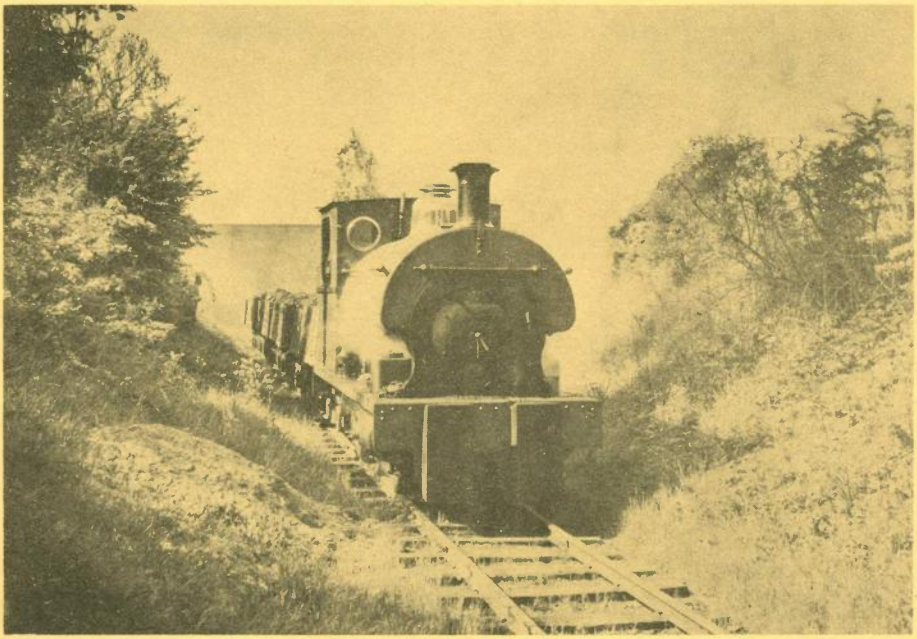
The NARROW GAUGE



No. 40 MARCH 1966

THE NARROW GAUGE RAILWAY SOCIETY

THE NARROW GAUGE RAILWAY SOCIETY

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Hon. Editor: Henry Holdsworth, 76 Tower Lane, Leeds 12.

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E D I T O R I A L

The 1965 photo competition attracted 27 entries from 8 members and was judged by Committee members at their meeting on 15th February 1966. Congratulations to Ivo Peters who's cover photo of "SCALDWELL" heading away from the quarries with a load of ironstone in June 1962, wins first prize of 1 guinea. Our runners-up appear opposite. Entries for our 1966 competition are now being accepted - rules are simple, black and white photos suitable for reproduction in this mag. postcard or ½ plate size. All entries may be printed. 1st prize - 1 guinea, 2nd and 3rd - ½ guinea.

It is appropriate that photos of I.O.M. Railway appear in this magazine as the present Company announce closure of the line, a great loss to all steam narrow gauge lovers. We can only hope that some steps are taken to "preserve" at least part of this system in the Holiday Isle.

Our next issue will appear early July (Editor's holiday causes delay). We have another interesting waybill for you then.

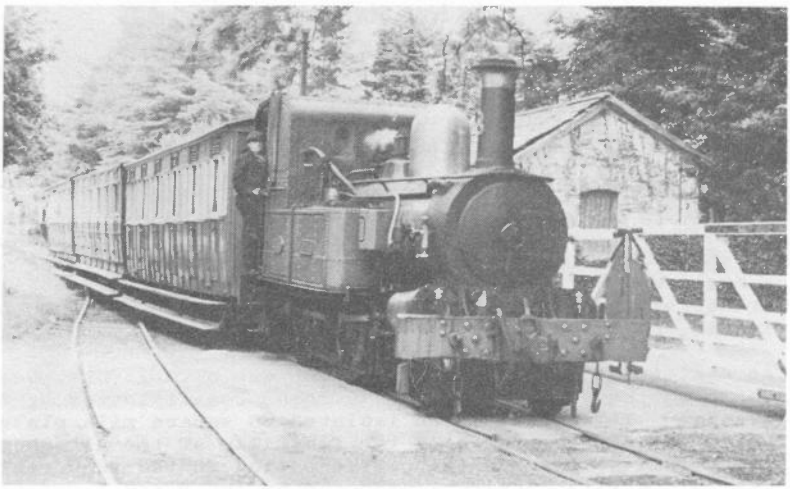
Best wishes,

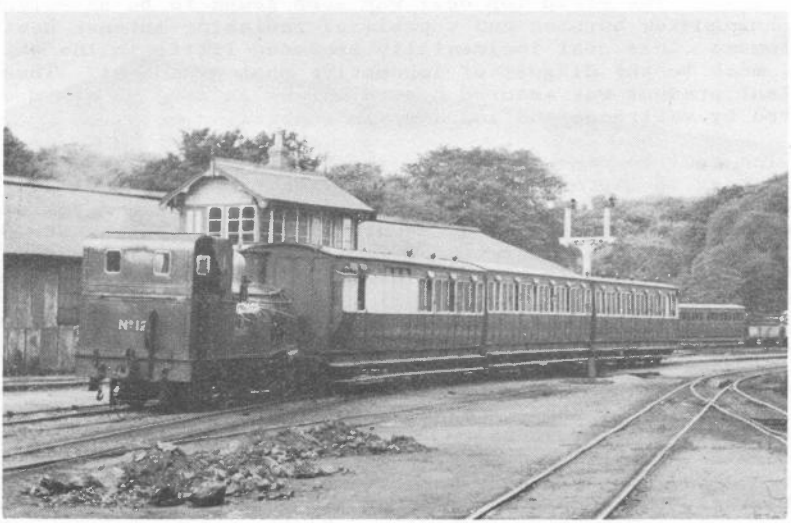
HENRY HOLDSWORTH

MAGAZINE NO. 40 MARCH 1966

Page	2	EAST BROAD TOP	IVAN STEPHENSON
	6	PECKETT "JURASSIC"	DOUGLAS CLAYTON
	8	SUB NIGEL LTD.	SYDNEY MOIR
	11	RYE & CAMBER COACH	BARRIE McFARLANE
	16	B. A. LARNE	WM. P. McCORMICK
	18	BELFAST & NORTHERN COUNTIES	D. STIRLING
	21	"TINY TOT" 2.2.2.	SYDNEY MOIR
	22	PETROL ELECTRICS 1914/18	BRIAN WEBB
	24	RAILWAYS OF FORMOSA	KEN PLANT

1965 PHOTOGRAPHIC COMPETITION





Top - 2nd prize. M.A. Reynolds photo shows No. 8 Fenella at Crosby 26.7.65

Lower - 3rd prize. N.T. Pitts catches No. 12 arriving at Douglas Station.

THE EAST BROAD TOP AND ITS MAGNIFICENT MIKADOS

by Ivan Stephenson

Photos by H. L. Goldsmith from R. N. R. collection

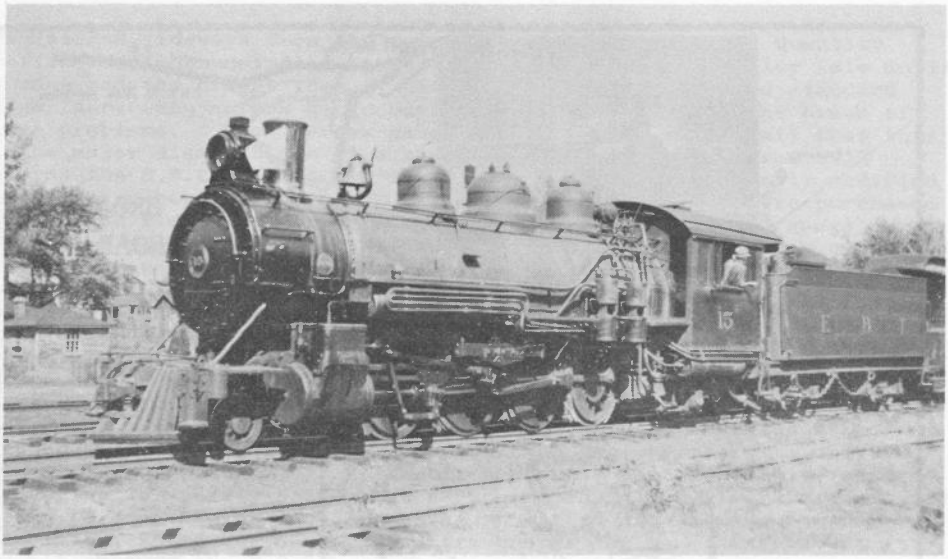
PART ONE

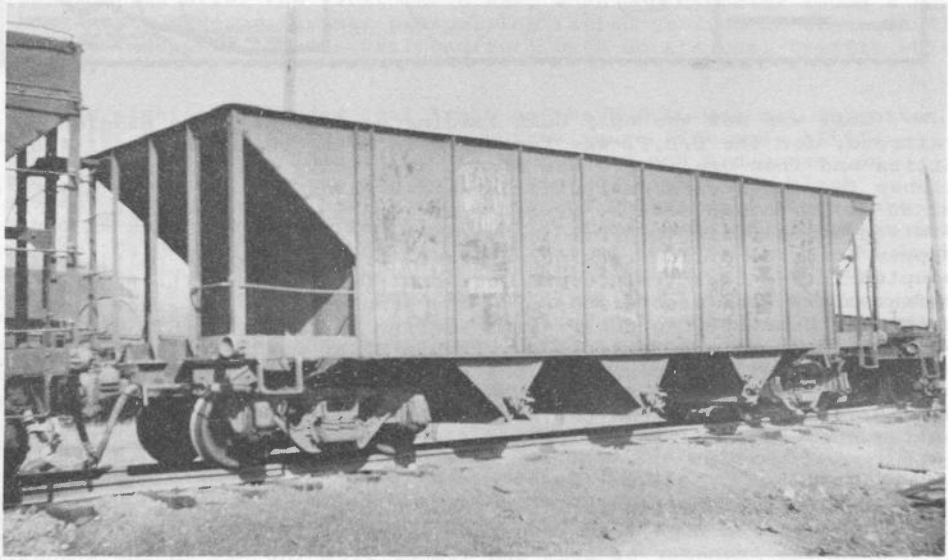
Coal was first found in the Broad Top Field at the time of the American Revolution and was mined commercially from about 1854. A year later the idea of a railroad to open up the coalfield was first aired, but nothing came of it until 1871 when several retired businessmen on holiday in the area got busy and formed the East Broad Top Railroad and Coal Co. Construction of the 3ft gauge railroad was pushed forward rapidly and by 1874 the first revenue earning trains were winding their way down the Aughwick valley to the bustling standard gauge tracks of the mighty Pennsylvania Railroad at Mount Union, Pennsylvania.

