NUMBER 272
ISSN 0 727 8101

APRIL 2020
$7.95 Recommended retail price only

LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

Light Railway Research Society of Australia Inc.

02
9 770727 810237

Editor: Richard Warwick
PO Box 21, Surrey Hills Vic 3127
editor@lrrsa.org.au

Associate Editors: Mike McCarthy, Frank Stamford and Phil Rickard

Field Reports Editor: Peter Evans
fieldreports@lrrsa.org.au

Industrial Railway News Editor: Chris Hart
industrial@lrrsa.org.au

Research Editor: Stuart Thyer
research@lrrsa.org.au

Heritage & Tourist Editor: Andrew Webster
heritagetourist@lrrsa.org.au

Distributor: Ovato Retail Distribution Pty Ltd
ISSN 0 727 8101, PP 100002829
Printed by Ligare Pty Ltd

COUNCIL
President: Bill Hanks (03) 5944 3839
Secretary: Phil Rickard (03) 9870 2285

New South Wales Division
c/o PO Box 674 St Ives NSW 2075
President: Jeff Moonie (02) 4753 6302
Secretary: Ross Mainwaring 0415 995 304

South Australian Group
9 Craiglee Dr, Coromandel Valley SA 5051
Secretary: Les Howard (08) 8278 3082

South-east Queensland Group
365 Fairfield Rd, Yeronga Qld 4104
Secretary: Bob Gough (07) 3848 3769

Tasmanian Representative
11 Ruthwell St, Montrose, Tasmania 7010
Ken Milbourne (03) 6272 2823

MEETINGS
Regular meetings are held in Adelaide, Brisbane, Melbourne and Sydney.
See LRRSA NEWS, page 37.

SUBSCRIPTIONS
Contact the Membership Officer,
PO Box 21, Surrey Hills, Vic 3127;
e-mail: subscriptions@lrrsa.org.au
internet: www.lrrsa.org.au
or use the coupon on page 47.

SALES
Back issues of *Light Railways* and other publications available from LRRSA Sales, PO Box 21, Surrey Hills, Vic. 3127, or visit www.lrrsa.org.au/LRR_Online_shop.html

Imperial to metric conversions:

1 inch (in)	25.40 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metres
1 mile	1.60 kilometres
1 ton	1.01 tonnes
1 pound (lb)	0.454 kilogram
1 acre	0.4 hectare
1 horsepower (hp)	746 Watts
1 gallon	4.536 litres
1 cubic yard	0.765 cubic metres
1 super foot (sawn timber)	0.00236 cubic metre

LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

No 272 April 2020

Contents

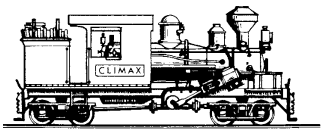
Editorial

The long hot summer of 2019-20 has finally finished but not before the devastating bushfires and then the floods that affected large parts of the continent. The railway preservation fraternity was not immune from damage and as reported in the Heritage and Tourist section the Zig Zag Railway has again suffered a lot of damage from the bushfire in the Blue Mountains – at a time when it was still recovering from the effects of the bushfires in 2013. Our support goes out to the Railway in its efforts to rebuild.

In this issue we present three very different articles related to light railway locomotives. Firstly, John Browning gives an overview of the development of internal combustion locomotives in Australia in the early years up to 1914. There are certainly some weird and wonderful locomotives covered as well as some innovative and improvised thinking that went into them. The second contribution is from Tony Coen and Greg Johnston that discuss the locomotives used on the Tasmanian Mainline Railway and a study of where the various locomotives ended up in a variety of industrial uses. Finally, Norman Houghton has submitted details of the APCL's inspection of the VR narrow gauge Garratt on the line between Colac and Beech Forest, with a view to the possible purchase of a similar locomotive for use at the Fyansford limestone quarry near Geelong in Victoria.

I trust that you will enjoy these fascinating articles. *Richard Warwick*

Front Cover: *Wyndham, in the Kimberley region of Western Australia, lies on the West Arm of Cambridge Gulf. It was this sea access that saw a town established there in 1886 as a landing point for the short-lived Hall's Creek gold rush. In 1890 a short jetty and 2ft gauge tramway was built. During the Great War, and on account of the building of a meatworks, a 3ft 6in gauge railway was substituted and worked over the next six decades by a number of steam, petrol and diesel locomotives. In 1960 the first of a pair of six-ton Com-Eng diesels arrived. Our Sept 2014 photo is of PW26 (formerly NW16), Com-Eng b/n GB1046, preserved near the Wyndham port. Dominating the background is the West Bastion, the north-west end of the Bastion Range. Photo courtesy Rob Astley*



Light Railway Research Society of Australia Inc. A14384U
PO Box 21 Surrey Hills Vic 3127
www.lrrsa.org.au

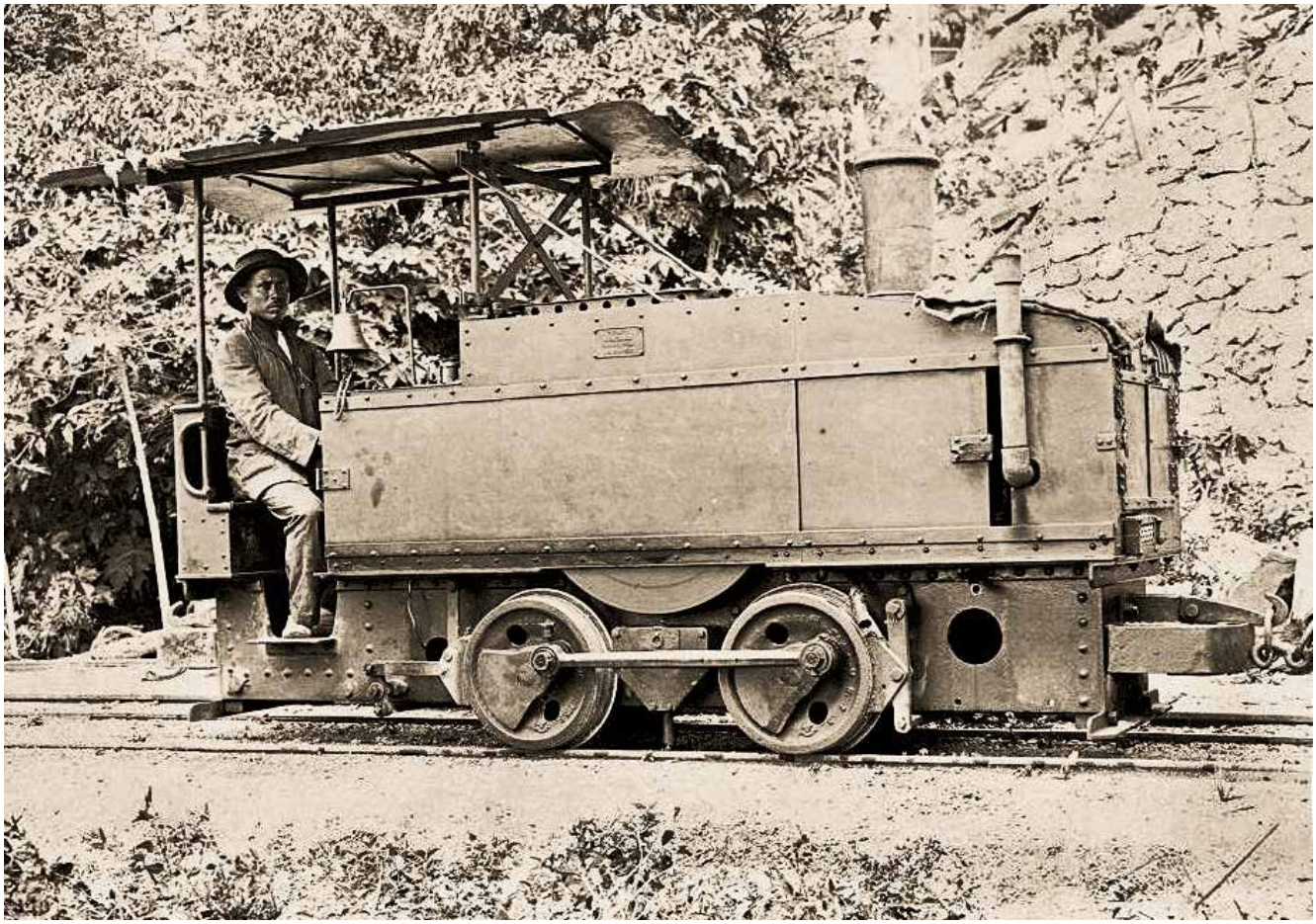
The Light Railway Research Society of Australia Inc. was formed in 1961 and caters for those interested in all facets of industrial, private, tourist and narrow gauge railways in this country and its offshore territories, past and present.

Members are actively involved in researching light railways in libraries and archives, interviewing knowledgeable first-hand participants and undertaking field work at industrial sites and in forests.

Light Railways is the official publication of the Society. Material submitted is subject to editing, and publication is at the discretion of the Editor.

Articles, letters and photographs of historical and current interest are welcome. Contributions should be double spaced if typed or written. Electronic formats accepted in the common standards.

Material is accepted for publication in *Light Railways* on the proviso that the Society has the right to reprint, with acknowledgement, any material published in Light Railways, or include this material in other Society publications.



Montania locomotive on Christmas Island. *Photo: author's collection*

Early internal-combustion locomotives in Australia

by John Browning

Australians have long had the reputation of being early adopters of new technology so it is not surprising that the internal combustion locomotive saw early use in Australia, particularly on industrial and amusement railways. The Australian genius for improvisation generally took priority over the purchase of commercially-developed products from the other side of the world.

Some difficulty was encountered in coming up with suitable terminology for this new technology. The use of the term 'rail tractor' was to become fairly widespread in Australia but is first noted only in a 1911 newspaper. Other terms such as "oil locomotive", "petrol locomotive" and "motor train" predated this. This brief survey attempts to present details of known examples up to 1914. If any have been missed, follow-up letters to the Editor would be welcome to remedy the omissions.

The international development of internal-combustion locomotives

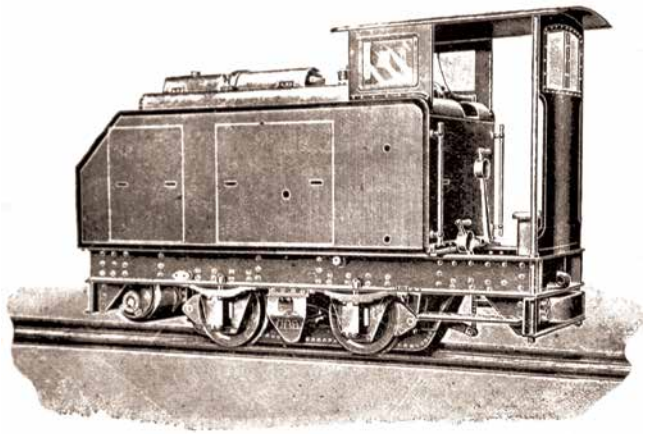
The development of the oil engine and the high-speed petrol engine in the latter part of the nineteenth century led inevitably to experiments to use them for railway traction. A major challenge was to develop transmission mechanisms to allow an internal combustion engine locomotive to start a train. Unlike with steam engines and some kinds of electric motors, the internal-combustion engine can deliver no torque at zero revolutions so power must be applied to the wheels through a transmission system whilst the engine is running. In addition, the transmission must have the ability to reverse the direction of travel because most internal combustion engines can only run in one direction. The use in railway vehicles of transmission systems developed for road vehicles was problematic as without an additional reversing box, there would normally be only one low-speed gear for reverse operation.[1] Locomotive transmissions had to be robust enough not only to transmit power reliably and safely, but in Australian conditions to withstand the severe buffing shocks and indifferent track conditions found, for example, on timber and sugar cane tramways.

Experimental efforts conducted in the 1880s in Germany, France, England, Australia and the USA meant that by the early 1890s, the commercialisation of internal-combustion locomotives was becoming possible. By the mid-1890s, the engine options were as follows:

- The Otto engine, which was heavy and used expensive gas or petrol-type fuels but would work with a fairly crude transmission.
- The Daimler high-speed petrol engine developed particularly for use in motor cars, which was unable to cope with heavy loads given the types of gearboxes then available.
- Various heavy oil engines, for example the Akroyd-Stuart which used a combination of compression and a 'hot bulb' to achieve ignition. Its advantage over the Otto engine was in its use of cheaper fuels.

The successful application of true diesel (full compression ignition) engines to locomotive use did not occur until after 1914.[2]

From the turn of the century, German manufacturers began to produce large numbers of locomotives based on a horizontal single-cylindered Otto engine fuelled by petrol with electric ignition, and featuring a single flywheel and an array of unenclosed gearwheels under the bonnet. Other fuels such as kerosene and alcohol could also be used. The major makers were Deutz, Oberursel, Ruhrthaler and Montania. Various types of final drives included jackshafts, chains, and gearing to the driven axle, and chains and coupling rods to connect the axles. Hundreds of these locomotives were produced up to 1914 and several thousands were supplied to the German Army in World War I.[3] At least two Montania 600mm gauge locomotives were in service with the Christmas Island Phosphate Co Ltd from about 1912 and an Oberursel made it to New Zealand in 1912. At least one other one of this type, most likely a Montania, was on Nauru.[4]

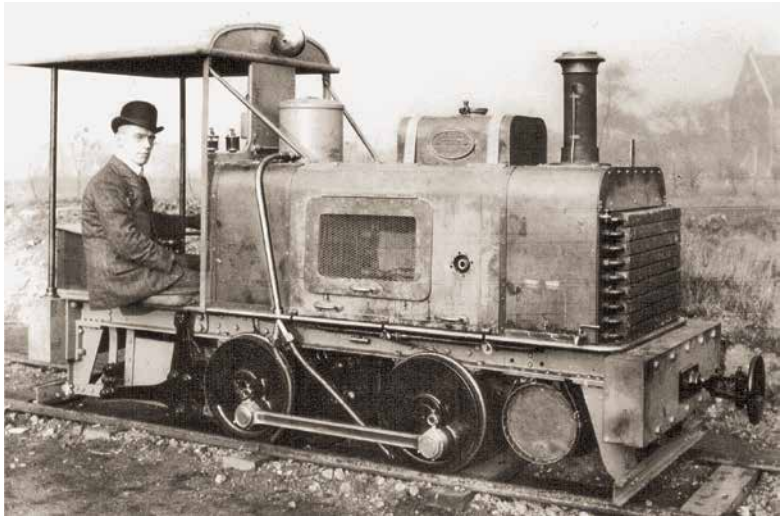


Another variation of a typical pre-war German narrow gauge locomotive, advertised by the Australian Metal Co Ltd in the Australian Sugar Journal*, 12 January 1911.*

Parallel locomotive development took place, particularly in Britain and the USA, using what we would recognise today as the conventional petrol car engine after its introduction in the 1890s. A variety of transmissions were tried:

- Rim to face friction wheel drives. These could theoretically provide an infinite range of gear ratios and were successfully used in locomotives produced by the US Plymouth company. They fell out of use in the 1920s because the available friction materials were unable to cope with increased engine power and speeds.
- Electric transmission, which offered many potential advantages. Petrol-electric drive was common in road vehicles in the first decade of the twentieth century because, although it was heavy, it was superior to the mechanical clutches and gearboxes then available. It was much easier to build a well-functioning petrol-electric loco than one with a mechanical transmission, and even easier than now, because small dynamos were "ten-a-penny" at the time. However, this type of transmission was rather too sophisticated for general use in rough industrial settings.
- Gearboxes eventually came out on top in the transmission contest. Early gearboxes and clutches were effective in cars and could be used in light locomotives but were not suited to heavy haulage. The gearboxes developed for cars and heavy road vehicles only had one reverse gear and so were not particularly useful in locomotives without an additional reversing box. The best gearbox for locomotive use developed before 1914 was probably the one used by Baldwin in the USA from 1910 which gave the full range of speeds in each direction from the one gearbox.[5]

By 1905, British petrol-engined locomotives were being marketed by companies such as Wolseley, Kerr Stuart and McEwan, Pratt, but not with as much success as their German counterparts.[6]



Wolseley 20hp locomotive advertised in Australia in 1906.
Photo: author's collection

World War I brought about a technological revolution for internal-combustion vehicles. By its end, the combination of a Daimler-type petrol engine and a purpose-built gearbox had proved its superiority for locomotive use[7]

An early Australian experiment

In addition to locomotives, a significant number of petrol motor trollies, line cars, government railway railcars and self-propelled items of railway maintenance equipment were put into service in Australia during this period but they must be a subject for another day. However, one railcar does require attention in the light of its early date and pioneering nature. Local inventors John Danks and Benjamin Barnes developed an experimental 6-wheeled 5 ft 3 in gauge gas-powered tramway motor. The design was patented in December 1884, demonstrated at the maker's works in February 1885 and trialled on the VR between Clifton Hill and Alphington in April and May 1885. The vehicle had been built at the works of Danks & Co in South Melbourne. It was powered by coal gas using a 5 hp Otto engine with the gas carried in pressurised cylinders located under the seats of the car.[8]

The newly-constructed Clifton Hill-Alphington railway line remained a white elephant for a number of years and during this period a public scheduled gas tram passenger service operated on the line Mondays to Saturdays from 1 February 1886 to 7 May 1888. During this period, the tram took the form of a 40-seat former railway carriage with the gas engine housed at one end. Although in 1885 it was reported that a similar motor would be constructed to standard gauge for trials on the street tramways in Melbourne, no reference has been found to the development and use of any such further units in Melbourne on its then horse and cable tram systems, or elsewhere in Australia.[9]

Moreton Mill, Queensland 1903

The earliest known Australian internal-combustion engined locomotive was a 2 ft gauge kerosene powered unit known as the 'Atlas car', built in Brisbane in 1903 by James Wilson. It was Moreton Mill's first locomotive and was used in the construction of its steeply-graded Dulong Tramway.

It weighed 3 tons, had a Tangye 8 hp engine and seems to have been a 4-4-0 with the driving wheels coupled by rods. It had two speeds with a friction drive, and a reversing mechanism. Delivered in August 1903, it was still undergoing trials in October but was reportedly working satisfactorily by Christmas. However, by March 1904 it was forecast that the engine would be removed for use in generating electricity in the mill.[10]

The "Fiery Dragon" Manly, NSW 1903

A number of early internal combustion locomotives were built for amusement railways. Because they operated on a circuit, there was no need for routine reverse operation so it was straightforward to use car technology in them. In late 1903 a narrow gauge railway locomotive, possibly 2 ft 6 in gauge, was built to power the "Fiery Dragon" amusement train at Steyne Court, Manly, in NSW, operated by the Manly Water Chute & Amusements Co Ltd. A souvenir booklet of 1904 stated that it was fitted with a De Dion 6hp engine. After the closure of Steyne Court in May 1906, it was later used in Christchurch, New Zealand, as an adjunct to the International Exhibition from November 1906 to April 1907 as illustrated.[11]

The 'Fiery Dragon' from Steyne Court, Manly, was later operated in New Zealand.
Photo: Christchurch City Libraries CCL-KPCD12-IMG0004

The 'Great Dragon' at Princes Court in Melbourne.
Photo: author's collection

The "Great Dragon", Southbank, Victoria 1904

A similar 1904 narrow gauge amusement railway locomotive in Melbourne, also possibly 2 ft 6 in gauge, was the 5 hp unit that hauled the "Great Dragon" train at Prince's Court, operated by Prince's Court Proprietary Ltd in St Kilda Road at what is now Southbank. It was built by local motor company Hall & Warden. The amusement court closed in May 1909.[12]

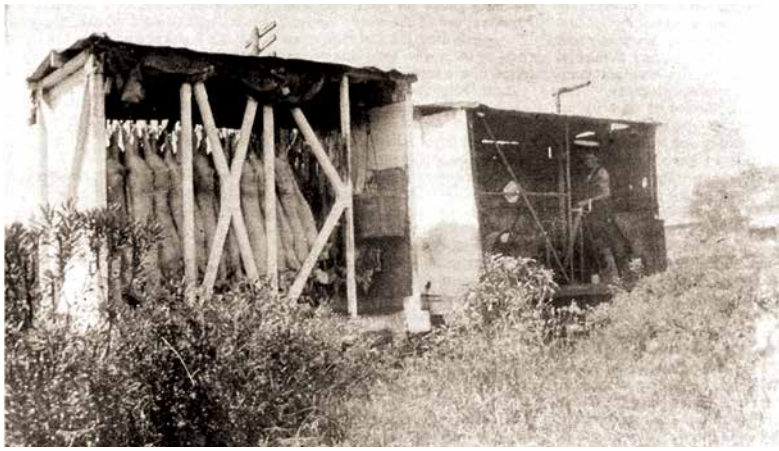
Melbourne Zoo, 1904

In 1904, the Tarrant Motor Company of Melbourne supplied a "steam outline" internal combustion locomotive, possibly 2 ft gauge, for use on the amusement line at Melbourne Zoo. The steam outline was somewhat approximate, hinting, perhaps, of early days on the Great Western Railway broad gauge. As the Tarrant Motor Company built the first motor car in Australia in 1901, it is likely that the locomotive was fitted with a car engine and used a car transmission.[13]

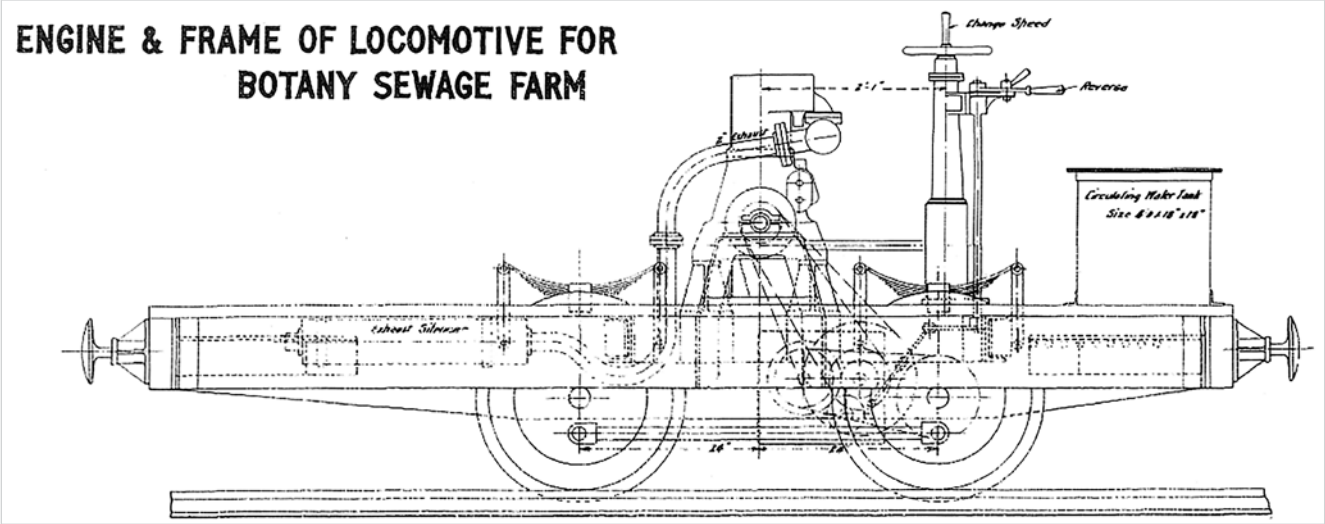
The Tarrant locomotive at Melbourne Zoo.
Photo: The Australasian*, 18 March 1905.*

North Coast Co-operative Company, Byron Bay, NSW, 1904

Another locomotive put into use in 1904 was an 'oil engined' machine at the North Coast Co-operative Company Ltd's Byron Bay factory in NSW. It ran on a ¾ mile line connecting the piggery and slaughter yard with a bacon works. It has been stated that the gauge was standard but the photographic evidence might lead this to be questioned. It was fitted with a single cylinder hot bulb engine powered by kerosene fuel, and drive to the axles was by chains. It seems that the locomotive continued in use with Norco until the 1930s.[14]



The locomotive at Norco, Byron Bay, with a cargo of pig carcasses.
Photo: Brian Parkes Collection



The chassis of the rebuilt steam locomotive at the Botany sewerage works showing the positioning of the engine and transmission.
ARHS Bulletin *382.*

Botany Sewerage Works, 1907

In 1907, the Sydney Board of Water Supply and Sewerage produced an 0-4-0 petrol railcar, fitted with a Hercules 2-cylinder 12 hp engine that was used as a locomotive at its Botany sewerage farm. It had two gears in each direction, giving speeds of 4½ and 9 mph, and chain drive. This was a conversion of an existing steam locomotive. It was advertised for sale in 1918 following the closure of the sewerage works, and was finally disposed of in 1920.[15]

Vidulich & Co, Finch Hatton, Queensland, 1907

In 1907 a 2 ft gauge oil-engined machine was used by contractors Vidulich & Co at Finch Hatton near Mackay for hauling sugar cane under contract for Racecourse Mill, replacing horses on a feeder line connecting with the 3ft 6in gauge government railway. The machine proved unsuccessful and the contract was terminated. The locomotive was removed in early 1908.[16]

