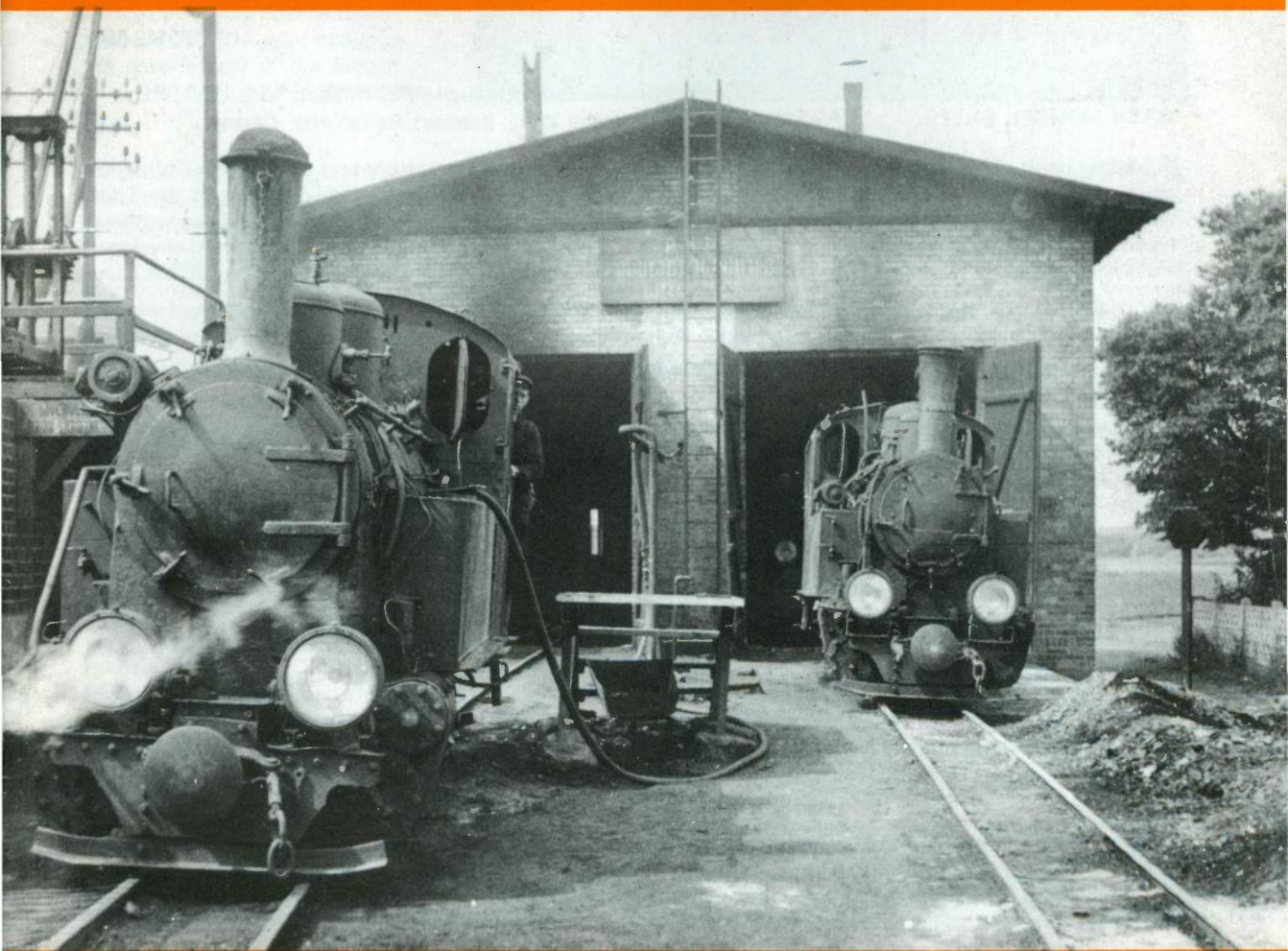


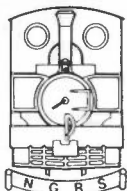


THE NARROW GAUGE

No.92



NARROW GAUGE RAILWAY SOCIETY



NARROW GAUGE RAILWAY SOCIETY

Serving the narrow gauge world since 1951

SECRETARY : M. Portsmouth, 15 Ham View, Upton-on-Severn, Worcs. WR8 0QE
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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 £5.50 due 1st April.

THE NARROW GAUGE

ISSN 0142-5587

EDITOR : M. Swift, 47 Birchington Avenue, Birchencliffe, Huddersfield, HD3 3RD
BACK NUMBER SALES : P.A. Slater, The Hole in the Wall, Bradley, Ashbourne, Derbys.

Published quarterly by the Narrow Gauge Railway Society to record the history and development of narrow gauge rail transport. Our intention is to present a balanced, well illustrated publication, and the Editor welcomes original articles, photographs and drawings for consideration. Articles should preferably be written or typed with double spacing on one side of the paper only. The Editor appreciates a stamped addressed envelope if a reply is required. A range of back numbers, and binders for eight issues are available from the address above.

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Printed by Hadfield Print Services Ltd, Mount Pleasant Street, Ashton-under-Lyne, Lancashire, OL6 9HZ

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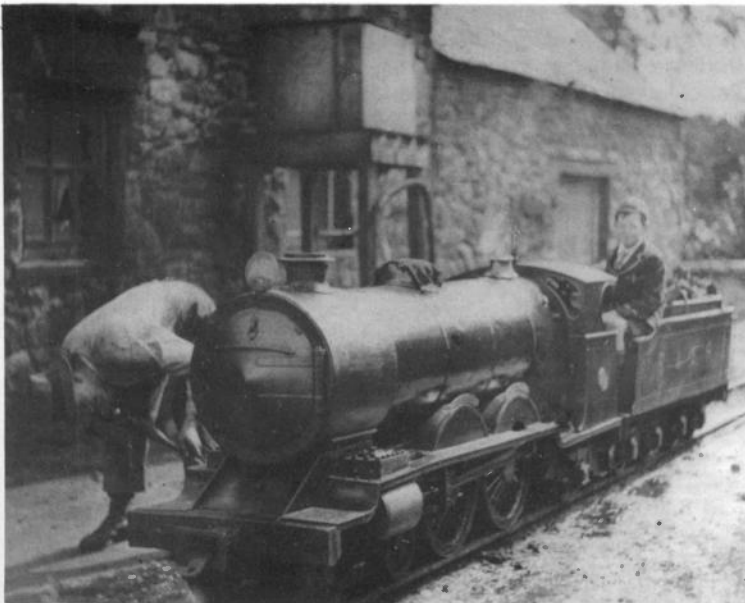
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Cover: A pair of Hanomag 0-8-0 tanks outside the shed at Witaszyce, Poland in August 1969. Although this 60 cm gauge line is now worked by diesels, Poland's working museum, described in the issue, preserves some of the atmosphere captured here. (H. Pochadt)

ESKDALE IN 1925 —A WORM'S EYE VIEW

Harold D. Bowtell

*SANSPAREIL being prepared
for the day's work outside Raven-
glass shed. The author occupies
the driver's seat in the tender.
(J.H. Bowtell)*



For the month of August 1925 my father rented a furnished house, one of a pair located on the seaward side of the village street in Ravenglass. In company with my uncle, a lover of the countryside and a keen photographer, I enjoyed several visits to the railway at Ravenglass and journeys by train to Irton Road and Dalegarth.

Runs were made behind SANSPAREIL and SIR AUBREY BROCKLEBANK, the operational passenger locomotives. The Heywood tank engines ELLA and MURIEL were often seen at work on trains of stone from the quarry or crushing plant. The large new locomotive RIVER ESK was not seen on normal passenger trains but was once noted in the dale hauling a long train of granite.

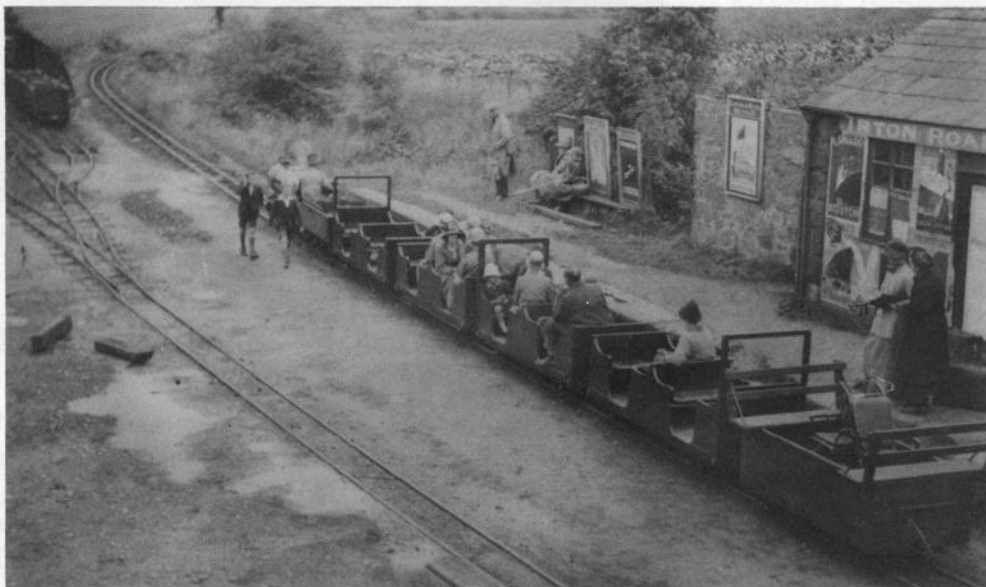
At that time there was a leisurely atmosphere about the line and one could not say that passenger traffic was heavy, but then the August Bank Holiday had probably passed before we arrived. One afternoon my uncle and I were seated contentedly in a train at Ravenglass awaiting departure when the huge RIVER ESK backed down from the shed and picked up a single four-wheel open coach. There were two gentlemen on the footplate, and a third in the coach. Off they went up the dale, well ahead of our train. I sensed that I was close to the presence of the great ones and have always liked to believe that I witnessed the railway manager conveying W.J. Bassett-Lowke and Henry Greenly on an inspection trip, perhaps even a speed trial with Greenly's latest masterpiece.

Browsing alone in the shed one day I found a pair of nameplates—COLOSSUS—but was quite unable to locate a locomotive to go with them. Only later did I come to realise that COLOSSUS was a Bassett-Lowke Pacific and had been built as JOHN ANTHONY for Captain Howey shortly before the first World War. Writing some years later Tom Jones, for many years the railway's engineer, revealed all: one of the skeletons in the Eskdale cupboard. COLOSSUS had been badly damaged in March of that year in a head-on collision with MURIEL at Eskdale Green and was languishing in the recesses of the workshops at Murthwaite stone crushing plant. It was restored to service for the 1926 season.

Several of the solidly built Heywood and later type of covered coaches were in evidence and I recall that they were painted an unrelieved red-brown colour. The trains in service were all composed of open stock, many vehicles having glazed end screens, as shown in the accompanying illustration.