As coalfields go the East Broad Top was a small one, being situated to the east of the main bituminous coalfields of Western Pennsylvania. It was set on an isolated 80 square mile plateau that interrupted the narrow ridges of the foothills of the Allegheny mountains. Due to its partial participation in the recurrent folding of the earth's strata, the coal produced by the Broad Top field was transitional in character being semi-hard bituminous with a very low volatility. The Broad Top coal was soon found to be excellent steam coal, being slow burning and capable of radiating intense heat without big flames; this coal incidentally produced little in the way of black smoke, much to the disgust of locomotive photographers! Thus this excellent product was assured a good market as long as steam coal was required by railroads and industry in general.

The coal tonnage carried by the E.B.T. grew as the years passed and in order to improve the quality of its product the Company took the lead in installing the Sand-Hoatation process of washing, sizing and grading, this plant erected at Mount Union, in 1925, was the first in the bituminous coal industry. Before 1925 coal arriving from the mines had to be reloaded into standard gauge cars and taken elsewhere to be screened, the new plant stopped all this and from 1925 onwards the only coal to leave Mount Union was the finished product ready for use.

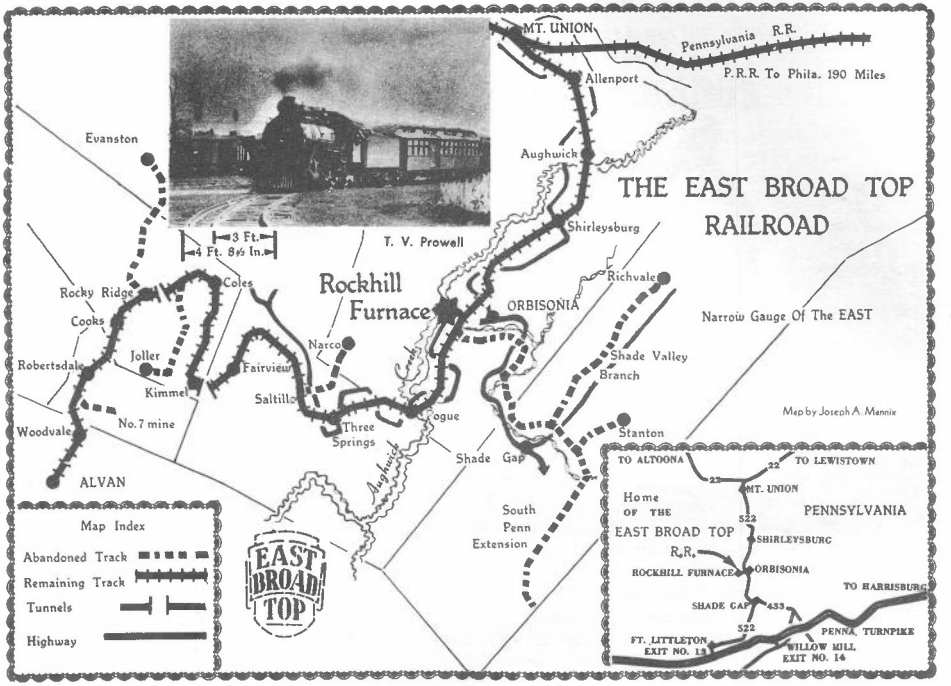
As coal production and traffic continued to rise the E.B.T. gradually replaced all its old wooden coal cars with large steel coal hoppers each capable of carrying 30 to 35 tons of coal, many of the hoppers were fitted with extension boards on their sides and ends, this "Hightop" as it was called increased the load capacity to 40 tons, not bad for narrow gauge! All the hoppers were built in the E.B.T. shops at Orbisonia, the Company purchasing the bogies from the Vulcan Iron Works of Wilkes Barre. At the time of closure the E.B.T. had a fleet of 250 hoppers, 15 flat cars, 10 Box cars, 1 tank car, 2 caboose cars and weighing scale test car, all of which were fitted with type K automatic air brakes.





Top - No. 15 at Robertsdale 6.10.46 Baldwin 2-1914 No. 41196

Lower - 35 ton Hopper Car at Orbisonia.



Coal was not the only bulk loading of freight to be handled by the railroad, for the E.B.T. was fortunate in being built on deposits of Silica and Iron Ore, there was also a very heavy traffic in logs and timber for many years until the forests were exhausted. The Silica was mined at Narco and steeply graded spur line was built from the E.B.T. station at Saltillo to serve the workings. As late as 1953, 8 or 9 hopper loads of Silica rock per day were brought down to Saltillo to be coupled into a coal train bound for Mount Union, where the silica refractories were also situated. The iron ore was low grade stuff being 40% Hematite, to purify it a smelter had been established at Rockhill well before railroad days, this plant was the major industry of the area and in recognition the hamlet of Rockhill changed its name to Rockhill Furnace. With the coming of the railway and the development of the coalfield the iron business lost much of its former importance, better ore was found elsewhere and for many years the smelter has lain in ruins.

The timber traffic from the Shade Gap spur necessitated the installation of a huge transfer hoist in yards at Mount Union, in order to handle the transfer of logs and timber from the 3ft to the standard gauge. Two dual gauge tracks ran parallel to each other beneath the hoist, and when there was timber to transfer a standard gauge car would be run alongside the loaded slim gauge one, the load would then be

transferred sideways from the narrow to standard gauge. Quantity traffic in timber dwindled to nothing and the huge hoist lay idle until someone had the bright idea of using it to transfer loaded standard gauge cars onto narrow gauge bogies in order to defeat the break of gauge problems. Most narrow gauge minded people will admit that this is the major disadvantage of a narrow gauge railway but from 1933 onwards the E.B.T. had it all sewn up. A fleet of specially modified narrow gauge bogies with extra large body bearer plates were purchased and kept on a side track near the hoist. When a standard gauge car arrived at Mount Union with a load consigned to a destination on the 3ft, it was worked down to the transfer hoist by one of the railroad's two standard gauge 0-6-0s. Once under the hoist a 4 man crew took over, first one end of the car was lifted high enough to release the bogie which was pushed onto a side track and marked with the name and number of the car's owner. Then one of the special 3ft gauge bogies was pushed under the carbody replacing the wide gauge one and the body was lowered onto it, the same operation was then repeated at the other end, finally special E.B.T. designed Cast Aluminium knuckles were slipped over the car's couplers so that the big car could be operated with the E.B.T. equipment. The big cars were usually coupled next to the engine for safety reasons when running in an E.B.T. train. On its return to Mount Union the car was again lifted and had its own bogies reinstated, there was never any extra charge for the change over, it was all part of the E.B.T. service.

The last hopes of obtaining another bulk freight traffic were raised shortly after the First World War, when a prospector found a seam of Manganese, however further prospecting failed to find an economically significant deposit and the railroad fell back on its coal traffic which was huge.

The sight of a loaded coal train on the E.B.T. was not forgotten easily, for the fact that this was a narrow gauge line made little difference. A normal load was 20 to 25 hoppers and a caboose, an actual coal loading of from 800 to 1000 tons of high class black diamonds. Coal trains leaving the Alvan and Robertsdale mines were weighed at Robertsdale Station some 3 miles from Alvan and 30 miles from the Mount Union transfer plant. On arrival at Robertsdale a coal train for weighing would be dealt with in the following way. First the engine was uncoupled and run down the mainline for several hundred yards, whilst the brakemen split the train up into 2 car sections. Then when all was ready for weighing, a brakeman climbed aboard the first section and eased off the brakes to allow the 2 cars to coast slowly down the slight grade to the weighing scales, where the stationmaster weighed them as they rumbled past the weighhouse. When the cars had passed over the weighbridge the brakeman released the brakes fully and let the section of cars roll down the main and upto the waiting locomotive. Weighing completed the "brakies" reconnected the air hoses and the engineer pumped up and tested the air brakes, then when all was in order the conductor swung into a "Highball" and another load of coal rolled out for Mount Union.

