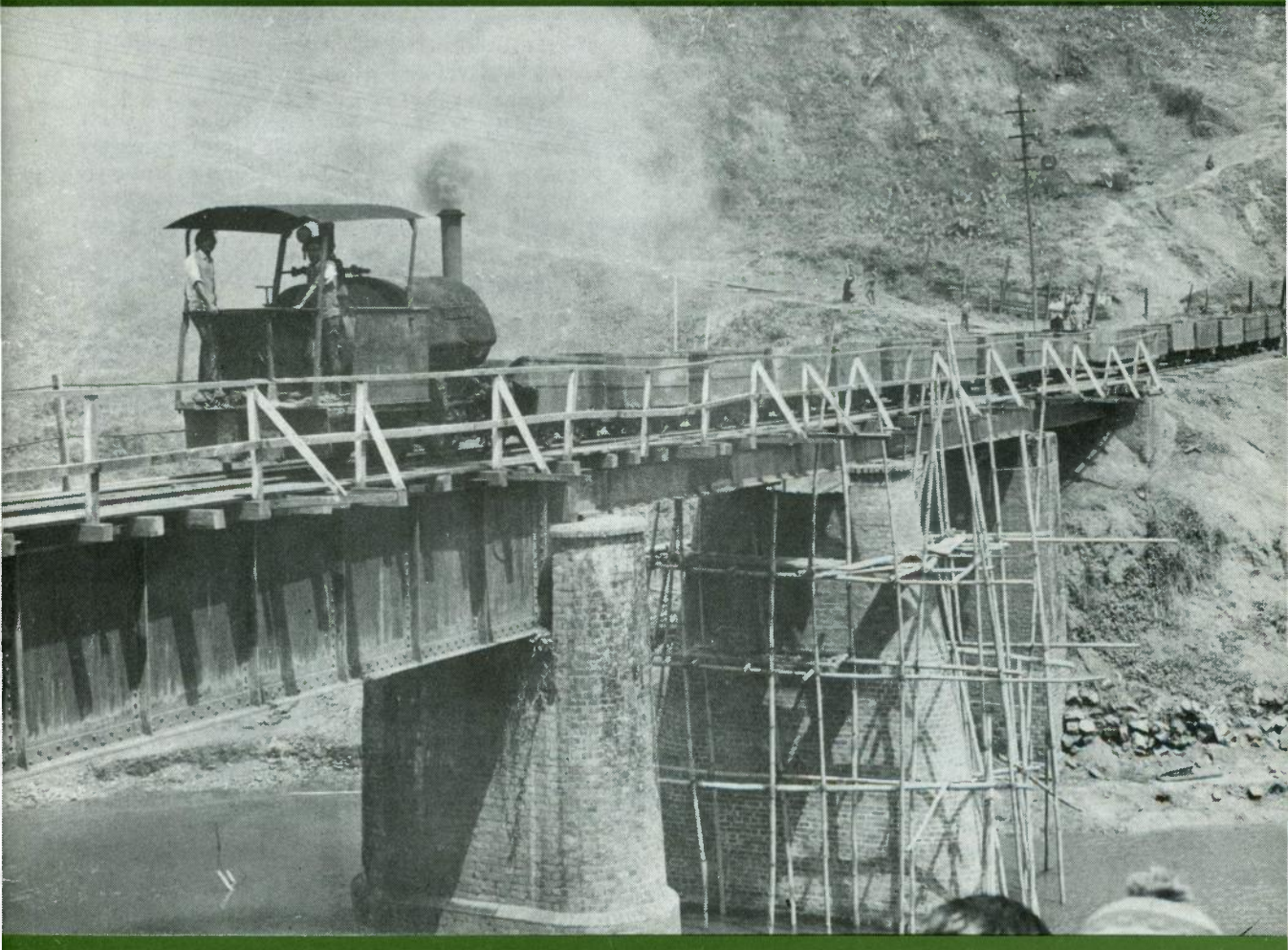
# THE NARROW GAUGE

## No. 99



NARROW GAUGE RAILWAY SOCIETY

# NARROW GAUGE RAILWAY SOCIETY

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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.

# THE NARROW GAUGE


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**No. 99 SPRING 1983**




*cover: SALLY, hauling a train of tubs at Tipong Pani colliery in March 1978, in one of the largest surviving group of 7in by 12in Bagnall saddle tanks locos, described in this issue by Allan C. Baker. (L.G. Marshall)*

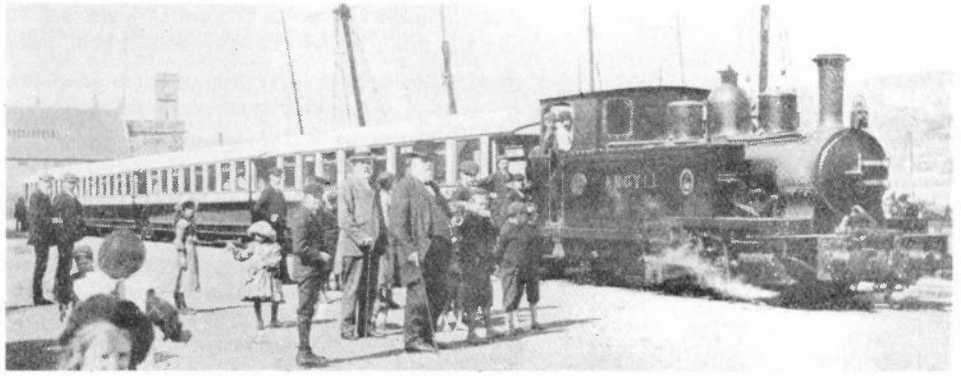
# A CAMPBELTOWN & MACHRIHANISH EXCURSION

A traditional day out from Glasgow was a trip 'Doon the watter' to the Clyde coast resorts of Dunoon, Rothesay and Arran, so it was no surprise that when the Campbeltown & Machrihanish Light Railway was proposed tourist traffic was expected to contribute considerably to the success of the line. The principal operator was Turbine Steamers Ltd, with a service from Wemyss Bay and Fairlie to Campbeltown calling at Lochranza on the north coast of Arran. Campbeltown Shipping Co. also had sailings to and from Glasgow, and the introduction of new, faster vessels in the early years of this century brought the city much closer to Campbeltown in terms of travelling time.

The railway developed from the 2ft 3in gauge mineral line of the Campbeltown Coal Company, which was improved and extended from a point near the Argyll Colliery into Machrihanish, then beginning to develop as a seaside resort and golfing centre. More important, however, was the extension at Campbeltown from the coal depot behind the town to the shore of Campbeltown Loch and a terminus on Hall Street right alongside the harbour, only yards from where the steamers docked. Its position in the roadway meant that the main running track was laid in tramway rail, and no buffer stop was provided at the dead end.

It had been hoped that the line, which was of course built under a Light Railway Order, would be opened in 1905 but this date proved too optimistic and it was August 1906 before the railway could be inspected. Fortunately, it was approved for immediate opening and was able to take advantage of the few remaining weeks of the holiday season, carrying more than 3,000 passengers each week in consequence.

In the summer of 1907 the service really came into its own. It was possible to leave Glasgow Central about 8.55 in the morning, travel by train to Wemyss Bay or Fairlie, board the turbine steamer KING EDWARD or QUEEN ALEXANDRA, enjoy a three hour sail calling at Lochranza and arrive in Campbeltown at 1 p.m. The 'steamer express' would be standing ready on Hall Street, probably made up of five or six of the smart, comfortable, end-balcony bogie saloon coaches capable of accommodating 300-400 passengers. One of the Andrew Barclay 0-6-2 tank engines would be on the front end and if the load was more than five coaches the second engine would bank from the rear. Departure was usually 10-20 minutes after the arrival of the steamer, and the train did not call at any of the six halts, thus completing the six mile journey in 20 minutes compared with the 30 minute schedule of the ordinary trains. On arrival at Machrihanish passengers could stroll on the shores of the Atlantic for an hour or so before returning to the train. Less than half-an-hour later the steamer would be heading out of the harbour for Wemyss Bay, and a fast train thence to Glasgow completed the excursion at around 7 p.m. The combined fare in 1907, covering third class rail travel and saloon accommodation on the steamer was seven shillings (35p) for 74 miles of rail travel and 110 miles by boat.




*A train on the new railway, headed by ARGYLL and surrounded by a group of onlookers who seem more intent on observing the photographer, stands on Hall Street ready to receive the excursionists.* *(N.G.R.S. Library)*

# THE YEOMAN HEY BYEWASH SCHEME

**R.A. Smith**

Yeoman Hey reservoir is the middle of the three reservoirs situated in the Greenfield Valley below the road from Holmfirth (A635) as it drops from the high Pennine moors towards the Lancashire cotton towns. Built between 1876 and 1880, the works were designed by the famous Manchester water engineer, J F La Trobe-Bateman. For fifty years the reservoir continued to supply water to the area covered by Ashton-under-Lyne, Stalybridge and Dukinfield (District) Waterworks Joint Committee, a similar satisfactory record to many other dams built in the same or earlier eras. However, the Dolgarrog disaster of 1925, the only dam collapse to result in fatalities during this century, caused thought to be given to the continuing safety of dams and resulted in the passing of the Reservoirs (Safety Provisions Act) of 1930. As if to emphasise the necessity of this legislation, a storm of unprecedented severity swept the Greenfield Valley on 4 September 1931, ¾ inch of rain being recorded in nine hours. Investigations showed that the safety of the Yeoman Hey embankment could only be guaranteed by the construction of flood relief works, which were eventually built along the north side of the reservoir between 1932 and 1935.

"The depression in the cotton trade had, unfortunately seriously affected the prosperity of the towns forming the Joint Committee's area of supply and as a result the Pennington Mills at Mossley were being demolished when work at Yeoman Hey was started. At the suggestion of Alderman Farr, of Mossley, negotiations for the purchase of all the stone forming these mills were put in hand, and a price fixed which assured a saving on the estimated cost of £1,500. What was once Pennington Mill is now two miles of excellent walling five feet high."

*Stone breaker and screening plant at Yeoman Hey quarry. The track in the foreground was used to bring rock to the breaker. (M.T.B. Whitson)*

*A locomotive hauling a tip wagon along the byewash trench at an early stage in the construction. The hillside to the left is now covered by conifers, and the white building on the left, Bill's o' Jack's, scene of a notorious double murder, has long been demolished.* *(M.T.B. Whitson)*

"Yeoman Hey quarry" (at the bottom left of the Waterworks road leading down from the A635 to the embankment), "was opened up and a stone breaker and screening plant installed. This quarry provided all the mason dressed stone and concrete aggregate used in construction. Power for operating the plant was obtained from a turbine in the filter house actuated by compensation water discharged from Chew Reservoir. This plant produced 6,000 tons of crushed stone, 2,000 tons of sand and 1,000 tons of dressed stone at a price which represented a considerable saving over purchased stone, due to low operating costs and proximity to the works."

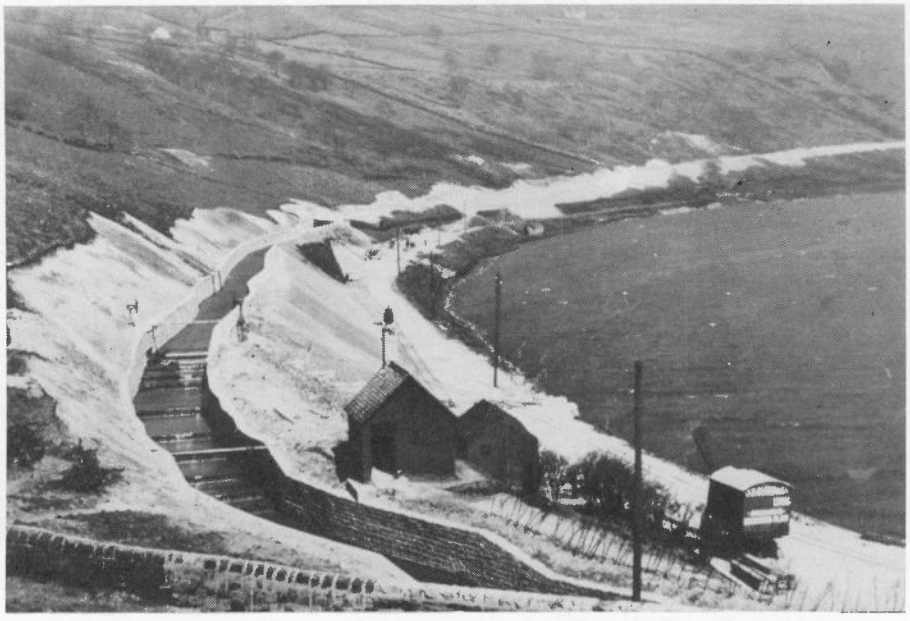
"Transport on works of this nature is always a difficult problem and was overcome by the use of one and a half miles of light railway track and two petrol locomotives. Using the quarry as a base, track was laid to all parts of the works. The cement shed and stores were placed near the screening plant in a position to facilitate loading and unloading and no hitch was experienced in the maintenance of a uniform flow of material."

An attempt was made to raise a Government loan to cover some of the costs. Estimates placed before the Ministry of Health make interesting reading:

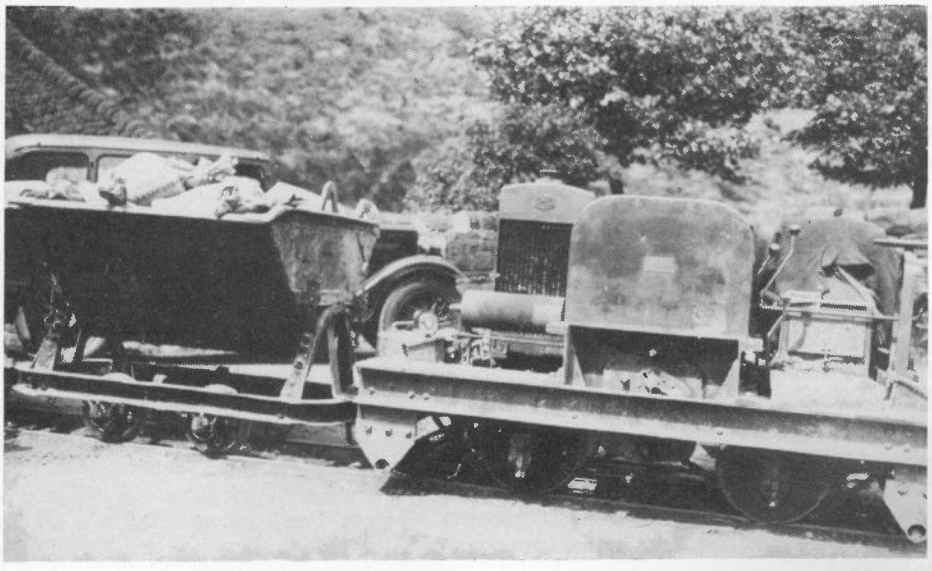
| | | |
|---|---|---|
| Use and hire of locos (2) | 52 weeks at £6 | £624 |
| Use and hire of rails | | £ 62.80 |
| Use and hire of Jubilee wagons | | £290 |
| To lay 1½ miles loco rails | | £100 |

In the event the railway equipment was purchased and subsequently used on other works carried out by the Joint Committee. Most of the rails were, it is believed, spiked to wooden sleepers set in the ground. The track layout was relatively simple, consisting of a line starting in the quarry then running past the dam and beside the bank of the reservoir before climbing gradually to meet the byewash. This line connected at two points with a track laid along the bottom of the byewash which continued to the embankment of the Greenfield reservoir, further up the valley.