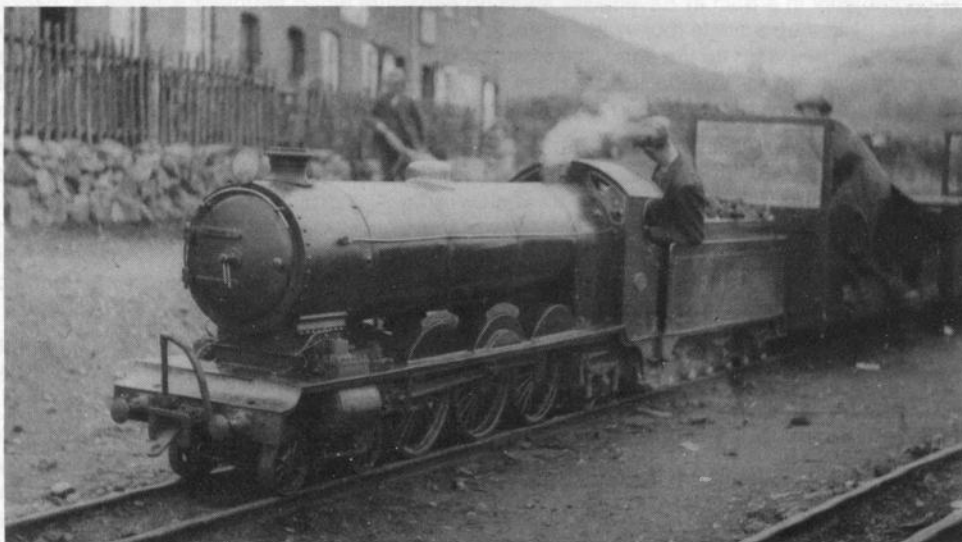
One of our motoring outings, in my father's much prized "Clyno" tourer, ended in disaster. As we rounded a severe left hand bend on a steep hill short of Irton Road I was horrified to see an Austin 20 coming downhill at speed, its brakes clearly ineffective. In the resulting collision the front axle of our Clyno was badly bent. The ladies were returned to Ravenglass in the undamaged Austin while father and I made a painful journey to Seascale. Here the blacksmith-cum-garage proprietor soon had the wheel off, the front axle on blocks, and a fire built under the bent portion; a few mighty blows with the smith's hammer brought the red-hot axle stub into precise alignment and we were soon on our way. It was a typical steam shed job!

The railway was soon to vastly change. Ravensglass station was completely remodelled and new arrangements made for transshipping stone to the standard gauge. Out on the line gradients were eased, track improved, and the line extended from the original terminus in front of the cottages at Boot to the present terminus at Dalegarth. Petrol locomotives arrived to work the growing stone traffic and new bogie hopper wagons entered service. Major rebuilding of COLOSSUS and SIR AUBREY BROCKLEBANK into a 4-6-0 + 0-6-4 named RIVER MITE, RIVER ESK into a 2-8-0 + 0-8-0 and MURIEL into RIVER IRT completely changed the steam locomotive stock. I later read about the railway in the *Railway Magazine* of October 1928, where its development was described by Cecil J. Allen.



Irton Road Station with SANSPAREIL heading a train for Boot. Note the profusion of Cunard posters on the station building and passengers' luggage on the platform.

(J.H. Bowtell)

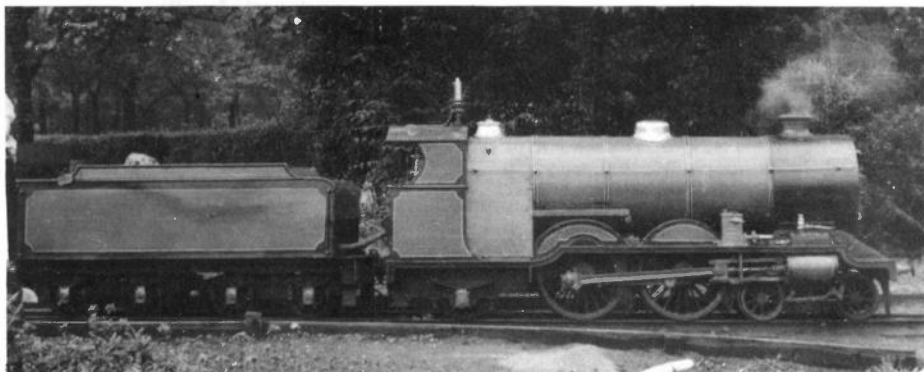


SIR AUBREY BROCKLEBANK on the head of a train at the original terminus of Boot.

(J.H. Bowtell)

SAND HUTTON—AND SYNOLDA

Harold D. Bowtell



The locomotive believed to be Bassett-Lowke's last Improved Little Giant class, in steam at Belle Vue Gardens, Longsight, Manchester on 8th August 1948. (Harold D. Bowtell)

"Postscript to Sand Hutton" by Kenneth Hartley in NG 81 gave special attention to the later history of SYNOLDA, understood to be one of only three 'Improved Little Giant' class Atlantics built by Bassett-Lowke. In late 1977, through the good offices of Sir Charles Forte, the locomotive named PRINCE CHARLES at Belle Vue (by that time a property of Trust House Forte Ltd) was presented to The Eskdale (Cumbria) Trust. It arrived at Ravenglass early in 1978, in a dismantled state. After cleaning, assembly and painting in the blue livery of Narrow Gauge Railways Ltd, PRINCE CHARLES was placed on show in the Trust's new museum at Ravenglass. During the winter of 1979-80 it was taken into Ravenglass workshops, stripped down and restored to full working order. Repainted in mid-1980, it ran trials in June and was subsequently renamed SYNOLDA and fitted with replica builders' plates provided by Bassett-Lowke Ltd, of Northampton. In February 1981 it returned to the museum but it is intended that SYNOLDA should operate on the Ravenglass & Eskdale Railway on special occasions.

Apart from Sir Charles Forte, other contributors to this happy sequence of events have been: a wealthy American visitor to Belle Vue and Ravenglass; Lord Wakefield (Chairman of the R&ER); Eric Slater, Archibald Spears and apprentices David Clarke and Bobby Steel of British Nuclear Fuels Ltd; Ian Smith, engineer of the R&ER and his assistant David Clay—and Peter Van Zeller of the R&ER and the museum who played a leading part throughout.

As I may well have been the first person to identify this loco as SYNOLDA at Belle Vue, it may be worth setting down my evidence, which also has a bearing on the missing years in its history. I first investigated the 15in gauge railway at Belle Vue Zoological Gardens, Manchester, on 8th August 1948, and followed up in the spring of 1949. I secured the ready help of Arthur Salway, engineer to the owning company (he died in 1961) and Jimmy Cranliss who combined the functions of assistant foreman, fitter and locomotive driver until the early 1960s. After their time the technical management of the railway declined.

There were three locomotives in 1948-49. RAILWAY QUEEN, a large Atlantic by Barnes of Rhyl was one of the two that shared the working of the line, but was in the shops in August 1948, awaiting a new boiler from Oxley Engineering Co, Leeds. This carried a working pressure of 120 p.s.i. and was fitted in April 1949. It was later retubed at Leeds in 1960.

The small Atlantic, GEORGE THE FIFTH, was stored in the workshop, its boiler removed and the tender dismantled. I was informed that it came from the Southend Miniature Railway about 1937, along with some covered carriages, but proved insufficiently powerful for operation at Belle Vue; also that it might be overhauled and sold. It carried a Barnes brass plate with number '99' but is understood to be a Bassett-Lowke 'Little Giant' of 1911, with a long history. I am confident that it remained in store until purchased by Robin Butterell (he states in 1966), after which it was overhauled at Hinckley and is now on the 15in gauge railway at Carnforth.

The engine in steam in August 1948 was an unnamed Atlantic. It had outside cylinders said to be 4¼in x 7in, with inside Stephenson link motion driving through rockers to slide valves above the cylinders.

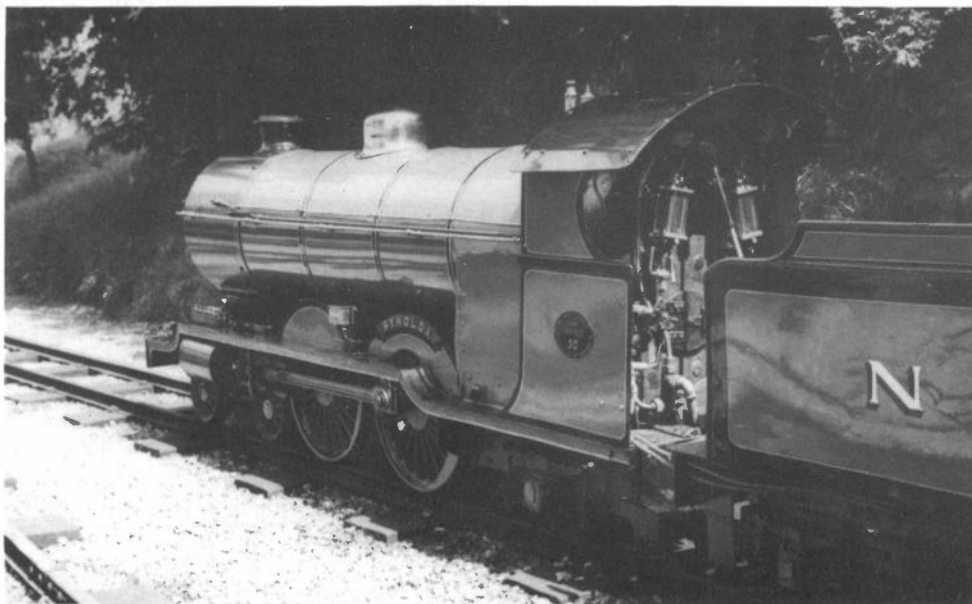
Outside bearings were fitted to the trailing wheels and it had a bogie tender. At Belle Vue it was understood to have been built by Bassett-Lowke, arrived about 1940 from Bishop Auckland and, reputedly, had worked 'on the coast'.

After considering this information and comparing my photograph of this loco with my late uncle's picture of SANSPAREIL outside Ravenglass shed, I concluded that here was the missing SYNOLDA, because SANSPAREIL was undoubtedly broken up (apart from the bogie) and COUNT LOUIS was still very much in existence at Fairbourne. As an ardent reader of Bassett-Lowke handbooks of the 1920s and 1930s, which described the trials of SYNOLDA at Sand Hutton, I was thrilled. The reference to Bishop Auckland tentatively suggested, to me at least, R.R. Dunn, machinery and locomotive dealer of that town. 'The coast' implied the vicinity of Whitley Bay, South Shields or Seaburn.

This loco also received a new boiler from Oxley Engineering, fitted at Belle Vue shops in June 1949. It had a steam manifold and two injectors on the faceplate and there was a steam brake. Later, on 11th September 1960, I again saw the loco in steam and carrying curved nameplates PRINCE CHARLES. In the Spring of 1964 *The Manchester Evening News* reported that the locos at Belle Vue had been disguised as 'Wild West Yankees'; a picture of the large Barnes Atlantic with this crude embellishment did not inspire a visit to see them. On 17th October 1971 I saw PRINCE CHARLES stored in the tunnel at Belle Vue. The disguises had been removed by then, and the loco had a broken right hand connecting rod, sustained in service in August 1971.

On 6th June 1972 on the Whorlton Miniature Railway, four miles east of Barnard Castle, I ascertained that R.R. Dunn was the owner of that line. Without prompting, his son, Herbert Ridley Dunn, told me that amongst miniature locos handled by his father was a 15in gauge Atlantic SYNOLDA, which came from Sand Hutton and was sold during the last war to Belle Vue. H.R. Dunn suggested a date around 1944-5, long after 1940 as indicated by Arthur Salway.

Thus, I suggest, the identity of SYNOLDA is verified. As to its history I had overlooked that Commander N.G. Parkinson, who opened a 15in gauge railway at Southend in 1930, had on that line a locomotive which was clearly the nameless SYNOLDA later found at Belle Vue. He had according to *Miniature Railways—15 inch gauge* by Clayton, Butterell and Jacot (Oakwood Press 1971), found it stored in a garage at Cricklewood. I accept that there was at least one other owner between Sir Herbert Walker of Sand Hutton and Parkinson of Southend. I have established that Mr. Dunn bought the locomotive from Parkinson about 1938 and, after overhaul, hoped to run it at Redcar. However, planning problems and the outbreak of war in 1939 intervened and, in due course, it was sold to Belle Vue.



SYNOLDA as restored 1980, outside Ravenglass shed 20th June 1981. Note the replica nameplates and replica works plates supplied by Bassett-Lowke on the cab side.

(Harold D. Bowtell)

08 VALE OF RHEIDOL WAGONS RESTORED

Three of British Rails' oldest wagons have recently been given a new lease of life, being rebuilt during the winter and spring at Chester Wagon Repair Shops. The work had to be fitted in between routine jobs on ordinary vehicles and therefore took several months but the first two wagons were completed and returned to Aberystwyth in time for the open day on May 4th, when they were on display.

