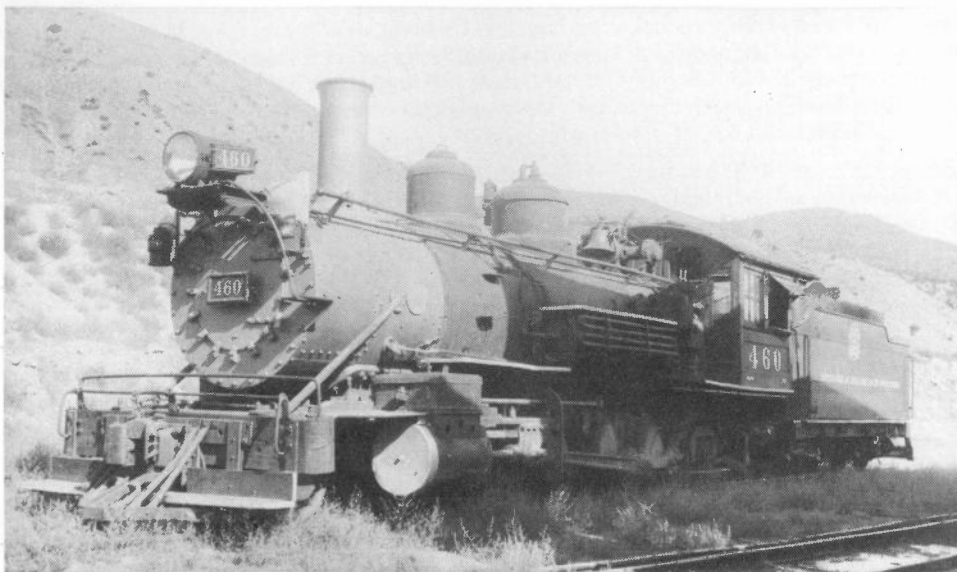
The final locos built, the Class K37 Nos. 490-9, were rebuilds (nominal, I should think) of Standard gauge Class C41 2-8-0 locos, six coming in 1928 and four in 1930 from the company shops at Burnham. They were built only after some very interesting designs were considered and finally put aside in favour of the 2-8-2. The designs looked at were a 2-8-8-2 Mallet and a 2-8-8-2 Simple. The Mallet would have been built around 600 series standard gauge 2-8-0 components. It would have been 87ft overall and 13½ ft tall, cyls 20" x 32" x 24" and a boiler pressure of 200 lbs/sq.in; tractive effort was estimated at 53,400 lbs.

The Simple edition would have been built by the American Locomotive Company and was somewhat larger than the compound type. Overall length would have been close on 100ft (A.K.28 470 is 63ft 10in) and with boiler pressure of 200 lbs/sq.in. and cyls 23" x 24" the tractive effort was in the order of 75,000 lbs. They would have been some sight on the 1 in 25 working a full load.

When it closed the following locomotives were on the line, all of course 2-8-2. Class K.28 473/6/8, K.36 480-4/6-9 and K.37 491-5/7-9. The K.28 locos were retained by the D. & R.G.W. for operating the line to Silverton, being the heaviest allowed over the whole line. This left the K.36 and K.37 available to the C. & T.S. and they obtained Nos. 482-4/7-9/92/4/5. At the present 482—complete with spark arresting chimney from its appearance in a film—and 483 are being used for spares, but 484/7-9 are now operable. When I was there 489 was in the works undergoing overhaul. No. 492 could be put into full working order if needed, without much work, but 494/5 are static exhibits at Antonito at the present.



D. & R.G.W. R.R. 2-8- class C19 No. 345 at Montrose 28.9.48. (Sister engine No. 346 is in working order at the Colorado Railroad Museum, Golden.) This loco and 2-8-0 No. 318 were wrecked in the head-on collision in the film 'Rio Grande' on 17.7.51, and scrapped in September of that year. It was Durango switcher 1950. (G.L. Tufford Collection)



D. & R.G.W. R.R. 2-8-2 Class K.27 No. 460 at Salida 28.8.38. One of four which were never superheated and, apart from conversion to simple cylinders is in near original state. All four scrapped 1. 1939. (Robert Graham)

Later additions have been K.27 2-8-2 No. 463 which the town of Antonito bought from Gene Autrey in November 1976 and which it is intended to rebuild in the future. At the time of my visit 2-6-2 No. 12 of the KALITULUI R.R. was in pieces around the yard and loco shed, but I was informed that this would be rebuilt and put into working order. The final loco 2-4-2 No. 5 HAWAIIAN R.R. belongs to the former operators of the line, Scenic Railways Inc., and I would suspect that this could now leave the line. It was actually in an interesting situation at the time of my visit. I was told that New Mexico did not allow welded boilers and No. 5 had just that. The problem was how to operate the loco without firing the boiler! A pity as it was a neat little loco and would have looked good pottering around the Chama yards.