White & Co, Innisfail, 1908

In 1908, butchers White & Co of Innisfail applied to the Johnstone Shire Council for permission to run a light locomotive on the 2 ft gauge Geraldton Tramway between its slaughter yards at Mundoo and its shop in town, a distance of about three miles. It was in use in 1909, but no further details are available.[17]

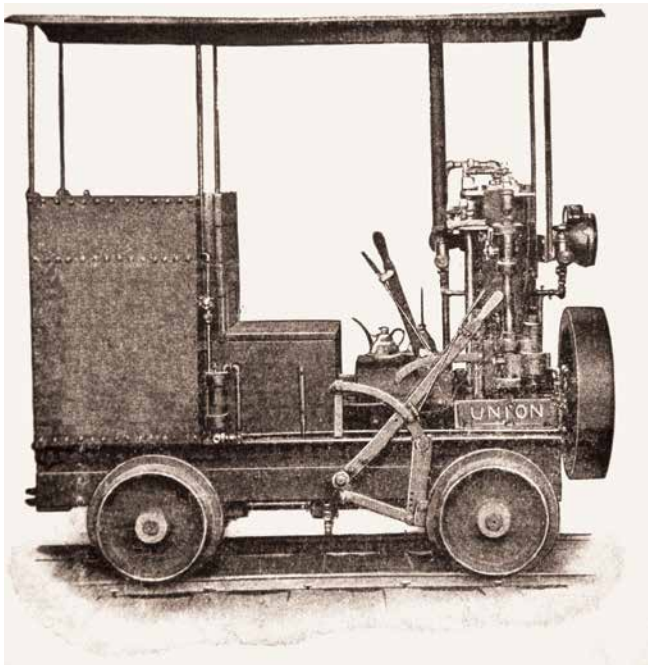
Innes Brothers, Sarina, Queensland, 1909

Two 2 ft gauge locomotives fitted with Union Engine Co oil engines, one 4 hp and one 8 hp, were in use by Innes Brothers & Co in the Plane Creek sugar mill area at Sarina in the Mackay district in 1909. They were said to be capable of a speed of 15 mph and appear to have incorporated flywheel-driven belt drives. The larger one hauled cane grown by Innes Brothers and other farmers on a one mile privately-built extension to Plane Creek Mill's Plane Creek line. The smaller one was said to carry labour 'from one part of the district to another', and was also used to drive the conveyor for loading sugar at the Louisa Creek

The two Innes Brothers locomotives at work in the Sarina district. *Photo:* Australian Sugar Journal*, 18 January 1910*

wharf. As Innes Brothers had the contract to load raw sugar onto vessels at the mill's Louisa Creek wharf it seems likely that the locomotive was used to convey men on the mill line to Louisa Creek when they were required to load sugar there. The hazard of unguarded moving parts on these locomotives may be reflected in an unfortunate accident that befell Robert Harvey in August 1910. He had a portion of the muscles on his right leg torn while travelling from Louisa Creek on the motor.[18]

It is not clear who built the locomotives, which had Union Engine Company engines, generally applied to marine use. However, their construction appears to be based on adapted cane trucks. The Union Oil Engine Company of Sydney were the agents for The Union Oil Engine Company of San Francisco, while Trackson Brothers of Brisbane claimed to be its 'sole representatives' and advertised a rather more professional-looking locomotive in 1910. It had a prominent flywheel in front and shaft drive to each axle with a handbrake on the front axle.[19]



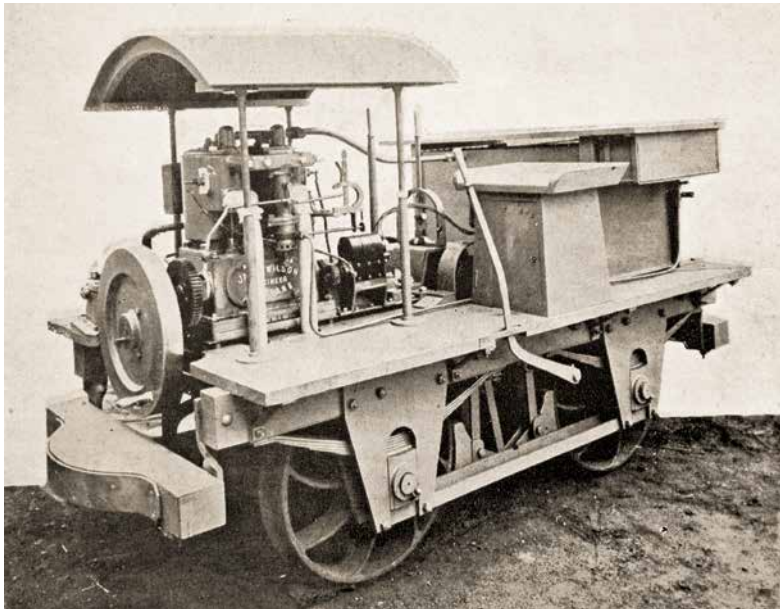
The Union Oil Locomotive advertised by Trackson Brothers of Brisbane. Australian Sugar Journal*, 13 January 1910.*

Motor Railway, Melbourne & Adelaide, 1909-1910

A small '2-2-2' steam outline locomotive with an oil engine operated at a charity event at the Ascot Racecourse in Melbourne in 1909 and at the Adelaide Chamber of Manufacturers' Exhibition in 1910, hauling children in a couple of gondola-style single axle carriages. There appears to be scant provision for a driver. In Adelaide it was referred to as "Hewitt's Motor Railway" and it was claimed it had come from the Melbourne Exhibition, but this has not been substantiated. The gauge appears to have been about 18 inches or smaller. What sounds like this train may also have operated at Bacchus Marsh and Brighton in Victoria later in 1910.[20]

Bingera Sugar Mill, 1910, and Marian Sugar Mill, Queensland

In 1910, James Wilson of the Wilson Engineering Works in Brisbane, built a small 2 ft gauge 8 hp locomotive for duties on the Bingera sugar cane plantation of Gibson and Howes, working on the run to Givelda. It had a timber frame with

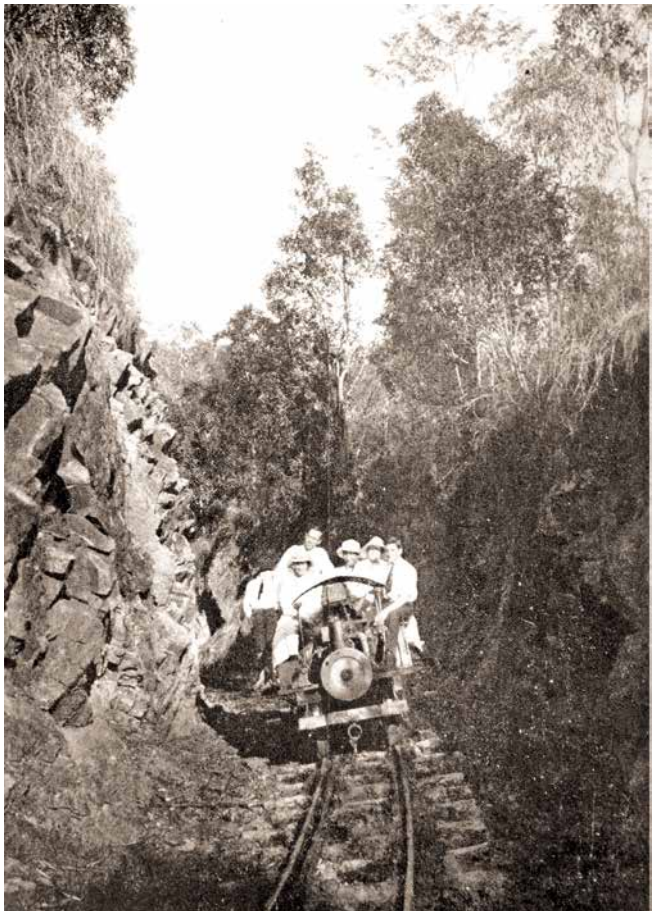


The Wilson 8hp petrol locomotive built for Bingera Mill in 1910. Photo: Royal Studio.

The 'motor train' at the Adelaide Chamber of Manufacturers' Exhibition in 1910. Photo: J.B. Siddall

24 inch steel wheels and a 2-cylinder engine, with a starting handle fitted to the flywheel. The brakes operated on both sets of wheels. An elegant curved plate sheltered the engine from above but it was open to the elements on all four sides, and there was no protection at all provided for the driver. As the locomotive was stated to be able to work in either direction, it may have had a reversing gearbox. The builder's photo reflects strong design similarities with the unit shown in the Trackson advertisement and it may in fact be the Queensland-produced version, with the engine bearing a 'James Wilson' plate.[21] It appears that this unit was quite long-lived. Its chassis was still at the mill in the 1970s.

It is not known how many of these small Wilson locomotives were supplied to the sugar industry but a similar machine was photographed on Marian Mill's Mount Jukes tramway in 1920.[22]



Wilson locomotive on an excursion on the Marian Mill tramway. Photo: Australian Sugar Journal, *9 April 1920.*

Gladstone Meatworks, Queensland, 1910

Gladstone Meat Works of Queensland Ltd had a powerful 3 ft 6 in gauge Mercedes-engined 45 hp petrol-electric in use in 1910. It is not clear if this was constructed locally or imported but it appears to have been a sophisticated design. The following is a short description:

> The loco has a novel drive, the only one of its kind in Australia. A 45 h.p. Mercedes engine with a direct drive to dynamo, which supplies power for two reversible motors geared by chains to the main axles. The control is fitted with three speeds forwards and one reverse speed for shunting. Mechanical and electric brakes are fitted, also the latest system of forced lubrication to the engine, the fuel tank is at the rear of body, and is fed to the carburettor under pressure. The maximum speed is 35 miles per hour.[23]

It is not clear how long this unit remained in service. By the 1920s, locally-built locomotives incorporating truck engines and transmissions mounted on wagon frames were in use at the meatworks.

Pleystowe Sugar Mill, Queensland, 1910

In August 1910, a 2 ft gauge 15 hp 1¾ ton locomotive for cane haulage work arrived at Pleystowe sugar mill near Mackay in Queensland from the Britannia Engineering Works in Colchester, England. It was supplied through the agency of Smellie & Co, Brisbane. It used kerosene fuel and was said to be capable of hauling 24 tons on the level. This was the mill's first known locomotive, replacing horse haulage, and was intended to operate on a new line to Habana, the site of a closed sugar mill 12 miles from Pleystowe. The Britannia Engineering Works built oil engines at this time. There is no further record of the use of this locomotive, which may have had some difficulty performing to expectations considering the heavy grades in the Habana area and the lengthy distance to the mill. This was probably reflected in the arrival of a large Fowler steam locomotive in 1911.[24]

The Imperial petrol locomotive, 1911

In 1911, AH McDonald & Co of the Imperial Engine Works, Burnley, in Victoria, built a 5-ton 3 ft gauge 20 hp petrol/kerosene locomotive fitted with a two-cylinder engine of his own manufacture. Coupling rods connected the four wheels. There were two forward gears but only one in reverse so we know that a reversing gearbox was not fitted. It was trialled on timber haulage on the 3 ft gauge Warburton Tramway in Victoria in October 1911 but as it was fitted with a winding drum it may also have been tried on Robinson's logging tramway nearby. Misfortune struck when on test it became derailed and fell into a gully. Recovered by the builder, it was returned to the Imperial Engine Works and in May 1912 was advertised for sale for immediate delivery.[25]

The Imperial Petrol Locomotive. Photo courtesy K. Neal McDonald.

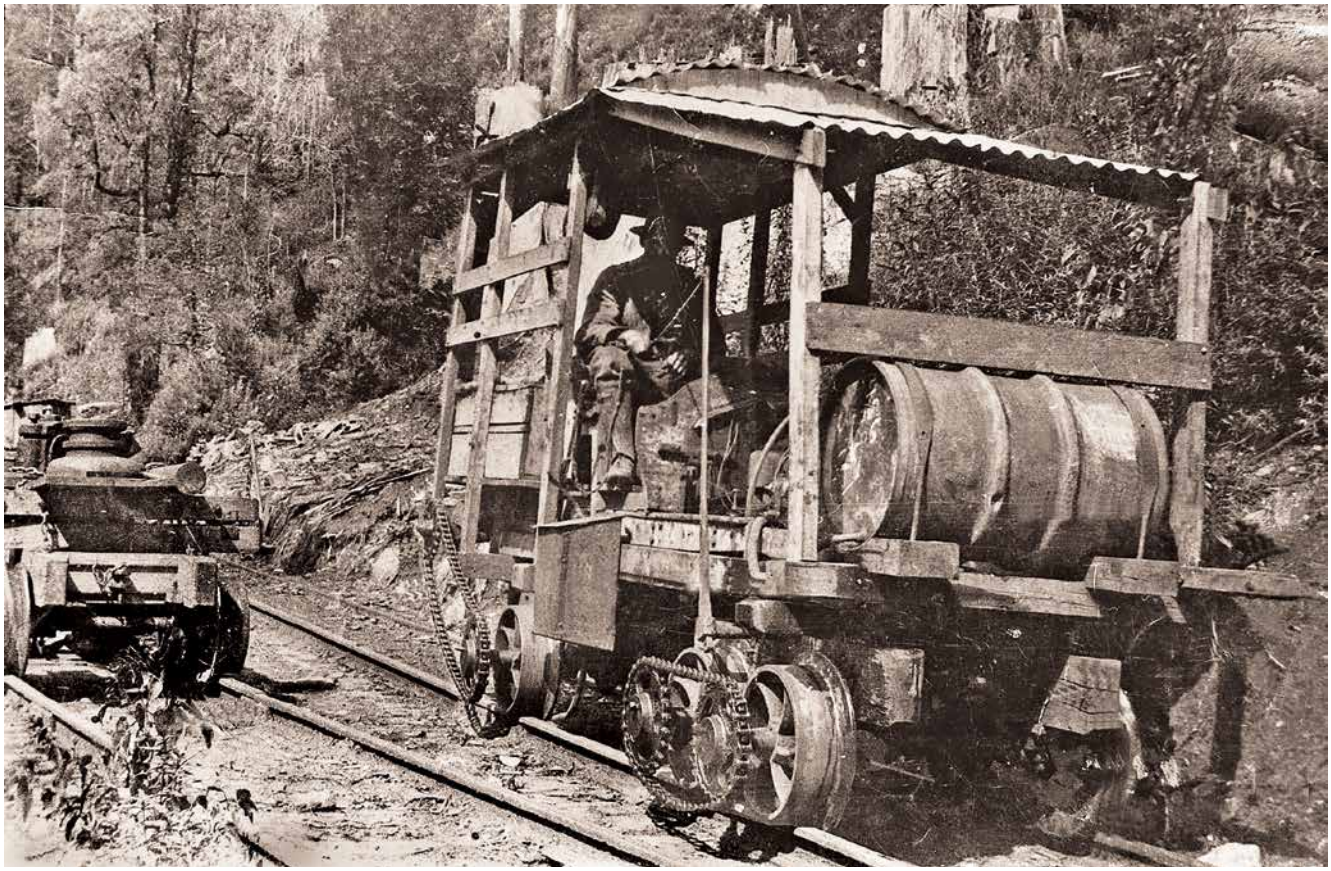
The locomotive remained unsold until June 1914 when it was acquired by Dalgety & Sons to haul wool bales from wool stores to the jetty at Kingston SE in South Australia. It was regauged to 3 ft 6 in and otherwise modified before delivery. In January 1915, it was reported that it was unsatisfactory, with horse haulage having been resumed. The locomotive

The McDonald locomotive in use at Kingston SE. *Photo courtesy K. Neal McDonald.*

was advertised for sale by Dalgetys in March 1915 and again in August 1918. In spite of this it soldiered on in use for many years at Kingston SE, possibly until the 1930s, suitably equipped with rustic timber bodywork and corrugated iron roofing.[26]

Enterprise Sawmill, Warburton, Victoria, 1911

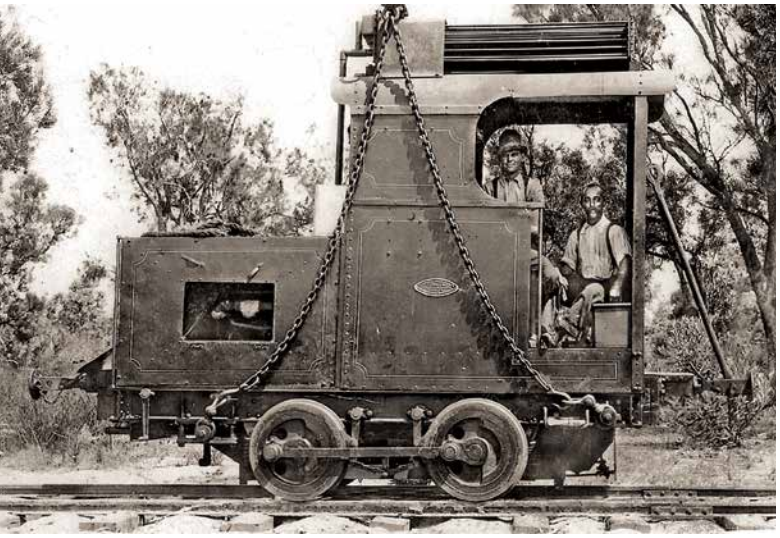
A much more successful 3 ft gauge locomotive at Warburton in 1911 was built by Gilbert Fox, a local blacksmith and mechanic. It was constructed for E A Robinson of the Enterprise Sawmill. It was powered by a car engine from the Deasy Motorcar Manufacturing Company Ltd of Coventry, England. Its unusual configuration featured all axles powered by chains, with a leading bogie and a single wheelset at the rear. Possibly the first successful internal combustion locomotive in the Victorian forests, it worked successfully for more than 15 years and inspired two other similar units built using Fordson engines after World War I.[27] This unit could be of particular significance as the precursor to many heavy articulated internal-combustion locomotives built locally for log haulage on timber tramways in Australia and New Zealand from the 1920s.



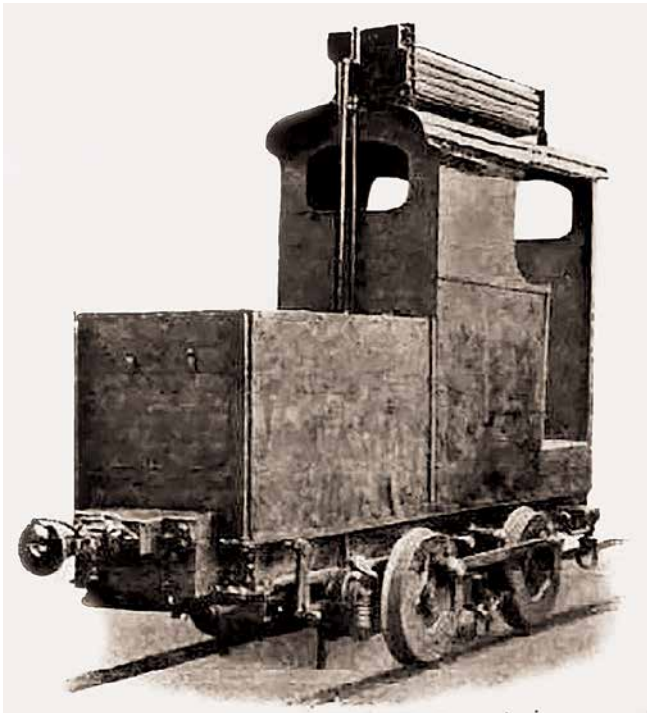
The Gilbert Fox locomotive on Robinson's tramway, Warburton. *Photo: Mrs Bell courtesy Mike McCarthy*

WAGR, Midland Workshops, 1912

In 1912, Charles Price & Sons of Broadheath, Manchester, supplied a 3 ft 6 in gauge 4½ ton 0-4-0PM for use at the Western Australian Government Railways Midland Workshops. Given the WAGR number 23, it could use petrol or paraffin as a fuel and had a 4-cylinder engine. There were two speeds in either direction and the radiator was mounted on the roof. This machine lasted in service until 1934 but was not written off until 1947.[28]



The Charles Price WAGR locomotive of 1912.
Photo: Battye Library 5091B/2



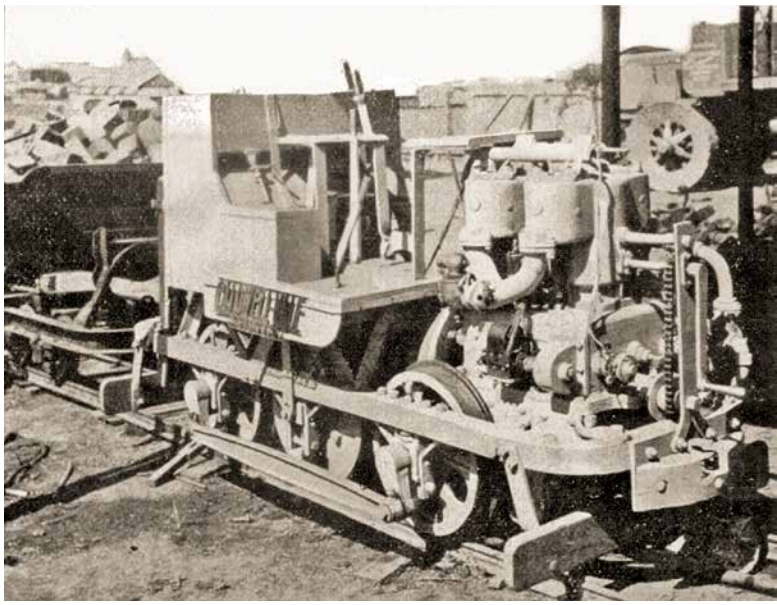
The WAGR Charles Price locomotive as it appeared in 'The Engineer'*, 14 June 1918 p.507 courtesy Robin Waywell*

Caldwell Vale

1912 also saw the emergence of the first of what was probably Australia's most important achievement in early internal-combustion locomotives, the products of the Caldwell Vale Motor & Tractor Construction Co Ltd of Auburn in Sydney. This company was initially formed in December 1910 by Felix and Norman Caldwell of South Australia and Henry Vale & Sons of Sydney. It specialised in four-wheel drive tractors for road and agricultural use as well as locomotives. The initial few locomotives were produced prior to 1914 and were narrow gauge 0-4-0 machines, but many others were built in the years immediately following, including some for overseas export. They were fitted with conventional petrol/kerosene engines and sophisticated gearboxes, all made at the manufacturer's works, and were fitted with coupling rods.

Unfortunately the company's technical brilliance was not matched in the financial and legal spheres and it was bankrupted as a result of hostile legal action, with its production being continued by T Purcell & Co (later Purcell Engineering) from 1916. (Jim Longworth has gathered significant information about these companies and their products and has prepared two articles on the subject for publication in *Light Railways* in the near future.)

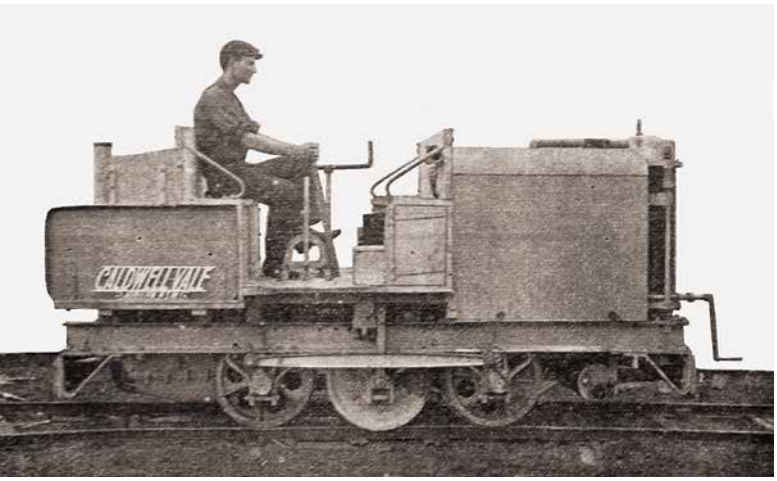
The first Caldwell Vale locomotive was demonstrated at the Auburn works in September 1912 hauling bricks in three wagons that had their wheels spragged. An interesting design feature was a patented centrally-positioned additional double-flanged powered friction wheelset that could be lowered to the track with the intention of improving adhesion at starting and low speed. The prototype locomotive was sent to the Millaquin Sugar Co at Qunaba Sugar Mill in Queensland for trials, hauling cane on what had previously been horse lines laid with 14 lb rails. It was a 2½ ton 30 hp unit for 2 ft gauge and was designed to haul loads of up to 20 tons on a 1 in 20 grade. It had two forward gears but a restricting factor was that there was only one gear in reverse. Overall, the design concept proved to be successful but various problems were encountered showing that the robustness of the transmission needed to be improved. Although the mill sent the locomotive back to the makers because it lacked sufficient adhesion, it ordered another for the 1913 season.[29]



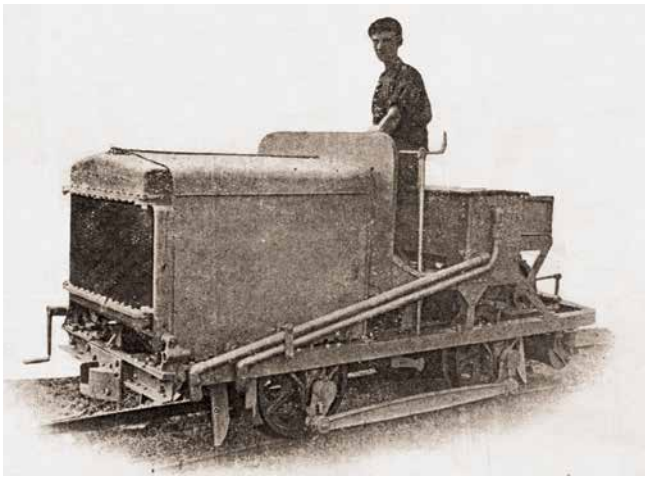
Builder's photo of the prototype Caldwell Vale locomotive at the Auburn works in September 1912.

