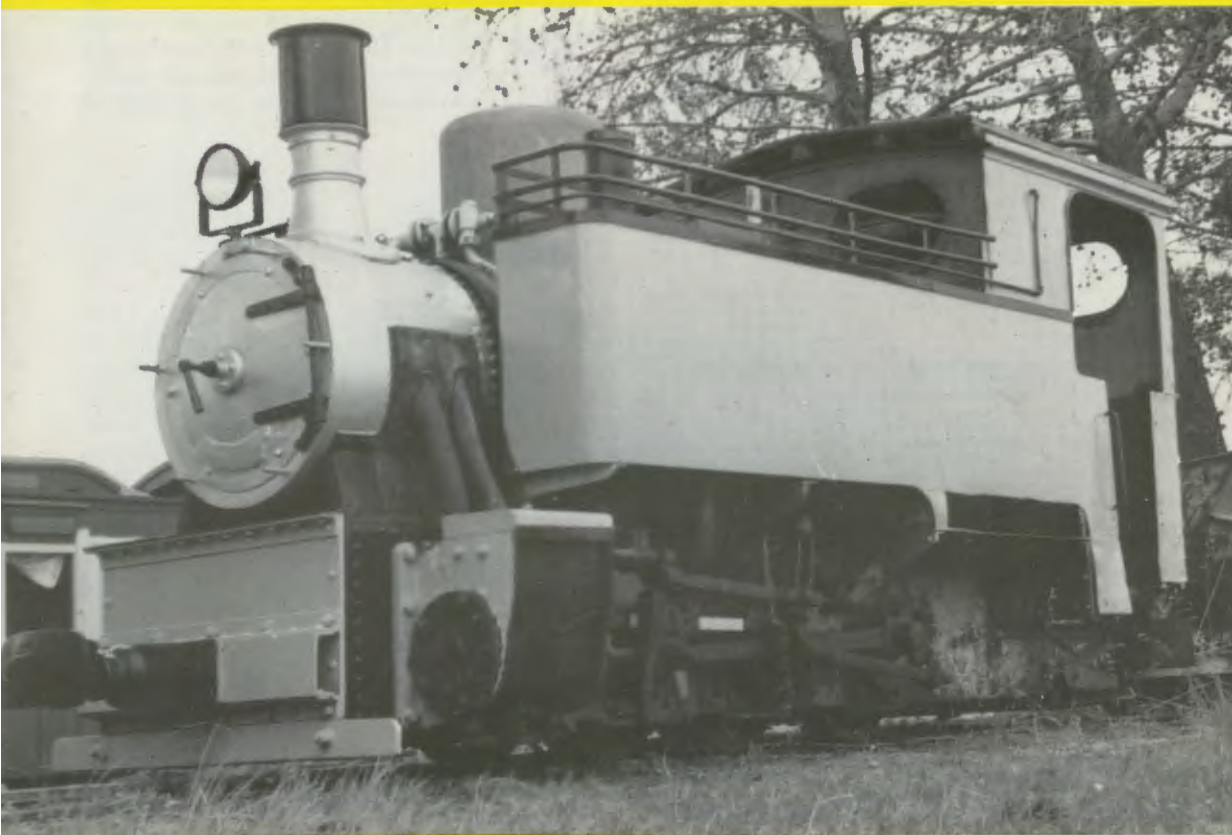


# **LIGHT RAILWAYS**

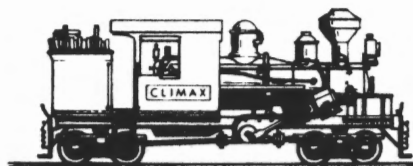
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## Light Railway Research Society of Australia

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## Editorial

*Light Railways* is the journal of the Light Railway Research Society of Australia. The Society's members are undertaking research into the history of light railways in Australia and her territories. These include railways and tramways serving the timber industry, sugar mills and mines, construction tramways, industrial railways and narrow gauge passenger-carrying railways.

Articles, letters, book reviews, maps, photographs and drawings on topics of relevance to *Light Railways* are required for future issues. Comments on previous articles offering corrections or additional information are welcome for inclusion in our "Letters" columns. Written material should be typed with double spacing. Material should be sent direct to the editor.

Cover: Lake View and Star's Orenstein and Koppel 0-6-0T (B.No. 4242 of 1910) at the ARHS Museum, Bassendean in 1979.

Photo: L. Watson

# THE GEELONG SEWER TRAM

by Norm Houghton

Ed. Norm Houghton's series of articles covering tramways of the Geelong District commenced in LR 73 with the *Geelong Harbor Trust Tramways*. We continue the series in this issue with the construction tramways for the Geelong Sewage Scheme. The article describes 12 miles of locomotive worked 2ft 6in gauge light railway operated by the contracting firm of Messrs Stone & Siddeley between 1912 and 1916 in connection with the excavation and laying of an ocean outfall sewer scheme.

## The Geelong Ocean Outfall Sewage Scheme

Agitation throughout the 1890s and early 1900s for a proper sewage disposal scheme led to the establishment of the Geelong Waterworks and Sewerage Trust in 1910 as an expansion of the former Geelong Municipal Waterworks Trust. Consultants' reports suggested various methods of sewage disposal and after deliberation the Trust decided on an ocean outfall scheme. Detailed

surveys and ocean current tests determined the route of the outfall as running from the urban areas of Geelong, South and then South-East to a point midway between Torquay and Barwon Heads known as Black Rock, a total distance of 11 miles.

Early in 1912 tenders were called for the manufacture, supply and delivery of reinforced concrete sewer pipes, and for the laying of the pipes. The Sydney-based consulting and constructional engineering firm of Stone & Siddeley won both contracts. This company was undertaking concrete construction work in Geelong at the time, and was a leading exponent of this type of work.

Edward Stone was the engineering partner in the firm, while Siddeley appears to have been the administrator. Stone rented a house in Geelong and lived in the City between 1911 to 1916, and also



The Marshall pipe factory in the course of erection. The railway siding can be seen on the right while in the centre foreground are stacks of rails and sleepers for the tramlines. GRHC photo

maintained an office in the business district. Siddeley made only one visit to Geelong, and this was to finalise the affairs of the sewer contract late in 1915. Stone had formerly been employed in the NSW Public Works Department, Roads and Bridges Section, and had later made a name for himself constructing concrete swimming pools around Sydney Harbour. His passion for, and expertise in, reinforced concrete work placed Stone years ahead of his time. Stone's design and execution of a suspended bow truss roof in concrete for Dennys, Lascelles Wool Store in Geelong during 1911 was an epoch-making event.

The contractors established a pipe-making factory in Marshall on railway land at the junction of the closed Geelong racecourse branch line. Portion of the racecourse line was intact for train-crossing purposes, so a turn-out to the main line at the Warrnambool end of the siding, plus a short dead-end into the factory, was all that was needed to finalise Stone & Siddeley's Siding.

Stone was an innovator possessed with imagination and practical sense, and he developed mechanised pipe-making techniques at Marshall that were unrivalled in the country. Sand, cement and stone were raised from the railway siding to storage bins by a bucket elevator, ready for injection into a cement mixer. The prepared mix was then elevated and tipped into moulds (having an inner and outer skin design patented by Stone), which were then subjected to compressed air treatment to force in the mix and extract excess water. The pipes were hardened in the moulds and then removed for drying and curing in the open air by being stacked along the old racecourse railway reserve. The Trust specified that the pipes be eight feet in length, which was a radical departure from the then-usual 2 feet length. The cross section of the oviform pipes was 4ft 3in by 3ft 3in. The length and size of the pipes gave them a weight of two tons apiece, and this fact was to influence Stone in deciding on whether to employ a light railway or road cartage.

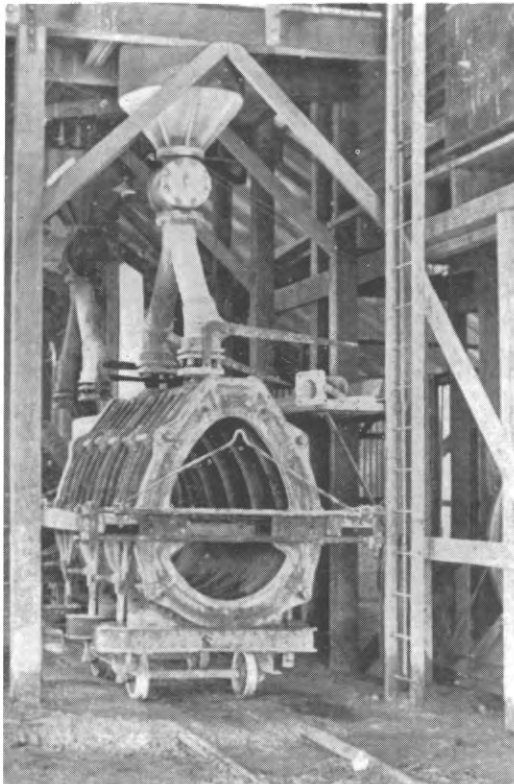
Excavation of the outfall trench at the ocean end was commenced in May 1912. One problem facing Stone was that of transporting materials and the heavy pipes from the factory to the trench, and removing the spoil. Road cartage contractors quoted a rate of six shillings per ton, a charge that Stone thought uneconomic, so he decided on a light railway system.

