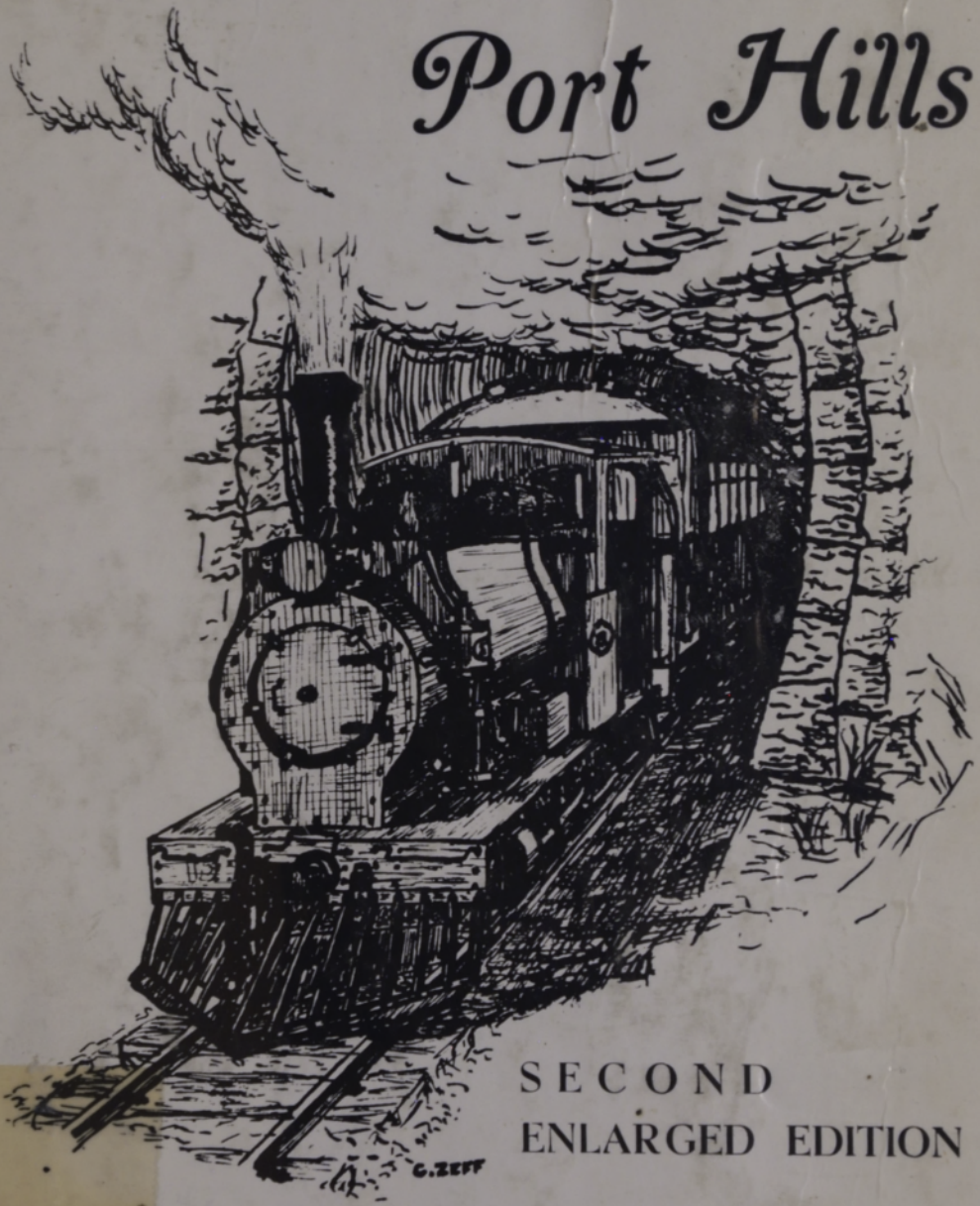
Steam through the Port Hills



SECOND
ENLARGED EDITION

Canterbury Branch
N.Z. Railway Locomotive Society

EPUB ISBN: 978-0-908329-73-1

PDF ISBN: 978-0-908332-69-4

The original publication details are as follows:

Title: Steam through the Port Hills

Author: New Zealand Railway and Locomotive Society. Canterbury Branch.

Edition: 2nd enl. Ed.

Published: N.Z. Railway Locomotive Society, Canterbury Branch, Christchurch, N.Z., 1960

SECOND
ENLARGED EDITION

Foreword

"Steam through the Port Hills" has a threefold significance.

In the first place, it retraces the pioneer trail through a volcanic cone, by a tunnel which was the first in the world to pierce such a formation, when the combined populations of Lyttelton and Christchurch numbered barely five thousand.

In the second place, the new line gained, under Vogel, a more than local significance. For Lyttelton was, and still is, the zero milestone of the South Island railway system. All those going towards it are "UP" trains, and carry even numbers. All trains going from it are "DOWN" trains, and carry odd numbers. Would that the whole system had been planned to the generous loading gauge of the Port Line!

