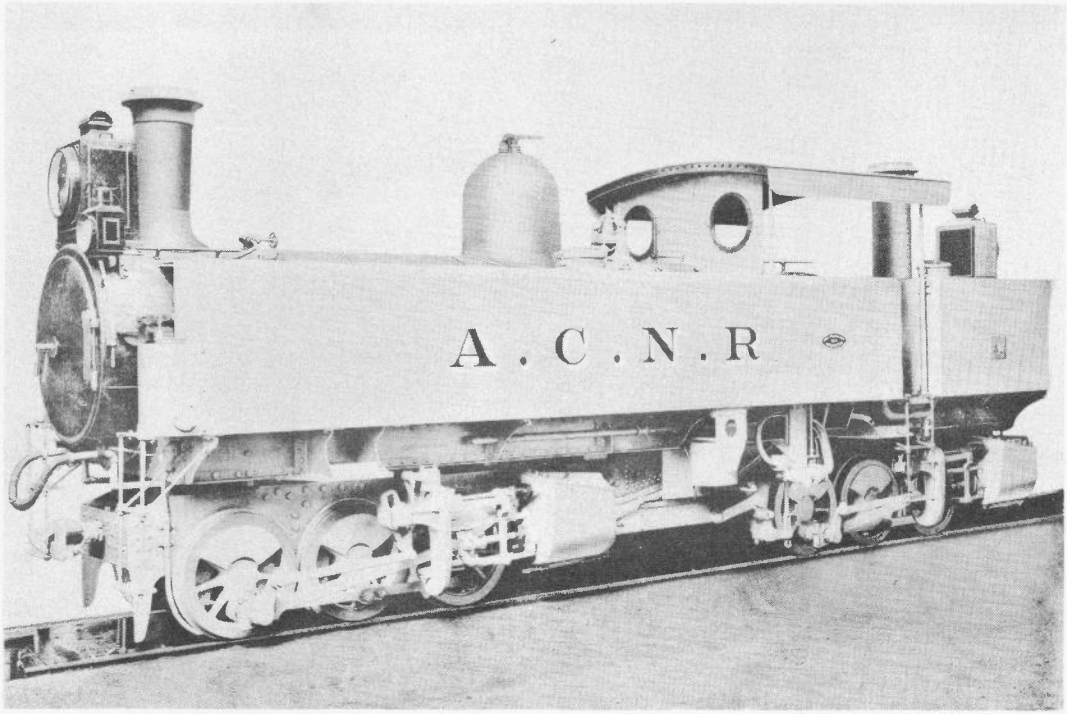
THE NARROW GAUGE



THE NARROW GAUGE RAILWAY SOCIETY

No. 52 · NOVEMBER 1969

THE NARROW GAUGE RAILWAY SOCIETY

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(For renewals, & membership enquiries)

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Editorial

We are pleased to have another selection of photographs from Geoffrey Horsman showing further Hunslet Engine Co. Ltd. locomotives, this completes his present series, but we hope to persuade him to show another batch in the near future. These prints in many cases have never been published before and we are indebted to Hunslet for their kind permission to reproduce them.

Second point, our stocks of Ken Hartley's book on "The SAND HUTTON" are running low, if you haven't bought a copy do so NOW otherwise it will be too late. Members may not realise the work Ken put into this book, the sales have provided a welcome income over the last two or three years, and the Society is now showing a handsome profit on the outlay. MANY THANKS INDEED KEN.....

Finally a reminder that drawings are urgently needed for future issues of the mag. Can you help?

Best wishes.

Henry Holdsworth.

Cover Photo

ANGLO CHILIAN NITRATE RAILWAY.
4 cylinder Meyer Loco. 3' gauge.
Cylinders 14" x 18". Tractive Effort 31,720 lbs.
Total weight 58 tons.
Kerr Stuart & Co. Ltd. - Stoke on Trent . (No.816??)
Photo Courtesy Ron Redman
(from a 1909 Locomotive Magazine collection.)

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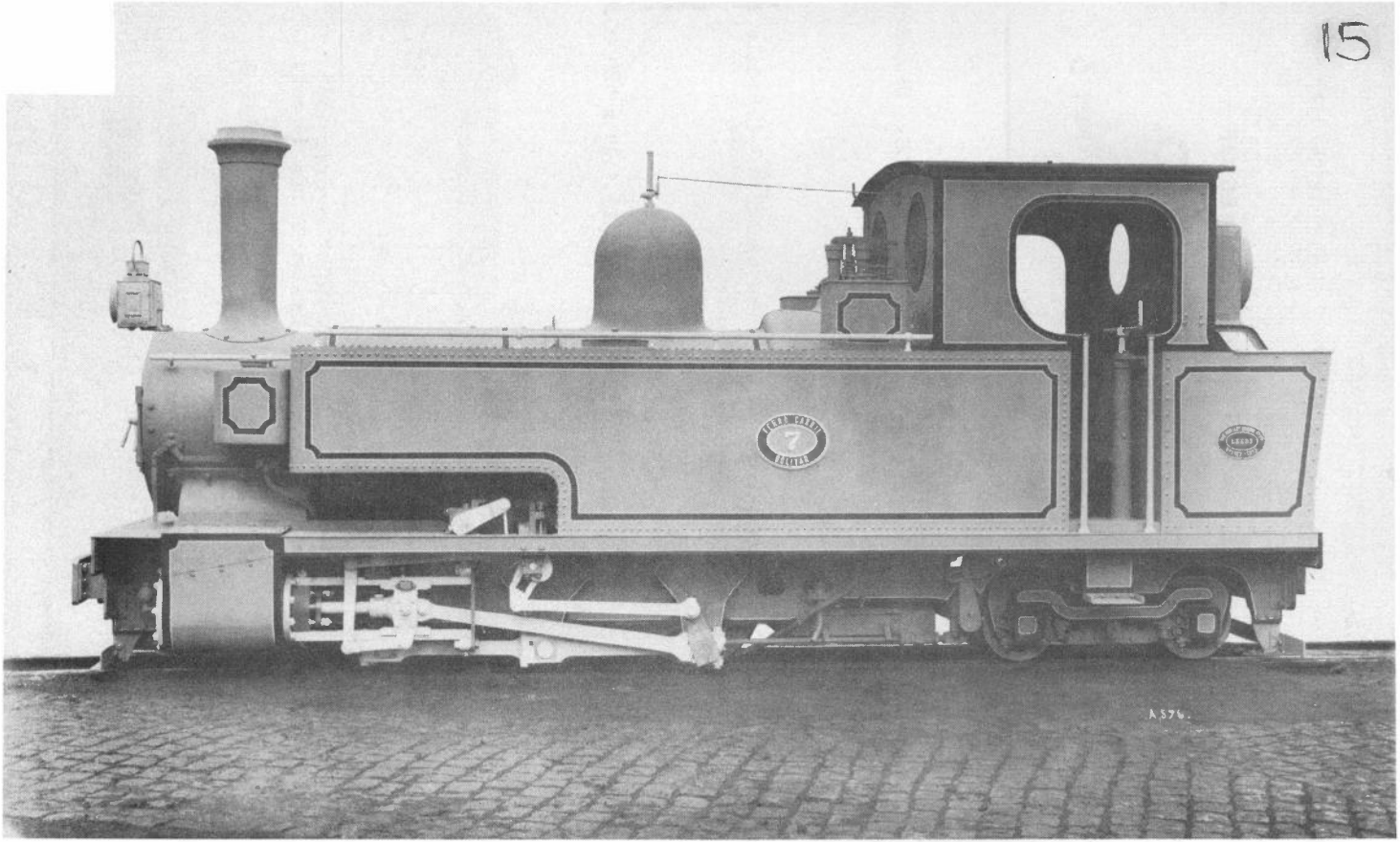

A 576.

SOME OF THE NARROW GAUGE LOCOMOTIVES OF

HUNSLET ENGINE CO. LTD.

Geoffrey Horsman

Photos by courtesy of Hunslet Engine Co.

Part 3

Photo 15. "BOLIVAR No. 7" No. 1127 of 1913.
BOLIVAR RAILWAY, VENEZUELA. 2' gauge. 13" x 18" OC. Despatched 31.10.13.

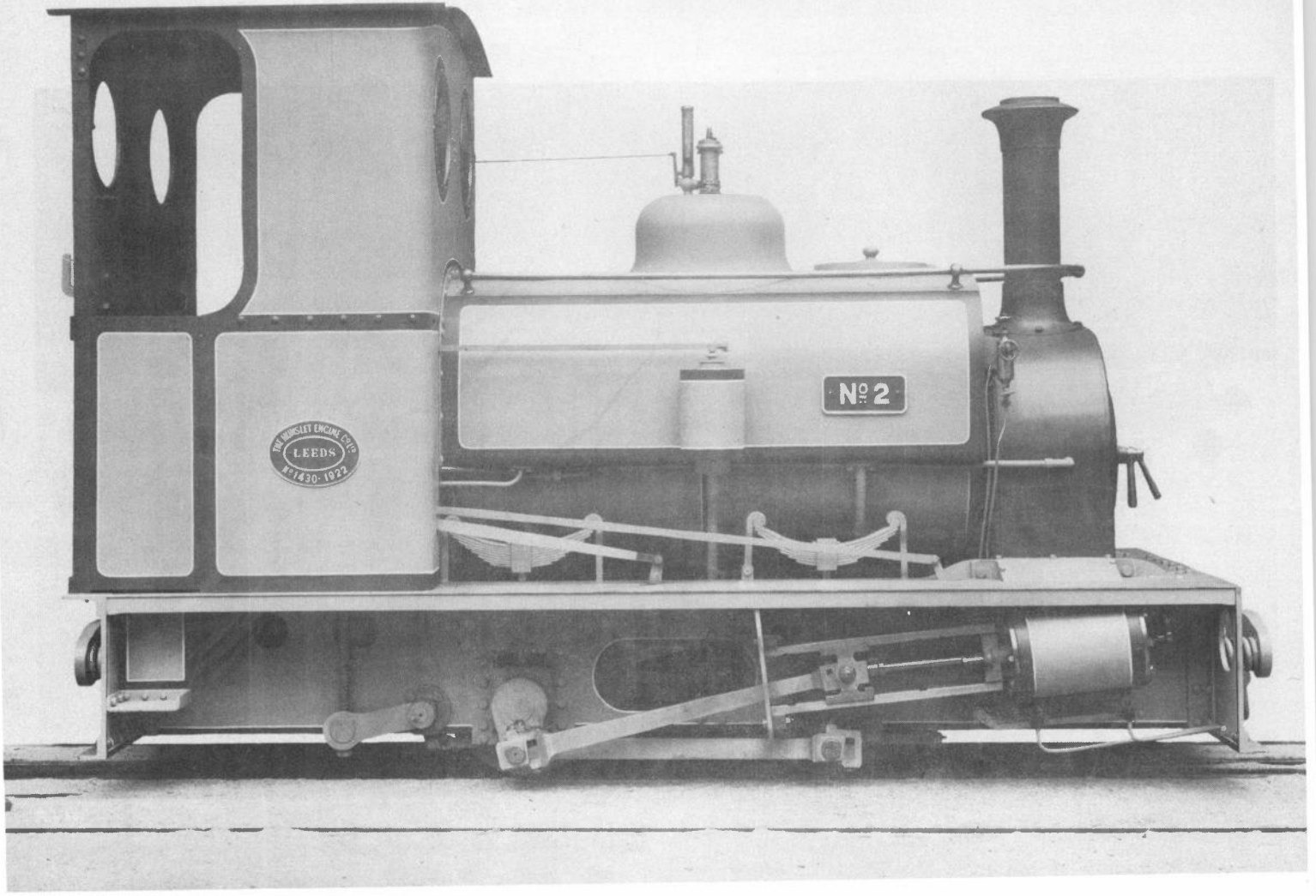
Photo 16. "No. 2" No. 1430 of 1922.
DINORWIC SLATE QUARRY, North Wales. The second 0-4-0 Saddle Tank built in 1922 for this customer 11.8.22.

Photo 17. "06" No. 1502 of 1926.
BENGAL NAGPUR RAILWAY (RAIPUR DHAMATRI RAILWAY) 11½" x 18" OC. 2'6" gauge. Despatched 22.1.26.