### **The Tramway**

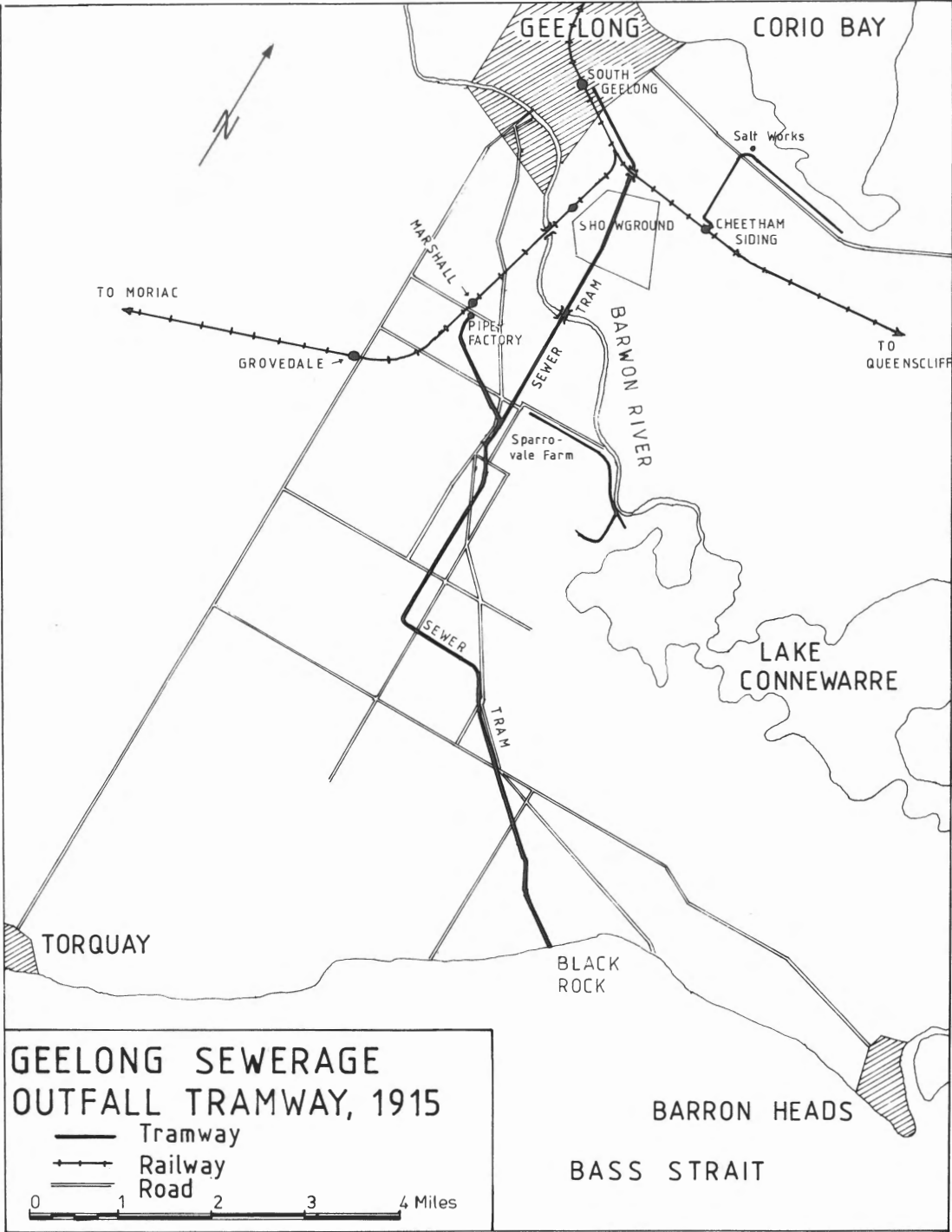
Stone purchased 8 miles of rails and sleepers, plus a locomotive and numerous four-wheel wooden-frame trucks and one-yard capacity skips

for a little under £3,000 from an unidentified source. The rails and locomotive arrived at Marshall in June 1912, and an immediate start was made to laying the tram track. The track ran East from the pipe factory along the racecourse railway reserve for one mile before meeting the trench route and following it South for 7 miles to Black Rock. The track was laid on the surface to a gauge of 2ft 6in with no ballast, and only slow speeds were permitted over it.

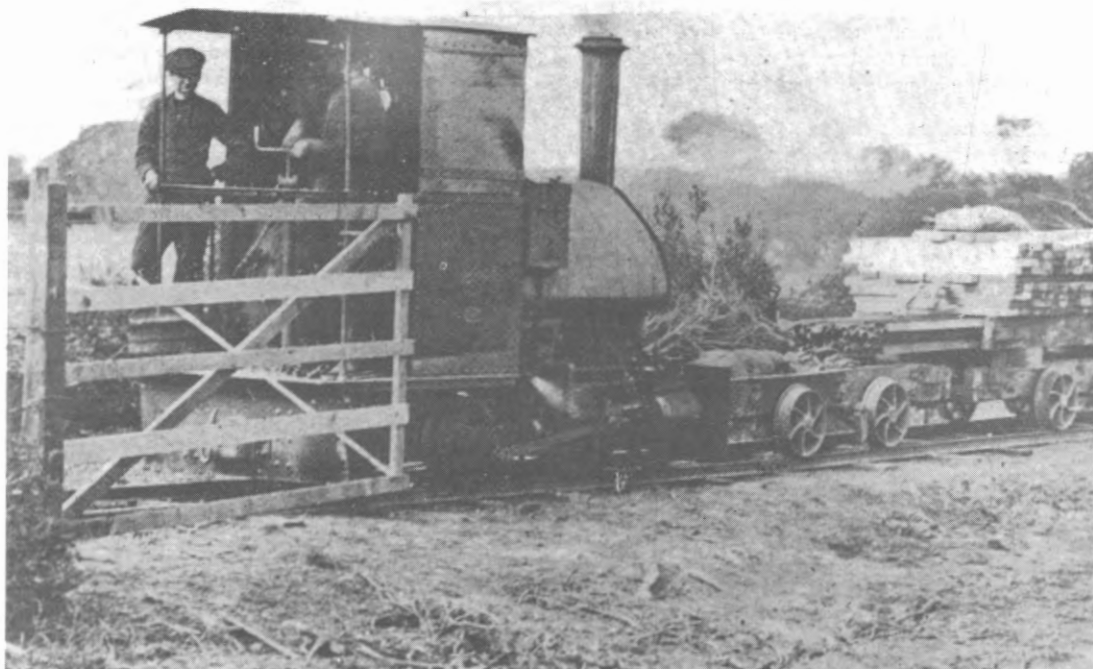
The locomotive was an 0-4-0 saddle tank with 19-inch diameter wheels and 6 x 9 inch outside cylinders. Built by W.G. Bagnall of Stafford, England (No. 1801) in 1906, it was one of their standard designs for light railways. The locomotive was originally purchased by the Long Tunnel Gold Mining Co. at Walhalla (Vic) as a duplicate to the one already in their possession (No. 1729 of 1903). A Geelong newspaper reporter described the locomotive as a "sturdy midget with a mushroom-like boiler."



Injecting concrete into the pipe moulds at the pipe factory.  
GW&ST photo







Bagnall locomotive No. 1801 hauling a works train towards Black Rock, 1912. Note the rails and sleepers on the second wagon. GRHC photo

## Southern Construction

By September, 1912, some seven miles of tram-line had been laid, and the first batch of concrete pipes, as distinct from the test samples, were turned out by the factory. The South Barwon Shire Council approached Stone with the proposal that surplus gravel and metal excavated from the trench be sold to the Council for road works. It was suggested that dumps be established at sites where the tram met the roads, and skip-loads of spoil be delivered to these points. There was much dithering about the price of the spoil, and nothing was done at this stage.

The tramline South to Black Rock was finally extended through to the coast by May, 1913. The first pipes were placed along the route in February, 1913, and laying and jointing commenced soon after.

On the evening of Saturday 21st February, 1913 Stone organised a midnight fete at Black Rock as a public relations exercise for Trust officials, Municipal representatives and journalists. The 100 guests assembled at the pipe factory for an inspection

and a demonstration of pipe manufacture, before boarding a train of nine pipe trucks fitted with benches. The loco was adorned with a Japanese lantern for a headlight, and soon after 9pm set off for Black Rock. The jolting journey was far from comfortable for the guests, but the travelling conditions were not unbearable. Two stops were made en route to see rock drills at work and inspect a length of jointed pipes. The terminus was reached at 10.15 pm, some 700 yards from the ocean, and from here the party walked to the site of the sewer outlet. Trestles set on the shore, laden with food, and lit by a petrol-driven dynamo, were awaiting. A meal plus speeches were indulged in until after midnight, before the return journey was made. The excursion was pronounced a success by the participants.

