



**A FAIRLIE ENGINE** on the Ffestiniog Railway in Wales, 2018. It was named *David Lloyd George* on one side and *Dafydd Lloyd George* on the other. **RODNEY BARRINGTON.**

## CHAPTER 7

### ROBERT FAIRLIE AND HIS DOUBLE ENGINES

**1867 was the year that Abraham Fitzgibbon departed Queensland and Captain Bagot swung the vote in favour of the narrow gauge in the South Australian Legislative Council.**

**In the decade that followed, the Australian colonies would sort themselves into two camps. There were the narrow-gauge colonies and the ones that weren't.**

**Each colony had its own particular story to tell.**

#### VICTORIA

Victoria had made an early start with several companies commencing private railways, all 5 ft 3 in. The Melbourne and Hobson's Bay Railway was opened in 1854, thus establishing Victoria as having the first steam railway in Australia. There were some lines close to Melbourne, but it was the lines to the goldfields that presently interest us.

The line to Sandhurst (Bendigo) was opened in 1859. The line to Geelong (1857) was followed by a line that junctioned at North Geelong to reach Ballarat in 1862. (Maps are in Chapter 12.) These lines were built like the railways of England, with substantial buildings, magnificent stone viaducts, and double track. But one by one, they encountered financial difficulty and were taken over by the Government. The last line of this era was the extension of the single-track line from Sandhurst to Echuca in 1864.

There was agitation for railways in other parts of the colony and local railway committees sprouted. Editors of the rural newspapers joined the call. Towards the end of the 1860s there were three regions that offered the best potential for development. To the west there was Ararat and beyond, with mention of future extension to Hamilton, Portland and into South Australia. There was Gippsland, of which the suggested railway terminus was Sale. The third was a line to the north-east, possibly to Beechworth. Surveys for these lines were underway.

Ultimately, it was this last line that was commenced in the late 1860s. It would terminate at Wodonga, and when it was completed, it sat rather impatiently for the next ten years, awaiting the invitation to enter New South Wales. If the protagonists for the narrow gauge had a win with the railway to Wodonga it was likely that those projected for Gippsland and Western Victoria would continue the same way.

The railway committees and newspaper editors were eager recipients of journals like the *Engineer* and the *Railway Times*, and even the *London Times*. They were well informed of the narrow gauge and the fact that more miles of railway could be built for the same amount spent on the old broad-gauge lines. They did not need substantial masonry buildings or stone viaducts. Timber was plentiful and could be used for bridges and viaducts. The members of Parliament were under pressure, not only to deliver a railway but to do it at the lowest price – and that meant narrow gauge.

But they did not have an Abraham Fitzgibbon nor a Captain Bagot who could champion their calls. The Engineer-in-Chief in Victoria was Thomas Higinbotham and he was not convinced about the advantage of the narrow gauge. In September 1869, Higinbotham had completed the survey for the north-east line, and was coming under increasing attack regarding his insistence that the line be built to the broad gauge. One of his arguments was that this railway was probably destined to be the connection to New South Wales, and would therefore have to carry trains at a good speed. Narrow-gauge railways were slower.

In November 1869, the Parliament engaged the services of Mr William Elsdon, who was the engineer for the Melbourne and Hobsons Bay Railway, to prepare a report. This required him to visit England, Europe, Russia and the United States of America. His report was dated 29 April 1871. The report was not in favour of the 3 ft 6 in narrow gauge, but he did support the 4 ft 8½ in gauge, given that he expected the north-east railway would ultimately connect with the NSW system.

Thomas Higinbotham provided a supplementary report, making comments on Elsdon's report. By this time 14 engines had been ordered for the north-east line, and work was underway on the first section. To change the gauge from 5 ft 3 in to the 3 ft 6 in would involve a delay and cost.

But the issue that definitely put the end to the narrow-gauge plan for the north-east railway was that it would have involved a break-of-gauge at Essendon. The railway to Essendon, opened in 1860, had been one of Melbourne's early private railway failures. It was three miles in length from the Essendon Junction. The track was not in good condition when the Government had purchased the line in 1867 but it had been selected as the starting point for the north-east line.

By this time the newspaper editors and local railway committees had a champion. Robert Fairlie, the Scottish engineer, whose name had been associated with the three double-engines built for Sir Charles Fox.

Fairlie was able to quote figures such as relative costs of competing gauges. But Higinbotham disagreed. The savings were much less than the amount Fairlie had claimed. After receipt of Elsdon's report and Higinbotham's supplementary report the Parliament appointed a Select Committee. The Select Committee appointed by the Victorian Parliament reported on 1 August 1871. Of Robert Fairlie and his system it said:

The Fairlie system of railway is scarcely entitled to the designation of a system, inasmuch as it is simply the adaptation of engine and carriages on the bogie principle.