These wagons were originally built in 1897 by W.G. Bagnall Ltd, of Stafford, for the Plynlimon & Hafan Co Ltd as five ton open wagons with end doors for unloading ore into standard gauge wagons. Pethick Bros, contractors for the Vale of Rheidol Railway, purchased a number of wagons and the manufacturer converted them to 1ft 11 1/2 in gauge for this line. On completion of the construction contract they passed to the railway and several were rebuilt into other types of wagon as the need arose.

When the Great Western took over they rebuilt the four remaining wagons with steel underframes, oil lubricated axle-boxes and side lever brakes. The wheelbase was increased from 4ft to 5ft 6in and the capacity reduced from five tons to four. The original style of end door was retained and they were primarily used to carry locomotive coal from the exchange sidings at Llanbadarn to Aberystwyth shed.

After so many years the three surviving wagons were in poor condition and required extensive replacement of body timbers, cleaning and repair of the frames and overhaul of the wheels and axleboxes. On completion they were repainted in grey with black ironwork, white safety chains and lettering, the colour scheme they carried when taken over by the Vale of Rheidol Railway in 1902. One concession to modernity is the expression of the tare weight as 2.030 kg.



THE WEY VALLEY LIGHT RAILWAY 1970-1980

B. Gent

Peter Briddon described this small preservation operation in *The Narrow Gauge* No. 60. Since then the railway suffered a number of setbacks but a considerable revival has taken place during the last eighteen months. The railway was founded in 1970 as a small 2ft gauge system utilising former industrial railway equipment, and located in the grounds of a disused pumping station at Farnham, Surrey. This site had many advantages and was developed quite rapidly until more than ¼ mile of track was laid. In addition temporary railways using Wey Valley equipment were operated at local shows.

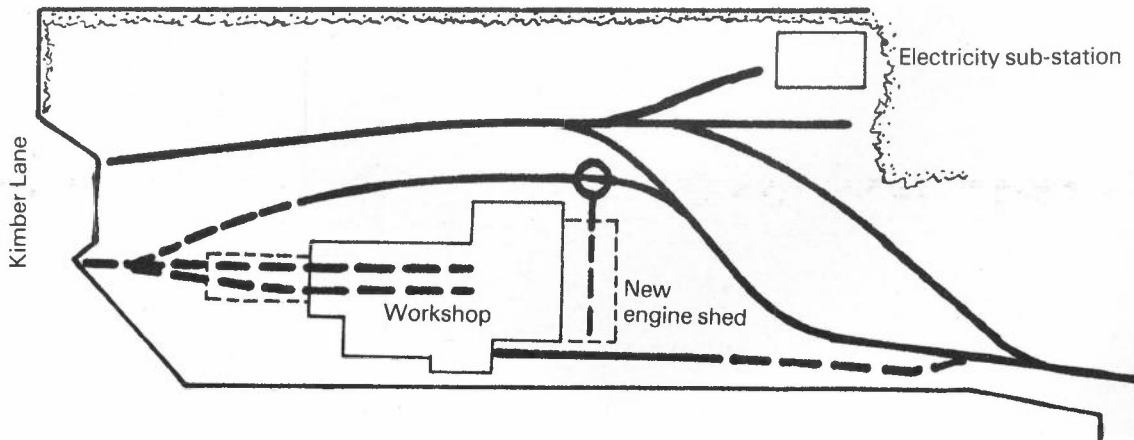
Then, in 1974, nearly half the existing trackbed was reclaimed for the construction of an industrial estate. This was bad enough in itself, but the work started with almost no prior notice and was only discovered when a bulldozer arrived and started to rip up the track! Housing development also began on adjacent sites and even more land and trackbed disappeared to make way for an electricity substation to serve these new homes. A little later Pete Briddon, one of the leading members of the group, removed his collection of locomotives and rolling stock from Farnham to the Bala Lake Railway so as to be more easily accessible from his new home.

Many of the other members gradually drifted away for various reasons, perhaps partly due to these setbacks, until there were only two regular workers. During this period activities on the site were primarily confined to the rebuilding of a former W.D. railcar owned by Edward Stevens. Short temporary railways continued to be operated at local shows from time to time. The lack of active workers delayed the overhaul of the F.C. Hibberd diesel, placed on permanent loan by the tunnelling contractor A. Streeter & Co Ltd, by four years. However, since the completion of this work in 1979 the locomotive, which closely resembles an Orenstein & Koppel in appearance, has been the regular work horse on both passenger and works trains.

The recruitment of five new regular workers in 1979 led to a complete revival on the railway. Their efforts were initially concentrated on rebuilding the workshop, but more recently the entire track layout has been relaid and extended. A turntable was installed to provide access to a new locomotive shed, now being built, and the main line track is being extended to give a run over approximately ¼ mile. The recent acquisition of a three-way point will allow two tracks to be laid into the main workshop.

At the same time as these developments were taking place new rolling stock arrived. This included three Orenstein & Koppel locomotives owned by Brian and Carol Gent, an interesting pre-war Motor Rail diesel that originally worked at Campbell's Brickworks, Chesterfield, and a former LNER Wickham railcar rebuilt from standard gauge.

After such marked progress it is regrettable that the prospect of sharp increases in rent and rates have again put the future of the railway in doubt. Hopefully, however, this problem will be overcome, and any member wishing to visit the railway or assist in any way is invited to write to Brian and Carol Gent at 105, Wootey's Way, Alton, Hants. GU34 2JP.





F.C. Hibberd 2528, a "Koppel type" locomotive, outside the workshop. The coach was acquired from the Creekmoor Railway but has since been sold. (B. Gent)

Wey Valley Light Railway stock — January 1981

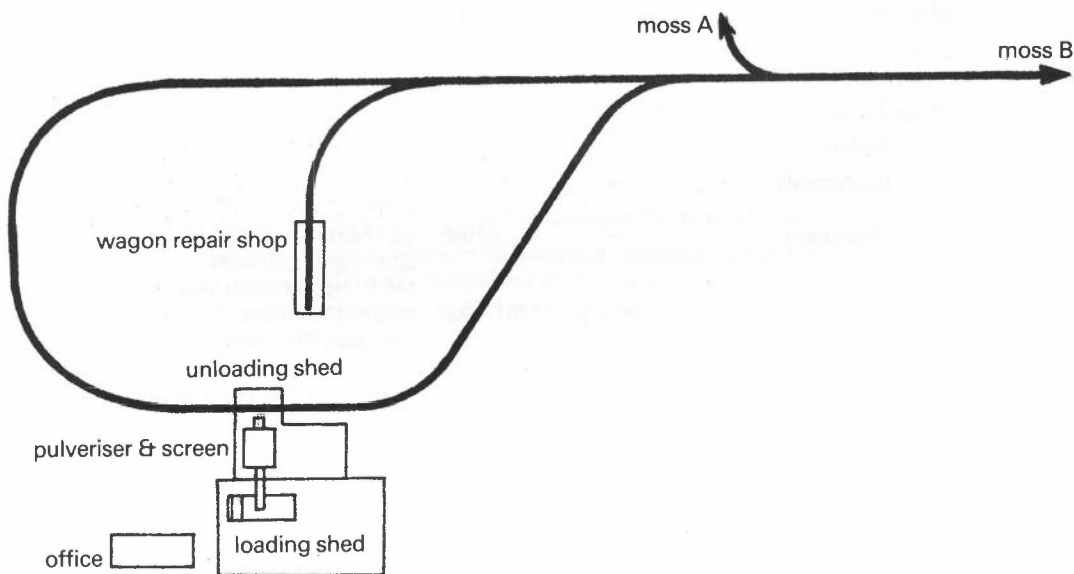
| Type | Builder | Class | No / date | Origin & present owner | Date to WVLR |
|---------|--------------------|---------|-----------|--|--------------|
| 4wPM | Bredonvale | — | - c1950 | ex Bredonvale Products Ltd, Defford, Worcs. (D. Bennett) | 9/1970 |
| 4wPM | Thakeham | — | - c1946 | ex Thakeham Tiles Ltd, Nr Storrington, Sussex (M.P. Hayter & Mr White) | 4/1971 |
| 4wPM | F.C. Hibberd | 20 h.p. | 1757/1931 | ex Sheffield Corp. Water Works, Langsett Reservoir, Yorks. | 6/1971 |
| 4wDM | F.C. Hibberd | OK | 2528/1945 | on permanent loan from A. Streeter & Co. Ltd, Cattershall Wharf, Godalming, Surrey. | 6/1975 |
| 2w-2PMR | Wickham | — | 3031/1941 | ex Southern Counties Demolition & Trading Co. Ltd, Bedhampton, Hants. Rebuilt 1976 (M.P. Hayter and Son) | ? |
| 2w-2PMR | Wickham | — | 3032/1941 | ex Southern Counties Demolition & Trading Co. Ltd, Bedhampton, Hants. To be rebuilt as a vertical boiler steam loco. (M.P. Hayter & Son) | ? |
| 2w-2PMR | Wickham | — | 3287/1943 | as 3031. Rebuilt 1978/79. (E.J. Stevens) | ? |
| 2w-2PMR | Wickham | — | 1309/1933 | ex Alan Bloom, Bressingham, Norfolk (D. Snozwell) | 10/1979 |
| 4wDM | Orenstein & Koppel | RL1A | 3685/1931 | ex Oxted Greystone Lime Co. Ltd Oxted, Surrey (B. & C. Gent) | 9/1979 |
| 4wPM | Orenstein & Koppel | MM | 4588/1932 | ex W. Smith, dealer, Hillside Cottages, Baughurst, Nr Tadley, Hants. (B. & C. Gent) | 8/1979 |
| 4wDM | Orenstein & Koppel | RL1B | 6504/1936 | ex Thames Water Authority, Charlton Road Depot, Shepperton, Surrey (B. & C. Gent) | 7/1980 |
| 4wDM | Motor Rail | 40 h.p. | 5713/1936 | ex Alan Keef Ltd, Cote, Bampton, Oxford (P. Tracey & B. Gent) | 12/1980 |

RICHARDSON'S FANNYSIDE WORKS

Adrian J. Booth

Andrew Neale's interesting review of Scottish peat moss railways in *The Narrow Gauge* No 82 briefly mentioned the railway operated by Richardson's Moss Litter Co Ltd at their Fannyside works, to the north of Longriggend. I visited this and other lines in August 1980, and these additional notes on the operation may be of interest.

The line is laid to 2ft 6in gauge, an unusual departure from the 2ft gauge normally used for peat moss railways. The sole motive power is a relatively modern Lister Blackstone four-wheel locomotive (LB 55870 of 1968) powered by an 8.5 h.p. Lister diesel engine and mechanical transmission. It is in a worn green livery, and traces of the former blue colour scheme are visible. No cab or canopy is provided and the driver has to brave whatever weather conditions prevail on the exposed moss. Peat is carried in the familiar slatted wooden wagons, the older type having wooden frames and inside plain bearings and the newer type bodies carried on steel frames with outside bearings. Eleven wagons were noted in use, and five others lying around in a dismantled state including two standing outside what is presumed to be the wagon repair shop, reached by extremely overgrown track.



The track layout at the works is shown on the accompanying diagram. Loaded trains are hauled into the loop by the Lister and left close to the unloading shed, the locomotive running light through the shed to wait on the far side. Wagons are pushed by hand, two at a time, into the shed and the peat fed by hand into the pulveriser. Milled peat is lifted into a screen, then conveyed to the loading shed to drop directly into lorries waiting below. Empty wagons are pushed out of the shed to couple up to the locomotive, and the process is then repeated.

When four empty wagons are ready the Lister pulls these round the loop and, if going to Moss A, stops when the wagons have cleared the points. The wagons are then coupled and propelled out onto the moss. Although I did not go out onto the moss myself the manager informed me that temporary loading tracks are laid at right-angles to the main line, and a portable turntable is used to transfer each wagon in turn onto a loading track. Full wagons are pushed out onto the main line to be collected by the Lister on its return and propelled to the junction, then hauled around the loop to the works. If the wagons are for moss B the Lister hauls them to the junction of the loop and is then transferred to the rear to propel them onto the moss. Full wagons are hauled back to the works in the usual manner.