Work on trenching, laying and jointing pipes between Marshall and Black Rock continued until April, 1913, when preparations were made to initiate the section North of the pipe factory into the City of Geelong.

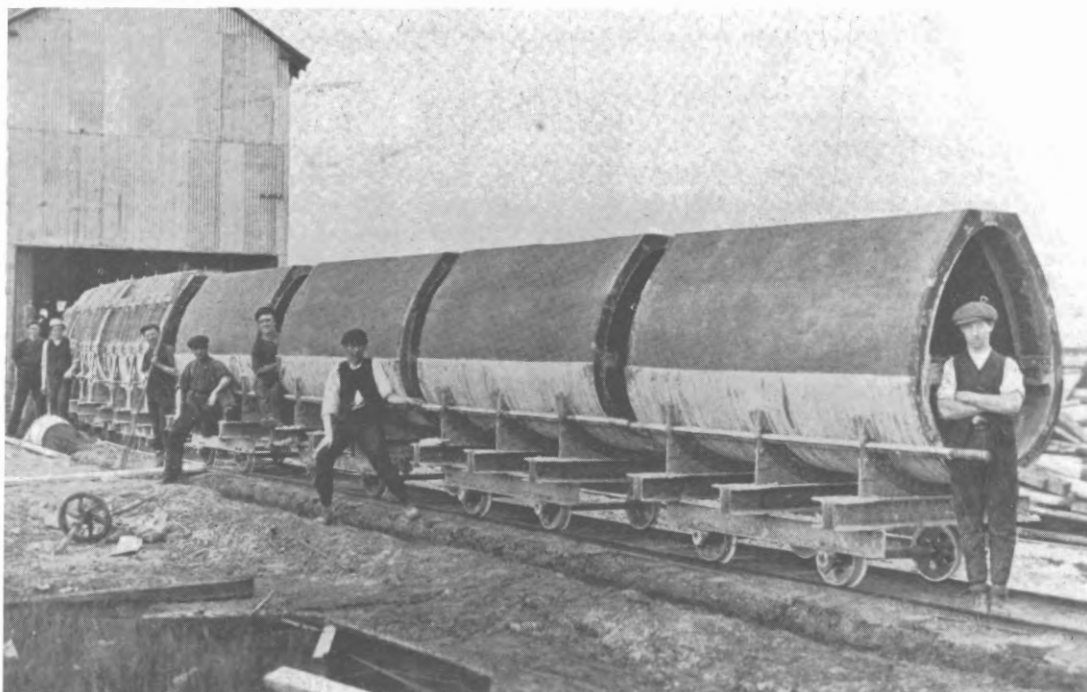
## Industrial Relations

Stone introduced various labour-saving devices along the trench in the form of compressed air rock drills and mechanical elevators to remove the spoil. This considerably eased the working conditions of the trench labourers but, even so, labour relations were not entirely harmonious. There was no accommodation at Black Rock, nor suitable drinking water, and this meant that the labourers, mostly Geelong men, had to cycle 10 miles out to work each day, carrying sufficient food and water for the day. The men requested cubicles and a water supply. The Trust then laid a water pipe along the full length of the trench, but no cubicles were provided for another twelve months. This action soured industrial relations beyond repair.

Labour was hired on the trench at a rate of eight shillings per day, when the rate for similar work in Melbourne was nine shillings. In the first place, this was to lead to a prolonged and bitter strike. Secondly, Stone worked his men in the pipe factory in contravention of the then award provisions. The award stipulated a 48-hour, 6-day week of eight hours, but Stone had the men on a 5-day week of up to 12 hours at flat rates. Such irregular

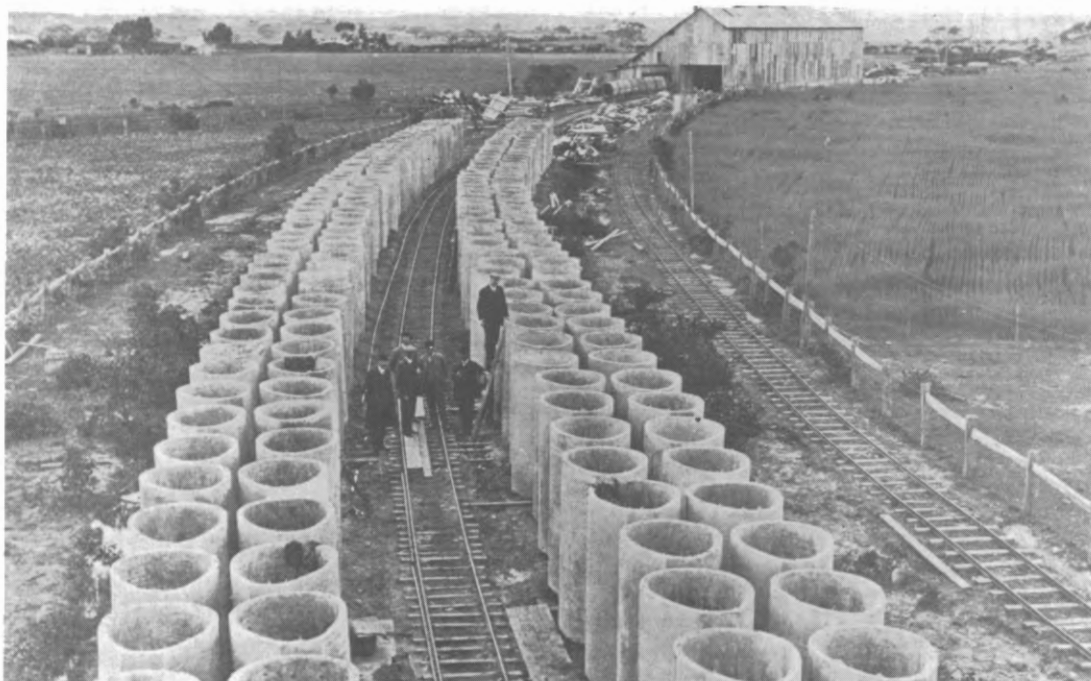
practices should have been detected by the supervising officers of the Trust, but were not, and this breach of the Trust's own Act was brought to their attention by no less a figure than the Victorian Premier, who demanded an explanation in a tart letter. The Trust was clearly embarrassed, and although a benevolent gloss was put on Stone's explanation (namely that the employees preferred to work long shifts on Monday to Friday so as to have Saturdays off) the Trust ordered Stone to adhere to the award, especially in regard to the payment of overtime rates.

The trench labourer's request for an increase in pay by one shilling per day was rejected, and on the 16th December, 1912, a strike was called. One bonus of the strike for the railway historian is that details of locomotive working and confirmation of the presence of a second locomotive were reported in relation to strike-breaking, and such facts would not have been mentioned in the normal course of events. The strike was to last until November, 1914, and although Stone experienced delays in completing his contract, he was able to carry on with an alternative labour force.



Freshly poured sewer pipes on the factory tramline.

GW&ST photo



The curing yard for pipes on the old Geelong racecourse railway reserve. The tramline to the sewer trench is on the right. GRHC photo

### The Northern Extension

The rails for the four-mile Northern section of the tramline arrived at the factory siding on Thursday, 22nd May, 1913. At this time Stone stated he had ordered a second locomotive to work this section, but its arrival or otherwise went unnoticed. Confirmation of a second locomotive with a probable delivery date in early June, 1913, was given in newspaper reports of 12 and 27 July, 1913, in reference to the strike then in progress. The only description of this locomotive is an indirect report by a journalist who stated early in 1914 that the mushroom locomotives would soon be seen in South Geelong. The inference drawn from this is that both locomotives were saddle tanks.

The possibility must be considered that the other Bagnall from Walhalla was purchased by Stone due to the fact that small locomotives of 2ft 6 inch gauge were not common in Australia, and this particular loco would have at least been available. Furthermore, a 2ft 6 inch gauge Bagnall was shown for sale in JE Toole's second-hand machinery catalogue in 1916, and this timing would coincide with the completion of the Geelong contract. It was sold in

the following year to E Ellis' sawmill in New Caledonia through Miller & Co. of Melbourne.

In the meantime, Stone & Siddeley had tendered for the construction of an aquaduct across the Barwon River to carry the sewer line over the waters. The firm won this contract to a design in reinforced concrete. In June, 1913, the tramline was extended North from the racecourse railway reserve along the trench route to the South bank of the River, and this means was used to deliver timber, tools, concrete piles, cement and centering for the aquaduct from the railway siding and factory.

A temporary wooden truss bridge was thrown across the Barwon River in September, 1913, and the rails extended to the North bank. This portion of the pipe track was to run underneath the new Geelong racecourse and showgrounds (where the large section pipes ended), cross the Queenscliff railway, turn West into Carr Street and continue to near the South Geelong railway station, where a turn North up the Bellerine Street hill to the McKillop Street ridge, was envisaged.