TO BE CONTINUED

Peckett "Jurassic" Class Locomotives

by Douglas Clayton

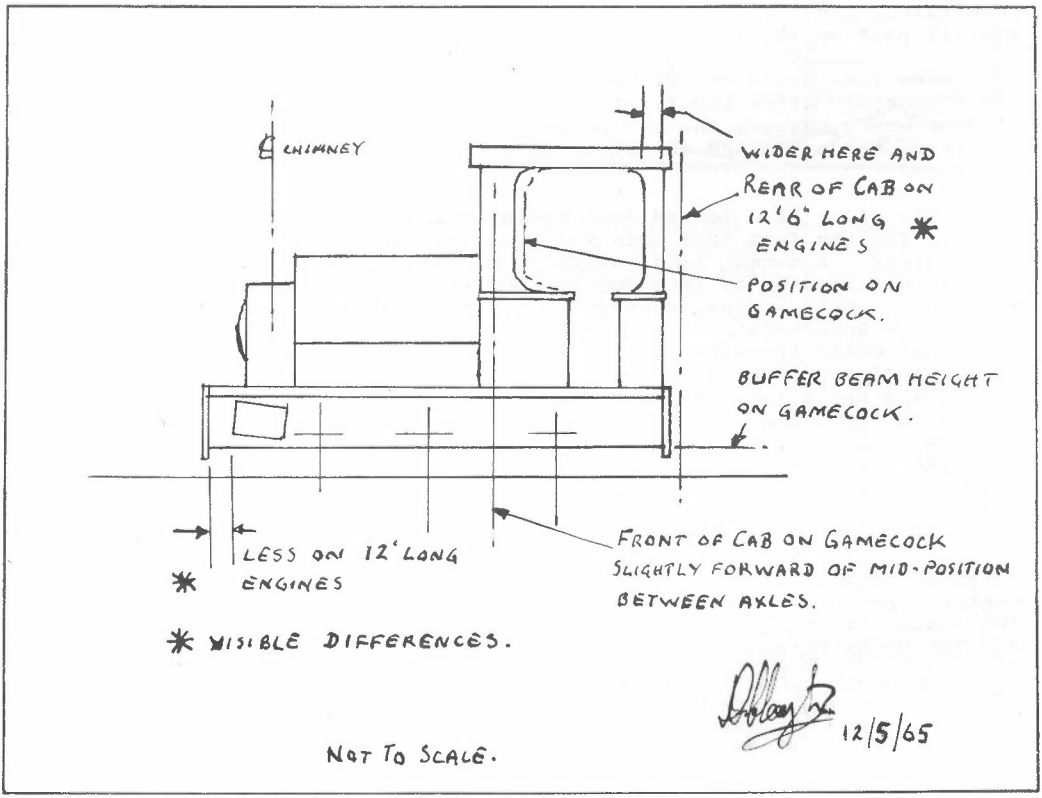
Editor's Note:-

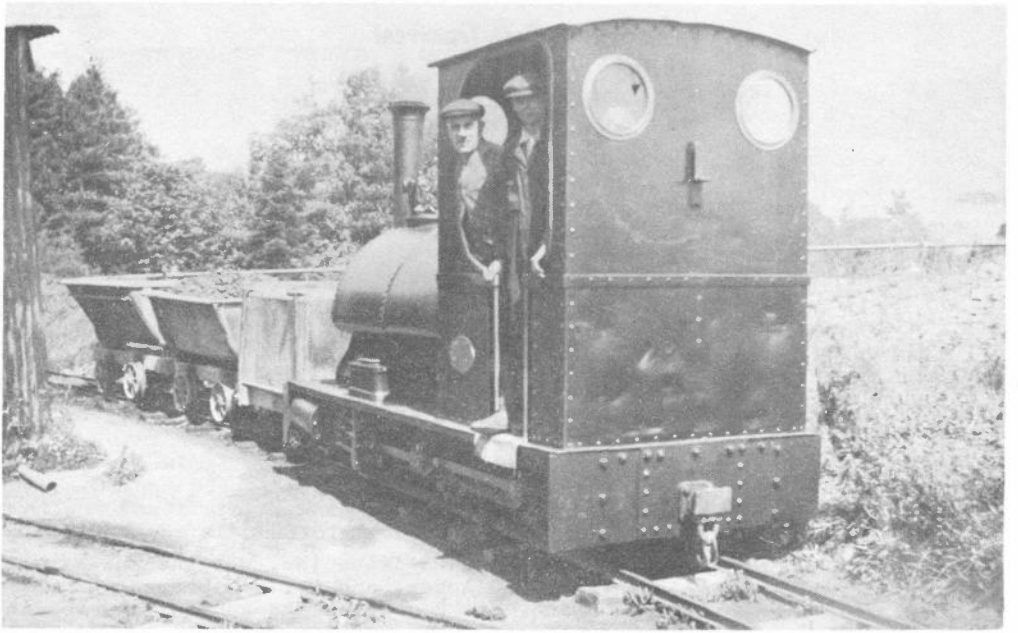
This article is condensed from a long and carefully written article to follow up Barrie McFarlane's drawing in Magazine No. 37 - please refer to this article.

* * * * * * * * * *

No. 753 tabulated on page 10 had 7" x 12" cylinders and was not of this class, being somewhat larger.

In various records the 3 Chas. Nelson locos are referred to as Gamecock class, the drawing applies to 1270/1327 and 1632 only (although 1412 could well be the same), the other locos listed appear to be only 12' long over buffer beams.





Chas. Nelson Ltd., Stockton (Warwicks) 30.7.1938 Gamecock 678/97

As built "Gamecock class" had slightly shorter cabs, smaller diameter smokeboxes and buffer beams no deeper than the frames. Longer tanks may have been a little less in height. 678 and 785 differed from most Pecketts as the smokebox was cylindrical, supported on a saddle, though the front had wing plates similar to the more usual D form of smokebox.

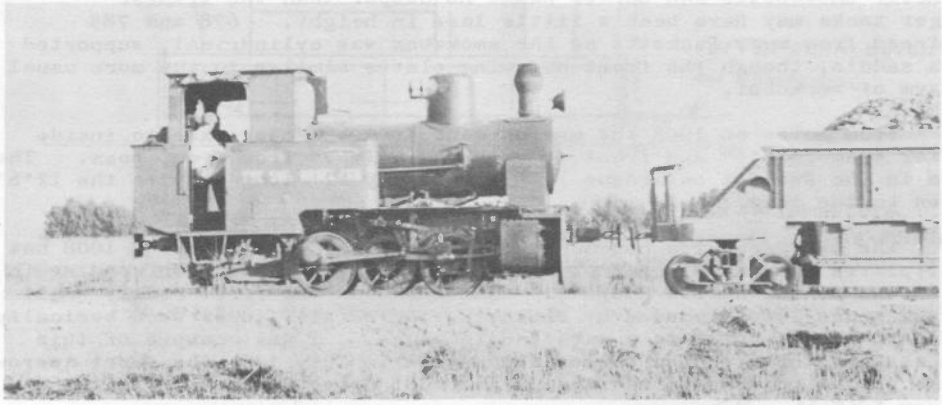
From notes on 1008 the measurement from the rear axle to inside buffer beam is 2'6" and front of smokebox only 7" from front beam. The loco in the Peckett catalogue is 981 actually 12' long despite the 12'6" given in the text.

The two Jurassics can be identified by the nameplates. 1008 has cast plates whereas 918 had printed lettering, (recently confused again in "Steam on the Narrow Gauge"). Gamecock was the first really small narrow gauge loco produced by Pecketts, the earlier locos were basically standard gauge, built to a substandard gauge. I was unaware of this when taking the attached photo of Gamecock in July '38, the first narrow gauge engine on which I had the pleasure of a footplate trip to the quarry.

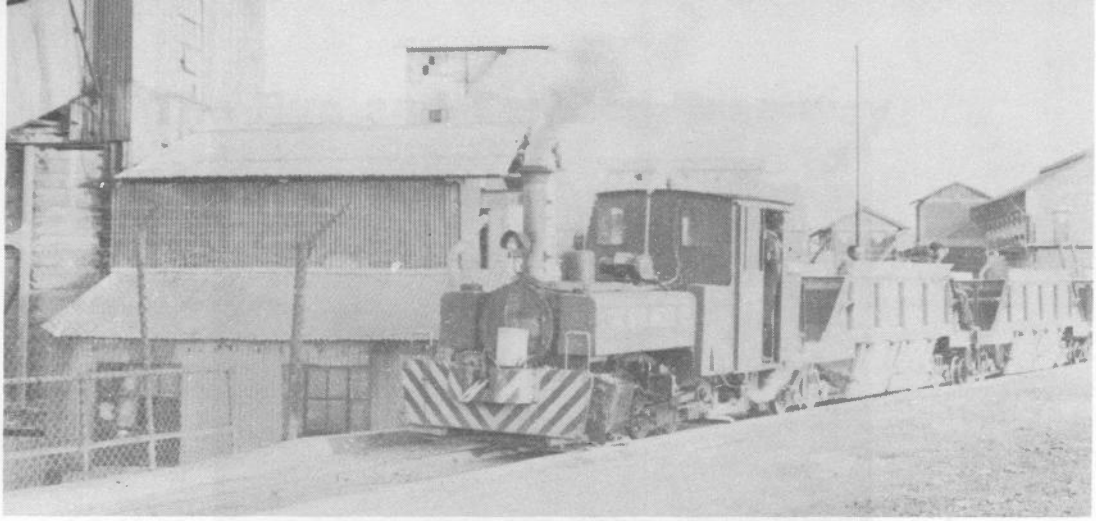
THE SUB NIGEL LTD.

by Sydney Moir Transvaal

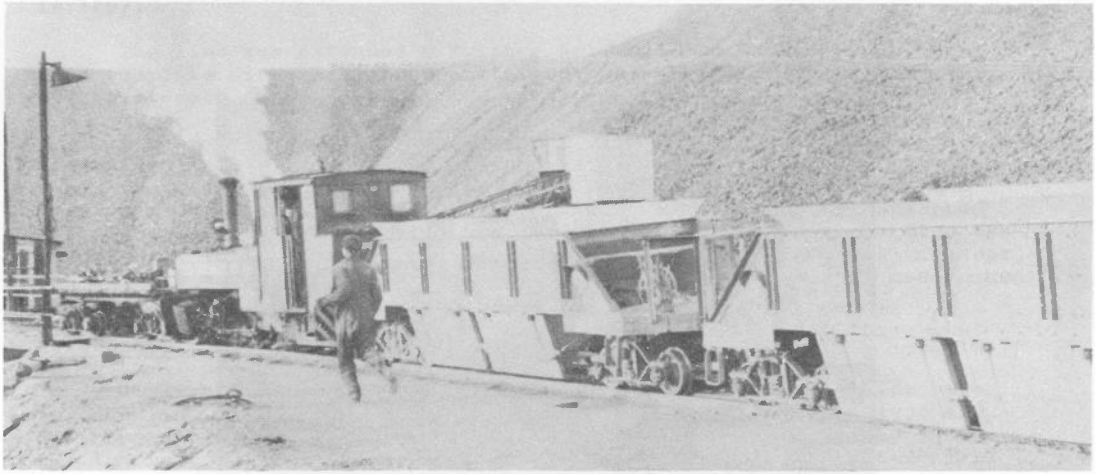
As was told on Page 7 of the May 1965 issue (No. 38) the Sub-Nigel makes use of two Hudswell-Clarke 0-6-0 locos, and No. 1 appeared on Page 8. This is the sister-engine, No. 2. From the general appearance it would seem as if the bunker was added after delivery, with the coal supply originally carried in the side-bunker between tank and cab. The height of the couplers above rail-level appears to be greater than is generally the case with a n.g. locomotive - it was possibly fixed by the construction of the hopper wagons that form the greater part of the rolling stock - but the high floor level imparts a peculiarly 'gawky' appearance to the flat on which the African miners are riding.



The reference on Page 7 is also to an Orenstein & Koppel 0-6-0 well-tank, and here it is. Once again it features the bulbous bunker .. the amount of overhang is possibly governed by the length of the coupler and its housing. It would appear that the stack decided to swell out to a decent spark-arrester and got discouraged half-way!

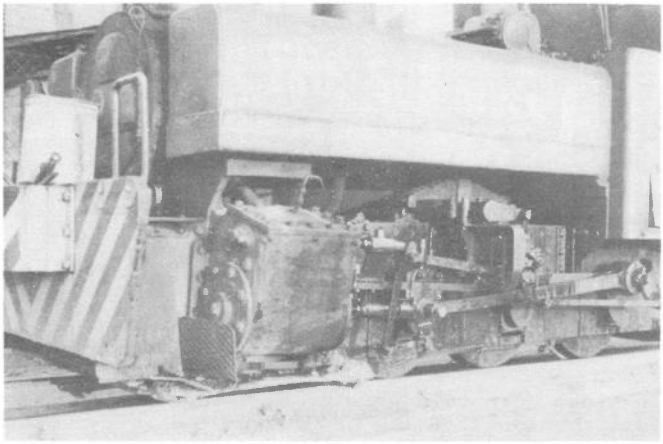


Loco No. 2 heading a train of loaded hoppers past the reduction works. The block-trains of hoppers work to and fro between the shafts and the central reduction works; in this case, the locos haul the loads inwards and push the empties outward, there being no running round at all. The train crew consists of a white driver, an African fireman and two Africans responsible for coupling and releasing the hopper doors.