And on the matter of gauges:

It appears from the evidence submitted that a narrower gauge than the one adopted in Victoria would be more economical both in the construction of the permanent way and the rolling stock. But as to the expediency of constructing any new lines on a narrower gauge...and the inconvenience and risk that would result from a break-of-gauge, the balance of the evidence taken before your Committee is opposed to any immediate change on the main trunk lines.

Robert Lee, in *Railways of Victoria* has written of Guilford Molesworth who was the Director General of the Ceylon Government Railways. Molesworth was opposed to railway systems having multiple gauges and provided supporting information to Higinbotham and also to John Whitton, who was Engineer-in-Chief in New South Wales.

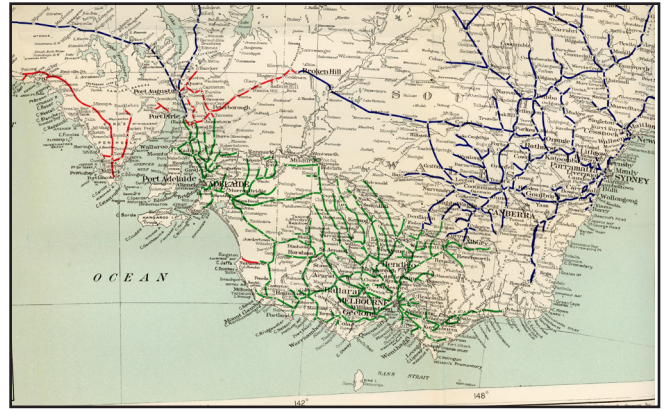
The Select Committee that reported in 1871 did not have the final word. Still the newspapers and the railway committees were calling for narrow-gauge lines.

About 1869, Fairlie engaged an engineer, Daniel Climie, of South Yarra, as his Victorian agent.

Climie wrote many letters in support of Fairlie and the narrow gauge. This one was to the Editor of the Melbourne **Argus, 15 November 1871:**

Sir, as representative of Mr Fairlie in this colony, I beg you will allow me space to contradict some of the statements made by certain honourable members in the Legislative Assembly on Wednesday afternoon during the debate on the Railway Bill, which statements are not only entirely without foundation, but are calculated also to seriously injure the personal and professional reputation of a gentleman who is not present to defend himself against such attack...

Daniel Climie, South Yarra.



**A LARGE FOLD-OUT MAP** was included in an enclosing envelope in the back of Eric Harding's *Uniform Railway Gauge*. Part of it has been reproduced here to illustrate the colour coding. There has been a consistent application of red to the 3 ft 6 in, for official reports such as Clapp (Chapter 20) and unofficial reports such as Pollitzer (Chapter 12). Note the narrow-gauge remnant of the Kingston line in South Australia.

This correspondence is relevant because two years later, Fairlie declared that he had never had an agent in the Australian colonies.

In 1872 Fairlie produced a book which dealt in length with the advantages of the narrow-gauge railways and expanded on his 'system of narrow-gauge railways'.

In Victoria in November 1873 the North East line to Wodonga was completed. That had been the main target for Fairlie. Having lost that battle, he retreated. There would be no entertaining of the 3 ft 6 in gauge for the lines to Ararat or Sale.

Sir Charles Fox, who had been the main protagonist of the narrow gauge in Queensland, moved on, first with a project in Canada. He had subsequently directed his energies into the Cape Colony and Rhodesia (now Zimbabwe) where an extensive railway network of 3 ft 6 in gauge was developed. That left an opportunity to fill the need in Australia and this is where Fairlie stepped in.

Whereas Sir Charles Fox had confined himself to the 3 ft 6 in gauge, Fairlie was not tied to a particular gauge.

In India he took advice from four 'prominent engineers' of whom three favoured 2 ft 9 in, and the fourth favoured 3 ft 6 in. Those engineers never came with names attached.

He didn't need to put names to them. What he was selling to the new world was exactly what they were clamouring for. They asked no questions. He then took the average (although by what mathematics we don't know) and pronounced 3 ft 3 in as the right gauge for India. He then advised that a railway of 2 ft 9 in was cheaper to build than the 3 ft 6 in. His choice of the 2 ft 9 in gauge is a mystery. It doesn't exist in India, nor anywhere else in the world.

Over the next four years Fairlie and Climie sent a steady flow of correspondence to newspapers and railway committees where-ever they saw an opportunity. The rhetoric was one of self-promotion and Fairlie's letters were never short.

Fairlie's interest in narrow-gauge railways had initially been fired by the Ffestiniog railway in Wales. This was for transporting slate to Portmadoc, a distance of 13¼ miles. The railway was 1 ft 11½ in gauge and was worked by horses. There were some very tight curves that made it unsuitable for a conventional locomotive.

Fairlie had taken a patent with his double-engine in 1864.