Stone was compelled to engage in protracted negotiations with the trustees of the Showgrounds, who in no way wished the ground to be ripped up before the plump season ended! The Victorian Railways and the Geelong City Council proved more co-operative. The VR gave Stone permission to pass under the Queenscliff railway, while the Council gave similar authorisation to lay the tramline in the City streets, provided suitable crossing places were made over the trench for normal traffic. Stone mentioned that he intended to run double-headed pipe trains up the 1 in 33 Bellerine Street gradient to McKillop Street but, as it turned out, the Carr Street to McKillop Street section of the tramline was not built, and this interesting working did not eventuate.

In another public relations gimmick, Stone announced during November, 1913 that once the tramline was through to South Geelong he would fit out two passenger vehicles and run inspection trips for the public over the entire route. The public were asked to watch the local papers for details, but no such notices eventuated so presumably the idea was dropped.

### Tramway Working

The sources consulted by the writer are vague on tramway working details, but it seems that Stone worked the tramline in two sections - a North and a South division - with a locomotive assigned to each. Temporary sidings and run-around loops were sited along the line of works as required. Two locomotive drivers and a foreman were employed, mostly on day shift. In July, 1913, the drivers joined the strike, and until replacements were found Stone himself and his draughtsman drove the engines. Stone kept the footplates open, as he put it, in case the strikers changed their minds, but they did not, and he had great trouble filling the vacancies. By early August, 1913, replacement drivers were found, one being a former Victorian Railways employee, and full locomotive operations were resumed.

The only serious tramway accident occurred in October, 1913, when a lad employed at the pipe factory had one leg crushed between the buffers of two pipe trucks. It appears the youth was coupling a string of pipe trucks and signalled the loco driver to pull ahead, but the driver misinterpreted the in-



Laying pipes in the trench. A skip and pipe truck stand on the tramline to the left.

GW&ST photo



Along the trench with the tramline on the right.

GW&ST photo

struction and moved the trucks in the opposite direction, catching the boy unawares.

As soon as the temporary wooden bridges over the Barwon River was completed, the tramline was laid across and pushed North. Excavation of the trench began at the same time. By January, 1914, the tramline was at the Showgrounds and crept across it to the Queenscliff railway by March, when it halted. Railway workers then excavated a subway, and laid supporting baulks under the broad gauge rails to enable passage of Stone's tramway through to Carr Street. The tramline emerged from the subway in July, 1914, and moved along Carr Street to the foot of the Bellerine Street hill, where the Northern terminus was sited.

A deep tunnel was driven in sections North from Carr Street through to McKillop Street ridge to take the sewer into the City proper. The tramline was not laid up Bellerine Street, as had been intended. Horse-drawn wagons were employed to deliver the pipes from the tram terminus to the shafts in Bellerine Street for lowering to the tunnel below.

#### **Completion**

Work on all sections of the contracts advanced through 1914 and into 1915. By January, 1915,

most of the work on the main outfall had been completed, leaving only the trench to be filled in. Problems at the Black Rock outlet held up a final completion until early in 1916. The aquaduct was finished by Christmas 1915, when it was hydraulically tested. The pipe factory closed around September, 1915.

Thus, by the end of 1915, Stone & Siddeley wound up their contracts and removed the tramway. The firm had earlier gained two contracts in South Australia to construct a breakwater at Glenelg and a jetty at a West coast port. It is known that one Bagnall locomotive went to Glenelg, and that from January, 1915, some of Stone's employees at Geelong left for these interstate jobs.

No trace of the sewer tram remains today, but monuments to Stone & Siddeley survive in the aquaduct and outfall that remain in use to this day. Several concrete test sections and forms still litter the ground at the Marshall factory site.

#### **Sources:**

Information for this article has been derived from a reading of every issue of the *Geelong Advertiser* from March, 1912, to March, 1916; selected dates from the *Geelong Times*; Geelong Waterworks &

Sewerage Trust files and Annual Reports 1911 to 1917, and locomotive and railway details provided by John Buckland and Jack McLean. Mr Kevin Carey of the Geelong Waterworks & Sewerage

Trust assisted with access to files and photographs. Bruce McDonald supplied the detailed data on the two locomotives.

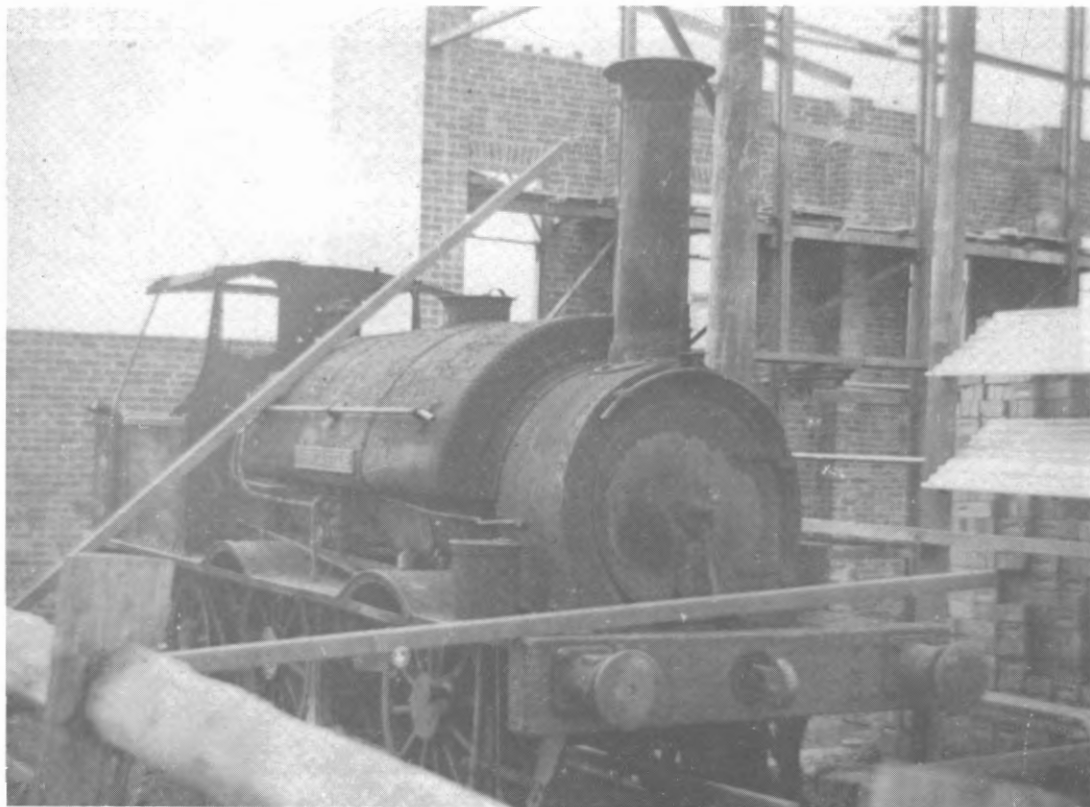
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## A LOCOMOTIVE NAMED NEWCASTLE

Notes by John Buckland

Beyer Peacock & Co. built an 0-4-2ST locomotive in 1879 (B/No. 1876) for the standard gauge line operated by the Newcastle Coal Mining Company who named her *Newcastle*. The locomotive had 14in x 20in inside cylinders and 48in drivers. After the NSWGR took over working the Company's line in 1885, the locomotive was

sold in January of that year to the Burwood Coal Co. In 1894 it was transferred to Dunham colliery and later again to Lambton B colliery, Newcastle. From March 1904 this line was operated by the NSWGR and the locomotive was placed in storage. In 1916 it was sold to Tullock Ltd., Rhodes where it was eventually scrapped.



*Newcastle* (Beyer Peacock 1876 of 1879) in storage at Newcastle or Rhodes, NSW.

JL Buckland Collection

# QUARRY TRAMWAYS AT TARRAWINGEE

by Tony Weston

I visited Tarrawingee in 1977 and mapped the quarries and narrow gauge tramway formations in the area. There were several quarries at Tarrawingee and one about 2.5 km north on the Corona road.

The area is shown on the two maps. Tramways in the main quarry area were short and in some cases fairly steeply graded. Some form of rope haulage would have been required on sections. Elsewhere hand trucking or horse haulage would have sufficed.