In the third place, the booklet commemorates the engine whose history, to quote S. H. Jenkinson, "is the history of the New Zealand Railways." No. 13 is one of the last of the sturdy pioneers to remain in steam, and she, as second, was in the first batch of three to be built in 1872. In her 86 years of steaming, she has performed every type of service which the railways demand, except, perhaps, the washing of the refreshment-room dishes. Ubiquitous, versatile, reliable, this mighty atom has served this country nobly.

The Committee of the Canterbury Branch wish to express their thanks to the many people who made this booklet possible; William Pierre for the first article and for historical documentation; Colin Zeff for the line drawing, cover sketch and assistance on written data. Gordon Troup wrote the second article and was responsible for editing and planning the whole of the first edition of this booklet. New articles in this second edition include a note on the proposed road tunnel by W. J. A. Brittenden, and the story of electrics in the tunnel by Derek Pitcaithly. George Shouksmith, who also saw this copy through the press, writes on the steam excursion through the Port Hills which was the inspiration for this booklet.

Thanks are also given to the Christchurch "Press," Lyttelton Harbour Board, J. A. McGavin, E. S. Brittenden and the Canterbury Museum for the loan of blocks and illustrations.

Tunnel and Port Line

"A Railway in Canterbury! The words are quickly written, yet they are fruaght with the most important results both to ourselves and to our successors." Thus the "Lyttelton Times" announced the completion of a great task.

Both the inner harbour at Lyttelton and the railway line to Christchurch were constructed by the Provincial Council of Canterbury. Provincial Councils were characterised by marked originality, so that the Canterbury Council plunged into 5ft. 3in. gauge — the Irish gauge — while Southland backed the world standard 4ft. 8½in. and Otago the 3ft. 6in. All these individual units were within fifteen years tightly embraced within the national system. Hence on 21st December, 1877, ten years to the month after its opening (and eighty-one years, minus a day, before our historic trip) the Lyttelton line was converted to 3ft. 6in., control having passed to the Central Government at the abolition of the provinces.

The location of the line had exercised the planners; some were for a line through Sumner and over or under Evans Pass to the east of Mt. Pleasant, but the mana of the Stephenson family prevailed, and, on the recommendation of a cousin of Robert's, one G. R. Stephenson, a direct route to the west of Mt. Pleasant was determined upon, involving the construction of a tunnel of 2882 yards — $1\frac{5}{8}$ miles — 34 feet above high water level. The tunnel is entirely on a grade of 1-287 up to Heathcote. The fall towards Woolston is of $\frac{3}{4}$ mile at 1-150, mostly on an 80-chain curve. The project was under way in 1859, a mere nine years after the arrival of the celebrated first four ships.

At the outset, gloom gathered over the work. The original contractors, Smith and Knight, became somewhat crestfallen at the resistant nature of the rock as revealed by the sinking of a trial shaft. Furthermore, they became markedly less zealous on learning the Governor's ruling that the Provincial Ordinance passed to initiate the work was really beyond the constitutional powers of the Provincial Council. No finance being forthcoming, in the meantime, the contractors threw up the sponge. A fresh start was made by obtaining the necessary powers by Act of the General Assembly, and Royal consent to the Lyttelton and Christchurch Railway Ordinance was conveyed to the Canterbury Provincial Council in October, 1860. Seven months later a new contract was concluded with George Holmes and Edward Richardson, of Melbourne, who practised as George Holmes and Co. To the Union Bank of Australia was committed the agency for the raising of the railway loan. These transactions were completed on the basis of a geological report by Julius von Haast on the section of the volcanic rim which the tunnel was to penetrate. It was the first time that a complete section of a volcano had been pierced. Sir Julius was able to send unique drawings to the next Paris Exhibition. The working conditions were hard, but many devices were used to lighten the labour. The syphon constructed for drainage was the longest on record, and Edward Dobson's system of ventilation was later copied by the builders of the far longer Mont Cenis tunnel under the French and Italian Alps. After six years' work round the clock, the tunnel was pierced on May 24th, 1867, whereupon a banquet was held in the bore. The first train passed through on 18th November, and regular passenger traffic began on 9th December.

FROM THE "LYTTELTON TIMES," DECEMBER 10th, 1867

The first passenger train to Lyttelton left Christchurch station yesterday morning at 9 o'clock, carrying a large number of passengers — larger a great deal than we had expected to see. The journey to the mouth of the tunnel was very quickly accomplished, a few additional passengers having been picked up by the way. Notwithstanding the prominent caution to all and sundry to keep the whole of the body inside the carriage on entering and passing through the tunnel — not a few ventured to put out their heads in order that they might take a long look of the land they were leaving and question eagerly the way on which they were entering.

Silently almost, and smoothly, the engine entered, and immediately gave a signal which seemed doubly shrill. Proceeding at an easy pace, the centre of the tunnel was reached and smoke from the engine hung somewhat uncomfortably about the carriages, though the atmosphere was at no time oppressive. Presently the Lyttelton end was clearly visible, and even then a fresh sea breeze could be felt. In less than seven minutes — 6 minutes 27½ seconds — the engine emerged at "the other end," and the passengers were landed comfortably under the half-hour at Lyttelton station.