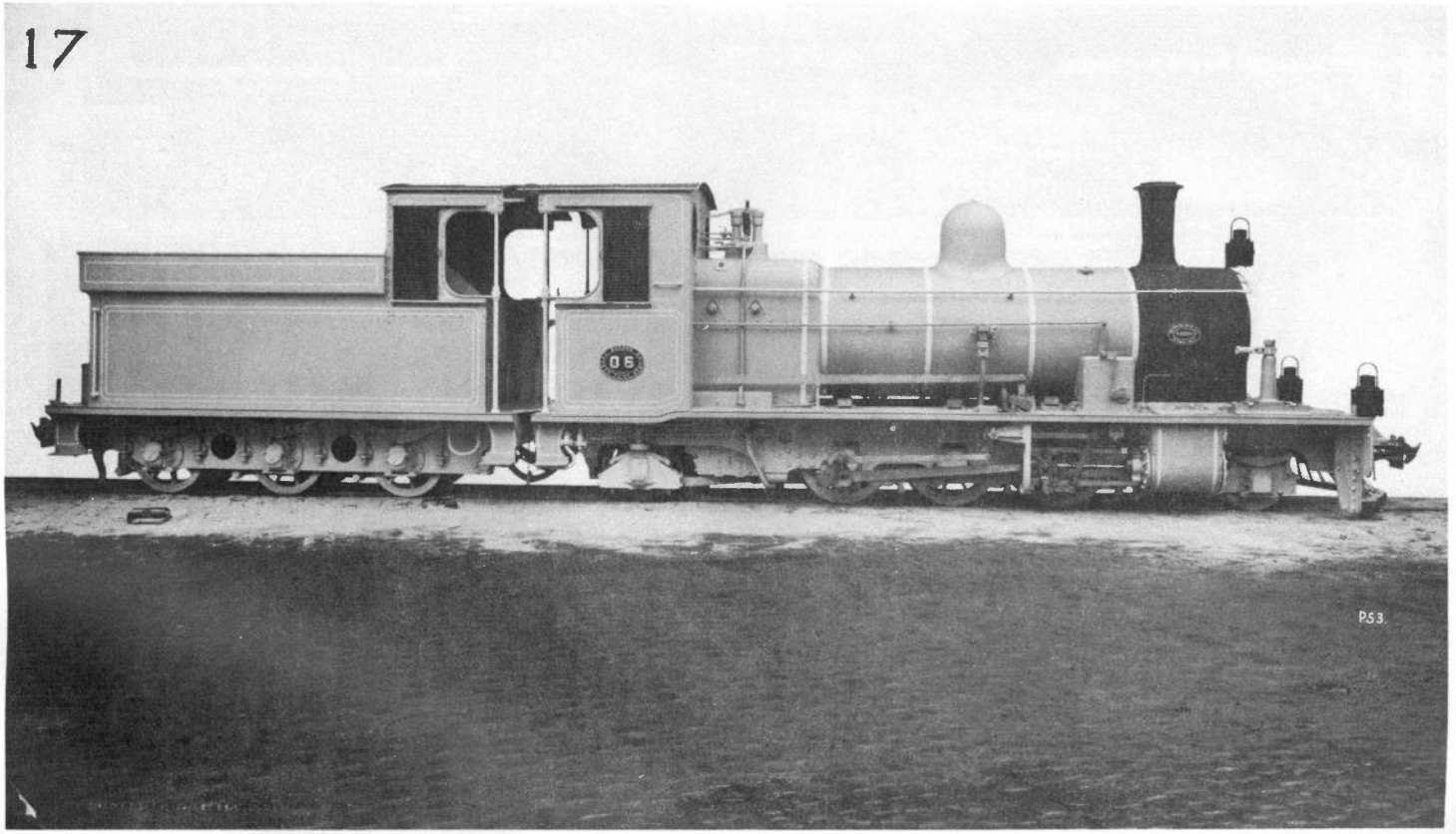
Photo 18. No. 3670 of 1949.
EASTERN PROVINCE CEMENT CO., South Africa. 2'0" gauge. 13½" x 18" OC. 13.7.49.

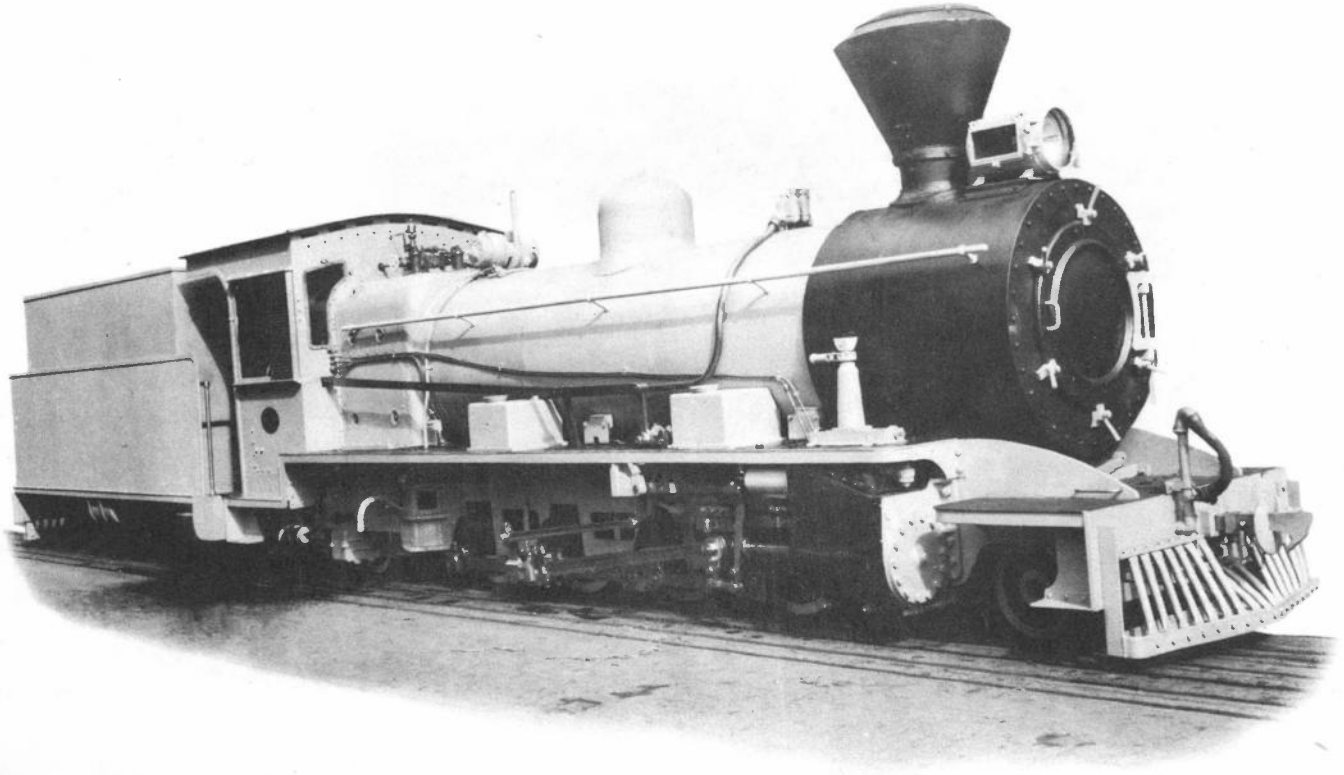
Photo 19. "BARSI - F41" No. 3668 of 1949.
BARSI LIGHT RAILWAY - India. Class F. 2'6" gauge. 15½" x 18" OC. Superheated. Engine 38 ton 11 cwt. Tender 22 ton 15 cwt. in working order. Left works 14.11.49.

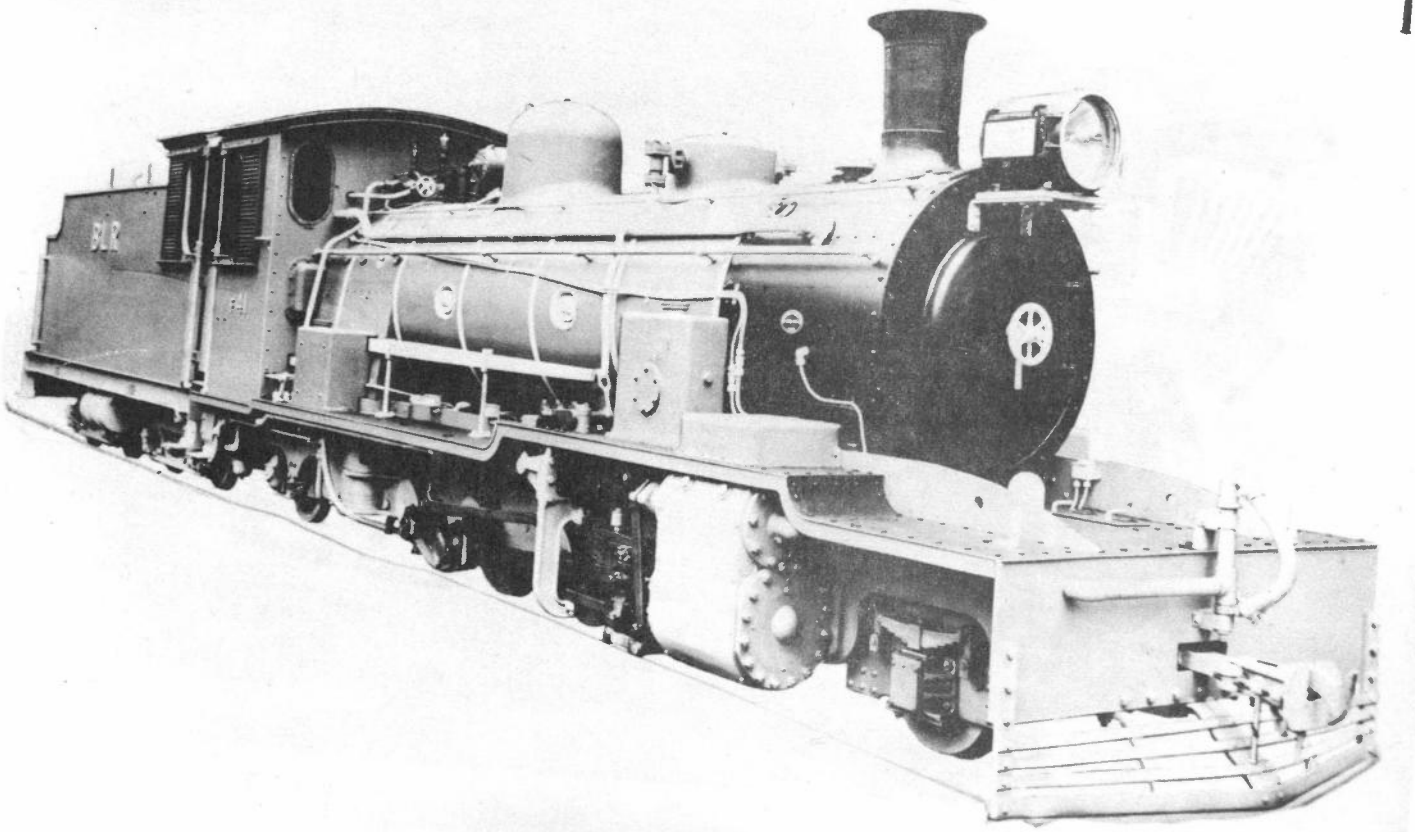
Photo 20. - No. 3873 of 1959.
2'6" Pannier Tank, one of two built for EX-DHOLPUR STATE RAILWAY, India. Despatched 29.7.59. 12" x 18" cylinders. Weight 37 ton 8 cwt.


THE HUNSLET ENGINE CO LTD
LEEDS
No 1430 1922
No 2

17



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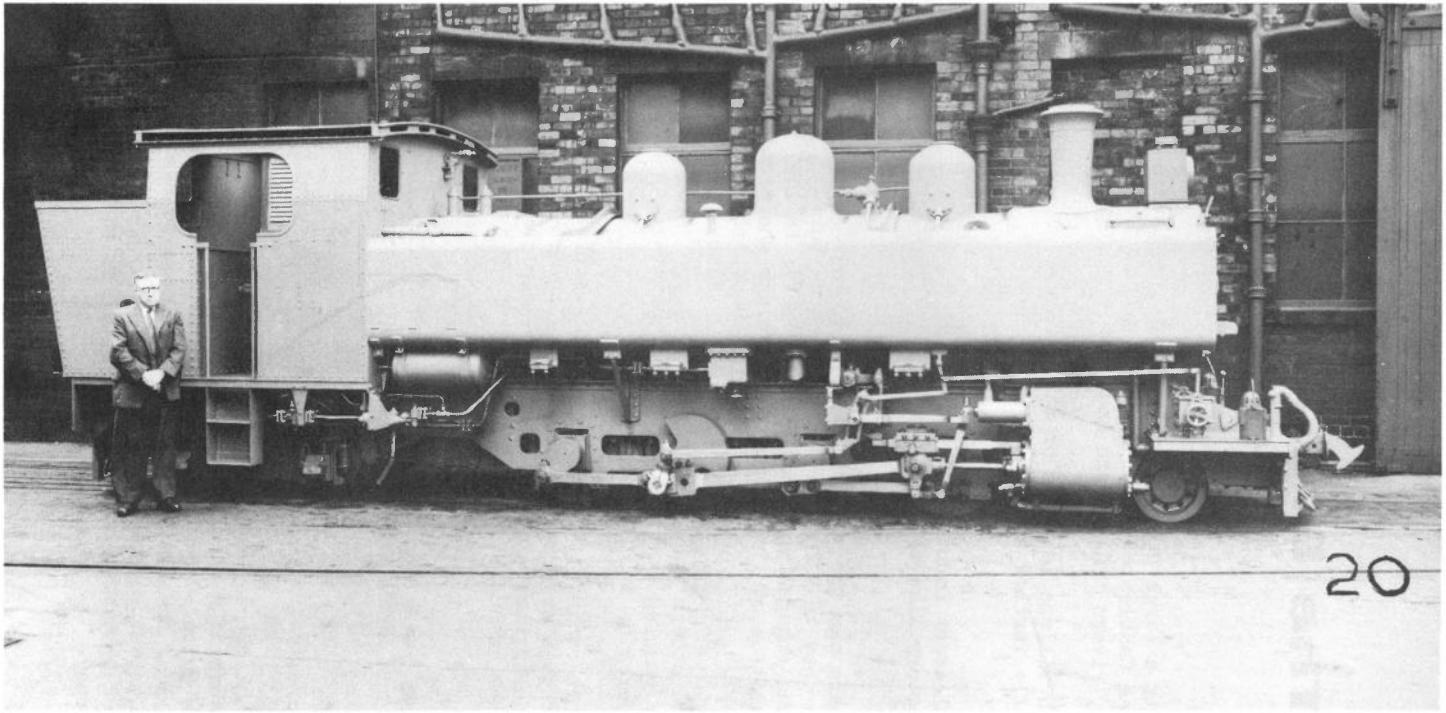
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The Brede Tramway

Maurice Billington

Sussex is a large and very fair county and the eastern part of it from ancient Bodiam Castle to the cinque port of Rye is no exception, rolling hills, woods, rivers and streams and some very picturesque villages.