The advantage that the narrow gauge had over wider gauges was that it could cope with tighter curves and that meant that the narrow-gauge railway could hug the contour of the land, whereas the broad-gauge railway needed tunnels, viaducts and major earthworks, which came at considerable cost. The problem for Fairlie was that many of the Victorian railways were across country that did not require tight curves.

The only proven advantage of the narrow-gauge railway in this situation was smaller sleepers, and that is where the cost difference between broad-gauge railways and narrow-gauge railways worked in Higinbotham's favour. It seemed that Fairlie needed to have a battery of advantages, and by 1872 he could quote six advantages of the narrow gauge, but some of them were different wordings of the same thing.

One of them was 'dead weight'. The engine and its trucks were loading that brought no revenue. It was dead weight. It was the space in the trucks that earned the money. Fairlie claimed that broad-gauge engines and trucks weighed more, and thus carried more dead weight. Against this was that broad-gauge trucks could carry more goods.

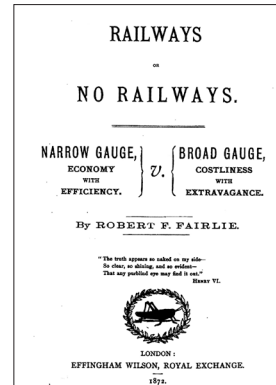
## SOUTH AUSTRALIA

The climate for the protagonists of the narrow gauge was easier in South Australia where Captain Bagot's experimental 3 ft 6 in gauge Port Wakefield Tramway was under construction. The next railway Bill to come before the South Australian Parliament was the Bill for the railway from Lacedpede Bay. This would be another horse tramway and was across fairly level country from Kingston to Narracoorte in the South-East of the colony. Captain Bagot's term in the Legislative Council had run its course in 1869. He was then 78.

Bagot's departure from the Parliament presented an opportunity for a new self-proclaimed railway expert in the form of Mr Arthur Lindsay, Member for Encounter Bay. But he could see what was about to descend on South Australia with its two-gauge policy.

The people of South Australia had a choice regarding their source of information. There was the *South Australian Register*, that had been the colony's first newspaper. It was fiercely independent. The other source of opinion was the *Advertiser*, that was more conservative and inclined to support government policy. For the student of South Australian history, the editorial content of the *South Australian Register* has generally been considered to offer a well-balanced perspective.

It comes as quite a surprise to read the comments of the editor of the *South Australian Register*, 31 October 1871. The tone of the editorial indicates just how far opinion had shifted in South Australia, away from the broad gauge. There were people in country towns who were eagerly awaiting their local railway and those who were advocating against the narrow gauge were seen as obstructing progress.



**THE TITLE PAGE OF FAIRLIE'S BOOK.** It is presently available as a facsimile edition. Given what we now know about Fairlie's methods of promoting his cause, there is little in it of scientific merit.

It seemed that Fairlie's supporters had elevated his doctrines to the status of a fanatical religious cult. The fascinating thing is that Fairlie had never been in Australia.

By speeches first delivered to large audiences, and then sown broadcast over the land by pamphlets and newspaper articles from the pen of friendly critics, they have circulated the facts and arguments in favour of their system far and wide. Ranging themselves under the leadership of Mr R Fairlie they have spared and are sparing neither trouble nor expense to extend the knowledge of their creed, and to demonstrate its superiority over the venerable railway creeds of former days, once held in such high estimation.

Arthur Lindsay had been the lone voice in the House of Assembly who had tried to change the gauge to 5 ft 3 in, but the editor of the *South Australian Register*, 23 September 1871, had worked out where his allegences were:

That Hon. member has made railways his study for many years and will not believe that anyone else knows anything about them. According to him the *Engineer*, one of the leading periodicals, is childish. He says Mr Mais is not to be trusted...

Hence, although he has something to say on the subject that is worth hearing, it is so overladen with extraneous matter, and so mixed up with impracticable notions, that there is no pleasure and very little profit in listening to him as the champion of exploded fallacies, but even claiming on that higher ground to be a champion of the higher truth...

The House, however, declined to be carried away by the old-fashioned theories, and decided to make the line of a 3 ft 6 in gauge, anticipating therein probably by only a few hours, the decision by the Victorian legislature on the same subject

That was a very bold statement by the editor that the Victorians would back the 3 ft 6 in gauge for the line to Wodonga. The *South Australian Register* rarely got its editorial comment wrong. Was it the editor's own wishful thinking, or had he been led up the garden path by wishful thinkers in Victoria?

But within a few more years the railway map of Australia was spouting red lines of narrow gauge in most colonies.

The South Australian Engineer-in-Chief, Henry Mais had been initially opposed to the narrow gauge when it was first advocated by Captain Bagot. By 1870 he was accepting that it had some advantages. Mais was of the opinion that there was a place for narrow-gauge railways from the hinterland to the port as an economical means to shift the wheat harvest.