The 1913 version arrived at Qunaba in July 1913 and with a heavier girder chassis it weighed 3¼ tons. Using the friction wheels it could start a load of 18 tons on a 1 in 20 gradient and was reported to be successfully bringing in loads to the mill on runs averaging 6 miles.[30] The locomotive was purchased for use at Qunaba Mill but there is no known record of its use there in the following years. The mill's first steam locomotive was new in 1915.

Qunaba Mill's Caldwell Vale locomotive hauling sugar cane. *Photo:* Australian Sugar Journal*, 6 November 1913*



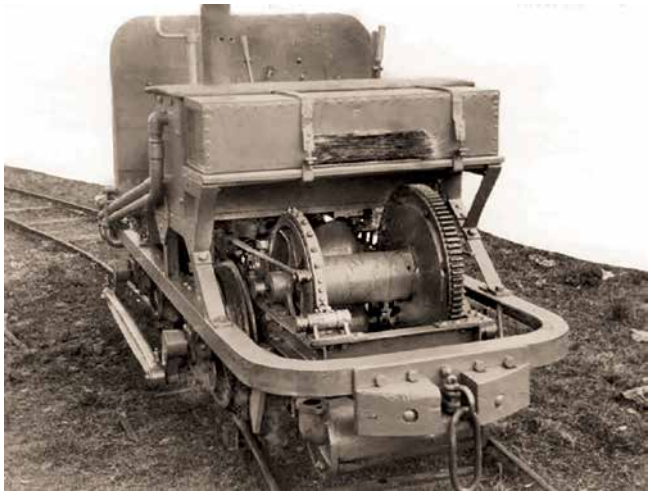
Builder's photo of the 1913 Caldwell Vale locomotive for Qunaba Mill.



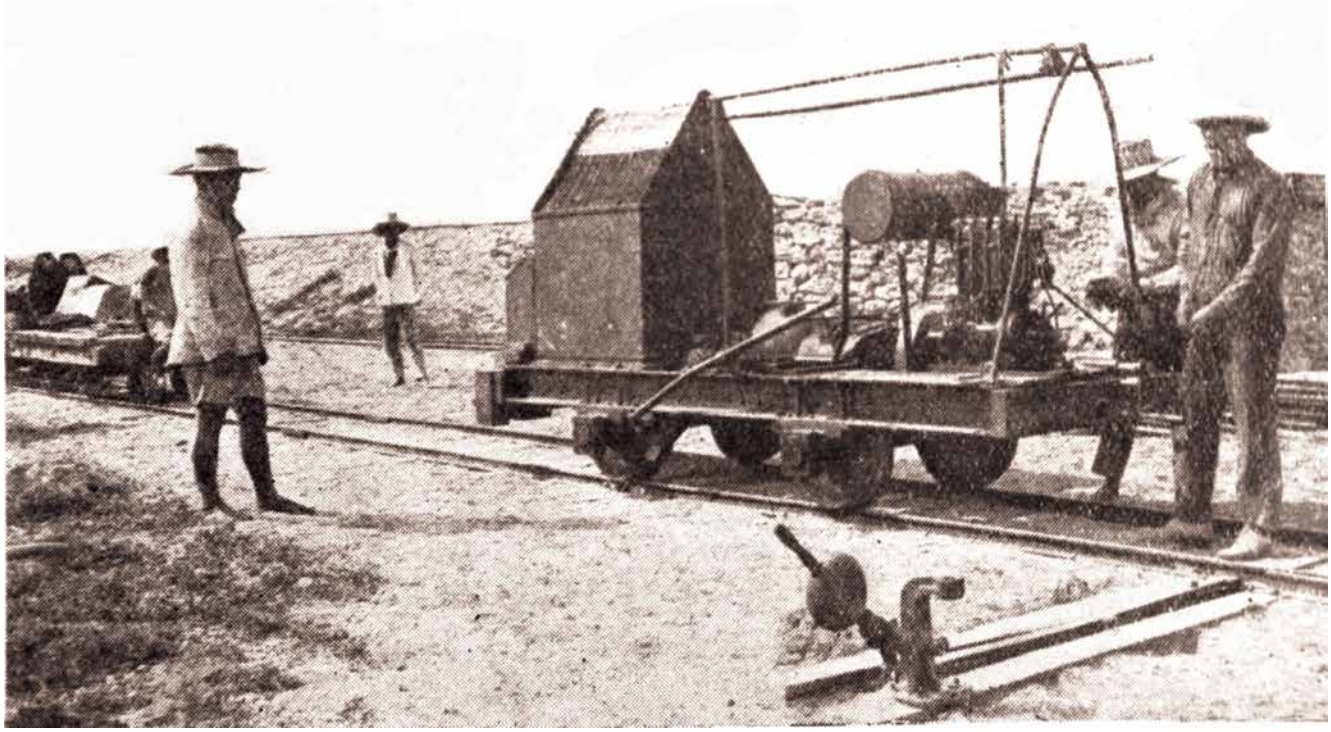
Builder's photo of the North Head quarantine station Caldwell Vale.

Another Caldwell Vale locomotive was supplied in 1913 for haulage on the top level of the tramway system at the Australian Government's quarantine station situated at North Head in Sydney Harbour. The 2½ ton locomotive was powered by a 10 hp engine and operated on 2 ft 3 in gauge track. It did not have friction wheels but was able to haul loads up a steeply inclined ramp through the use of a winch at the rear, which held 1000 ft of ½-inch diameter steel wire rope. It was claimed that the locomotive could haul 1¼ tons up a 1 in 3 incline using this method. Weather protection for the driver was afforded when needed by a removable canopy with dropdown canvas blinds.

Trials began at North Head in May 1913 but it was not until May 1914 that the locomotive was handed over to the Officer-in-Charge. The locomotive remained at the quarantine station for many years, only being advertised for sale in October 1956.[31]



Builder's photo of the quarantine station Caldwell Vale showing the winch drum mounted at the rear.



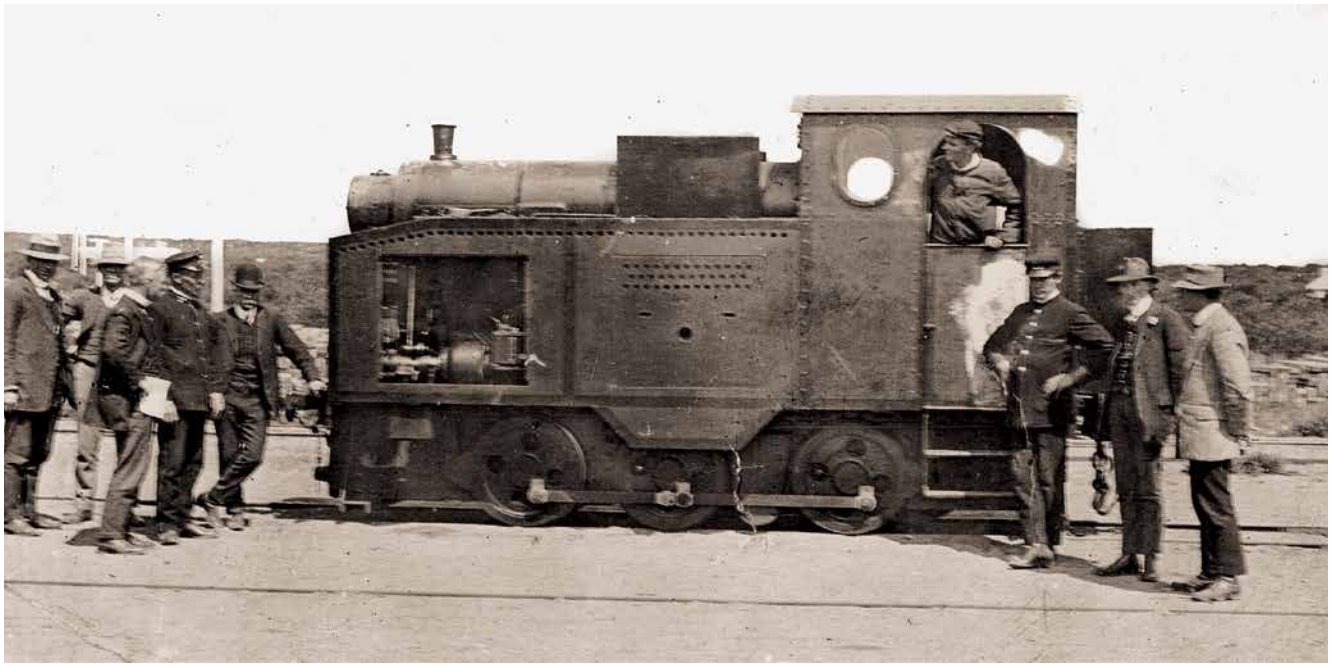
Petrol locomotive in use at Malden Island, Kiribati, in 1924. *Photo:* Sydney Mail *7 January 1925*

Malden Island, 1913

By 1913, a 'motor locomotive' was in use by the Australian company Grice, Sumner & Co for guano extraction on Malden Island (in present-day Kiribati). It seems likely that this came from Australia but few details are known other than that by the start of 1915 it was out of use as the mechanic had left his post and no one else could operate it. A photograph of a locomotive on the island was published in a newspaper in early 1925 and in 1927 it was reported that a 2 ft 6 in gauge 16/20 hp 3-ton locomotive built by Wm. Adams of Melbourne was present on the island, having recently been overhauled in Sydney. This is the same unit that still lies on the island unidentified and in a wrecked condition following experimental British nuclear bomb explosions in 1957, known as 'Operation Grapple'. It is thought that Wm Adams & Co Ltd could well have been agents for the locomotive and given its specialised nature it is quite likely that it is the same one that was reported in 1913. A particularly interesting feature was that because supplies of fresh water were not available on the island, a large 100-gallon water tank for cooling purposes was incorporated into its design.[32]

Ruhrthaler, 1913

In 1913, the German company Ruhrthaler Maschinenfabrik Schwarz & Dyckerhoff Gmbh supplied two notable 3 ft 6 in gauge 0-6-0PM locomotives to the South Australian and Western Australian governments. They were marketed under the 'New Century' brand name by Ironside Sons, & Dyckerhoff of London. Both locomotives were intended for use in locations where access to water and coal supplies was difficult.



The SAR 100hp Ruhrthaler at Port Lincoln in 1914. *Photo: Arnold Lockyer collection courtesy Les Howard*

The larger was a 22½ ton 100 hp locomotive supplied for branchline operation on the South Australian Railways Port Lincoln Division, builder's number 163. It is likely that no internal-combustion locomotive of such power had ever been built before; certainly, none of the German manufacturers had done so. It left the maker's works in May 1913 and arrived at Port Lincoln at the end of July, receiving the number 259 in the SAR fleet. The engine consisted of two independently-operated horizontal Otto cylinders with electric ignition. It was started on petrol and run on kerosene, with starting by compressed air or by hand. The transmission was actuated by a clutch wheel, which took ten rotations to engage or disengage, making stopping an inexact science and changing direction onerous. The locomotive was said to be intended for use on the Darke's Peak line and was designed to haul 50 tons up a 1 in 70 gradient at 8 mph, but it did little work. It was not recorded as having entered service until June 1914 after which it did some shunting work at Port Lincoln. In early 1915 it was sent on a test run on which it suffered a bent driving axle, a disastrous failure possibly caused by operator error. It was left unused at Port Lincoln until removed to Islington workshops where it was condemned in 1923 and its engine removed for stationary use.[33]

The smaller Ruhrthaler locomotive seems to have enjoyed greater success. It was builder's number 191, a 7¾ ton 35 hp single-cylinder unit. It was purchased by the Western Australian Government for use on jetty tramways at north-west ports. Ex works in May 1913, it had still not arrived at its first recorded location, Broome, by the end of the year. This suggests that it may have first gone to Perth for acceptance trials. A newspaper report suggested that it might be temporarily transferred from Broome to Carnarvon in 1915, but it is unknown if this occurred. Other reports state that it was transferred to Wyndham in 1915 and was the first locomotive there, with the tramway being converted to 3 ft 6 in gauge in the 1915-1916 financial year. Steam locomotives arrived at Wyndham in 1917 and 1920.

The locomotive appeared to be well out of use at Wyndham by October 1944. It is still there 75 years later in a line-up of decaying narrow gauge equipment, having spent 20 years of the intervening period in a park at Kununurra.[34] It deserves a better fate.

Pickering's Direct Agencies, Brisbane, 1915

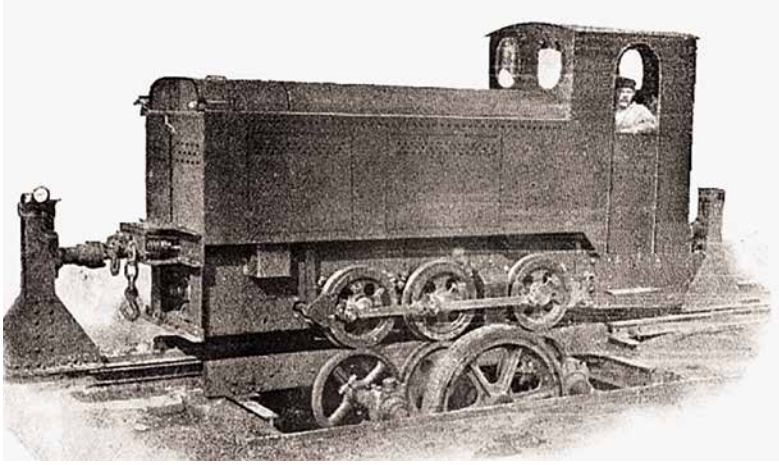
An 8 hp 2 ft gauge petrol locomotive was offered for sale in 1915 by Pickering's Direct Agencies, Brisbane.[35] Given the paucity of possible candidates it is tempting to speculate that it may have been the Britannia locomotive from Pleystowe Mill.

Acknowledgements

This article would not have been possible without the efforts of many researchers, including those whose work is cited in the References. Particular thanks are extended to Kevin Payne for his valued assistance and encouragement.

References

1. Payne, Kevin, 2013. *Practical narrow gauge rail tractors up to World War One* in *The Narrow Gauge* 222, Narrow Gauge Railway Society UK.
2. ibid.
3. ibid.
4. Jehan, David, 2008. *Shays, Crabs and Phosphate* pp.66-67 & 90. LRRSA.
   Thames Star (NZ), 12 December 1913 p.5. https://paperspast.natlib.govt.nz/newspapers/THS19131212.2.35.
   Archdeacon A.N. Williamson Collection, The University of Newcastle, image A5051-005 retrieved from https://livinghistories.newcastle.edu.au/nodes/view/36741 21 November 2019
5. Kevin Payne email 27/06/2015

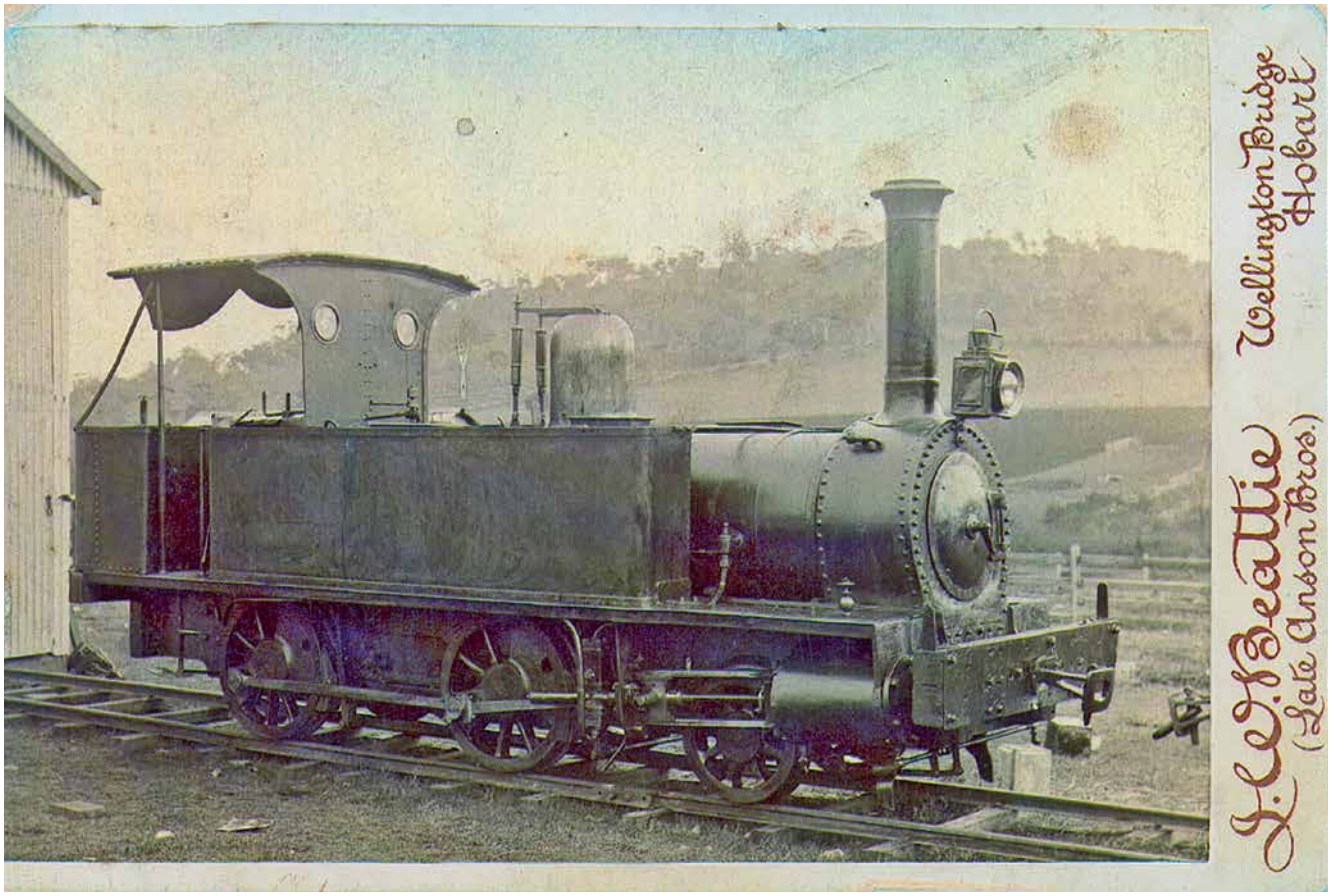


The Western Australian Ruhrthaler on test at the factory in Mulheim, Germany. *Photo courtesy Jens Merte*

The Ruhrthaler photographed at Wyndham in October 1944. *Photo: John Goggs*

6. Webb, Brian, 1973. *The British Internal Combustion Locomotive 1894-1940*, pp.15-21. David & Charles.
7. Payne, Kevin, 2013, op. cit.
8. *The Argus*, 18 December 1884 p.6. http://nla.gov.au/nla.news-article6063401
   The Age, 3 February 1885 p.5. http://nla.gov.au/nla.news-article196961745
   The Age, 23 April 1885 p. 4. http://nla.gov.au/nla.news-article196955587
   The Argus, 21 May 1885 p.6. http://nla.gov.au/nla.news-article6079879
9. Isaacs, Albert 2011. *The Alphington Gas Tram in The Times: Journal of the Australian Association of Time Table Collectors Inc.* No. 331 http://cdn.timetable.org.au/thetimes201110issue.pdf retrieved 7 November 2019.
   The Argus, 30 November 1887 p.3. http://nla.gov.au/nla.news-article7927679
10. *Chronicle and North Coast Advertiser*, 7 August 1903 p.2 http://nla.gov.au/nla.news-article81981983
    Chronicle and North Coast Advertiser, 2 October 1903 p.2. http://nla.gov.au/nla.news-article81984081
    Chronicle and North Coast Advertiser, 25 December 1903 p.4. http://nla.gov.au/nla.news-article81980250
    Chronicle and North Coast Advertiser, Friday 11 March 1904, page 4 http://nla.gov.au/nla.news-article81982317
11. Drake, Norman, 2019. *Railways for Recreation* in *The Narrow Gauge* 253, Narrow Gauge Railway Society UK.
    The Australian Star, 15 December 1903 page 3. http://nla.gov.au/nla.news-article228613547
12. *Punch*, 22 December 1904 p.33. http://nla.gov.au/nla.news-article175406996
13. Information received from Peter Medlin.
    The Australasian, 18 March 1905 p.29. http://nla.gov.au/nla.news-article139802649
    Healesville and Yarra Glen Guardian, 1 November 1901 p.6 http://nla.gov.au/nla.news-article60047855
14. Longworth, Jim, 1996. *A research report on the creamery tramway at Byron Bay* in *ARHS Bulletin* 708.
    Northern Star, 17 February 1904 p.4 http://nla.gov.au/nla.news-article71842494;