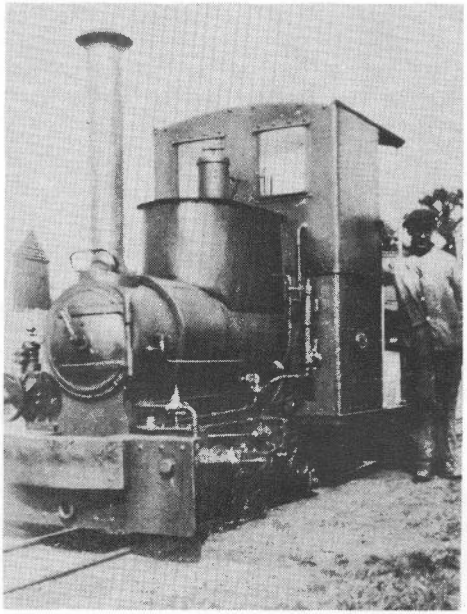
One such village is Brede on the main road from Ashford to Hastings and half a mile further on down the hill the road crosses the river also called Brede.

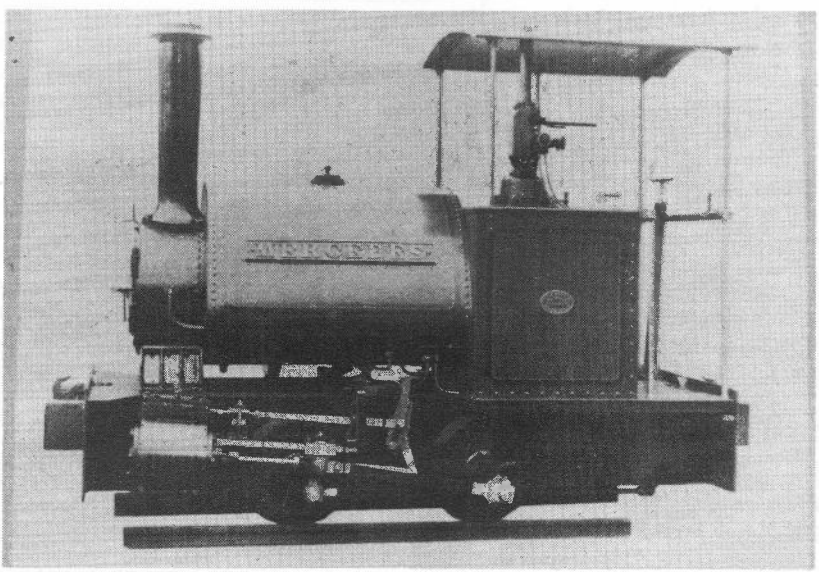
It is pleasant country all around but just a mile away to the right can be seen a factory like chimney, incongruous in this setting so what is it all about?

Many years ago the river Brede was navigable and the bridge was of the hump back variety to allow the barges to pass through, and the nearby Church House Farm was engaged in agriculture, however in 1897 the land was acquired by the Corporation of the Borough of Hastings who proceeded to sink three wells to provide drinking water for the towns inhabitants, two wells were of 275 foot depth and situated on the north side of the river, whilst the third linked to the others by a tunnel was 200 yards away and on the south side of the river, a pumping station with a tall chimney was also commenced and this came into operation in 1904.

It is not recorded how the materials were carried initially, presumably by road, although the road from Brede village to the Station even now is narrow and quite steep in parts and doubtless the Corporation were anxious to improve the method of transport - certainly it would have been necessary by the time work started on the actual pumping station and so in 1899 it was decided to build a light tramway of 18 inches gauge from the river by the bridge to run for a mile on the level for the most part, and a steam loco was bought which was a great improvement on the horse and cart.

The loco. which was named "Brede" was one of Bagnall's standard "Mercedes" class of 0-4-OST with $4\frac{1}{2}$" x $7\frac{1}{2}$" cylinders, and 1' 2" wheels on a wheelbase of 2' 6", it was the works No. 1560 of 1899 and was the only loco supplied to the Brede undertaking, it's normal load was 4 trucks, the only gradient was about $\frac{1}{2}$ mile or less short of the terminus and it performed it's mundane task quite adequately, the only break from routine occurring when the officials of the Hastings Corporation came to see how things were running at their undertaking when "Brede" would haul the passenger train, consisting of a truck or two lined with straw and hessian but in which they had to stand for the journey.





Lower photo shows a standard "Mercedes" class loco, this is WB 1730/04 for A.P.C.M. Harbury. "Brede" was similar when new. Alan Baker

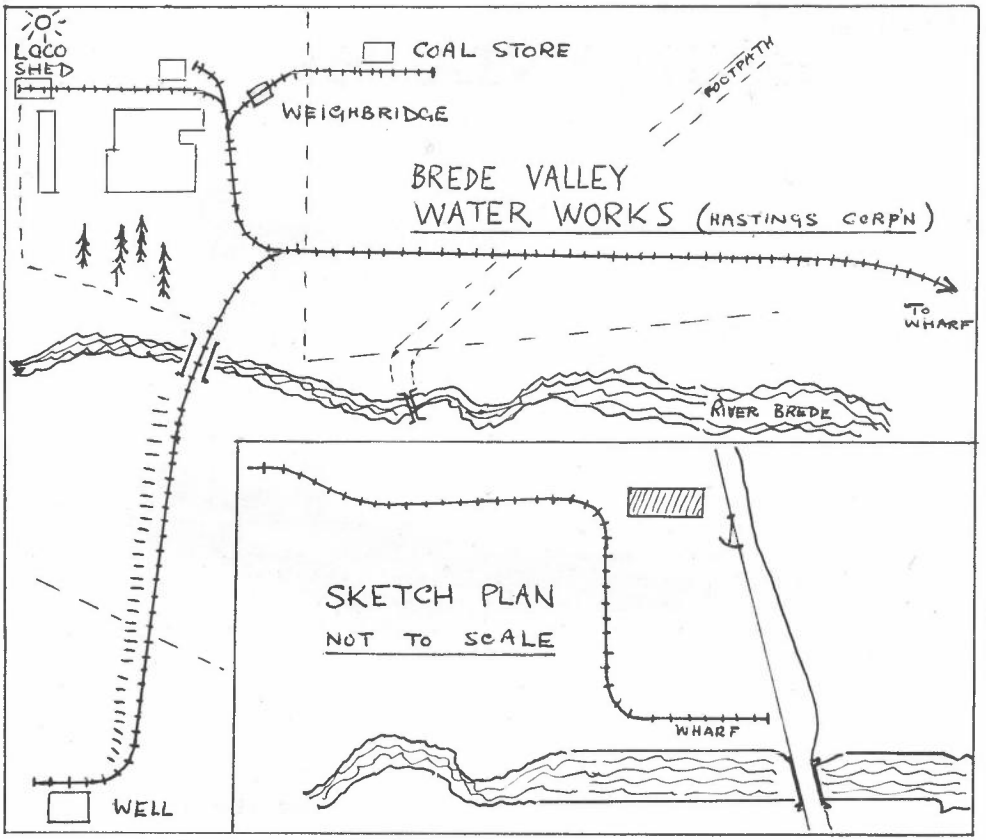
On the rare occasions when the loco was in for repairs etc. a pony had to do the work but while it could not have been much slower (allowing time for opening the four gates on the line, the average speed was 10 mph for the loco) it could only haul two trucks and of these one would have to be left at the last gate before the rise up to the station and returned for later on.

The tramway to the 200 ft. well was only used for transporting lining bricks and fell out of use after a few years, by 1920 the river had become rather choked and was no longer navigable so instead the coal etc. was brought from Doleham Halt on the Ashford-Rye-Hastings branch of the S.E. & C.R. by steam lorry, a lean to shed was erected some 150 yards short of the river bridge and the practice was for the lorry to go inside there and unload it's coal into the trucks which stood ready at a slightly lower level, then when full "Brede" would chuff away up to the Station as before, the original section of line to the river wharf was taken up and the crane (or grab) dismantled, it was a very simple line to operate, single track throughout and without turntable the loco working forward to the Station and back to the Wharf.

By 1922 the loco was in need of a new boiler and one costing £160 was delivered on 9th February 1923, later (about 1930) a new saddle tank for the loco was required but as the Station Engineer was a very skilled Man he was asked if he could do anything to save money and he came up with an admirable idea - he utilised an ordinary square galvanised 40 gallon water tank which he camoflaged sufficiently by draping a curved sheet around, a tall tank filler was placed on the top (from the photograph it looks remarkably like a lubricator) and at the same time donkey pumps were fitted to pump water into the boiler against 60lb of steam pressure, there were two pumps, one on the front right hand buffer beam, and the other on the left hand piston rod. After this rebuilding the loco hardly resembled a Bagnall at all but it was quaint and it worked alright for a few years more - until 1935 in fact when both the loco and the trucks were scrapped and the coal was carried to the Station by road direct from Doleham Halt.

The track was later taken up and a cinder path laid down which still exists in parts, the iron gates are still there also where the line went through field boundaries.

In the immediate pre-war years a new Pumping House was commenced on the site of the old flat roofed coal shed and this was opened in 1942...the original of 1904 still continued to work and does so on occasions to this day and it houses some superb Tangye pumps.



More changes came to the area with the War, the hump was removed from the river bridge to enable the Army tanks to us it and now one would never dream that less than forty years ago that it was possible to see Sentinel steam lorries drawing into the tranship shed and after a while see an Emmet like locc appear drawing four trucks of coal ... a simple but attractive little line and one which must have fascinated the local small boys at the time.

This chronicle could not possibly have been written had it not been for the help given to me by several friends, particularly Mr. W. G. Stevens of Hastings, who knew the line well, to Mr. Alan Baker of Newcastle, Staffs., who supplied the Bagnall information and Mr. M. R. Pope of Icklesham, Sussex, to these and others my sincere thanks are due.

NARROW GAUGE
SARDINIA '66

FRED PUGH

Following the rationalisation of 1958, when 122 Km. of route were closed, much money has been spent on the continuing lines, comprising 825 Km., and forming four distinct groups, operated by three companies. All have fleets of modern diesel railcars with diesel locomotives on three of the lines. Many stations have been rebuilt, including all stations on the Macomer-Nuoro section of the FCS. At Nuoro the old station in the town has been abandoned, with about 1 Km. of line, and a completely new station, and diesel depot, constructed on the outskirts.

All sections of the FCS and SFS are heavily used for both passengers and freight, although the FMS is rather a poor relation, with very little freight and less passenger traffic than the other systems. The FCS is actively engaged on building a new line from Monserrato, to swing round to the north of Cagliari and enter the town alongside the FS line, terminating at a joint station on the site of the present FS terminus. This will permit abandonment of 6 Km. of line through the suburbs and heart of the city, bristling with level crossings and road-side running, which mean expense to the railway and absolute chaos to road traffic. The station and depot occupy a valuable site in a developing part of the city and direct interchange with FS will be to passengers' advantage. A new workshops will be built at the divergence of the new line on a site at present being cleared. The railway will lose its connection with the docks, to reach which the trains ran over the tram lines, but there has been no traffic for years. (Note, "F.S." refers to the standard gauge line.)

Motive power position on the narrow-gauge lines is as follows:-
Strate Ferrate Sarde (SFS) Alghero - Sassari (branch to Sorso) - Tempio - Palau. Completely diesel operated. Nine steam locos stored or derelict at Sassari, Sorso and Tempio. All are 2-6-0T (four by Breda 1930 and five by CEMSA 1931).
Ferrovie Complimentari Sarde (FCS) Macomer Division Bosa - Macomer - Tirso (branch to Chilivani) - Nuoro. All trains diesel operated. Station and yard pilot at Macomer was 2-6-0T (SLM 1888)14. Under repair in the shops was 2-6-0T 4 (Breda 1914), while also present at Macomer were two more 2-6-0T, 5 (Breda 1914) and 36 (SLM 1891).
FCS Cagliari Division Cagliari - Mandas (branch to Sorgono) - Arbatax. All passenger trains diesel railcar or diesel loco hauled. All freight trains steam hauled. (The ten diesel locos are exclusively on passenger workings). This is the longest and most impressive network of the four, through difficult mountain country. A journey from Cagliari to Arbatax and back occupied 14 hours, with only 25 minutes at the far end. 20 steam locos survive, in varying states from very active to totally derelict.

In the course of a week's stay in Cagliari, only four locomotives were seen in steam, of three different types, but they were very active on freight and seen all over the system.


1
BOSA


2

Disposition of the steam locos was as follows:-

SLM 2-6-0T :	5 (1887)	Derelict Cagliari
	7 (1887)	Cagliari
	8 (1887)	Derelict Mandas
	43 (1894)	Derelict Sonorbi
	45 (1894)	Cagliari
Breda 2-6-0T (1914) :	1	Stored at Sorgono
	2	In Use
	3	Derelict Mandas
	6	Cagliari
	7	Derelict Cagliari
Mallet 0-4-4-0T (1909) :	200 (Schwartzkopf)	Cagliari Shops
	201 (Schwartzkopf)	Derelict Cagliari
	202 (? Borsig)	Cagliari Shops
OK 2-8-0T (1915) :	300	Derelict Cagliari
	301	In use
	302	Derelict Cagliari
	303	Derelict Cagliari
OM 2-6-2T (1931) :	400	In use
	401	Derelict Cagliari
	402	In use

Ferrovie Meridionali Sarde (FMS) Iglesias - S. Giovanni (Branch to Siliqua) - Calasetta.