Two Motor Rail 'Simplex' petrol locomotives were probably obtained second-hand because it has proved impossible to identify them so far. The Jubilee side-tipping wagons shown in photographs were a battered collection of various types from different builders, and had obviously seen much hard use with previous owners.



*The works nearing completion, with water in the byewash, but track remaining beside the reservoir. Note the control valves for the weir at the highest step in the byewash, and the Priestman Cub excavator on the right.* *(M.T.B. Whitson)*



*A 'Simplex' petrol loco and wagons in front of Mr. Whitson's Morris tourer.*
*(M.T.B. Whitson)*

*The end of the line! Track ripped out of the route between the quarry and the embankment during renovation work in 1981.* *(R.A. Smith)*

"Twenty thousand cubic yards of material were excavated by means of a Priestman Cub excavator of a quarter of a cubic yard capacity. This small excavator was able to work in the twelve foot cutting" (i.e. in the flood water course) "and load Jubilee wagons on the site."

The water course also serves the purpose of preventing discoloured water from the peat moors produced during heavy storms from entering the reservoirs, thus maintaining water of greater purity which can be more economically treated and filtered. This was achieved by a step in the water course where a weir was situated so that normal clear water drops into a channel leading to the reservoir, but discoloured flood water passes across the wier and is discharged into the valley river. The capacity of the byewash can be judged from its ability to fill Yeoman Hey reservoir, which holds 200 million gallons, in 24 hours. The prudent economies indicated above enabled the whole scheme to be completed at the cost of £23,701!

Most of the track was in place until 1981, when major improvements (cost approximately £2 million) were made to the overflows, valves and pipework of both Yeoman Hey and Greenfield reservoir, higher up the valley. This recent work, designed by Binnie and Partners, and contracted to George Dew and Co. Ltd. of Oldham, was undertaken with the help of modern wheeled plant, for which roadways were prepared across the site necessitating the removal of the track, but still leaving most of the byewash as a monument to an interesting project of the early thirties.

Acknowledgements are due to Mr. M.T.B. Whitson, Water Engineer to the Ashton, Stalybridge, Hyde and Dukinfield Joint Water Board (1930-1968, President of the Institution of Water Engineers, 1961-62) who wrote a description of this, his first major project, in 1935. The passages in quotation marks are, mutatis mutandis, from this report. Mr. Whitson also provided most of the photographs and much useful information. The help of Dr. A.K. Hughes of the North West Water Authority in tracing these negatives is gratefully acknowledged, as are the librarians of Stalybridge Local Studies Centre and the Public Record Office for finding relevant documents.

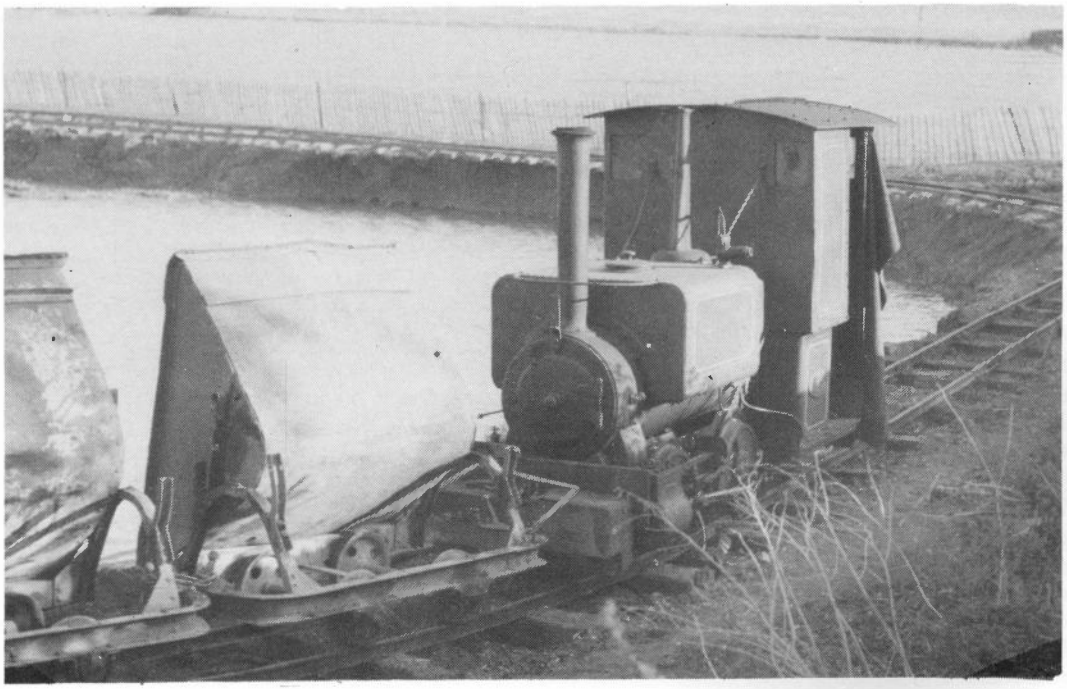
# LOCOMOTIVES FOR MINES & QUARRIES

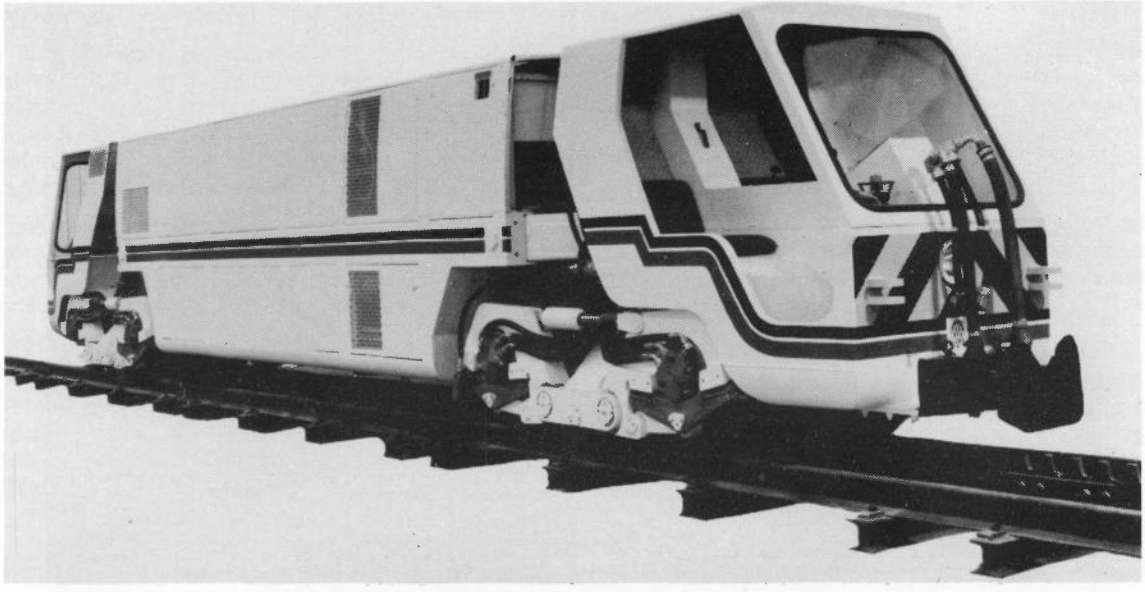
R.D. Darvill

For more than one hundred years the demands of mines and quarries have produced a very varied selection of narrow gauge railway systems and equipment, but with the advent of rubber tyred vehicles and conveyor belts many railways were gradually displaced. Nowadays it is the exception rather than the rule to find a rail system in operation, the main exception being the National Coal Board which still operates the largest fleet of narrow gauge locomotives in the United Kingdom, although the majority of these are in use underground and are not readily visible. This article illustrates a variety of motive power driven by steam, petrol and diesel engines, which has been used over the past sixty years or so.

Steam power is represented below by a diminutive Kerr Stuart "Wren" class 0-4-0 saddle tank with a train of side tipping wagons at the Little Billing Sand Pits of the Billing Gravel Co. Ltd., near Northampton. The photograph was taken by L. Hanson in 1935. This locomotive, Kerr Stuart 2420, was one of a batch of six delivered to Catterick Bridge, Yorkshire in 1915, probably for construction work on the Army Camp. It was later used by Aubrey Watson Ltd., contractors, on work at Dashwood Hill, Bucks., and then passed to Billing. Its subsequent history is uncertain, but it may have been sold to the Wraysbury Sand & Gravel Co. Ltd., also in Bucks.

Bath & Portland Stone Firms Ltd. operated a very complex system of quarries and underground mines in the Corsham area of Wiltshire, and these were connected by a 2ft 6in gauge tramway which linked the various sites to loading wharves beside the G.W.R. at Corsham station. From 1881 the tramway was worked by horses, but in 1931 a petrol locomotive was introduced on the surface line from Park Lane Quarry, a distance of about 3½ miles. This machine was supplied by Muir Hill Ltd., Manchester, works number L108, and is shown in the upper picture, taken in 1934, leaving Monks Park Quarry with a train of stone blocks for delivery to the G.W.R. The surface line was closed in 1939 and the loco was then transferred to Monks Park Quarry for use on the short surface line there. It was later fitted with a diesel engine and survived until about 1970 when it was scrapped.





The lower picture shows the futuristic design of the latest underground locomotives, the first type 160RA machine built by G.M.T. Ltd., Hellaby, Rotherham, South Yorkshire for the N.C.B. Selby coalfield. This is a 2ft 6in gauge double-bogie, articulated locomotive with rack and adhesion drive. It is powered by a 160 h.p. M.W.M. D932/8 flame-proofed diesel engine, with hydraulic transmission, and has a top speed of 17.6 m.p.h. All G.M.T. locomotives are identified by name rather than works number—a nice period touch for such a modern design—and this particular example carries the name ANDREA. It is the first of three ordered for Selby, was built in 1982 and delivered to Gascoigne Wood Colliery in January 1983.

# THE 7" BAGNALLS

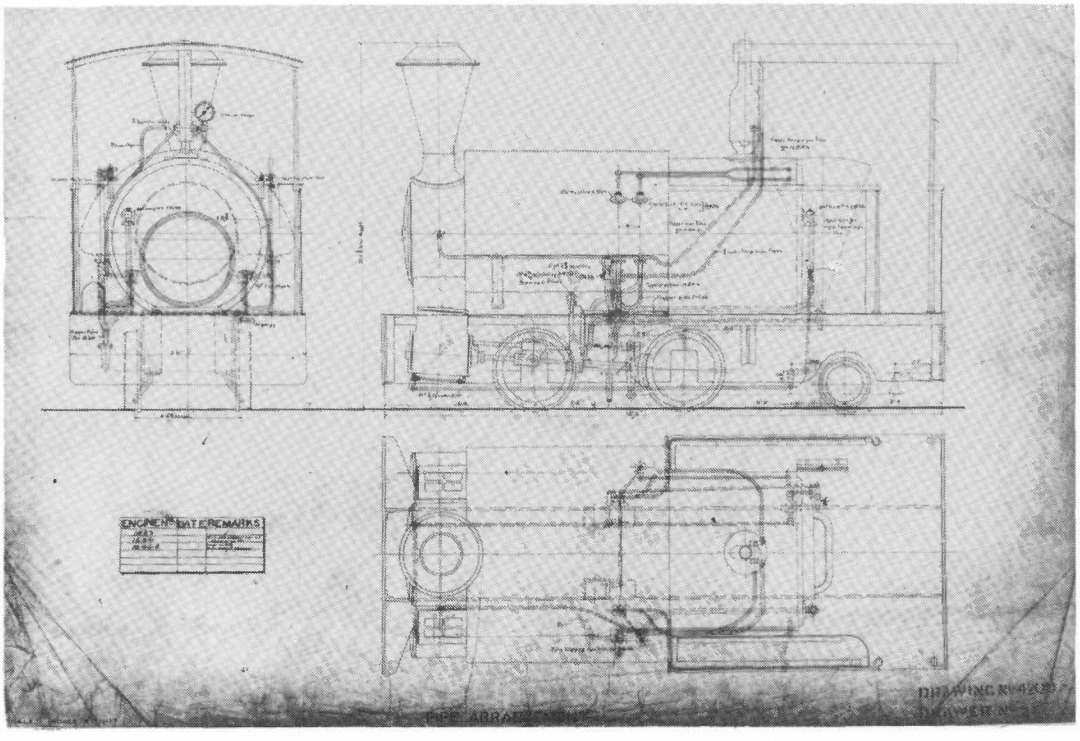
**A history of the 7in × 12in cylindered Bagnall narrow gauge locomotives**

**Allan C. Baker**

In an earlier article, 'Margarets & Mercedes', *(The Narrow Gauge No. 89* Autumn 1980) I traced the history and development of some of those locomotives that so characterized the products of Messrs. W.G. Bagnall Ltd., the small four coupled narrow gauge saddle tank with a circular firebox of marine pattern. The locomotives then described all had 6in diameter cylinders with 9in stroke except for a few (included for the sake of completeness) which had a diameter of only 5½in. In this sequel I propose to describe the slightly larger variant having cylinders with a diameter of 7in and a stroke of 12in together with a few others of similar type fitted with either 6½in or 7½in diameter cylinders and varying stroke. Additionally, for completeness, a few other engines are included, that for one reason or another were built with conventional locomotive type fireboxes.

Obviously, many of the general remarks in the previous article also apply to these locomotives. The type name of 'Margaret', often equally applied to these 7in engines in Bagnall literature but, as such type names tended to fall out of use the later title of 'Mercedes' was never used to describe these larger sisters. In total no less than one hundred 7in × 12in cylindered saddle tanks were built, along with ten others having 6in, 6½in or 7½in cylinders and the longer stroke. They were produced over the period December 1895 to November 1953; no less than 58 years as against 44 years for the smaller version; undoubtedly the longest lived Castle Engine Works type.