Work had proceeded from both ends. A flank attack had been made upon the line, access to the inland end of the tunnel being gained through Ferrymead wharf, at which locomotives and rolling-stock were landed for the opening of the first public steam-powered railway in New Zealand, on 1st December, 1863. Watch for the junction at the pumping station between Woolston station and Heathcote. The formation is clearly visible swinging away to the left towards the bridge that you see at the end of the spur of Mt. Pleasant. Ferrymead was a shallow but busy port during the construction of the railway; naturally, its traffic faded away on the opening of the tunnel. Costs: In 1868 it was ascertained that the Christchurch-Lyttelton line, land, stations and plant, law and engineering, had totalled £348,312. The Ferrymead Branch had cost £20,775. Sidings had been provided at three stations, Christchurch, Heathcote and Lyttelton. Three locomotives had been landed at a total cost of £10,700, and the necessary rolling-stock for £43,400.

The jubilation at the completion of this engineering work was not exactly universal, as will be seen from the following

LETTER TO THE EDITOR OF THE "LYTTELTON TIMES," NOVEMBER 8th, 1867

Sir,

I know that any word spoken against the tunnel is immediately resented or set aside by the proper pride of Canterbury. It is her peculiar glory, and certainly, as an engineering work, she has every reason to be proud of it. But for all that, set against our scanty trade, it is an expensive luxury.

We are now in the position of a spendthrift at the end of his money who still discovers some satisfaction in the remembrance of his extravagance, in the contemplation of one or two splendid purchases.

We can point to the few miles of our Great Southern Rly. and the tunnel and say, "Behold! There is nothing like it this side of the line, and it cost half a million."

(Signed) Spectator.

The first Christchurch Station in 1863, situated near Madras Street. Note broad gauge track, loco. and stock, also three-way points.

Stations: The original Christchurch station was outside the city proper, on the south side of what is now known as Moorhouse Avenue. The station was actually in Sydenham, which became "Railway Town." The platform was a tiny thing a little to the east of the Madras Street intersection. The present "old" station was opened without ceremony on 21st December, 1877. This was the day of the commencement of narrow gauge traffic on the Lyttelton line.

The Lyttelton station was a relatively costly affair. The whole of the railway yard is on reclaimed land, the sea having formerly washed the clay cliffs north of the yard. Its cost had included the building of retaining walls and the transport of filling. An open platform was placed a town block and a half nearer Christchurch than it is now, and out in the middle of the relamation. A new station was opened to the west of the present site on the opposite side of Oxford Street on the celebrated 21st December, 1877, and moved to the present site in 1880, following the reclamation of the area on which it stands.

The "old" Christchurch in its "new" splendour in 18881. How handsome and uncluttered it is; not even a traffic officer to marshal the hansom cabs.

Time-Table: 9th-10th December, 1867.

Christchurch	dep.	9 a.m.	11 a.m.	1 p.m.	3 p.m.	5 p.m.
Lyttelton	dep.	10 a.m.	noon	2 p.m.	4 p.m.	6 p.m.

Regular Time-Table from 11th December, 1867

Christchurch	dep.	8 a.m.	9 a.m.	noon	4 p.m.	5 p.m.
Heathcote	dep.	8.30 a.m.			4.30 p.m.	
Lyttelton	dep.	—	10 a.m.	1 p.m.	—	6 p.m.

In December, 1877, the average trip time was 25 minutes.

Fares:

1st single	1st return	2nd single	2nd return
2/6	4/-	1/6	2/6

Goods Rates: To or from Lyttelton - - Light goods 5/- per ton
Heavy goods 7/- per ton

Locomotives: At change of gauge, the broad-gauge 2 - 4 - OT Nos. 1 - 4, the O - 4 - 2T Nos. 5, 6, 7, 8 and 10 and the rolling stock were sold to South Australia, being wrecked in the "Hyderabad" and subsequently salved. The first narrow-gauge locomotives on the converted Port Line were two Hunslett 'M' class from Invercargill, later joined by two more, which remained till 1889. These were 6-coupled like the 'F' with axle-load of 9 tons; hence their use on the heavier track of the former broad gauge. These bore the names 'Corsair', 'Mazeppa', 'Werner' and 'Manfred'. Rous-Marten saw them pulling freights of over 70 total and 700 tons.

When in 1888-90 these went to Addington to emerge as useless, slippery 4 - 4 - 2T's for use on the Napier line, the 'F' class took over, of which more in the next chapter. 'D' 2 - 4 - OT's were used for shunting, supplemented about the turn of the century by class 'R' O - 6 - 4T single Fairlie. Till 1907 class 'T' 2 - 8 - O Nos. 102 and 104 were used on time-table freights. After 1907, 4 - 8 - O 'Ba' class took their place (497, 499). 'Wd' Baldwin 2 - 6 - 4 Ts hauled passenger trains after 1902, and 'Wf' of the same wheel arrangement after 1907. Goods trains before electrification had many classes of locos, including "express" types, e.g., 'U', 'Ub', 'Uc', and 'A'. Engines outshopped after construction or overhaul were frequently seen on Lyttelton freights, and there the first 'Ab', 608, took the air. Steamer expresses to Lyttelton wharf were worked by the engine from Timaru till electrification was near. Here were to be seen the Baldwin and Brooks 'Ub' and the Addington 'A' types. From then till the advent of the 'Ec' electrics in February, 1929, 'Ba' engines worked the steamer express from Christchurch.