The railway from Adelaide to the River Murray would involve tight curves and steep gradients. Thus, there was good reason to use the narrow gauge. But Mais was also conscious of the need to avoid a break-of-gauge at the border.

In 1874 the South Australian Parliament established a Railway Commission that would recommend future railway routes. Henry Mais was one of the members of that group.

We will deal with that Commission and its recommendations in chapter 10, but the matter of the railway to the Victorian border demands our present attention. The choice of gauge for this railway would depend upon the final decision by Victoria for its railway in the direction of the border.

South Australia's railway to the Victorian border would have to wait a few more years but it would be built to the 5 ft 3 in broad gauge, thereby avoiding a break-of-gauge at the border. The other colonies had break-of-gauge stations at their borders that required the travellers to change trains, usually at rather inconvenient hours.

By Mais' plan, South Australia would use its broad-gauge lines as the main trunk routes. At the time this was happening, the broad gauge extended north to Burra. On 19 January 1887 Adelaide and Melbourne could enjoy travel between the two capitals without a break-of-gauge. But the cost to South Australia would be many break-of-gauge stations throughout the railway network.

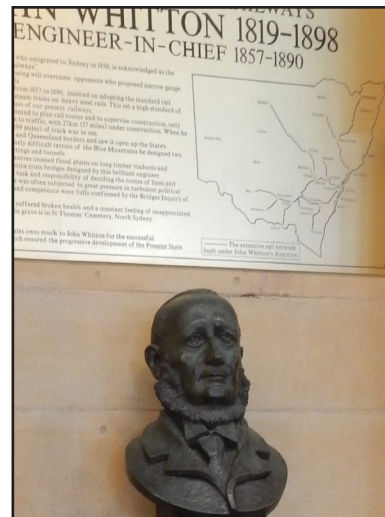
## NEW SOUTH WALES

Meanwhile, in New South Wales, John Whitton, the Engineer-in-Chief was receiving the same drumming as had been served to Thomas Higinbotham.

New South Wales in 1867 had less mileage than Victoria. The lines then open were from Sydney to Penrith; south to Picton; and the isolated line to Singleton. Progress in NSW had been slowed by the crossing of the Blue Mountains. An early (in 1853) engineer of the Sydney Railway Company had declared that it would be impossible to get a railway across the Blue Mountains. In 1867 John Whitton was progressing with the 'impossible'. His great Zig Zag was completed in 1869.

Whitton and Higinbotham were constantly attacked, more so Whitton than Higinbotham, but they gave as good as was given to them.

If Fairlie's intention was to win the day by bamboozling his opponents with nonsense he succeeded. There were reputable newspapers that were printing what Fairlie was sending them.



On the Main Concourse of Sydney's Central Station.

One has to feel rather sorry for Whitton when confronted by statements like the following, that was printed in the ***Goulburn Herald and Chronicle*, 14 May 1873** and attributed to the *London Times*:

The dead weight is less on the narrow gauge than the broad gauge, as the stress on the rails is diminished, and further, as the wheelbase is shorter the facility of passing curves is increased whereby the wear on the rails is reduced.

The ***Maitland Mercury and Hunter River General Advertiser*** was another publication that freely disseminated Fairlie's writings. During 1870 readers had been used to hearing of Fairlie's achievements in India, but the issue of **21 January 1871** took it to new heights:

It is probable the whole broad gauge lines in India will shortly be reduced to 2 ft 9 in or 3 ft.\*

Even more absurd was Fairlie's claim that the Americans were not only building thousands of miles of narrow-gauge railways, but had decided to change their entire system to narrow gauge – namely the Fairlie gauge.

In January 1873, Sydney was host to the Intercolonial Conference attended by the Premiers of the various colonies. One of the highlights was a train journey across the Blue Mountains with lunch (and toasts and speeches) at the Zig-Zag. The Premier of South Australia was Sir Henry Ayers. Sir Henry was so impressed by the Zig-Zag that he spontaneously proposed a toast to Whitton. Whitton gladly responded, and used the opportunity to have his say about Fairlie, his engines and the narrow gauge.

Of course, this was all recorded by the *Sydney Morning Herald* and a copy eventually came to the attention of Fairlie, who could not resist the opportunity of another swipe at Whitton.

\*It is difficult to obtain reliable up-to-date data about the railways in India, but based on consensus of the various sources is that the 5 ft 6 in (1676 mm) broad gauge dominates (with about 64,000 Km) and there is an ongoing conversion of the other gauges to the broad-gauge. Metre gauge with about 2,400 km. Some sources mention a gauge of 997mm, of which there are about 1604 km. This last gauge would be consistent with the 3 ft 3 in gauge determined by Fairlie's four 'experts'. The 2 ft 9 in gauge does not rate a mention.



## THE ZIG ZAG

From the *Picturesque Atlas of Australasia 1888*.  
Digitally colourised by James Andonopoulos.