The design closely followed the earlier engines with inside frames of 9/16in plate spaced by cast or fabricated stretchers and a cast iron smokebox saddle, the latter often having additional spacer pieces to permit variations in frame spacing and thus rail gauge. Outside cylinders, inclined at 1 in 15, together with single slide bars drove



*Pipe arrangement drawing showing the 0-4-2 type, works numbers 1483, 1636, 1646-48, with spark arrester chimney. Two injectors and a pump are shown but the latter was only fitted to 1636.* *(collection A.C. Baker/T.D.A. Civil)*

the 1ft 9½in diameter coupled wheels and some locomotives sported a trailing two wheeled truck to either improve the riding where longer hauls were involved, or allow an increase in fuel capacity. Many locomotives were designed to burn fuels other than coal and large racks were sometimes mounted on the saddle tank for this purpose; when this was the case the tanks themselves were often of square, rather than round form.

Earlier engines quite naturally had Baguley Patent valve gear, but from works number 1732 of May 1904 Bagnall-Price valve gear became standard. Works number 1720 was intended to receive the new gear, but in fact became the last standard saddle tank of either 6in or 7in type to have Baguley gear because of a slight delay in design and drawing work. Indeed, some drawings are marked up in error and could lead the unwary to believe that she—and her sister 1721—were fitted with the new gear, but this was not the case. From works number 2054 of 1917, like the 6in engines, there was another change to Walschaerts valve gear and, apart from the last example, drawing number 9635 (dated 3rd July 1917) is the general arrangement of the Walschearts valve motion used for every subsequent member of the class. Oh that all were so simple...! This drawing gave the slide valves a full gear travel of 2in with 7/16in lap and 3/32in lead.

The 'marine type' (Bull-Head in Bagnall parlance) boiler with circular steel firebox was, of course, used together with a circular smokebox and cast iron saddle. However a few locomotives, like some 6in engines, did have a conventional loco-type boiler and firebox arrangement and some were fitted with spark arresters of varying design, and no doubt varying effectiveness. Gravity sanding gear was usually employed, with two sand boxes fitted under the saddle tank or alongside the smokebox, or a single box on top of the firebox or under the roof canopy; in all cases operated by rods from the footplate. Two injectors mounted under the saddle tank fed the boiler through clack valves mounted on the boiler back-head or, on some locomotives, one injector and a cross-head driven feed pump, the latter usually fixed to the left hand side. A simple canopy carried on four posts was the usual protection given to crews, with the addition of a double roof on export orders, but the occasional locomotive had a full cab or one was often added by their owners later.. There were other variations: as already mentioned a few locomotives were built with normal loco-type boilers complete with a centrally mounted dome which protruded through the saddle tank. One locomotive, works number 2841, had a saddle tank which extended over the smokebox. Unusually, two were built to no less than 4ft gauge (works numbers 2466 and 2497). The last one of all, works number 3051, had a much larger and longer boiler resulting in offset steampipes to the cylinder, and a dome mounted at the rear of the boiler barrel and protruding through the tank. This locomotive, together with numbers 2841 and 2890, had injectors located beneath the cab footplate.

Like the 6in engines the steam pipes were originally integral with the smokebox saddle casting, but works number 1857 was the last engine with this feature, later replaced by external cast elbows. Photographic evidence suggests that some owners modified earlier versions themselves, often rather crudely, and the Cliffe Hill Granite Co. locomotives were notable for this. Hand screw brakes, simple displacement lubricators, Ramsbottom safety valves atop the firebox mounted dome, together with different types of drawgear to suit customers requirements completed the design.

Of course, many of the locomotives went on to give long and varied service in all sorts of spheres and all corners of the globe; indeed some still survive in preservation and even in industrial use. Many spares were supplied from Stafford to keep them all at work and it may be of interest to list below those fireboxes and complete boilers supplied over the years. Of course, this would not include spares acquired from other sources.

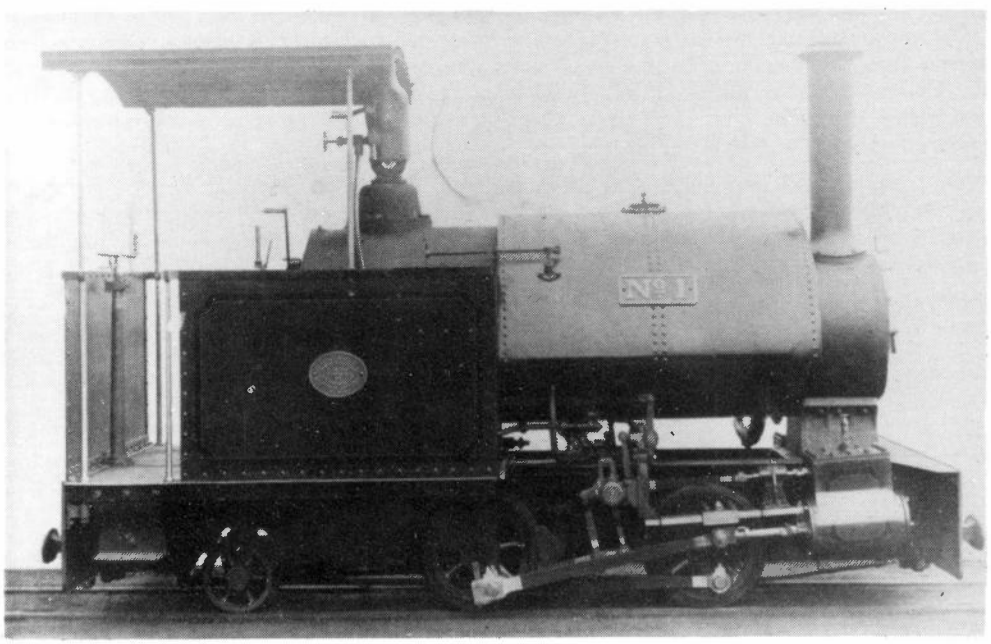
| *Works number* | *Spare* | *Date* | *Works number* | *Spare* | *Date* |
|---|---|---|---|---|---|
| 1491 | Boiler | 1/1898 9/1908 5/1931 | 1779 | Boiler | 7/1927 |
| 1614 | Boiler | 10/1921 | 1944 | Boiler | 11/1939 |
| 1618 | Boiler | 8/1929 | 2133 | Boiler | 11/1939 |
| 1635 | Boiler | 9/1922 | 2135 | Firebox | 6/1948 |
| 1636 | Boiler | 1/1920 | 2447-8 | Two boilers | 9/1950 |

The following appendices list these locomotives with their original owner and main dimensions. Observant readers will notice that—like their 6in sisters—batches were often laid down to stock, usually during periods when the works was short of business, and left unfinished until firm orders were received. It will also be seen how production decreased after the First World War as a result of changes in the equipment used by the contracting industry, a former staple customer for narrow gauge locomotives of small dimensions.

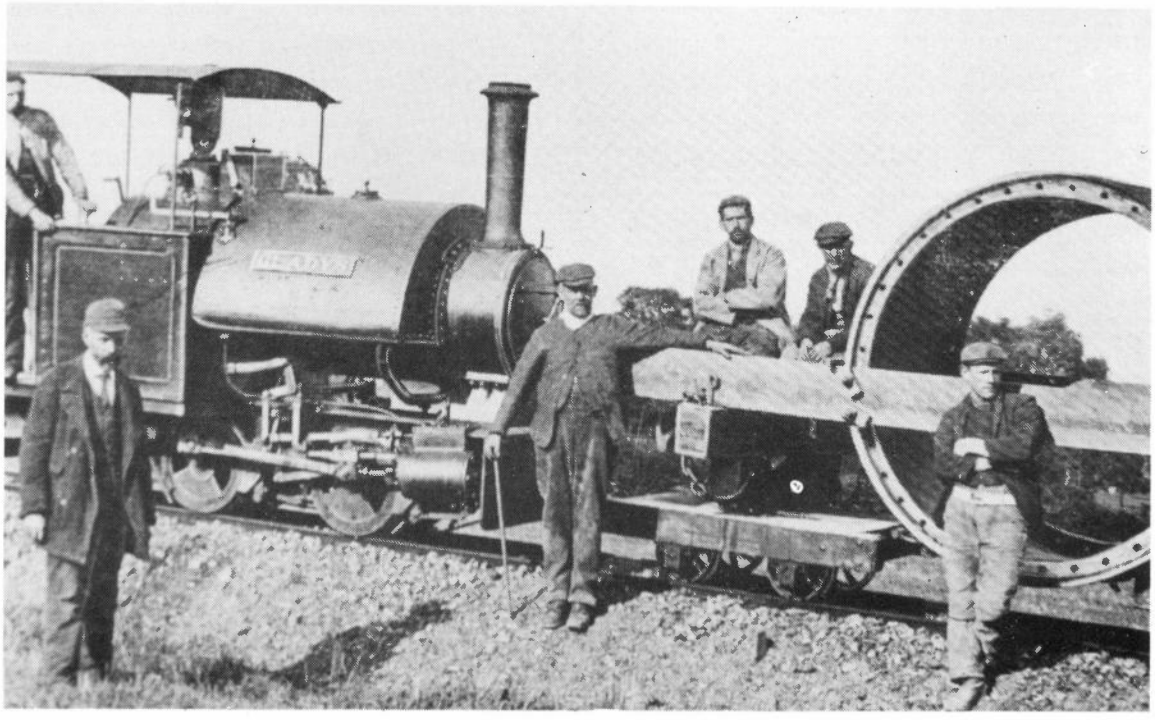
As always I must thank my co-author in *Bagnalls of Stafford,* T.D. Allen Civil, for his usual assistance with this article together with Andy Forret, now retired, and formerly of G.E.C. Traction Ltd., at Vulcan Foundry. Andy was a stalwart assistant during a great many visits to study the remaining Bagnall records.

## Appendix One: List of Locomotives

| *Works number* | *Order date* | *Delivery date* | *Gauge* | *Name* | *Cost each* | *Customer(as new)* | *Notes* |
|---|---|---|---|---|---|---|---|
| 1475 | 19/9/1895 | 12/1895 | 2'5½" | MAMELUCO | £380 | J. Milne & Sons Ltd, for Usina Mameluco, Brazil | |
| 1483 | 18/5/1896 | 8/1896 | 2'5½" | LIMOEIRINHO | £430 | J. Milne & Sons Ltd, for Usina Mameluco, Brazil | (1) |
| 1491 | 14/5/1896 | 2/1897 | 2'0" | ISABEL | £385 | Cliffe Hill Granite Co. Ltd, Markfield, Leics | (2) |
| 1503 | 1/12/1896 | 3/1897 | 2'5½" | PICON | £386 | Carlos Yenson | |
| 1551 | 14/6/1898 | 9/1898 | 3'0" | MOURNE | £453 | Fisher & Le Fanu, contractor for Coolas Cross & Cashell Rly. for GSWR, Ireland | |
| 1585-6 | 5/7/1899 | 10-11/1899 | 1'11 5/8" | No. 138, No. 139 | £575 | John Aird & Co, contractor | (3) |
| 1614 | 26/3/1900 | 10/1900 | 1'11 5/8" | ISABEL | £475 | G. Farren, Welsh Granite, Trevor Quarries, Caerns | |
| 1618 | 25/4/1900 | 11/1900 | 2'0" | LESTER | £475 | Enderby Welsh Granite Co Ltd, Tyddyn Hywel, Caerns | |
| 1635 | 5/10/1900 | 8/1901 | Metre | HILIKA | £473 | J. Reid & Co, Assam Frontier Tea Co, India | |
| 1636 | 1/11/1900 | 1/1901 | 2'5½" | H.B. PERRY & CO | £574 | H.B. Perry & Co, Bahia, El Salvador, Brazil | (1) (21) |
| 1644-5 | 14/12/1900 | 3/1901 | 1'11 5/8" | — | £438 | Mitrovich Bros, Chile | |
| 1646-8 | 8/1/1901 | 6/1901 | 2'0" | No. 1—No. 3 | £508 | Thomas Wilson & Co, London agents | (4) |
| 1655 | 30/4/1901 | 17/9/1901 | 2'6" | STRACHAN No 9 | £428 | J. Strachan, contractor, Cardiff (sent to Welshpool) | |
| 1663 | 9/10/1902 | 11/1902 | 1'11" | SIR J T FIRBANK | £365 | Old Delabole Slate Co, Camelford, Cornwall | (5) |
| 1664-7 | 1/1903 | 4/1903 | 2'7½" | ANDRE L D'ARIFAT No 1<br>THOMY L D'ARIFAT No 2<br>No 3 and No 4 | £465 | L. Mitchell for Les Forges & Fonderies, Mauritius | (6) |
| 1670 | 31/8/1901 | 11/1901 | 2'11¾" | SIR BOSDIN | £450 | Manchester Corp. Rivers Dept, Davyhulme Sewage Wks. | |




*No. 1 (1646 of 1901) was an 0-4-2ST with Baguley patent valve gear, and the early pattern of smokebox saddle with integral steam pipes. The special large works plate includes details of the purchasing agent.* *(collection A.C. Baker/T.D.A. Civil)*



*GLADYS (1740 of 1903), seen here with a pipe wagon on the Wrexham & East Denbighshire Water Co. construction works at Tymawr reservoir, was a 6½in × 10½in locomotive with Bagnall-Price valve gear.* *(collection A.C. Baker/T.D.A. Civil)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1674 | 10/10/1901 | 12/1901 | 3'0" | CRAY | £425 | Swansea Corp, Cray Reservoir Construction | |
| 1675 | 5/1/1901 | 3/1902 | 2'6" | — | £430 | Mitrovich Bros, Chile, for Santiago Nitrate co. | |
| 1676 | 10/1901 | 6/1902 | 2'11¾" | DREYFUS | £450 | Manchester Corp. Rivers Dept, Davyhulme Sewage Wks. | |
| 1677 | 10/1901 | 10/1902 | 2' 6' | — | £430 | Mitrovich Bros, Chile | |
| 1704 | 27/9/1902 | 12/1902 | 3'0" | PENWYLLT | £465 | Swansea Corp, Cray Reservoir Construction | (19) |
| 1716 | 24/11/1902 | 2/1903 | 2'5½" | OCHANDIANO | £428 | Ricardo de Damborena, (for Spain?) | |
| 1717 | 8/12/1902 | 2/1903 | 3'0" | MARY | £425 | W & J Foster, Grane Reservoir Const, Haslingden, Lancs. | |
| 1718 | 6/3/1903 | 7/1903 | 3'6" | — | £530 | New Plymouth Timber Co, Tariki, New Zealand | (7) |
| 1720-1 | 5/2/1903 | 5/1903 | 2'7½" | Nos 6-7 | £515 | L. Mitchell for Les Forges & Fonderies, Mauritius | (4) |

(1) 0-4-2 with cylinders 7½" × 12", spark arrester chimney.