Our national economy took a step forward along the Lyttelton tracks in the early morning of 30th March, 1883, when eight insulated trucks were employed to convey the first consignment of already-frozen meat from Belfast to ship's side. The consignment was for the first refrigerated steamship to leave the shores of New Zealand with frozen produce, viz., the chartered s.s. "British King" (New Zealand Shipping Company). The train left Christchurch at 7.10 a.m., arriving at Lyttelton twenty minutes later, more than likely behind an F or a D. The day was Good Friday!

Recent development of heavy industry has resulted in the progressive enlargement of a considerable yard at Woolston, a station not originally supplied with sidings. Here are situated, among others, the works of Andersons Ltd., builders of the Makatote viaduct near Ohakune, and also the electric sub-station which supplies the 1500v. current for the electric overhead.

An advance in train-working was made, presumably at the advent of the turbine steamer-express "Maori" (II) in 1907, when the steamer-express wharf was lengthened to accommodate the Invercargill express at the ship's side.

Names which deserve to be remembered are those of William Sefton Moorhouse, Superintendent of Canterbury, 1857-1863, 1867-68, and Edward Dudley Dobson, Provincial Engineer at the time of the construction of the line. The former is fittingly commemorated in the name of the avenue fronting the Christchurch station.

Not only is the line historically significant as being the first public railway in New Zealand, and as having carried the first frozen meat* for export, but it is operationally significant in that the port terminus is the location of the zero mile-peg of the South Island Main Trunk line; hence all South Island trains travelling towards Lyttelton are "up", and those travelling in the opposite direction are "down". Lyttelton literally is the hub of the South Island main line and branches.

* The ship "Dunedin's" meat was frozen on board and not transported by rail in frozen condition.

CHRONOLOGY

G. R. Stephenson's Report presented to Canterbury Provincial Council	6/12/1859
Smith & Knight's contract validated by Lyttelton and Christchurch Railway Ordinance	21/12/1859
Smith & Knight commenced work on Lyttelton tunnel	January, 1860
Royal Assent to Lyttelton and Christchurch Railway Act (1860) given	2/10/60
Smith & Knight contract terminated	November, 1860
George Holmes & Co.'s first agreement signed	1/6/1861
Turning first sod at Ferrymead by W. S. Moorhouse	17/7/1861
First locomotive, "Pilgrim" (Canterbury Railways No. 1) landed at Ferrymead from Lyttelton	6/5/1863
First train left Christchurch for Ferrymead, 3 miles 34 chains distant, at 2.3 p.m.	1/12/1863
Second locomotive landed at Ferrymead	18/4/1864
Tunnel headings met	24/5/1867
First train through tunnel	18/11/1867
First passenger train through tunnel	9/12/1867
Change of gauge effected Lyttelton-Christchurch	21/12/1877
Opening of second railway station at Christchurch	21/12/1877
Opening of second railway station at Lyttelton	21/12/1877
First consignment of already-frozen meat, Belfast-Lyttelton	30/3/1883
Electrification of Christchurch-Lyttelton line	February, 1929

The 'F' Class

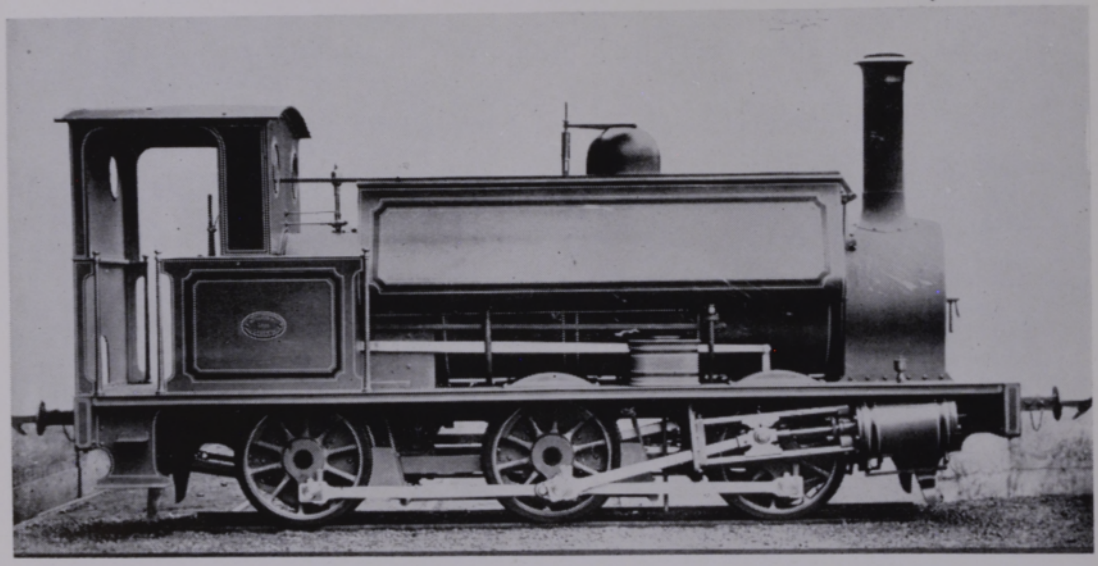
It is probably true that more New Zealanders have been borne by 'F' or 'Ab' locomotives than by any other agency — save their mothers. The 'F' indeed deserves to stand beside the 'Ab'. Alike, in their day, they bore the palm for efficiency, for all-round usefulness, and for wide distribution. Mr S. H. Jenkinson, the designer of the 'Ab', wrote in the July 1934 issue of the "New Zealand Railway Magazine": "I am speaking dispassionately and advisedly when I put on record my belief that this (the 'F') was one of the finest examples of locomotive design that the world has ever seen."