Testimony to John Whitton's engineering skills and a monument to the respective governments of the colony of New South Wales who stood by him.

See page 101, for detail of the digital colour process. James had not previously colourised an engraving. His verdict, "it's weird but it works."

This was published in the *Sydney Morning Herald*, **6 June 1873**. There was mention of Whitton's 'confreres' but he spared mention of Higinbotham's name until only once, towards the end.

Whitton responded with a letter of some 2,500 words in the *Sydney Morning Herald* of **11 Jun 1873**. It included the following:

It sickens me to see intelligent communities to be led by the nose by persons whose sole object of maintenance of a wasteful system seems to be either to make inordinate profits for somebody, or to impede the traffic of a whole country, which they are willing to do for their own pitiful ends.

By this time it must have been quite obvious to Fairlie that the colonies of Victoria and New South Wales would not be buying his system of narrow-gauge railways. We may speculate that Fairlie's letter to the *Sydney Morning Herald* was intentionally his last.

Readers may wonder where this was all going to finish. In the *Sydney Morning Herald*, **9 October 1873** there was another letter from Fairlie, who gave it his all. It was his parting shot. All 2,575 words of which there were few paragraphs where Whitton wasn't mentioned. Higinbotham did not entirely escape comment. Fairlie managed to find a few last drops of vitriol to give him one mention.

The following paragraph came near the end of the marathon epistle:

Mr Whitton gives an extract from what he calls a report furnished by my agent in Victoria. Let me suggest that he would do well to confine himself, when replying to me, for which I'm responsible, I have no agent in the Australian colonies, and I don't know to whom he refers. At any rate he cannot be my agent, seeing that I have none, and I cannot be answerable for other writings than my own.

But circumstances had overtaken Fairlie. His biography records that in 1873 (which is presumed to have been later in that year) he had gone to Venezuela to consider a railway project, but had contracted a tropical fever and blood poisoning, which had impaired his health thereafter.

By the end of 1876 the 3 ft 6 in narrow gauge had firmly established itself in all of the other Australian colonies that were destined to embrace it.

In time, even Victoria and New South Wales could not escape from the 3 ft 6 in gauge, but the incursion of the foreign gauge, when it did occur, did generally not involve the government lines. But for the resilience and mutual support of John Whitton and Thomas Higinbotham, those two colonies would probably have fallen under the spell of the 3 ft 6 in narrow gauge.

Where did the 3 ft 6 in gauge appear in New South Wales and Victoria?

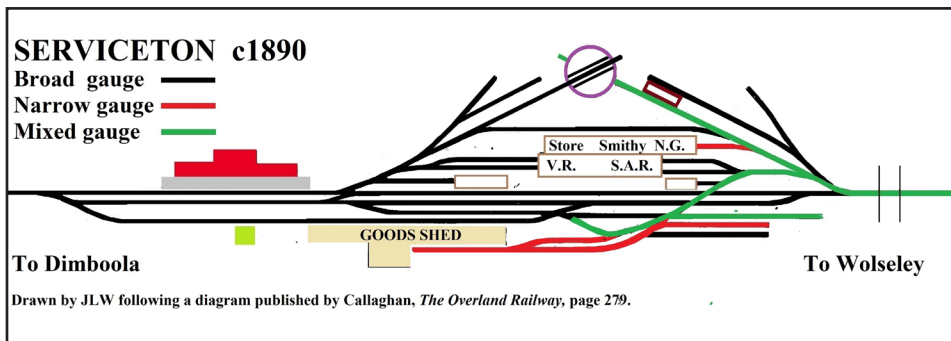
The Silverton Tramway (1888) and the associated Tarrangingee line (1891).

Tweed Heads (1903). There was a short section of the line from Nerang.

The Fyansford private cement line near Geelong.

There are the two heritage operations that have converted track. The Zig-Zag railway in NSW, and the Bellarine Peninsula railway in Victoria.

And there was Serviceton, which had the dubious honour of being the only place where the Victorian Government had ownership of 3 ft 6 in narrow gauge. It was a short-lived arrangement that was the doing of South Australia which had extended its mixed-gauge line over the border, a distance of about half a mile to Serviceton in 1885. The narrow gauge was out of service by 1889.



## SERVICETON

The border station, where the South Australian and Victorian systems met. There was no break-of-gauge for the travellers aboard the Intercolonial Express but for nearly a hundred years the engines were changed. The narrow-gauge connection was to facilitate the transport of farm produce from western Victoria to the port of Kingston in SA.

## TASMANIA

The first railway in Tasmania was the Mersey and Deloraine Tramway with a gauge of 4 ft 6 in. The reason of the choice of gauge is not clear. It was opened in 1865 but was in financial difficulty from the start. It had one locomotive which often was not operational, thus requiring horses to pull the trucks. Its construction never reached Deloraine, and it operated from Formby (now Devonport) to Railton.