(2) In 1898 (Order No. 623) this locomotive was fitted with a conventional locomotive type boiler, presumably for its owners to evaluate the two types. In September 1908 (Order No. 602) a replacement "Bull-Head" type boiler was supplied.

(3) Cylinders 7" × 11", fitted with cross head driven boiler feed pump. Conventional loco-type boiler, copper firebox and brass tubes.

(4) 0-4-2

(5) Cylinders 6½" × 10"

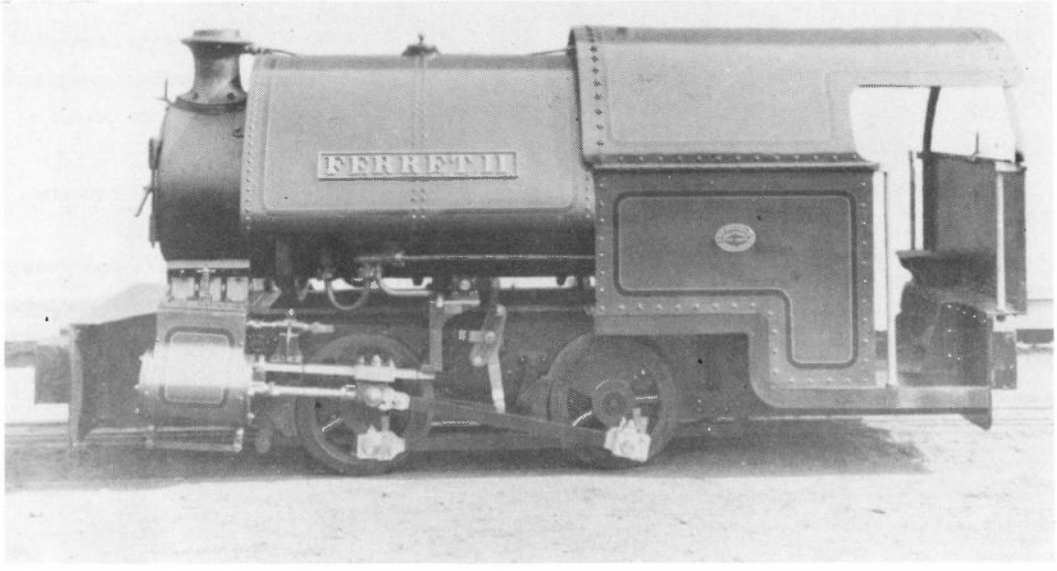
(6) 0-4-2 with cylinders 6½" × 10", copper firebox and brass tubes.

(7) Straight sided saddle tank and wood rack. Copper firebox and brass tubes.

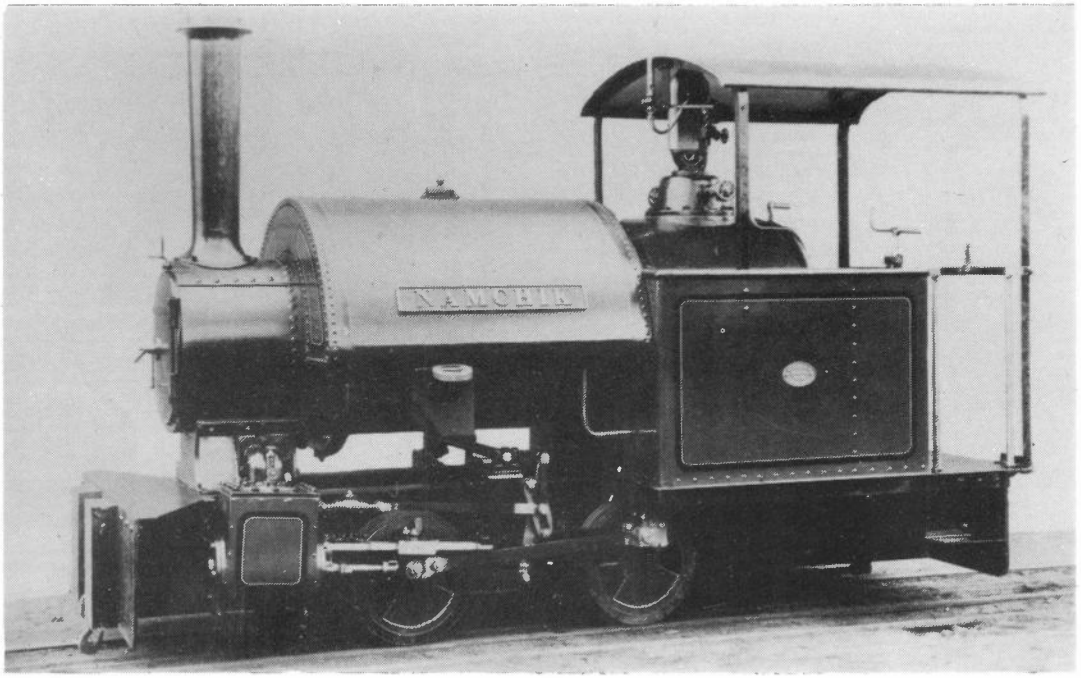
(19) Copper firebox and brass tubes

(21) Fitted with cross-head driven boiler feed pump

| | | | | | | |
|---|---|---|---|---|---|---|
| 1732 | 25/4/1904 | 5/1904 | 2'0" | LHASI-JAN | £422 | Assam Railways & Trading Co, Margherita, Assam (8) |
| 1733 | 25/4/1904 | 5/1904 | 2'0" | RAM RING | £422 | Assam Railways & Trading Co, Margherita, Assam |
| 1734 | 5/8/1904 | 10/1904 | 2'9" | LYDIA | £450 | Gas Light & Coke Co, Bromley by Bow Wks, London |
| 1735 | 19/10/1904 | 12/1904 | 2'5½" | B S MATAPIRUMA No 3 | £450 | J. Milne & Sons Ltd, for Usina Mameluco, Brazil (9) |
| 1740 | 8/1903 | 10/1903 | 2'0" | GLADYS | £460 | Wrexham & East Denbighshire Water Co, Tymawr (10) |
| 1757 | 1/2/1905 | 4/1905 | 2'0" | No 3 | £475 | Queenborough Cement Co. Ltd, Queenborough, Kent |
| 1758 | 27/2/1905 | 4/1905 | 2'6" | — | £430 | Mitrovich Bros, Chile for Santiago Nitrate Co. |
| 1759 | 27/2/1906 | 3/1906 | 2'6" | — | £430 | Mitrovich Bros, Chile for Santiago Nitrate Co. |
| 1760 | 17/2/1906 | 5/1906 | 1'10¾" | SYBIL | £420 | Ernest Neal for Dinorwic Slate Quarries, Llanberis |
| 1777 | 27/4/1906 | 6/1906 | 2'5½" | OCHANDIANO No 2 | £425 | El Material Industrial, Bilbao, Spain |
| 1778 | 7/5/1906 | 6/1906 | 2'6" | — | £430 | Mitrovich Bros, Chile |
| 1779 | 10/2/1906 | 5/1906 | 2'6" | KOKOMAIKO | £510 | Crown Agents for Lagos Steam Tramway, Nigeria (11) |
| 1780 | 13/2/1907 | 6/1907 | 2'0" | — | £440 | Takata & Co, shipped to Kobe, Japan |
| 1790 | 13/12/1905 | 1/1906 | Metre | ALVARO MACHADO | £380 | Henry Rogers Sons & Co. Ltd, for Pernambuco, Brazil (12) |
| 1818-9 | 17/5/1906 | 8/1906 | 1'11 5/8" | No. 203, No. 230 | £500 | J. Aird & Co, contractor, for Nile Delta Contract, Egypt (13) |
| 1820 | 10/4/1907 | 7/1907 | 3'0" | RHIW | £450 | H.B. Smith for North Wales Iron & Manganese, Rhiw, Aberdaron |
| 1821 | 13/7/1907 | 10/1907 | 2'0" | BANGU | £465 | London & Hanseatic Bank |
| 1852 | 25/7/1907 | 12/1907 | 2'6" | — | £430 | Mitrovich Bros, Chile |
| 1853 | 22/1/1908 | 4/1908 | 2'6" | FERRET II | £450 | A.C. Bealey & Co, Radcliffe, Lancs. |
| 1854 | 25/11/1908 | 1909 | 2'6" | — | | J. Birch & Co, agents (4) |
| 1855 | 25/11/1908 | 1909 | 2'0" | BEATRICE | | Gas Light & Coke Co Ltd, Bromley by Bow Wks, London |




*FERRET II (1853 of 1908) was a standard 7in locomotive with Bagnall-Price valve gear, but cut down to work inside the chemical works of A.C. Bealey & Co. Ltd, Radcliffe, Lancs.*
*(collection A.C. Baker/T.D.A. Civil)*




*Compare the condition of NAMCHIK (1962 of 1913), a standard 7in locomotive with Bagnall-Price valve gear, with that of JOAN. Both locomotives were delivered to Assam.*
*(collection A.C. Baker/T.D.A. Civil)*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1856 | 24/7/1909 | 1909 | 3'0" | POLEFIELD | | James Byrom Ltd, Heaton Park Reservoir Contract, Lancs. |
| 1857 | 23/4/1909 | 1909 | 3'6" | — | | J. Terry & Co, for Christchurch Gas Wks, New Zealand |
| 1863 | 15/6/1907 | 1907 | 2'0" | J.C. GRAY | | North Wales Quarries Co, Bethesda, Caerns.(5) |
| 1892-3 | 7/9/1909<br>9/12/1909 | 1910 | 2'7½" | PACA Nos 2 & 3 | | Adolpho T Simpson, agents, Bilbao |
| 1894 | 28/5/1912 | 1912 | 2'6" | RANGER | | Cape Copper Co, Ookiea, Port Nolloth, S. Africa |
| 1895 | 5/1/1909 | 1909 | 2'6" | NIPPER | | Admiralty for Hoo Ness Island (11) |
| 1901 | 2/8/1911 | 10/1911 | 2'10½" | POWERFUL | £420 | Kneeshaw Lupton & Co, Llandulas, Denbs. |
| 1902 | 11/11/1911 | 1912 | 3'6" | — | | J. Birch & Co, for Powell Wood Process Ltd. Westland, New Zealand. (14) |
| 1937 | 24/5/1912 | 1912 | 2'0" | YENI No. 3 | | Bolling & Lowe, agents for Kilmarnock Engineering Co. |
| 1938-9 | 10/6/1912 | 1912 | 2'5½" | LULUS & PABLO | | McCarter & Kerr Block, for Leia Hydro Electric de Tucuman, Argentina |
| 1944 | 5/5/1911 | 9/1911 | 2'6" | — | £575 | Crown Agents for Lagos Steam Tramway, Nigeria (11) |
| 1947 | 25/9/1911 | 1912 | 2'6" | NESS | | Admiralty for Hoo Ness Island (11) |
| 1961 | 14/9/1912 | 1912 | 3'0" | TOM | | Park Gate Iron & Steel Co, Rotherham, Yorks. |
| 1962 | 12/2/1913 | 3/1913 | 2'0" | NAMCHICK | | Assam Railways & Trading Co, Margherita, Assam |

(8) First of class with Bagnall-Price valve gear.

(9) Cylinders 7½" × 12". Woodrack on round tank top.

(10) Cylinders 6½" × 10½"

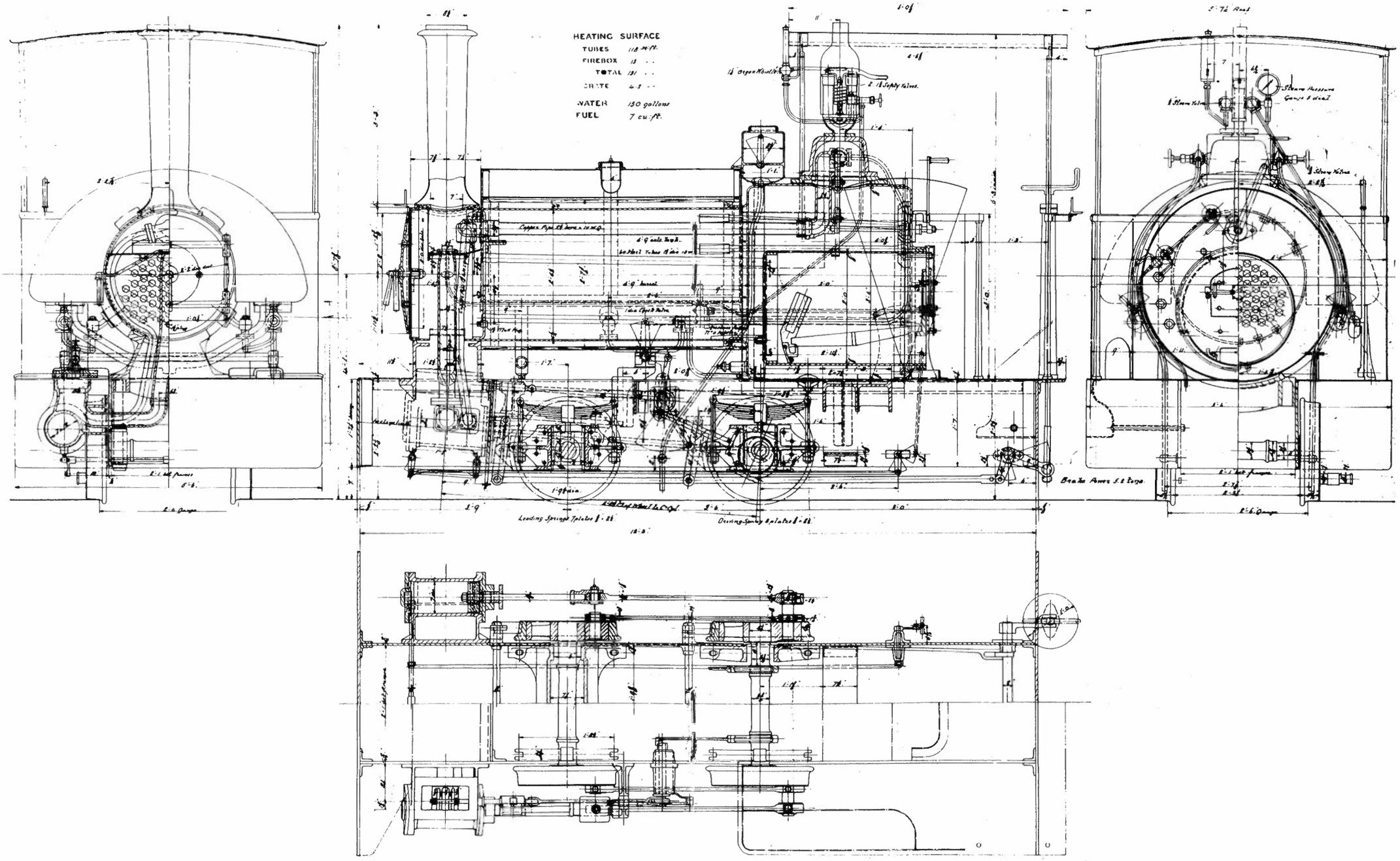
(11) Normal locomotive type boiler. (1895 & 1947 steel firebox and steel tubes).