The tramway to the northern quarry had some substantial earthworks at either end, and was apparently locomotive worked. Coulls<sup>1</sup> refers to a quarry being opened in 1892 1¼ miles north of the original quarry:

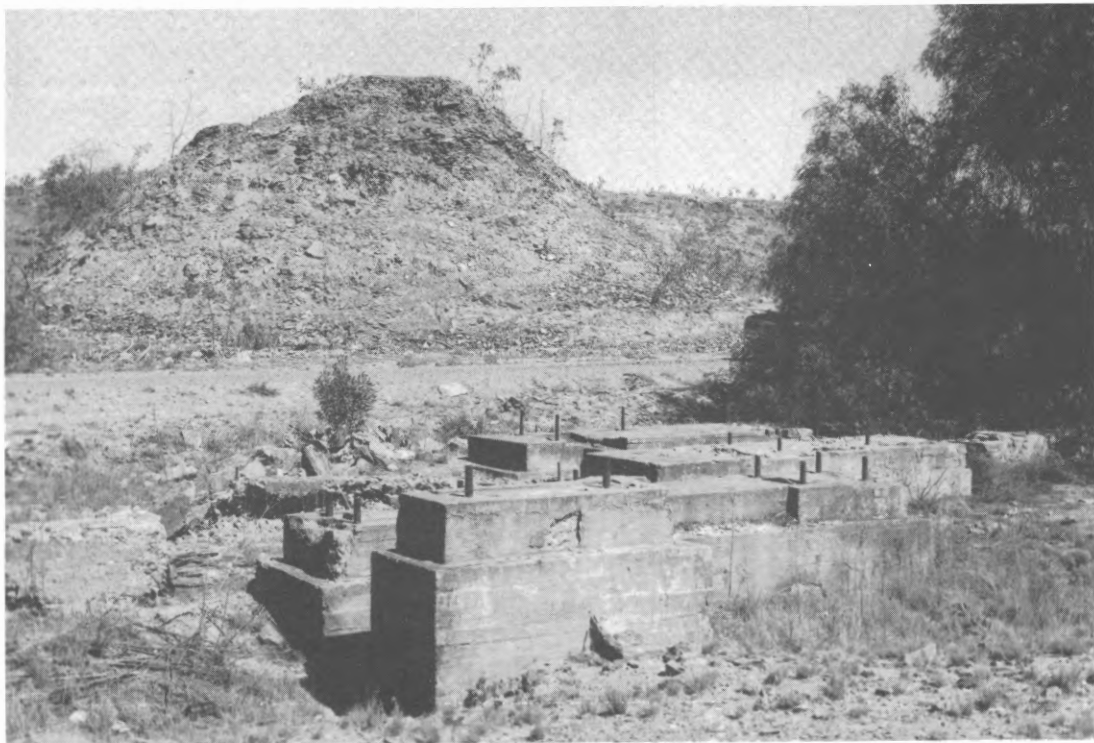
A second small railway was constructed between the quarries of 2ft gauge and a small loco

was used to bring the material to the crusher.

Stamford<sup>2</sup> mentions a Victorian Parliamentary Report of the 1890's stating that two 2ft gauge Krauss locomotives were then in use at Tarrawingee. Macdonald and Small's list of Krauss locomotives in Australia<sup>3</sup> shows three locomotives built around 1891-1892 for which the original owners are unknown (Nos. 2459, 2588 and 2591). Two of these (Nos. 2459 and 2589) went to the Tasmanian Government Railways, which suggests Tarrawingee as a possible source.

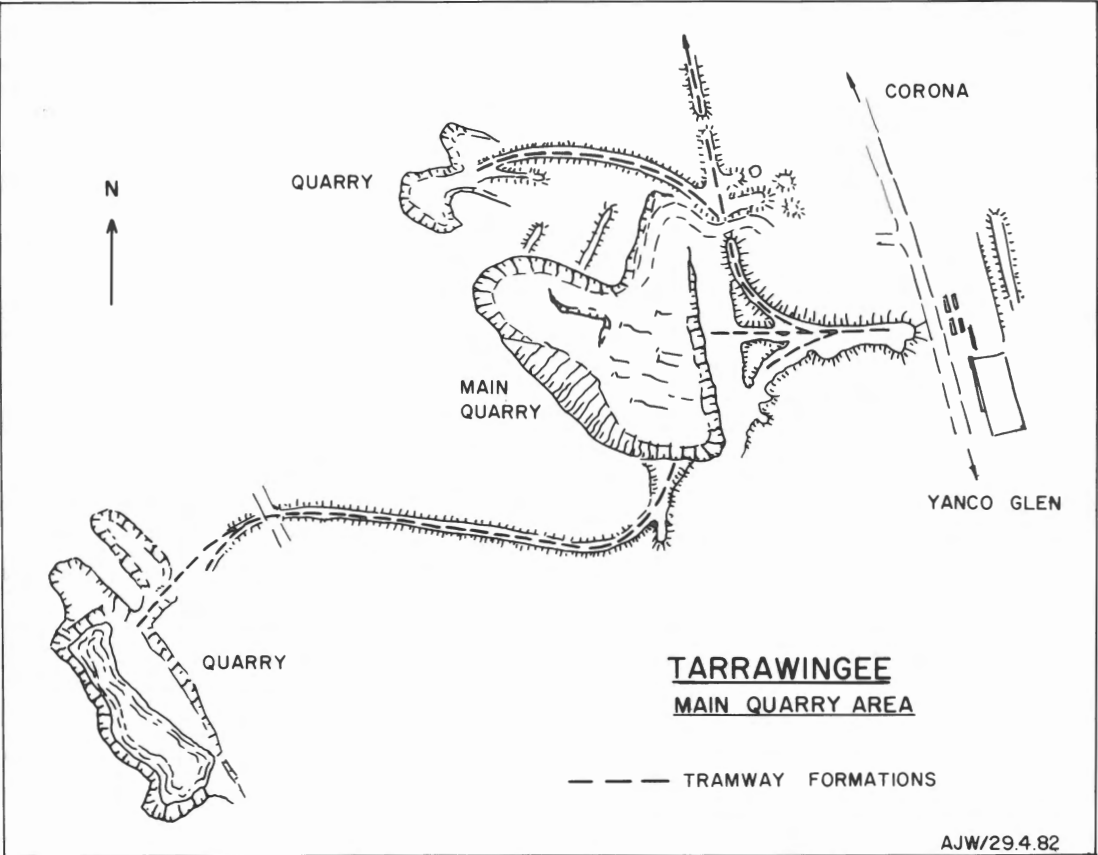
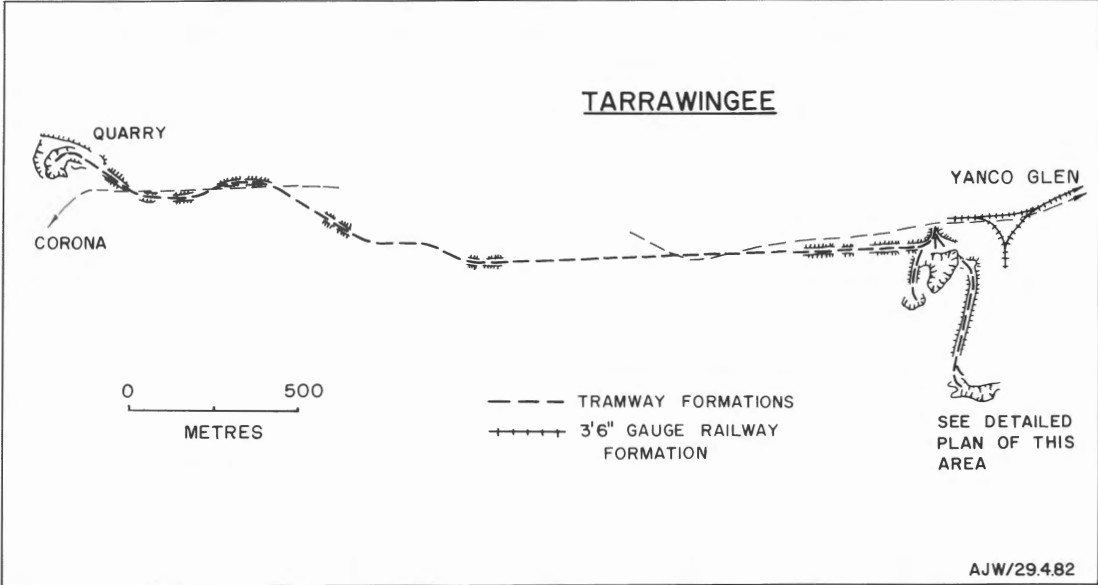
## References

- 1 Coulls, A., Tarrawingee, *Broken Hill Historical Society, Journal & Proceedings*, Vol. 4, Dec. 1968, pp. 15-16.
- 2 *Light Railways*, No. 32, p. 24.
- 3 Macdonald, B.T., & Small, C.S., *Krauss Locomotives in Australia ARHS Bulletin*, No. 391, May 1970, pp. 103-113 & No. 425, March 1973 p. 72.



Foundations adjacent to 3ft 6in gauge trackbed, Tarrawingee. The embankment from the main quarry is in the background. These are probably the remains of crushers or bins.

Tony Weston







The northern quarry at Tarrawingee. The 2ft gauge trackbed curves around behind the hill.