The next railway to be authorised was the Launceston and Western Railway, which was another private railway from Launceston to Deloraine with a gauge of 5 ft 3 in. The consulting engineer of the L&WR was William Doyne of which there was mention in Chapter 4. Doyne had no love for the 3 ft 6 in gauge. His choice of the 5 ft 3 in gauge had been influenced by the fact that Victoria and South Australia were the nearest colonies, and there may have been opportunities for purchase of second-hand stock.

The L&WR was opened in 1871 but was soon in financial difficulty and was taken over by the Government. Up to that time there had been no involvement by the Tasmanian Government in the owning and operation of railways. The next chapter continues the story of the L&WR.

There was a Tasmanian Railway and Progress Association, which had written to Fairlie in October. Part of his reply:

The spirit of your letter is most welcome indeed, especially coming as it does at a time when many of our leading engineers at home, are moving forward and admitting the advantages of the great question which I have long sought.

The Tasmanian Mainline Limited (TML) was formed in 1870 to construct a railway from Hobart to Launceston, with a gauge of 3 ft 6 in. There had not been clear direction in the early stages regarding the running of trains between the 'northern terminus' at Evandale and for the TML trains to have running rights over the track. (Further detail is provided in Chapter 8).

The Tasmanian Mainline Railway was opened on 1 March 1876 from Hobart to Evandale. Hence, that was the date of Australia's first break-of-gauge. The need for a decision on the gauge for the Tasmanian Mainline Railway was just the right time for Robert Fairlie.

Viewed in retrospect, Tasmania was the one colony in Australia where there was a good case for having the 3 ft 6 in gauge, but that was found to be too wide when confronted by the terrain of the west coast.

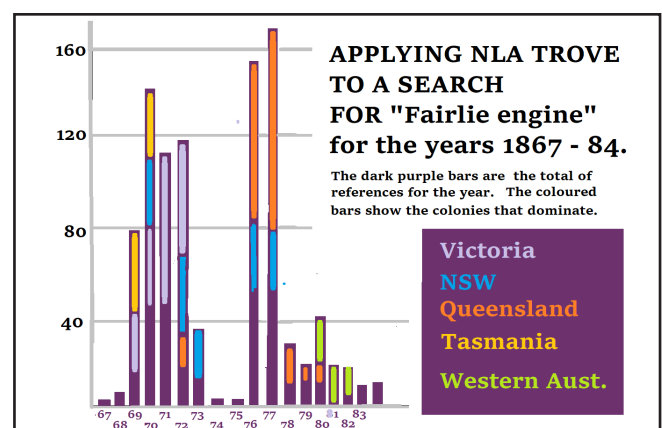
There were silver mines in the Zeehan region that called for railways with curves as tight as 1.5 chain radius. This need was met by a network of lines of 2 ft gauge. See Chapter 11.

## NEW ZEALAND

It is appropriate to include some mention of New Zealand. There was a clamour for narrow-gauge railways about the same time as it was happening in Australia. After the Dun Mountain railway, the first line in New Zealand was from Christchurch to Ferrymead wharf, a distance of 5 miles, opened in 1863 and in keeping with the earlier advice to the colonies, with a gauge of 5 ft 3 in. In 1867 that line was extended 3 miles to Lyttelton Harbour. The next railway in New Zealand was from Invercargill, with a gauge of 4 ft 8½ in. In 1870 the decision was made to have all railways in New Zealand built with the 3 ft 6 in gauge. The earlier railways with the wider gauges were subsequently converted. Some of the 5 ft 3 in gauge locomotives were sold to South Australia and Victoria.

## QUEENSLAND REVISITED

Fairlie had not been completely deflated by the failure of the three double engines supplied by Sir Charles Fox. He sent another of his engines, a demonstration unit, with the anticipation that it would remain in the colony. It seems that Queensland was prepared to give it a go. It was named the *Governor Cairns* but Queensland did not, subsequently acquire any more double engines.



ABOVE: A search on NLA Trove has been for "Fairlie engine", being specific for the engines and also acting as a proxy for Fairlie himself. This largely confirms what we had previously known about his activity in Australia. That activity commenced in 1869 and concentrated on NSW and Victoria, with involvement of Tasmania in 1870. Note a burst of activity from 1876 regarding the engine to Qld.

## WESTERN AUSTRALIA

By 1875 the colonies had largely sorted out their gauge requirements and it seemed that it was just a case of waiting to see how they would cope with the inevitable break-of-gauge. Western Australia was still to commit to a public railway system. Their first railways were two private timber companies that had commenced operations in the early 1870s. The Busselton line was the first of these in 1871. It would have been a surprise if they had chosen any other gauge than the 3 ft 6 in, given the intensity of promotion and angst flowing from the other colonies. It was also noted that their adjacent colony, South Australia had committed to the 3 ft 6 in gauge.