(12) 0-4-2 with cylinders 6½" × 9".

(13) Cylinders 7" × 11". Loco-type boiler with copper firebox and brass tubes.

(14) 0-4-2. Wood rack fitted on round tank.

*(continued on p. 16)*




## CENERAL ARRANCEMENT

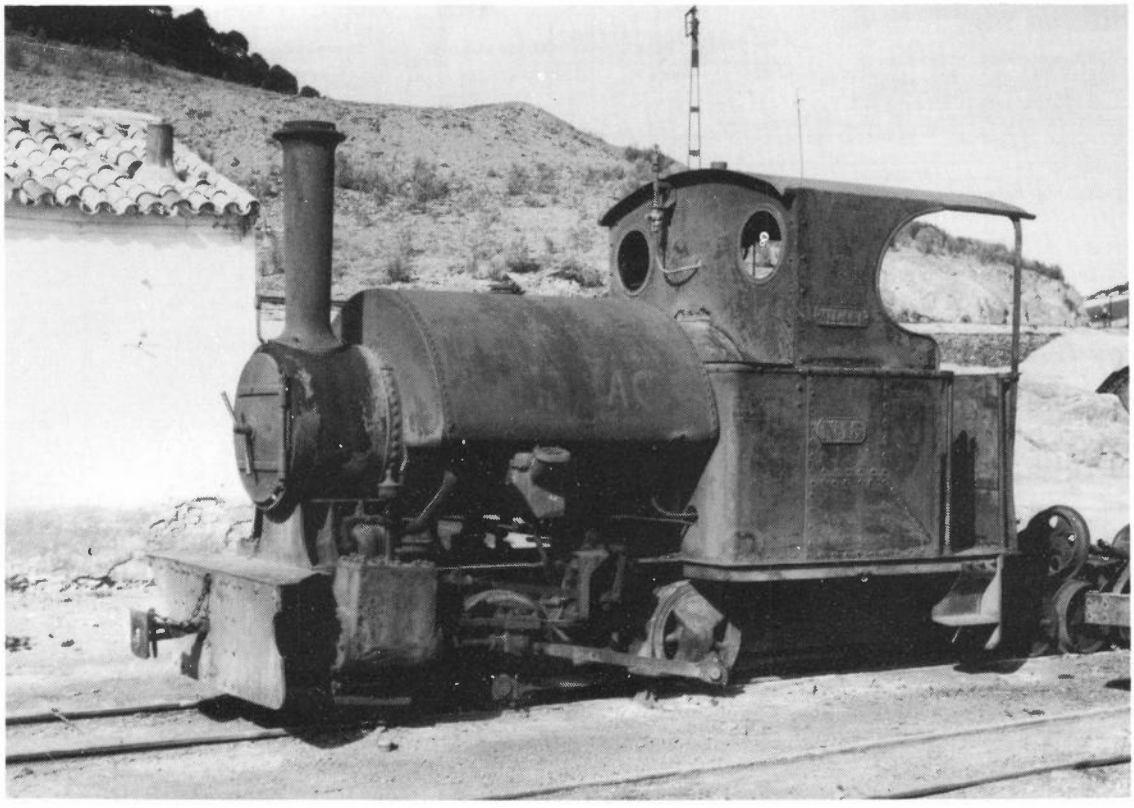
## 7 x 12 LOCO

ENGINE Nº 1758

DRAWING Nº 6460

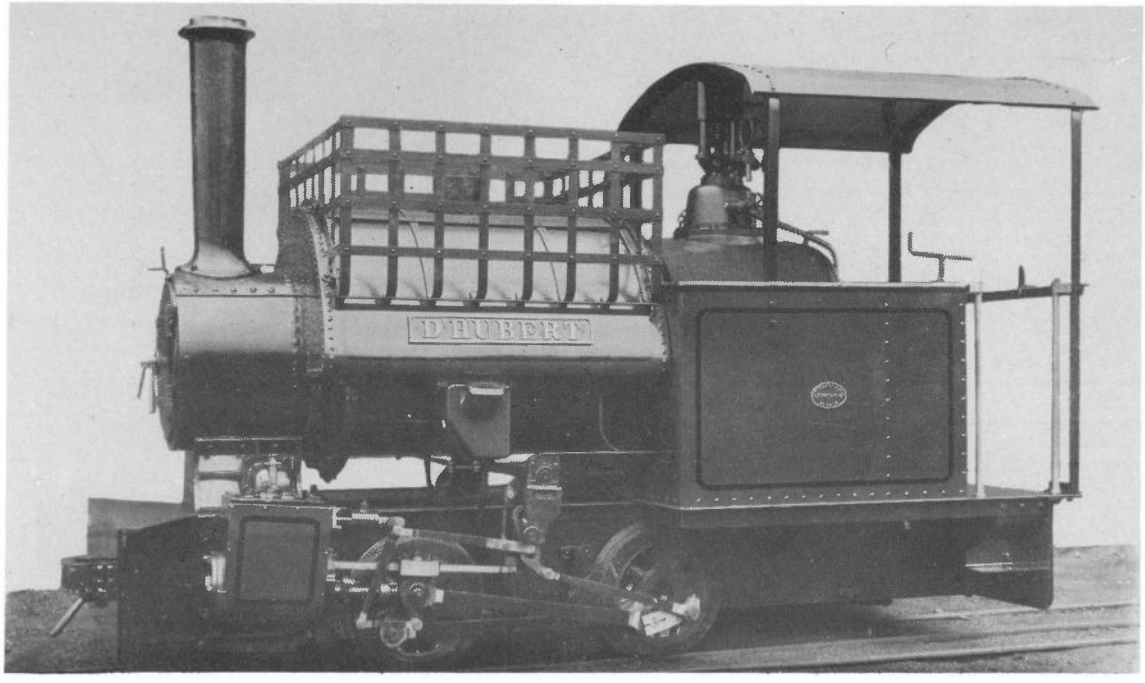
*General arrangement drawing of W.G. Bagnall 1758-9, standard 7in × 12in 0-4-0STs with Bagnall-Price valve gear, built in 1905. (collection A.C. Baker/T.D.A. Civil, courtesy G.E.C. Traction Ltd.)*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1963 | 3/7/1913 | 1913 | 2'6" | RAMBLER | Cape Copper Co, Jersey Marine, Swansea | |
| 1964 | 17/10/1913 | 1914 | 2'9" | RUTH | Gas Light & Coke Co. Ltd, Bromley by Bow Wks, London | |
| 1997 | 28/10/1913 | 12/1913 | 2'6" | — | Crown Agents, Ceylon | (17) |
| 2004 | 16/12/1913 | 1/1914 | 2'6" | RAVEN | Cape Copper Co, Jersey Marine, Swansea | |
| 2010 | 3/3/1914 | 1914 | 2'6" | RACOON | Cape Copper Co, Jersey Marine, Swansea | |
| 2038 | 15/4/1915 | 20/4/1915 | 2'6" | ROVER | Cape Copper Co, Jersey Marine, Swansea | |
| 2039 | 30/11/1915 | 1915 | 2'6" | RACER | Cape Copper Co, Jersey Marine, Swansea | |
| 2040 | 20/12/1915 | 2/1916 | 2'6" | — | United Alkali Co Ltd, Sotiel Coronada, Spain | |
| 2052 | 4/2/1916 | 1916 | 2'6" | — | United Alkali Co Ltd, Sotiel Coronado, Spain | |
| 2054 | 23/1/1917 | 1917 | 2'7½" | GASTON ORGE | Gaston, Williams & Wigmore | (15) |
| 2056 | 12/2/1917 | 1917 | 2'6" | RAINBOW | Cape Copper Co, Jersey Marine, Swansea | |
| 2058 | 12/5/1917 | 5/12/1917 | 3'0" | C T S No. 1 | War Office, Timber Supply Dept, Corbridge, Northumbs. | |
| 2059 | 12/5/1917 | 1917 | 3'0" | C T S No. 2 | War Office, Timber Supply Dept. | |
| 2060 | 12/5/1917 | 1917 | 3'0" | C T S No. 3 | War Office, Timber Supply Dept, Aviemore | |
| 2063 | 28/8/1917 | 1917 | 2'6¼" | 13 FAUVETTE | Schneider & Cie, Usine Du Creusot, France | |
| 2067 | 18/11/1918 | 12/1918 | 2'0" | PETER | Cliffe Hill Granite Co, Markfield, Leics. | |



*No. 13 MILANO (2052 of 1916) was a standard engine with Bagnall-Price valve gear, and still survived at the Compañia Española de Explosivos, Sotiel Coronada, Spain in 1965.*

*((F. Jones)*




*D'HUBERT (2101 of 1919), a later standard locomotive with Walschearts valve gear and a large wood fuel rack on the round-topped saddle tank. (collection A.C. Baker/T.D.A. Civil)*

| | | | | | | |
|---|---|---|---|---|---|---|
| 2081-6 | 11/11/1918 | 1919 | 3'0" | — | | Ministry of Munitions for Canadian Forestry Corps. (16) |
| 2099 | 24/2/1919 | 1920 | 2'5½" | MARIA LA CHICA No. 1 | | Adolfo T. Simpson, agent, Spain |
| 2100 | 10/4/1919 | 7/1919 | 2'0" | — | | Assam Railways & Trading Co. Ltd, Margherita, Assam |
| 2101 | 29/4/1919 | 1919 | 1'11 5/8" | D'HUBERT | | Bolling & Lowe for R. Hamilton & Co, Liverpool (17) |
| 2102 | 13/5/1919 | 1919 | 2'6" | — | | India Office for Ordnance Factory, Cossiport, India |
| 2103 | 13/5/1919 | 7/1919 | 2'6" | RYDER GIBSON | | Towcester Mineral & Brick Co, Easton Neston, Northants |
| 2104 | 10/6/1919 | 1919 | 2'5½" | MARIA LA CHICA No. 2 | | Adolfo T. Simpson, agent, Spain |
| 2130 | 30/6/1919 | 1920 | 2'5½" | MARIA LA CHICA No. 3 | | Adolfo T. Simpson, agent, Spain |
| 2131-2 | 8/5/1924 | 17/6/1924 | 2'0" | JOAN & TONY | £650 | Assam Railways & Trading Co. Ltd, Margherita, Assam |
| 2133 | 17/5/1924 | 10/7/1924 | 3'6½" | WOTO | £675 | Callenders Cables Construction Co. Ltd, Erith, Kent |
| 2134 | 7/1924 | 1924 | 2'0" | DAVID | £650 | Assam Railways & Trading Co. Ltd, Margherita, Assam |

(15) First of class fitted with Walschaerts valve gear.

(16) Later owners:

2081 H & J Martin, Roundwood Reservoir Construction, Co. Wicklow, Ireland

2082 Fylde Water Board, DORSET, Stocks Reservoir. Bought from A. Hammond, Machinery Merchants, Slough 11/1921.

2083 W. Tawse, contractor Aberdeen. Used on Dunecht Estate Road Contract

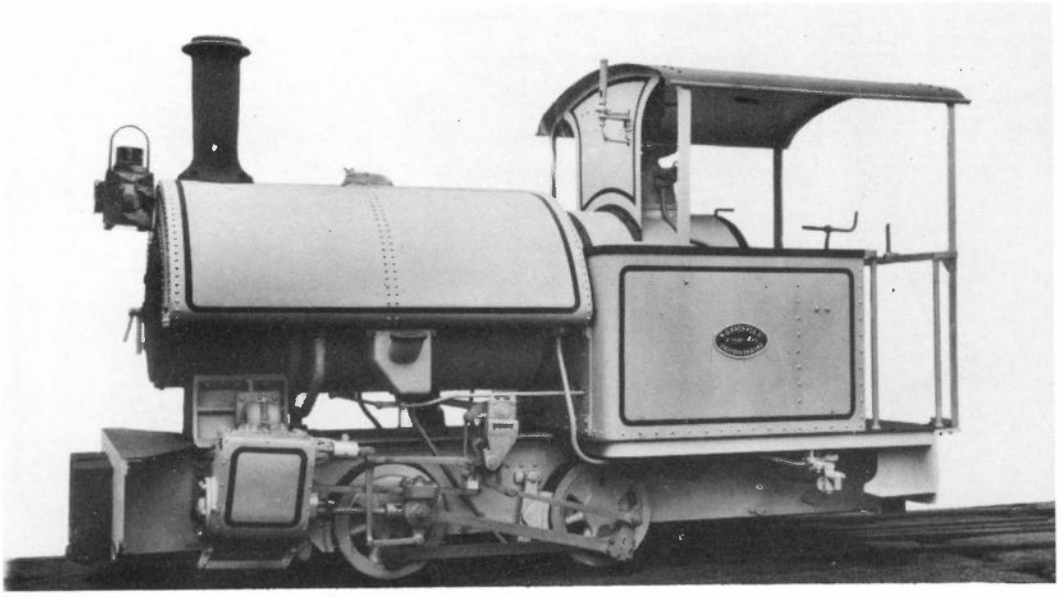
2084 Dorman Long & Co. Ltd, Port Clarence. Originally delivered to Border Timber, Longtown, Carlisle

2085 Charles Abell Ltd, Hartshill Quarries, Nuneaton. KITTY

2086 As 2081 above

(17) Fitted with wood rack on saddle tank.