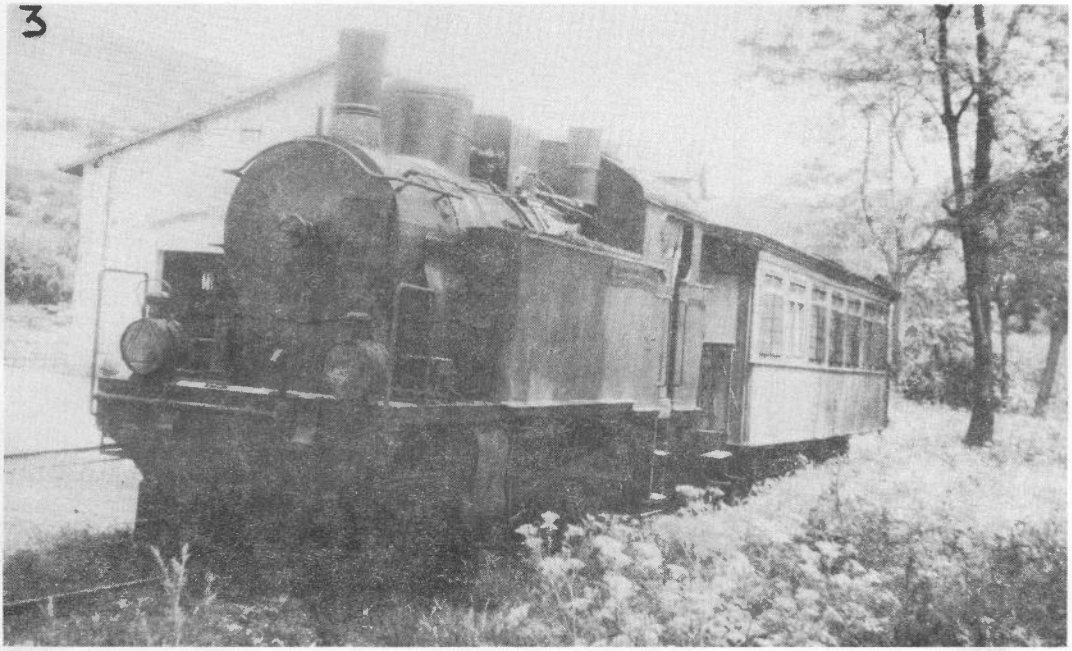
The only freight trains are two each way daily between S. Antioco and Carbonia, taking imported coal for transhipment to the FS at Carbonia. For these trains 2-6-0T 101 (Breda 1925) is kept at S. Giovanni. Seven more of this class survive at Iglesias - 102 to 108, all Breda 1925 - of which one is in working order as spare to 101, three are derelict, two out of use and one having a complete overhaul in the shops.

The only other locos surviving on the FMS are seven of the ex FS R.370 class 0-6-0T rack locos, ex Sicily and with the rack gear removed. All are derelict, six at S. Giovanni and one at Iglesias.

All collieries formerly served by the FMS are now closed.

Industrial Railways

There were at one time four lengthy industrial narrow gauge railways in the south and west of the island. All are now closed, the last being Montevecchio (closed 1959) and Monteponi (closed 1962). A visit to the latter revealed all track removed and the shed and workshops in course of demolition. The last locomotive was broken up in 4/66.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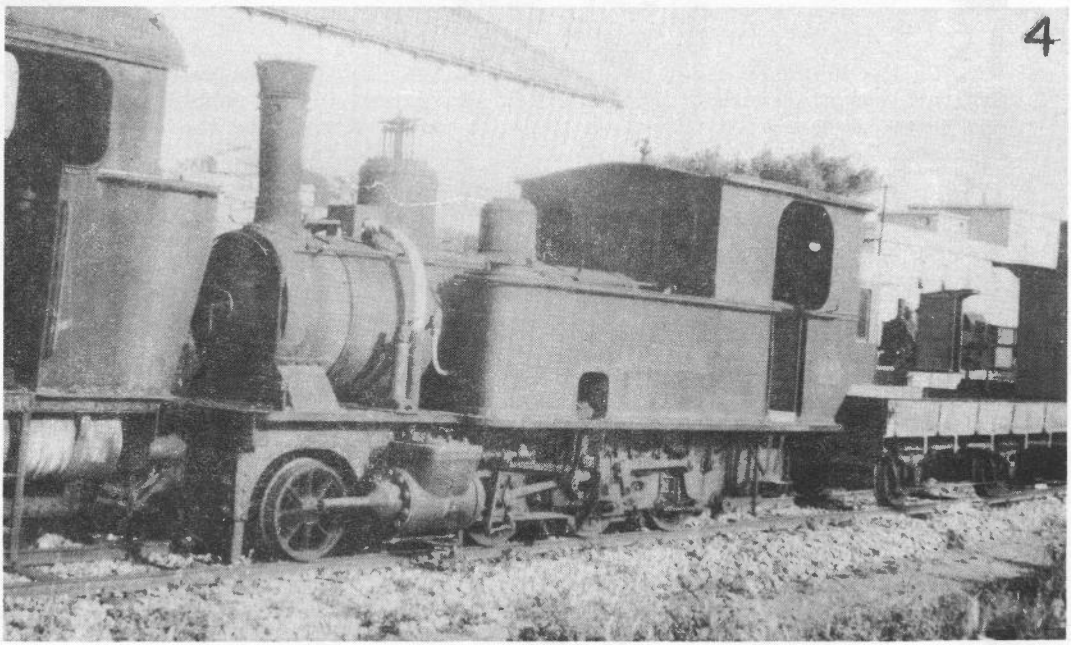
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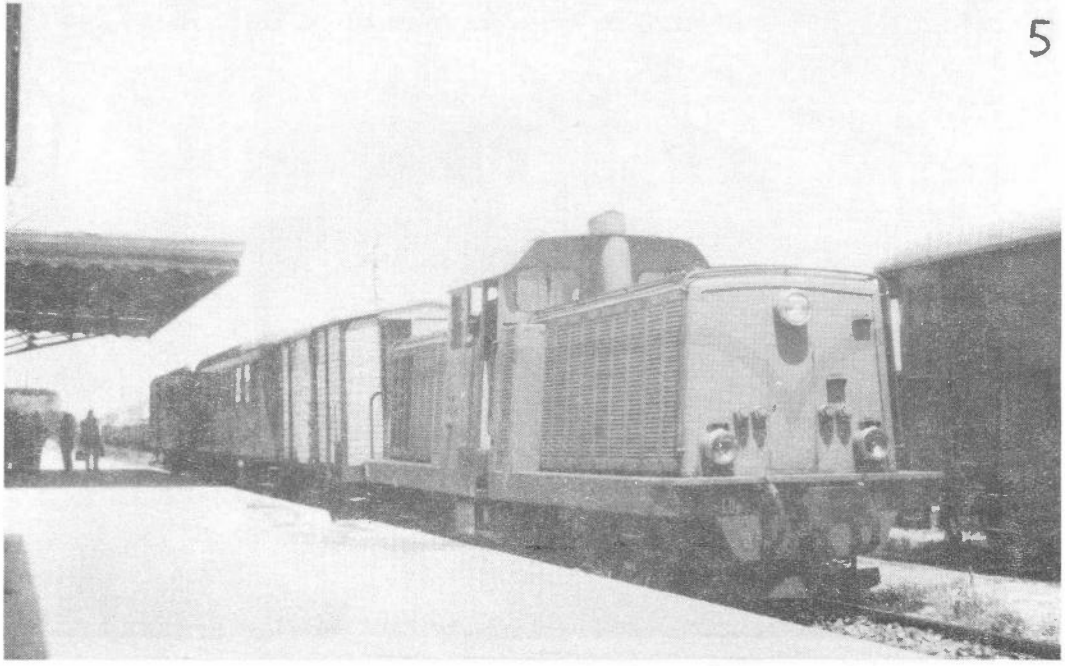


On the brighter side, an extensive railway serving the salt pans east of Cagliari was discovered. This is of 60 cm. gauge, with a double track main line and numerous temporary tracks on the salt pans. A visit to the shed produced 21 diesel locos - the total stock probably exceeds this.

7.2.66.

Photographs

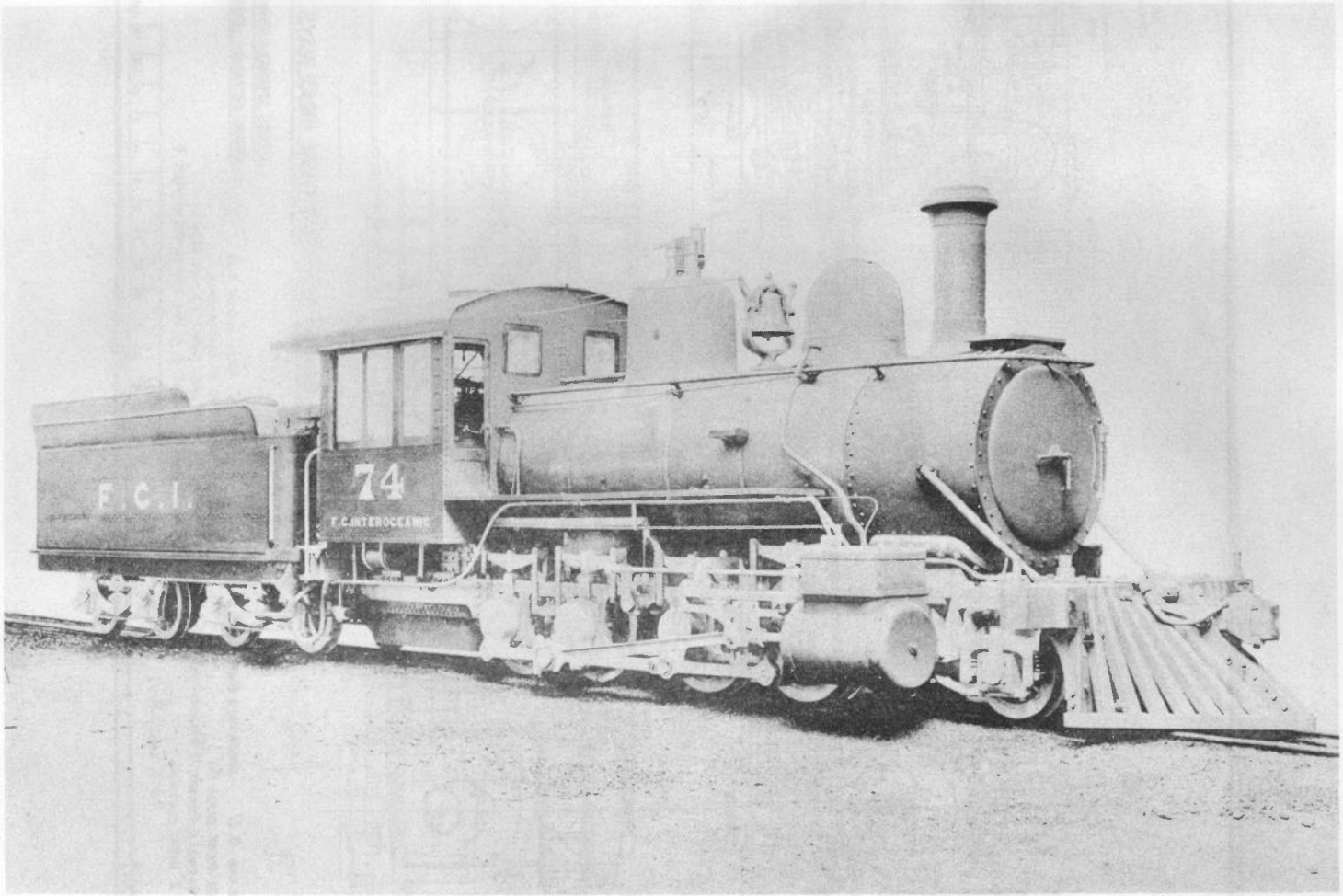
1 FCS Brown Bovari diesel railcar at Bosa 26.5.66.

2 No. 301 2-8-0T OK 5759/15 on freight at Mandas.

3 2-6-0T Breda 1737/1914 at Sorgono.

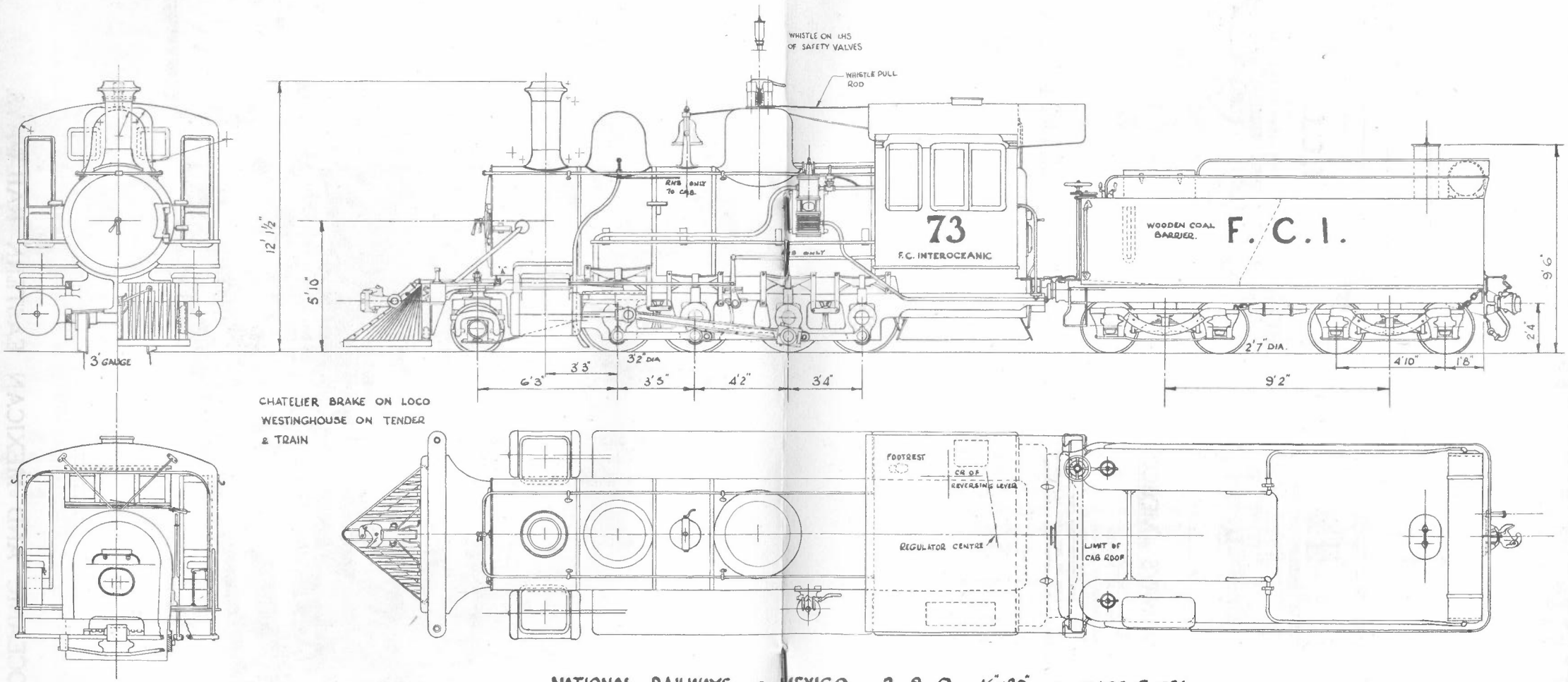
4 2-6-0T SCM 491/1887 derelict at Mandas.