The Lister at Fannyside is always referred to as "The Pug", in common with all small Scottish locomotives. One unique aspect of the railway is the female driver. Young, former art student Allison Patterson works full time for Richardson's and seemed quite at home at the controls of her Lister "Pug".



Fannyside works from the loop, showing the typical trackwork and the unloading shed in the background.
 (A.J. Booth)



The Lister pulls a train of empty wagons over the points at the start of the loop. The track on the right leads to moss A.
 (A.J. Booth)

NARROW GAUGE AT WHITEHILL

Geoff Lumb



This tinted postcard was recently loaned to me for copying and after printing it I set about to identify the location. It was obviously taken around the turn of the century, shows a good road with the prominent Prince of Wales public house, and a group on the left consisting of two policemen, a man on a horse apparently wearing military uniform, a man on a bike, and a horse and trap. The most interesting feature of the entire scene was of course the narrow gauge track—I estimated about 18in gauge—running off into the woods on the left.

I had no idea where Whitehill was but considered that it might be in the Isle of Wight. However, Mike Swift confirmed that it was south of Bordon, and a check in the phone book showed that the Prince of Wales was situated in Petersfield Road, now the A325 south from Farnham. Reference to *The Longmoor Military Railway* by D.W. Ronald and R.J. Carter (David & Charles 1974) revealed the rest of the story.

When Bordon Camp was established in 1903 a double line of 18in gauge tracks, spaced 22ft apart, was laid from Longmoor to the site, a distance of about 4½ miles, to enable Royal Engineers to move 68 huts to the new location. Each hut was 72ft long by 21ft wide, weighed 30-40 tons and was jacked onto seven cross beams each carried by two 18in gauge trolleys, one on each parallel track. A boiler and winch mounted on similar trolleys was used to haul the huts along. The tracks crossed the road at Whitehill, the summit of the line, and it was here that one of the huts fell off the trolleys. This was left beside the line and later refurbished to serve as Whitehill Police Station. It is obviously the building on the left.

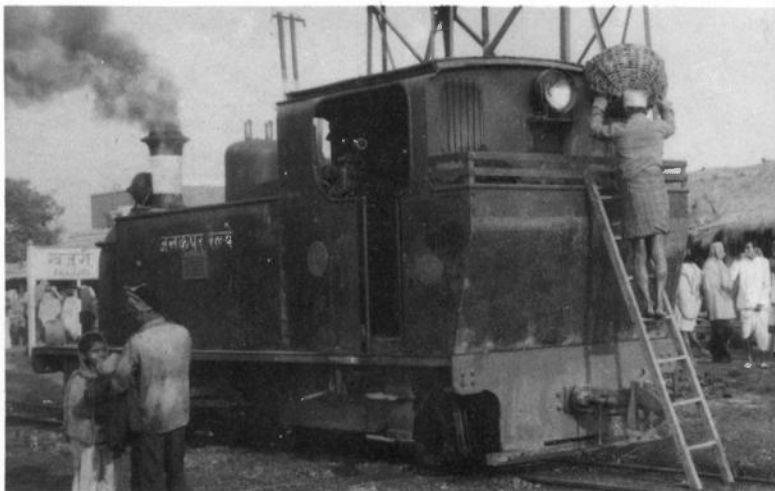
Movement of the huts was completed in the summer of 1905, and one 18in gauge line was lifted whilst the other was relaid to permit operation by locomotives hauling materials for the construction of the standard gauge military railway. MARS and VENUS, 0-4-2 side tanks built by Vulcan Foundry, and FLAMINGO, a similar machine by John Fowler arrived from Chatham for this line and continued in service until 1907 or possibly 1908 when completion of the standard gauge rendered the 18in gauge redundant. The track in the picture appears to be in use and it is therefore fairly certain that it was taken in 1906/07, an apparently ordinary scene—but with a most interesting historical background.

DAY RETURN TO KHAJURI

K. Taylorson

*The coaling method at Khajuri is
very labour-intensive.*

(Bill Parkes)



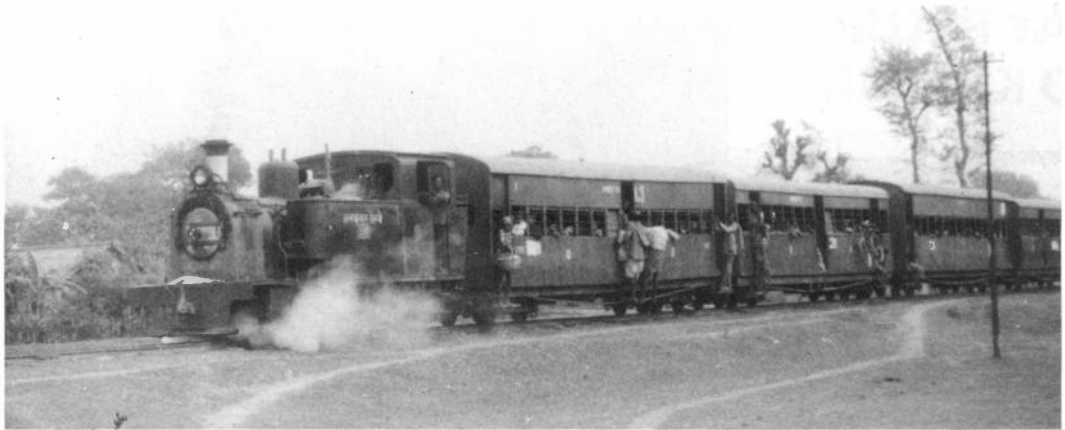
With an eldritch screech from her whistle, YP Pacific 2533 banged and clattered over the last set of points and our train ground to a halt at the single platform terminus of Jaynagar. Through the billowing clouds of steam and charcoal smoke could be dimly seen a rutted track leading away through two rows of ramshackle hutments. By the ghostly light of flickering oil lamps and a hundred cooking fires—the usual Indian power cut was in progress—we groped our way down the main street, fighting for space among the nightmare confusion of pedestrians, rickshaw wallahs, scabrous dogs and blundering oxen. Somewhere in this maelstrom, we knew, lay the Hotel India, our haven for the night, and the base for our excursion to the Janakpur Railway.

The Janakpur Railway is operated by the Nepal Government, is 2ft 6in gauge and links Jaynagar in India with Janakpur and Bialpura in Nepal. The line thus crosses an international frontier, a fact which (as Lou Johnson points out) has escaped the notice of the great fiction writers, who have yet to come up with a best-seller such as "Murder on the Bialpura Mixed." The Railway was opened in 1927 and is, in 1981, entirely steam operated with a fine diversity of motive power. There are three trains each way per day between Jaynagar and Janakpur, but only one solitary working onwards to Bialpura, and in true light railway tradition, the Bialpura train does not connect with any of the three Jaynagar-Janakpur workings!

Our one scheduled day in the area only allowed time for a return trip to Khajuri, 8 km out from Jaynagar, and the location of the shed and works. However, there were obstacles to overcome before even this minor excursion could be attempted. Back at Jaynagar, the India Hotel refused to allow us to book in without clearance from the immigration authorities. With the help of an English-speaking local (a rare species in Bihar State) we trundled by rickshaw to the frontier post on the other side of town, where a sympathetic Customs officer authorised us to cross the border next morning provided we undertook to return later in the day to have our passports stamped! Legitimised by authority, we bedded down in the hotel, which charges 25p a night.

The J.R. station in Jaynagar is only a hundred yards from the NER metre gauge terminus and by 06.45 the narrow gauge train, four well filled coaches offering a choice of 1st, 2nd and 3rd classes, was already in the platform behind SURYA, one of the Hunslet 0-6-2 tanks. Dead on time at 07.10 we set off and clattered across the mist-enshrouded plains for 2-3km before crossing a river which apparently constitutes the border. Maintenance on the permanent way was clearly a low priority as the little Hunslet bounced along at a perilous 30 kph. In twenty minutes we had reached Khajuri, a narrow gauge Woodford Halse with a solitary respectable building belonging to the Railway. In a fenced off compound a dozen coolies were laboriously shovelling coal from open wagons onto the ground; other coolies then transferred the coal into baskets which were carried to the waiting locomotive. The main landmark is the shed and workshops complex, and as we walked past we were excited to see one of the railway's two Garratts raising steam.

Our immediate priority however was to photograph the 07.32 arrival from Janakpur, which rolled in behind CHANDRA, the other Hunslet 0-6-2 tank. This train was absolutely packed with humanity and with bicycles, cooking pots, live chickens and other belongings strapped to the outside of the carriages. Walking back to the station we found CHANDRA taking water and SURYA assisting the Garratt MAHIBIR—one of the pair obtained secondhand from the moribund Raxaul to Amlekhganj line—off shed. The Jaynagar bound train departed only slightly behind time, but it was not for another thirty minutes that the Garratt had raised enough steam to head



A typically overloaded Jaynagar-Janakpur passenger train approaches Khajuri behind Hunslet 0-6-2T SURYA.
(Bill Parkes)

the Janakpur train—now almost one hour late—away northwards. Annoying though this may have been for the passengers, the use of a Garratt on this service was a bonus for us, as they are usually reserved for freight, and see most use during the rainy season when traffic is heaviest. There is however year round freight traffic including locomotive coal and cement from India and agricultural produce the other way.

With no more trains due for two hours we made for the shed where we were made welcome by the foreman. In the shed we accounted for all but one of the railway's nine locomotives: the second Garratt SITARAM under repair; two Hunslet 4-6-0 tanks, one seemingly dumped and the other under repair; the 0-10-0 tank from the obscure Dutch builders Du Croo & Brauns; and one Orenstein & Koppel 2-6-2 tank, RAMA. The missing locomotive was SEETA, which was assigned to Janakpur to work the Bizalpura service. This remains at Janakpur for ten days, being relieved after that time by one of the other tank engines.

Traffic on the line is buoyant and some coaches have recently been obtained from the Kalka-Simla line in India to strengthen the trains. These coaches have gone straight into service, still in Northern Railway livery.

After the departure of the midday train quiet descended on the station, the only activity being provided by peasant children raking through the ashpits in search of combustible cinders. Soon it was time for our return train which came in behind the Garratt and was taken over, for the final leg to Jaynagar, by RAMA. On arrival at Jaynagar the rickshaw ride across town and the formalities at the frontier post took less than an hour, so at 4 p.m. we had time for our first meal of the day before catching the evening NER train out of Jaynagar.

A visit to the Janakpur Railway should be a priority for anyone visiting North East India (Jaynagar is about a day's journey from the Darjeeling area). However, the visitor must be prepared to face several days loss of basic comforts, abysmally low standards of accommodation, and much tiring travel. Only the guarantee of 100% steam, the Nepal Government have recently turned down the railway's application to buy two diesels, and the helpfulness of the line's officials, make up for the deprivation involved. Permits can be obtained from the Manager, Janakpur Railway, Dist. Madhubani, Jaynagar. Current train times are in "Newman's Indian Bradshaw."