*(continued on p. 20)*

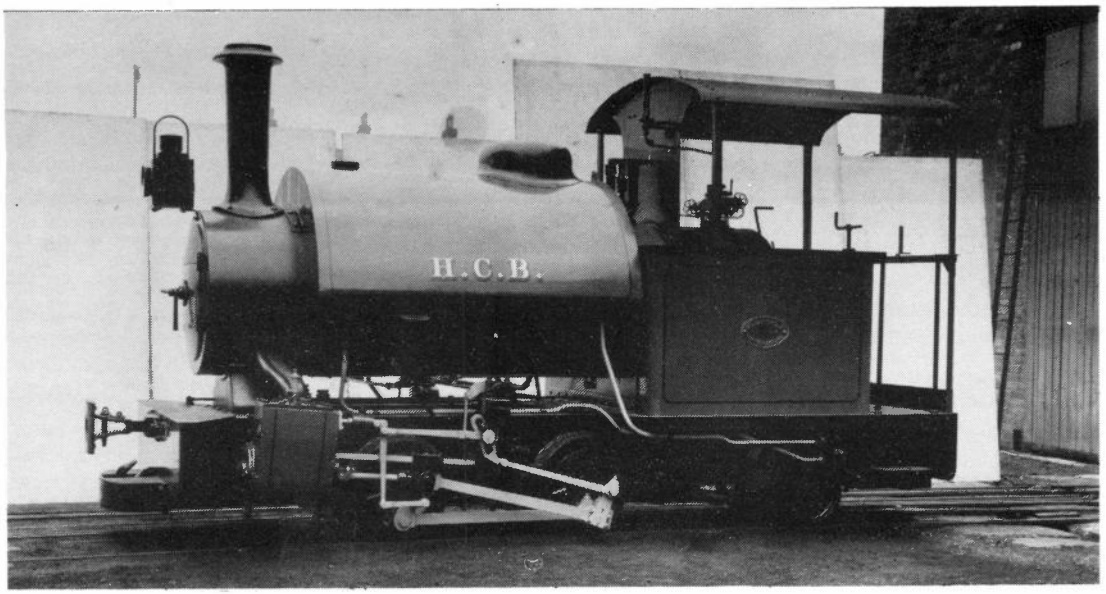


*Works number 2841, the first example to be built for more than twelve years, had a full length saddle tank of 190 gallons capacity and injectors beneath the footplate.*
*(collection A.C. Baker/T.D.A. Civil)*

## Appendix Two: Main dimensions

| | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* |
|---|---|---|---|---|---|---|---|---|---|---|
| Cylinders (2) dia. × stroke | 7" × 12" | 7½" × 12" | 7" × 11" | 6½" × 10" | 6½" × 10" | 7" × 12" | 7" × 12" | 7" × 12' | 7½" × 12" | 7" × 12" |
| Wheel dia—coupled | 1'9½" | 1'9½" | 2'0" | 1'8" | 1'9½" | 1'9½" | 1'9½" | 1'9½" | 1'9½" | 1'9½" |
| —trailing | - | 1'0" | — | — | 1'0" | — | — | 1'0" | — | — |
| Wheelbase—coupled | 3'6" | 3'6" | 3'9" | 3'0" | 3'0" | 3'6" | 3'6" | 3'6" | 3'6" | 3'0" |
| —total | — | 7'3" | — | — | 6'0" | — | — | 7'3" | — | — |
| Tank Capacity (galls) | 190 | 190 | 150 | 100 | 100 | 150 | 200 | 250 | 150 | 150 |
| Bunker Capacity (cu.ft.) | 7 | 10 | 10 | 5 | 5 | 7 | 15 | 10 | 7 | 7 |
| Heating Surface—tubes (sq.ft.) | 118 | 118 | 126.5 | 80 | 80 | 118 | 118 | 118 | 118 | 115 |
| —firebox (sq.ft.) | 12.5 | 12.5 | 17 | 10.7 | 10.7 | 13 | 13 | 13 | 14.1 | 13 |
| —total (sq.ft.) | 130.5 | 130.5 | 143.5 | 90.7 | 90.7 | 131 | 131 | 131 | 132.1 | 128 |
| Grate Area (sq.ft.) | 4 | 4 | 3.25 | 3.6 | 3.6 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 |
| Boiler pressure (lbs/sq.in.) | 140 | 140 | 150 | 140 | 140 | 140 | 150 | 140 | 150 | 160 |
| Weight in working order (tons-cwt) | 6-5 | 9-0 | 6-5 | 6-4 | 6-4 | 7-15 | 7-10 | 9-0 | 8-0 | 8-10 |
| Tractive Effort at 85% B.P. (lb.) | 3254 | 3736 | 2852 | 2513 | 2338 | 3254 | 3473 | 3254 | 3987 | 3473 |

*1:* 1475, 1503, 1491, 1551, 1614, 1618, 1635, 1644-5, 1655, 1670, 1674-7
*2:* 1483, 1636, 1646-8
*3:* 1585-6, 1818-9
*4:* 1663
*5:* 1664-7
*6:* 1716-8, 1732-4, 1758-9, 1760, 1777-8, 1780, 1820, 1852-3, 1855, 1857, 1892-4, 1938-9, 1961-2, 1997
*7:* 1718
*8:* 1720-1
*9:* 1735
*10:* 2466, 2497
*11:* 1740
*12:* 1757, 1856, 1901, 1963, 2004, 2010, 2038-40, 2052, 2054, 2056, 2058-60, 2063, 2067, 2081-6, 2099-2104, 2130-5, 2214, 2447-8
*13:* 1779, 1944
*14:* 1790
*15:* 1821
*16:* 1854
*17:* 1863
*18:* 1902
*19:* 1895, 1947
*20:* 2636 (not built), except tank capacity 150 galls, 2890, 2841
*21:* 3051
*22:* 1937




*The last of the class was 3051, seen outside the erecting shop in 1953. A large boiler with a separate dome was fitted, and to suit its increased length the outside steam pipes had to be offset. Injectors were carried under the cab, and dual couplers provided to match link-and-pins or simple hook and links.* *(collection A.C. Baker/T.D.A. Civil)*

| *11* | *12* | *13* | *14* | *15* | *16* | *17* | *18* | *19* | *20* | *21* | *22* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6½" × 10½" | 7" × 12" | 7" × 12" | 6½" × 9" | 7" × 12" | 7" × 12" | 6½" × 10" | 7" × 12" | 7" × 12" | 7" × 12" | 7" × 12" | 6" × 12" |
| 1'9½" | 1'9½" | 1'9½" | 1'7" | 1'9½" | 1'9½" | 1'7" | 1'9½" | 2'0½" | 1'9½" | 1'9½" | 1'9½" |
| — | — | — | 11½" | — | 1'0" | — | 1'0" | — | — | 1'4½" | — |
| 3'3" | 3'6" | 3'6" | 3'0" | 3'0" | 3'6" | 3'6" | 3'6" | 3'6" | 3'6" | 3'6" | 3'6" |
| — | — | — | 6'0" | — | 7'3" | — | 7'3" | — | — | 8'3½" | — |
| 130 | 150 | 150 | 100 | 140 | 150 | 125 | 150 | 150 | 190 | 190 | 150 |
| 5 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 |
| 118 | 115 | 126.6 | 80.5 | 118 | 118 | 89 | 115 | 124 | 109.5 | 136.6 | 115 |
| 13 | 13 | 17 | 9.77 | 13 | 13 | 11 | 15.3 | 17.16 | 14 | 25.6 | 13 |
| 128 | 128 | 143.6 | 90.27 | 131 | 131 | 100 | 130.3 | 141.16 | 123.5 | 162.2 | 128 |
| 4.2 | 4.2 | 3.25 | 3.28 | 4.2 | 4.2 | 3.7 | 4.5 | 3.34 | 4.2 | 4.28 | 4.2 |
| 150 | 150 | 140 | 150 | 140 | 140 | 150 | 150 | 140 | 160 | 160 | 140 |
| 6-5 | 7-15 | 7-14 | 6-5 | 7-15 | 8-0 | 7-15 | 8-0 | 7-14 | 7-15 | 8-0 | 6-5 |
| 2620 | 3473 | 3254 | 2541 | 3254 | 3254 | 2824 | 3473 | 2856 | 3700 | 3700 | 2391 |

*Notes:*

Generally weights should be taken as approximate only. Engines with heating surfaces in the range 115-135 sq.ft. would have 50 seamless boiler tubes, 1¾" outside dia, 5'2 1/8" long × 12 swg; they would be swelled to 1 13/16" dia at the smokebox end for 3" length.
Engines with heating surface in the range 80-89 would have 39 tubes of a similar type, the same dia and gauge but 4'7 3/8" long.
The former engines had a boiler feed of two No 4mm injectors and the latter two No 3 mm injectors; except, of course, where a crosshead driven pump was fitted in place of one injector.

Approximate leading dimensions for all engines were:-
Length over frame plates 11'6" – 12'6" (13'0" for 0-4-2s)
Overall width 5'6"
Overall height 9'0" (excluding cut-down versions)

| | | | | | | |
|---|---|---|---|---|---|---|
| 2135 | 2/1926 | 1926 | 3'6½" | SIR TOM | £675 | Callenders Cables Construction Co. Ltd, Erith, Kent |
| 2214 | 22/3/1923 | 8/5/1923 | 3'0" | DOT | £550 | Charles Abell Ltd, Hartshill Quarries, Nuneaton (18) |
| 2447-8 | 20/6/1930 | 3/11/1930 & 29/7/1931 | 2'0" | SALLY & BETTY | £675 | Assam Railways & Trading Co. Ltd, Margherita, Assam |
| 2466 | 8/10/1931 | 23/3/1932 | 4'0" | WHITEHAVEN No. 1 | £660 | Steetley Lime & Basic Co. Ltd, Llynclys, Oswestry |
| 2497 | 7/3/1933 | 26/7/1933 | 4'0" | WHITEHAVEN No. 2 | £665 | Steetley Lime & Basic Co. Ltd, Llynclys, Oswestry |
| 2636 | 28/5/1940 | Not Built | 1'6" | — | | Royal Arsenal, Woolwich. **Cancelled and never built** (20) |
| 2841 | 9/10/1945 | 1946 | 1'11 5/8" | — | | Ministry of Supply, United Nations Relief & Rehabilitation Administration (UNRRA), Yugoslavia |
| 2890 | 14/9/1946 | 1947 | 2'5½" | H C B | | United Africa Co. Ltd, Houilleres du Congo Belge, Belgian Congo |
| 3051 | 17/2/1951 | 27/11/1953 | 2'5½" | H C B | £4519 | United Africa Co. Ltd, Houilleres du Congo Belge, Belgian Congo (4) |

(18) Built with some parts left over from original construction of works number 2067. That locomotive was originally laid down as 3ft gauge but altered to 2ft gauge

(20) Designed for oil fuel. Much material ordered before cancellation


*JOAN, one of the surviving 7in Bagnall 0-4-0ST locomotives at the Tipong Pahi colliery of Coal India Ltd, Assam, in March 1978. She shows all the signs of a long, hard life with patches on the cab and saddle tank, crumpled cab step, twisted cab, buffer beam and front footplate, and battered stovepipe chimney. Lumps of wet clay seal holes around the smokebox door and chimney base. (L.G. Marchall)*

# PRESERVATION IN FINLAND— THE JOKIOINEN MUSEUM RAILWAY

The Jokioisten Railway was the last of the three 750mm gauge lines in Finland to survive, and ran for fourteen miles from a junction with the main line railway at Humppila to the town of Forssa. Latterly it operated freight services only but from 1971 steam tourist trains were run at weekends during the summer months by an enthusiast group, Museorautatie Forssa-Humppila. Closure of the line was planned in 1973, but in the event did not finally occur until 1st April 1974, effectively preventing the operation of steam services in that year.

A preservation scheme was launched with the object of taking over the entire line but this proved to be impossible. Five years work were necessary before a new company was able to purchase the 6km. section between Minkiö and Jokioinen, and set up the museum headquarters at Minkiö where facilities were available for the storage and restoration of equipment.

Passenger services started in the summer of 1979, on Sundays only, and the first season was encouraging with nearly 7,000 visitors travelling over the line. The following year the number increased to 13,500 as the railway became known, a very gratifying result considering the short season. Although trains only operate on Sundays in June, July and August the museum at Minkiö is open daily during these months. The service consists of four trains in each direction from 12.00 to 15.50, taking nearly an hour for the round trip. Two steam locomotives, No. 4 a 2-6-2 tank built by Tubize in 1947, and No. 5 a 2-8-2 tank by Tampella in 1917 are available, the former having come from the Jokioisten Railway, and the latter from the Hyvinkää-Karkkilla railway. There are five diesel locomotives including a large 0-8-0 built by Valmet in 1948.

The museum collection includes seven narrow gauge and one 1524mm gauge steam locomotives obtained from various sources and no less than fourteen diesels ranging from familiar Ruston and Simplex designs to Pedershaab, Schöma, Windhoff and Valmet four-wheel types for 600mm gauge. Even electric traction is represented by a 1905 Siemens 4wE from a 750mm gauge system in Forssa.

*Track repairs in progress at Minkiö. The locomotives are 0-4-0DM Schwartzkopf 10573/1937 and 2-8-2T Tampella 289/1917.* *(Museorautatieyhdistys)*