As a by-the-way the steam locomotive of the Western Australian Timber Company at Busselton was the first narrow-gauge locomotive built in one of the Australian colonies. It was called *Ballaarat*, having been built by the Victoria Foundry at Ballarat.

The history of the break-of-gauge in the Australian colonies up to this point had been a procession of bumbles. There had been one recurring theme that had driven this: Wallace, Fitzroy, Fitzgibbon, Fairlie, Fox and Bagot. All convinced that they had the answer, and determined to have their way. We could well imagine that the West was in a position to learn from some of the misfortunes that had plagued the other colonies. But we'd be dreaming. The West committed to its first public railway from Geraldton to Northampton. But with 20 years of experience to draw upon from the eastern colonies, Western Australia was doomed to continue the tradition of bungling ineptitude.

To add to the list of those bungling egos we can add James Thomas, the Western Australian Director of Public Works. The legislature made a logical and commendable move to define a 'national gauge'. Thomas didn't look at what was happening in the other colonies but looked to America and found what he described as the 'American narrow gauge' which was 3 feet. This was at a time when they were planning more public railways centred on Perth. The legislature had decided that the standard railway gauge for Western Australia should be 3 feet.

But work on the Geraldton railway was underway and the contractors had started laying the permanent way using the 'Queensland gauge'. With 3½ miles of track already laid, there was a call. 'Whoa!' They were looking at the inevitable break-of-gauge unless something was done. There were calls to rip up the track. Others made claims that the formation was too narrow to allow the wider gauge.

From the *Inquirer and Commercial News, (Perth)*  
**22 May 1878:**

One thing is clear, that there must be no repetition of the Geraldton and Northampton mistake... The legislature were then without experience in the matter, and accepted without question....

There were a couple of familiar old names that came to the rescue.

Thomas was not prepared to admit that he had got it wrong, but in his report to Governor Robinson, published in *The Inquirer and Commercial News, 18 July 1877:*



POSTAGE STAMP ISSUED IN 1979

It must not be supposed, that I have changed in my opinion regarding the three foot gauge, for if I had to initiate a comprehensive scheme of railways for a colony like this, I should have no hesitation in recommending it and in this I am supported by the best authority and the light of experience, Mr R Fairlie C. E., writing to me recently says, "I believe implicitly in the three foot gauge is the name of perfection, but while I do so there is the fact that some of the colonies in Australia having adopted the 3 ft 6 in...Looking therefore at all the facts and the many inconveniences, I think it would be advisable to keep to the gauge you have commenced with.

Further opinion was given by a Geraldton engineer.

**The Herald (Fremantle), 17 March 1877:**

I was for some years professionally connected with the late Sir Charles Fox, the well known civil engineer, and have thus been fortunately able to avail myself of the valuable opinion of his son, Mr Charles Douglas Fox, who with his late father, held the position of consulting engineer to the Queensland Government Railways.

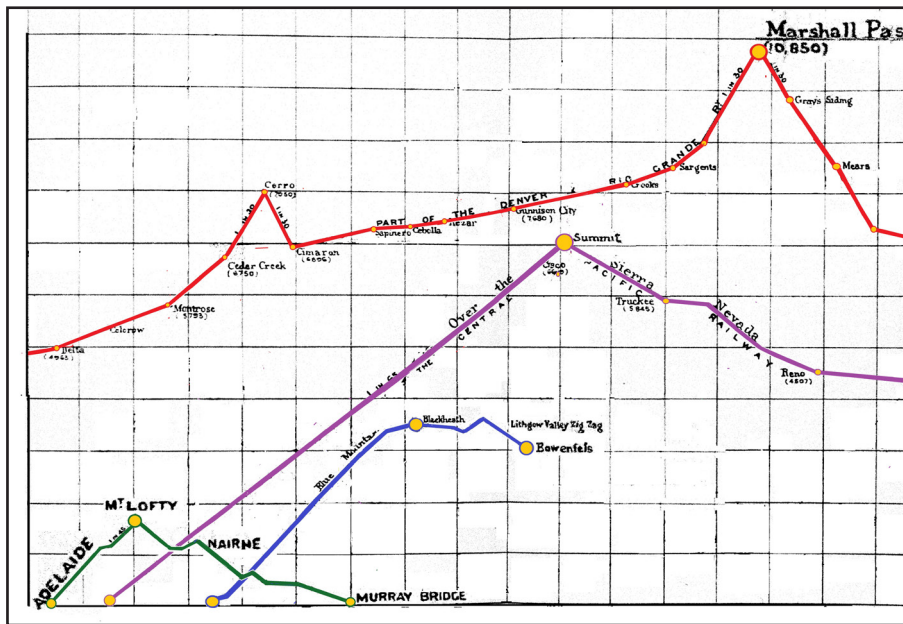
The letter from Charles Douglas Fox was dated 18 January 1877.