Brisbane Courier, 24 February 1904, p.6 http://nla.gov.au/nla.news-article19267167;
Northern Star, 22 December 1906, p.7 http://nla.gov.au/nla.news-article71856501
15. *The Sydney Morning Herald*, Tuesday 11 December 1906, p.10. http://nla.gov.au/nla.news-article14821702
Thorpe, NJ, 1969. *The Botany – Rockdale Sewage Farm Railway* in *ARHS Bulletin* 382.
16. *Daily Mercury,* 21 September 1907 p.4 http://nla.gov.au/nla.news-article176295197
Racecourse Central Mill Company Minutes 20/6/1907, 26/9/1907, 10/10/1907, 24/10/1907 & 23/4/1908 from the John & Ruth Kerr history database available on line at https://espace.library.uq.edu.au/view/UQ:381888
17. *Johnstone River Advocate*, Wednesday 11 March 1908, p.2 http://nla.gov.au/nla.news-article217049191
Armstrong, J & Verhoeven, G.H. 1973. *The Innisfail Tramway*. ARHS Queensland Division.
18. *Australian Sugar Journal*, 13 January 1910, 6 October 1910 & March 1911.
Daily Mercury, 13 June 1912 p.6. http://nla.gov.au/nla.news-article168632613
Kerr, John, 1988. *A Century of Sugar*, p.87-88. Mackay Sugar Co-operative Association Ltd.
Daily Mercury, 22 August 1910 p.7 http://nla.gov.au/nla.news-article170542354
19. *Australian Sugar Journal*, 13 January 1910.
20. Longworth, Jim, 2015. *Amusement Railways of Australia*. Transit Australia Publishing. pp.101 & 140
Punch, 4 February 1909 p.27. http://nla.gov.au/nla.news-article176022640
The Advertiser, 8 March 1910 p.10. http://nla.gov.au/nla.news-article5241511
The Register, 19 March 1910 p.15. http://nla.gov.au/nla.news-article57371418
The Register, 1 April 1910 p.5. http://nla.gov.au/nla.news-article57380865
The Advertiser, 29 April 1910 p.10. http://nla.gov.au/nla.news-article5262989
The Bacchus Marsh Express, 15 October, p.3. http://nla.gov.au/nla.news-article90169157
The Argus, 5 November 1910 p.5. http://nla.gov.au/nla.news-article10474536
21. *Australian Sugar Journal*, 3 November 1910.
Bundaberg Mail and Burnett Advertiser, Friday 6 May 1910, page 3 http://nla.gov.au/nla.news-article216816764
22. *Australian Sugar Journal*, 9 April 1920 p.31.
23. *The Northern Miner*, 6 December 1910 p.6. http://nla.gov.au/nla.news-article80273423
Morning Bulletin 10 October, 1910 p.7 http://nla.gov.au/nla.news-article53195487
The Capricornian, 10 December 1910 p.48. http://nla.gov.au/nla.news-article68887048
24. *Australian Sugar Journal*, 7 April 1910 & 4 August 1910
Cairns Post, 30 March 1910 p. 2 http://nla.gov.au/nla.news-article39385809
The Northern Miner, 1 August 1910 p.3 http://nla.gov.au/nla.news-article80260859
The Northern Miner, 8 September 1911 p.2. http://nla.gov.au/nla.news-article80358541
Richard Carr's Paxman History Pages: Britannia Works, Colchester http://www.paxmanhistory.org.uk/paxbrit.htm retrieved 8 November 2019
25. McDonald, K. Neal, 1984. *An Unusual Locomotive* in *Light Railways* 83.
McDonald, Kenneth Neal, 1995. *A.H. McDonald, Industrial Pioneer*. Kenneth Neal McDonald pp.87-89.
McCarthy, Mike, 2001. *Mountains of Ash* p.174. LRRSA, Surrey Hills, Vic.
Weekly Times, 18 May 1912 page 44. http://nla.gov.au/nla.news-article224851315
26. McDonald, K. Neal 1984 & McDonald, Kenneth Neal, 1995 as above.
The Advertiser, 15 March 1915 p.14. http://nla.gov.au/nla.news-article5452127
The Advertiser, 27 August 1918 p.2. http://nla.gov.au/nla.news-article5584838
27. McCarthy, Mike *op.cit*. p.71.
28. *The Locomotive Magazine And Railway Carriage And Wagon Review*, March 15 1911 p.59-60
WAGR locomotive record card courtesy Adrian Gunzburg
29. Letter dated 2 November 1912 from D.J. Rees to Messrs Caldwell Vale regarding the trials conducted at Qunaba Mill.
Motor Traction. Caldwell Vale Motor & Tractor Construction Co Ltd publicity leaflet, 1913
The Sydney Morning Herald, 27 September 1912, p.7. http://nla.gov.au/nla.news-article28127373
Cumberland Argus & Fruit Growers Advocate, 23 October 1912 p.12. http://nla.gov.au/nla.news-article86138668
Armstrong J, 1985. *Millaquin Sugar Mill Tramways* in *ARHS Bulletin* No.573.
Sadler R, 1985. *Some Caldwell Vale Locos* in *Sunshine Express* No.235
30. *Australian Sugar Journal*, 6 November 1913
Australian Sugar Journal, 5 November 1914.
Armstrong J, *op.cit*.; Sadler R, *op.cit*
31. *Vanguard Internal Combustion Locomotives*. Purcell Engineering Co Ltd publicity leaflet c.1923
Longworth, Jim, 2007. *Quarantine Station, North Head, Sydney* in *Light Railways* 198
The Argus, 6 October 1956 p.23. http://nla.gov.au/nla.news-article84390094
32. *Evening Post* (Wellington NZ), 28 October 1913 p.6. https://paperspast.natlib.govt.nz/newspapers/EP19131028.2.56.5
Daily Telegraph, 2 January 1915 p.11. http://nla.gov.au/nla.news-article151972056
Sydney Mail, 7 January 1925 p.33. http://nla.gov.au/nla.news-article159722397
UK National Archives File T 161/38/5 COUNTRIES. Western Pacific: Leasing of Malden Island, Western Pacific, 1924 Nov 11-1927 June 17, courtesy Chris West.
33. Knife, Peter, 2006. *Peninsula Pioneer*, pp.215-218. Peter Knife.
Holden Ralph, 2006. No.259: *The curious history of a forgotten locomotive*. Railmac Publications. (This books contains much speculative content).
West Coast Recorder, 6 August 1913
34. Crellin, Ian and Stamford, Frank 1978. *North west Coastal Tramways: Wyndham* in *Light Railways* 59
Lockyer, Arnold, 2005. *Dyckerhoff locomotives in Australia* in *Light Railways* 184
Austin, Jeff, 2018. *Baxter & Prince Mills, WA* in *Light Railways* 262
Knife, Peter *op.cit*. pp.218-219; Holden Ralph, *op.cit*.
Chronicle, 11 January 1913 p.38. http://nla.gov.au/nla.news-article88734070
The West Australian, 30 December 1913 p.9. http://nla.gov.au/nla.news-article26893993
Northern Times, 13 June 1914 p.8. http://nla.gov.au/nla.news-article75103897
35. *The Brisbane Courier,* 4 September 1915 p.10 http://nla.gov.au/nla.news-article20055916
2 Steam locomotives, 2ft x 2ft. 6in. gauge; 1 petrol locomotive, 2ft. gauge; 8 h.p. . . . Pickering's Direct Agencies, 305 Queen-street, Brisbane.



The photograph that started the investigation for this article is of TMLR No. 11. The location is thought to be at a temporary siding at Risdon Road station, today's suburb of New Town, circa 1892. *Photo.: Beattie Photo, Tony Coen Collection*

Tasmanian Main Line Railway

Reviewed history and locomotive updates

Part 1 – Early history and the Fox Walker locomotives

by Tony Coen and Greg Johnston

Introduction

For a main trunk transportation link, the Tasmanian Main Line Railway (TMLR) was always going to be remembered in history as a rickety and shabby railway line with too many sharp curves, steep grades, light-weight rails and locomotives that were grossly unsuitable for the tracks that were to carry them.

Linking Tasmania's Hobart Town with the northern city of Launceston, any history associated with this 133-mile-long railway could conceivably be deemed to be a subject for a magazine devoted to "big" railways. The authors pondered on this matter, but considering the light-weight construction of the track and the complex lives of TMLR locomotives, several of which worked or ended their days on construction and industrial systems, it was decided that *Light Railways* was a more fitting place to publish their article.

The authors also wish to convey their whole-hearted appreciation to Andrew Dix, Ken Milbourne and H J W (Jim) Stokes for sharing their huge amount of knowledge and notes, much of which provided "starting blocks" for finding more information on many little-known incidents and events, hitherto virtually unknown to historians.

Some readers might think that there has been enough told and written about this antiquated rail system and its engines. But, as shall be seen, there is much more that has been dragged from the depths of archives and which sheds more light on many of the dark and unsolved mysteries associated with TMLR and in particular, its motive power.

Whilst this article primarily discusses the various engines, their alterations, their capabilities and their fates, there are several references to infrastructure items that were previously unfamiliar to the authors. Similarly, the associated stories of the locomotives continue on to other organizations, such as Tasmanian Government Railways (TGR) and Public Works Department (PWD). End notes are frequently used to enable the reader to ascertain the origins of facts and events.

The inspiration to investigate and write the facts and figures herein was driven by the Beattie photograph at the head of this article. It was presented to one of the authors a number of years ago by a rail enthusiast colleague. The engine in the picture was quickly identified as one of TMLR's two Fox Walker built locomotives, but its converted condition and the photograph's location engendered inquisitiveness that had to be investigated.

The first chore was to find the photograph site. Exhaustive inspections over the years to places like Ravenswood on the Derwent Valley line, Eastern Marshes Road on the Oatlands Line, Evandale and New Town eventually presented only one choice, that of Risdon Road station (today's New Town).

The track beneath the engine is temporary, the coupling of another vehicle is visible in front of the engine and the shed is obviously a portable building. To this day, the purpose of the structure is not known; it may have been a contractor's workshop used for specific repairs and maintenance for railway rolling stock.

The locomotive appears to have been well used, which indicates that it was not new. Because, as shall be shown, it had

been converted to a tender engine, and since the photograph shows it in original above-the-frame form, questions needed to be asked and answers sought. Apart from one or two single sentence comments in earlier *Light Railways* magazines that hinted at the fact that at least one of the Fox Walker engines was rebuilt as a tank engine, it was not general knowledge that any of them ended their days as tank engines. This trend of unknowns, which was similarly not noted by researchers, spread to other locomotives' histories as a consequence of the authors' investigations. This, then, became the theme for producing this article.

Additionally, the authors were keen to trace the story of contractors' engines working in Tasmania. Many of the TMLR locomotives were indeed doing that kind of work during the course of their lives and that was the added attraction to compile this narrative.

Summary of TMLR's tenure in Tasmania

On 15 March 1872, contracts were signed between the Tasmanian Colonial Government, the London-based Tasmanian Main Line Railway Coy. (TMLR Coy.) and Messrs. Clarke, Punchard and Reeve (CP&R), the latter being the contractor engaged to build the Railway. Work commenced on construction in January 1873[1].

Many difficulties were experienced along the route, resulting in the time-frame for completion being extended to 1876. However, train services began running to the extending rail-heads from around mid 1875 and the first through passenger service arrived at Launceston from Hobart Town on the official opening day of 1 November 1876[2].

Launceston station was located on acquired land on the southern side of the North Esk River and opposite the Launceston and Western Railway (L&WR) Launceston station on the northern river bank. To access the yard, the TMLR and the L&WR agreed to a joint occupation of the broad gauge railway line between Evandale Junction and Launceston Junction, the latter being the point of divergence for the line to the TMLR station. A third rail had been added to the broad gauge during 1874, thus allowing much needed access to the main line south of Evandale Junction for delivery of construction materials[3].

Two early locomotives plus another seven larger engines, all of which were destined to be service locomotives, were imported for use as construction engines by the Contractor[4]. Whether TMLR Coy. or CP&R purchased them has not really been ascertained, but there may have been an arrangement for the Contractor to supply initially, with hand-over after the job was completed and settlement occurred. The TMLR Coy. certainly owned all of the locomotives from 1876 onwards.

Whilst the whole railway line had been beset with poor quality workmanship and below-standard rolling stock and locomotives from the outset, TMLR managed to provide its intended service, and gradually improved both the infrastructure and stock until it was sold to the Tasmanian (Colonial) Government in 1890. That process was inevitable, particularly since TGR already had three of its own branch lines figuratively isolated from one another; taking over the TMLR thus ensured that the State's network was operated and managed as one entity. The L&WR had been converted to 3 ft 6 in gauge since 1888 and special transition couplings allowed TMLR and TGR stock to work together until all vehicles were fitted in the same manner.

The earliest known photograph of a Tasmanian Fox Walker locomotive shows it after having been taken into full control of TMLR in 1876. Pictured at the Coal Mine Bend derailment scene on 24 April 1877, it is already carrying its TMLR No. 11 plate, and is still a 2-4-0T engine. It did not become a tender engine until circa July 1877. Whilst looking an almost write-off, TMLR locomotive No. 5 lying in the creek was repaired and returned to service. *Photo: TAHO NS1013-1-11*

The photograph of Queen's Wharf was taken during 1886 as construction of the new Customs House, opened in the same year, is visible behind the sailing ships. On the right in the Nth. Esk River is the TMLR Wharf, and brand new PS Tamar *rests alongside a sailing ship in the centre of the picture.* *Photo: Tony Coen Collection*

TMLR Wharf Railway

The L&WR's financial situation was such that its assets and operations were taken over by the Colonial Government on 3 August 1872, only eighteen months after its opening. The Government had purchased the Railway by 31 October 1873, and the title of Tasmanian Railways most likely applied to publicly owned railways from that time onwards. Tasmanian Government Railways was officially declared in November 1885.

However, the 5 ft 3 in gauge Launceston to Deloraine Railway retained its original L&WR name and employees. A report by its Engineer, W. Batchelor, on 1 November 1872, related that the TMLR contractor had laid track from L&WR station at Launceston to the bank of the North Esk River and erected a commodious wharf on the river at which to unload plant and material for transfer to the adjacent shops and stores[5].

This revelation was an intriguing find. Recently unearthed photographic evidence has provided fairly accurately dated views of the very same railway track and wharf, and a PWD drafted plan of June 1892 of the same with the proposed TGR Railway Wharf superimposed thereon also came to light.

The description of the Wharf Railway stated that two tracks crossed the George Town Road to the low-lying ground alongside the northern bank of the North Esk River. The southern-most track split into two tracks on the western side of the road. The northern one of them ran to an area where a storage yard was located and it connected up in a trailing manner with the southern track near its terminus. The southern track looped around the foreshore, partly on elevated and piled track over swampy ground, across the wharf and back towards the northern track as described above. On the wharf, a wagon turntable was fitted to allow trucks to be hand-shunted to a right-angled siding during loading processes[6]. The northern-most track from the L&WR yard headed in a north westerly direction to a storage shed and workshops. Most of the above is visible on the 1892 attached wharf plan.

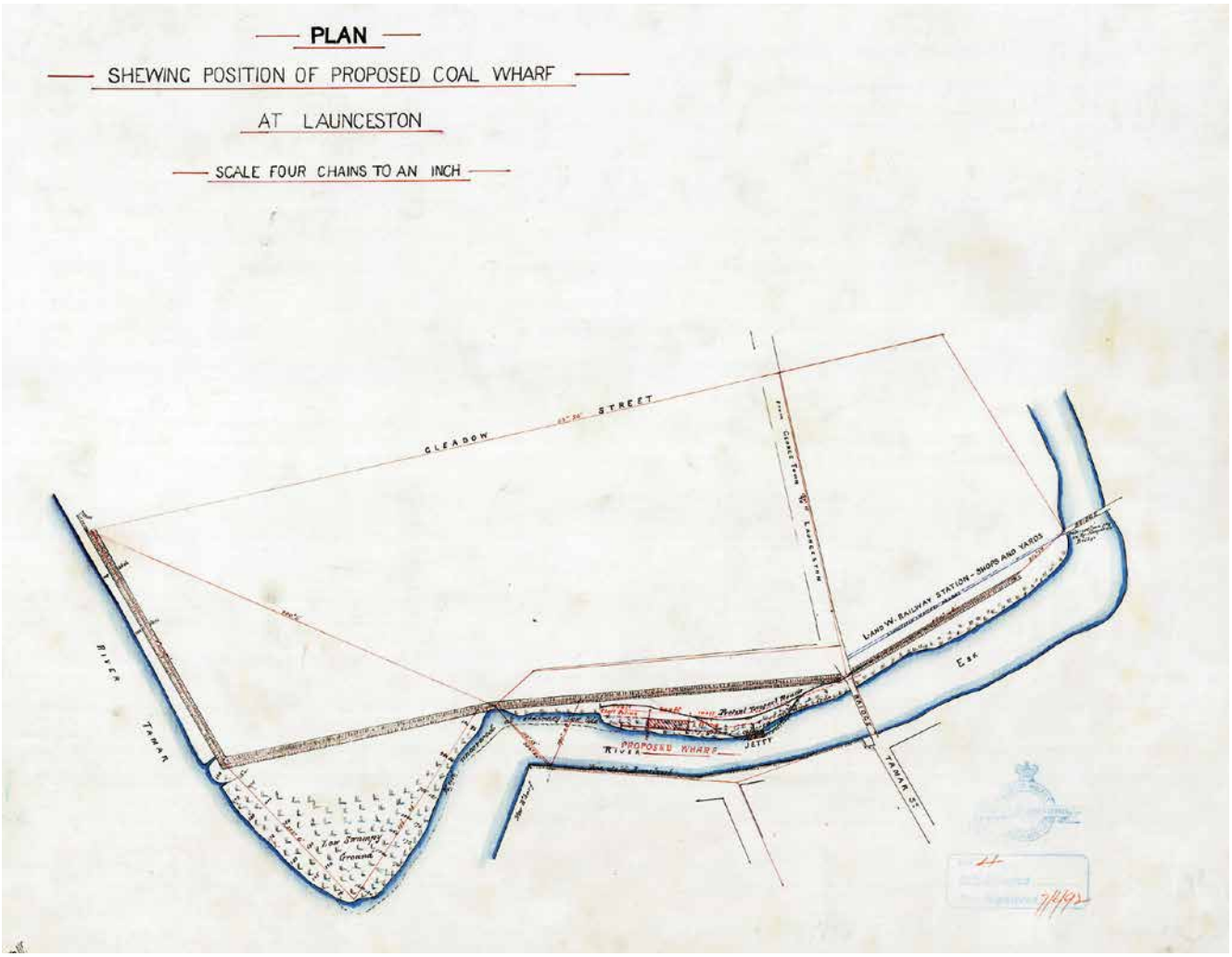
The interesting fact about the Wharf Railway was that the tracks did not appear to extend south beyond the L&WR station yard. Careful scrutiny of the plentiful number of photographs (taken circa 1883) of L&WR rolling stock in that yard did not verify any narrow gauge track on the river side of the broad gauge rails. Lines did appear to stop at a mound of dirt, which was possibly erected as a buffer by the L&WR.

As the dual gauge track from Evandale Junction to Launceston was constructed before the TMLR acquired the Cimitiere Street land for its terminus, there remains the question as to where the third rail's northern terminus really was located. At least four of the Hunslet engines were delivered to Evandale Junction via the dual gauge track during 1874[7], which means that some sort of 3 ft 6 in connection existed between the northern end of the dual gauge and the tracks across George Town Rd.

It is known that the TMLR had not secured a site for its northern terminus until November 1875, when an arrangement to utilise the area of land between the North Esk River and Cimitiere St. was drawn up[8]. The TMLR had been hoping to either share the L&WR terminus or obtain land immediately to the north of that station at Invermay.

Taken between 1877 and 1886, this view shows the dilapidated north and south tracks of TMLR Wharf Railway; northern line is at extreme left bottom corner. TMLR Locomotive Shed is visible at centre left above 3rd span of bridge. Photo: TAHO LPIC147-1-171

The appearance of Bass Strait steamer Coogee dates this photograph to post 1888 and prior to 1899, when the new Victoria (Tamar St.) Bridge was commissioned. The tracks of TMLR Wharf Railway are visible on the right hand side. Steamer on the left is ST Wybia, built 1886. Photo: TAHO LPIC147-5-195



TMLR Wharf on the northern bank of the North Esk River. The black tempory. (sic) lines indicate the TMLR track-work and a magnifying glass will enable the wagon turntable on the wharf to be more easily discernible. This segment of PWD drawing No. 4, registered on 7 June 1892, shows the planned Railway Wharf in red colouring. *Image: Greg. Johnston Collection*

All of that explains the reasoning behind the wharf and storage area at Inveresk. It is, therefore, logical to accept that the third rail did indeed continue north and through the L&WR Launceston yard, probably on the river side, until sometime after the TMLR station and yard were completed during 1876 on the south side of the River.

It is also known that broad gauge trolleys or well-type wagons were used to transfer rolling stock from Launceston to Evandale Rd., and from there the first sections of the northern section of TMLR were commenced. The Fox Walker locomotives were stored in a shed somewhere, possibly at the stores described in the make-up of the Wharf Railway. They were landed from barque *Westbury* on 1 November 1872[9] and one was transferred on a low wagon to Evandale Rd. via the L&WR in November 1873[10].

No mention was made of the landing place of the first locomotives! In fact, most reports of engines being unloaded from ships at Launceston referred to Queen's and Town Wharves, and the machines, stripped down, were towed by horses along short pieces of portable track sections to the storage area. The L&WR at Invermay is described as a destination for newly arrived engines in one case[7].

Only two written records have so far described the railway's use.

Not long after it was constructed, barque *Araunah* arrived at the wharf with a full load of railway construction material, including heavy machinery, wagons and about fourteen hundred lengths of rail[11]. *Araunah* and another vessel from the same shipping line returned in January 1873 with similar loadings, but reports do not indicate their landing place, although it would be logical to presume that the TMLR's wharf was used[12].

It is known that many rails were quickly dropped alongside the L&WR between Launceston and Evandale Road in readiness for dual-gauging[13].

The only other reference to the railway's use is in January 1887 when a TGR Beyer Peacock B or C class locomotive shunted trucks of material from the Esplanade to the new line, which was a reference to 3 ft 6 in gauge track-work in the L&WR Launceston yard. A new connecting 3 ft 6 in gauge line was installed along the L&WR main line between the old Wharf Line and the TMLR third/dual gauge track in 1884[14].

"Esplanade" is the key word here because the suburb of Inveresk along the northern river bank was and is, known as The Esplanade. The TMLR Wharf Railway was still in existence at that time, but it was in poor condition and was ultimately replaced by the TGR's Launceston Wharf Line, which initially only ran from Launceston TGR yard to Railway Wharf, erected in 1891 - 92.

Misconceptions with the history of TMLR locomotives

As is often the case when attempting to gain factual information on events that occurred a century or more ago, the old "hear-say" solutions to unknown matters from those times creep in and totally bewilder the researcher. On other occasions, those

One of the Fox Walker 2-4-0 locomotives working a northern-bound mixed train around Brodribb's Curve (about two miles south of Campania) during the period that the Fox Walker engines were hauling regular passenger and express trains around late 1870s and early 1880s.

Photo: Andrew Dix Collection

solutions have been around for so long that they just do not get challenged and are simply accepted as the truth. Every now and then, something innocently discovered and obviously different to a subject's previously accepted facts pops up, thus creating a flurry of activity to trace evidence to either confirm the "known" facts or dispel them altogether.

This article shall now deal with several of those anomalies. A full and updated profile of each TMLR locomotive is tabled at the end of this article, and also in Part 2.

Fox Walker locomotives Nos. 10, 11

Continuing with the Fox Walker locomotive photograph that had started this discussion, it had been commonly believed that both of the Fox Walker engines were disposed of by the TMLR as tender engines. Assumptions also inferred that both locomotives were fitted with leading 4-wheel bogies[15].

Yet, an 1890 photograph exists of the Fox Walker engine that was sold to the Day Dawn Gold Mine, Queensland. It was in tank engine form and identical to the locomotive in the Risdon Road image. Unfortunately, the front end of the locomotive is hidden by a stack of pit props, preventing any confirmation one way or the other of the make-up of the leading bogie.

A suggestion that Nos. 10 and 11 might have been rebuilt as tank engines for local work in their later years was also followed up. By 1884, the two remaining ill-designed Neilson engines were designated passenger engines and were possibly "trusted" to haul local trains, which were prevalent in 1884 – 1885. With further modifications in 1887 and 1889 (see under Neilson locomotives in Part 2), they were utilised on express services in conjunction with Hunslet No. 9, but they had already been occasionally working those trains prior to alterations. Additionally, Hunslet locomotives Nos. 2nd 14, 15 and 16 had been working passenger trains since their introduction in 1884. It is conceivable to think that the older Nos. 10 and 11 would have been better utilised on local runs and, therefore, might have been altered back to tank engines around that time.

No. 10 was hired to the contractor of the Deloraine to Formby Line and arrived at Formby (Devonport) on 23 December 1884[16]. On 3 January 1885, it became the first steam locomotive to haul a train (ballast) on the line when it worked from Formby to Spreyton district[17]. Several weeks later, the locomotive's tender derailed at King's Bridge, Latrobe[18]. It is possible that, as a tank engine, No. 10 ran with a made-up tender for extra fuel purposes.

When these locomotives were stripped down to reduce their weight, their side tanks and bunkers were fitted to new tenders built in the Hobart Workshops[19]. The new tenders allowed the engines to travel the full distance between Hobart Town and Launceston without taking on coal at Antill Ponds[20].

In the Queensland photograph, there appears to be lining around the tank, but nothing shows up on the Beattie picture, suggesting that a repaint occurred.

No records had been found of any alterations to No. 10's structure since it left contractor roles in 1886 and its sale to Queensland in the same year. The engine left Hobart on SS *Mangana* on 10 July 1886[21].

No. 11 had become a 4-4-0 locomotive in 1877[22], according to "accepted fact", and was sold to the Derwent Valley line contractor in 1885. Confirmation that the engine's leading bogie was indeed rebuilt with a 4-wheel configuration has not come to light.

When Thomas Midelton was sacked from his role as Locomotive Superintendent with TMLR on 4 April 1878, neither Fox Walker engines had been altered to 4-4-0, although it was his intention to carry out that alteration[23]. There is, however, a photograph of No. 10 as a 2-4-0 tender loco. in Lou Rae's book *Emu Bay Railway*, page 89, and that image was probably taken shortly after the locomotive's conversion. A further photograph of a 2-4-0 hauling a train and another showing one of them in Hobart yard have recently appeared.

The Risdon Road photograph came with a Beattie backing-card. Beattie's Photographic Studio was formed in 1891 after it had taken over the older firm of Anson Bros., which was established in 1880[24]. Obviously, Beattie could not have been responsible for any original pictures of a Fox Walker locomotive, and if Anson Bros. had taken the photograph, then it could only have been captured after 1880, by which time the Fox Walker engines were tender locomotives regularly hauling express trains.

In fact, Midelton declared that Nos. 10 and 11 were the best engines in the fleet[25].

When comparing the photographs from Beattie, and Rae's *Emu Bay Railway*, there are some subtle differences between the locomotives. Things like the angle of the control rod for the whistle, the brass funnel cap, safety valve cap, cylinder

oilers and the *coup de grace* being the number of corrugations of the iron cab roof, provide the view that the "Risdon Rd." photograph is of No. 11.

The result of this exercise appears to be that TMLR 10 was working as a tender engine right up to a short period, probably around 1884, prior to its sale to Queensland, as was No. 11 before its sale to the Derwent Valley line contractor. It is almost certain that neither of the locomotives ever carried a 4-4-0 wheel arrangement.