5 SFS Diesel 501 at Tempio Brown Bovari 58.



INTEROCEANIC AND MEXICAN EASTERN RAILWAYS.

Diameter of Cylinders, 16″. Stroke of Cylinders, 20″. Gauge, metre. Heating Surface, 1441 sq. ft. Grate Area, 18·75 sq. ft. Tractive Power, 21,889 lbs. Total Weight, 76 tons.



CHATELIER BRAKE ON LOCO
WESTINGHOUSE ON TENDER
& TRAIN

NATIONAL RAILWAYS OF MEXICO 2-8-0 16"×20" CYLS CLASS G-024.

KERR STUART 819-21 OF 1904 INTEROCEANIC RLY Nos 73-75
KERR STUART 822/3 OF 1904 MEXICAN EASTERN RLY Nos 142/3

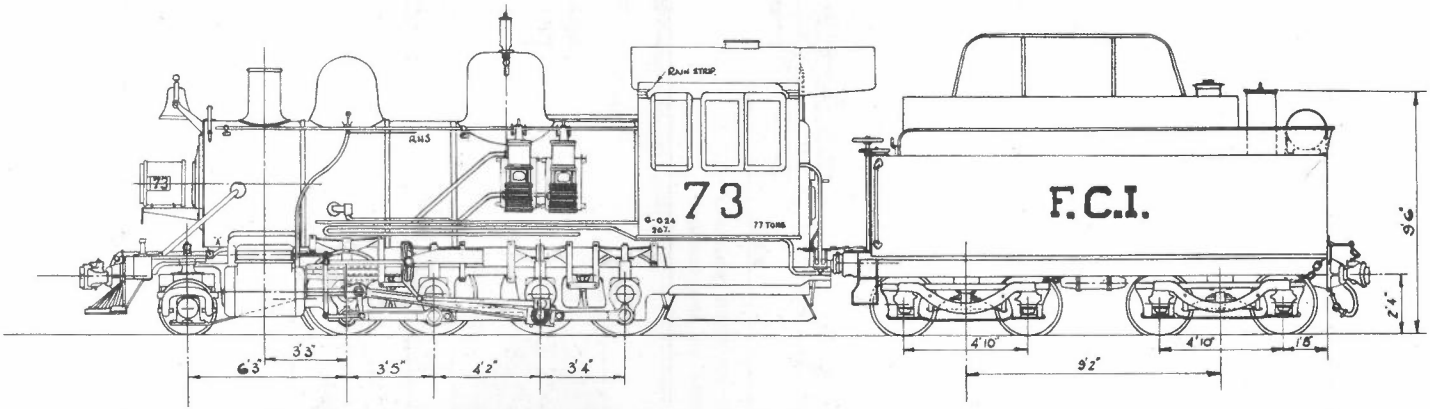
WIDTH OVER CAB 8'8" WIDTH OVER FOOTPLATE 8'11"
WIDTH OVER PILOT BEAM 9'1"
DISTANCE BETWEEN FRAMES 4'6⅜" (REAR OF CYLS) 4'0½" (IN FRONT)
BOILER 4'11" OVER CLOTHING

NOTE "A" BRAKE PIPE RUNS ALONG RHS OF SADDLE THEN UP TO & UNDERNEATH FOOTPLATE TO NEAR CAB. THENCE AS PIPE FROM PUMP, ON LHS, TO TENDER. ℄ OF PIPE 1FT TO RHS OF MAIN ℄

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 SCALE OF FEET.

MEX.1.

P.S. Hallow 8/69



NATIONAL RAILWAYS OF MEXICO

2-8-0 No 73

KERR STUART 819/04 AS MODIFIED

NOTE: MODIFICATIONS ARE NOT TO SCALE.
THEY ONLY SHOW THE FINAL APPEARANCE.
SOME DETAILS ARE OMITTED SINCE THEY CANNOT
BE DETERMINED FROM THE PHOTOGRAPH eg. GENERATOR
SMOKEBOX DOOR CLIPS, BRAKE PIPING, SAFETY VALVES.

SCALE: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 FEET
0 1 2 3 4 5 6 METRES

YES ! Built Differently by Kerr Stuart

Peter Halton and Ivan Stephenson

Drawings: Peter Halton.
Story: Ivan Stephenson.
Photo: From Ron Redman's collection.

Surprisingly only one member, Peter Halton, spotted the "deliberate mistake" photo on page 45 of "Narrow Gauge" No. 50. The loco in the upper photo, F.C.I. No. 74 was in fact built in England and not the U.S.A.

"Numero 74" was part of a three loco batch built for Mexico's second largest narrow gauge system, the 3 ft. gauge Ferrocarril Interoceanico in 1904. A British owned company from 1888 the F.C.I. was acquired by the Mexican Government in October 1902 when the value of its shares were greatly depressed. Before this "Nationalisation" the F.C.I. had purchased the San Marcos and Tecoluta line and had reorganised it as the F.C. Oriental Mexicano or Mexican Eastern Railway.

It is not known whether the F.C.I. or the Government ordered the baby Consolidations but whoever signed the papers added a further two to the batch for use on the O.M. How Kerr Stuart came to get the order is lost in the mist of time as previously the Interoceanic had purchased only from Baldwin and Schenectady since its last British buy from Dubs in 1889. The American firms were cheaper and could deliver direct to Mexico by rail, however Kerr Stuart were favoured and by May 1904 all five locos had been erected, tested and shipped as:

KS 819	F.C.I. 73	Class A8.
KS 820	F.C.I. 74	"
KS 821	F.C.I. 75	"
KS 822	F.C.OM 1	later 76 - no class.
KS 823	F.C.OM 2	" 76 "

As can be seen from Peter's drawing they were 100% Yankee in design and their only British features were the chimney (Oops! stack), the smokebox door and the Ramsbottom safety valves. Apparently the headlamp was fitted in Mexico as it is missing from No. 74 in the works photo. The leading dimensions of these fine machines were:

Type: 2-8-0, Cylinders: 16" x 20", Driving Wheels: 38", Boiler Pressure: 175 P.S.I., Tractive Force: 21,889 lbs., Total Weight: 76 tons. The boiler had 1441 sq. feet of heating surface and a large firebox of 18¾ sq. ft. of grate area was provided.

The F.C.I. had quite a hard road and from San Francisco (28 miles from the eastern terminal at Vera Cruz on the Gulf of Mexico) the trains faced 86 miles of a fearsome climb on a ruling 3% grade before reaching the summit at Las Vigas (7938 feet) having ascended 7486 feet in the process, the curves on the line being 330 foot radius. So you can see the locos had no easy life, but then they were well made!

By act of Congress on 28/2/1908 the F.C.I. became part of the National Railways of Mexico (NdeM) and for many years after it retained the old name and was managed separately, but gradually although still lettered F.C.I. the locos began to be altered to the N de M standards, huge electric headlights almost as large as the smokebox were fitted, oil replaced coal as fuel and the stack shrank to a ridiculous height lower than the sandboxes and the dome! There also seems evidence that boilers were interchanged from time to time with other similar locos built in the U.S.A. The Kerr Stuart's were N de M class G-024 and photos exist of No. 75 showing a Baldwin worksplate on the so-and-so! Perhaps 75's Baldwin boiler came from a G-025 or a G-030.

The Mexican Eastern locos retained "OM" on their tenders, gained all the "mods" but suffered the indignity of being renumbered in 1930; 76 (KS822) became 142, and 77 became 143.

These sturdy Stoke products lasted over 60 years in rough, tough service as can be seen below.

73 laid aside in 1968.
74 retired 13th March, 1965.
75 laid aside 1968.
142 "
143 "

Maybe those laid aside still survive, one would make a nice preservation project but don't expect it to look like the works photo for they have been altered so many times that you cannot tell the difference between them and their American cousins from Philadelphia!

THE BRITISH NARROW GAUGE I/C LOCOMOTIVE

Part 9

By Brian Webb

THE HOWARD STEEP HAULAGE LOCOMOTIVE

In Narrow Gauge No. 43 I dealt with the Howard narrow gauge petrol locomotives and briefly mentioned the type which is being covered here now that more details are to hand.

In 1926, J. & F. Howard Ltd. supplied a modified form of their standard narrow gauge locomotive - to John J. Shardlow & Co., Civil Engineers and Public Works Contractors, of Great Central Street, Leicester. The loco was used along with others of Howard design on the firms contract for the Abbey Pumping Station at Leicester.

The Howard locomotives had built up a good reputation with their exceptional haulage power, due to efficient adhesion, to small frictional losses in transmission which had ball and roller bearings throughout: to their ample power and driving efficiency and to the effective sanding gear to all four wheels.

On the Leicester contract the locos were used for handling loaded skips almost totally uphill over rough tracks with gradients of up to 1 in 18.

The basic frame of the Howard loco was an open box type unit built up from rolled steel sections, this allowed full accessibility yet by having substantial cross stays, underframe and corner plates fixed by hot rivetting it was extremely rigid. The engine and gearbox were mounted on their own sub frame prior to installation. Chain drive was used on all Howard locomotives.

The steep haulage design closely followed the standard narrow gauge design, later the type H loco, except that the overall length was increased from 10'1" to 10'9" to allow for the patent adhesion wheel gear, and weight increased from 3 tons to $3\frac{1}{2}$ tons. A 25 h.p. Morris 4 cylinder petrol engine was fitted.

The adhesion wheel was centrally placed behind the rear wheels and was a twinned wheel with roller bearings, with a diameter of 1'4" and with rubber tyres $3\frac{1}{2}$" wide. A driving sprocket was fitted between the twinned wheels and was driven off the rear axle by chain.

A fixed axle carried the adhesion wheel and the axle had excentric adjustments between the hornplates similar to those of the other axles. A cast steel yoke straddled the adhesion wheel and was fixed to the axle. A strong helical spring above the yoke with a fine pitch screw adjustment was set in a column with a hand wheel beside the driver and used to put the whole under compression and thus transfer part of the weight of the locomotive to the adhesion wheel. The wheel was put in contact with a flat track, usually wooden planks laid between the rails.

The following tables demonstrate the comparative hauling power of the standard and steep haulage designs.

Standard Type Loco.

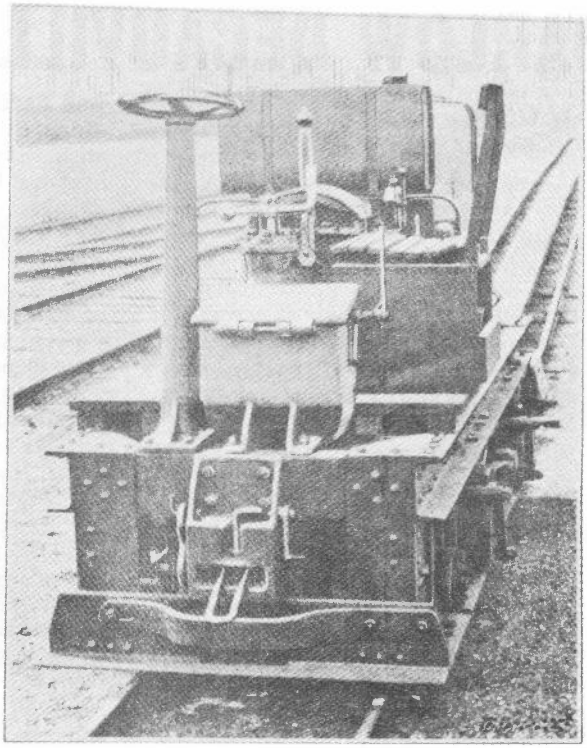
At Engine Speed 1000 R.P.M.

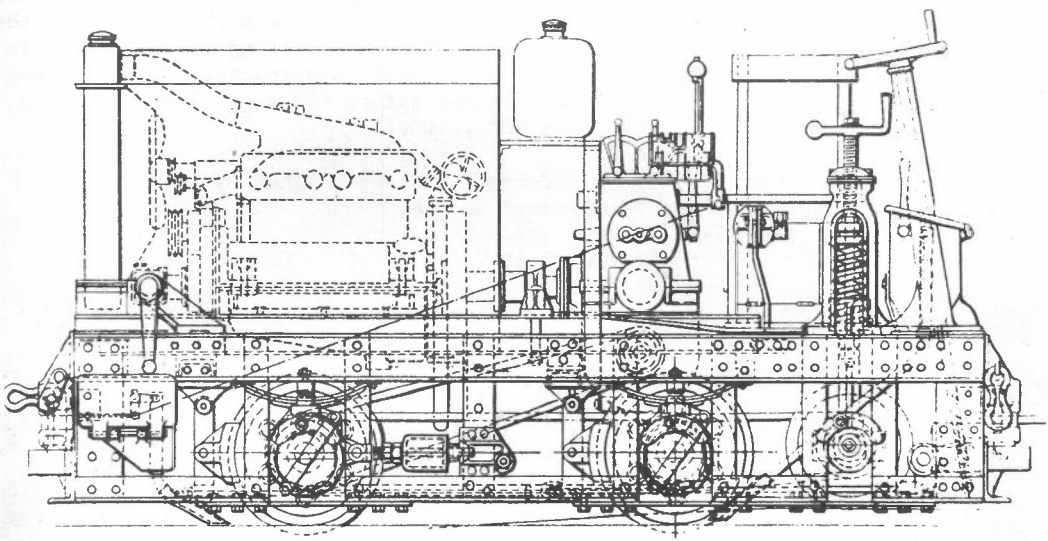
Gradient	On Slow Gear 3-16 M.P.H. Gross Load	On Fast Gear 8-15 M.P.H. Gross Load
Level	60 tons	35 tons
1 in 100	30 tons	17 tons
1 in 60	20 tons	12 tons
1 in 40	16 tons	9 tons
1 in 20	8 tons	4 tons

Steep Haulage Type Loco.