Winter in the mountains brought with it the problems of snow and snow clearing. The line was kept open during the winter for all its working life, but as there is now no service after early October, it is no longer kept free of snow and closes down until the spring. The present line, however, owns rotary snow ploughs OM and OY, which formerly belonged to the D. & R.G.W. They are steamed operated and consequently of a highly attractive value, so that one is operated on a demonstration basis on the odd occasion during the snow season. These are usually advertised as rail fan specials, being rather more for the specialist than the general visitor. On the other occasions the rotary is used to open up the line in order to get things ready for the summer season, for at 10,000ft and above it is not unusual to find the high passes still blocked with snow in early June. In such difficult conditions it is not always possible to turn a rotary plough around and, quite often, a turning circle was installed to prevent the plough itself becoming snowbound. However, at Cumbres a wye, which included a turntable, was installed and then covered over with a snow shed in order to get similar conditions.

The passenger stock of the D. & R.G.W. was in the main the usual clerestory/open end balcony type with baggage, mail and combines, but latterly the San Juan had some vestibuled vehicles in its make-up. The numbers still on the books dropped to around eleven coaches all of which were needed for the Silverton operation which expanded from the combine at the end of the tri-weekly mixed to a full passenger train of about nine vehicles. This left no spares so that the C. & T.S. were in the position of being in business to operate passenger trains, without any passenger vehicles. The difficulty was overcome by converting some of the many box cars into open passenger vehicles. The plastic seats were none too comfortable but at least you could take the weight off your legs. These still operate but for the 1983 season new bodies looking more like coaches, but not resembling the real thing, were fitted to some flatcars. The new vehicles do have an open platform but no clerestory.

The freight stock on the line consisted of box cars, gondolas, stock cars, flats, dump cars and refrigerator cars, examples of which were readily available to the new company. I make it out that including work or service vehicles about 190 items of freight stock were acquired by the C. & T.S., certainly the Chama yard teems with lines of vehicles. The now defunct or at least moribund Preservation Society which provided much volunteer labour did not complete its rebuilding of a 16 car freight and only about half that number of vehicles have been completed. This number, however, is sufficient for the periodic running of a freight train for the photographers, who I believe pay something towards the running costs.

The equipment then of the C. & T.S. truly represents the operations of the Denver & Rio Grande Western R.R., at least in its later years so that much of the original atmosphere still remains. It would be nice, however, if either 168 or 169 could be prised off their respective plinths in Colorado Springs or Alamosa, restored to working order (after all Hardwick did just that after 43 years in limbo) and put at the head of a train of vintage coaches, just as an extra crowd puller. Failing that, perhaps a Rio Grande 2-8-0 and operable D. & R.G. coaches could make a visit from Golden Museum and just once in a while recapture the 'old days'.

The original operations over the line, by Scenic Railways Inc. of California, ran a train over the whole line in one direction one day and back the next, the passengers return being made the same day as their outward journey, but in buses. In 1980 this changed to a run from either end of the line to Osier and return (26 miles from Chama), with a loco change at this latter place. This year, Kyle Railways Inc. reinstated the through service possibility as part of their alterations to operating patterns since they took over in 1982.

Actual operations at Chama remain much as always, with the central attraction being the working loco depot—the Carnforth of New Mexico! The loco roundhouse has been reduced from 9 stalls and turntable to 6 stalls and no turntable, until in the last years of D. & R.G.W. ownership 2 stalls were sufficient, for repair facilities. The C. & T.S. have built a new repair shop alongside, but facing in the opposite direction to the roundhouse and intend to replace the turntable so that they will have a two stall roundhouse once more. In spite of this centre piece, the 'joint' really starts jumping when it gets round to train departure time. In a very short space of time people descend from all directions. When we made our visit there were still few places one could book into for the night, but by 9.45 a.m. some 300-400 travellers were milling around the depot in a bustling expectant mass.