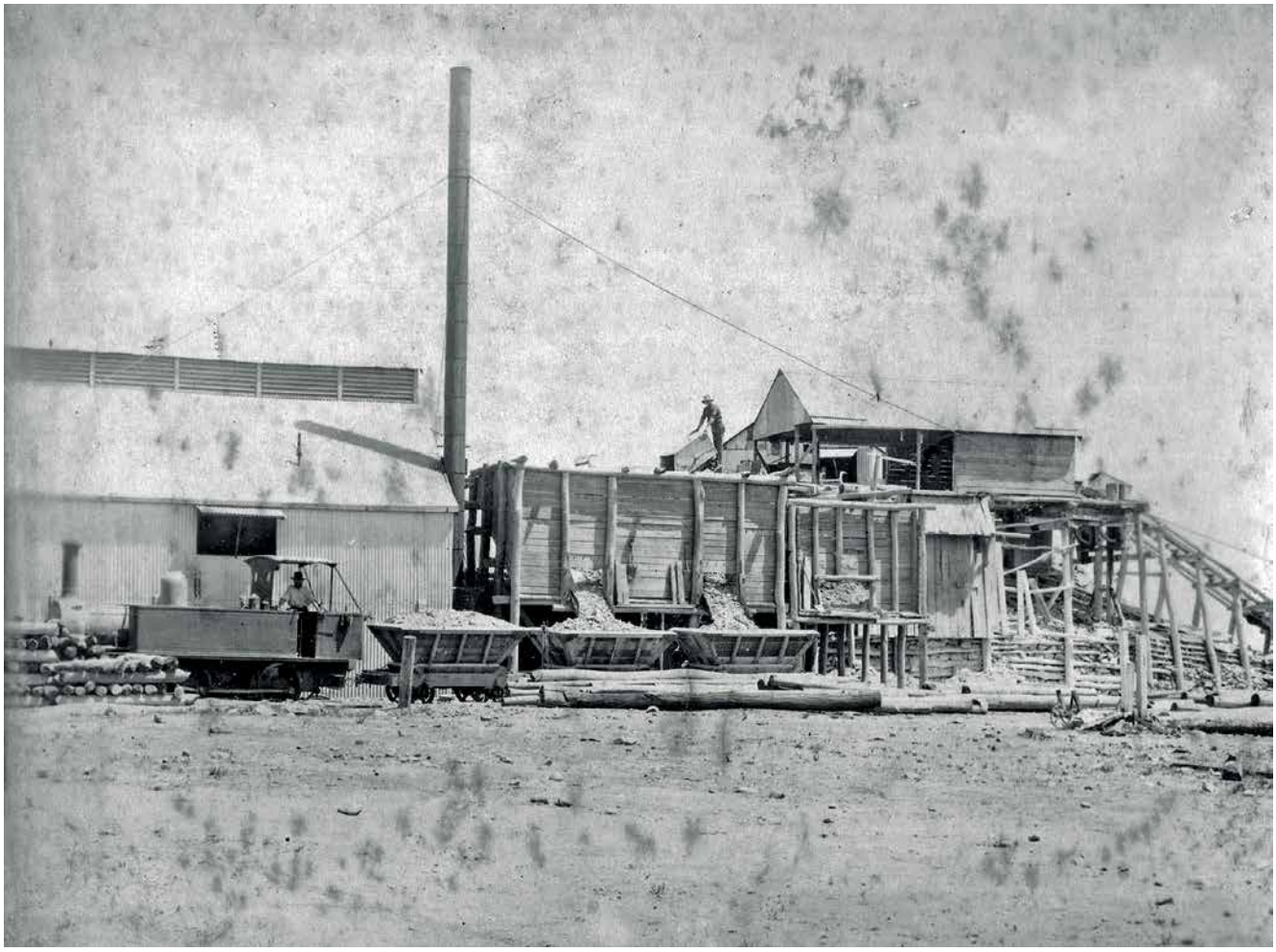
Conversely, the notice advertising No. 11's sale in 1892 stated that, amongst other things, it had side tanks and a newly turned leading pair of bogie wheels[26]. The word "pair" is presumed to infer that there were two wheels and not two wheel sets (four wheels). Side tanks point to a tank engine and it must also be considered that TMLR wanted to dispose of the Fox Walker locomotives as tank engines. After all, their original tanks were in stock.

No. 10 was sold to Langlands' Foundry, Melbourne, and then on-sold to Day Dawn Gold Mine[27]. It is also possible that the Queensland buyers may have wanted a tank engine and the re-conversion took place within Tasmania before it left the State. Considering that No. 10 had not long returned from construction work on the Fingal Line and that it departed Hobart for the mainland in July 1886, there would not have been much time to perform the conversion.

In conclusion, the mystery image is very likely an official Beattie photograph of TMLR No. 11 for its 1892 sale prospectus. What the engine was doing at New Town is not known. It belonged to Patterson (Sorell Line contractor), but it probably had to vacate whatever storage facilities that were available on the Sorell Line following its completion. As it was 1897 before the engine's sale to the Emu Bay Railway Coy., Patterson may have established a storage depot at Risdon Road station yard.

Having mostly solved the later lives of the Fox Walker locomotives, further research is needed on the start of their time in Tasmania. Common writings have for years asserted that the engines were built as 0-6-0T locomotives. Some historians have questioned the validity of that. A letter received by Jim Stokes from a member of the Stephenson Locomotive Society in 1963 stated that the engines' wheel arrangements were 0-6-0T, but it went on to add other data that has been the subject of debate already in this article.

Additionally, an article on the history of Fox Walker locomotives, particularly small tram-type engines, goes on to describe 6-coupled locomotives as anything from 2-4-0 to 0-6-0 to 0-4-2 arrangements. It states, "One thing that can be stated with certainty from the foregoing is that there are discrepancies and anomalies in the information. Firstly, one would not expect street tramway engines to have six coupled wheels in view of the relatively sharp curves encountered on such lines, yet all the Fox Walker locos are recorded thus. Is this a case of misreading a badly written figure 4 as a 6, or perhaps a misinterpretation of such a term as 'six wheeled engine with two wheeled bogie'? The drawing shows quite clearly that Six Wheeled Tram Engine meant only a locomotive having six wheels not necessarily all coupled – in this case an 0−4−2, though it could equally have been 2−4−0 or 2−2−2!"[28]



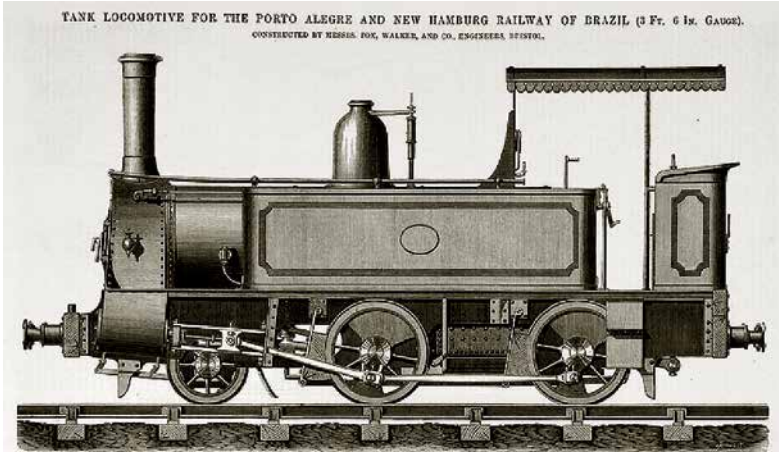
TMLR 10 was sold through Langlands to Day Dawn Gold Mine at Charters Towers in 1886. It is seen at the Mine in circa 1890.
Photo: State Library of Queensland Collection

Furthermore, a drawing of a 2-4-0T Fox Walker locomotive of 1871, destined for construction work in Brazil, is pretty much identical to the photograph at the head of this publication. It must also be noted that CP&R was engaged in contract work in South America at that time. In the drawing, the rather heavy hand-rail that surrounds the boiler is not prevalent in later pictures of the TMLR locos., but it can be seen on Fox Walker *Hobart Town* at the head of the rescue train at Coal Mine Bend on 24 April 1877[29]. Careful scrutiny of that photograph will also show that the leading wheel (partly hidden by a man) has a smaller diameter than the driving wheels.

An accepted fact that the authors have found difficulty with understanding is that, according to Chamberlain's *Too Many Loose Rails*, the coupling rods between the first and second driving wheels were removed prior to 1876. It is hard to diagnose the logic in having that process carried out because the rigidness of the wheel-base would remain as before (presuming that that was the reason for removing the rods).

A report dated 12 August 1875 in the Tasmanian Parliamentary Papers complained that two small locomotives used by contractors for construction had very limited power, and having rigid axle boxes were not suited to curvature of the line. However, C H Grant (TMLR General Manager) responded to this on 18 July 1875 by saying, "*it was erroneous that the 2 small engines had rigid axles – this was fully provided for by the leading wheels having a lateral motion, or 3 inch play, on each side, the axle boxes being fitted with V sides to return them to a central position when not on a curve*".

The above statement very much verifies that the leading axle of each engine was indeed laterally flexible or contained within a pony truck at that time, remembering also that the



An almost identical locomotive to the photograph of former TMLR No. 11 at Risdon Road is this one of the same 1871 vintage, but destined for a Brazilian Railway.

Photo: Internet Web-site/Tony Coen Collection

locomotives had only been in service for two years. The Cartazzi springing gear attached to the leading axle was possibly fitted or altered at that period, and somehow a coupling rod has been mistaken for a swing link!

Midelton rectified the problem in 1876, but his report of 1878 provides no hint that there was ever another wheel arrangement on these locomotives. Therefore, without positive evidence to confirm that the original wheel configuration was 0-6-0T, the authors submit that the engines were constructed as 2-4-0 tank locomotives.

Nevertheless, the final part in the lives of the Fox Walker engines remains an enigma.

TMLR FOX WALKER LOCOMOTIVE PROFILES

Date	ID	Loco. Details	Engine Details	History
1872 1876 1877 c.1884 1886 -		2-4-0T Fox Walker 143/1871 2-4-0T 2-4-0 2-4-0T	11"x18" cyl.	Purchased through Contractor. Named *Launceston*. Construction work. Handed over to TMLR 1876 and numbered 10. Converted to 2-4-0 in 1877. Side tanks used in new tender. Utilised as passenger and express engine for some time. Probably rebuilt as 2-4-0T c.1884. Used on local traffic and shunting. Hired to Fergus & Blair for Deloraine to Formby Line construction and delivered to Formby by ketch *Wellington* on 23 December 1884. Probably had an auxiliary tender with it. Returned to TMLR in 6.1885. Hired to McNeil, Grant & Bath for Fingal Line construction in late 1885 and returned to TMLR in early 1886. Sold to Langlands and sailed to Melbourne on SS *Mangana* in July1886. Delivered to Day Dawn Gold Mine, Charters Towers, Qld. in 1887. In service 1890, fate unknown.
1872 1876 1877 c.1884 1885 -		2-4-0T Fox Walker 144/1871 2-4-0T 2-4-0 2-4-0T	11"x18" cyl.	Purchased through Contractor. Named *Hobart Town*. Construction work. Handed over to TMLR 1876 and numbered 11. Converted to 2-4-0 in 1877. Side tanks used in new tender. Utilised as passenger and express engine for some time. Probably rebuilt as 2-4-0T c.1884. Used on local traffic and shunting. Sold to J Falkingham for Derwent Valley line construction in 1885. Probably had an auxiliary tender with it. Named *Derwent,* based at Ravenswood. Purchased by PWD for completion to Plenty in April 1887. Contracted to R Patterson in July 1887 and continued on Derwent Valley line work. Hired by PWD to Boland & Scott for Nth. Eastern line construction in May 1888[56]. Received mechanical overhaul at Launceston mid-1889[56A], leased to M Jones for Apsley line construction circa October 1889[57], name *Derwent* removed, then transferred to Hobart for completion of overhaul. Sold to Patterson for Bellerive to Sorell line construction, transferred via PS *Kangaroo* to Bellerive in April 1891. Stored at Bellerive then Risdon Road (presumably) 1892 – 1897. Sold to Emu Bay Railway for Zeehan line construction and arrived at Burnie on SS *Wareatea* in November.1897. Not used and wheels removed to replace those on EBR No. 2 in 1900[26 58]. Scrapped subsequently.

2017 photograph at New Town of the suspected site of photograph of Fox Walker locomotive, taken circa 1892. Photo: Tony Coen

End Notes

1. *Too Many Loose Rails*, by Brian Chamberlain, [1991] p. 2, Ch. 1
2. Report *Launceston Examiner* newspaper, 2 Nov 1876
3. *Too Many Loose Rails*, op. cit., p. 7, Ch. 1, p. 10, Ch. 2
4. *Too Many Loose Rails*, ibid, p. 5, Ch. 1
5. Archives Office, Launceston & Western Railway files 214/47
6. *The Tasmanian*, Launceston, newspaper, p. 9, 16 Nov 1872
7. *Too Many Loose Rails*, op. cit., p. 10, Ch. 2
8. *Too Many Loose Rails*, op. cit., p. 20, Ch. 4
9. Report *Launceston Examiner*, 3 Nov 1872
10. Report *Launceston Examiner*, 25 Nov 1873
11. *The Tasmanian*, p. 9, 16 Nov 1872
12. *Too Many Loose Rails*, op. cit., p. 3, Ch. 1
13. ibid
14. Report *Launceston Examiner*, 7 Jan 1887; letter from L&WR to Minister dated 5.8.1884
15. ARHS *Bulletin*, Nov. 1939, article by M.A. Park, pp. 48 – 51
16. Report *Devon Herald*, Latrobe, newspaper, 2.1.1885
17. Report *Devon Herald*, 6 Jan 1885
18. *Devon Herald*, 10 Mch 1885
19. Report to TMLR Committee by T. Midelton, App. G, 9.1878
20. ibid; *Too Many Loose Rails*, op. cit., p. 31, Ch. 5
21. Report *The Mercury*, Hobart, newspaper, 12 July 1886
22. *Too Many Loose Rails*, op. cit., p. 62, TML Engines 10 and 11
23. Report to TMLR Committee by T. Midelton, App. G, 9.1878
24. *Pictorial Portrayal of Tasmania's Past* by Beattie's Studio; Private Research on Photo. Studios by A. Dix
25. Report to TMLR Committee by T. Midelton, App. G, 9.1878
26. *Tasmanian Rail News,* (TRN) No. 156, page 7, Reproduction of advert dd. 1.7.1892 by R. Kennedy & Sons, Derwent Iron Works & Engineering Coy., New Wharf, Hobart for a 3'6" gauge 4-wheel coupled, side tank, 11" x 18" cylinders, 3' driving wheels, newly turned leading pair of bogie wheels, copper firebox, brass tubes. c.f., *TRN*, No. 157, p. 11, Ken Milbourne suggested that this was TMLR No. 11, most recently used on TGR Bellerive - Sorell Line construction
27. ARHS *Bulletin*, Sept 1985, article by R.T. Horne, p. 214 (also noted in *Light Railways* 80, April 1983, p. 21):- 10th half-year report of Day Dawn Gold Mine, Charters Towers (*Mining Journal* [U.K.] 2.5.1887) said that it had purchased a loco. from the 'Tasmanian Railway Co'. Pre-World War 1 photos. indicate that this was one of the Fox Walkers as a 2-4-0T, with its original (or replica) side tanks fitted.
28. *Industrial Railway Record*, No. 16, p. 147 - 151/168 "Fox Walker Tramway Locomotives"
29. *Too Many Loose Rails*, op. cit., p. 83, photo of TMLR Engines 5 and 11

Going bananas in North Queensland

Bananas, one of our best selling fruits, are produced along much of the Queensland coastline, northern NSW and other places. Nonetheless, the industry is concentrated in far north Queensland; around 90 percent of our crop comes from this region. This concentration invariably leads to shortages following cyclones in the main growing areas; remember cyclones Larry in 2006 and Yasi in 2011 with resultant domestic price rises.

It is thought that bananas arrived in Australia prior to the mid-nineteenth century – the first being grown in Western Australia but not particularly for their fruit! At the time, most of our eating bananas were imported from Fiji.

Introduction of bananas to North Queensland is believed to have occurred during the 1870s, probably by Chinese or South Sea Islanders working on the early sugar plantations. Following a set-back in the sugar industry from 1883 onwards, due to a world sugar price slump, many landholders stopped growing cane and leased their lands. This saw many Chinese enter into banana growing around Cooktown, Port Douglas, Cairns and Geraldton (now Innisfail).

In the Geraldton area, from around 1883 along the Johnstone River and from 1903 along the Liverpool and Maria Creeks just to the south, a number of landholders leased their properties to Chinese who used Aborigines to clear the land following which they planted bananas.

In this area the industry expanded rapidly with a peak in the early years of the new century, with tramways greatly facilitating transport. The Liverpool Creek and Maria Creek ventures, the subjects of our photographs, were in many ways competitors, being just a few miles apart and both wanting ultimately to tap the area around Silkwood and Japoon.

Just as today, cyclones were an ever-present threat and a couple in quick succession, plus the start of the Great War, with its labour and shipping shortages, severely curtailed the industry. After the war it suffered further with a general shift towards more sugar cane production and a selective migration policy. It was only following the Second World War that the industry recovered towards what we have today.

References:

Early Banana Growing in North Queensland – Royal Historical Soc of Queensland https://queenslandhistory.org
History of Bananas – Bananas in Australia https://abgc.org.au/our-industry/history-of-bananas/
Innisfail. J W Collinson, FRGS (Aust) 1954
Agricultural Development on the Wet Coast of North Queensland 1880-1970. Assoc Prof P P Courtenay 1974
(both in Lectures on NQ History, on UQ website)
The Innisfail Tramway – J Armstrong & G H Verhoeven, LRRSA 2000 (2nd Edition)

Research notes and captions: Phil Rickard

Left: *Maria Creek wharf, 1909, about 28km south of Innisfail. A train load of bananas has arrived at the Adelaide Steamship Company's wharf, some two or three miles upstream from the creek's mouth, for loading on the SS* Seymour. *The steam locomotive at the head of the five trucks is virtually hidden, just the funnel betraying its presence. The bunches in the nearest truck have been uncovered, presumably to enable the two gents to pose with the fruits.*

The 2ft-gauge Japoon Tramway, owned by Messrs Markwick & McDonald (are they the two gents?) was built during 1906/7; it reached the Japoon area by late 1907 and was worked by two locomotives – a Krauss and an Arnold Jung. The principal traffic on the line was logs and sawn timber from the Japoon Saw Mills, plus large quantities of bananas, all heading to the wharf. The venture was backed by the Adelaide Steamship Company and, in 1910, it bought out the original owners. The line was sold to the Queensland government in 1916 and most was incorporated into the South Johnstone mill system.

The Seymour *(75 tons) was built by Denis Sullivan and launched on 18 March 1904 at Coopernook on the Lansdowne River, NSW. Length 87 ft 8 in, breadth 22 ft 4 in, draft 4 ft 8 in. Initially owned by Allen Taylor & Co but soon sold to Capt James Broadfoot of Townsville, for the North Queensland coastal trade. In 1907 the* Seymour *and her owner were chartered by the Adelaide Steamship Co picking up bananas from various river and creek landings. The* Seymour, *with its shallow draft and wide beam, was ideal for negotiating narrow tributaries and crossing bars.*

More ship details at the Great Lakes Historical Society www.flickr.com/people/glmrsnsw/

Photo: State Library of Queensland negative no.24493

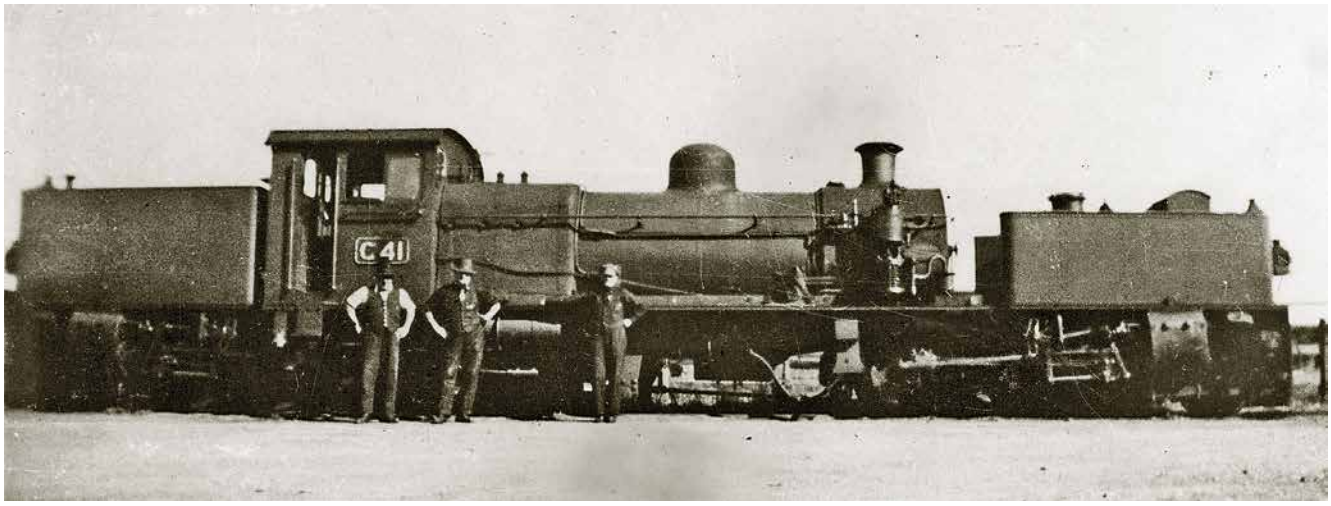
Above: *Loading bananas at Cowley jetty, near Liverpool Creek, about twenty kilometres south-east of Innisfail, c.1907. The steamer is the SS* Lass O'Gowrie. *Built by John Key & Sons, Kinghorn, Fife, Scotland in 1878; length 116 ft 8 in, breadth 20 ft 2 in, draft 8 ft 5 in, 169 tons. After going through various owners in Hamburg, Sydney and Melbourne, in 1907 the* Lass O'Gowrie *was registered in Townsville by Howard Smith Company Ltd. Some years earlier she had been lengthened by 20 ft with a revised tonnage of 202 and converted to carry passengers as well as cargo.*

The 610-feet-long Cowley jetty was built in 1904/5 by the Cowley Jetty Company Ltd, a consortium of Geraldton businessmen backed by the Howard Smith shipping company. From this ocean jetty, about 1½ miles north of the creek entrance, a 2 ft-gauge horse-hauled tramway was built for 2½ miles to a landing place on the lower Liverpool Creek. It was to here that the Chinese banana growers brought their bunches of fruit, usually by sampan, from plantations along both sides of the creek, for transhipment to the tramway.

This activity was a result of the opening up of fertile scrub lands along the creek, leased to Chinese, cleared and planted with bananas. As at the Maria Creek operation a few years later, banana traffic was supplemented by maize and timber. By mid-1907 the jetty company had been acquired by the Mourilyan Syndicate Limited who duly extended its southern-most cane tramway to join a westward extension of the jetty company's line. By late 1909 the two trams were joined and future traffic was sent via Mourilyan Harbour, avoiding some transhipment.

The photo, taken by A A White appeared in the Sydney Mail *19 June 1907 and* The Queenslander *14 Sept 1907.*

Photo: State Library of Queensland image 6670-0001-0073



It is likely that the driver of the Garratt on the day of the visit by the Cement Works' observer in 1935 was Joe Mott. He worked the narrow gauge for 25 years before retiring in 1944. Shown here (centre) with Garratt G41 and crew at Colac in the mid-1930s. Otway Districts Historical Society Image

Garratt locomotive at Colac, Victoria – 1935

An assessment by officers from Fyansford Cement Works

Submitted by Norman Houghton

In 1934 – 1935 the Australian Portland Cement Co at Fyansford, near Geelong, was looking for new locomotive power for its limestone railway. The railway carted raw materials from the quarry floor, upslope through a tunnel and overland, via a bridge over the Moorabool River, to the works – about 3½ miles distant. One option was a Garratt type loco and to test its feasibility engineering staff from Fyansford arranged with the Victorian Railways to do an inspection of, and run on, Garratt G41 at Colac. The following is the report on the visit. The text has comparisons throughout with loco and load operations on the Fyansford railway.

In accordance with arrangements made with Mr Kneeshaw I met with Mr Burrell head of the locomotive section of the Victorian Railways drawing office on Friday 5 July 1935 at Geelong where we proceeded together to Colac. We found that the Garratt locomotive that we had come to see made an outward trip one day and an inward trip the next. We agreed therefore to spend the time between our arrival at Colac and the departure of the locomotive [*Ed Note. 11 am for Crowes on Fridays*] in an intensive inspection and then to board the locomotive for a run to the top of the first ridge seven miles distant. [*Ed Note. Probably to Barongarook where they alighted and the train continued on*]. This would take about 35 minutes and since the ruling grade on this section is 1 in 37 with curves of radius down to two chains and we felt that this should exemplify the behavior of the locomotive very well.