The loco slows down to a walking pace on reaching the tip, and the Africans release the doors of the hoppers on the move. Each hopper discharges as it passes over the gantry, and as soon as the last one is offloaded, the driver puts the engine into reverse and the train backs off to the shaft for another load, with the Africans hauling up the hopper doors on the run. The 'hoods', similar to those on traffic lights, fitted to the triangular end-sheets, protect discs of red-and-white Scotchlight: a train crossing an open road-rail crossing at night shows up as a series of red dots, each ringed by white. Some mines go even further, and place Scotchlight discs a foot apart all down the length of the underframe of each hopper.

Close-ups of Loco No. 2. The most interesting item here is the special step for the African pin-man .. and the next is the almost miniature size of the dome. The goggles the pin-man is wearing are essential on windy days, when the sand comes sweeping off the dumps in sheets.



The second shot gives a clearer idea of the arrangement by the valve-gear, the method of supporting the side tanks, the pin-man's step (badly buckled by contact with a stray rock) and the sheet-steel pan beneath the cylinders, to protect the cylinder relief-cocks from a similar fate.

The Rye and Camber Tramway

By Barrie McFarlane

Brief History

The Rye & Camber Tramways Co. Ltd., a small company with an imposing title, was formed in 1895 to provide a service between the Ancient Cinque Port of Rye and the newly opened Golf Links two miles away.

The Company was registered on April 6th 1895, and construction was commenced shortly afterwards under the supervision of Mr. H.F. Stephens, A.M.I.C.E., later known as Col. H.F. Stephens, the famous light railway king. The land for the lines' right of way was secured by agreement, thus avoiding the necessity of having to obtain an Act of Parliament.

Constructed to a gauge of 3-feet, the line was opened between Rye and Golf Links on July 13th 1895. To work the line a 2-4-0 tank locomotive was purchased from W.G. Bagnall Ltd. of Stafford, (Works Number 1461) and this was named "Camber". Bagnall's also supplied a first and second class composite bogie coach. A second passenger coach was built by the Rother Ironworks Ltd. of Rye in 1896. Business proved to be good and another 2-4-0 tank locomotive was purchased from W.G. Bagnall Ltd. (Works Number 1511) and named "Victoria". This locomotive was delivered in 1897.

The line was extended a further half-mile to Camber Sands, and with complete disregard of superstition, was opened on July 13th 1908, the thirteenth anniversary of the opening of the line.

A petrol locomotive was purchased from the Kent Construction Co. of Ashford in 1925 and proved so successful that it finally superseded steam traction. The steam locomotives were relegated to spares and "Victoria" was sold in 1937. "Camber" was retained and was scrapped after the war. Services were suspended in 1940, and when the line was handed back to the Company by the Admiralty the track and rolling stock was in such a bad state, that it was decided not to repair it and resume services.

References

Published references to the line are few. Three articles have appeared in the "Railway Magazine" - October 1912, September 1936 and July/August 1947. The "Locomotive" produced an article in May 1909, but the most informative article appeared in "Trains Illustrated" for February 1957. Much that has been published is contradictory and likely to cause confusion, but considerable research is being undertaken by the Rye Museum Association who intend to publish the history of the line.

The Bagnall Coach

This coach was built in 1895 for the opening of the line. As built it had two open end platforms and the first class entrance was protected by a sliding door, but the second class entrance had no protection. The first class compartment had twelve cushioned seats

along the sides and across the partition between the classes. An unusual feature was a clock fixed to the partition. The second class compartment had longitudinal strip-wood seating for twenty passengers, and sash-type windows which could be removed in hot weather. Each compartment was lighted by an oil lamp. A wide footboard ran the length of the coach, and a brass handrail was fixed just below the tops of the windows. The conductor could then pass between the classes whilst the train was in motion. The coach was equipped with handbrakes.

The coach was re-built, probably in 1925 when winter services ceased. The oil lamps, brake gear, handrail and footboard were removed. The end platforms were enclosed, some of the windows altered, and a doorway cut through the partition to form a one class vehicle. The first class end was moved from the back of the platform to the front, and the lower part of the former doorway was panelled in with a window above. The window in the sliding door was boarded in, and the door placed on the entrance to the coach at the former second class end.

The principal dimensions of the coach are:-

Length overheadstocks - 25ft. 7½ins. and width over body is 5ft. 7½ins.

The mitred ends of the matchboarding are enclosed by 1½ in. by 1½ in. angle pieces ¾ ins. thick.

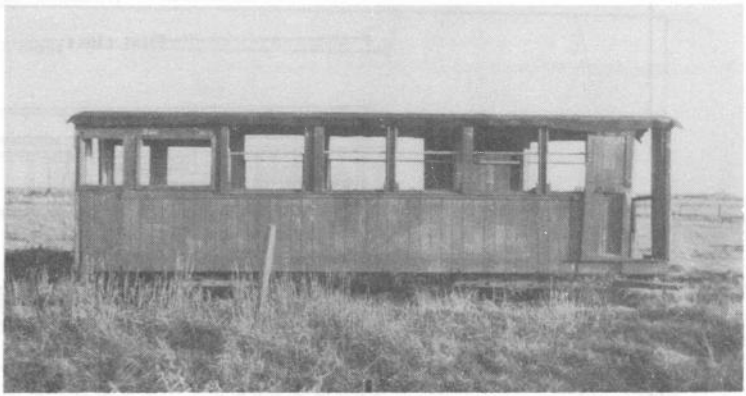
These angle pieces are fitted on both sides of the former first class end and on the off side of the former second class end. They project beyond the body by ¾ in., thus making the total length of the body 25ft. 9ins. and the width at the former first class end, 5ft. 9ins. The height from rail to centre of roof is 9ft. 0½in.

The bogie centres are 12ft. 6 ins. apart and the bogie wheelbase is 3ft. 6½ins. The wheels are 1ft. 2½ins. in diameter and have seven curved spokes. Springing is by coil spring.

Centre buffers with simple pin and link couplings are provided, and safety chains are also fitted. The livery is maroon body with grey roof. The coach weighed about 3 tons.

The preparation of this drawing of the coach in its re-built form was rather like assembling a jig-saw puzzle. With no maker's drawing in existence to work from, it was necessary to measure the actual vehicle. The bogies are at Brockham, and the body was at the time of my survey, at East Guldeford, about a mile from Rye. Like so many narrow-gauge railway coaches that have survived, this one has been used as a chicken house, and was in a very dilapidated state until it was dismantled and moved to Brockham. The sliding door and most of the matchboarding was missing, but the rest of the structure was more or less intact and provided about 80% of the measurements. From a recording point of view, it was necessary to draw the coach from the platform side, and to make matters difficult, all the commercial photographs only show the off side view.

I mentioned my interest in this coach to Mr. Douglas Clayton and he was able to supply me with notes from his own survey in 1955,



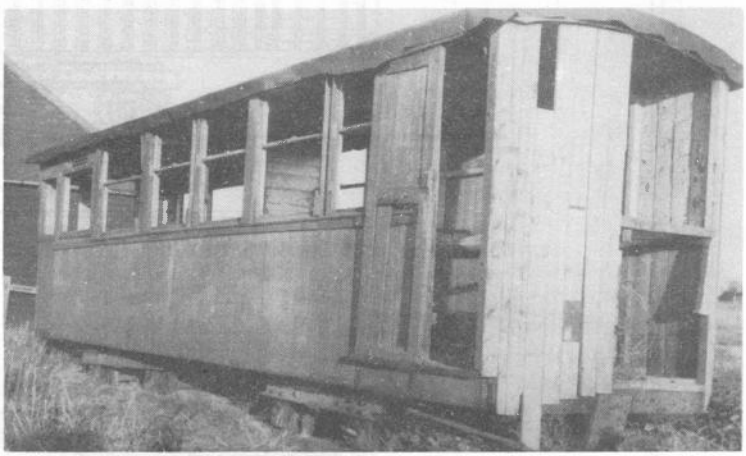
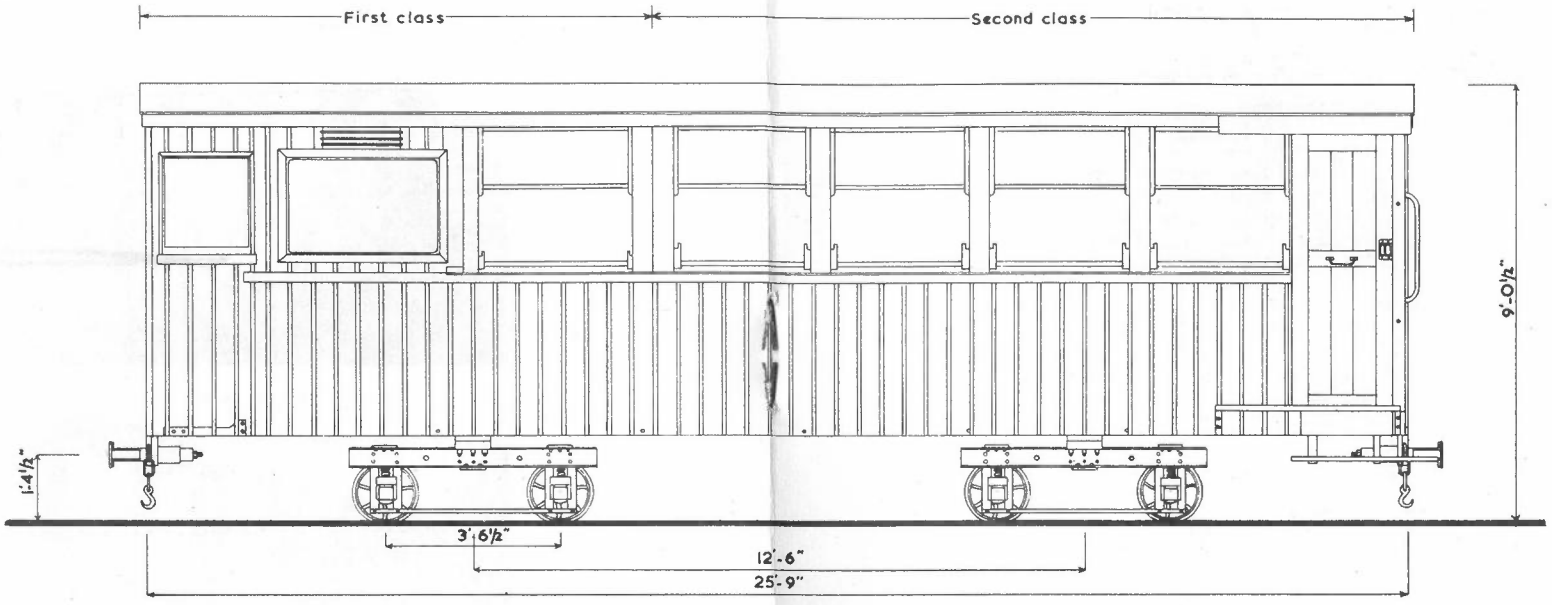