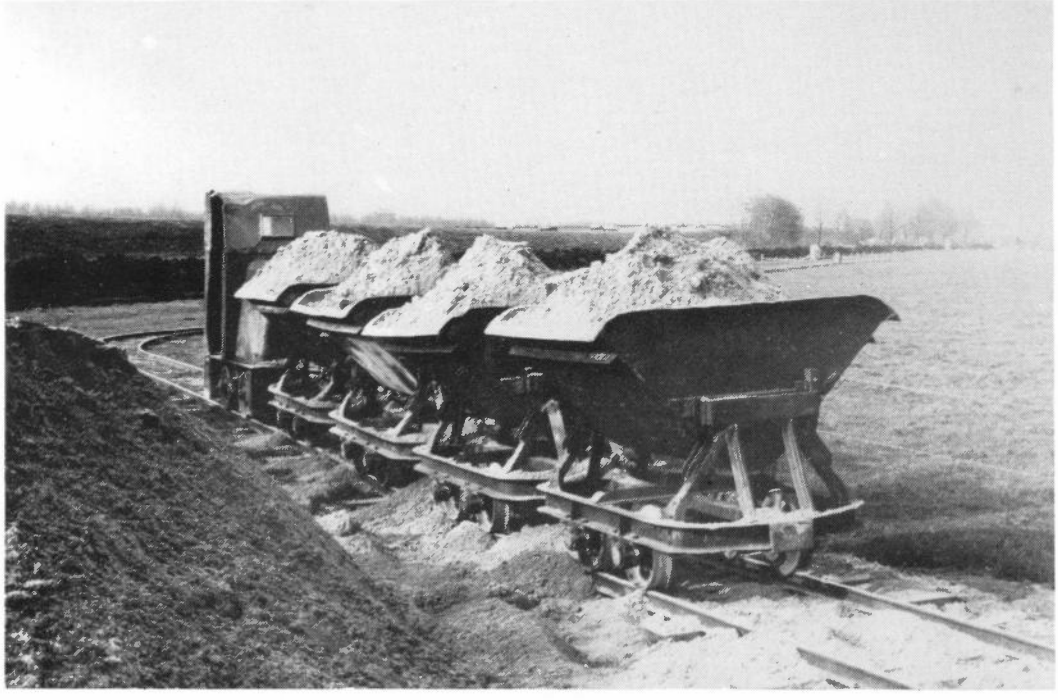
# VAN EIJK'S CABLE CONTRACT

**Adrian J. Booth**

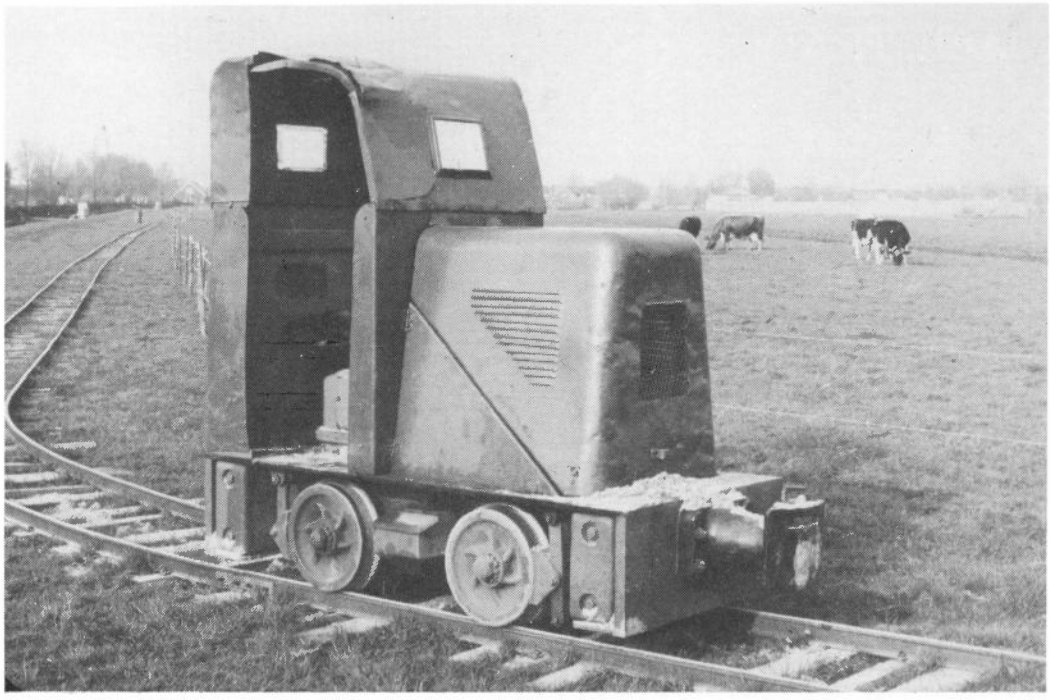
Together with three friends I enjoyed a week in April 1982 visiting the railways and trams of Holland. On the 20th the Nederlands Spoorwegmuseum at Utrecht had been toured and our car was heading up the main A12 highway en route to Hoek van Holland and the boat back to the United Kingdom. We turned off the main road, near Km.26, however, since time had been allowed in our schedule to visit a narrow gauge contractor's railway seen as we sped along the other carriageway on the first day of our holiday. During the week I had been unable to forget the tantalising glimpse of this industrial railway, despite the many interesting preserved and main line locos seen, and my excitement grew as we made the necessarily circuitous route around the fields and dykes to eventually arrive at the site. To my dismay there was no sign of the loco seen previously, but the site foreman gave permission to enter the property and we discovered that the loco was at the far end of the system.

The precise location of the site was beside the road from Reeuwijk Brug to Reeuwijk Dorp, four kilometres north of Gouda and on the east of the A12 highway at Kilometre post 26.2. Here the contractor, Van Eijk of Gouda, had cut a long trench for an electricity cable and was then engaged on excavating a deep hole to take the cable underneath a dyke. They had laid a 70cm gauge railway from this point to the distant contractors site hut and cable stocks. The track crossed the dyke on two girders, then ran between the trench to the right, and a field of grazing cows on the left. After approximately 550 yards the line curved away from the trench, and bridged a second dyke to gain access to the contractors base, a total track length of some 700 yards. The track was spiked down on to randomly laid wooden sleepers with individual rails joined by fishplates.

The loco was found stabled for the night near the second bridge. It was identified by a plate in its cab as Schöma 2071 of 1957, and was fitted with a three speed gearbox and a Deutz type F2L 612 engine number 2163640/41 of 15bhp at 2000rpm. This 4-wheel diesel mechanical machine had solid wheels, central couplers, and had received an overall cab extension. A plate on its cab rear read 'Oving-Spoor Rotterdam-Amsterdam-Groningen Christoph Schöttler G.M.B.H. Maschinenfabrik Diepholz Bez Bremen'. The loco was painted green



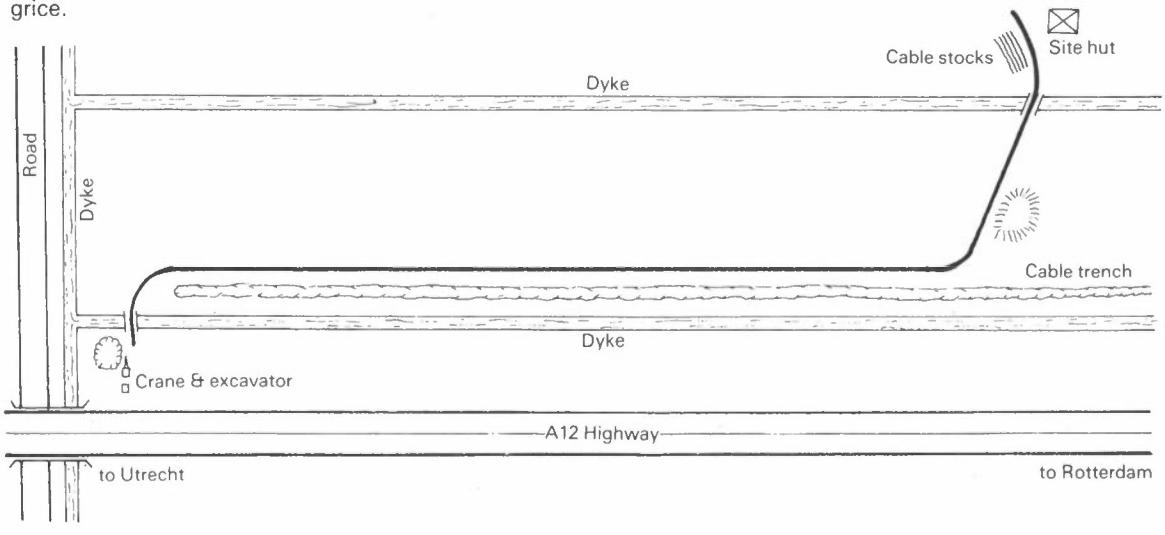
*Schöma 2071 and four Oving side tipping skips loaded ready for work on the following day. The A12 highway is visible on the bank in the background. (A.J. Booth)*



*The reason for using rail transport on this section of the contract was to avoid damage to the rich grazing land, underlain here by 20m of peat. The condition of the grass behind the Schöma shows how successful it was.* *(A.J. Booth)*

with brown wheels and underframe and was coupled to four Oving side tipping skips which were filled with sand to be used as a base in the trench. The only other items of rolling stock seen were four flat trucks constructed on Oving chassis.

We were too late to witness any rail traffic, but were able to separate the loco from the skips and trundle it a short way down the track for a photograph. This attractive little system was an enjoyable finale to an excellent grice.




## A YORKSHIRE CLAY MINE RAILWAY

In the course of my research into advertisements appearing in the *Contract Journal* I discovered the following in July 1941:

"20h.p. 2ft gauge Simplex locomotive for sale £225. Naylor Bros (Clayware) Ltd., Denby Dale, Huddersfield".

Could this have been used on the line to the clay mine described in NG 77?

RICHMOND, SURREY FRANK JUX

*(It is possible that this machine was used, but it was not mentioned by any of my informants whose personal recollections went back only to 1945/46. Editor)*

## "BABY SIVOK"—THE MYSTERY LOCO AT SILIGURI

The photograph of this supposed Orenstein & Koppel in NG 76 brought letters from Michael Satow in NG 77, Martin Murray in NG 80, and Peter Kuntze also in NG 80. However, I really must cross swords with Peter Kuntze in regard to some of his remarks, for example: "... it is doubtful if any German builder turned out 600mm gauge locos as early as that year (1888)." Certainly O&K's first 600mm gauge machines were 0-4-0 tanks 18-20 delivered in 1893, but Henschel had delivered their first examples (2096-97, 2211) in 1886 and others in 1886-87 to the well known Mecklenburg-Pommersche Schmalspurbahn. Furthermore the Austrian State Railway Works (STEG) delivered their 1962 in 1887 also for 600mm gauge.

O&K built such small locomotives to two standard designs—the 'old' standards and the 'new' standards. BABY SIVOK has the following details identical to the 'new' standard design: Walschearts/Heusinger valve gear; Cylinder and valve chest construction with valve spindle tail rod guide; Single slide bar; Cab front and back sheet; Cab windows; Capped chimney; Pop safety valves on dome.

I do not know exactly when the 'new' standards were introduced but it was certainly not before 1908. Some features appear earlier—Walschearts valve gear on 1430/1904, pop safety valves on 2365/1907, and these two details together on 2855/1908. In the case of standard gauge locomotives both features appeared a few years earlier, but again the earliest photograph of both on the same locomotive is 2855/1908. BABY SIVOK therefore looks like a 20 h.p. O&K built to the 'new' standards, with a Darjeeling Himalayan pattern saddle tank and coal bunker added—probably in 1953.

VIERSEN, WEST GERMANY MICHAEL SPELLEN

*(The admirable publication* O&K Steam Locomotives *by Klaus Fricke, Roland Bude and Martin Murray refers to the 'old' standards as pre-1910, and the 'new' standards as post-1910. The detail differences are illustrated in both drawings and photographs.* Steam Locomotives in India. Part 1—Narrow Gauge *by Hugh Hughes and Frank Jux was published in 1980 by the Continental Railway Circle and notes on p.71 "... BABY SIVOK was included in the 1920 DHR stock list and may perhaps be OK 5130/1911 which was supplied to Gillanders, Arbuthnot & Co. the DHR agents." The O&K list records 5130 as 20 h.p. 0-4-0T for 610mm gauge, delivered December 1911.—MS)*

## MIDGET MALLETTS

In his article in NG 49 Sydney Moir suggests that Koppel probably produced more small Malletts than Baldwin, and I recently carried out a careful check of the O&K factory lists covering all steam locomotives produced from No. 5 to No. 14387 which seems to confirm this suggestion. The list includes 186 built to gauges up to 762 mm (2ft 6in), which were despatched to the following destinations:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0-4-4-0T for 600mm gauge: | Sweden | 3 | Mexico | 2 | | | | |
| | Germany | 3 | "Export" | 1 | | | | |
| | France | 10 | Prijedo | 1 | | | | |
| 0-4-4-0T for 610mm gauge: | Tasmania | 2 | | | | | | |
| 0-4-4-0T for 700mm gauge: | Java | 121(!) | Austria | 6 (for the War Ministry, Vienna) | | | | |
| 0-4-4-0T for 750mm gauge: | Germany | 9 | Brazil | 1 | Java | 1 | Russia | 3 |
| 0-4-4-0T for 760mm gauge: | Hungary | 6 | Cuba | 1 | Grünemann | 1 | | |
| 0-4-4-2T for 700mm gauge: | Java | 2 | for 760mm gauge: | | Fiume | 5 | | |

A few of these were fitted with additional tenders.

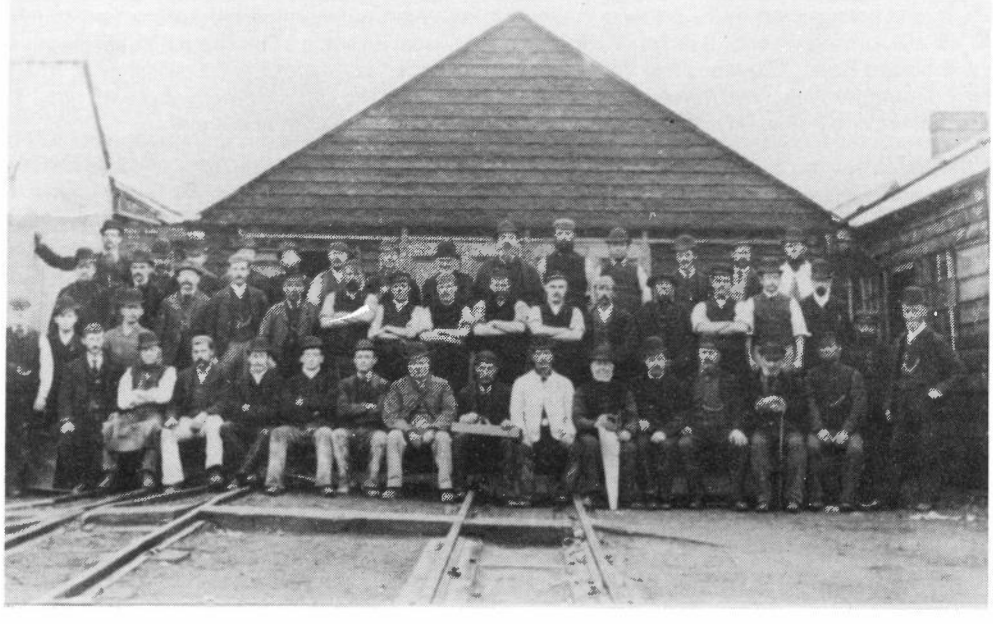
The photographs on p.8 of NG 49 show (upper) MALERAS, an 80 hp 0-4-4-0T OK 611/1901 for the 600mm gauge Kosta-Lessebo-Bahn in Sweden, and (lower) another 80 hp 0-4-4-0 with tender, OK 2797/1908 for Cia. Minera de Torreon, Mexico.