General Design

The locomotive was put into service on 8 June 1926 and is therefore nine years old. It is, as far as I can see, except for minor points of detail and probably improvements, the locomotive being offered to us. Weight, tractive effort, heating surface and wheel arrangement differ hardly at all. Gauge at 2 ft 6 in, piston stroke at 18 in, driving wheels at 33 in are the major differences. [*The VR G-class actually has driving wheels of 36 inches diameter – Ed.*]

Steam connection to cylinders

This was in our opinion one of the weak points in the design. I found that saturated steam from the boiler leaves the regulator and passes through the superheater in the usual way to a superheated steam header in the smoke box. From there it goes to spherical joints packed with asbestos and held with springs. These joints are situated in the vertical lines of the fore and aft pivots. I am assured by Mr Burrell and the train crew say they have never given any trouble. In actual fact the rear spherical joint is at the moment leaking steam, but the operating crew told me that the locomotive has just come back from a quick overhaul at Newport, where the joint has been imperfectly adjusted. This is the first time leakage has occurred and they anticipate no difficulty in curing the trouble in the week ahead. The exhaust steam to the blast pipe passes through a similar but larger joint. Leakage is not as liable to occur here and is not so serious, no such trouble has occurred.

Cylinders

These are of cast iron with separate cast iron liners in case of wear. Each cylinder and valve casting is attached to the bogie frame by a flange and in the case of this locomotive and also the one at Moe. This flange is insufficiently ribbed, with the result that a crack occurred. The flange then had to be strengthened. If we purchase a locomotive of this type, we are advised that this point should be specially watched.

Cylinder Lubrication

This is by Wakefield Mechanical Lubrication situated close to each cylinder. The driver reports that they give no trouble if set carefully before commencing a run. No serious carbonization of valves by superheated steam is reported. Superheated steam temperature is about 650 Fahrenheit.

Sanding

Sanding gear sand boxes are located near the wheels and steam is used to blow sand onto rails.

Smoke box

This is large and there is adequate room for a good spark arrestor. The VR may allow us to have drawings of its spark arrestor.

Firebox

This is large with room for an arch. While the locomotive was not supplied with an arch, the VR staff have since put one

in and are satisfied with it. The ash has had no harmful effect on stay heads in the lower front corners of the firebox such as was the case in the Vulcan [*0-6-0STs, the then largest locomotives at Fyansford – Ed.*] when we installed an arch. The firebox is of copper, all stays are copper, ordinary tubes are brass (12 feet long) and flue tubes, which contain superheater elements, are copper.

Mr Burrell prefers brass tubes to steel and reports that they have had a good deal of trouble with steel fireboxes and steel tubes. It is the practice with the VR to braze pieces on to worn or burned brass tubes.

Boiler

In our existing locomotives it is very difficult to get at wash out plugs and practically impossible to be sure that all scale and sludge has been washed out. In this case, however, washout plugs at the four corners of the firebox are easily accessible from the ground and it should be possible to see from plugs to play along the top of the foundation ring. In addition, plugs are provided on the side of the firebox at the level of the crown sheet so that it should be possible to see all crown stays.

There are, in addition, washout plugs above the fire door and in the smoke box. It should therefore be possible to keep the boiler clean fairly easily. There has been no more boiler trouble than the usual minor things which occur with any boiler however well run. The boiler had its seven years thorough overhaul two years ago and Mr Burrell has promised a report on the condition of the boiler then.

Ash Pan

The ash pan slide is air operated and there is provision for quenching ashes before dumping them on the track. This and the spark arrestor should be useful in our area where the risk of grass fire occurs.

Cab

This is large and carefully laid out. It will be easily made watertight for going down the tunnel. The controls are conveniently laid out and the reversing gear is controlled by a hand wheel and worm gear.

Operation

The trip out of Colac was made with a trailing load of 19 vehicles and a total trailing weight of 130 tons. The track is laid with 60 lb rails. The grade commenced almost immediately and the locomotive held a steady 15 MPH. the driver opened the throttle wide and controlled his speed by varying his cutoff. (I have tried to introduce this with our Vulcans but with lever control the gear is not nearly so sensitive and convenient). The train could have accelerated at any time.

The steam pressure fell from 160 to 135 and the fireman had no trouble in restoring it at will. An inspection of the fire when coal was being thrown on showed a fire not white hot as in our Vulcan coming up the tunnel, but with a much-yellowed tinge. The boiler was evidently steaming easily and I was impressed with conditions in the firebox.

The engine rode easily and went around curves nicely. I was told that to allow the bogies to get around the two chain curves on this line larger clearances than allowed for by the makers had to be made between cab and water tank.

When mounting a long grade care must be taken that much of the water does not leave the front tank and collect in the rear tank. This may be a cause of slipping and a valve is provided in the equalizing pipe for this purpose.

The driver mentioned that care was required when adjusting brakes otherwise it was possible to have them drag on one side when going around a curve of short radius.

The operating crew were very pleased with their locomotive and informed me that the Garratt was much more economical than the loco which it replaced [*Ed Note. The NA Type 2-6-2T*] and which still run when the Garratt is undergoing overhaul. They said that on the run to Crowes the Garratt used two tons of coal and the other type two tons seven hundredweight. The former pulling a load approximately twice as great as the latter. Although the loco was not pulling as large a load as we would ask it to pull up the tunnel it appeared to have a lot in reserve and worked in an easy manner. These are the conditions under which I feel we should work our limestone locomotive.

Maintenance

Mr Burrell has supplied the following figures (Table attached) with respect to the Garratts which the VR owns. These figures show the times when the locomotives were overhauled at Newport and the mileages run between overhauls. It is seen that the locomotives have been sent to Newport on an average once per year.

Minor defects have been fixed at Colac and they cannot have been much as the facilities for repairs at Colac are very small. Mr Burrell has also supplied the following figures. Maintenance costs per mile for locos at Colac are 20.23 pence or an average of 110 Pounds per annum. These figures include material and labour at Colac and material, labour and overhaul at Newport.

In my opinion the above cost is high and I am not able to reconcile the figures with the fact that the locomotives have given a very good account of themselves and that apart from strengthening the cylinder block flange no trouble of any kind has been encountered other than quite normal maintenance.

Our locomotive will be required to do about 20,000 miles per annum as compared with about 15,000 miles per annum run by these locomotives so that on the basis of the same costs per mile our annual maintenance would be about 1,680 Pounds.

Conclusion

I am of opinion that this type of locomotive (that we are proposing to purchase) will be very suitable for our work. It will have a good deal more capacity than we actually require and should therefore give longer service with less trouble if properly cared for. This locomotive is heavier than anything we have yet considered but if the wheel arrangement is the same as that on the locomotive inspected then it will not overload the bridge.

It is well to remember that it will have about 10 tons of non-adhesive weight on the front and rear bogies and this will amount to about 5% of the useful load in the tunnel. I suspect that the front and trailing bogies are necessary where curves may be as sharp as two chains, but they are not necessary in our case. While I only saw the locomotive pulling 130 tons up 1 in 37 yet the curves of two chains radius would add considerably to the tractive effort required. Thus if the total train weight including the locomotive was 200 tons, the extra tractive effort required to get round a curve of two chains radius works out at 64,000 lbs, (using Kemp's Year Book 1925.)

Coming from our quarry we have a curve of 20 chains radius in the tunnel on a grade of 1 in 37.5 and a curve of six chains radius between the east portal and the bridge where the grade is 1 in 40. The locomotive was therefore working at approximately the rate which we will require.

I think therefore that we will not make a mistake if we purchase this locomotive. Before proceeding, we should clear up several points.

1. The strength of the flange on the cylinder block
2. Brass tubes instead of steel
3. Do the makers consider leading and trailing bogies essential in our case? If not, have they a model of the same size without them?
4. At what pressure does the Westinghouse brake act?
5. Can it be shipped to Geelong in three or four pieces such as two engine units, one boiler unit and one frame?
6. Will the makers make provision for an arch in the fire box?

This completes my comments.
M.G. 9/7/1935
Copies to Chief Engineer and Works Manager
Source - Report in APCL Archives, Geelong Heritage Centre.

VR G-class
2-6-0+0-6-2 BP 180 lbs Dr Whls 36in Cyls 13¼in x 18in T.E. 26,860 lbs @ 85%
ACPL*
2-6-0+0-6-2 BP 180 lbs Dr Whls 39in Cyls 13¼in x 20in T.E. 27,550 lbs @ 85%
(* based on WAGR Ms class, but with higher boiler pressure, 180 lbs vs. 160 lbs)

VR Garratt Locos Workshopped 1926 to 1935				
Loco	**In**	**Out**	**Overhaul**	**Mileage**
G41	5/2/1926	Put in service		
G41	6/4/1927	25/5/1927	Heavy general	17,739
G41	30/4/1928	31/5/1928	Heavy general	24,659
G41	2/12/1929	8/2/1930	Heavy general	23,412
G41	6/11/1931	27/11/1931	Heavy general	21,130
G41	17/10/1932	21/10/1932	Slight	9,752
G41	10/4/1933	10/6/1933	Thorough	5,489
G41	2/4/1935	21/5/1935	Quick general	22,540
G42	28/6/1926	Put in service		
G42	16/8/1927	1/10/1927	Heavy general	20,613
G42	22/7/1928	22/8/1928	Heavy general	13,895
G42	12/6/1929	18/7/1929	Heavy general	12,304
G42	23/9/1930	22/11/1930	Heavy general	15,228
G42	21/5/1932	13/7/1932	Heavy general	13,306
G42	3/10/1933	2/12/1933	Thorough	16,041
G42	5/2/1935	14/3/1935	Quick general	19,762

APCL 3ft 6in gauge composite Garratt locomotive No.2 (Beyer Peacock 6935/1939) at Fyansford, 28 November 1964. The red-coloured engine units came from No.1 (BP 6794/1936). Whilst virtually a clone of the Western Australian Ms-class Garratts albeit with a better cab and higher boiler pressure, it nonetheless has some similarities to the VR's 2ft 6in gauge Garratts of the same wheel arrangement. Photo courtesy Geoff Oliver

Industrial Railway NEWS

Please send contributions to:
Industrial Railway News Editor, Christopher Hart
15 Dalrymple St, Ingham, QLD 4850
Phone: (07) 47766294
e-mail: industrial@lrrsa.org.au

Special thanks to contributors to the *Sugar Cane Trains/Navvy Pics 2ft* Facebook page.

QUEENSLAND

BUNDABERG SUGAR LTD, Bingera Mill
((see LR 270 p.28)
610 mm gauge
Com-Eng 0-6-0DH locos *Dunethin* (A1922 of 1958) and 19 (AJ2359 of 1962) departed Bingera Mill for Fiji on 15 August.
Grant Delaney 8/19

FAR NORTHERN MILLING PTY LTD, Mossman Mill
(see LR 271 p.29)
610 mm gauge
Clyde 0-6-0DH multi-unit cow and calf locos *Habana* (60-215 of 1960) and *Marian-11* (56-104 of 1956) appear to have seen little or no use during the 2019 crushing season. One or both may have transmission problems.
Gregorio Bortolussi 2/20

ISIS CENTRAL SUGAR MILL CO LTD
(see LR 271 p.29)
610 mm gauge
The new 39 kilometre line to Booyal and Duingal will branch off near the Promiseland pad on the New Valley line. From there, it will follow the ex QR Dallarnil line formation as far as Marule. There had been no track laying at the junction by 16 December although track laying further along the line had commenced in November. The QR closed this line in 1955 and it has several wooden bridges which are being refurbished, in particular the curved 21 span Woco Creek bridge where many of the piles are being reused. Steel girders from bridges on the QR Hughenden to Winton line have been obtained and 70,000 concrete sleepers are being manufactured at the mill for this line. It is expected to be completed for the start of the 2020 crushing season.
Carl Millington 12/19; Ron Stitt 12/19; Josef Menich 12/19; Brian Bouchardt 12/19; Maurie Styles 1/20; Bundaberg Now 12/1/20, 5/2/2020

MSF SUGAR LTD, Mulgrave Mill
(see LR 271 p.29)
610 mm gauge
The Little Mulgrave line was in use only as far as the Trevor truck ramp at the end of the short branch into Goldsborough during the 2019 crushing season. The line into Little Mulgrave beyond Goldsborough junction at Peets bridge is out of use owing to condition of its bridges, two in particular. To service the area, a number of isolated sidings have been built with bins being transported between these and the Trevor truck ramp by semi-trailers. One of these sidings, located at Roos Road, was seen in use on 11 October with Clyde 0-6-0DH 25 *Cucania* (63-289 of 1963) in attendance at the Trevor truck ramp. There is about 30,000 tonnes of cane involved in this operation and as of early February, the whole of the Little Mulgrave line remains intact.
Gregorio Bortolussi 10/19; Chris Stephens 2/20

SUGAR TERMINALS LTD, Townsville
(see LR 252 p.26)
1067 mm gauge
Clyde Co-Co DE ST5 (81-999 of 1981), sold to Queensland Railways in 1988 and numbered

On 10 December, Clyde 0-6-0DH Canberra *(65-433 of 1965) is loaded onto road transport at Macknade Mill for transfer to Proserpine Mill.*
Photo: Christopher Hart

Above: *Mulgrave Mill's Clyde 0-6-0DH 25* Cucania *(63-289 of 1963) shunts at the Trevor truck ramp while a semi-trailer prepares to unload full bins from the Little Mulgrave area on 11 October. Photo: Gregorio Bortolussi*
Left: *Mulgrave Mill's Clyde 0-6-0DH 25* Cucania *(63-289 of 1963) poses at the Trevor truck ramp, Goldsborough, on 11 October. Photo: Gregorio Bortolussi*
Below: *Walkers B-B DH* Victoria *(599 of 1968 rebuilt Tulk Goninan 1994) on its way through Ingham with cane for Victoria Mill on 23 November. Photo: Luke Horniblow*

2501D, is now an Aurizon loco. It passed through Redbank in company of another Clyde Co-Co DE on 22 December.
Greg Bansgrove 12/19

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills
(see LR 271 p.31)
610 mm gauge
On 21 January, two of the Herbert's ballast hoppers and a ballast plough were seen heading south on road transport. By the start of February, the frame and body components of Victoria Mill's EM Baldwin B-B DH *Gowrie* (7135.1 7.77 of 1977) had been sent to Proserpine Mill for rebuild. After being out of service with final drive problems for approximately 18 months, Macknade Mill's EM Baldwin 0-6-0DH *Hobart* (4413.1 7/72 of 1972) returned to service in mid-February and is now on slack season shunting duties at the truck shop.
Luke Horniblow 1/20; Editor 2/20

WILMAR SUGAR PTY LTD, Inkerman Mill, Home Hill
(see LR 271 p.31)
610 mm gauge
This mill's ballast hoppers are said to have been sold to another mill.
Luke Horniblow 1/20

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru
(see LR 271 p.31)
610 mm gauge
Walkers B-B DH locos *Scott* (669 of 1971 rebuilt Bundaberg Foundry 1995) and *Jarvisfield* (601 of 1969 rebuilt Tulk Goninan 1994) are to be replaced by newly rebuilt Walkers B-B DH locos from Pioneer Mill this year. 647 of 1970 will become the new *Jarvisfield* and 711 of 1973 will become the new *Scott*. The original *Scott* and *Jarvisfield* will be rebuilt at some point in the near future, receiving new identities and possibly ending up at other Wilmar mills.
Shane Yore 1/20; Kieran Koppen 2/20

WILMAR SUGAR PTY LTD, Pioneer Mill, Brandon
(see LR 271 p.32)
1067 mm gauge
A rebuild of Walkers B-B DH (647 of 1970) was well under way in February and this will become the new *Jarvisfield* loco at Invicta Mill. It was the original *Jerona* at Pioneer Mill. Also being rebuilt is Walkers B-B DH 7349 (711 of 1973) from the stored stockpile of these locos at Pioneer. It will become the new *Scott* at Invicta Mill.
Shane Yore 1/20; Kieran Koppen 2/20

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill
(see LR 271 p.32)
610 mm gauge
Clyde 0-6-0DH 8 (65-443 of 1965) was on navvy duties during December and on 8 December, was seen stabled at the Lawrence siding on the Up River line. By the start of February, EM Baldwin B-B DH *Gowrie* (7135.1 7.77 of 1977) had been sent here from Victoria Mill for rebuild.
Luke Horniblow 12/19; Editor 2/20

NEW SOUTH WALES

BLUESCOPE STEEL LTD, Port Kembla Steelworks
(see LR 269 p.38)
1435 mm gauge
General Electric Australia Bo-Bo DE D40 (A-241 of 1972) was seen in use at Cringila on 18 December and English Electric Australia Bo-Bo DE D27 (A-040 of 1960) at the same place on 21 January. Clyde Bo-Bo DE T379 (64-334 of 1964) was seen stored at Steelhaven on 21 January and is believed to have been sold to Qube.
Brad Peadon 12/19, 1/20; Brad Johns 1/20

SOUTH AUSTRALIA

GENESSE & WYOMING AUSTRALIA, Whyalla
(see LR 269 p.38)
1067 mm gauge
Downer EDI Co-Co DE GWN001 (12-2590 of 2013) has been transferred to a GWA operation at Sarina, Queensland for use on the Goonyella rail network and was seen passing through Wondai on 17 January and previously Manna Hill, South Australia, on 15 January. Downer EDI Co-Co DE GWN004 (12-2593 of 2013) was seen passing through Manna Hill around 10 February and also heading for Queensland.
Crow FM 90.7 1/20; Steve Kite 1/20; Leon Harris 1/20; Di Hi 2/20

OVERSEAS

FIJI SUGAR CORPORATION
(see LR 271 p.33)
610 mm gauge
Com-Eng 0-6-0DH locos *Dunethin* (A1922 of 1958) and 19 (AJ2359 of 1962) departed Bingera Mill for Fiji on 15 August. *Dunethin* was sighted at Lautoka Mill on 31 December. Motor Rail Simplex 4wDM 8 (23014 0f 1960) was seen on a Coral Coast Railway tourist train at Sigatoka on 24 December.
Grant Delaney 8/19; Scott Martin 12/19

In a practice little used in the sugar industry these days except for Wilmar's Herbert region, Clyde 0-6-0DH 16 (DHI.1 of 1954) ropes empty bins into a siding near Macknade Mill on 23 November. *Photo: Luke Horniblow*

Above: *Kalamia Mill's EM Baldwin B-B DH* Selkirk *(6750.1 8.76 of 1976) drags fulls out of Main Line 4 siding on 3 August. Photo: Luke Horniblow*
Below: *Kalamia Mill's EM Baldwin B-B DH* Selkirk *(6750.1 8.76 of 1976) prepares to pull a rake of fulls out of Main Line 4 siding on 3 August. Photo: Luke Horniblow*

Above: *Tully Mill's Walkers B-B DH 9 (618 of 1969 rebuilt Tully Mill 2010) crosses the QR catchpoints at Davidson Road on 7 October. Photo: Luke Horniblow*
Below: *Pacific National's General Electric Australia Bo-Bo DE D40 (A-241 of 1972) pottering around the Cringila exchange sidings of Bluescope Steel's Port Kembla Steelworks on 18 December. Photo: Brad Peadon*

LETTERS

Sleeping on a volcano (LR270)

My congratulation to Peter Evans for a most interesting article on the explosive magazines and tramways around Melbourne. On page 18 Peter mentions an early field excursion by the society to Truganina in 1969.

On the day (1 March) we visited Cheetham Salt at Moolap, the Geelong Steam Preservation Society at Belmont Common and Cheetham Salt at Laverton prior to arriving at Truganina Explosives Reserve, next door to the latter saltworks, late in the afternoon. Unlike my father, who had used all his colour film at the three previous sites, this writer, then still at school, had carefully rationed his limited black & white film – it took a lot of empty lemonade bottles to pay for film and processing!

The attached photographs may be of interest in showing the reserve and tramway remains that we found fifty years ago. Note the truck number, 47, indicating that there had been more than forty-five trucks in total though I'm sure they were never all there at the one time.

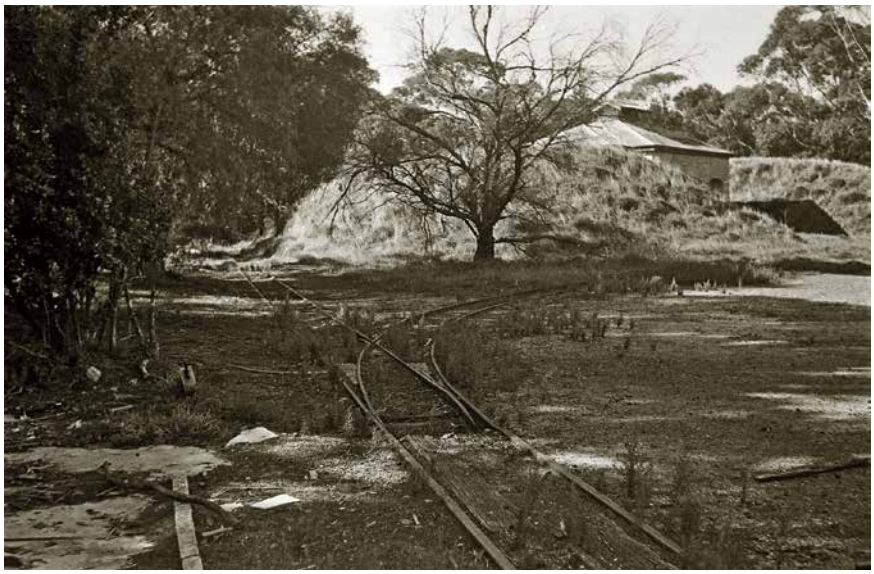
Additionally, Peter mentions (page 18) that the trucks that were moved to a property in Belgrave South in the early 1990s were ultimately scrapped. I'm not sure this actually occurred and suspect they were rescued just hours prior to the scrappers moving in.

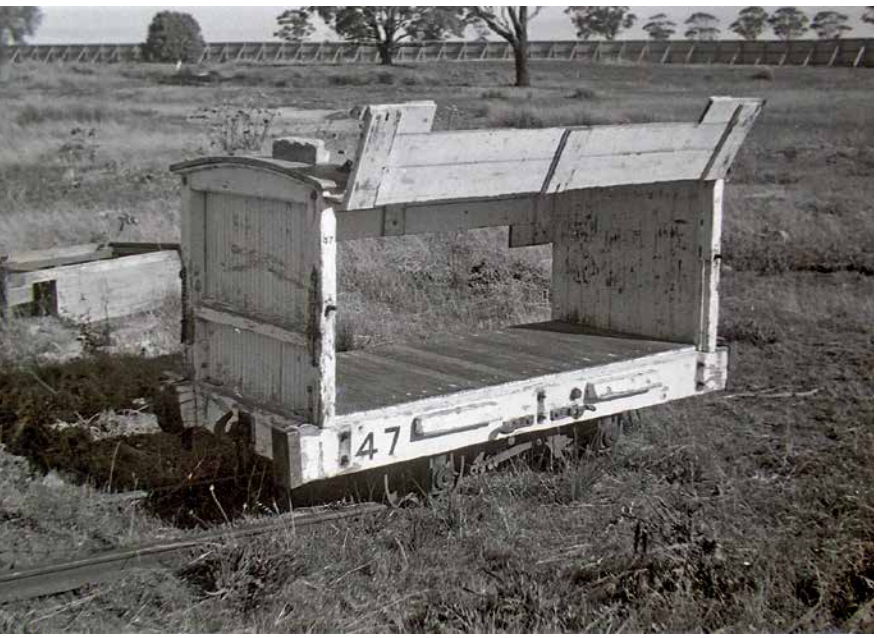
Phil Rickard,
Ringwood, Vic.

WA Incident to a Geared Bush Locomotive 1918

This report below is a great story of 'bush engineering', which could not happen today. I have no information as to the ownership, location or type of engine involved. I initially wondered if it might refer to a vertically-cylindered Shay locomotive but cannot be certain. Others may have more information which might identify the circumstances.

From the Annual Report of the Chief Inspector of Machinery, Year ended 31 December 1918, Mines Report 1918, WA Parliamentary Papers. (p.108)





Quoted verbatim from the Inspector's report:

"I am pleased to again report that there has been no explosion of any boiler under the jurisdiction of the Act.

A somewhat alarming occurrence took place early in the year in connection with a locomotive. The actual engine is vertical and connects to the driving wheels by means of geared wheels. The engine is secured to the right side of the firebox casing. Probably to equalise the engine strain between the two sides of the firebox casing there are a number of transverse stays across and above the top of the firebox. Some years ago a few small cracks were observed where these stays passed through the left side of the firebox casing and an external covering plate was applied with four rows of stud rivets and it was thought impossible that any further trouble could occur.

In March last, when the engine was out in the bush with 135lb on the pressure gauge, there was a sound of escaping steam at the left side of the firebox casing. The fires were damped at once and when the steam had all blown off, and lagging was removed, the covering plate was found cracked through for rather more than 25 inches in length along the line of transverse stays (as occurred to the original plate previously). A substantial repair was effected by applying an internal covering plate in addition to a new external one, and the boiler is again at work at a somewhat reduced pressure.

It is difficult to account for the above fracture but obviously the engine arrangement sets up some peculiar straining action through the transverse stays to the opposite side."