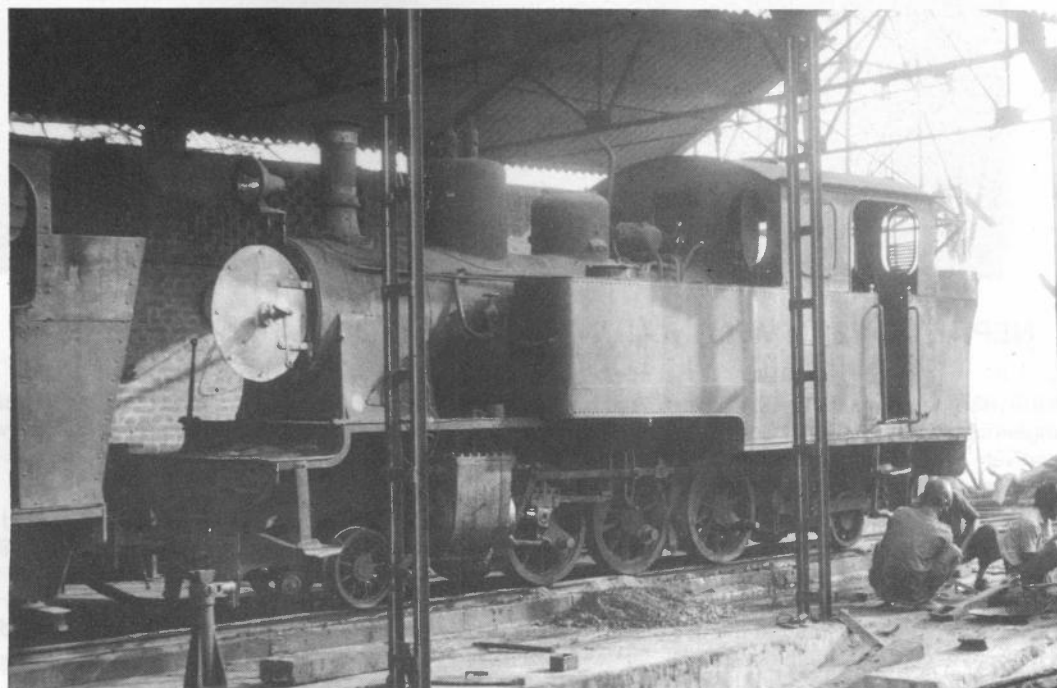
The complete stock of the railway is listed below:

| | | | |
|-------------|----------------|------------------------|------------|
| GUHYESHWARI | 4-6-0T | Hunslet Engine Co Ltd | 1536/1926 |
| PASHUPATI | 4-6-0T | Hunslet Engine Co Ltd | 1537/1926 |
| RAMA | 2-6-2T | Orenstein & Koppel AG | 12757/1936 |
| SEETA | 2-6-2T | Orenstein & Koppel AG | 12758/1936 |
| SURYA | 0-6-2T | Hunslet Engine Co Ltd | 3875/1962 |
| CHANDRA | 0-6-2T | Hunslet Engine Co Ltd | 3876/1962 |
| 4 MAHABIR | 2-6-2 + 2-6-2T | Beyer Peacock & Co Ltd | 6736/1932 |
| 5 KRISHNA | 0-10-0TT | Du Croo & Brauns | 241/1939 |
| 6 SITARAM | 2-6-2 + 2-6-2T | Beyer Peacock & Co Ltd | 7243/1947 |

4, 5 and 6 were obtained from the Nepal Government Railway, Raxaul to Amlekhganj section, in 1968.



Beyer Garratt MAHABIR is assisted off shed at Khajuri to work the 07.10 Jaynagar-Janakpur passenger train on 22nd December 1980.
(Bill Parkes)



Orenstein & Koppel SEETA undergoing light repairs at Khajuri.

(Bill Parkes)



NEPAL GOVERNMENT RAILWAY—BEYER-GARRATT 2-6-2 + 2-6-2 LOCOMOTIVE

MAHABIR, the name meaning Great Hero, was built by Beyer Peacock & Co Ltd in 1932 for the Raxaul to Amlekhganj section of the Nepal Government Railway. The line was 23 miles long and although the first half was comparatively easy, the final section had long stretches of 1 in 100 gradients, steepening to 1 in 75 and 1 in 40, with portions up to 1 in 30 combined with 330ft radius curves.

The rails weighed only 30 lb/yd limiting the axle load to a little over 5 tons, but similar conditions applied on the Sierra Leone Government Railway, to which Beyer Peacock had supplied three Garratt locomotives in 1926. This design was therefore used for the Nepal locomotives, and proved capable of hauling 300 ton trains on the easier sections and 150 tons up the 1 in 30 gradients. Although the Sierra Leone machines were coal burners the relatively large fire grates permitted the use of Sal wood as fuel in Nepal and the bunker sides were extended by slatted racks to accommodate the bulky fuel.

Payment for MAHABIR is reputed to have been made to the Beyer Peacock representative in gold bars!

The leading dimensions of the locomotive are:

| | | | |
|---------------------|-------------|-----------------------------|--------------|
| Cylinders (4) | 10in x 16in | Boiler pressure | 175 lb/sq in |
| | | Grate area | 18.2 sq ft |
| Coupled wheel dia. | 2ft 4 in | Heating surface—tubes | 647.5 sq ft |
| Wheelbase—each unit | 13ft 9in | —firebox | 76.5 sq ft |
| —rigid | 6ft 0in | —total | 724 sq ft |
| —total | 43ft 4in | —superheater | 120 sq ft |
| Max. axle load | 5.1 tons | —total | 844 sq ft |
| Adhesive weight | 30.3 tons | Tractive effort at 85% b.p. | 17,000 lb |
| Total weight | 47.5 tons | Fuel capacity | 3 tons |
| | | Water capacity | 1200 galls |

This painting was originally published as a supplement in *The Railway Magazine*, January 1933, and we are grateful to the Editor for permitting this reproduction. The original clearly shows the crimson lake livery with gold lining, stainless steel boiler bands and handrails, and crest of the Maharaja carried on the cabside.

DAVID GREIG GOES AROUND THE WORLD

Frank Jux

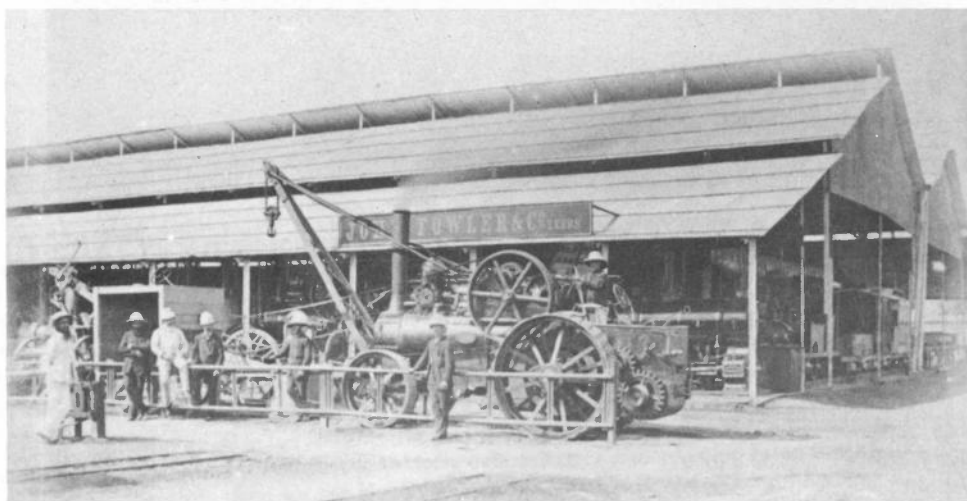
In November 1883 David Greig, a partner in the firm of John Fowler & Co, left his home at Headingley Hill, Leeds, on a sales tour that was to take him completely around the world and occupy almost a year. The pioneering efforts of the founder of the firm, John Fowler, coupled with sound engineering, had established an enviable reputation for its products wherever steam ploughs were used. Some years previously the firm had entered the portable railway market as agents for Decauville, but this arrangement was soon superceded by manufacture of their own designs of locomotives, rolling stock, and track, and it was to promote sales of these, as well as traditional products, for which the tour was made.

The first leg of the journey was by Great Northern Railway to London, departure from the Capital being on 14th November. Once across the Channel he was able to secure a sleeping berth from Calais to Bologna, where trains were changed for Brindisi. Here a P & O steamer took him to Port Said. Not a stranger to Egypt, where many Fowler steam ploughs were in use, he visited Ismailia and Alexandria before reaching Cairo. He records that he talked to old friends at Alexandria—possibly Allen Alderson & Co, the important English merchants established in that city. After visits in the Capital, he went south to the sugar estates, his own words best describing the outing.

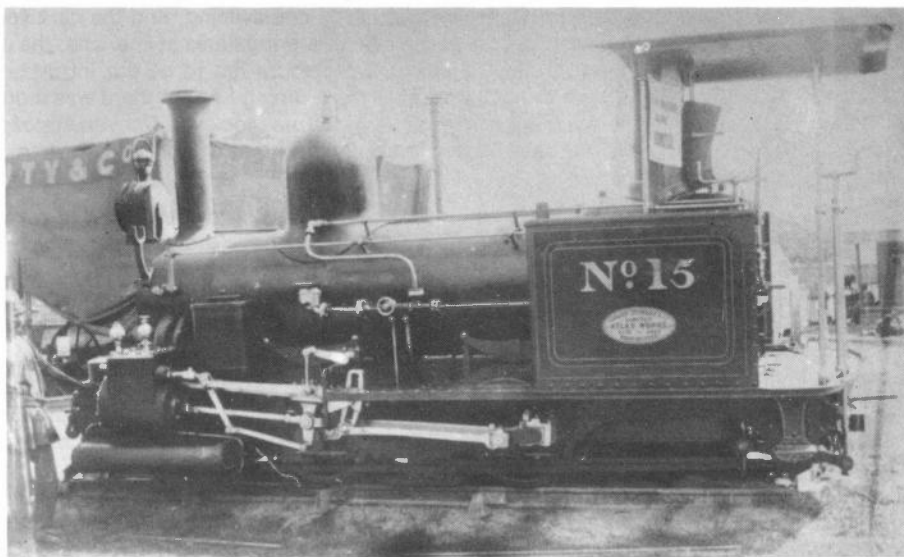
“When down at Cairo I took the opportunity of having a look at the country, going up as far as Rhoda, about 200 miles distant. The agricultural line (which carries nothing but agricultural produce) runs nearly parallel with the main line for a distance of forty or fifty miles. A locomotive was placed at my disposal, that I might have a good inspection of sugar crops, which were most abundant and fully realised my anticipation when they were cut.

I have taken a very great interest in this sugar business for a long time, having laid out a complete scheme of sugar cane culture in Egypt twelve years ago for the late Khedive, and since then I have been further interested in the subject.”

Greig could well be interested in the sugar industry, for it emerged as a major customer for the light railway material that his firm manufactured, and was beginning to make use of small locomotives. The Egyptian Agricultural Railways were an exception to the rule, and were laid out on a grand scale using standard gauge; this could be done as very large areas were under the sole control of the Khedive. It is a pity that the full story of the locomotives built for them is not known, but it seems that Fowler's designed a small 0-6-0 tank for use on the



*Fowler's stand at the Calcutta Exhibition. In the foreground an agricultural engine equipped with a crane is in steam, and others stand beneath the shed. The locomotive and train on the right is not a Fowler "patent", and might be a Falcon product.
(Museum of English Rural Life)*



*Darjeeling Himalayan Railway No. 15 (Sharp Stewart 3135/1883) on show at Calcutta.
(Museum of English Rural Life)*

railways, but for some reason these were never delivered. Instead, a number of 2-4-0 tanks closely resembling the classic Beyer Peacock design were supplied; indeed, as Beyer's also supplied similar locomotives at the same time, it seems likely that the design originated with them. Although some additional railway equipment was supplied at a later date, Greig records that business in Egypt was very quiet at the time of his visit.

On 12th December he set out for Suez to join the P & O steamer *Gwalior* for passage to Bombay. Landing briefly at Aden on the way, presumably while the steamer was taking on coal, he reached Bombay on 14th January 1884, where he stayed at Watsons Hotel which rated very low in his esteem. His immediate objective in India was to visit the Calcutta Exhibition where the firm was exhibiting a range of machinery. This involved a rail journey of two days and three nights, and on arrival he was met by Fowler's local representative who had secured better accommodation. While in Calcutta he met fellow Yorkshireman Samuel Lister of Bradford, who invited him to visit his estate at Dehra Dun, a considerable distance away to the north west of India. Fowler exhibits at the Exhibition included light railway material and one of their narrow gauge "patent" locomotives, both of which received a first prize in their class. The Darjeeling Himalayan Railway had been opened in 1880, and one of their latest locomotives was on show at the Exhibition. The railway's success encouraged the building of other narrow gauge lines, and Fowlers booked orders for several. One which could well have been finalised at the Exhibition was for the Cherrapanji Mountain Tramway, as notes for designs of 2ft 6in gauge trucks and track with 15lb rails were made in June 1884. Mention of the sale of track is a reminder that while locomotives receive more attention, sale of track probably brought in as much income at this time, and on most sugar plantations the cost of locomotives was a relatively small proportion of the total cost of a tramway system. The Cherrapanji line's first two locomotives, supplied by Fowler, had 6½ inch cylinders and were probably "patent" 2-4-0 tanks as shown at the Exhibition. The patent concerned had been taken out in 1880 by Alfred Greig and William Beadon, both giving their address as Fowler's Steam Plough Works, Leeds, and was for a type of indirect drive designed to keep the motion clear of the ground, a great advantage on street tramways and sugar plantations, and indeed anywhere where the track was not fenced. Quite a number of locomotives were built with this feature in either the 2-4-0 or 0-4-2 wheel arrangement, but it was not successful, and the Powyan Steam Tramway, equipped a few years later, was supplied with the larger, conventional 0-4-2 saddle tank design which replaced it. After a week at the Exhibition, Greig set out to see various friends, including Samuel Lister at Dehra Dun, and visit many of the more well known towns of India (including Lahore, now in Pakistan) before returning to Calcutta. He was surprised to find many women visitors at the Exhibition, which he felt was a welcome sign of cultural progress, brought on by the development of Indian railways.