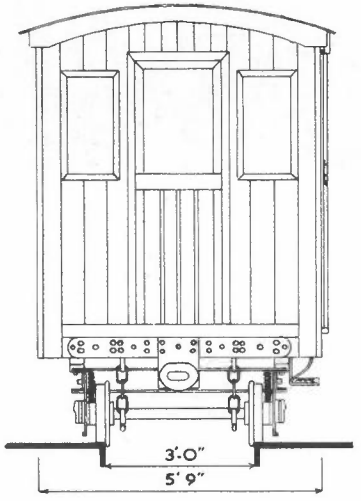
Photo J.E. Cull 2.9.55

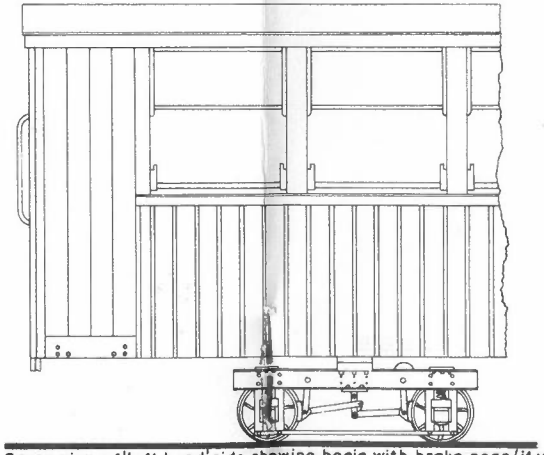
which supplemented my own survey. Mr. Clayton also provided me with a copy of a Bagnall drawing from the B.L.C. (I.L.I.S.) collection showing the bogie with brake gear, and two photographs taken in 1955 of the platform side.

Since this drawing was prepared, further research has established the fact that brake gear was only used on the coach in its original form.

I would like to thank Mr. Clayton for his valuable assistance, and Mr. Colin Wilson for taking me to Brockham and Rye, and helping me with measuring the coach. I would also like to thank Mr. Tony Dellar for providing me with a set of 'scale photographs', that proved so useful in the preparation of this drawing.

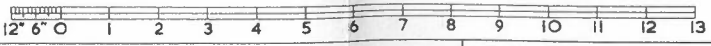


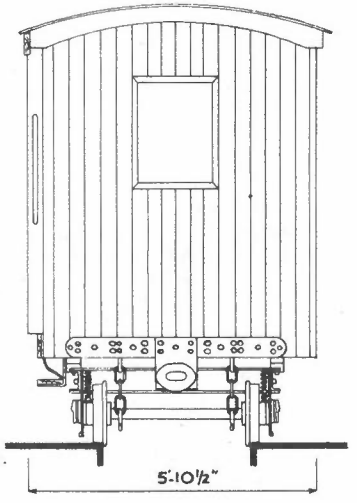




Scrap view of left hand side showing bogie with brake gear (if used).
Based on a Bagnall drawing in the B.L.C. (I.L.I.S.) collection.

Scale





THE NARROW GAUGE RAILWAY SOCIETY	BOGIE COACH BUILT BY W.G. BAGNALL, LTD., IN 1895 FOR THE RYE & CAMBER TRAMWAYS CO. LTD.	DRAWN AS RE-BUILT AND BASED ON MEASUREMENTS TAKEN FROM COACH IN 1955 AND 1965.	DRAWING No:

ULSTER NARROW GAUGE RAILWAY PRESERVATION

by W. P. McCormick

The locomotive No. 1 was built by Messrs. Peckett & Sons, Bristol in 1904 for the British Aluminium Company and worked at Larne Harbour where that Company had an extensive narrow gauge (3') Railway for carrying Ore from their factory to the quay at Larne Harbour. It was at one time joined to the Ballymena and Larne Railway, a narrow gauge railway which ran from Larne Harbour to Ballymena and Ballyclare and which at one time operated the fastest narrow gauge trains in Ireland - the Express Boat Trains between Ballymena and Larne Harbour.

The Passenger service on the Ballymena and Larne Railway terminated in 1933 and the last section of the Railway closed in 1950. The British Aluminium Railway closed on 31st July 1961.

At one time three similar locomotives were employed by the British Aluminium Company - No. 2 is preserved in the Belfast Transport Museum and No. 3 has been scrapped. The Locomotive is an 0-4-0 tank, cylinders 7" x 10", weight 7 tons, tractive effort at 1601bs. is 3,3301bs.

Loco No. 1 was in use to the end and No. 2 was used to lift part of the Larne and Ballymena. No. 3 was used in the "Laundry" and her smokebox and chimney built into the wall of the factory. At the moment 130' of track is in use at Knock, the loco being steamed 6 times a year, including a general "open day" for charity.

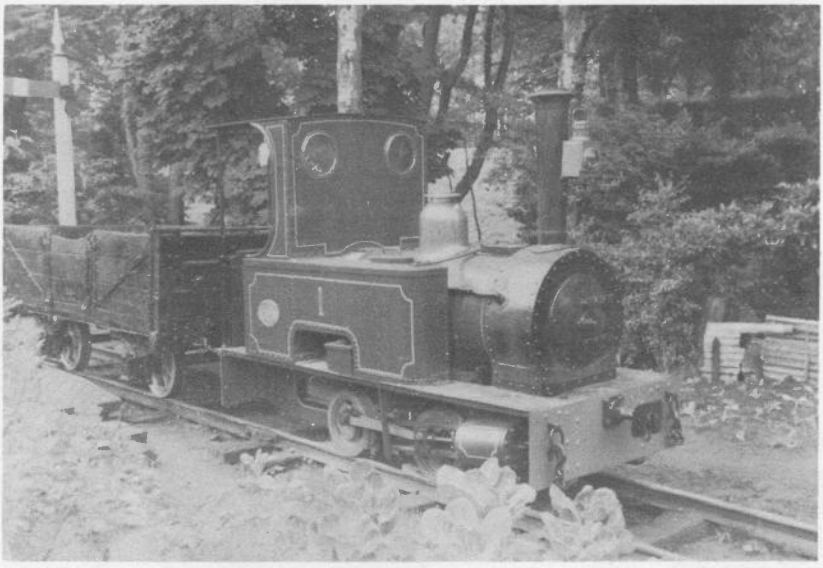
Rolling stock at the moment consists of two items - a wagon built about 1892 for the Belfast and Northern Counties Railway, mainly for carrying Iron Ore to Larne Harbour, and a German built bogie from the British Aluminium Company Railway; the signal is from the County Donegal Railways.

This is the last example of narrow gauge steam operation in Ireland which at one time possessed several hundred miles of narrow gauge railways and its preservation is due to the efforts of voluntary workers and to Mr. Mercer and his staff of the Albert Boiler Works, to all of whom I am much indebted.

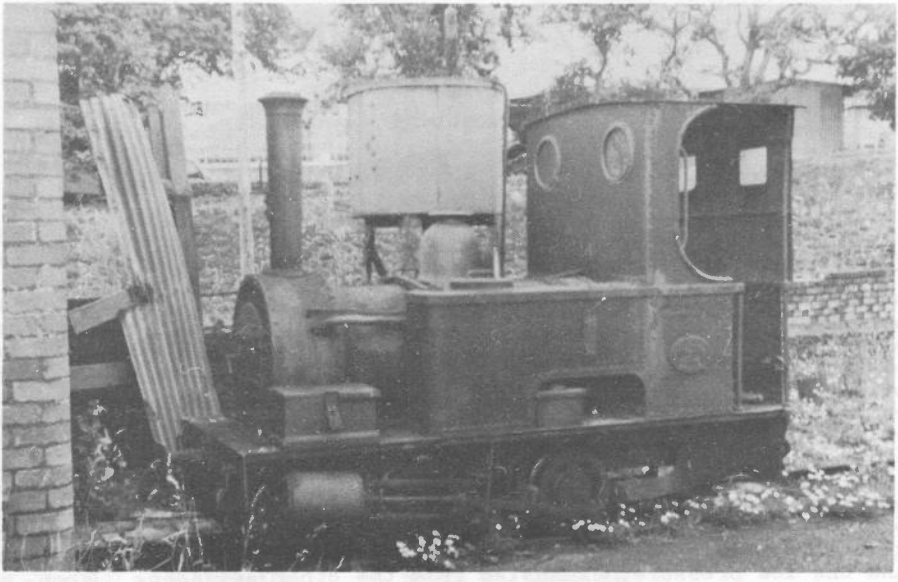
PECKETT LOCOS. All new to BRITISH ALUMINIUM CO. LARNE, ANTRIM. 3' gauge

Works No.				
1026	0-4-0	1904	No. 1.	To Wm. McCormick, Knock. Preserved 1960.
1097	0-4-0	1906	No. 2.	To B. Cohen & Sons 1955. Presented by them Belfast Museum.
1357	0-4-0	1914	No. 3.	Dismantled 1953. Last seen built into boiler house as auxilliary engine.

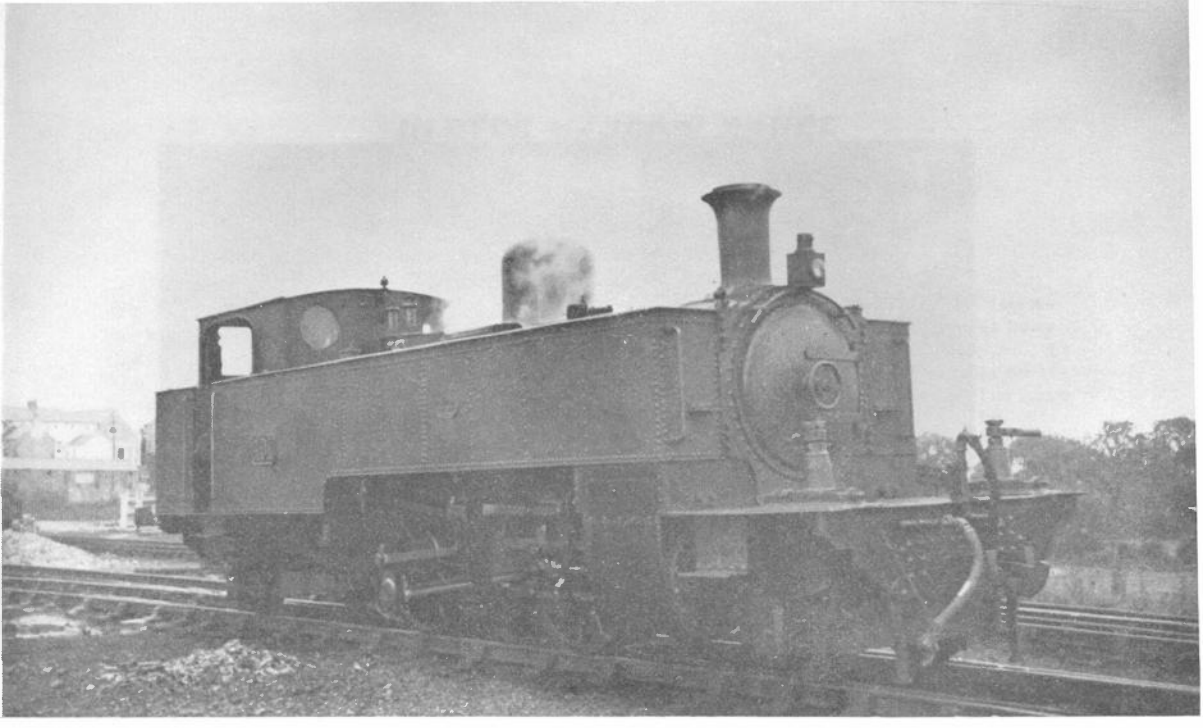
Author would appreciate a photo of No. 3. in working order if any member can help.



