

or even being evaporated. In such a case the boiler becomes a steam superheater, and no damage occurs. The engine is a solid-built quick-running four-cylinder tandem compound that can be entirely removed from the under-frame in a few hours if necessary. Such a service is outside the field of the petrol-car, but in any case the fuel costs here are only one-half the cost of the petrol consumed by the lightest and most economical car running in New South Wales in much easier service and seating only thirty passengers. There is not the slightest doubt that for runs up to twenty miles in length with frequent stops this is easily the best vehicle that has been designed, and no petrol-car has yet been designed that will approach it in economy, reliability, freedom from repairs, and general satisfaction.

“The drawback to the car lies in the fact that the boiler is a very small one, and the fuel and water capacity of the car is low. It is therefore unsuited for runs of longer than twenty miles, and has no reserve of power to deal with heavier and faster traffic if required. While it is a much lighter, cheaper, and more efficient design than either the ‘Sentinel’ or the ‘Clayton’ steam-coaches, it has the same general limitations, and I am more than ever firmly convinced that a more powerful and flexible design can be secured by the use of a small locomotive specially designed for one-man operation. It is possible to design a light tank locomotive with 300–400 square feet of heating-surface and with about 10 square feet of grate-area which would not weigh more than 15 tons, and would be capable of hauling three light cars on the level at forty-five miles per hour, and on a grade of 1 in 50 with $7\frac{1}{2}$ -chain curves at about twenty miles per hour. This locomotive could be easily handled by one man, as the large boiler, firebox, and grate would act as a reservoir of power, and need only occasional attention.

“The fuel-consumption would not be more than 15–18 lb. per engine-mile. There are plenty of old cars available for such a service, and the cost of the locomotive would not exceed £1,800 erected, and if a lot of five were ordered or built locally the cost would be about £1,500.

“The locomotive I have in mind is shown on attached sketch, and is a special design which could be built cheaply and quickly in New Zealand. The fittings and equipment would all have to be specially designed for one-man working to give the best results, but this is not a difficult proposition, and in all other respects the locomotive would closely follow standard practice, although the idea appears quite a novel and original one.

“Such a locomotive could handle suburban motor traffic as efficiently as the steam-car does at Rockhampton; it could handle light country motor traffic up to seventy passengers at least as cheaply and efficiently as the petrol-car could, and in addition it could handle light passenger-trains on practically any section which would seat up to one hundred and fifty people with ordinary cars or, if special cars were designed, up to two hundred.

“I recommend that such an engine be built for trial. With the experience gained from the Rockhampton coach, I have no hesitation in saying that such an engine is the most promising method of dealing with light traffic, and that there is an excellent field for such in New Zealand.”

Mr. Jenkinson’s recommendation that a light engine be constructed was supported by the General Manager, and has been duly approved, as the Government is most anxious to explore every possible avenue of reducing working-expenses.