Like many a visitor since, he then went to Darjeeling.

"Before leaving Calcutta, where the weather was exceedingly warm, I thought I would go and spend Sunday in the Himalayas, so took train for Darjeeling: you start one evening, and the next you are at your destination. On this journey you have to pass over three different gauges of line: one, the usual 4ft 8½in; the other 3ft 6in; and the next 2ft. At Darjeeling, I ordered a fire to be put in my bedroom, because I found it exceedingly cold; and to my surprise, in the morning I found there was a quarter of an inch of ice in the water-basin. Thus you will see that a day's journey took you from an atmosphere of 90 to 95 degrees in the shade, to considerably below freezing point: and this, if properly manipulated, could be done in eight hours.

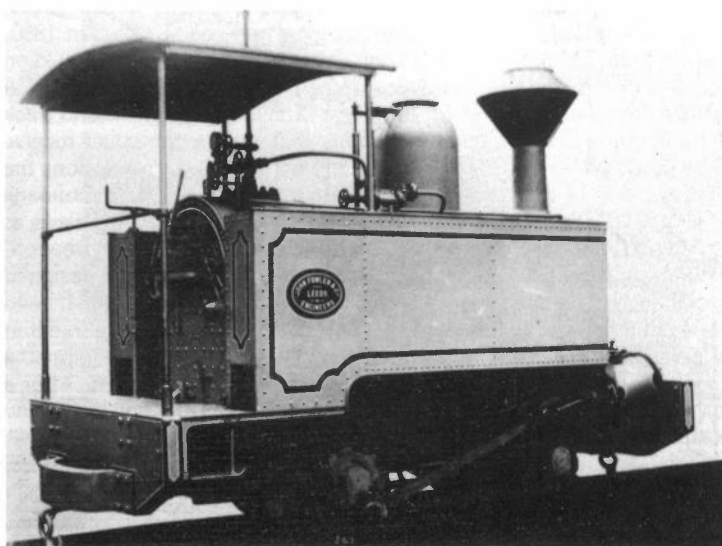
To people who cannot stand the heat in Calcutta, which, I must say, is most oppressing owing to its dampness, the hills are a great boon. Darjeeling is about 14,000ft above the sea level, which climb is made in a distance of forty-five miles. You have to raise nearly the whole of this elevation, and the 2ft railway is quite a curiosity. You commence ascending a gradient of 1 in 29. In a great many instances you make loops, running around a little hill, and going off in another direction. In one case you make two loops at one place, but always rising 1 in 29. The carriages you have to sit in are of a very light description, and if you are on the outside seat, you often find yourself looking down a precipice 2000ft deep. For nervous people it is very trying.

Darjeeling, once arrived at, is a most pleasing place, with very fine scenery. The sides of the hills are laid out with tea gardens, and the tea-plant is a very pleasing one, the leaves being always green and the bushes shapely. From Darjeeling, so that I might have a better opportunity of seeing the railway, I came down on a bogie which ran from the top to the bottom by itself, and was restricted by a brake. I was then able to see the line thoroughly well."

Apart from the error in the gauges of line, which of course were 5ft 6in, metre and 2ft, and in the elevation of Darjeeling, one wonders at the practice of allowing trolleys to run by gravity over so long a line, but of course, traffic was probably very light in those days.

By now Greig had spent two months in India, travelling 8300 miles, and spending a total of 34 nights in trains, so he was probably ready for the next leg of his trip by steamer to Java. En route he called at Rangoon; here the boat stopped two days, and he took the opportunity to visit Moulmein and see the timber industry. At Penang a friend took him around the local sugar estates, and his hospitality resulted in a re-scheduling of onward travel to Singapore and Batavia (now Djakarta). In Java he visited customers both known and unknown, who used Fowler steam ploughs: for on missing a train en route between Batavia and Sourabaya, he begged lodging from a farmer, only to be offered sight of the farmer's steam plough at work. Needless to say, it was a Fowler, and the disruption of his schedule was compensated by the receipt of a large order!

The British India Co steamer *Almora* then took him to Queensland, where the sugar industry was rapidly being developed, calling at Thursday Island on 25th April 1884. According to Greig, the island was used for inter-

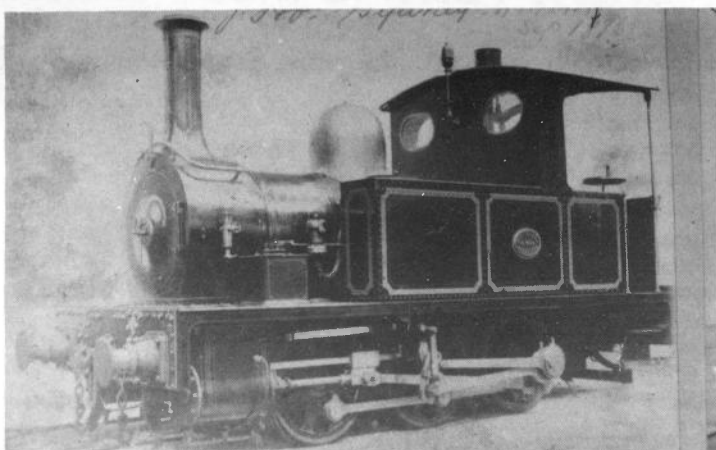


Fowler supplied a number of small locomotives of this type to the Colonial Sugar Refining Co during the early 1880's.

(Museum of English Rural Life)

This 3ft 6in gauge 0-6-0T, Fowler 5265/1886, was delivered to Kiana Council, Australia, and is now preserved in Tasmania.

(Museum of English Rural Life)



change of cargoes, and a map shows its position on the shipping lanes of the area. Landing at Townsville, he visited the gold mines at Charter Towers, 150 miles inland, no doubt on the lookout for orders in mining machinery. Although some equipment was specialised, the small mines of the time used much standardised equipment in the shape of boilers, winding engines, and so on, and Fowlers still manufactured a range that included winding engines and their patented "clip pulley" used on many haulage applications.

"My object on landing at Townsville, however, was principally to visit the sugar plantations: and my first journey was up the Johnstone River, which lies about seventy miles to the west. This I did by steamer, which sails once a week. I found in this country that they had about 125 inches of rain per annum, with the most extraordinary vegetation I have ever seen. My principal friend there was clearing his plantation from the jungle. This jungle consisted of trees, varying from 6 feet in diameter, down to saplings, growing so close to each other that no human being could penetrate between them; and these trees, bear in mind, grow to a height of 150 feet. My friend was simply burning the brushwood, and leaving all the large trees lying on the ground—planting the cane amongst them. The land was so rich that even under such circumstances heavy crops were grown. I visited several similar places here, and a few old plantations which had been in operation some time."

Greig's "principal friend" was probably connected with the Mourilyan Sugar Mill, which had ordered portable track and equipment in 1883, and received a locomotive in 1884 to work the newly constructed railway from the mill to the harbour $6\frac{3}{4}$ miles away. Fowlers largest existing customer in Australia was the Colonial Sugar Refining Company, which opened a new mill at Goondi, not far away from Mourilyan, in 1885, and no doubt Greig saw the CSR directors during his visit. Fowlers also had an office in Sydney. Undoubtedly the firm was ahead of its competitors in Australia, and succeeded in supplying railway equipment to most of the new Australian mills of the period. Steam ploughs were invaluable for clearing virgin bush, and this gave them a great advantage over companies who dealt solely in railway equipment. Greig returned to Townsville and took another steamer south for the Burdekin River. Here he visited a plantation which he said cost about £150000 to establish and which produced 5000 to 6000 tons of sugar a year, perhaps the Burdekin Delta Sugar Company, which is said to have had two patent locomotives. He then visited Mackay, where there were several more sugar estates, followed by Newcastle and Melbourne, before setting out on a side trip to Tasmania, where mining had been boosted by the spectacular results of the Mount Bischoff tin mine. Whether any orders were taken is unfortunately not known. Back in Australia he continued from Melbourne to Adelaide, where he called on Sir Thomas Elder, and was shown over his vast estates. Elder was a prosperous merchant who had interests in the local copper mines of Wallaroo and Moonta, and Fowlers later built an unusual 0-4-2 saddle tank for him. Of 5ft 3in gauge, convertible to 3ft 6in gauge, it had a very large cab with a crossbench seat facing to the rear, and obviously designed for passenger use. Whether this was for inspection trips or general traffic has not been discovered.

A tour of New Zealand followed, including visits to Dunedin, Christchurch, Wellington and Auckland. A rather unusual 0-4-2 saddle tank had been built in 1883 carrying a plate "Carter & Co, agents, Dunedin & Christchurch, New Zealand", which is thought to have been sold to the Castlecliff Railway Co. It had a very large coupling rod,



This "patent" 2-4-0 tank may be one of those at the Hawaiian mill of Claus Spreckels, in the Sandwich Islands. An engraving based on this picture appears on the back cover of "The Narrow Gauge" No 70. (Museum of English Rural Life)

reminiscent in a way of the early type of coupling used on electric locomotives; presumably another device intended to keep the motion clear of the ground. It seems likely that Greig went to see how this locomotive was performing while in the country.

A long sea journey, commenced on 5th October 1884, then took him to the Sandwich Islands, where he met Queen Emma. (The Sandwich Islands came under American influence, and are now the state of Hawaii). Some years before his visit, Fowlers had introduced portable railways and locomotives to the island's sugar plantations, but this early equipment was really too small for the conditions, and was soon superceded by larger American designs, mostly on 3ft gauge track. His impression was that the country was very much in the hands of two or three financiers, one of whom was Claus Spreckels of San Francisco. The Hawaiian Commercial and Sugar Co's mill at Spreckelsville had two Fowler locomotives, but soon replaced them with American products. One had 4 ½ in and the other 5 ½ in cylinders, far too small for serious work, although we must bear in mind that the basic Decauville track was very light and intended to be truly portable, and the cane tramway proper, with its heavier main lines had probably not been developed on the islands at this early stage. Transport onwards to San Francisco was by one of Spreckel's boats, and on arrival Greig visited his Californian sugar factories, as well as seeing Fowler's agent for Hawaii. Crossing the USA by train to New York, he then took a ship to Liverpool, and, 51 weeks after his departure, arrived back in Leeds.

Long distance travel was not new to Fowler executives: R H Fowler had visited Hawaii in 1881 on a sales mission. However, it was not common at the time, and David Greig was asked to give a talk about his travels. His address was printed and has enabled this article to be written. Unfortunately he did not detail the orders taken, although he did conclude with what he called "morals" — conclusions drawn from his experiences of the journey. He thought that in England there was not adequate recognition of the need to meet overseas competition, particularly from the Germans, whom he thought were fully competent, and more industrious and frugal than us. In Britain masters and men enjoyed too many luxuries, and most people had no idea of the orders which were tendered for, and lost because English prices were too high. The accuracy of his forecast was to be borne out later when Orenstein & Koppel rose to become a leader in the world light railway industry, selling at prices which most British firms could not match. Amalgamation into larger units may have provided an answer, but it was not to be, and in the crowded square mile of Hunslet one firm bid against another for orders over many more years.