At Engine Speed 1000 R.P.M.
Slow Gear 3-16 M.P.H.

Gradient	Adhesion Wheel not in use Gross Load	Adhesion Wheel in operation Gross Load
Level	70 tons	85 tons
1 in 100	35 tons	44 tons
1 in 60	25 tons	32 tons
1 in 40	18 tons	23 tons
1 in 20	10 tons	12 tons
1 in 15	-	9 tons
1 in 12	-	7 tons





BARLOW DECAUVILLE

Ken Hartley

Thanks to the co-operation of the Army Dept. authorities, on October 12th, 1968, a small party of N.E.R.S. (London Area) members had the privilege of being the "first ever" visitors to the "Decauville" line at Barlow N.C.O.S.D. near Selby (Yorkshire).

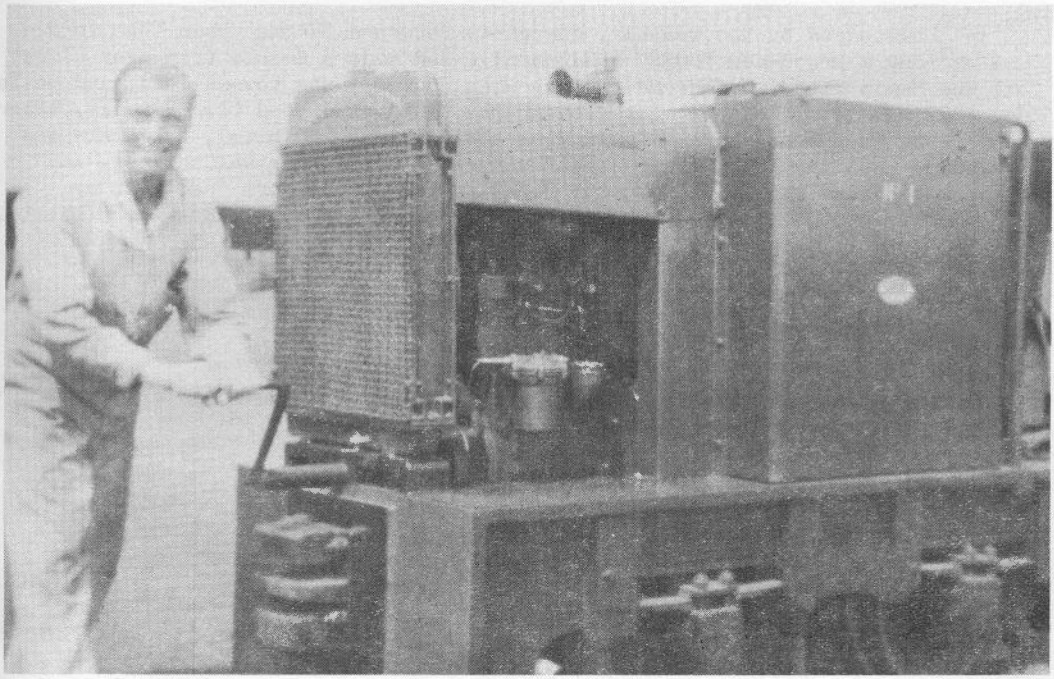
Leaden skies, wind, and pouring rain greeted the intrepid four (Doug Semmens, Rich Morris, Pete Nicholson and Stan Robinson) as they pulled up at the Depot gates soon after 9 o'clock on that Saturday morning. They were met by Ken Hartley and his companion George Cass (two of the Depot staff) and provided with "gen sheets" specially typed for the occasion, soon set out to explore this very "shy" industrial line and its rolling stock. En route, a brief detour revealed the remains of a short, separate, 60 cm. gauge railway which, in days long past, had carried coal from a storage enclosure to the boilerhouse, in hand-propelled "skips". (No remains of these).

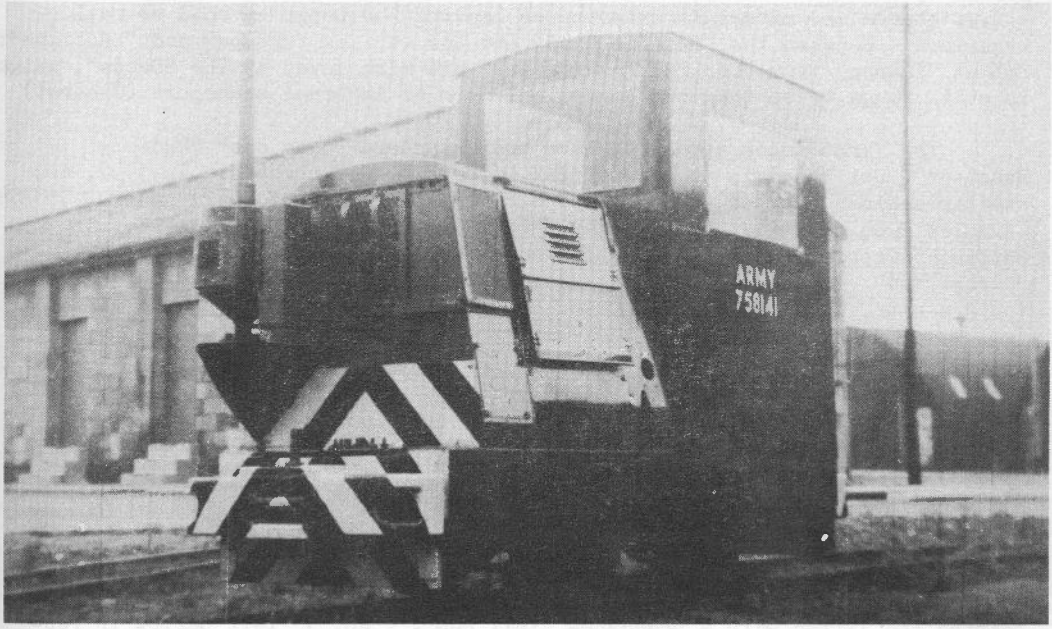
The loco in service, a cab-fitted "Ruston" 16 - 20 h.p. 4-WD (No. 229633/ built 1944) was parked under a long lean-to shelter, on a train of six bogie wagons. Rather to the surprise of the visitors, the engine started straight away, "on the handle", and was then run up the line to the passing loop, where it was attached to a couple of spare wagons and, with the party entrained, then proceeded towards the engine shed and spare locos.

Before reaching this point, a stop had to be made to insert the removable short pieces of rail, at two intersections with the S/G tracks. There are three of these crossings altogether, with the N/G line about 2" higher than the S/G metals, but, by using this rather neat method, no cutting of the latter is necessary, while the 60 cm. track is also virtually continuous. The only snag is that the "filling-in" bits MUST be removed before the arrival of the daily "Shunt". Just occasionally, they are NOT.....!!

The spare locos, parked up under the full-length canopy of the "Metal Salvage" building, proved to be standard 20 h.p. "Hudson-Hunslet" 4-W.Ds, fitted with very neat all-enclosed cabs. They were 2477 of 1941 and 1835 of 1937 (the latter was one of the first $\frac{1}{2}$ doz. of this Hunslet design - of which approximately 1,000 were built). Like the "Ruston" they were fitted with water-quenched exhaust systems, and had the same "bronze green" livery, with black and yellow diagonal striped ends. All three locos had fairly recently been repainted.

The little engine shed, at right angles to the running line, forms one end of the salvage building, and access to it is by means of a small turntable. It will just hold two "Hunslets", but the longer "Ruston" cannot be turned in the limited space available, and has to be parked under the canopy when not in use. Inside the shed were two, long-disused, "Whipple" petrol-driven "Starting Engines" which, by means of a clutch and jointed shaft could be coupled-up to the loco, crankshafts. They were cumbersome devices - small wonder that in everyday use the "Hunslets", at least, get a quick "tow off" from a Fork Lift Truck already running!




ARMY
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Undeterred by the weather, the party returned to the train (the loco now bearing a brand-new "NGRS" headboard!), and made a double trip over almost all the "main line", before re-turning when No. 1835 was tow-started, and pulled No. 2477 out into the open, for photography to be attempted (!) Finally, after re-parking the "Hunslets" (and removing the "filling-in" bits), the train was propelled into the loop, the "Ruston" returned to its original shelter, and the party walked slowly back to the Depot entrance. A short "natter", as "clobber" was collected from the police office, and then it had to be "Cheerio!" - after a visit mutually enjoyed by all concerned.

Ironically, twenty minutes later, the skies cleared and the sun shone brilliantly for the rest of the day!

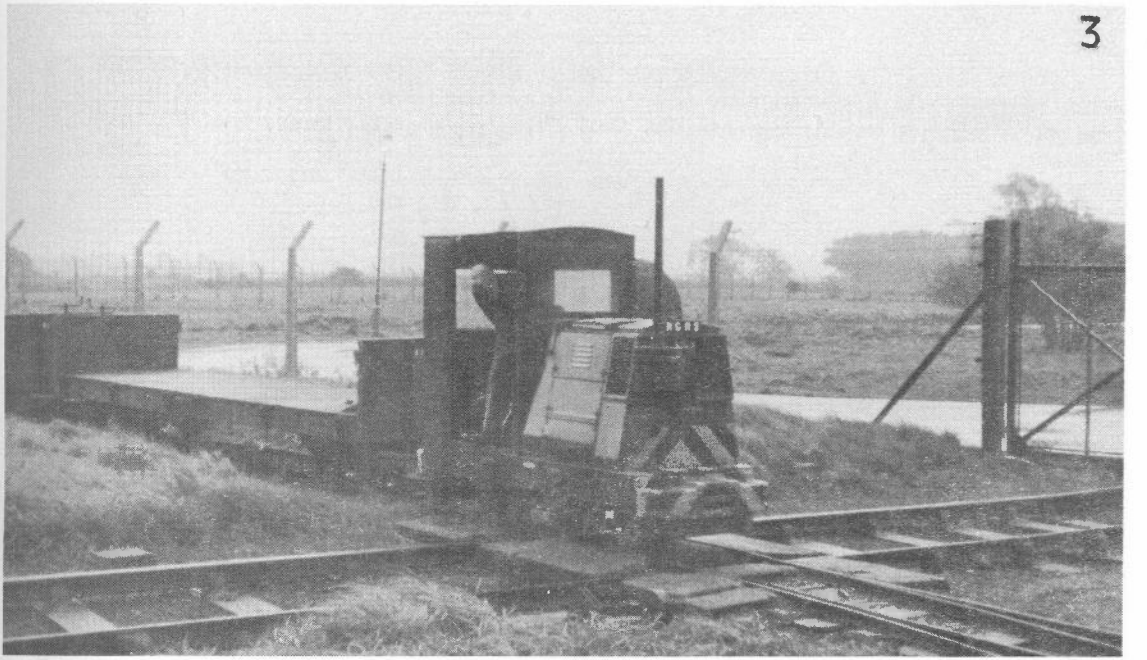
For the record, this 60 cm. railway was installed in the early 1940's, the track being laid by Italian P.O.W.s. The total length, including the crossing loop and several long sidings, is approximately one mile, over half of which is embedded, tramway-fashion, in concrete, to allow free movement to road vehicles. The remainder, serving open storage areas, is laid in the normal manner, and has cinder ballast. The track material is "Hudson" steel sleepered type, with "24 lbs. per yard" rail. On the "open" section, re-laid early in Spring, 1966, creosoted wooden sleepers, 5" x 10" x 4'3", now alternate with the steel ones, which are badly rusted.

All Depot departments, except the Ammo Depot and "Sales Area", are served by the N/G railway, which carries 85% of "Receipts", and 75% of "Issues" - i.e. stores and materials entering or leaving the Depot by road or rail transport - between the "Traffic Shed" and the various "Groups" and "Sections"; 25% of "Issues" from "Central Packing Bay" are also moved by the "Decca", which is still found to be the most economical form of internal transport (Cheers!)

The first locos appear to have been standard "open cab" "Hudson-Hunslets", but there is no record of W.D. or H.E. Co. numbers. In 1957, two similar engines started work - LOD 758201 (Hunslet 2618 of 1942) and LOD 758374 (Hunslet 2966 of 1944). All were painted "bronze green" all over, but in September-October, 1959, the two latter were repainted with buffer beams in "signal red"; frames, cab, bonnet and radiator "bronze green"; top of frames, footplate and buffers, black; Depot "running" numbers (No. 1 and No. 2) in yellow; and the builders works plates were polished up. (At least one "Narrow Gauger" still prefers this livery!)

In February, 1963, another "open cab" Hunslet arrived from Liphook (LOD 758193, No. 2494 of 1941) to replace LOD 758374 (No. 2) which was soon afterwards sent away, probably to Liphook. The newcomer soon had its "all green" livery "modified", and became "No. 2" the second.