My late father, Sir Charles Fox was a strong advocate for the introduction, for colonial purposes, of a cheaper system of construction... For he, and I have considered the gauge 3 foot 6 inch is the best adapted for the gauge of your colonial railways but now being settled and if my opinion were asked I would recommend the three foot 6 inch gauge and should object altogether as to so narrow a gauge as 3 foot, for a railway to carry passenger traffic, especially when the climate is warmer, airy carriages are required.

The 'American gauge' James Thomas was talking about was the gauge selected by the Denver & Rio Grande Railroad for a route over the Rocky Mountains. That 1 in 30 route allowed the D&RG to get over the Rockies at Marshall Pass, where the summit was an elevation of 10,850 feet. The Western Australians must have been either deluded or duped to imagine that this gauge was right for their terrain. The 3-foot gauge was unique in America as the gauge of the D&RG. It had no lasting application elsewhere in the US.

I have reproduced the profile of the D&RG on the next page. For comparison (or more correctly, contrast) is the railway over Mount Lofty. There was no route in Western Australia that was more demanding than that. What were the Western Australians thinking?

The 3-foot gauge did make an appearance in Australia at Victoria's Powelltown tramway.



## MOUNTAIN RAILWAYS

Adapted from a drawing originally prepared by South Australian Engineer-in-Chief, Henry Mais. It has been modified to show only four mountain railways, being to illustrate the extreme of the Denver & Rio Grande Railroad (red) and the contrast of two of Australia's mountain railways. Adelaide to Murray Bridge (green) and the railway over the Blue Mountains (blue). The Central Pacific Railroad over the Sierra Nevada is purple.

Western Australia went on to later purchase two of the Fairlie engines. Thus, there were three of the machines that graced the rails in Australia. The Queensland *Governor Cairns* and the two in the west. The Queensland engine was destructive of the track on curves.

One of the Western Australian engines was assembled but its poor performance resulted in the other one not being assembled for some years. From the ***Western Mail (Perth), 24 July 1886:***

In the meantime the Fairlie engine, which had been lying idle for years, had to be erected, and, although the various locomotives are most costly to work, and unsatisfactory on a line such as this, it is the only way of keeping the traffic running.

This, the Commissioner says, coupled with a slight increase in train mileage accounts for the increased expenditure on this line last year.

From about 1869 and continuing until the end of 1873, we had been left in no doubt that Mr Daniel Climie, an engineer, of South Yarra had been appointed an agent for Robert Fairlie in Victoria. There were many occasions during this period when the names Fairlie and Climie had constantly appeared together. Research on Climie is clouded by the fact is that there was Daniel Climie Sr and Daniel Climie Jr.

The last attempt by Climie to generate interest in a Victorian project had been in February 1873 when he made an approach regarding a narrow-gauge line from Brighton to Schnapper Point (Mornington). He had some involvement with the narrow-gauge line of the Tasmanian Mainline Railway. Climie's parting shot had been aimed at the directors of the Deniliquin railway in 1874, that they should consider the narrow gauge. That private railway was built to the Victorian broad gauge and was opened in 1876.

## THE MYSTERY OF THE 'MOUNTAINEER'

Locomotive sources advise that there were 330 of the double-engines built. There was the *Governor Cairns* that went to Queensland in 1876. There were the two in Western Australia in 1879/80, that were designated the E class.

There was a fourth engine, an 0-4-0+0-4-0 Fairlie double engine, Builder's Number 20 of 1869. Gauge 4 ft 8½ in. Somewhere in its travels it acquired the name, the *MOUNTAINEER*.

Its story is part of railway folklore. In August 1945, Mal Park, who was the editor of the *Bulletin* of the Australian Railway Historical Society published the story. There was a belief that the story had been handed down from an old railway identity. Eventually the engine turned up in Wales. What happened between the time of its manufacture and Wales is mystery and conjecture. The story that Park related was that it was ordered by James Thomas Henry, Engineer for Existing Lines for the New South Wales Government Railways, specifically for the Zig-Zag railway. John Whitton was overseas at the time. When he returned he rejected the engine. Attempts to find documentation, both in New South Wales and England, have been pursued but there is nothing.

The following is a statement made by the South Australian Engineer-in-Chief, Henry Mais. It is almost certain that it is the same engine that was the subject of the folklore. ***The Advertiser, 12 August 1870:***

I may mention incidentally, that for the last three years I have taken great interest in the success of the Fairlie engine, and have placed my opinion on record before a Select Committee of the House of Assembly in Victoria, that Fairlie's engines are the engines of the future. Having been in correspondence lately with Mr. Fairlie, I am able to give some particulars of an engine he has just finished for the Swedish Government. This engine has a double boiler with a central firebox, and has two bogies on two pairs of coupled wheels. This engine has run around curves of 50 feet radius at 25 miles per hour at Hatcham, with ease.