"IN RETIREMENT" photo W.P. McCormick



"AT WORK" photo Mike Swift



THE BELFAST AND NORTHERN COUNTIES 2-4-2 COMPOUNDS

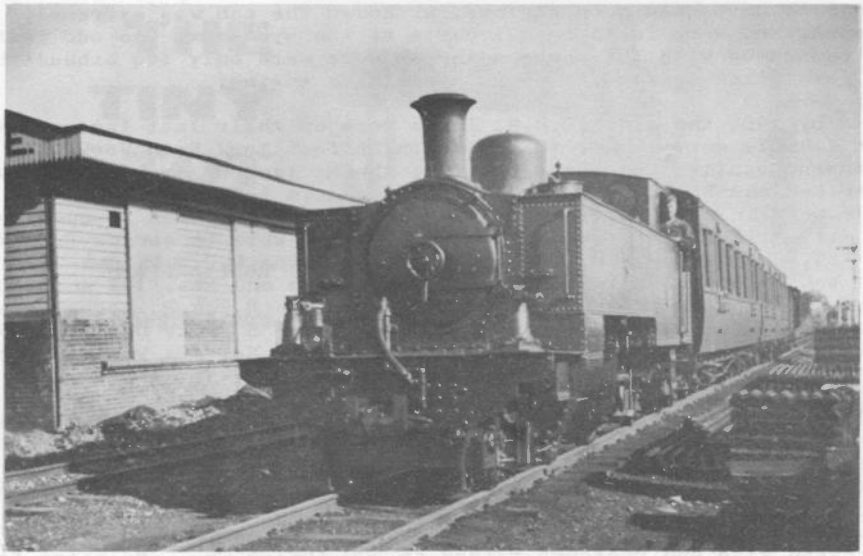
By D. Stirling

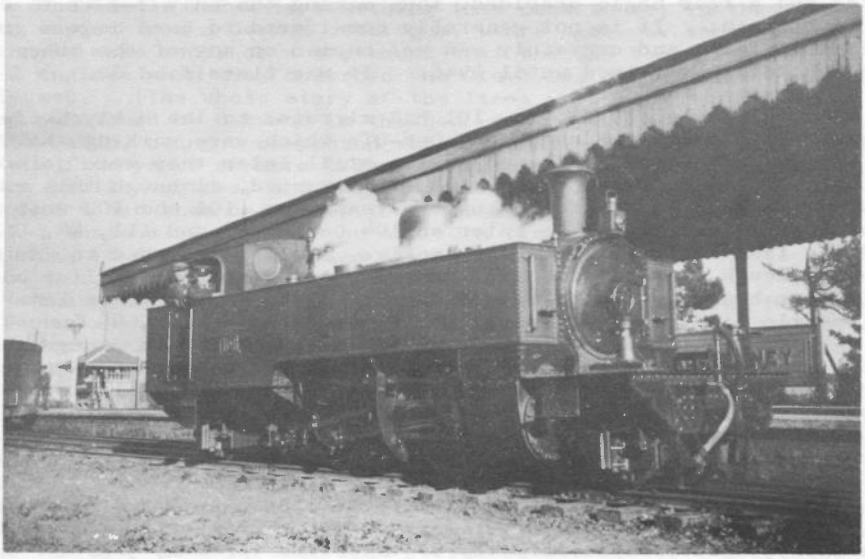
Photographs by Mr. Lawson Keir

After its absorption of the Ballymena and Larne Railway in 1889, the Belfast and Northern Counties Railway possessed a varied selection of locos for its 48 mile narrow gauge (3'0") section. It had inherited three 0-4-2ST from the Ballymena Cushendall and Redbay, which cannot have been of suitable size for the mineral traffic and there were also six Beyer Peacock locos from the B. & L.R. two 2-4-0T, three 0-6-0T and one 2-6-0ST. Of these locos the 2-4-0T would be rather small, if sturdy, engines. Goods trains on both lines were heavy and gradients steep, so after the success of a standard guage 2-4-2 two cylinder compound, the design was tried on the narrow gauge.

Thus in 1892 two 2-4-2T compounds were built by Beyer, Peacock, works numbers 3463/4. They were class "S" on the B. & N.C.R. The locomotives were built on the Wasdell-von Borries system, the left hand cylinder receiving high pressure steam (160 lb/sq.in.) and the right hand one low pressure, exhausted from the other cylinder. When

Continued on page 20





Top - Ballycastle Train arriving at Ballymoney Sept 36.

Lower - 2-4-2 No. 101 at Ballymoney

Facing - No. 101 at Ballycastle. photos Mr. Lawson Keir

starting, high pressure steam was admitted to both cylinders. They appear to have been good engines, although the cab was extremely cramped, and were found in all parts of the system. One odd feature was connected with the compounding - there were only two exhaust beats per revolution instead of four on a simple engine.

By 1908 the old B.C.R.R. locos were on their last legs and two more 2-4-2Ts were built, this time in Belfast York Road Works, by the Northern Counties Committee (part of the Midland Railway) which had inherited the B. & N.C.R. No. 112 appeared in 1908 and 113 a year later. These were in series with the older pair which had been re-numbered 110 and 111 in 1897. By now all the N.G. locos were in series from Nos. 101-113, but during the first war the remaining B.C.R.R. 0-4-2STs were lent to the Irish Railway Executive Committee and Nos. 112 and 113 became 102 and 101 respectively, on return the B.C.R.R. locos became 101A and 102A. A further two locos of class "S" were built in 1919/20 again at Belfast, becoming Nos. 103 and 104. No. 104 was thus the last two cylinder compound built in Britain.

Since the original design provided extremely restricted cabs, No. 101 was taken into York Road Works in July 1928, for rebuilding, emerging with a longer wheelbase and an enlarged cab with a proper bunker. No. 102 was similarly treated in June 1930, the new type becoming class S1. In September of the following year No. 110 received more radical alterations, the boiler was changed for one of increased size and pressure raised to 200 lbs/sq.in. Belpaire firebox fitted and a rear bogie provided, thus making the only 2-4-4T to ever run in Britain. It is not generally considered to have been a great success in form, and certainly was not copied on any of the other locos, although No.110 survived until 1946. It was classified S2.

By this time (1931), No. 101 had migrated to the Ballycastle line to assist the Ballymena and Larne 0-6-0Ts which were working that line and by 1937 No.111 had followed, while still later they were joined by No.104. In 1938 (December) No.103 was scrapped, although this was the 1919 engine, and in the following two years Nos. 101 and 102 were renumbered 41 and 42, while later on 104 became 43 and 111, 44. In 1943 the last Ballycastle Ry. locomotive, No.113, returned to its native line, although at this time all that was left was the main line and Ballyclare branch, and the former went in 1944. Four years later the Ballycastle line also was solely in the hands of Nos.41, 43 and 44. The 2-4-4T, No.110, was cut up in 1946, leaving No.42 to manage the Ballyclare line on its own, which it did until all the narrow gauge in Antrim was closed on 3rd July 1950. After this the final disposition of engines in 1954 was Nos.41 and 44 at Ballymoney, 43 at Ballycastle and 42 at Larne. They were then sold as scrap, so ending the history of Britain's only narrow gauge compounds.

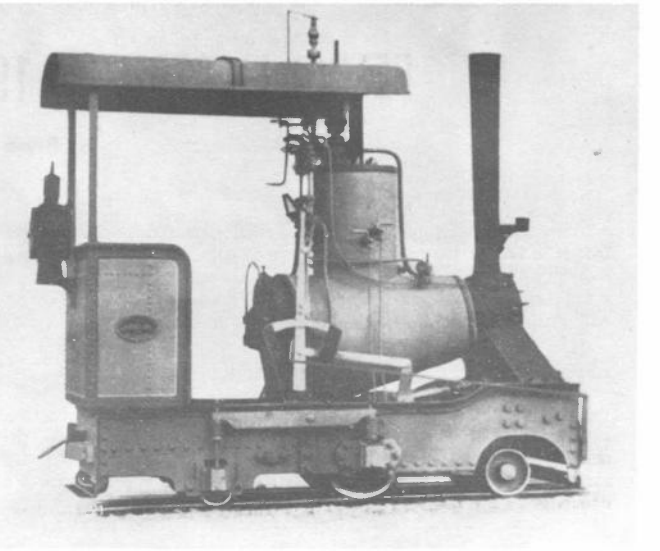
It is a great pity that one of these locos was not preserved, as the class has numerous features, they occasionally worked the boat train from Larne, and were the mainstay of that line for many years. As a class they were one of the largest on British narrow gauge, and are the more unusual in that the 1920 locos were virtually identical to those of 1892, proof that they were capable machines.

THE TINY TOT

By Sydney Moir

South Africa

Acknowledgements to
H. Temple Crittenden and
Paul Darrell of U.S.A., and
to Gustav Rohr of Germany.



The little 2-2-2 is something that came to me, in the form of a photo copied from a German catalogue, years ago: at that time we were trying to make sense of a statement that the SAR took over two little 2-2-2 engines when they absorbed the Otavi Co. branch from Swakopmund to Tsumeb. (The whole story of the lines in German South West is being published by Oakwood in the near future under the title of NAMIB NARROW-GAUGE, being a companion volume to my previous 24 INCHES APART). It took five years or more before we were able to get any information on the little engines, and that completely spoiled any ideas we may have had about them being Otavi Co. locos! However, the whole idea of a 2-2-2 instead of an 0-4-2 on the 60cm lines is so quaint, that I am including it for use as a page 'filler'.