I wonder what David Greig would think of Hunslet today. The Steam Plough Works, Kitson's Airedale Foundry, Hudswell Clarke and McLaren are no more, and their premises have been swept away. Only The Hunslet Engine Works, and the Boyne Works of Manning Wardle survive in the ownership of The Hunslet Engine Co. In nearly a century the only unchanging theme is his diagnosis of Britain's disadvantages in securing overseas markets, a statement which we still hear almost every day!

THE ARTOUSTE RAILWAY—GEM OF THE PYRENEES

(Translated and adapted by E.K. Stretch from an article in *Voie Etroite*, magazine of the Association Picarde pour la Préservation et l'Entretien des Vehicules Anciens.)

One of the main attractions of the Pyrenees region, this railway is unusual in being only 50cm gauge, but even more unusual in its location. It lies in the heart of the mountains almost 2000 metres above sea level, and is virtually inaccessible other than by cableway.

A pioneer of large scale railway electrification, the Midi Railway of France installed a 1500 volt DC system on its main line from Toulouse to Bayonne and most of the branch lines serving the valleys of the Pyrenees. Many of these branches have now lost their passenger services or been closed completely. To supply power to these lines the Midi constructed a hydro-electric power station in the Osseau valley between 1920 and 1930. This is now owned and operated by Electricité de France. A remote site high in the valley of the Soussouéou river was chosen for the dam and reservoir. To provide access for men and materials a cableway was built from the Osseau valley to a point just below Pic de la Sagette, and a railway from there to the construction site, brought into use in 1924. On completion, the dam created the Artouste lake, and in view of its spectacular location it was decided to continue operation of the railway for tourists. Terminal stations were constructed, rolling stock modified for passengers, and the line commenced its new role in 1932. When nationalisation of the French railways took place in 1937 the line passed to SNCF, the present operator.

Considerable improvements have since been made to keep pace with increasing traffic. The track was originally light Decauville type contractors material but in 1957 the line was relaid with 20 kg/m rail on steel sleepers. The first tourist trains were hauled by 45 h.p. Renault petrol locomotives built in 1929 and weighing 3.5 tonnes. The last survivor, R2, was scrapped in the early 1970s. Two 4.5 tonne Deutz diesel locomotives, built in 1948 and numbered D1 and D2, are used for works trains and winter snow clearance but passenger services are worked by thirteen distinctive looking four-wheel diesel locomotives. D3 to D8 are 60 h.p. machines weighing 8 tonnes, designed by the SNCF and built by Billard in 1953. D9 to D15 are 45 h.p. machines weighing 5 tonnes, and built by Whitcomb in the USA. Originally 60 cm gauge, for use on this line these were converted to 50 cm gauge and re-bodied. Open coaches were originally used, merely bogie flats fitted with seats. Recently they were replaced

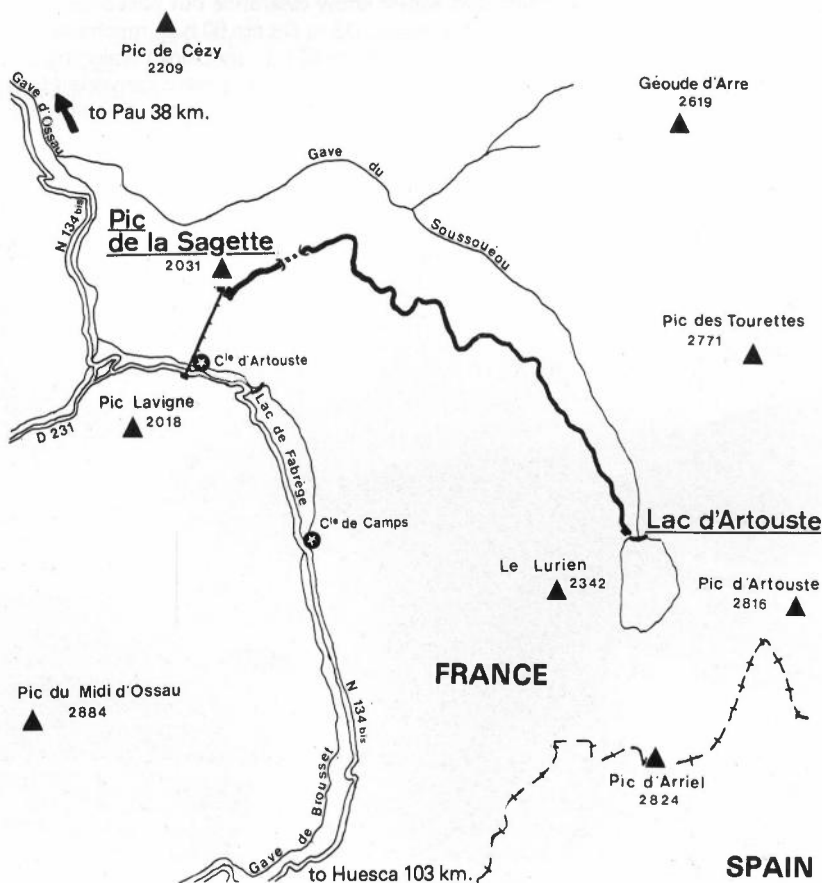


The original rolling stock at the beginning of passenger operations. (collection J. Pradayrol)

by forty bogie vehicles each with reversible seats for twelve passengers, designed and built by SNCF. Locomotives and stock are fitted with link and pin couplers and air brakes. The stock of service vehicles comprises several flat wagons and a rotary snowplough.

The lower terminus of the cableway is just opposite the power station, beside the road leading to the Pourtalet Pass and the Spanish frontier. A huge car park has been laid out in the power station yard and the inscription "Chemin de Fer du Midi" on one wall is a reminder of the original promoter of the scheme. The terminal building is more like a railway station than a cableway, this impression being enhanced by a timetable on the wall and staff in SNCF uniform. There are two parallel cableways, the original one having been duplicated more recently. The latter is usually used for tourist traffic, and immediately after leaving the terminal passes over the power station and the small Fabrèges reservoir. The surrounding mountains are slowly revealed as the car climbs to the upper terminus, below which is situated the railway at 1990 metres above sea level. The station has one long platform to hold two trains, and beyond is a fan of three tracks formerly used for the transfer of construction materials, now used by locomotives to run round their trains. Below the line can be seen the ski-tows, looking very strange in summer, with no snow around, in the midst of surrounding greenery.

An avalanche shelter protects the line for the first few hundred metres, and on this section the track is laid in concrete. 800 metres from the terminus is a fan of some ten tracks used to store rolling stock, the workshop and a wye, rarely used now because the locomotives do not need to be turned. The train awaits clearance through the tunnel, protected by colour-light signals, and the guard warns passengers of the restricted clearance. On emerging from the 300 metre long tunnel the wild valley of the Soussouéou can be seen on the left, and is followed to the upper terminus. The scenery is imposing and very varied, changing almost every time the train rounds one of the numerous rocky spurs. Reverse curves follow one another almost without pause. The valley floor is a few hundred metres below, and the hillside almost vertical in places — making some passengers shudder with apprehension!





Whitcomb D13 approaching the lower terminus at Pic Sagette. The depot entrance can be seen in the distance.
(P. Delazzari)



Whitcomb D13 approaching the tunnel entrance. In the background are the storage sidings, and beyond the Brousset valley.
(P. Delazzari)

There are passing loops almost every kilometre, of three types. One has two tracks each long enough for one train, another two tracks each to hold two trains and a third three tracks each for one train. Each loop has a telephone and additional plug-in telephones are provided at frequent intervals along the line. The points have to be deliberately set to the correct track for each train, the lightness of the rolling stock does not allow points to be trailed through.

After rounding a final bend passengers can see the Artouste dam, and the station is situated at the foot of the dam wall, ten kilometres from Pic de la Sagette. The terminus has three tracks, two of which face platforms, and a reversing wye running into a rock cutting. There is only ten metres difference in levels over the length of the line, and the maximum gradient is a short stretch of 3.6% (1 in 30). The maximum speed on the line is 15 kph. The stay at the terminus allows just over 1 ½ hours to walk to the top of the dam, admire the magnificent scenery to the full, and take refreshments at the station buffet.

The line operates daily from mid-June to mid-September. In 1979 the return fare was 25 Fr. for the entire journey including the funicular. Different coloured tickets are issued for each train, simplifying checking, and passengers are allocated to specific trains for the outward and return journeys. A few seats are always left on outward trains to make sure that no-one is left stranded—for example hikers returning from a long walk in the mountains. For some years the line provided a winter service for skiers between the cableway and the ski-tows some 700 metres distant. Unfortunately the Artouste ski-station closed down two or three years ago and this service is now suspended. On busy days nine trains each of four vehicles are in service. Two trains follow each other every hour, a third leaving half-an-hour later. Particular attention is paid to safety, aided by the extensive telephone system, and down trains must stop and telephone to the signalman on duty at the storage sidings to obtain a clear signal before passing through the tunnel.

To sum up, this little railway in the Pyrenees is sufficiently unusual to deserve a visit. The scenery is really magnificent and although the rolling stock may lack the interest of a metre gauge Mallett or eight coupled tender engine, its length and traffic density are nonetheless of considerable interest. It is justly popular with tourists and during the peak season one must arrive at the car park before noon to ensure a seat on one of the last afternoon trains.



Billard D7 leaving the tunnel. Note the restricted loading gauge and colour-light signal on the left.
(P. Delazzari)



Billard locomotives D6 and D7 at an intermediate passing loop.

(P. Delazzari)



Artouste Lake terminus below the dam. Billard D7 is just running round its train.

(P. Delazzari)

POLAND'S WORKING MUSEUM

D.W. Winkworth

Poland has avoided the artificiality of a museum railway by using part of a freight-only line for the purpose. Selection of the location was doubtless influenced by the existence of certain monuments adjacent to it, so that the historic railway operations are not the prime attraction, but a complementary one. The railway concerned is the old Żniner Kleinbahn radiating from Żnin to Osno, to Zozouly with a branch to Wola, to Ostrowiec and to Grochowiska. Of 60cm gauge, it was opened in 1894, came under PKP authority in 1919 and lost its ordinary passenger traffic in about 1963. It still operates freight traffic as far as Rogowo (19 Km) on the main line to Osno and part of, if not all, the way to Zozouly.

At Biskupin part of a Slavonic fortified settlement dating back to 2500 years has been reconstructed. This had been excavated in the 1930s and later, and forms the principal attraction on the route, although Gasawa can offer a 17th-century wooden church, and at Wenecja an old ruin is a prominent feature; it is within the shadow of this ruin that a small open-air narrow-gauge railway museum was established in 1972. The principal exhibit is a mixed train headed by Tx2 355, an 0-8-0T bearing Orenstein & Koppel plates 5020/1911, consisting of four coaches or vans—in some cases converted internally to house small relics—followed by timber and open wagons, the whole set as entering Wenecja station over a level crossing. Elsewhere in the museum compound are various examples of lineside furniture and, on a parallel siding, Ty5 531, an 0-4-2T (Orenstein & Koppel 531/1899 which spent all its existence at Nakło sugar beet factory (see *The Narrow Gauge* No 72) and is unlikely to have carried that designation. There are suggestions that the 4-6-2 No 1 from the Chelmica sugar beet system is to be renovated and find a resting place here. In May 1979 this engine was derelict at Żnin.

The museum train operation is based on Żnin. Departures for the 12 kilometre run to Gasawa are at 9.00, 11.25 and 14.00 and arrival back is at 10.57, 13.30 and 16.29, journey time varying between 46 and 50 minutes; the reconstructed ramparts at Biskupin are open from the beginning of May to mid-October and this determines the operating season. The narrow gauge station at Żnin is separate from, but adjacent to, the main line station. The locomotive shed lies between the station and the main line exchange sidings and is not therefore passed by the museum train. The route from Żnin starts with a double bend to cross a road and then traverses agricultural country towards the prominent church tower of Wenecja in the distance. A public road is crossed on approaching Wenecja (6 km) and the museum is placed between railway and church while, on the other side, the ruin affords a good vantage point. Beyond Wenecja the railway crosses the road, at which point the line to Rogowo diverges, and then recrosses it to skirt Lake Biskupin. The reconstructed village stockade may be glimpsed jutting into the lake on a small peninsula. After Biskupin the railway again enters the fields and pastures so typical of the Polish narrow gauge.