Tony Weston



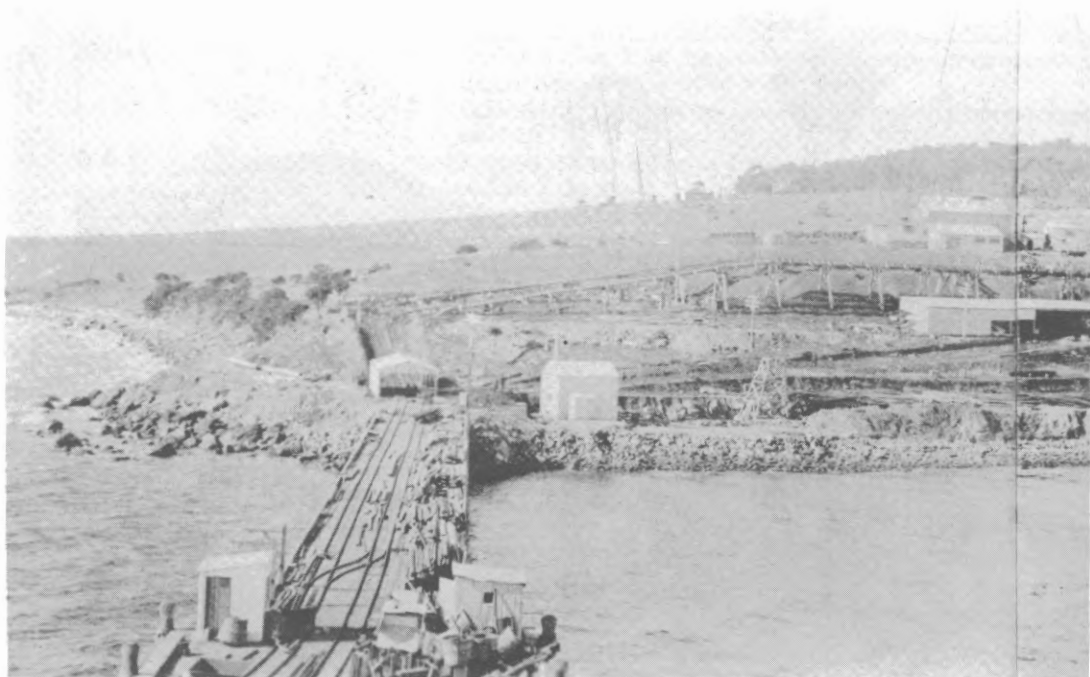
Embankment and trackbed of the 2ft gauge tramway which ran to the northern quarry.

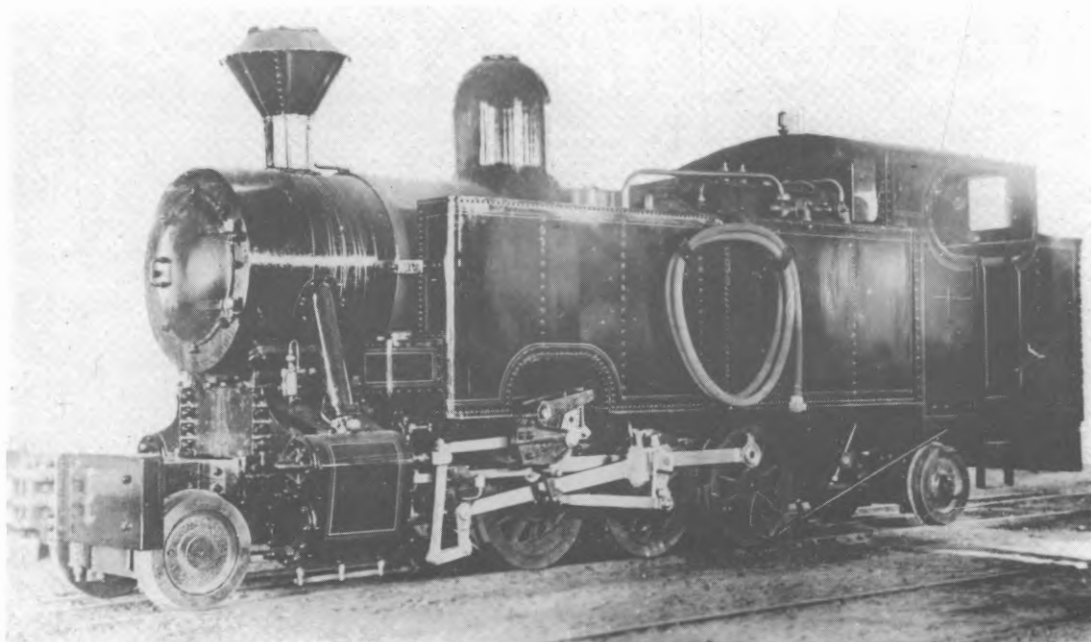
Tony Weston

## TASMANIAN SCENES

Robert Morgan of Scarborough, Qld., is seeking assistance from readers to identify a photograph of a Tasmanian railway scene. It comes from a collection of photographs owned by Mrs. Mary Goodwin, who lived at both Queenstown on the west coast and later on Maria Island off the east coast of Tasmania, her father being a mining engineer. All she knows of the photograph reproduced in the adjacent column is that it was taken "somewhere on the west coast of Tasmania" about the beginning of this century. An enlargement of the locomotive is reproduced on page 16.

A second photograph from Mrs. D. Goodwin's collection (below) shows the railway on the jetty at Maria Island. It was also taken about the beginning of this century.



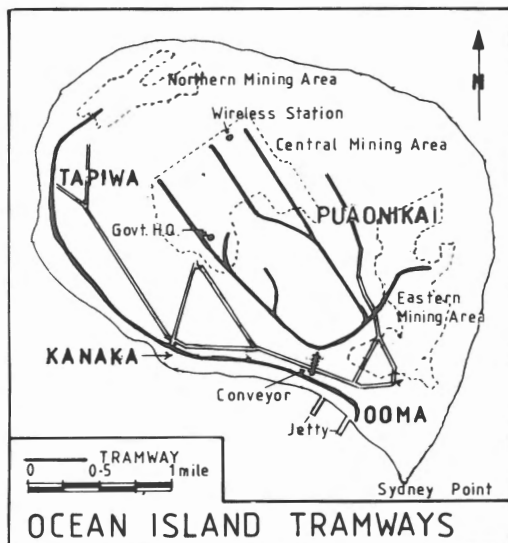


## FROM THE ARCHIVES

### LIGHT RAILWAYS FOR PHOSPHATE TRAFFIC.

From *The Railway Gazette* 21 March 1947.

The island of Banaba (Ocean Island) and Nauru, situated 160 miles from each other a short distance south of the equator in mid-Pacific, are famous for their large deposits of phosphate of lime. Both islands have a railway system operated by the British Phosphate Commission, in connection with the phosphate workings. The railway on Ocean Island was built in 1900, and was of 2ft gauge. A similar gauge was used on the Nauru system, but this was in the process of conversion to 3ft gauge before the recent war. Motive power on the two systems is provided by steam, petrol, and electric locomotives, all of 0-4-0 wheel arrangement. No passenger service is provided normally on Nauru, but on Ocean Island passengers are conveyed free of charge, between Ooma and Tapiwa. The pre-war passenger service on this system consisted of 11 trains a day in each direction on weekdays.



### BRITISH PHOSPHATE COMMISSION, OCEAN ISLAND

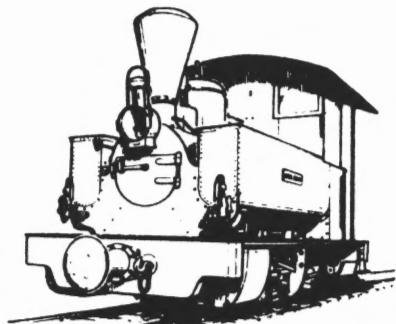
Steam Locomotive Details as at January, 1955

No.	Builder	B/No.	Year	Weight	Remarks
1	Bagnall	1870	1907	10t	Out of service 9/54 due excessive corrosion on throat plate. Repair beyond capacity of Island.
2	?	?	?	?	Possibly destroyed during Japanese occupation if not scrapped earlier.
3	O & K	?	1908	?	Possibly destroyed during Japanese occupation if not scrapped earlier.
4	O & K	11174	1925	5t	Not in commission
5	O & K	10474	1923	5t	Not in commission
6	O & K	5671	?	?	Possibly destroyed during Japanese occupation
7	O & K	12678	1935	7t	Reasonable condition - thought one year's life left in boiler.
8	O & K	12737	1936	7t	Boiler barrel plate and left hand side shell badly corroded, but thought to have 2-3 years useful life.
9	O & K	11585	1928	7t	Withdrawn from services 12/54 - repair beyond Island facilities.
10	O & K	11291	1926	7t	
11	O & K	9880	1922	7t	Possibly ex-Nauru 1936.
12	O & K	3300	1908	7t	Possibly ex-Nauru 1936.

**Source:** Mr T Muir, BPC Manager, Ocean Island

**Note:** *Railway Magazine* in 1937 quoted 7 steam and 2 oil locomotives in use about 1936. Oil engines were Avonside 1980 of 1926 and Hudswell Clarke P263 of 1928.