The photograph was copied from a publication titled "Herausgegeben zum Funfzigjahrigen bestehen der A.G. Hohenzollern, 1872-1922" .. a book commemorating the fiftieth anniversary of the Hohenzollern company .. and illustrates a "Feldbahnbetried" locomotive built in 1888.

"Feldbahnbetried" can roughly be translated as "Field-railway-service" .. and this tiny tot was built for work on a plantation in Hawaii. Exactly what good a 2-2-2 (it is rated as a 1-A-1 in the Continental code) would be in the operations of a plantation is not clear: all we can say is that according to the records of the locomotives taken over by the S.A.R. from the Otavi Co. of South West Africa after the 1914-18 War, they also possessed two little 2-2-2 locomotives!

Whether they had them or not, one of the retired Managers of the Company confirmed the possession of two very small locomotives, each of which was only capable of handling one or two wagons .. and when you consider the total weight in working order of this little 2-2-2 was only 2.8 tons, it is obvious that its haulage capacity would be correspondingly low.

PETROL ELECTRICS of 1914-18 WAR

PART II **By Brian Webb A.I.B.D.**

A great many internal combustion locos were used by the armies of both sides during the Great War and examples were supplied to the British Forces by such firms as Motor Rail, Hawthorn-Leslie, Manning Wardle, Avonside, Nasmyth Wilson, Dick Kerr etc. and it is the products of the last two firms which form the basis of this short article.

The Dick, Kerr Petrol Electrics

A total of 90 60cm gauge 4 wheel Petrol Electric locomotives were built by Dick, Kerr & Co. Ltd. at Preston during the 1916-18 period for use by the W.D.L.R. on the continent. These locos which were the forerunner of the modern diesel electric loco were the first internal combustion locos to be built in this country with electric transmission.

The engine was a Dorman type 4JYO operated by petrol and had 4 cyls. 120mm x 140mm. The engine was connected via a flexible coupling to a 30 kilowatt Phoenix generator which supplied power to two axle hung, nose suspended, single reduction drive Dick, Kerr traction motors and the locos were fitted with a Dick, Kerr tramway type controller.

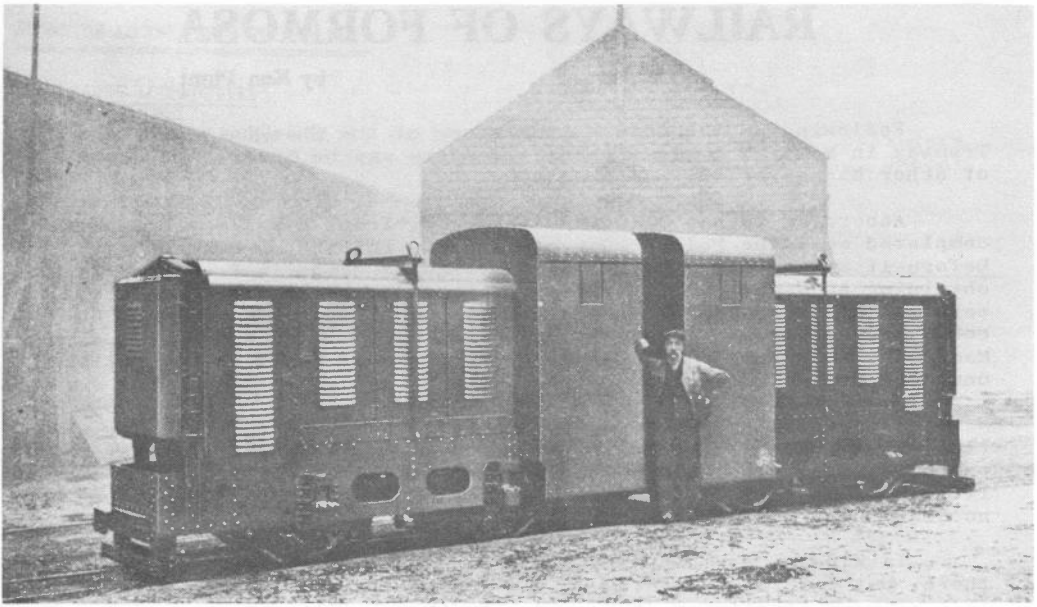
These machines were designed to work in pairs cab to cab as in the photograph.

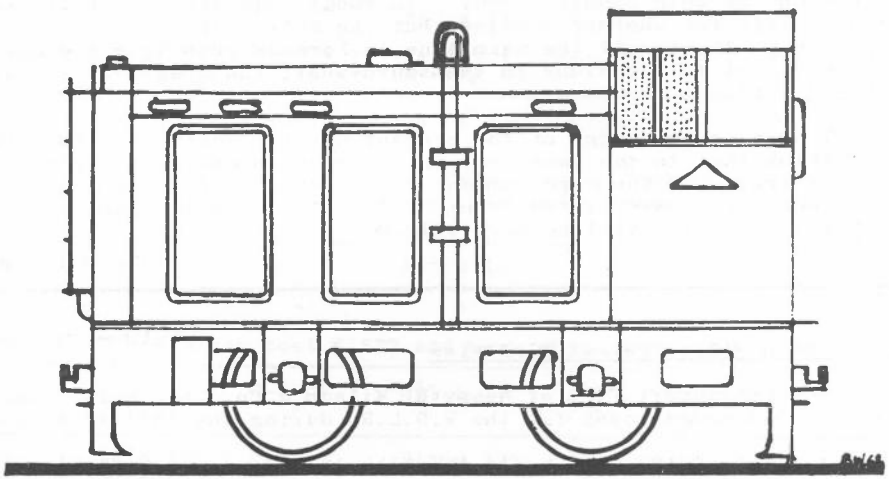
Some of these locos have been exceedingly long lived and at least one is still at work in this country albeit rebuilt with a Gardner diesel engine. The loco in question was of course the one which was still in service at the Bloxham Pits of The Clay Cross Co. Ltd. and was rebuilt to standard gauge and sold to W. Bush & Son of Alfreton who have used it on dismantling a number of closed railway lines and was in fact at work on the old Hull & Barnsley line in 1963.

Mr. E.S. Tonks mentions this loco in his book - Ironstone Railways and Tramways of the Midlands - and also a previous loco of the same type which also worked at Bloxham. Both these locos were assembled from a number of such machines which were purchased by Clay Cross for melting down and although some sources suggest these locos were of Nasmyth Wilson origin comparison of the accompanying photograph and sketch show the considerable outside differences.

A further four were reported as being still in daily use by the Railway Gazette in 1961. These are also re-engined but still retain the original electrical equipment and are owned by the French Compagnie Industrielle des Sables de Nemours.

Continued at foot of page 24.





The photograph of the Dick Kerr loco is not good, the side elevation sketch of the Nasmyth Wilson loco was made for a lecture slide - but it does serve the purpose in showing the detail differences between the two designs.

Finally thanks are due to The English Electric Co. Ltd. - Traction Division and also to the Locomotive and Allied Manufacturers Association for assistance with the research for this article.

RAILWAYS OF FORMOSA

by Ken Plant

Following on the interesting story of the Shanghai & Woosung Tramway in Nos. 37 & 38, I thought readers may be interested in hearing of other doings of the mad mandarins.

According to the 3.10.1890 issue of "Iron" a railway bridge was completed over the Peiho river at Tientsin in 1889. However, just before it was opened for traffic "intriguing Mandarins" succeeded in obtaining an order for destroying the bridge, because the official sanction had not been obtained! Even the all-powerful Li Hung Chang could not prevent its destruction. All he could do was to compel the Mandarins to refund the expenditure incurred in building and pulling down the bridge.

Incidentally, according to the first edition of "World Railways" (1950/1951), after the closure of the Shanghai & Woosung Railway, the track, rolling stock and equipment were dumped in the sea off Formosa. If this is correct, Ting Futai (see page 21, paragraph 5, No. 38) would no doubt have been hopping mad!

Talking of Formosa, I don't know just when the railways started there, but a 12 mile stretch on the Keelung-Taipei section was opened to passenger traffic in 1888, and a further 5 miles was opened "on the south side" on 28th January 1890. In about July 1890 the rails were actually laid for another 2 miles, but the ballasting had not been completed. At present the main line in Formosa runs from Keelung in the north-east to Kaohsiung in the south-west, the gauges in use are 3'6" and 2'6".

I have no knowledge of the present day locomotives in Formosa, but I think that in the past certain Avonside locomotives may well have worked there. In the hope someone may be able to fill in the blanks in my records, I have listed Avonside despatches to the Far East. Further information will be most welcome.

(See table opposite)

(Continued from page 22)

The Nasmyth Wilson Petrol Electrics

The Patricroft firm of Nasmyth, Wilson & Co. Ltd. built some similar 60cm gauge locos for the W.D.L.R. during the 1917-18 period.

A total of 100 were built (NW 1144-1243) and had 2'8" diameter wheels, weighed 7.5 tons empty, had a wheelbase of 5'6", a maximum speed of 20 m.p.h. and a fuel capacity of 40 gallons.

Two makes of petrol engine were installed, six locos had a 45 h.p. Tylor engine and the remaining 94 had Dorman 38 h.p. engines similar to the Dick, Kerr built units. In all cases the locos had generator and traction motors by British Westinghouse - Metropolitan Vickers.

These machines also worked cab to cab.

AVONSIDE LOCOMOTIVES TO FAR EAST

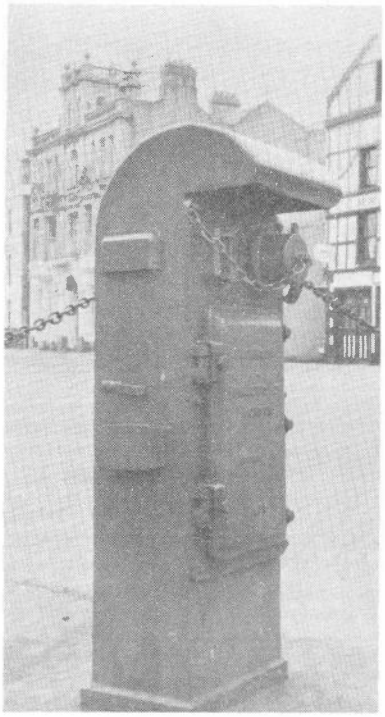
3'6" GAUGE LOCOMOTIVES

One loco only - 1383 of 1897, a 2-4-2T with 12" x 18" cylinders and 2'10" coupled wheels, named "INDIA" for 'Mining Co., Japan'.