By mid-1965, oil consumption of the locos was getting rather heavy, and the wheel treads on "No. 1" very worn. Consequently on September 17th RUSTON No. 229633 (LOD 758141) arrived from Chilwell Depot, overhauled, re-painted and fitted with a brand-new "full cab". "No. 1" left Barlow in February, 1966 for Bicester.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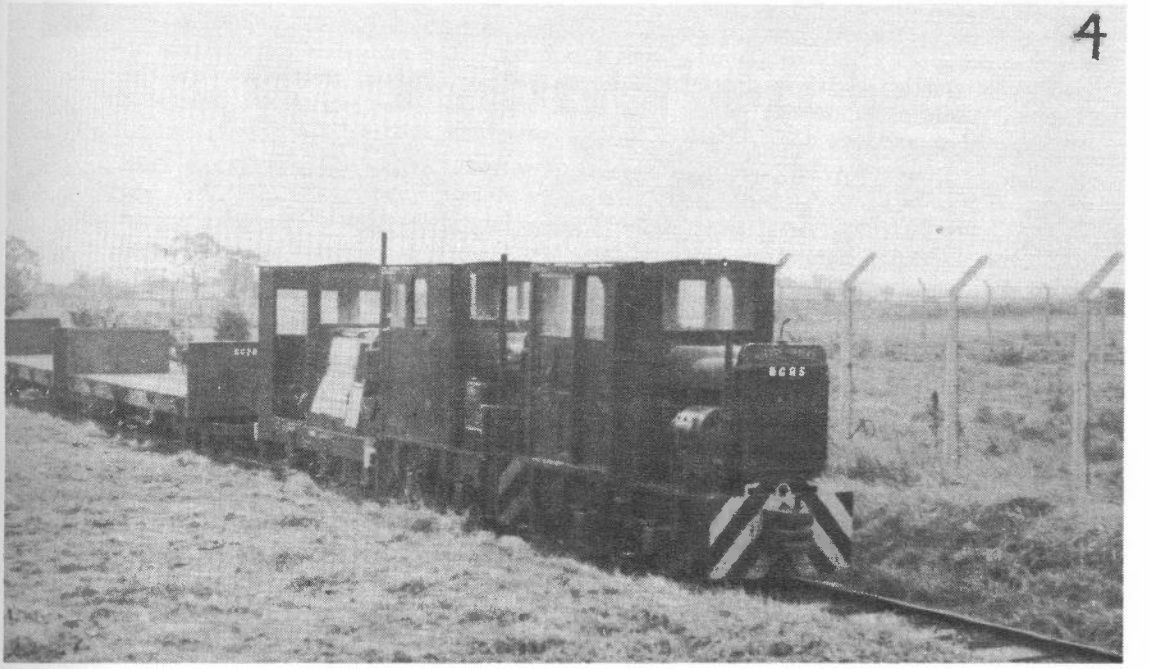
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In September 1967, LOD 758195 (Hunslet 2477 of 1941) arrived at Barlow for "storage and maintenance", and in January 1968, LOD 758188 (Hunslet 1835 of 1937) came to replace the second "No. 2". Later in the year, the "Ruston" became "Army No. 27"; 2477 became "Army No. 29"; and "1835", "Army No. 32". These last three arrivals all had black and yellow "flash" ends, on arrival, and (perforce) this colour scheme has persisted, but the "open" "Hunslets" retained their red buffer beams until the end.

Brief data of the Ruston:-

16 - 20 h.p. 2-cyl. diesel; 3-spd (F & R) gearbox giving speeds of from $1\frac{3}{4}$ to $9\frac{1}{4}$ m.p.h.; wheels 1'4"; Wt. $2\frac{3}{4}$ tons. Length O.A. 9'6"; width O.A. 3'6"; Ht. to top of Cab, 6'6".

Details of the Hunslets:-

20 h.p. Ailsa-Craig 2-cyl. diesel; 2-spd. (F. & R.) gearbox, giving $3\frac{1}{2}$ and 7 m.p.h.; wheels 1'6" (new); W.B. 2'11" (nominal). Ht. (open cab) 5'$2\frac{1}{2}$", (full cab) 6'6"; width 3'6"; Length (over frame) 7'6", O.A., 8'6". Wt. (W.O.) 3 tons 6 cwt.

Both makes have chain drive to each axle, but the Ruston has brakes on only two wheels, whereas the Hunslets have shoes on all four.

Rolling stock consists of 13 "Hudson" 4/5 ton, double bogie, steel open wagons, with 2" thick hardwood plank flooring. The ends are fixed, but the two-piece "drop" sides are detachable, and are, in fact, never seen on the wagons, since much of the traffic is loaded in pallets, which are loaded on to the train by Fork Lift Truck. Main dimensions are:-

Length O.A., 19'2"; floor space of body, 16'6" x 4'6"; ht. of floor from rail, 2'0"; O.A. height of body from rail, 3'11". Wheel dia., 1'0"; bogie W.B., 2'3"; centres of pivots, 13'0". One bogie on each wagon has brakes on all four wheels. There are no springs, but rubber pads are fitted between axleboxes and bogie frames. Weight, as running, about 30 cwts. These wagons bear the numbers "NG. 287-299" (both inclusive). There is no record of any other rolling stock having been used on "The Decauville" during its 25 years existence.

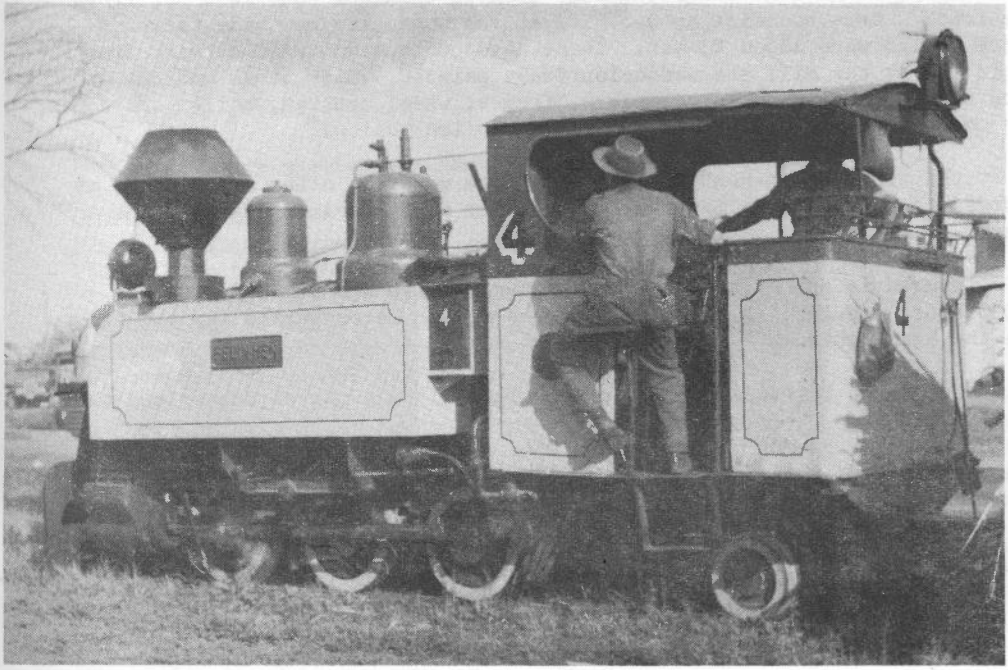
Photographs

1. K.E.H. starting up Hunslet Hudson No. 1 (2618/42) WD 758201 (13/7/62).

2. Ruston Hornsby 4WD 758141 (229633/44) New cab fitted (17/9/65).

3. Ruston 229633 on NGRS special (Pete Nicholson).

4. Hunslet 2477, Hunslet 1835, Ruston 229633 and two Hudson bogie wagons. (Pete Nicholson).



Felin Hen

Alistair Parsons

On June 29th, 1927 "Felin-Hen" (Baldwin 46828/1917) failed in service on the Penrhyn Railway and was taken out of use and laid up in the locomotive shed at Port Penrhyn. Here she remained until January 1940, when there was a drive for scrap metal. "Felin-Hen" was taken out of the shed and examined. At the same time her two sister locos "Llandegai" (BLW 47143/17) and "Tregarth" (BLW 46764/17) were towed down to Port Penrhyn and scrapped. However, "Felin-Hen"'s fate was not to be so ignominious. During the months of January she was partially dismantled and repairs made and on 8th February she was tested by water to 270 lbs. per square inch (pressure), after which she was loaded onto an LMSR wagon on 10th March, 1940 and conveyed to Liverpool for shipment. She was landed at Brisbane and conveyed by rail to her purchaser - Fairymead Sugar Mill, Bundaberg, Queensland, Australia.

On arrival at the Mill, which is about seven miles out from Bundaberg, "Felin-Hen" was given a large spark arresting chimney and large electric head and tail lights. Apart from these minor alterations she seems to have worked successfully at the Mill until 1963.

continued

In 1963 "Felin-Hen" underwent some drastic changes. She lost her front bogie truck - thus becoming an 0-6-2T. At the same time new side tanks of curious design were added to her. These have curious downward curving fronts. When in use at the Mill she was colourfully painted - side tanks and cab - yellow with black lining, - cylinders, frames, wheel centres, boiler and domes, upper cab - red, smokebox front white, wheel rims yellow.

At the time "Felin-Hen" was rebuilt there were two other steam locos at Fairymead, a south Australian 0-6-2T (probably Perry Engineering Co.) and a Krauss 0-4-0WT.

Fairymead is one of the most modern sugar mills and in 1963 crushed 376,040 tons of sugar, in the height of the season locos worked day and night, hence the headlights.

Photos taken by W. A. Pearce in 1964 show old age sag of bunker and cab.

In the 1965 Draught in Queensland "Felin-Hen" was taken out of use and does not appear to have worked since. In 1968 she was put on display by local 'Lions' in Bundaberg and there is talk she may yet end up in a Museum in Brisbane.

THE CHEFE HAS JUST GONE ON HOLIDAY . . .

ANGOLAN RAILWAYS

Frank Jux

I made a mistake in asking permission to photograph the locos at Luanda. Senhora Dalida was most charming, but the Director had instructions from the Government and could not allow photographs. He had also just left on holiday and it was impossible to take the matter further. I would be the last to suggest that his holiday was extremely fortuitous, but a similar incident had occurred in Mocambique some months before, and it seemed that my arrival precipitated holidays throughout the Portuguese Provinces.

What to do in Luanda then? Down at the roundhouse "Deposito" little stirred, although two or three diesels crept languidly around the port. The local Game Reserve was closed, and the Tourist Information Office seemed to have abandoned English. They did issue a brochure however, which listed two sugar estates as "tourist attractions". Enquiry at the British Consulate - when this was tracked down - gained the information that Angola was very big, the Plantation was very far, very hot and full of mosquitos. Without transport it was impossible and very expensive. Luanda itself was very expensive, so this was nothing new. It was also very hot and humid, although I was assured that it was in fact cool, and the humidity at 90% was at least not 100%!

Since I persisted, Senhor Andrea at one of the tourist agencies could perhaps assist, if I was prepared to pay. Rather than cook in Luanda, any action was attractive, so a visit to Senhor Andrea was indicated.

"The Plantation Tentativa? Is far!"
Was there a railway there?
"Oh no!"
Perhaps a small one for the factory?
"Is possible."
Possible to find out from the Company?
"True the Sugar Company's offices are 300 metres away."
Possible to telephone?
"They would not let you ride the train."
But possible to ask?
"A note from the British Consul perhaps."
But the British Consul sent me to you!
"Well, if you insist, I will phone, but it is not likely you may go. Perhaps a car to look around the town?... Yes, I will phone."

"The Companhia has invited you to lunch..... (This in a surprised tone). I will send a car tomorrow with a guide who speaks good English."

Naturally, the car turned out to be a more expensive vehicle than arranged (a Land Rover in fact), and the guide to have only a moderate supply of English. However to Tentativa with a note from the Companhia.

The Estate is large and apart from the cultivation of sugar, oil palms are grown. After a tour of the factory the subject of the comboios (trains) was approached. Well, they were far - this is definitely true of all sugar lines. However there were three steam locomotives (these were seen and were Orenstein and Koppels) and nine diesels, including some Rustons. An Englishman erecting a boiler plant pointed out three steam ploughing engines on the scrap dump, and everyone laughed at the suggestion that people in England would be interested in buying them.

Then a visit to the hydro-electric barrage and a return to Luanda for a meal and a trip to the works of the Camhinhos de Ferro de Luanda, where a large field outside the fence contained a collection of very derelict locos and parts, mostly unidentifiable. Where they were all used is the unsolved mystery. The reputed first loco, numero one, was in small pieces inside the workshops being "restored for exhibition". Undoubtedly work was going on, but it was difficult to find all, or indeed any of the pieces. In the process an extremely decrepit Decauville tank loco of minute size and of 60 cm. gauge was discovered inside the remains of an old locomotive tender. This loco was reputed to have come from the Golungo Alto branch, but could only have been used on construction, one imagines.

We then returned to Luanda and completed our "Safari Tour", as the legend on the vehicle stated. Unfortunately there was not time to visit the other plantation at Bom Jesus. We will have to go there next time!

LETTERS to the EDITOR

From Ivan Stephenson, Morley

Referring to my article in No. 50. The photo at the bottom of page 45 shows a good example of a medium sized loco with inside bar frames. It is:- Baldwin 37395 of 1911, 3 ft. gauge and built as Nevada - California & Oregon R.R. No. 12. It became Southern Pacific 18 in 1928 and worked on the desolate "Slim Princess" line from Laws to Keeler in southern Nevada until retirement in 1954, it is now on display at Independence, California.

On page 42, I made a slip in paragraph three, stating that BLW built 3 4.60 locos for the Wellington and Manuwatu Railway of New Zealand, actually only two (BLW 24086/7) were constructed.