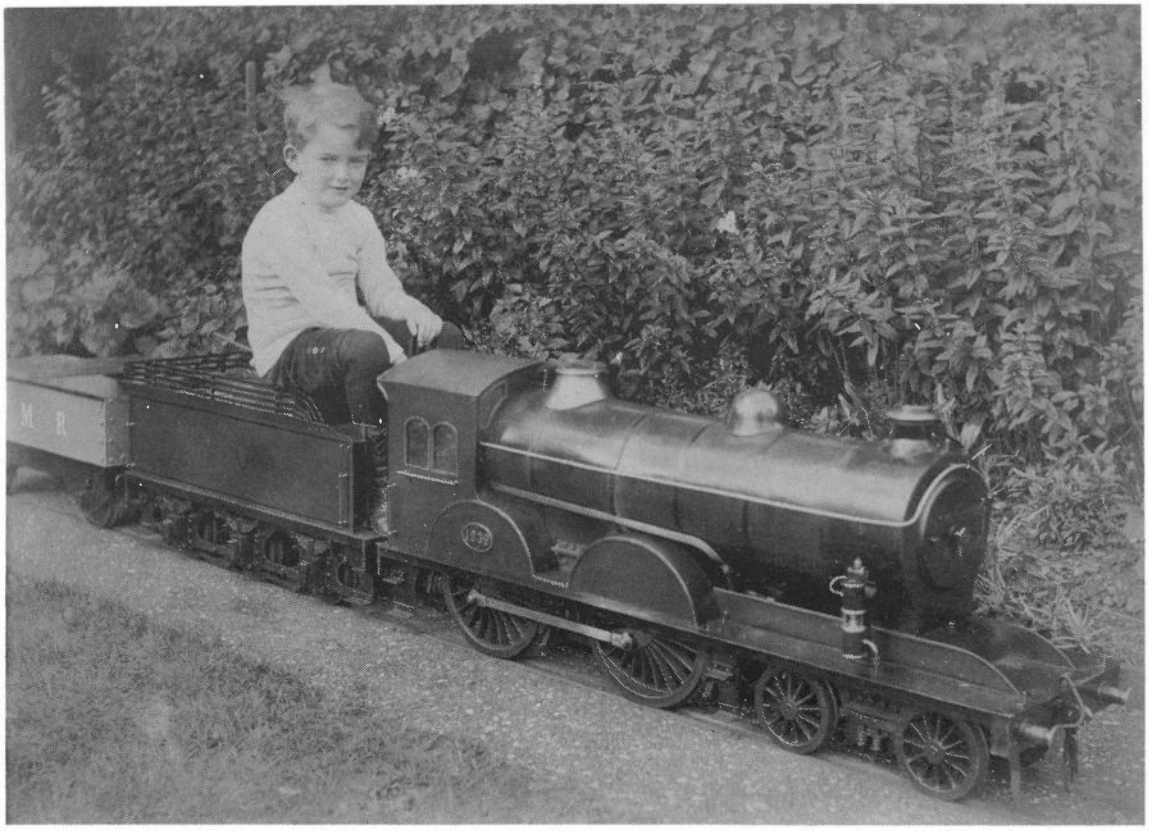
VIERSEN, WEST GERMANY — MICHAEL SPELLEN

## NARROW GAUGE IN THE THAMES VALLEY?

The enclosed photograph was published in *The Changing Face of Didcot,* a pictorial history of the town based on old photographs lent by local residents. The owner of the original print, Mr. Ivor Green, told me that it had come to him from an uncle together with other views of groups of railway workers, including the gang employed by the GWR for regauging the broad gauge between Didcot and Cholsey in the 1880s. Mr. Green had a number of relations who worked as railwaymen, but as far as he knew they were all based locally in the Thames Valley. The photo, however, obviously shows a narrow gauge shed and track of about 3ft gauge. Can any reader offer clues to the location?

DIDCOT, OXON. — HENRY GUNSTON





## AN EARLY 7¼" GAUGE LOCOMOTIVE

A school friend of mine, Jack Sharland, produced this photograph of himself on one of his Uncle's locomotives about 1920. It was constructed by F. Baldwin in the style of a North Eastern Railway prototype, to 1½in scale and had 10¼in dia. driving wheels. It ran on the Edgecumbe Model Railway, a line about 650ft in length around a garden in Ashburton Road, Croydon, and could pull a train loaded with about eight passengers. The line was described in *Locomotive News and Railway Notes* Vol. 7, (1920), but the site is now covered with flats! The 4-4-0 was sold, but I wonder whether any readers know of it, and whether it is still in existance?

BECKENHAM, KENT — GEOFFREY MOORE

## BALDWIN and PORTER

I remain a little suspicious of Baldwin's ability to build everything that they delivered under their name in 1916/17. Had they been concerned solely with small 2ft gauge equipment it would not be unreasonable, but they were not. I have seen a works list claiming that Pershing 2-8-0s and Pennsylvania L1s 2-8-2s were being built in sizeable batches at the same time as the masses of narrow gauge equipment. Could it be that they subcontracted the manufacture of components and concentrated their own resources on the assembly of a small number of standard designs? A builder like Baldwin would find such an operation easier than most European firms due to their slightly different approach to locomotive design.

The ordering of the WDLR 4-6-0s by "His Britannic Majesty" comes as no surprise. The USA was neutral in 1916 and could not very well make sales directly to the War Office as these would be of an obviously military nature. Sales to a head of state having no executive position in government or armed forces, paid for in gold, would excite less interest.

KENILWORTH, WARWICKS. — RODNEY WEAVER

## HEBRIDEAN ADVENTURE

Ian Jolly's article in NG 97 was fascinating and he deserves congratulations for discovering so much in such a brief visit. He is certainly correct in stating that there is still a lot to be found out about island railways.

However, I must cast doubt on the suggestion that a line from Stornoway to Carloway actually reached track-bed stage, to be used later as a road—which, by the way, is not "unclassified", but is the B8010. As this predated the Light Railway Acts, and was certainly not the subject of an Order under the rarely used Railway Construction Facilities Act, it would have to have been built under the powers of a local Act, and could never even have reached this stage without such authority. I am sure such an Act—it would have been the only one concerned with railways in the Western Isles—would never have been overlooked by railway historians, but none of the likely sources mention it.

Is there anything in the 'MacDonald Plans' he mentions, to show that they actually refer to a **railway** and not a road? According to the book *Lewis and Harris* in the David and Charles series on Islands(and is, I admit, vague on railway proposals, for it mentions none at all) the direct road from Stornoway to Carloway was one of the several authorised by the Western Highlands and Islands (Scotland) Roads Act of 1891: work started as soon as detailed plans had been prepared, but the contractor went bankrupt and work ceased with 8 miles complete and 5 miles under construction.

The dates seem to fit with the alleged 'railway' scheme and any works left abandoned for a lengthy period could have given rise to a 'folk memory' of a railway project. The formation of a single-track road in such country would not be much different to that of a narrow gauge railway.

The Hebridean Light Railway Company project is mentioned in several sources, including *The Skye Railway* and *Great British Tramway Networks* : they differ in details and the gauge is variously quoted as 3ft and 3ft 6in, but all agree in ascribing it to about 1898, so it was quite unrelated to any schemes which were prepared soon after the Crofters' Commission report of 1884.

NEWCASTLE, STAFFS. E.K. STRETCH

## A SPANISH ENIGMA

I visited the Casa de Campo Amusement Park in Madrid on 11th May 1975, and was able to examine the two locomotives described by Ron Cox in NG 97. SANTA MARIA was standing in the position shown in p.24, complete with a nice bogie tender and a canopy on pillars above the driver's seat. She was dirty and in rather rough external condition, but looked complete mechanically. With the aid of by trusty 6in rule (now much shorter after much scraping of motion parts all over the world) I found the number 8455 on several components on both sides of the engine.

PINTA was at work. The diesel engine and drive—presumed to be hydraulic—occupied the space where the boiler used to be, but the cylinders and motion remained in position and connected up. The diesel engine was encased in a form of streamlining and, with all the inspection doors closed could almost have passed as a streamlined steam locomotive—certainly not so hideous as Ron describes. Scraping of the motion revealed only number 8473 on several parts, suggesting that perhaps extensive exchange of parts did not take place. A plate on the tender bore the legend: Robles Bros. Licencias G.D.L.P.S. Madrid, España, presumably the company responsible for the conversion to diesel.

EASTLEIGH, HANTS. ALLAN C. BAKER

## RAILWAYS OF SOUTH GEORGIA

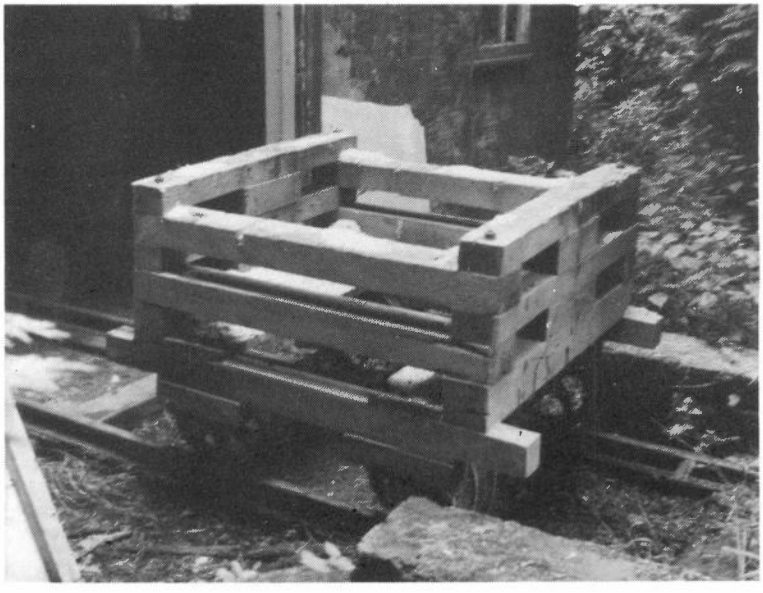
This timely article by R.A. Smith deserves a footnote. After the recapture of the islands salvage operations were resumed by the Royal Navy, with the intention of obtaining steel plates for ship repair work. H.M.S. ENDURANCE deployed working parties to Leith, Husvik and Stromness, and at the latter place the old tramway was put back into use for the movement of steel plates, which were in a good state of preservation. Photographs in the ship's Commission Book show at least two four-wheeled trolleys in use.

LINCOLN TIM HUDSON

## LYNTON & BARNSTAPLE RECOLLECTIONS

The picture on p.1 of NG 98 was taken by Frank E. Box from the window of the 9.25 a.m. train from Lynton on 26th September 1933.

STOKE BISHOP, BRISTOL — MICHAEL BISHOP



## BRITAIN'S SHORTEST TRAMWAY

Whilst it seems unlikely that the claim of the Buckingham stonemason to work the shortest tramway in the country will be challenged, it is perhaps worth commenting that the use of a tramway by a stonemason is not unique. Just outside Manor Park Cemetery in Sebert Road, London E7 is a stonemason's yard where a length of 2ft track leads from the roadway at right angles to the workshops in the rear. Although not now in use its purpose was obviously to transport heavy blocks of stone.

I find these very short, one truck tramways fascinating. In the first place, one always seems to discover them by accident, since they are too short to be found recorded on maps and, having found them, they are now so often no more than abandoned bits of track. Furthermore, a change of use in a building may prevent even conjecture upon the purpose of the tramway.

Until quite recent times, narrow gauge petrol or diesel locomotive hauled railways were of course extensively used in quarries. After the first world war they were similarly used for timber haulage on country estates and it seems to have been the practice on smaller estates to lay down track with one or more hand pushed wagons. It is often difficult to discover much about these lines from present employees. I recall seeing on a visit to the Glanusk Estate Office near Crickhowell about ten years ago a bit of narrow gauge track between two buildings and was told that it had been used by the sawmill.

In more recent times I found a short tramway intact though not used on the Broxwood Estate near Kington, Herefordshire. This is of 2ft gauge, about 20ft or so in length and runs from a shed housing a circular saw to a tiny brick built loading bay outside. Of particular interest is the very sturdy timber framed wagon illustrated below, no doubt the work of an estate carpenter.

To his wide circle of friends these little hand pushed tramways have acquired a special name, 'Baylissbahn' after our fellow member, Derek Bayliss. He seems to know more of them and more about them than most of us, and the name is therefore singularly apt.

HEREFORD — COLIN BETTS

## FOWLER and DECAUVILLE

Recent research has shown that, while Paul Decauville may have been the first to show a thoroughly practical, all-metal, prefabricated railway, he was far from being the originator of the all-metal portable railway. That honour seems to belong to William Peake of Liverpool who exhibited such a railway at the 1869 Royal Show. I suspect that it had separate rails and sleepers. G.J. Cross of Deptford produced a similar railway with cast-iron sleepers in 1872. Neither was advertised more than once.

The originator of the prefabricated portable railway, made as a commercial item for sale, was William Crosskill of Beverley who first demonstrated his wooden railway in 1848. It remained in production until 1879, and that advertised by the Beverley Iron Works in 1861 (NG 98 p.26) was his design built by a rival works.

Fowler certainly made a 400mm gauge portable railway in the early years of the Decauville license but, as Sir Arthur Heywood had predicted, there was seldom any need to go below 18in or its equivalent and the narrowest of the Decauville gauges had a short life. Their demonstration at Stafford House in 1879 came only a week or so after the disasterous International Agricultural Show at Kilburn, where a Fowler-Decauville 20in tramway was the only exhibit not affected by working in a sea of mud. It was doubtless part of this line that was taken to Stafford House. The locomotive may have been the 0-4-2JF 3677/1879 as suggested in NG 97 but might also have been one of the Decauville patent 0-4-2s. It is likely that one or more of these were used on the Kilburn line, 3688 being a static exhibit.

The first Decauville locomotive was a 900mm gauge machine, claimed to weigh a mere 27cwt (a mistake, surely?) and built by 'Corpet et Bourdon'—an early name of the firm better known as Corpet, Louvet. "C. Bourdon, Paris" is obviously an incomplete rendering of the builder's name.

KENILWORTH, WARWICKS. RODNEY WEAVER

## DAMPFKLEINBAHN MÜHLENSTROTH

DKBM No. 12 MECKLENBURG was not overhauled by the Ffestiniog Railway at Boston Lodge, but simply stored there. Its owners might have undertaken some minor mechanical work in addition to the repaint which was commenced, and the locomotive was also examined by B.R. with a view to its acquisition for use on the Vale of Rheidol line. This was, under different circumstances, the objective of the owners and the reason for the locomotive being brought to Wales.

LEICESTER PETER JOHNSON

I know this line pretty well, and members may be interested in some changes which have taken place since the article in NG 98 was prepared. FRANK S has been converted to 750mm gauge and is now running on the Jagsttalbahn in southern Germany, a freight line over which the DGEG operate steam passenger trains. Some renumbering of the diesel locos has taken place and V.11 was once V.7. Steam locomotives 4 and 8 were not built to 650mm gauge, which was never used by the Heeresfeldbahn, but to 750mm gauge although they were convertible to 600mm gauge. Some were also built to 760mm gauge for Austria.

VIERSEN, WEST GERMANY MICHAEL SPELLEN

## SCHÖTTLER, SCHÖMA & DIEMA

In NG 98 the diesel locomotive V.11 of the DKBM is described as built by Schöttler (Diepholz). This can cause a mix-up because there are two diesel locomotive building firms in Diepholz, both founded by members of the Schöttler family, and retaining the family name as part of their title.

The older is DIEMA Diepholzer Maschinenfabrik, Fritz Schöttler G.M.B.H., which trades under the DIEMA name, and celebrated its centenary in 1979. The newer, probably founded in 1929 when a member of the family left DIEMA, is SCHÖMA, Christoph Schöttler Maschinenfabrik GmbH. Each company has produced upwards of 4500 locomotives and has its own series of works numbers, quite unconnected with each other.

VIERSEN, WEST GERMANY MICHAEL SPELLEN

*(I have been collecting historical material on these two companies for some time with a view to preparing an article on their products. Can any member provide information, photographs or other details to assist this task. —MS)*

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