The credit for the original design must be shared by John Blacket, acting Engineer-in-Chief of the Public Works Dept. in 1871, who laid down the specifications and wheel-arrangement, boiler pressure, wheel- and cylinder-dimensions, and Messrs Hemans & Bruce, Consulting Engineers in London to the New Zealand Government. If, as is often stated, John Carruthers sketched the outline on the back of a foolscap envelope, it must have been before he came to New Zealand in August 1871, or after the design was sent on in April of that year. Probably W. N. Blair, District Engineer of P.W.D. in Otago, had a greater hand in it than Carruthers, for the engines were designed for the Dunedin-Clutha Railway. Auckland, however (or did someone murmur, "of course"?) "nabbed" the first one, No. 11, which was withdrawn in 1932. But the second one, No. 13, which is still with us today, went to Dunedin.

Two 'F's beside Lyttelton shed. The rear one is No. 13. On the turn-table and beyond are two diesel supplanters.

The design may also be said to have overtones of Vogel, for it conformed to the exacting loading gauge of: height 10ft. 5in., and width 6ft. 6in. The maximum axle-load was under six tons, and the rigid wheel base of 10ft. 6in. was mitigated by reducing the gauge of the trailing pair of drivers by $\frac{1}{8}$in. to $\frac{1}{4}$in. to allow the engine to take six-chain curves. So came the 'F', with its

assorted fathers and godfathers, to take shape as an 0-6-0 saddle-tank weighing 17 tons in working order, with wheels 3ft. 0½in., cylinders 10½in. x 18in., boiler pressure originally 120 lbs. per sq. in., 500 sq. ft. of heating surface, grate area 9 sq. ft., and a tractive effort of 5220 lbs. In successive reboilerings, the pressure has risen to 130, 140, 150 and eventually 160 lbs. per sq. in., its present figure, and the weight has likewise gone up to 20.25 tons. But the factor of adhesion, which is weight on drivers divided by tractive effort, came out at the remarkable figure of 7.3 at 17 tons and 5220 lbs., and gradually scaled down no lower than 6.5 at 20.25 tons and 6960 lbs., the present figure. This explain why the 'F' is so sure-footed. How refreshing it used to be on coming back from the north, where 'Ab's with 9 total and 3.7 adhesive factor, or 'Ka's with 13 total and 4.0 ditto would wipe their feet elaborately on the rail getting started, at Lyttelton to see an 'F' start a steamer express loaded to the gunwales at 18 total with never a suspicion of a slip!



No. 11, the very first 'F' built, in her original condition. Built in 1872 by Neilson & Co., Glasgow. Builder's No. 1691. No. 13 was the second 'F' built. Her builder's No. 1692. She must have looked like this originally. Note the "peanut-roaster" whistle, wooden brake-blocks, and absence of headlight, back-up light and cow-catchers.

The 'F's came out in as many varied forms as the Heinz products, from seven different builders Neilson and Stephenson built 12 each, Black, Hawthorn 1 only, Yorkshire 11, Vulcan 5, Avonside 26 and Dubs 21, so that between 1871 and 1888 a total of 88 engines, sporting flanged funnels, spark-catchers, balloon stacks, brass domes, oil headlights, acetylene or marker lights only, hit the rails of the nine government district, or assorted harbour boards, bush tramways, mining lines and freezing works sidings innumerable up and down the country. The "Observer" of April-June 1956 has a meticulous listing of the origins, distribution and fate of the varied and vigorous members of this astonishing class. Research is made more perplexing by the fact that before 1881 many of them, with different driver-bearings, were classified 'O'.

Bill Lloyd has caught them by the rear cowcatcher and made them progress in an orderly crock into his invaluable Ark. Those who wish to pursue the matter further are referred to these solid bits of research.