*A general view of the museum with a train from Gasawa drawing into the platform
(D. W. Winkworth)*



"Museum Train" arriving at Znín behind 0-4-0TT T2 71 on 19th May 1979. (D. W. Winkworth)



Tx2 355 with a mixed train in the museum, and Ty5 531 in the siding on the right. (D. W. Winkworth)

The museum train consists of some gaily painted bogie coaches with open sides and wooden seats; this rugged—rather than refined—accommodation is doubtless dictated by the numerous school parties which invade the train between Wenecja and Gasawa. On the return journeys from Gasawa a halt is made at Wenecja for those travellers who wish to visit the museum to be conducted round by a guide. Unfortunately, descriptive booklets are notable by their absence and the selection of postcards is meagre. For philatelists, however, there is a special handstamp which is applied to mail and, while stocks last, a 1-Złoty postage stamp which depicts a narrow gauge steam locomotive, a diagram of the line, Znín church and Biskupin ramparts.

Locomotives on the railway—as opposed to the museum—in the Spring of 1979 were T49 114 and 115 (both 0-4-0TT built at Chrzanów in 1949), Tx6 302 an 0-8-0TT constructed in 1944, another 0-8-0TT Tx4 564, Ldl 3 an 0-4-0D for shunting the exchange sidings and 0-4-0TT T2 71 which was employed on the museum train. Additionally an 0-4-0T (Babelsberg 16028/50) from Znín sugar beet factory was being repainted and repaired. Local rumour has it that a couple of diesel locomotives are to be introduced to work freight traffic.

For many the main attraction of this museum train is that it runs over a route still in use for commercial purposes and so cannot be classified as a preserved line. Long may both of these activities thrive!

MAIL TRAIN



CUBAN STEAM

The two locomotives pictured by D. Trevor Rowe in NG 90 were both built for the same firm, Central San Ramon. Baldwin records give the gauge as 2ft 10in.

BLW 47237 of 12/1917 was Central San Ramon 3, now 1211.

BLW 56639 of 6/1923 was Central San Ramon 4, now E-1115.

DONIPHAN, MO. USA

H.F. GOLDSMITH

LLYN COWLYD TRAMWAY

Adding to the information from Arthur G. Wells in NG 91, I can narrow down the withdrawal date of ELGIAU a little. I saw this loco on 19th April 1954 standing disused at the Red Lion Mill; the loco was grubby and there was light rust on the controls in the cab. I was informed then that it was "for scrap" so presumably it did not work again before moving down to the workshops scrapline. Hence withdrawal was between 15/9/53 and 4/54. Perhaps another reader can narrow the gap further?

LLANBERIS, GWYNEDD

VIC BRADLEY

UNDERGROUND ELECTRIFICATION

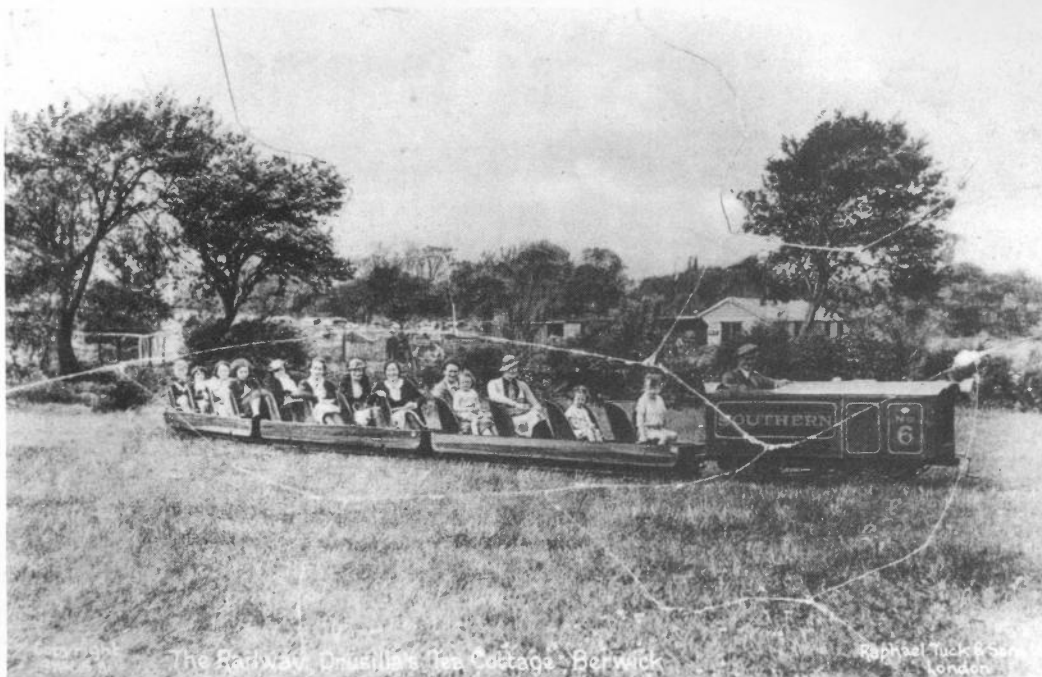
Readers may be interested to know of one industrial underground electrification project which predated the 1925 Mining Locomotive competition mentioned by Brian Webb in NG 91. The Ebbw Vale Steel, Iron and Coal Company electrified the 3ft gauge main line within their new Irthlingborough Ironstone Mine in 1917-18. Various galleries were served by branch railways worked by battery locomotives, and all the branches fed into one main tunnel in which was a double track railway controlled by colour light signalling and worked by overhead wire locomotives. The clearance in the tunnels was only about 8ft and electricity was supplied at a pressure of about 250 volts DC. The double track line ran into the open terminating in a six track yard from which ran various sidings, some interchanging with the standard gauge railways.

In 1917 an order was placed with British Thomson-Houston Co Ltd of Rugby for the supply of two four-wheel locomotives, each having two 38 h.p. motors which may have been supplied by GEC of USA. The locomotives were squat boxes in shape having a completely unprotected driving position at one end and sported one thick trolley pole about 7ft long. These locomotives proved very reliable in service hauling trains of 25 three-ton wagons uneventfully for many years. An unusual feature of the operation was that the trolley pole was not swung round at the end of each run but was kept in the same position all the time and thus outbound trains had to push the trolley in front of them. Although this was the normal pattern, the writer has an illustration showing a train apparently emerging from the tunnel with the trolley pole in the trailing position. This may well have been a staged view set up for an official maker's photograph.

Three additional locomotives to a very similar design were ordered from Greenwood and Batley, the works numbers and years of construction being 1545, 1566 and 1567 (all of 1938) and 1746 of 1941. The quarry was extremely busy during the war years and for service on the underground feeder lines the original 14 Wingrove & Rogers battery locomotives were supplemented by a further 18 Greenwood and Batley battery locomotives between 1938 and 1950. The line continued unaltered until 1962 when overhead wire operation was discontinued and the six larger locomotives were converted to battery operation. Whether the BTH machines were ever in fact used in this altered form is uncertain since the mine began to be run down and was closed by 1965, at which time the railway and its equipment were scrapped.

SUTTON COLDFIELD, WEST MIDLANDS

IAIN D.O. FREW



9" GAUGE MINIATURE RAILWAYS

I read with interest the letter from Arthur G. Wells, in NG 91, about Drusilla's Tea Cottage. I cannot confirm whether the pre-war gauge was 9in or not, or whether there was ever a steam locomotive, but I can oblige with a photograph.

The picture clearly shows a four wheel petrol locomotive, with starting handle and car-type headlamp at the front, and lettered "SOUTHERN" and "No 6". It is probably reasonable to assume that it was painted olive green!

There are probably more questions left unanswered by the picture than it actually solves. Who made the loco?, probably homemade, but what could be a works plate can be seen above "No 6". Were there really 5 other locos preceeding it?

HAYWARDS HEATH, SUSSEX

DAVID H. SMITH

WITHERNSEA MINIATURE RAILWAY

This line did not survive as long as Ken Hartley suggested in NG 90. I spend a holiday in Withernsea with my grandparents, and although I am not certain of the date it was certainly no later than 1936. The line had been abandoned by then and though a few lengths of track were scattered about the site there was no sign of any rolling stock.

GOLCAR, HUDDERSFIELD

PETER LEE

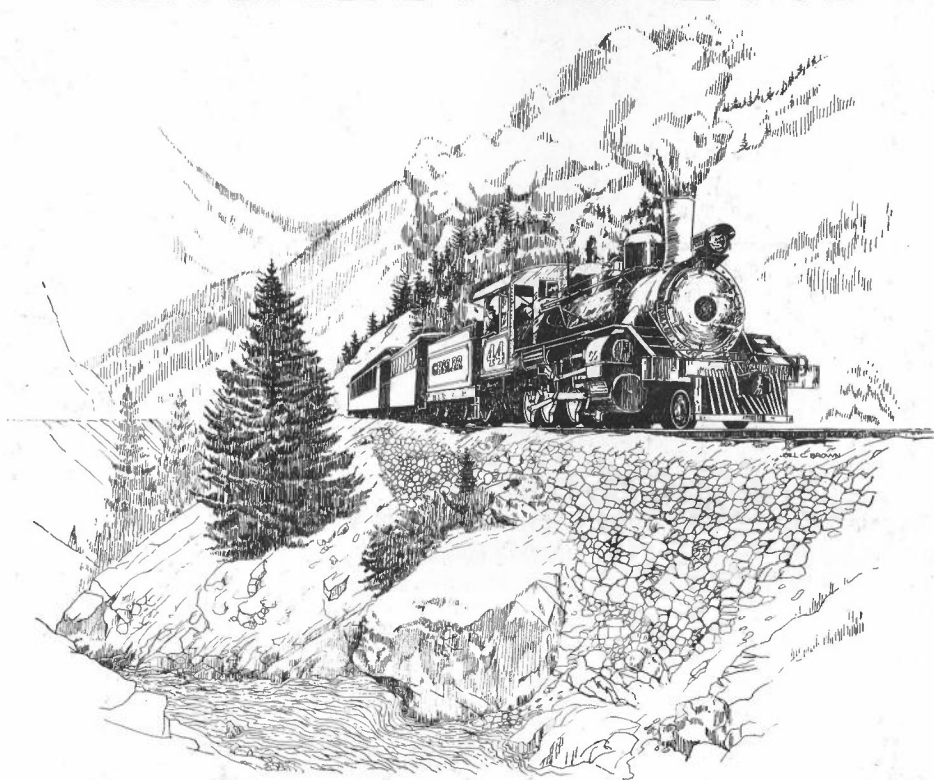
I glanced at illustrations of the Withernsea coach in NG 90 and muttered "Gosh, its got Parver bogies", only to check the article and find it was all about that firm. Only an hour before I was diriving a train fitted with these most excellent bogies, which had started life under 7 1/4in gauge wagons built in 1935 (or earlier). I rebuilt them for 9 1/2in gauge under well-wagon bodies about 1972 and they still run splendidly with their original bearings.

During the last war I was in a military hospital in Southport and was invited to Mr Greenwood's Birkdale home one day. I remember him with great affection; we had tea in the orchard alongside the small workshop described by Ken Hartley. I remember at the time wondering how they ever produced the size of product they did, but of course they had access to other manufacturing premises which were described to me but long forgotten. Mr Greenwood kept all his bits and pieces in screw-top jam jars, carefully labelled and with their lids screwed beneath a shelf. He demonstrated that a quick turn of the jar left the lid in place and it was never lost. I have used this system ever since!

MALVERN, WORCS.

JAMES I.C. BOYD

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This poster was issued by the Georgetown Loop R.R. for the reopening of the first section of 3ft gauge track in 1975. The line, one of the most ambitious new operations in Colorado, is laid on the spectacular section of the former Colorado Central R.R., closed in 1939.

(M. Swift collection)