...but as I said the gondola beckoned. Promptly at 10 a.m. our eleven open coaches—one acting as a bar—



Ex. D. & R.G.W. R.R. 2-8-2 Class K.36 No. 488, having exchanged trains at Osier with 484 above, stops for water at Los Pinos tank. A third K.36, in steam at Chama would be the spare loco for the day, 27.9.80. These locos were Baldwin built in 1925. (Joseph P. Hereford Jr.)



Ex D. & R.G.W. R.R. Class K.36 No. 489 at Osier, journey's end for the train from Chama. The loco is leaving this train to join the Antonito train on the other track. The line from Chama can be seen sweeping across the hillside above the loco 22.8.81. (Joseph P. Hereford Jr.)

and the gondola left behind K.37 No. 484. We trundled through the trees beyond the station limits and then over the two span through truss bridge over the Chama river. Beyond, the land was pretty flat and looking back from the gondola we appeared to have come from nowhere, and on looking forward were heading for the same place! However, things soon changed and as highway 17 approached close to the track, I was told by the brakeman that when the state bought the line the track here had been buried to make the road. It had to be dug out and a retaining wall built at a cost reputed to be more than New Mexico half share purchase price of the railroad.

In due course we arrived at Lobato Trestle and all heads changed from looking at the magnificent mountain vista to peering into the depths of Wolf Creek some 100ft below. (If anyone saw the film 'Shootout' the small station and false water tank erected just before the trestle can still be seen, having survived from 1970).

The real climbing now started and for the next fourteen miles we were to creep steadily up the 1 in 25 to Cumbres. Up and round the upland valleys we went looking down on the old toll road across the sweeping valley, or trying to make something out of the beaver dams that periodically stemmed the flow of the stream below us. Up and ever up until we nosed our way slowly around the aptly named Windy Point and, finally over the crest to pull up in Cumbres station, just a little over 10,000ft high. From here the line dropped steadily to the great looping Tanglefoot Curve where we passed only 30-40ft away from our position of a few minutes ago, but 15-20ft below. On over Cascade Trestle until we pulled up at the delolote Los Pinos tank for water. We were nearly there and it was not long before we were yet again sweeping round a huge curve to arrive on time for lunch at Osier. Some time after our arrival the 'Antonito mob' arrived behind No. 487, their train pulling in to the other side of the loop. No. 484 then left us and joined the other train, whilst 487 and three empty cars transferred on to ours. We were then ready for the appointed hour of departure.

High up in the hills at this very remote spot where few, if any, other than railroad employees ever lived there was a similarity with the West Highland up on Rannoch Moor, but it was so much bigger.

When it was time to leave, a spike from the old stock pen siding came with me, so that even now there is a little of Osier to hand. Again the breathtaking grandeur of the scenery and, all too soon, back at Cambres. "Time to photograph the switching of the extra cars, folks" we were told. I set off to get the camera in action. But we were in the mountains and I did know that storms were likely—but not like this! For a full quarter of an hour it hailed large hailstones, filling the gondola to about $\frac{3}{4}$ ". Photograph?—No such luck! It took sixteen minutes to switch and then we were away down the 1 in 25 again—in beautiful sunshine! It is surprising what warm sun will do to soggy spirits—the smokers too had had a bad time trying to have a gasp and keep dry as the train was a non-smoker—and soon the chatter of interested and enthralled people made the noise from the now adjacent loco recede into the background.

Again promptly at 5.30 p.m. we rolled into Chama and it was all over, but never to be forgotten. If I were called to describe the best way of conveying fully the magnificent day's experience, I couldn't. The only thing I could say would be "Go West, young man" then you would know what it was all about. If anyone is wondering about the title of this essay, then think back to the recommended eating house. It was good, and at the windows, outside, were plastic flowers holding sweetened water. These were constantly being approached by feeding humming birds. Delightful colourful little things and if Tweetsie could be called the 'Possum' line, then it would be more than appropriate to call the Cumbres and Toltec—The Humming Bird Line.

By the way, you sure get tanned in that gondola.

Finally, I should like to acknowledge the help given in the preparation of this article by Dr. Spencer Wilson of the New Mexico Institute of Mining and Technology. He has supplied much information on the Cumbres & Toltec in writing and also in the publication *The Cumbres and Toltec Scenic Railroad—The Historic Preservation Study* which he wrote in collaboration with Vernon J. Glover. For other snippets of information I am indebted to various articles in the *Narrow Gauge* and *Short Line Gazette*, *Trains* and the *Iron Horse News*. Photographs, per Dr. Wilson, are acknowledged to the respective individuals and to them my thanks.