Good as they proved to be, they were subjected to misguided attempts at improvement. No. 11, named 'Ada', was yoked cab-to-cab with another Auckland 'F', named 'Flora McIvor' to make an abortive double-Fairlie, but divorce soon followed. Another 'F' got its front wheels uncoupled, and ran as a 2 - 4 - 0, but without success. 'F' 231, the sole offspring of Black, Hawthorn in this class, had a cab and saddle-tank both round-topped like those of the four 'G's built by the same company. 'F' 277, a Greymouth engine, had an unusually roomy cab. 'F' 246 was one of those fitted with a bell. Twelve were rebuilt with side tanks to be classified 'Fa'. This rebuild was again rebuilt as an O - 6 - 2T, following 'F'9, which had a short period as an 'Fb'. All 13 were re-styled 'Fa', and the engine-crews who had less adhesive weight at their disposal after the alteration did not hesitate to add the prefix " Sweet " to their designation. It is significant that all the rebuilds have departed long since from the scene, leaving the hardy originals in sole possession.

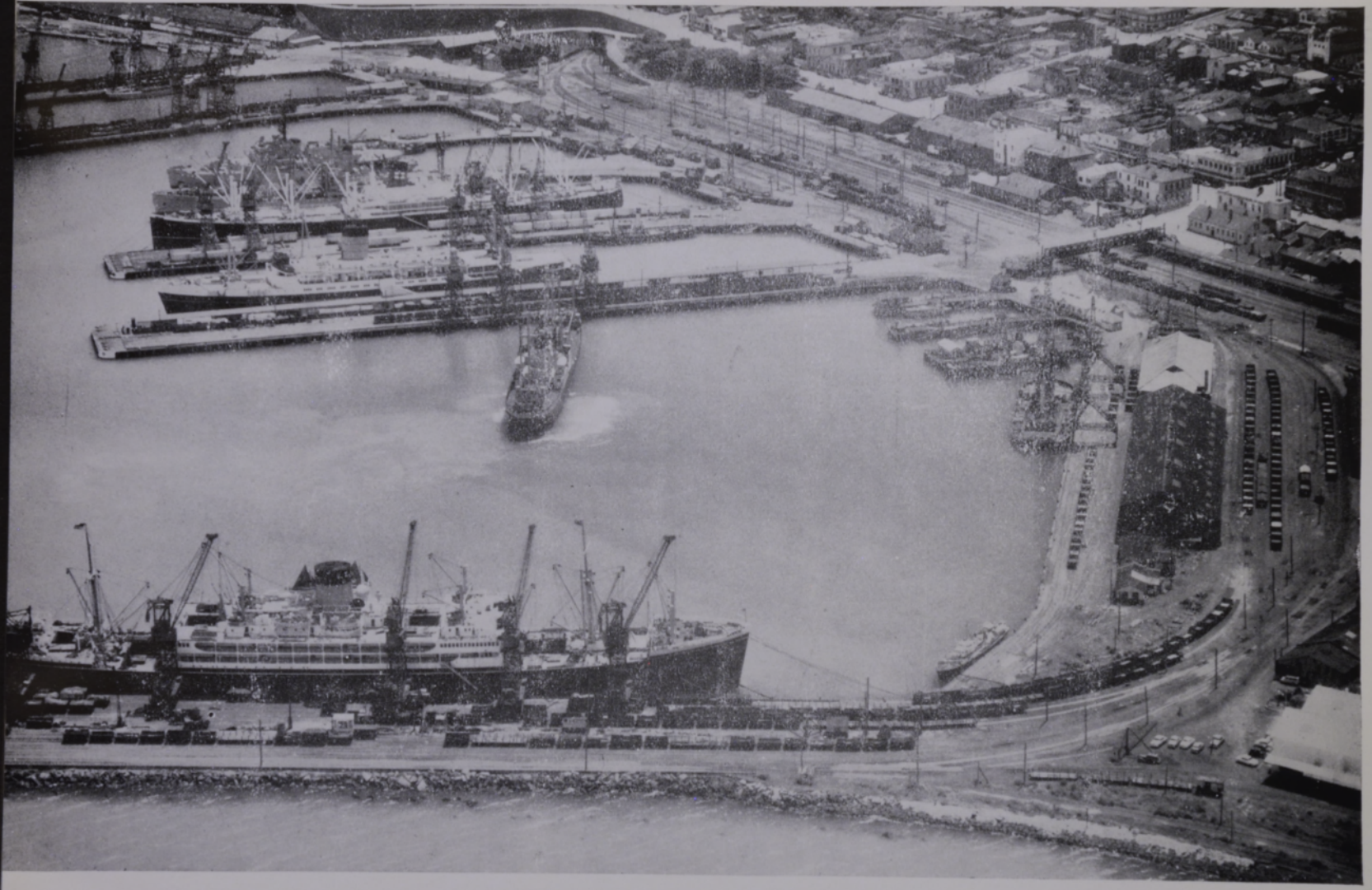
John Blackett in his planning deliberately rejected the idea of ordering two types of engines, one for heavy hauling and one for speed. He thus produced the first dual-purpose engine of real quality, comparable with the later 'Ab'. And how successful he was ! Charles Rous-Marten reported that he had seen them " skip along gleefully " at 40 m.p.h. with express trains. And if one really did run a special in 1913 from the delayed " Mararoa " to catch 145 at Christchurch in nine minutes flat, she must have touched and held 60, when her wheels would be turning as fast as a Black Stainer's at 120, or a Duchess's at 135 ! According to Rous-Marten, again, on long 1 in 50 grades they " climbed like a cat," making him simply stare with astonishment at the loads they would " walk away with."