From Keith Stretch, Newcastle (Staffs)

EPHRAIMS SOLUTION

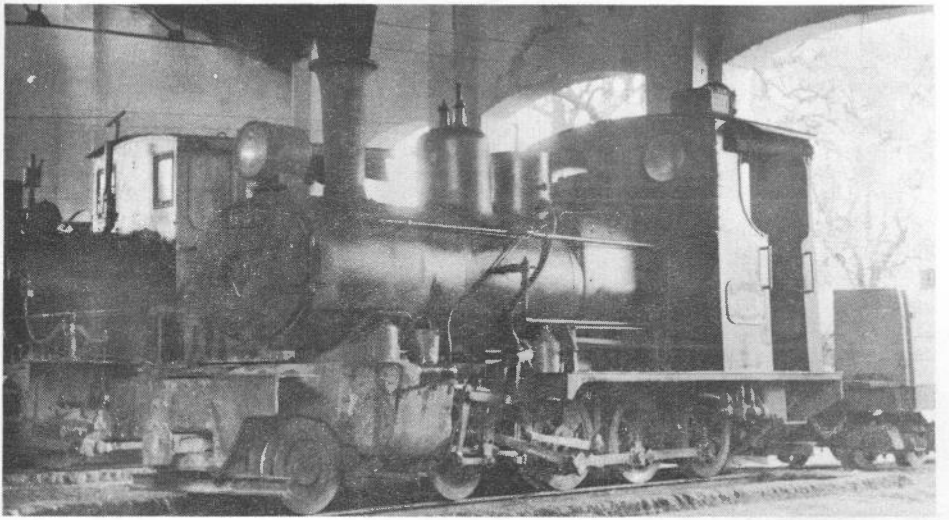
More than a year after sydney Moir's most interesting article, subsequent correspondence appearing about Shays impels me to draw attention to the American booklet "Steam Passenger Service Directory, 1968", from which it would appear that at least seven standard-gauge and five three-foot gauge Shays are still at work, on "tourist lines" in the U.S. These include one three-truck narrow-gauge specimen, and are as follows:

Standard-gauge: Bear Creek Scenic RR, N.Carolina: Two 3-truck, built 1925-6
Dry Gulch & Tombstone RR, Virginia: One 3-truck, built 1904
Cass Scenic RR, West Virginia: Four 3-truck, built 1905 to 1922

Three-foot gauge: Black Hills Central RR, South Dakota: One 2-truck, ex Sumpter Valley built 1929
Pine Creek RR, New Jersey: One 2-truck, ex Ely Thomas Lumber (1927)
Midwest Central RR, Iowa: One 2-truck, ex West Side Lumber (1923)
Rearing Camp & Big Trees N-G.RR, California: One 2-truck (1912)
Yosemite Mount Sugar Pine R.R.California. One three truck ex West Side Lumber (1928)

From D. Trevor Rowe, Horley

Reference the letter from Sydney Moir in issue 51 of the N.G. I enclose a photo of a 'British built 4-6-OT of World War 1' (a Hunslet). This was taken in the Argentine in August 1968, hardly on what I would term a 'Potato' railway, as it is on the extensive 60 cm gauge Correntino Railway, now part of the Urgquiza system.



The first issue of the Industrial Railway Record has a drawing of one of these on the cover, and Ken Plant states that 16 went to the Buenos Aires Great Southern Railway, which is a long way from Corrientes, although the BAGS 60 cm lines may have been closed and some of their stock transferred northwards.

There are still passenger trains (twice weekly) on the Correntino Railway, although the one on which I travelled was not hauled by a Hunslet 4-6-0T.

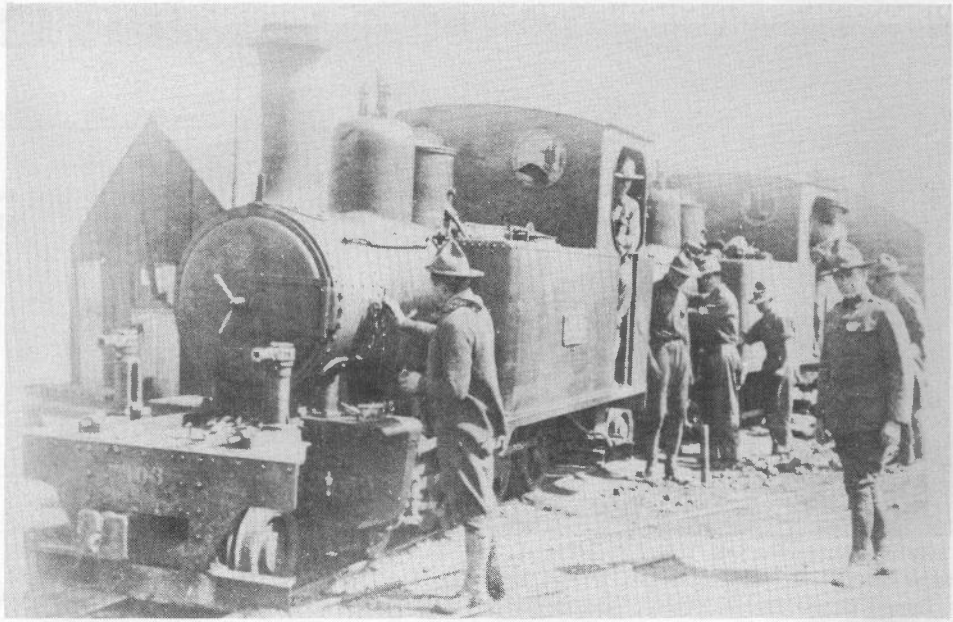
From Peter Holmes, Barrow

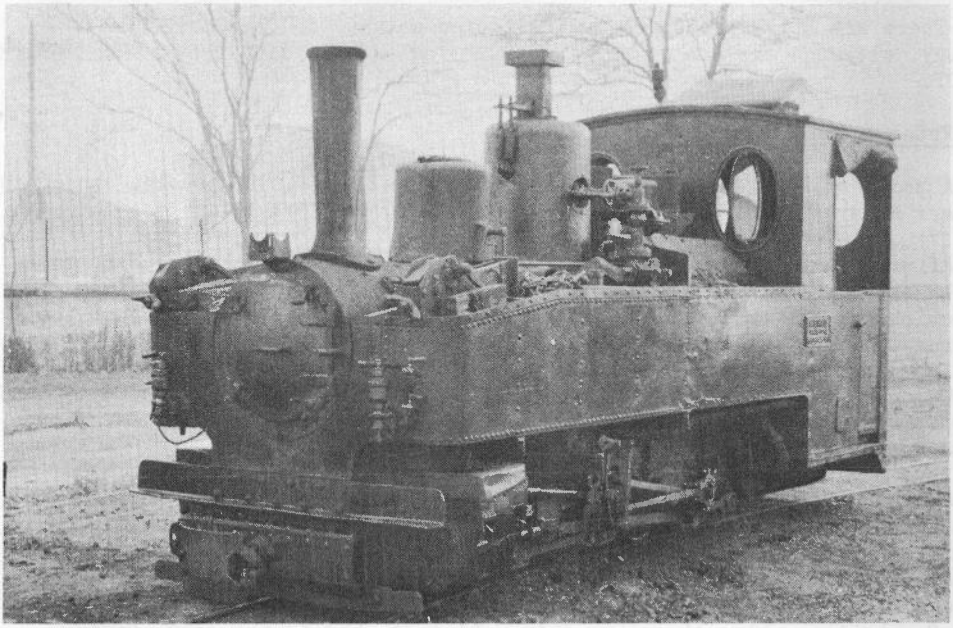
A point on Alistair Parsons' article on the Fernilee Reservoir, concerning the Kerr Stuart "Wren" 3114/18.

After working at Ladybower reservoir, the loco went to an opencast coal-mine adjacent to Hilltop loop of the Ashover Railway. The pit went into production on 16th May, 1942, with 3114 and three diesel locos to shunt the temporary sidings, which were actually connected with the Ashover line. The pit closed on 3rd October, 1942. The sidings were removed and the pit was filled in. The contractors for the operation of the pit were Lehane Makenzie & Shand. After working at the coalmine, 3114 probably went to the Markeston Park sewer scheme at Derby.

Another point - in his letter in N.G. 48, Jack Steel mentions the Milnsthorpe-Gatebeck gunpowder line. Known as the "Gatebeck Tramway", the line ran for most of its course along the Milnsthorpe-Crooklands road. The tramway crossed the Lancaster Branch at Crooklands, and there were sidings to the various wharves. The Southern terminus of the line was at Milnsthorpe L.N.W.R. station, where there was a transhipment shed in the goods yard.

continued





LETTERS to the EDITOR

Continued

At the gunpowder mills, some four miles up the line, there were extensive sidings around the works, with no less than eight bridges over the river.

A visit to the site of the tramway, a short while ago, revealed nothing. The site of Milnsthorpe terminus is covered by a Libby's works. A grassy strip is visible alongside part of the road, but as most of the track seems to have been actually embedded in the road, as in a town tramway, there is very little to see. At Crooklands building development is taking place on the site of the wharf, although the canal remains. At Gatebeck there is an old building with a tall chimney which may have been part of the works, but there was no sign of the tramway. Gatebeck is a very small place with no inn or post office, so there was nowhere to ask for information. A second visit, given time, might prove more fruitful.

Incidentally, I don't know what the gauge of the line was, in fact I was hoping to find some track in situ, and measure it. However, I should think the gauge was about 3 ft.

From Charles S. Small, Cos Cob, U.S.A.

I am writing at Mr. Goldsmith's suggestion re the Insular Lumber Co. and their home made Shay. Having visited their operations in the Philippines I am sure they never built a Shay in the sense of taking raw materials and completing a locomotive. What they did do is to take pieces of derelict Shays and from the pieces assemble an engine which is a very different matter. I am currently working on a book and in this book there will be photos of their Shays. They are running out of timber and soon will shut down the railroad.

Do you know of a Decauville expert? I have done extensive research on the 600 mm. lines of New Caledonia and have traced a number of Decauville locos whose works numbers are in the 5000, 5500, 5700, 6000 and 6100 series. I found a Decauville in South Australia with a works number of 6519 and its mate 6520. Decauville also had its normal series 1 to 1800+ which seemed to run concurrently which has led me to believe that the 5000's and 6000's were French Artillery Railway engines. Also I would like to know whether the 5000's are all 0-4-0Ts and the 6000's all 0-6-0Ts.

I would also be very much interested in the total number of FAR engines by classes and gauge. I have photos of the metre gauge 0-6-0Ts built in the U.S.A. which were sent to Madagascar and have seen the same units in old Indo-China.

Incidentally, the Ali Shan Forest Railway in Taiwan which has 18, 2'6" gauge Shays almost builds engines in the sense that they made one good one out of two bad ones and have done so many heavy repairs over the years that little of the original engine remains.

From Ron Redman, Horsforth

To follow up the very interesting notes in No.50, I enclose two photographs from my collection which as far as I know are previously unpublished.

The first shows a HUNSLET WD 4-6-0 "Somewhere in France" during the 1914-18 War with Canadians on the Western Front. The second its German counterpart a Feldbahn DFB No.5 BORSIG 10316/1918 taken in 1924 at Kimya Makmare Industrisi Ankera (Courtesy of Jeff Lanham)

LETTERS to the EDITOR

From John Butler, Ripley, Surrey

I was very interested in the article on "Feldbahn" 0-8-0Ts, particularly the service photos on page 34, in 'NARROW GAUGE' 50.

In addition to the points you have mentioned one or two notes I have from locos still about until recently may be of interest.

Firstly and most important no superheater tubes have been seen on any of these locos, and with slide valves and a large piston area to lubricate, I cannot see that any degree of superheat in the normal way could have given the longevity that some of these locos have enjoyed. All the 7 boilers I have seen had 43 tubes; on one disused loco measured 1 15/16" diam. inside, at the front tubeplate.

This brings me to lubrication, which is either displacement lubricators, often mounted on the front of each side tank, one to each cylinder, or mechanical, driven off the rearmost crank to a sight feed in the cab, on the ones I have seen. The latter can just be seen in the upper photo on page 37.

The length of the boiler and smokebox extends about 3" in front of the side tank front infill panels on the Hanomag at Variscourt and the Borsig at Nemours, but not on the Borsig at Gramaille. The Borsig at Nemours is the only loco with its valve chest "dust covers" still on just prior to scrapping (as indicated on page 24).

The jacking bar across the front seems to vary from about 12" x 4" channel section to about 5" x 3" angle. A loco with the latter had two pairs of re-railing ramps abroad!

Underframes and wheel arrangement dimensions with canted springs over the front and rear axles seem to be standard throughout, but wheel sizes varied from 23½" to 25½" over tyres, those on the centre two pairs I believe were wearing the most in all cases.

Variscourt's Hanomag had the footplate mounted about 6" above the rear dropped frames, necessitating a loopstep below, but this may be a recent modification as the square sliding windows mounted outside in front of the old oval openings, on this loco.

Some locos have the "piston valve" type of regulator casting (as the lower photo on page 34), common to most O. & K. standard narrow gauge designs, or the "slide valve" type of casting, with removeable cover. Some had a displacement lubricator fitted to the regulator cover.

A cab roof vent was only on one, an O. & K. Whistles were mostly above the cab roof but two were on the front cab sheet.

Lamp brackets varied from the casting to 'Y' yokes for slinging a lamp in. None had the large original lamps.

No bells seem to have survived, but the water pickup apparatus had on four. Safety valve covers remained on three, but none were complete with the extra capping (shown on page 29).

Buffing gear has many variations, the ones at Bourron being carried on huge fabricated 'A' shaped frames on plan and the centre buffer was fixed to this, whilst the Gramaille the buffing faces and stretchers were very oversize. So the O.A.L. may vary considerably loco to loco.

Generally speaking apart from the Hanomag the locos looked very similar at a casual glance, and indeed measured dimensions from 5 locos confirmed that for so many builders and years of use involved, they were remarkably similar.

I agree with dimensions you have listed; the O.A. height seems to be over the dustbin chimney which is 4'3" from boiler top, compared with 3'3½" for the normal stovepipe which goes with a gridiron spark arrester right over the horizontal centre line of the smoke box.

I hope these notes, which are but a scratch on the full story of these fascinating locomotives, are useful.