Ian Crellin
Flynn, ACT
via email

AA Company nameplate, Newcastle

The *Newcastle Herald* reported on 13 December 2019 that a nameplate from the old bridge over Hunter Street has been discovered. The nameplate reads:

No 34
ROBERT STEPHENSON & COMPANY
ENGINEERS
NEWCASTLE UPON TYNE
1832

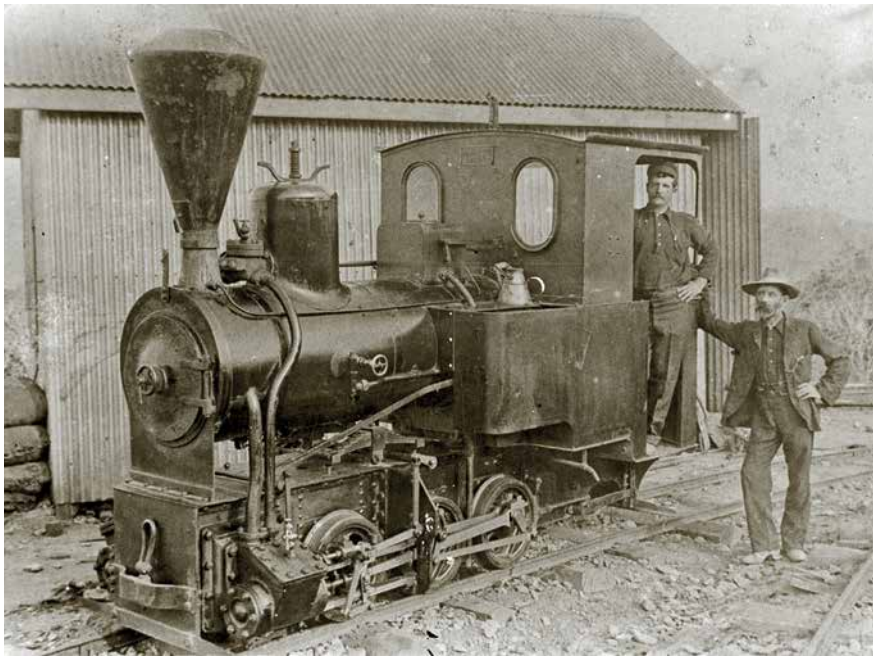
It was I who discovered the fish-bellied rail now in Newcastle Museum; but I do not know the gentleman who recovered the important relic mentioned in the article. I believe that he is known to some other ARHS Newcastle Branch members,

The name of the Australian Agricultural Company, which was partly the subject of my MA thesis, was and is often abbreviated to AA Company, or less often to AA Co. Some people now abbreviate it to AAC: but such are both recent and ahistorical.

David Campbell
via email

Krauss locomotives in Australia (LR 153)

Congratulations on your excellent very readable publication – I have been a subscriber to the magazine since about 1998.



Last year I visited the site of a Copper Smelter at Mount Molloy which is located a little north of Mareeba on Queensland's Atherton tableland.

The owner of the property gave me a photo of a locomotive that was possibly used at the old Mount Molloy smelter... it would have hauled ore from 1900 to 1908, from the mines located only 3 to 5 kms to the north.

After referring to *Krauss Locos in Australia,* by Bruce Macdonald, I suggest it was a Krauss - but after blowing up the name plate (see 2nd image) I am not so sure.

I would appreciate any information that would confirm if that locomotive was ever at Mount Molloy.

Bob Forsyth
Mount Isa Queensland
via email

Editor's note:

After I received this letter I sought the views of those with an extensive knowledge of such matters – their responses are given below:

Bruce Macdonald:

I identify the locomotive as a product of a German maker, Arnold Jung, whose locomotives were not common in Australia. The plate on the cab spectacle plate reads "Arthur Koppel. Berlin" who would have been the supplying agent. I used that photo of builder No.530, supplied by John Browning, in my book "*Iron Work Horses*". John may know something of its subsequent history.

John Browning:

The "Arthur Koppel" plate carried by the locomotive is not incompatible with a Krauss, but distinctive features of the design indicate that it is a Jung (Lokomotivfabrik Arnold Jung GmbH, Jungenthal bei Kirch-enanderSieg, Germany).

This example that worked at Mount Molloy was builder's number 530 ex works 3 March 1904, 610mm gauge, 20hp, weight 8.47 tonnes.

Supplied to Arthur Koppel, Berlin, for Australia, it was shipped to Cairns for the Lancelot Freehold Tin and Copper Mines Limited. Lancelot was developing holdings at Silver Valley (Newelton) and intended to lay a 3-mile tramline from the Magnum Bonum mine to the crushing mill, but it appears that the locomotive, having arrived by August 1904, got no further than the Cairns wharves.

LAUNCELOT MINING CO. IMPROVEMENTS.
There are at the Adelaide Co.'s wharf at the present 100 and odd tons of rails and a locomotive consigned to the Launcelot Tin Mining Co. It is the intention of the Co. to lay down a tramway from the mill to the workings, and the trucks will be hauled by a steam locomotive.
Morning Post (Cairns), 30 August 1904 page 2 http://nla.gov.au/nla.news-article42963725

By April 1905, the locomotive had been purchased by the Mount Molloy Mining Co for their 2-mile tramway under construction to connect their mine with the smelter site.

MOUNT MOLLOY COPPER MINE
A call of 2/- per share is now made (and paid by the present holders) on the 40,000 contributing shares to provide £4000 capital to pay for tramway material already purchased from the Lancelot Company and which is to be used in constructing a tramline from the mine to the smelter.
The Brisbane Courier, 12 April 1905 page 3. http://nla.gov.au/nla.news-article19323775
The locomotive was in use by June 1905.

MINING (Mt Molloy)
A tramline is now in course of construction between the mine and the smelters, and already a trim little locomotive steams along that portion formed.
Morning Post (Cairns), 2 June 1905 page 4. http://nla.gov.au/nla.news-article44411487

Difficulties were encountered with smelting at Mount Molloy and it seems that the smelters finally closed at Christmas 1908. The locomotive is said to have been out of use by 1910, but operations continued on the 3 ft 6 in gauge owned by the company until January 1915 at least, as QR locomotives were hired during that period.

It has been alleged that the Jung locomotive remained at Mount Molloy and was later cannibalised by Bill Frost to provide spare parts for the Jung locomotive he used at Mossman, but I have not been able to find any evidence of this.

It is known that a 2 ft gauge steam locomotive from Mount Molloy was delivered to GR Mayers, Russell River, for sugar cane haulage in 12/1916 and unless there was another 2 ft gauge locomotive at Mount Molloy, then it must have been the Jung. (If it was not the Jung, I have another candidate but am reluctant to start any hares running over that.)

Tramline Purchased.

We understand that Mr. G. R. Mayers has purchased the loco and tramway, of the Mt. Molloy Company, about a mile in length, which connects the smelters with the mine. It is Mr. Mayers' intention to utilise the engine and rails on his farm at the Russell River.

Cairns Post, 6 December 1916 page 4 http://nla.gov.au/nla.news-article40400362

BABINDA NOTES

The locomotive which Mr. Mayers has purchased for his farm has arrived at Babinda.

Cairns Post, 14 December 1916 page 8 http://nla.gov.au/nla.news-article40398464

In January 1917 Mayers registered a company, the Bartle Frere Estates Ltd, to operate his Russell River holdings, to some extent the company was engaged in land speculation. After its arrival with Mayers, no further trace of the locomotive has been substantiated.

Rails to Woomera (LR 271)

An article on this subject was long overdue and Mark Langdon has written what must be the definitive one. So detailed is it that I believe it is worth adding some further information on the Fowler diesel locomotive.

Although ordered by the UK Ministry of Supply for the War Office, it was sent new to the Shell Refining & Marketing Co., Stanlow Refinery, Ellesmere Port, Cheshire. From there it went c1944 to the War Department's Ordnance Depot, Cwmavon, Glamorgan. This was maintained by the No.1 Railway (Home) Group, Royal Engineers and the locomotive was numbered WD 230. The photo above shows it unloaded from a ship onto a South Australian Railways flatcar at Port Adelaide in 1947. It will be noted that with the renumbering of WD locomotives, it had had its new number 70230 crudely applied.

Richard Horne
South Croydon, UK

Rails to Woomera (LR 271)

I very much enjoyed the article on the Woomera spur; there was much information which was unknown to me. However, I feel there is probably an error in the initial railcar schedules (p24), which have railcars arriving Woomera at 2:50am Mondays and 4.26pm Tuesdays and Fridays, returning at 4.45am Mondays, Wednesday and Fridays. The

Kodachrome scan, taken by Michael Schrader in the late 1950s showing a rail tractor chugging along the Anderson's Mill (Marysville Timber & Seasoning Coy) tramway, near Marysville. The locomotive is currently on display in Marysville. *Photo: Michael Schrader via Nick Anchen*

Friday return service is scheduled to depart prior to its arrival, which seems unlikely.

For interest, in the 1966 Working Timetable the Budd cars were scheduled to arrive at Woomera on Monday (1.55am), Wednesday and Friday (5.35pm) and depart on the return to Port Pirie on Monday and Thursday at 4.08am and Friday at 10.00pm. All of these services operated empty back to Pimba after arrival, and returned to Woomera for the next departure, even on the Monday morning where the time spent at Pimba was only 20 minutes. I suspect the crews changed over, and/or went to the barracks at Pimba. In 1966 there was also a conditional schedule to arrive at Woomera at 4.20am on Tuesdays, returning at 5.45am. This service did not shuttle to Pimba and back.

John Dennis
via email

The Bellingen Timber Company and the Gleniffer Incline Tramway (LR271)

A couple of small gremlins got into Ian McNeil's very interesting account of the above company and its precipitous incline tramway.

On page 7, in the drawing caption, it states, in reference to the log trollies: "Each measured 14ft long by 9ft wide . . .". A cursory glance at the drawing, and the head-on photo of a trolley on page 8, clearly shows the 9ft width is incorrect. It should read '5ft', as per the actual text on page 6 describing the trollies. We thank our long-time member Bill Pearce for drawing this to our attention. Readers may wish to make a neat pencil notation.

Additionally, on page 3, the main map has two smaller areas marked on it as "Map 2" and "Map 3". These are shown separated by several kilometres from each other. Such is not the case. Reference to the main two maps, on pages 5 and 13 will quickly make clear that the maps overlap – Map 2 should be considerably larger to both the north and the west. Our thanks to an eagle-eyed correspondent for pointing this out. Please accept our apologies for any confusion.

On a slightly different tack, a reader has queried whether the Fordson-powered kerosene locomotive mentioned by Ian on page 14, was a Day's loco tractor as the mentioned details seems to describe the 0-4-0's built by Day's Engineering, of South Melbourne. Can anyone assist?

The Editorial Team

The Bellingen Timber Company and the Gleniffer Incline Tramway (LR271)

Re: the article on the Gleniffer Incline Tramway in the Feb 2020 issue of *Light Railways*, I suggest that the upper system would be called "Main and Tail" and hence the description of how the winch was set up is not entirely accurate.

The rope could not have been an endless loop. The upper rope must have been wound on one half of the drum, and the lower rope wound on the other half but wound the other way so as to unwind when the upper half wound up. Two ends were terminated at the trolley and two ends on the drum.

There was probably a tensioning arrangement on the bottom pulley to make winding work properly, as a rope of that length will give all sorts of problems, especially if the drums go to a second wrap.

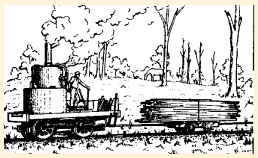
Philip Hammon
Katoomba, NSW

Research Register - Editorial (LR269) and Letters (LR271)

Databases are very powerful tools used in management and research, look at what Genealogists have done with them! I'm surprised that the LRRSA has not utilised them already. I would like to make the following comments:

1. The database(s) should be owned by the Society thus they can only be on the Society's web site. Facebook and Groups. io use of any data is beyond the control of the Society.
2. Furthermore it should be located in a "members only" section of the web site to be entered via member number and password only. This adds a group privacy element and also gives members privileges that may encourage new members.
3. I would prefer the register to be a "Register of Interest" rather than a "Register of Research" then internally in the database the "degree of interest" can be listed. For example, I have interests in many diverse areas of our "hobby" and may not have the time to conduct formal research. However, if I see that a member is heavily involved with a topic that I may have a snippet of information or perhaps an old/recent image I can contact that member. Similarly, that member can contact me if I'm listed as "Interested" in that topic.
4. It would be good to set it up so a member can add/edit their own interests, thus reducing overheads and improving relevance.
5. Some time ago I suggested another type of database via the Yahoo Group and had little response. I believe the society would also benefit from a "Light Railway" database. Fields obviously would include gauge/industry but most importantly the GPS location. In this way the data can be used with Google Earth or in my case the navigation software that I have in my truck to show me points of interest as I travel around the country.
6. I have had considerable experience with databases but that was 20 years ago. I can however offer advice and I have a son who is in the modern day database industry whom I could prevail on for advice. Perhaps a "database committee" should be formed?

Bob Backway
Belgrave Heights, Victoria
via email



LRRSA NEWS

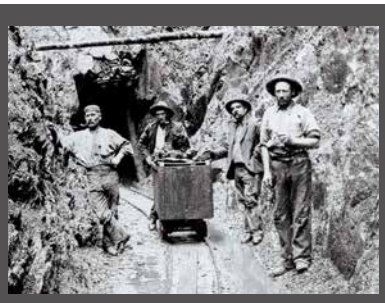
MEETINGS

ADELAIDE: "Peter Letheby videos"
After the usual business we will see some more of Peter Letheby's videos. News of light rail matters will be welcome from any member. Intending participants would be well advised to contact Les Howard on 8278 3082 or by email lfhoward@tpg.com.au, since accommodation is limited.
Location:
1 Kindergarten Drive, Hawthorndene.
Date: Thursday 2 April at 7.30pm

BRISBANE: "WW1 narrow gauge railways"
Bob Gough will show a DVD on First World War narrow gauge railways, which was previously advertised for the December 2019 meeting.
Location: Coopers Plains Library, 107 Orange Grove Road, Coopers Plains.
Date: Friday 19 April 2020 at 7.30pm

MELBOURNE: "Spanish railways and rail museums"
Tony Weston will present on his visit to the extensive metre gauge railway system in north-western Spain in 2017. He will also present on visits to four museums with collections representing former public carrier, interurban electric and industrial railways in the same area, ranging from 550 to 1435 mm gauge. One of the museums had a short steam tourist railway. Former industrial systems resembled spaghetti and served coal mines, steel works, zinc mines and factories.
Location: Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.
Date: Thursday 9 April 2020 at 8:00 pm (note that this is the day before Good Friday)

SYDNEY: "Reminiscences of the South Maitland Railways"
Mr Robert Driver is an accomplished photographer and researcher of the South Maitland Railways that once served the coalfields region from Maitland to Cessnock. His father was a locomotive driver and was later promoted to Chargeman at East Greta steam depot. Robert has a very broad knowledge of all aspects of this once vast private railway system. His presentation will make for an interesting night.
Location: Woodstock Community Centre, Church Street, Burwood. Free Council car park behind building (entry via Fitzroy Street) or close-by street parking. Only 10 minutes easy walk from Burwood railway station.
Date: Wednesday 22 April 2020 at 7:30pm



Field Reports

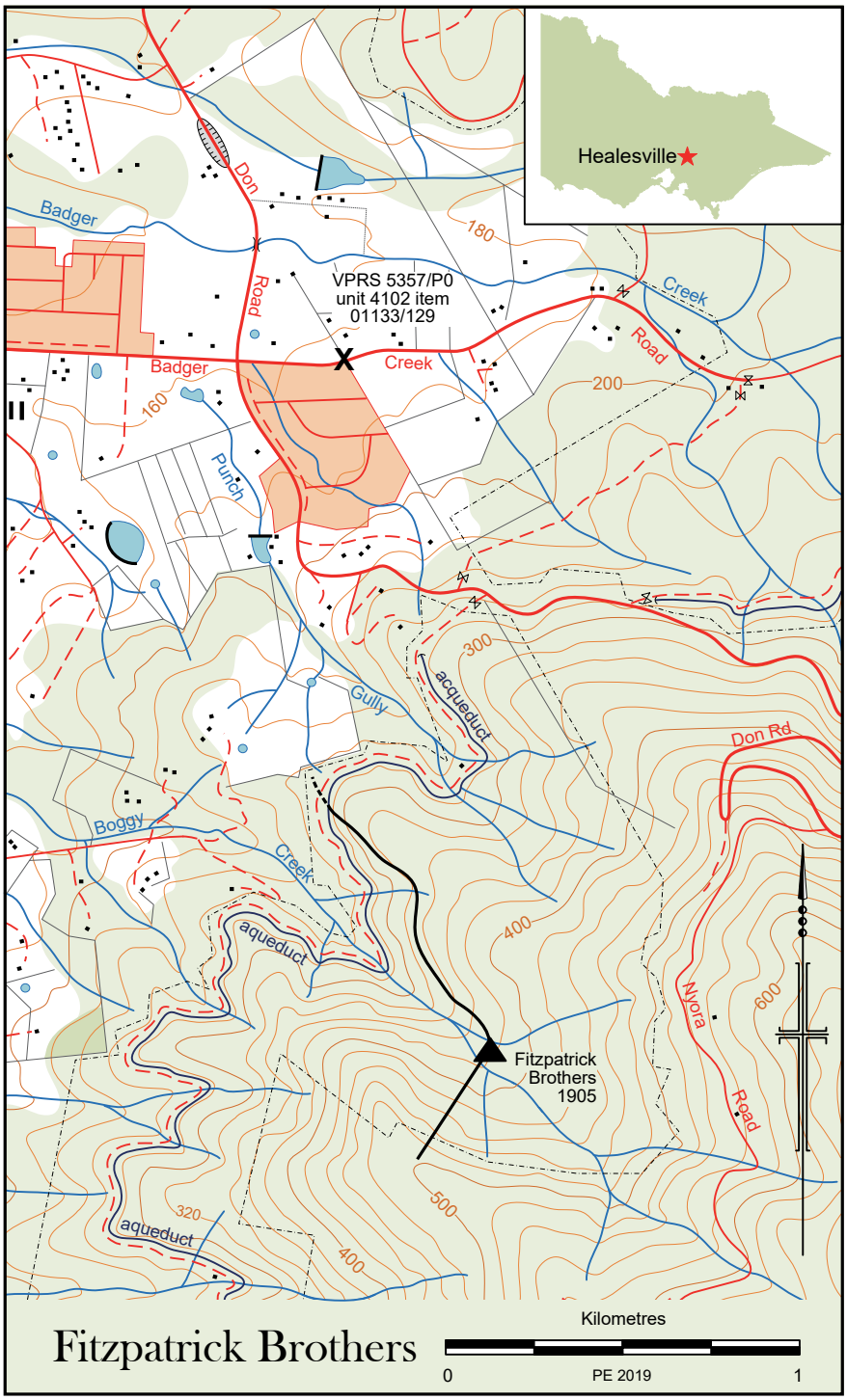
Please send any contributions, large or small, to fieldreports@lrrsa.org.au or to P.O. Box 21, Surrey Hills, Vic 3127.

Fitzpatrick Brothers' tramway, Boggy Creek, Healesville, Victoria
Gauge 914 mm

History:

Brothers James, William, Arthur and Ernest Fitzpatrick were the sons of a pioneer Victorian sawmiller. Patrick Fitzpatrick was born in 1840 and came to Australia in 1860. He carted supplies to the goldfields before entering into a partnership with Wombat Forest sawmiller Thomas Crowley in 1872. The partners moved to Healesville in 1891 and built a sawmill on Chum Creek before moving upstream to Meyers Creek around 1896. Not long after this last move, Patrick Fitzpatrick was severely injured when a load of timber fell on him and broke his pelvis. He was unable to work again and, following an operation, died on 2 August 1898. While this was the end of the partnership, both Crowley's and Fitzpatrick's sons had forged a bond that was to see them work together in sawmills over the next forty years.[1]

As soon as they were old enough, the Fitzpatrick brothers entered the sawmilling business in their own right. By 1904 they were already working a sawmill 'on the Don Road' about two hours walk from Healesville.[2] Presumably, sawn timber was dispatched to the Healesville railway station by horse-drawn waggon along Don Road. By 1904 the site was close to cut-out but, just opposite the mill, was a seemingly unlimited supply of timber on the thickly forested southern face of Mount Riddell. This was obviously the brothers' next choice of site once the Don Road area was cut-out for, in 1904, the brothers made the last of several attempts to obtain a new sawmill site on the Badger Creek fall of Mount Riddell. Badger Creek was earmarked for water supply purposes and, after a final refusal from the Board of Works,[3] the mill was shifted to a new site on Boggy Creek licensed in January 1905.[4] A fire in December 1904 which destroyed the existing mill may have accelerated the move.[5] The new site must have been relatively short-lived for, in May of 1905, Fitzpatrick brothers turned to the Department of Agriculture and applied for a new site at Mount Dom Dom. Because the timber would have to come through its Watts catchment, the Board of Works objected. The objection was overridden by the Minister for Mines & Forests,[6] and a licence for the new mill at Dom Dom was issued in January 1906.[7]



Wheelset (914 mm gauge) from the Fitzpatrick brothers' tramway at Boggy Creek near Healesville. Photo: Peter Evans

Site survey

Following advice from a local resident as to a starting place to access the tramway, the Boggy Creek mill site was surveyed on 11 December 1999. The tramway was picked up above the

Coranderrk aqueduct (completed in 1931) and followed uphill towards the mill site. A set of wheels confirmed the gauge as 914 mm [3 ft]. The tramway was evenly although steeply graded, and well-benched into the stony hillside. The tramway crossed at least two short bridges on its route to the mill site (set on a flat area above the junction of the main creek and a tributary), and the mill workers must have enjoyed spectacular views out over the Yarra Valley. Gentle slopes east of the mill would have allowed easy snigging of logs using animal power. An incline tramway was also built south-west from the mill up the steeper slopes to the summit of a spur extending west from Mount Toole-be-wong.[8]

It was not possible to pick up the tramway below the aqueduct as the majority of construction disturbance was on the downhill side and, below that disturbance, is private property with cleared paddocks. One track could be discerned through these paddocks behaving in a 'tramway-like fashion' but nothing was seen to confirm that it had formerly served that purpose.

Analysis

The site survey raises a number of questions. The Boggy Creek mill site could by no means be described as 'on the Don Road', so it would seem there must have been two mill sites, one 'on the Don Road' in 1904 (destroyed by fire in December of that year) and another in 1905. Mike McCarthy's database of sawmill licences in the *Victorian Government Gazette* shows only one sawmill licence in the name of Fitzpatrick for the Parish of Gracedale (in 1905). Therefore any preceding mill site must have been on private property. The only possible clue may have been in the file for the neighbouring sawmiller, William Pearce,[9] which shows an 'X' on the Badger Creek Road (transcribed onto the map accompanying this report). There is no annotation to add further information, but Lands Department officers were accustomed to keeping sawmillers set distances apart, and the 'X' *may* have served as a reminder of another mill. Given that the 1904 mill merited only two oblique references in the *Healesville Guardian*, and that there is no Lands Department file for the Fitzpatricks' 1905 occupation in the Parish of Gracedale, it would seem that the documentary evidence has been exhausted. The traditional method of 'strong boots and a sharp machete' is unlikely to add any more information. If there is an answer, it must be in the landscape, and emerging technologies provide the best hope for an answer.

Peter Evans 10/2019

References

1. Interview with Bill Fitzpatrick (Grandson of Patrick Fitzpatrick) 5 July 1998; *Healesville Guardian & Yarra Glen Advocate*, Saturday 6 August 1898, page 3.
2. *Healesville & Yarra Glen Guardian*, Saturday 15 October 1904, page 2.
3. PROV, VPRS 8609/P1 unit 68 item 648.
4. Sawmill licence 145/462 from 1 January 1905, Mike McCarthy *Victorian Government Gazette* database.
5. *Healesville & Yarra Glen Guardian*, Saturday 17 December 1904, page 2.
6. *Healesville & Yarra Glen Guardian*, Saturday 5 May 1906, page 2; PROV, VPRS 8609/P1 unit 68 item 648.
7. Sawmill licence 138/464 from 1 January 1906: Mike McCarthy *Victorian Government Gazette* database; site survey by the author 20 September 1999.
8. Site survey by the author, 11 December 1999.
9. PROV, VPRS 5357/P0 unit 4102 item 01133/145.