EXTRACTS FROM OLD LETTER FILES

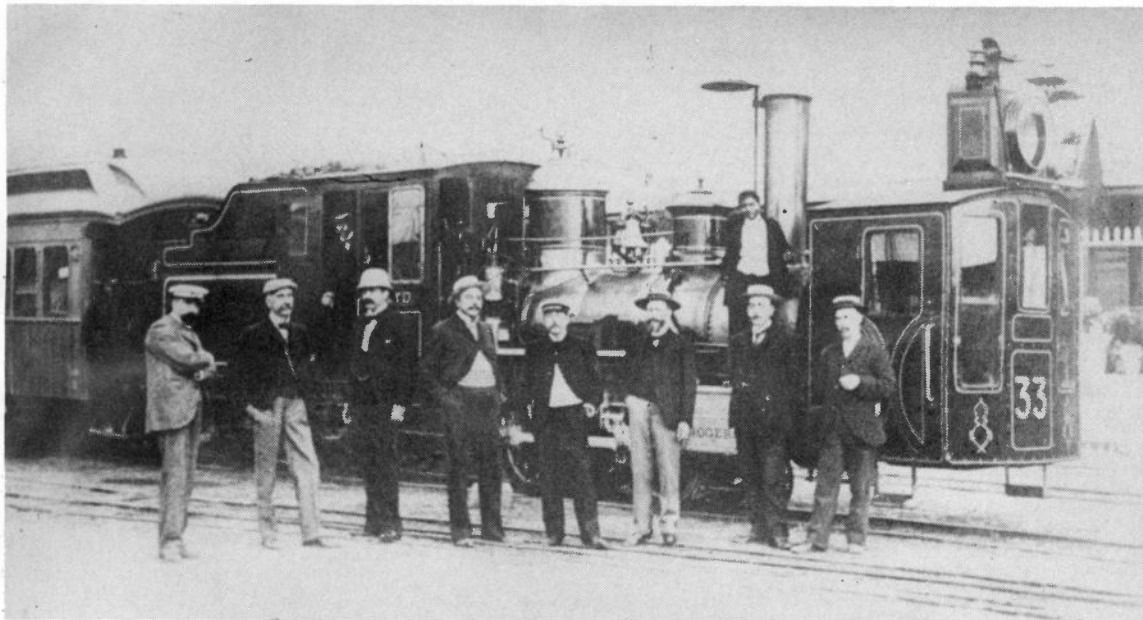
MARCH 1956, LONGDENDALE VISIT

Manchester Corporation Waterworks quoted the N.G.R.S. for a first visit to their 3'0" gauge line at Longdendale to take place on Saturday the 29th of September and to include a train over the line, as overtime was involved for the driver, we were to be invoiced for 3 hours work, a total of sixteen shillings and seven pence (83p in toy town money). Inflation was to strike, however, for the final invoice was to stretch our slim resources when we had to send them a £1 postal order, and by the time we made a second visit in 1959, the cost had risen to £1. 5s. 9d—but we made a profit on that one!

SEPTEMBER 1962.LOCOMOTIVE FOR SALE

A letter from E.L. Pitt & Co. (Coventry) Ltd., Brackley, Northants, to a Yorkshire area member —

"We thank you for your letter in respect of the locomotive MESOZOIC' (PECKETT 1327/1913) we have this locomotive in our yard and it is for sale at a price of £125 free on your transport. It was in working order when we took in into our yard, but if you are further interested at the price mentioned above, we will go further into the question of a boiler report for you".



The editorial team about to inspect the material for issue No. 101.



"PEKOE-TIP"

Ron Redman

The introduction of the present Society badge based on the front end of a Lynton and Barnstaple Manning Wardle locomotive superceded the early emblem of the locomotive "Pekoe-Tip" which form some years graced the covers of the *Narrow Gauge* and appeared on the top left hand corner of the Society notepaper.

The reproduction of the tiny Bagnall saddle tank locomotive came from a block supplied by the builders as being a typical turn of the century narrow gauge plantation locomotive.

With the Society's long association with this attractive locomotive, it is appropriate that we reproduce the full page from W.G. Bagnalls Ltd. catalogue No. 18 on the back cover of this our 100th magazine.