2'6" GAUGE LOCOMOTIVES

Works No.	Ordered	Type	Cyls.	Cost	
1538	8.5.07	0-6-0ST	7" x 10"	-	
1556	28.4.08	0-6-0T	6" x 9"	£250.	
1557	"	"	"	£250.	
1558	"	"	"	£250.	
	Spares for above four locos sent in May 1914 to Samuel Samuel & Co. Ltd., Takao.				
1573	1909	0-6-0T	8½" x 12"	-	
1577	1910	"	"	-	
1584	27.4.10	0-4-0T	6" x 9"	£365.	Sent to Japan
1585	"	"	"	£365.	" " "
1586	1910	"	"	-	" " "
1587	"	"	"	-	" " "
1588	30.4.10.	0-6-0T	8½" x 12"	£545.	
	Shipped to Samuel Samuel & Co. Ltd., Engineers and Contractors, Takow, via Hong Kong.				
1608	1.5.11	0-6-0T	8½" x 12"	£570.	
1609	"	"	"	£570.	
	These two had plates affixed reading "Samuel Samuel & Co.Ltd., Taipeh, Formosa", but were shipped to Tamsui via Hong Kong.				
1614	19.9.11	0-6-0T	8½" x 12"		
1615	"	"	"		
1616	"	"	"		
	These three cost £1577 and were shipped to "Far East".				
1665	5.4.13	0-6-0T	8½" x 12"	£640.	Shipped to Yokohama
1732	4.8.15	"	"	£755.	Shipped to Takao
1854	14.8.19	0-6-0T	8½" x 12"		
1855	"	"	"		
	These two cost £4,204.14.5d. despatched to Takao on 6.7.1920. 1854 weighed 13 tons, 1855 14 tons.				
1860	23.4.20	0-4-0T	6" x 9"	£1627.10.4d.	
	Shipped to Kobe, Japan, November 1920. No.5. painted on.				

Letters to the Editor



FROM : H.B. RAMSEY, YORK.

Regarding Kenneth Worth's letter in the last magazine, I turned out the attached photograph of the Acetylene Hydrant which could be seen outside Kenilworth Police Station until recently demolished for road alterations.

FROM : FRANK JUX, CAPE, S.AFRICA.

Regarding the Rails on Rand article (Magazine 38), I am afraid that I omitted to give you full details on the photos in my rush. Sub Nigel No. 1 is a HC 0-6-0T 1486/24. The Grootvlei loco behind the antique coaches is an exSAR A class 4-8-2T, while the ERPM No. 9 is a 4-8-4T "MONA LISA" bt NBL 26899/50, their newest loco and the pride of the line. Daggafontein No. 2 is ex SAR G class 4-8-2T NBL 16069/04. The photos came out very well.

FROM : BRIAN CRITCHLEY, LONDON, E.18.

A friend of mine, Pat Henshaw, has sent me some notes regarding a very strange narrow gauge machine discovered in the Vickers Engineering Works at Weymouth, Dorset, and I am wondering if any reader is able to provide further details.

The works owns a 2'0" gauge line about 600 yards in length, which runs from the works out onto a pier in Portland Harbour. The line which is now seldom used, is a legacy of the days when the works was a torpedo factory, opened by Whiteheads in the late 19th century. Much of the internal rail system in the works has now been removed, and the truncated section still in existence starts from a large workshop, passing under the now-closed Weymouth-Portland branch (where a crane for the transfer of materials still exists) on its way to the pier.

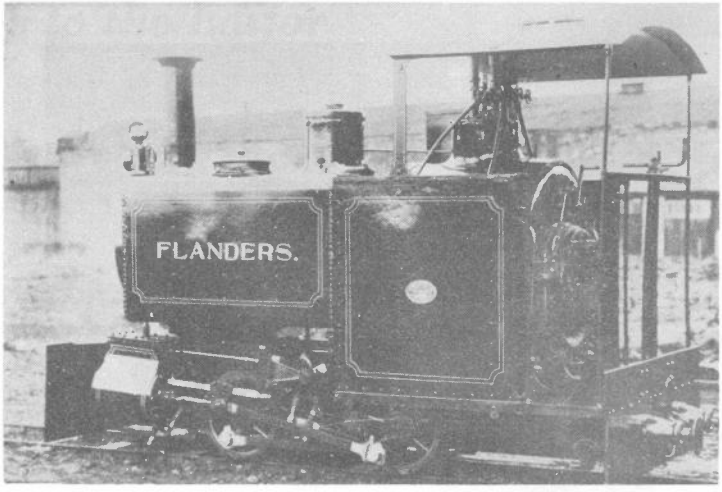
The only item of rolling stock on the line is a curious battery electric locomotive (?) designed to carry torpedoes; comprising a central cradle to receive the weapon, and a seat either side - one for the driver and the other for crew. The machine does not appear to carry any identification marks, except for the control gear which was built by Westinghouse, and it has resided at the works as long as anyone there can remember - so long in fact no details about it appear to exist.

FROM : ALLEN CIVIL, STAFFORD

Re "Light Railways Ltd."

..... Bagnalls certainly did build at least four locos for Light Railways Ltd. These were E 2230/31/32 of 1924 0-6-0T of 3'6" gauge with 12" x 16½" o.c. and went to the Chang Cheng Railway, China. The other odd one that I know of was E 2250 also of 1924. This was an 0-8-0T again of 3'6" gauge and 18" x 24" o.c. This was shipped to Durban for the New State Areas, South Africa. Later it went to Rustenburg, where comment is made on it by Frank Jux in his article on the Platinum Bagnalls (page 19, Mag. 39).

The second comment I have on the same letter is the Baguley valve gear. This was most certainly not new in 1923, in fact the first loco known to me was a Bagnall front tank design. This was delivered to the L.C.C. at the Northern Outfall, Becton, works number 1424 of 1893. Baguley was one of the early Bagnall staff, chief draughtsman in fact until he left to start on his own at Burton-on-Trent. Bagnalls used the Baguley gear on the smaller engines until 1903, possibly when Baguley himself left. The only Baguley valve geared Bagnall loco fitted now in existence in this country is Bagnall 1491 of 1898 "ISABEL", preserved in Victoria Park, Stafford, and remains of "SEA LION" on the Groudle Glen line.



FROM : RON REDMAN, HORSFORTH

Light Railways Ltd.

My thanks for the interesting points in the last issue of the magazine from Members' letters. It's nice to see the interest shown in the letters section of the revised magazine. I only wish we had one a month (I don't! - ED.)

Since my original letter on the subject of this firm a rather interesting photograph has come to light and is we think one of the locomotives in question. All the information we have is its Works No. 2004 built 1920 and named "FLANDERS". It would appear to be a Baguley built engine as it is typical of the firm's steam products. Any other information would be very welcome.

FROM : LEONARD NOX, SHEFFIELD

Whilst touring in Northern Spain in September 1965, I came across traces of a narrow gauge railway near Covadonga which is in the mountainous province of Asturias. This is not the celebrated steam tramway to Arriondas (1908-1934) featured in "Steam on the Sierra" (pages 52 and 53), but a much earlier line which served a long defunct gold mine. As Spanish students will know, in A.D. 718 the Christians gained their first victory against the Moors at Covadonga and ever since this has been a place of great religious standing.

I was told that gold had been worked at the Hipotetico mine for many years. However, by the middle of the 19th century the loads of rock being hauled out on the little railway were getting too great for the donkeys to handle, and it was decided to make enquiries for the purchase of a locomotive. But before this could be done there was a rather serious accident in Spain when a steam locomotive boiler exploded, and several bystanders were killed. The mine owners, under some pressure from the Church it must be admitted, decided that the risk of using a steam locomotive would be too great and as diesel, petrol and electric traction were unknown at that date, resigned themselves to the early closure of the mine.

But by a queer stroke of fortune the mine did not close, for a locomotive was obtained. It was not steam, nor electric, nor diesel, nor petrol, but as my informant put it "sin caballo" (without horse). It wasn't until he went into more detail that I realised that this must have been in fact a clockwork locomotive! It appears to have been "wound up" by a rather ingenious system which employed various shafts and rollers coupled to a vertical shaft set inside a low circular stone wall. The vertical shaft revolved on its axis with the turning effect provided by a blindfolded donkey (attached to the shaft by a cross-beam) which walked round and round the stone wall.

A rather battered photograph of the turning shaft and donkey (which exasperatingly omitted the locomotive in rather the same way that old gaffers tend to stand in front of nameplates and worksplates in old photographs), was somewhat inconclusive, and I might well have put this information into my "For Further Investigation" file had it not been for Jack Layne's letter on Farthinghoe Clock and Locomotive Works, in "Narrow Gauge" No. 38. For the question I immediately asked myself was whether this was a clockwork Babbit? Perhaps Mr. Layne could search his records, as I am sure all members would be interested to know whether this locomotive can be claimed as the third known Babbit.

* * * * * * *

SHORT ARTICLES for the late 1966 issue are required; a photo or two with a short write-up would be ideal.

EDITOR

FROM : JACK STEEL, GUISELEY

Mandraulic Railways

Various members have written to our new style magazine and expressed their opinion of what a narrow gauge railway should be, but so far no one has written about the type that I knew well in the years around 1927 to 1931. These were short, often very short, systems in quarries, works yards, or on building sites, and the motive power was a man, or men, pushing. One which gave me much pleasure was in the quarry yard of Heeley Brothers, near Yeadon Dam, (no nonsense about "the Tarn" in those days). The lines connected the steam crane to the cutting shed and this shed to a tip in the worked out part of the quarry. This line had extended to a loading bay, but I only once saw it used. The track was very light section "Jubilee" with the inevitable ten or a dozen Jubilee tippers, or their frames. In the quarry bottom the rails were moved about as the rock face advanced and three sided skips were used which the crane hoisted to yard level. These were then put onto another frame and run to either the planing shed, or the crushing plant alongside. When there was nothing else for the lorry driver and his mate to do (or their motor was broken down) they were set to work to clear away the rubbish from the plane and tip it in the quarry.

In loading and pushing they were "helped" by the lad who came to look after the boss's prize pigs and as a reward when the tipper was emptied he stood on the bumper and the wagon was given a sharp push and the lad sped along the yard. If the wagon was pushed too hard however, there was a derailment.

Speaking of derailments, recalls a length of straight track on a building site at Fartown, Huddersfield. The lad and his mother looked over the wall, the labourer pushing the wagon grinned back, derailed, and tipped his load only half way to the end of the line.

* * * * * * *

PLEASE HELP YOUR SOCIETY

By buying the Society's own booklet on the 18" Sand Hutten Railway (Yorkshire)

8/6d - concession price to members 6/6d.

from Barrie McFarlane, 55 Thornhill Avenue, Brighton 6.

Less than half our membership have so far purchased a copy - Letterpress 68 pages, 13 photos, maps, gradient profiles, 3 drawings of stock - value for money.