The early 'F's on the Lyttelton line were No. 12, built by Yorkshire Engine Coy. in 1874, and 160, which, built by Avonside Engine Coy. in the following year, worked for the Kawakawa Coal Co. till 1884 before joining N.Z.R. Jack Moore drove No. 12 for a long time on the Port line, while Bill Hill pulled the throttle on 160. Their heyday was in the nineties.

'F' 13 did not come on the N.Z.R. scene again until 1885, after spending six or seven years with the Public Works in different places. Like the other original Otago 'F's, she had been given the name of a Waverley character, viz., ' Peveril', during her 1871 career. Blackett had specified in the original contract that she must be made of the best materials ; and certainly Neilsons seem to have honoured the undertaking to the full. For here she is now, after 86 years of toil, seemingly ready for many years more. How fitting it would be if she could retire gracefully to a pedestal somewhere ! Many a notability has gained a pedestal and effigy for less worthy service.

'F' 13 was certainly in service at Lyttelton between 1912 and 1922, when she was driven by the late Mr E. Vine.

The most fitting tribute to the 'F' is that penned by S. H. Jenkinson, whom we have already laid under contribution. In the article already quoted, he says : " If a locomotive has any claims to be considered beautiful, they should be based upon simplicity of outline, symmetry and proportion of dimensions,



A panoramic view showing the complete railway lay-out at Lyttelton at the present time. The tunnel portal can be seen in the top centre.

Lyttelton Harbour Board

adherence throughout to forms suitable to the service the locomotive is intended to perform, sensible utilisation of weight and mass, and general dignity of design. From all these standpoints, the 'F' has every claim to be considered a most beautiful engine. Its absolute suitability for the service for which it was intended, its reliability in service, its beauty of outline, its outstanding simplicity, and its wonderful utilisation of weght and mass to develop power, make its design one to command the respect and envy of all capable of appreciating these features."

Lyttelton-Christchurch Electrification

In 1925 the New Zealand Government asked the British engineering firm of Merz & McLellan to investigate the possibility of electrifying the Lyttelton-Christchurch section of the New Zealand railways. The outcome of Merz & McLellan's report was that the Government decided to electrify the line between Lyttelton and Christchurch, to improve the conditions for passengers travelling through the Lyttelton tunnel, which at the time was being worked by coal-fired steam locomotives.

Just a year later a further report was prepared by a group of engineers, representing the Public Works and Railways Departments, who made further recommendations on the electrification of the line. Several proposals were put forward as to how far the electrification should extend beyond Christchurch, as one suggestion had been put forward to electrify the line as far as Middleton, but in view of the method of working traffic, it was decided that no additional advantage would be gained by doing so. It was recommended that the electrification area be confined to certain sidings in Lyttelton, Christchurch and intermediate stations, and the main line between Lyttelton and Christchurch.

Going by the time-tables being worked at this period, special consideration had to be given when considering the number of locomotives that would be required to work the special goods traffic and passenger services. At very busy periods it was thought probable that five locomotives would be required, although at slacker periods four would be sufficient.

The question as to whether the locomotives as used at Otira would be suitable for the Lyttelton-Christchurch service was considered by the engineers, but their opinion was that these would not be satisfactory, in view of the fact that the Otira locomotives were designed for low speeds on heavy grades, and as the Christchurch-Lyttelton section was comparatively flat, a different type of locomotive capable of speeds to suit the various classes of traffic on the section should be used.

After recommendations had been made to the Government, tenders were called for the supply of six locomotives and for the material for the overhead contact system. The successful tenderer was the English Electric Company, who built the six locomotives to the requirements of G. S. Lynde, of the New Zealand Railways.

The picture of a century! "Peveril" stands "funnel to tunnel" on the Society's "Steam Through the Port Hills" journey.

The installation of the overhead single catenary type traction current supply posed many complicated problems in the Lyttelton tunnel, as a considerable portion of the tunnel is unlined and has very irregular sections. The traction supply voltage for this system is 1500 volts D.C. and is supplied from a sub-station situated in the vicinity of the Woolston station.

The Lyttelton tunnel electrification was opened for traffic on February 14, 1929, the total cost of the work being £145,000, and it has for the last 31 years given most satisfactory service to all traffic worked on the line.