Items supplied by LG Watson and JL Buckland.



**HARTLEY VALE SHALE TRAMWAY, LR. 78** I refer to Alan Watson's letter regarding the locomotives at Hartley Vale as described by Messrs. Eardley and Stephens in *The Shale Railways of NSW*.

Two questions were asked, the first being the gauge of the railway. The problem is noted that the late Eardley (GHE) and Stephens had difficulty in deciding the gauge between 3 feet and 3ft 6in, but this had apparently been solved as metre gauge by the time *Shale Railways of NSW* went to press. It was FJ Reid who quoted in *LR. 64* that the gauge was 3ft 0in and prompted a correction to "possibly metre gauge" by the Editor.

On page 28 of *Shale Railways* GHE states that the late "Burnaby Bolton, a most reliable railway historian, stated that during a visit made to Hartley Vale about 1907 he saw and photographed a Dubs built locomotive in steam on the "Hill Top" section . . ." The photograph Mr. Bolton took that day is reproduced on page 30 and the day was 27 March, 1913 and not "about 1907" as stated. On that day Mr. Bolton measured and recorded the gauge as one metre. He passed his diaries on to me about 25 years ago and their reference leaves no doubt as to the metre gauge. According to Mr. Reid's account, 1913 was the last year of operation of the railway.

The second question referred to the locomotives, particularly whether the locomotive pictured on page 28 was a Fowler and the existence of the supposed Morts Dock 0-4-0 locomotive. GHE's characteristically colourful and lucidly detailed descriptions of locomotives were usually taken from the photograph used as the illustration and this was the case with this supposedly Fowler engine. On close examination of the locomotive in the enlarged photograph provided by Alan Watson and

## LETTERS

reproduced in *LR. 78* it will be noted that it possesses all the details including the improvised cylinder exhaust of water pipe elbows and fittings. The leading pony of this 2-4-OST can be clearly seen but the rear driver is hidden behind the cab step. In 1906 it was operating without the side rods that can be seen in the photograph. It is hard to say if this engine is a Fowler, although the cab is similar to other Fowler engines of this period.

With regard to the Mort & Co 0-4-OST, I have not seen any evidence produced to indicate one at Hartley Vale. However, I can confirm the statement GHE claims Burnaby Bolton made regarding two locomotives he saw working in the valley.

**JLN Southern  
Keiraville, NSW**

With reference to the gauge of this line I can confirm that the builder's records show Dubs (sic) 1442/1880 was indeed one metre gauge and that it was ordered through the NSW Government. While there are no obvious J. Fowler features about the 2-4-OT.OC used at the works, the external steam pipes would rather suggest that it was not one of their products. Nothing in the works list is an obvious candidate either.

**Richard Horne  
Surrey, UK**

**WA TIMBER TRAMWAYS, LR.73** I would like to offer some corrections to the article: "An Introduction to the Timber Tramways of Western Australia" by M. Southcombe.



Contrary to what is stated on the plaque at present displayed on the old relic at Busselton, the name of the first locomotive in Western Australia was *Ballaarat* not *Ballarat*. For a detailed description of that historic old locomotive, including photographs and scale drawings, reference should be made to the *ARHS Bulletin* of January 1978, Volume XXIX, Number 483, pages 19 to 23.

**RS Minchin,  
Claremont, WA**

#### **SANDFLY AND THE LOST TRIBE, LR.65.**

I am forwarding two photographs which relate to John Buckland's "Saga of *Sandfly* and the Lost Tribe" in *Light Railways* of July, 1979.

The first depicts Baldwin B/No. 7111 when it operated for Millar's Karri & Jarrah Co. (1902) Ltd., sometime between 1905 and 1909. This proves that *KIA-ORA* did carry its name, contrary

to the paragraph on page 22 of LR.65.

The second photo is of *DENMARK* (Baldwin B/No. 10770) as she is to-day. This locomotive operated in its latter years for the Australian Lumber Co. Ltd., and was used at its little known mill at Hotham. This was a siding on the Hotham Valley Railway, between Pinjarra and Boddington. To-day the site of the Hotham mill is located on private property many miles across country from public roads. The railway formation from the mill is about five miles long, the majority of which is across cleared paddocks. While faint, the formation is fairly easy to follow once found.

On page 23 of LR.65, Palvin's Siding is mentioned. This siding, which is 13 miles west of Hotham, had extensive bush rail trackage south of the mill and it is certain that No. 10770 ran on both of these Australian Lumber Co. railways.

**JM Austin  
Forrestfield, WA**



*KIA-ORA*, Baldwin O-4-OST (B.No. 7111) photographed between 1905 and 1909.

Photo: Joe Moir Collection



Scrapped remains of the locomotive *Denmark* (Baldwin No. 10770) at the old Australian Lumber Company mill, Hotham, Western Australia, November 1981. Photo: Jeff Austin

# LOCOMOTIVES OF WALLAROO AND MOONTA, LR. 58 & 62.

On page 16 of *LR. 58* was illustrated a vertical boiler geared 0-4-0T which Robert Buttrims suggested might have been the motor portion of the ex-G&SCT Rowan car although, in his view, it appeared too big to have been this. In *LR. 62* both John Buckland and I commented on the possibility of this being the Rowan car. Well now it appears that Robert's surmise was correct, for here in England Frank Jux (who incidentally was the unacknowledged person who searched through the John Fowler records and identified the works photo of 6026) has now advised me that the works list of Alexander Chaplin of Glasgow, builders of vertical boiler locomotives, gives:

2268/1883 6 hp AL Elder & Co.

2586/1892 6 hp James & Shakespeare

Now AL Elder, Adelaide businessman and associate of Sir William Watson Hughes of the Wallaroo & Moonta Mines, owned the agency

through which the W&M Mines acquired the 2ft 9in gauge 0-4-0WT. OC, Beyer Peacock 3057/1889 (see *LR. 62*, page 14). James & Shakespeare were the London agents who provided the Hudswell Clarke 0-4-2STs for the W&M Mines.

In view of this and in the knowledge that the W&M Mines had one or more vertical boiler locomotives it would seem to be almost without doubt that Chaplin 2268 was built for the W&M Mines (and in 1883 would have been 5ft 3in gauge). If Chaplin 2586 was also built for the W&M Mines, then in 1892 would more likely have been 3ft 6in gauge. However, apart from the James & Shakespeare connection, there is nothing to suggest it was at Wallaroo or even in Australia.

Comparing the illustration of the W&M Mines vertical boiler locomotive with Chaplin 2368/1888, fortunately preserved in the Glasgow Transport Museum, and a photo of a Chaplin built in the 1870s and illustrated on page 231 of *Industrial Railway Record* No. 42, there can be no doubt that

it, too, is a Chaplin. The details all tally; the more salient features in common being the disc wheels, round section coupling rods with flat bearing wedges, squat timber lagged boiler, disposition of rectangular tank (the 1870s view even shows an oval builder's plate), timber running board, footstep with rod hangers, etc.

It is a pity that none of us who wrote on this earlier thought to compare it with the products of the few well-known British builder of vertical boilered locomotives. The false leads of a "home-made" loco or converted Rowan car understandably led us astray. Perhaps less forgivable, we should have commented that as (to my knowledge anyway) the motor portion of all Kitson-built Rowan cars had outside cylinders and even when converted for industrial use, kept vestiges of the brackets that formerly held the leaf springs under each side of the car body, the Wallaroo locomotive was most unlikely to have been one.

Lately Frank Jux has been of considerable service to Australian railway enthusiasts as in his very considerable researches through old Stock Exchange reports, company prospectuses and elsewhere (tracking down locos of South African mining enterprises) he has discovered, *en passant*, that the Day Dawn PC Gold Mining Co. of Charters Towers, Qld., purchased new 0-4-0T. IC Robey of (Lincoln) 8035/1883 and second-hand a 2-4-0T. OC, either Tasmanian Main Line Rly 10 or 11, but probably the former Fox Walker 143/1871. A more detailed report of this should appear in a future *ARHS Bulletin*.

Frank has also discovered that in 1895 the Lion Timber Mill at Chidlow's Well, Western Australia (latterly owned by Bunning Bros.) was in the hands of Honey & Co. who had "one loco and 6 sets of timber trucks". This locomotive (shown in a photograph) was of the traction engine type and unusual in having coupling rods, a feature, according to Frank, unique to the products of John Fowler. Indeed the loco closely resembles the works photo of, and even could be, JF 5006/1885, an 0-4-0WTG with compound cylinders of 5½ and 9 in x 12 in stroke.

**Richard Horne  
Surrey, UK**

Ed. See also B. Henderson's letter in *LR 78* for discussion of the traction type locomotive at Honey & Co.'s mill.