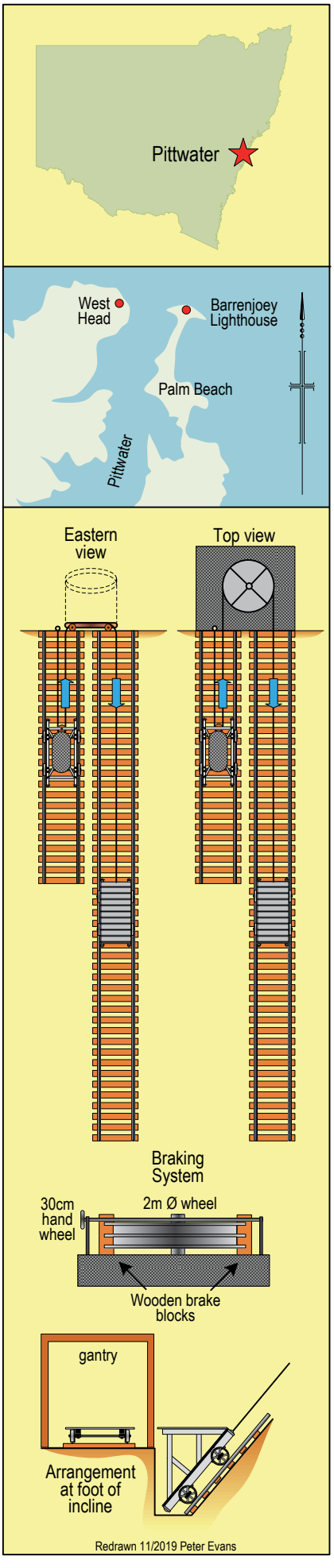
West Head lookout munitions tramways, Pittwater, NSW
Gauge unknown

I visited Pittwater (20km north of the Sydney CBD) in October 2019. At West Head Lookout (33km north of Sydney GPO and directly opposite the Barrenjoey Lighthouse), there are a couple of interpretative signs explaining how the area was used as a defensive gun position during WWII to protect Pittwater, the Hawkesbury River railway bridge and the Woy Woy railway tunnel:

> The guns of the battery were at the bottom of the headland while the road access to the site and battery administration was [sic] at the top. The top was set up as a full-scale military camp with large sleeping quarters, mess hall, administrative block and a parade ground. All the fortifications, equipment and stores had to be transferred from the top of the headland to the bottom by an inclined railway, where they were transferred to [another] railway that ran behind the gun positions and also serviced the ammunition magazine. … The inclined railway was worked on a counterweight system. The load trolley was stacked with the weight of enough equipment so that when the breaking [sic] system was released the load would be taken to the bottom. When unloaded the counterweight would bring the load trolley back up to the top. … The system used two parallel railway tracks with the load trolley on the north line and the 3 ton concrete counterweight on the south line. The southern line was half the length of the northern line, the cable being attached at the top and passing around a pulley on the counterweight trolley providing a 1:2 ratio, therefore the counterweight trolley had to travel half the distance of the load trolley. The system was controlled by a breaking [sic] system of four wooden blocks applied to the 2 m main wheel by turning a 30 cm hand-wheel…. To gain sufficient friction to 'grab', the wire rope went around the 2 m diameter wheel 2½ times. … About 10 m above water level the end of the inclined railway met the horizontal railway. The load trolley on the inclined tramway aligned with the trolley on the horizontal railway.

This installation would bear further investigation, although access to the site of the inclined railway (built in a natural crease in the escarpment) is restricted for safety reasons due to the remoteness of the site, its steepness (150 metres in length with a slope ranging from 35-50°) and the consequential potential for falls. However, access to the lower railway has been available since 2016 via the 'Old Soldiers' walking track (230m one way). The accompanying diagram of the inclined railway was redrawn from one prepared by P Rea and J Mercer to be found on one of the interpretive signs.

Fintán Ó Laighin and Carolyn Synnott 11/2019



Heritage & Tourist NEWS

News items should be sent to heritagetourist@lrrsa.org.au Digital photographs for possible inclusion should be sent direct to Richard Warwick at editor@lrrsa.org.au including the name of the location, the name of the photographer and the date of the photograph.

QUEENSLAND

ARCHER PARK RAIL MUSEUM, Rockhampton

1067 mm gauge

The museum is very close to completing the refurbishment work on the Camp Wagon CWM21. The next step is to repair the outside of the wagon, paint it and clean up the area for it to be a static display. The museum will continue to seek a grant to pay for the design of the internal display. At this point it is discussing displaying the tools, paperwork and clothes for workers up to the 1950s and 1960s since it already has these items in its collection without room for their display. During 2019 workers commenced collating the "Paperwork Collection" and the exhibits that they have will help make a very interesting exhibit in the wagon.

It is planned for the Purrey Steam Tram to go back into operations on Sunday 2 February 2020. RRC Fleet Services did its annual servicing and inspection of the tram, Billard and TMC6 in December/January. It has also been working on improving the water tanks, as there were some problems with filling, and have uncovered corrosion of the pipes. The museum has recently purchased a water softener to help reduce corrosion in the boiler and help make the chemicals perform better. The water softener will be set up in early 2020. The Billard also had some major work done on its brakes.

Tram Tracks: Volume 14 Number 1 February 2020

DURUNDUR RAILWAY, Woodford

610 mm gauge

Over the past few years, workers have focused on getting the track, rollingstock and passenger numbers up to a sustainable level. During 2020, there are two major things the railway needs to focus on – increasing active membership and finishing (or making a big dent in) the overhaul of the RM coach.

The organisation has reached the point where both of these are now holding it back. The lack of new active members is affecting all areas of the society. The RM coach is needed if the Society is going to increase and even maintain passenger numbers/income as the current train is at capacity. It also needs an all-weather coach for rainy days as well as to move into the profitable wedding/charter market.

During the past year the track team has been busy doing day-to-day maintenance as well as improving the safety and sustainability of the track; there are now just over 40 per cent of steel and concrete sleepers in the main line. Subject to ongoing maintenance requirements, as well as having enough helpers, the Society would like to make a start on the additional points needed at Peterson Road to connect up the new trackwork heading towards the level crossing.

On the rolling stock front, there has been an incredible effort put into the overhaul of the 91-year-old diesel Goondi (John Fowler 18260/1929, expected to be finished during 2020), as well as keeping up with ongoing maintenance. During the year a big achievement was the reprofiling of the loco driving wheels for *Goondi*, *Bundy* and *Perry*. Opportunity was also taken to replace the cracked driving wheel tyre on the Perry as well as replace defective axle box bearings on one of Bundy's driving wheels.

Durundur Railway Bulletin 41:361 January/February 2020

SUGAR CANE RAILWAY, Bundaberg

610 mm gauge

The Sugar Cane Railway at the Botanic Gardens is one of the region's most popular attractions with more than 630,000 passengers

The Big Pineapple at Woombye in Queensland has for many years operated a train for visitors taking them around the site. The photo shows the train operating on 16 January 2020. *Photo Chris Stratton*

Ex-Moreton Sugar Mill locomotive Moreton *operating tours through the rain forest at the Buderim Ginger Factory on 16 January 2020.* *Photo: Chris Stratton*

travelling on the train since 1978. With such a high volume of traffic, a lot of work goes on behind the scenes to keep the rail tracks maintained. Workers believe 2020 could be one of its busiest years ever. With nearly 2 km of track around the Botanic Gardens and 3000 wooden sleepers, the Sugar Cane Railway takes a lot of maintenance. Workers have to maintain the track in good condition because it comes under the auspices of the Office of the National Rail Safety Regulator. Its goal is to replace all of the 3000 wooden sleepers within ten years and so far the team has replaced 25 per cent.

During the recent school holidays, the Australian Sugar Cane Railway ran every Tuesday, Wednesday, Friday and Sunday. It was closed on Christmas Day but operated on Boxing Day.

Bundaberg Now Online newspaper Article by Trish Mears Wednesday December 18, 2019

NEW SOUTH WALES

PETE'S HOBBY RAILWAY, Junee

610 mm gauge

Pete's Hobby Railway now has its own engine shed and storage shed, ten metres wide and fourteen metres long, complete with two internal rail tracks, one of which includes a lengthy inspection pit. There is still much work to be done before it can be fully commissioned; a permanent electricity supply needs to be installed and connecting rail tracks need to be laid via the yet to be constructed turntable. However, the shed is a considerable milestone in the development of this railway.

Progress Report 55 December 31 2019

(Readers interested in more details of the shed development and the railway in general can access this information at http://www.peteshobbyrailway.club where all the Progress Reports are found.)

GLENREAGH MOUNTAIN RAILWAY, Glenreagh

1435 mm gauge

During the recent holiday season there was a break-in at the Glenreagh West depot when some items were stolen, including one of the throttles for the rail motor. It will be almost impossible to replace and it is unlikely it can be manufactured so readers are requested to look out for it. A photograph of the item can be found on the railway's website.

(www.facebook.com/glenreagh.railway/)

Facebook post 21/1/2020

ZIG ZAG RAILWAY, Lithgow

1067 mm gauge

Once again, bushfires have had a disastrous effect on the restoration of the Zig Zag railway near Lithgow. The bushfire known as the Gospers Mountain Fire hit the Lithgow area in the days prior to Christmas, including the Zig Zag Reserve and the railway property at Clarence.

Management was able to inspect the damage at Clarence, the worst affected area on 23 January. It found the toilet block, the office, the safeworking and communications huts and the storage containers all burnt, some sleepers and signaling equipment damaged, and the power and water supplies severely crippled. However, with the help of the local Kanimbla Rural Fire Service and Clarence / Dargan Bushfire Brigade, the station building was saved, along with the hospital carriage parked at the station.

The Bottom Points Workshop fared much better this time around compared to the 2013 fire. Advanced warning allowed workers to move most carriages into safer positions. All locomotives and carriages in this location survived. Damage has mainly been limited to infrastructure e.g. water pipes, electricity cables and an estimated 1500+ sleepers, but the railway also lost a couple of containers of spare parts. Unfortunately they have also lost four passenger carriages parked at Edgecombe siding, one of these, BV270, was once the oldest running passenger carriage in Australia. These carriages had been heavily vandalised so could not be moved to safety despite some messages on Facebook asking why they had not been moved into the tunnel. They lost a small shed at Top Points, with everything else there coming through unscathed. On the bright side, the vegetation management is going to be a lot easier in 2020!

TIMBERTOWN, Wauchope

610 mm gauge

On a recent visit to Timbertown, the Fowler was running at 80psi, although the steam gauge is redlined at 120psi. When the driver was asked about other locomotives, he said they have two steam locos being worked on somewhere on the Central Coast, but that some components are still on site though they could not be seen anywhere. He also said they have two Ruston diesels currently in Victoria that they hope to move to Wauchope later this year.

Chris Stratton, *Light Railways of Australia* Facebook Group post 9 January.

On 9 January 2020 Chris Stratton visited Timbertown at Wauchope in NSW and took the following photos:
Above: *The Fowler locomotive hauling a passenger train through the forest.*
Right: *The Fowler at the station.*
Below: *The Simplex locomotive in the yard showing the track layout and forest in the background.,*

VICTORIA

VICTORIAN GOLDFIELDS RAILWAY, Castlemaine

1600 mm gauge

As previously noted in *Light Railway News* (LRN53, August 1986), the Malcolm Moore 0-4-0DM ex Australian Paper Manufacturers, Broadford (and previously Maryvale) was transferred in the mid-1980s to this tourist railway that runs between Maldon and Castlemaine. During this Society's weekend trip to Maldon in November 2019, the MM was noted in Muckleford sidings. A return visit to Muckleford was made on Monday 18 November for the accompanying photograph. The locomotive is now over eighty years old, being built in 1938.

An article in *The Argus* (Melbourne) on 14 January 1939 supplies some details: "Sir Herbert Gepp, managing director of Australian Paper Manufacturers Ltd, said yesterday that the company would take delivery to-day of an interesting locomotive designed by Malcolm Moore Ltd., of South Melbourne, in consultation with the engineering staff of Australian Paper Manufacturers Ltd. This locomotive, of which more than 70 per cent of the value represents Australian labour and materials, is designed to use wood gas as its standard fuel, or, alternatively, Diesel oil. In other words, the gas engine which provides the

Above: *During January 2020 ex-South African Beyer-Garratt locomotive NG/G16 No.129 ran on 12 days on the Puffing Billy Railway. It is seen here climbing the 1 in 41 grade approaching Nobelius station on 29 January, with the 12:30 departure from Lakeside bound for Belgrave. The locomotive had officially entered service on 18 December 2019 following gauge conversion. It has since returned to the workshops for attention to the grate, and Lempor exhaust. Photo: Frank Stamford*

Below: *In the same month Beyer-Garratt G42 ran on 22 days. It is seen here on 29 January at Nobelius with the lunch train, bound for Lakeside. Photo: Frank Stamford*

power for the locomotive will run on eucalyptus firewood. The locomotive, which will travel at a normal speed of 15 to 25 miles an hour, will haul trains of loaded trucks to and from the siding on the main Gippsland line to the Maryvale pulp and paper mills of the company over a distance of 4½ miles. By arrangement with the Railways Department, the locomotive will travel the 110 miles to the mill at Maryvale under its own power, leaving Port Melbourne wto-day at 9 am. It will be open for inspection from 8.30 am to 9 am."

The Maryvale pulp and paper mill was built in 1937–38, and was operational from January 1938. It seems APM's first locomotive was a Fordson engined rail tractor – see *Morwell Advertiser* 19 Jan 1939. The same issue of the *Advertiser* also advises the arrival of an ex-VR DD-class 4-6-0 loco. It is known that D1 552, formerly DD 552 went to Maryvale in 1941 – so was the 1939 arrival just 'on hire'? *The Herald* (Melbourne) 14 April 1939 has a photo of the wood gas-powered Malcolm Moore. Clarification sought.

Also at Muckleford, in the platform Dock was a four-wheeled motorised 'thing' bearing the number '6-45-002' – see photo. Does anyone have any details?

Phil Rickard, December 2019

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

Ex-South African Railways Garratt NG G16 129 (BP 7430 of 1951) hauled its first revenue earning train on Saturday 11 January and entered regular service on Monday 13 January. Drivers and firemen are being trained on the job by already qualified drivers so that soon all drivers and firemen will be able to operate the locomotive independently.

During much of January and at the beginning of February NG G16 129 was frequently working the Lunch Train, and G42 was often working the Belgrave-Lakeside "shuttle" trains. On some days they swapped roles. On days when both Garratts were working, on at least some occasions the 10.30am departure from Belgrave had double-headed Garratts to Menzies Creek. The Gembrook train was operated by an NA, often oil-burning 14A.

Site visit, 14 January by Andrew Webster; Nicholas Breach reporting in *Narrow Gauge Enthusiasts* Facebook Group 4-5 February 2020; Frank Stamford observations.

TASMANIA

IDA BAY RAILWAY, Lune River

610 mm gauge

The Mercury online on 24 November 2019, noted that the contract for the popular tourist railway had been terminated. The now former Ida Bay Railway lessee, Meg Thornton said she was kept out of the loop on the Tasmanian Parks and Wildlife Service "closed-door" decision to terminate the contract she held for the bush tramway in the state's south.

The railway ceased operation some time ago due to a derailment caused by deteriorating track condition.

SHEFFIELD STEAM AND HERITAGE CENTRE, Sheffield

610 mm gauge

We unfortunately rarely receive reports from this railway, which operates a Krauss steam locomotive on 4 km of track. Its website reports that in 2020 it will operate on the first weekend of each month.

http://www.sheffieldsteam.com.au/

WEE GEORGIE WOOD STEAM RAILWAY, Tullah

610 mm gauge

Another line that we rarely receive reports from, but we are happy to advise that it timetabled operations on two weekends a month from 5 October 2019 to 5 April 2020.

www.weegeorgiewood.com.au

SOUTH AUSTRALIA

MILANG RAILWAY MUSEUM, Milang

610 mm gauge

Doubling the size of the South Australian Light Railway Centre is now complete. Additional storyboards have been erected describing several local steam powered light railways. A touch screen video display allows visitors to select from videos showing the Smithfield munitions railway, Cobdogla's Bagnall locomotive, the museum's Ruston Hornsby and several photo collections. With the museum's diesel driving simulator proving so popular, workers are now constructing a steam driving simulator based on a 1913 Decauville cab.

Free train rides are offered on the last Sunday of each month plus every Sunday during school holidays. They use ex-Smithfield wagons modified for passenger use and pulled by a 1942 BEV battery locomotive. The record so far is 36 trips in one day. However the locomotives batteries are now 23 years old and the museum is urgently seeking grant funds for the replacement.

The Light Railway Centre has just received an ex-Maribyrnong Explosives Factory cordite-drying wagon (18½-in gauge) from the collection of the late Robert Sherwood and donated by Frank Belcher. Restoration is

The 1942 BEV locomotive hauling a train load of passengers around the Milang site. *Photo: Peter Lucas*

now underway in the workshop by one of the volunteers using photos of identical wagons at Menzies Creek and the Alexandra tramway.
Peter Lucas, Secretary, Port Milang Historic Railway Museum Inc.

WESTERN AUSTRALIA

BENNETT BROOK RAILWAY, Whiteman Park
610 mm gauge
On 1 November 2019, BBR purchased the Kless locomotive (*Ashley*) and its three toast-rack carriages (ADL 101, 102, 103) from the Brajkovich family. It has been a goal for some time to own this set and it was finally possible due to the excellent financial return on the September 'Ashley Day'. Now that the Railway owns the set, any work that needs to be done to improve it can be done.
On 30 November 30 the tubes from NG15 123 (ex-South African 2-8-2 locomotive) were collected for delivery to Willis Engineering in preparation for re-tubing. They were delivered on Tuesday 3 December and it is hoped the boiler will follow in late January. Before this, Willis Engineering has been carrying out tooling ready for the tubes.
Major Projects planned for 2020 are:

- The re-tubing of the boiler of NG15 123, and fabrication of the ash pan.
- New motor, automatic gearbox and wheel tyres for the Fowler
- Completion of the wheelchair wagon for the Ashley Set
- Completion of the WVJ South signalling project and a start on the WVJ Signal Cabin
- As well as regular train services, maintenance of track, locomotives, rolling stock and signals
- Two Ashley Days.

On the ballast regulator TM715, a spark arrestor was fitted and the vehicle was fully rewired. Broom box welding is in progress and two hydraulic hoses need to be changed. ONRSR paperwork needs to be sorted to enable use of this vehicle.
On the Fowler, the engine and gearbox have been removed and a wiring diagram for the Allison gearbox has been found. All wiring looms related to the power-train have been removed from the cab and painting between the chassis and frame to enable the suspension to be fitted has been carried out. Engine mounts are to be modified to find the ideal position for the engine.
On the Gemco a differential specialist has been contacted to advise on the Funky gearbox and fitting of the last pinion.
Annual servicing has started on operating locomotives, starting with the Atlantic Planet No.7 followed by Ashley No.5 and the Dorman Planet No.8. Annual spark testing of all regular operating diesels is in progress; so far the Atlantic Planet No.7 has passed.
The BBR is currently in the process of putting together a Lotteries WA grant application to bring back to operating condition the 1907-built Orenstein & Koppel (b/n 2609) 0-4-4-0T Mallet, ex Magnet Tramway No.3 (Tasmania) and Great Boulder Gold Mine (Kalgoorlie-Boulder).

The new touch screen video display at the Milang Museum allows visitors to view a wide range of light railway material. Photo: Peter Lucas

Ex Maribyrnong Explosives Factory cordite drying wagon at the Milang Museum. Photo: Peter Lucas

Initial pricing for an all welded boiler has been sourced from a local engineering firm and design and costing works for the side water tanks and cab are being done. Workers are also looking at fabricating a small tender for the locomotive to make operation via coal firing on the railway easier. It is hoped to have the grant application ready to present to Lotteries WA in the first quarter of 2020. The Magnet Silver Mining Co.'s Mallets were unusual in having both sets of cylinders at the outer ends of each power bogie. It is around 25 years since any work has been undertaken on the Mallet. Around that time, ALCOA of Australia did the certified boiler welding in replacing sections of the internal and external wrappers on the existing riveted boiler, and had the wheels re-profiled, all at no charge, including transport both ways to and from the BBR Depot. Willis Engineering, on the basis of a special deal, which included transference of the BBR PMR 735 (4-6-2) to Willis Engineering, rebuilt the motion, bearings, cylinders and other frame sections to operational condition on compressed air. The Mallet Shed was acquired free of charge from Whiteman Park and erected at the rear of the current hangar abutting the main Loco shed for the purpose of storing the loco under shelter. Progress reports will be given as they come to hand.

The Bennett Brooklet January/February 2020

OVERSEAS

STATFOLD BARN

610 mm gauge

The Statfold Barn Railway has announced that there is a possibility that Garratt K1 will be returning to steam. The ex-TGR Garratt K1 is now at the Statfold Barn Railway on a ten-year loan from the Ffestiniog Railway. The current agreement was for a visual restoration and static display in the museum at Statfold. However, since its arrival, the Statfold Narrow Gauge Museum Trust has had a closer look at the locomotive to assess the work needed to return the locomotive to steam. It has also checked that the engine would fit at the Statfold Barn Railway. The SNGMT and FR Co has now completed an agreement where K1 can run at the Statfold Barn Railway and the Welsh Highland Railway.

In mid-January work commenced on dismantling the locomotive to restore it to operating condition. Amongst other things this will involve retubing the boiler.

Railpage News Railway Preservation Thursday 26 December; Barry Bryan reporting in *Narrow Gauge Enthusiasts* Facebook Group, 1 February.

NEW ZEALAND, Lumsden

1067 mm gauge

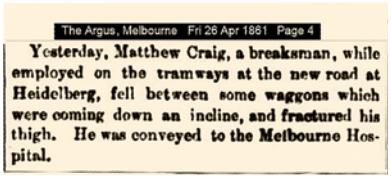
An 1885 locomotive has been lifted from its watery grave at the bottom of a river bed where it has been for the past 93 years, in a bid for new life. The Lumsden Heritage Trust had hoped to remove two partly-submerged locomotives from the Oreti River in Northern Southland. They were able to lift one of the locomotives (V 127) from the river but the other remains, deemed too difficult to pull out.

New Zealand Railways tipped two 1885 V-class locomotives into the Oreti River near Lumsden in 1927 for flood protection, after they were deemed as obsolete surplus stock and because the price of scrap metal was low after the war. They have been there ever since.

Ten of the 2-6-2 tender locomotives were built specifically for New Zealand by Nasmyth, Wilson & Co, and the two in the Oreti River are the last of their kind in the world. The rarity of the locomotive was well documented with a story on them published in a 1929 issue of the *Railway Magazine*. The magazine documented the day the locomotives were tipped into the river. Lines were specially made to get them to the river side near Lumsden.

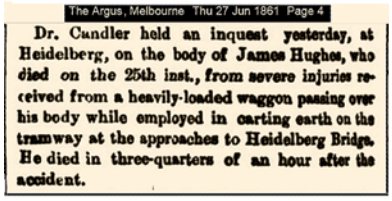
Evan Harding Facebook post 29 Jan 2020

Trawled from Trove



The Argus, Melbourne Fri 26 Apr 1861 Page 4

Yesterday, Matthew Craig, a breaksman, while employed on the tramways at the new road at Heidelberg, fell between some waggons which were coming down an incline, and fractured his thigh. He was conveyed to the Melbourne Hospital.



The Argus, Melbourne Thu 27 Jun 1861 Page 4

Dr. Candler held an inquest yesterday, at Heidelberg, on the body of James Hughes, who died on the 25th inst., from severe injuries received from a heavily-loaded waggon passing over his body while employed in carting earth on the tramway at the approaches to Heidelberg Bridge. He died in three-quarters of an hour after the accident.

All too often our only knowledge of the use of a contractor's temporary tramway or light railway is a newspaper report as a result of an accident. The above two items are a case in point. Our snippets, both from *The Argus* in 1861, pertain to Heidelberg, now in suburban Melbourne about 11km north-east of the City. The top item refers to the construction of a new road. It is known that in 1861 the Heidelberg Road Board (the precursor to local government) was constructing "Junction Road". There is no such-named road in Heidelberg today. The lower clipping mentions a 'Heidelberg Bridge', believed to be that over the Yarra River, and which connected Banksia Street, Heidelberg to the then rural farmlands of Templestowe. It had three laminated timber arches (40ft, 100ft, 40ft spans), each springing from stone piers. [Nowadays, 'Heidelberg Bridge' is reckoned to be the 86ft single-arched bluestone bridge that carries Heidelberg Road over the Merri Creek at Westgarth.] Readers' comments welcome.

Ross Mainwaring has written an excellent book titled Beneath the peak of Lyell – The Mt Lyell mines and their 2 ft gauge tramways *that the LRRSA is about to publish (by the time you read this it will have been printed). To whet your appetite, here are two photos from the mines – neither of which are in the book.*

Top: *Mount Lyell Mining and Railway Co's Krauss No.10 is seen here, in May 1963, crossing the timber bridge over Conglomerate Creek at Queenstown, Tasmania. The dual gauge rail track (2 ft and 3 ft 6 in) from Queenstown station yard to the copper smelter was known as 'the smelter loop line.' In the background is Queenstown's infamous gravel football field, around the back of which the rail track climbs at 1 in 30 up to the copper smelter. Photo courtesy Jim Stokes*

Bottom: *Tandem 14 ton Gemco trolley wire locomotives as photographed at Mount Lyell copper mine, Tasmania, in 1986. These semi-permanently coupled 2ft gauge electric locomotives have drivers cabs at either end, and their inordinately long fibreglass trolley poles reached up to the 500 volt dc overhead. Each unit was either a Master or Slave, and M1 and S1 are seen here shunting near No.1 bin in the yard. Coupled to S1, the ore train comprises ASEA OK-type bottom dump trucks which once ran behind ASEA electric locomotives. The company operated two sets of Gemco tandem locomotives. Photo courtesy Michael Dix*