Holes in the Hill

The opening of the Road Tunnel in 1964 (?) will end the Railways' 97-year virtual monopoly of transport between Port and Plain. It will not, however, convert Lyttelton into a transport Utopia. There will be some confusion until the harbour extension is completed, for the two schemes are, as Bob Semple showed, inter-dependent. Labour shortages and weather will begin to get blamed for delays hitherto reserved for N.Z.R., that steady "whipping-boy." The Lyttelton line has a traffic potential that has never been used, let alone strained. Cargo will still accumulate because wharves and rail work longer hours than warehouses. Far from eliminating goods sheds, cartage contractors will multiply them in the form of depots to enable their projected 12-ton articulated trailer-trucks to work to advantage. And one of these will have to leave every two minutes of the working year to shift the tonnage.

Empty running will increase costs. On the Authority's own showing, only one lorry in four will go loaded to Port. Waiting time, too, may be expected to be heavy, as it is at Wellington and elsewhere. Shed labour at Lyttelton, almost certainly at waterside rates of pay, will be dearer than at Christchurch at railway rates. Then there will be interest bills, for harbour extensions, and for the tunnel itself, to be passed on. The latter estimates rose from £750,000 in 1946 to £2,500,000 in 1956 for a 37ft. tunnel, and £3,400,000 in 1958 for a 28ft. design. And on outward consignments the carriers' differential rates will come heavier than the Railways' deadweight charge.

One real benefit will be the halving of the distance travelled by lorries, cars and fire-engines. And, once the harbour extensions provide sorting-space at Officers Point, road trucking of iron and steel should be much speedier. The same is true of bagged sugar, and other straight lines like bananas or wool. Lorries have a quicker turn-round time than railway trucks.

Most of the cargo landed at Officers Point will probably go by road. The present jetties must work out their natural lives as railway wharves, specialising on cased goods and merchandise. The Railways must, however, improve their mechanical handling, storage and sorting space if they are to keep up with unloading accelerations like the threefold one due to pre-slinging of steel rods.

The Road Tunnel Authority expects to handle half the seaborne goods, leaving loads beyond Christchurch and primary exports to the Railways. Will future generations regard an empty Lyttelton Railway Tunnel as the relic of a bygone age, or as the chief outlet of the plains, as hitherto? Only time will tell.

With 'F' 13 through the Port Hills

To tell of this trip, held on December 20th, 1958, is no easy task. Railway enthusiasts are a mixed bunch and many there are who would like best a full page of the, to them, all-important statistics: "Peveril's" makers, Neilson and Co. of Glasgow, 'F' 13 being built in 1872; the train consisting of car A 203, an ancient 44ft. gas-lighter built at Hillside in 1898, fitted for working over West Coast mine lines and restored to its original longitudinal bench seating, car A 930, a 1906 youngster from Addington with such modern luxuries as steam heat and electric light, then finally car-van Af 873, an ex-Addington first class car of 1905, converted into a car-van about 1930. Further essential information required would be the name of the driver, Mr A. D. Bell, and the fireman. The time-table shows a Christchurch departure of 9.00 a.m., with booked stops at Opawa (9.06 to 9.11) and Heathcote (9.26 to 9.29), and a Lyttelton arrival at 9.35 a.m. Departing Lyttelton at 10.35 and with only one booked stop at Heathcote (10.42 to 10.46), the return journey, in spite of its up-hill tunnel work, showed much smarter timing, with a Christchurch arrival — booked if not actual — of 11.00 a.m.

Such facts as these, interesting though they may be, do not, however, conjure up the true glory of that December day. Picture the scene: Bright clear sunlight of a summer's morn surrounded the waiting crowd. A growing murmur of excitement and then in a welter of steam and smoke, a transformed 'F' 13 white rods whirring, backed down on to the train. Soon we were away — no slipping there — "Peveril" as sure-footed as the day she was made, picked up her load with an air of joy at being back in harness. (Surely I'm allowed such a mixed metaphor when speaking of an "iron horse"!) Linwood, Opawa, the site of the old spur at Ferrymead, a wait for a goods at Heathcote, and then on through the tunnel and out on to the docks at Lyttelton: a whole world of railways in a short half-hour. And if the trip out had been good, the up-hill "down" journey was magnificence itself. With throttle open wide, we literally plunged into the tunnel, with one coach at least in utter darkness, except for the occasional glim of reflected glare from '13's' firebox. Smoke and soot was everywhere and blackened but happy faces climbed down from outside platforms to take that picture of a century as "Peveril" posed, "funnel to tunnel" as it were, at the Heathcote portal. And after that, still no anti-climax. An exciting dash across the fields brought us to the Loco. Depot at Linwood, where a "toot" from "Peveril" brought forth a tribute from all the might of New Zealand Railways. 'Ja's, 'K's, 'A's, and 'Ab's, even the diesels, let out sound upon glorious sound, splitting the air in a salute to nostalgia, and echoing in our ears as "Peveril" slipped silently into Christchurch to end this enthusiasts' dream come true.

Canterbury Museum

The original Lyttelton Station. This remarkable photograph, taken in 1865, shows the undeveloped state of the port at that time, and the unreclaimed land where the present station now stands.

FULLER BROS. LTD. PRINTERS CH.CH.