## NATTRASS RAIL TRACTORS, LR.70

It would appear that at least three Nattrass rail tractors came to Victoria. Jack Ezard informed me that his father purchased a unit following the demonstration at Starvation Creek mill in November, 1926, as mentioned in Ted Stuckey's article in *LR 70*. The tractor was not popular with Ezard as it suffered frequent breakdowns of a similar nature to those experienced by the Forests Commission in the Tyers Valley, and it would seem that it was used for only a couple of years. Mr Ezard stated that it eventually "flew to pieces" and was abandoned in the scrub alongside the Starvation Creek tramway.

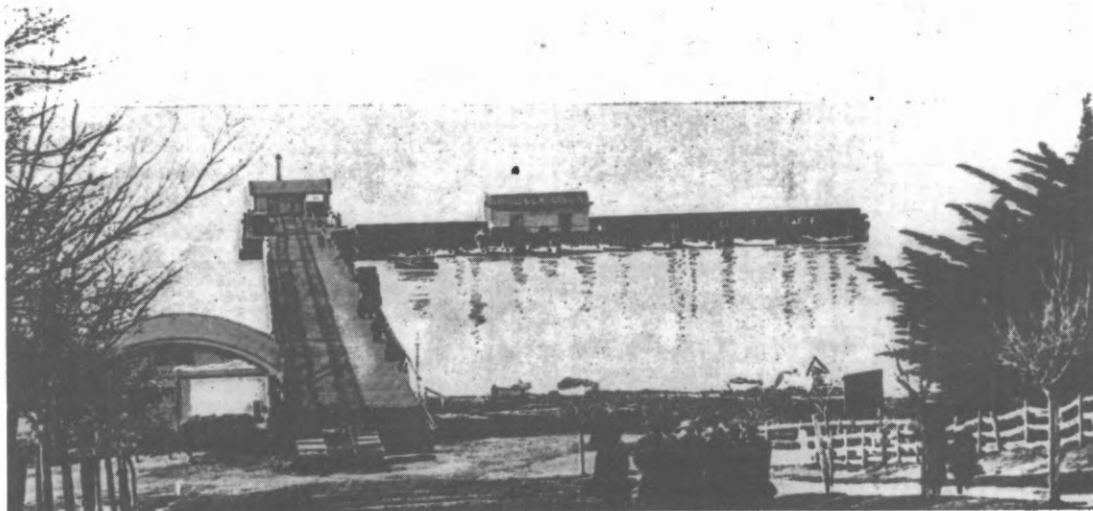
The demonstration of the Nattrass at Ezard's mill was certainly fruitful as far as L Bannister & Sons, the Melbourne agents, were concerned. In addition to the units sold to Ezard and the Forests Commission, a third tractor was sold to JD Walker early in 1927, for use on his tramway running south from Nayook West. Walker was present at the Starvation Creek demonstration and he apparently got the pick of the crop. If you can count frequent engine changes as normal wear and tear, Walker's unit operated virtually trouble free on the line serving his Wild Cat Creek mill for twelve years. Bill Walker, the brother of JD Walker, was a regular driver and he informed me that the only strife they experienced with the tractor was getting it started in the morning if the kerosene fuel settled in the carburettor overnight. The tractor was normally started with petrol and, once warmed up, was switched over to kero.

Walker's tractor was not only used at his own mill, but was also hired on occasions for short stints on Taylor's tramway out of Black Sands, Currie's line out of Millgrove and also operated, for a short time, at Ezard's Starvation Creek mill, while Ezard's own Nattrass was undergoing repairs. Walker intended taking the tractor with him to Tanjil Bren in 1939, but the infamous bushfires of that year beat him to it: the tractor was destroyed when the fire swept through the Nayook West settlement where it was usually stabled overnight.

## GEE LONG HARBOUR TRUST TRAMWAYS LR.73

It would seem that, at least up until 1905, the Port Arlington Pier tramway was a double line affair, possibly being converted to single line at the time of the 1912 repairs.

The enclosed photograph appeared in the *Australasian* on October 21, 1905 and shows



Port Arlington pier in 1905.

Australasian

clearly the double line extending the full length of the pier.

I hope that these few additional pieces of information are of interest to readers.

**Mike McCarthy**  
The Basin, Vic.

**NEW SOUTH WALES PASTORAL TRAMWAYS, LR. 78.** Another reference to pastoral tramways in NSW is found in H. Sowden's *Australian Woolsheds* published by Cassell in 1972. *Toganmain* near Hay is stated to have had a horse tramway from the woolshed to the Murrumbidgee River.

**Tony Weston**  
Leinster, WA

#### **FIJI'S SUGAR TRAMWAYS, LR.77.**

Congratulations to all those involved in the production of *Light Railways 77*, which I found to be a most interesting and informative issue.

It should be noted that the locomotive shown on page 3 is not a John Fowler product, but rather one of the two Hudswell Clarke 0-6-0T locomotives supplied to CSR in 1911. The locomotive pictured is Rarawai Mill number 12, Hudswell Clarke 933.

The two small E.M. Baldwin diesel-hydraulics at Labasa Mill (see the table on page 29) are from a batch of six supplied to order number 3229 in 1970. These six locomotives carried builder's numbers 3229-1-4-70, 3229-2-4-70, 3229-3-4-70, 3229-4-4-70, 3229-5-4-70 and 3229-6-4-70. As the exact identity of the two locomotives at Labasa is not known at present, they should perhaps both be shown as 3229-?-4-70. Both were rebuilt by Labasa Mill in 1980.

**John Browning**

Mackay, Qld.

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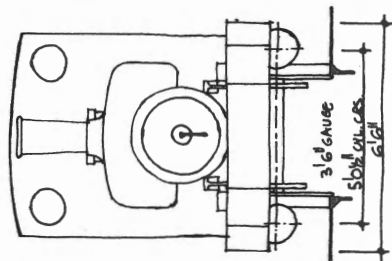
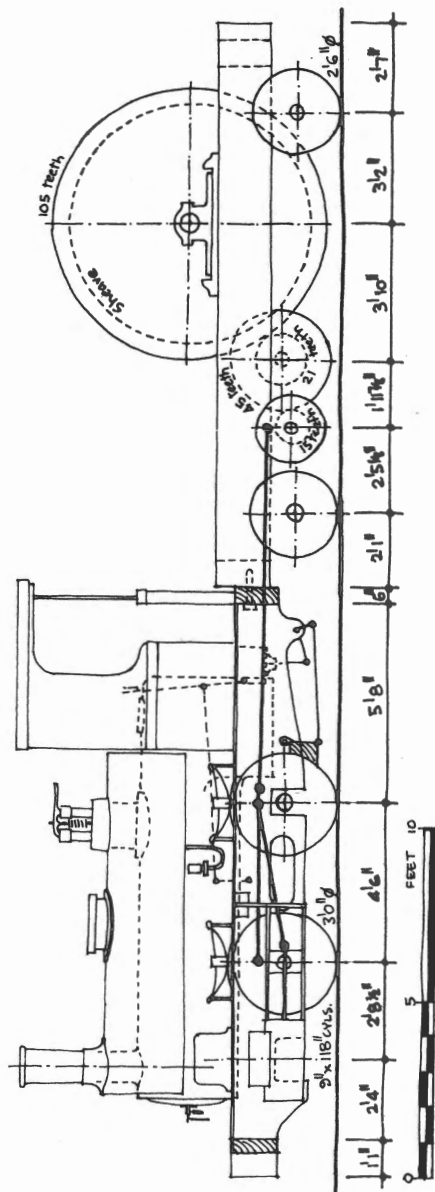
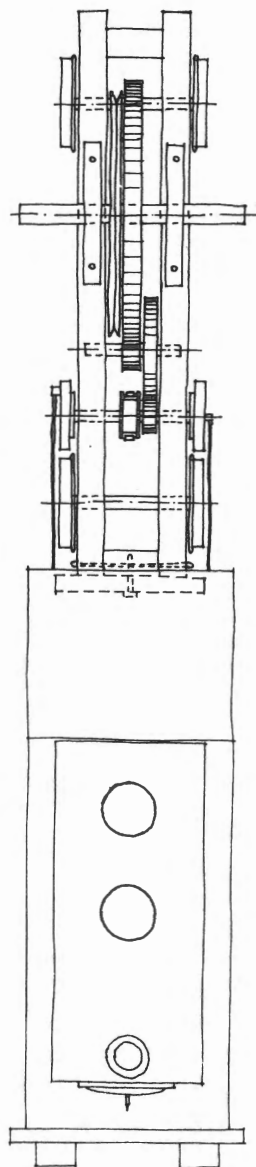
LOCOMOTIVE SPEEDS	1st—1½ to 2 m.p.h.	Forward
	2nd—3 to 3½ m.p.h.	and
	3rd—7½ to 8½ m.p.h.	Reverse

An early Malcolm Moore Ltd. advertisement (date unknown) for their Fordson powered logging locomotives.



# WILLIAM BROWNLEE & Co, Sawmillers, Havelock, N.Z.

0-4-0ST Loco with hauling gear, Built by Andrew Barclay, No.718 of 1892



R. T. HORNE 5/1982