"Pekoe-Tip" carried Bagnalls Works Number 1438 when it left the Castle Engine Works in 1894, having been built to the order of the Jokai (Assam) Tea Co. Ltd., of Assam, India. The basic specification for this six ton in working order 0-4-2 saddle tank design for 2'0" gauge is 5½" x 9½" cylinders, driving, wheels 1'6" diameter via Baguley valve gear. The boiler incorporated a steel circular firebox with a 3¼ sq.ft. grate area and had a working pressure of 140 lbs. per sq.inch.

Little seems to be recorded about the subsequent history of this tiny locomotive, but it must have given good service for we know a replacement boiler left the builders on the 30th January, 1926.

FOUR WHEELS COUPLED WITH SINGLE TRAILING BOGIE.

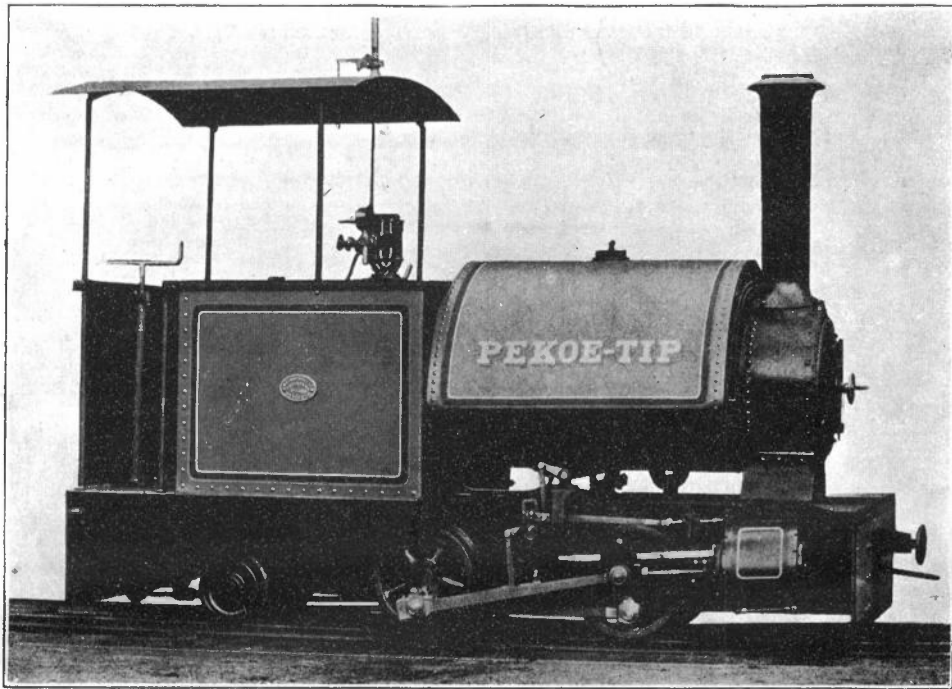


Fig. 324.

TYPE—"PEKOE-TIP."

Code Word—Dedondanza.

Saddle Tank Locomotive for narrow gauge work, with 4 wheels coupled and a single trailing bogie. This design allows for a greater carrying capacity of water and fuel than in the type shewn on page 6, to which in all other respects it is similar. It has also more room on foot plate than a 4 wheel coupled engine, and is a very useful class of locomotive of proved worth. Fitted with steel fire box and tubes. Copper fire box and brass tubes can be supplied. Gauges 18" to 3' 6".

SIZES AND APPROXIMATE SHIPPING PARTICULARS.

Size of cylinders in inches.	Approx. H.P.	Weight in working order. tons.	Code Word.	Packed in one case.		Packed in parts.	
				Gross Weight in cwt.	Measurements.	Heaviest Package in cwt.	Total cubic feet.
5 × 7½	20	4½	Dedondare	100	12'-0" × 4'-9" × 6'-0"	48	375
6 × 9	30	6	Dedondasse	115	13'-0" × 5'-4" × 6'-6"	61	520
6½ × 10	35	7½	Dedondato	135	13'-9" × 5'-9" × 7'-0"	63	620
7 × 12	40	8½	Dedondava	156	14'-6" × 6'-0" × 7'-6"	65	750

Can be fitted for burning wood fuel, with extra large fire box and wood rack, and can also be made suitable for using oil as fuel. Spark arrester and any type of cab can be fitted to suit special requirements. Other additions and variations to design can be made on receipt of full particulars. For particulars of loads engine will haul, see page 4.

WHEN ORDERING USE PRIVATE CODE AT END OF CATALOGUE.