

Brake Vans.

The frames of these are to be the same in every respect as those of the passenger carriages. The bodies also are to be the same as regards their outside dimensions, except the length, which will be 20'. A compartment for the guard is to be provided at one end, and ordinary second class passenger compartment at the other, 4' 6" wide in the clear, and the intervening central space to be left for goods, with two sliding doors on each side, of about 2' wide each.

The inside clear height to be the same as the passenger carriages. Brakes to act on both sides of both wheels on both sides of vehicles.

Covered Goods Waggon.

The under frames of these waggon to be the same as those for the passenger carriages, excepting that the length is to be 15', and the distance between the wheels is to be 9' centre to centre.

Wheels, axles, buffing and hauling apparatus, the same as the passenger carriages.

The bearing springs are to be 3' 3" long, 3" wide, 4" deep, with ten plates, and to be placed as in the passenger carriages, in the trough of the sole bar.

The inside height in centre of the body is to be 5' 6". Two sliding doors to be on each side of the waggon, having an opening of 4' 6" in the clear.

The floors are to be 1½" thick, side and roof boards ¾", ends ¾", of Memel deal. The body to be framed diagonally, and the whole securely fixed with iron knees, plates, and bolts.

To be fitted with outside lever brakes, with rack to levers.

Open Goods Waggon.

These are to be in all respects the same as the covered goods waggon as regards the frame, wheel, springs, buffers and hauling apparatus, and brake.

Planks in the sides and flooring are to be 2" thick; and the sides, 15" deep, are to be in the form of hinge doors for the whole length of the waggon. Four strong hinges to be to each door.

GENERAL CONDITIONS.

The whole of the stock to be furnished with Clarke's patent radial axles.

The whole of the work to be painted with four coats of good oil paint. All the bolts and iron-work which may be sent separately from the wood work, must be carefully protected against the effects of the sea voyage, and packed in strong cases of suitable sizes.

Tracings of the vehicles, based on the foregoing specification, must be submitted to the Engineer before manufacture.

The work is to be executed in every respect to the satisfaction of the Engineer appointed by the Agent-General to the Government of New Zealand, who is to be at liberty to inspect, in person or by deputy, the entire process of manufacture, and to reject anything which in his opinion is inferior in material or workmanship.

No work will be considered as accepted until the Engineer shall have given his certificate in writing that it is satisfactory; but if defective, it will be liable to rejection even after this certificate has been given, but not after the vessel in which it is shipped sails for New Zealand.

JOHN CARRUTHERS,
Engineer-in-Chief.

Auckland, 17th January, 1872.

Enclosure 3 in No. 21.

Mr. J. CARRUTHERS to the Hon. J. D. ORMOND.

PICTON and BLENHEIM RAILWAY.—Specification of Locomotive Engine.

General Description.

The engine shall be a four-wheeled contractors' engine, weighing 12 tons in working trim. Wheel-base not more than 6 feet.

Tubes to be of brass, of the best manufacture.

Boiler.—The boiler and shell of firebox to be of best Low Moor, Bowling, or Cooper's plates; all longitudinal seams to be double rivetted.

Firebox.—Inside firebox to be of copper, with copper stays. Working pressure to be 130 lbs. per square inch. To be suitable for burning wood.

Mud-holes.—An oval mud-hole shall be provided at each end at the bottom of firebox, and suitable brass washout plugs provided.

Cylinders.—The cylinders are to be 9½" diameter and 18" stroke. Discharge cocks to be fitted on each end of cylinders, and on low end of steam chest. The cylinder glands to be of brass.

Motion Bars and Connecting Rods to be of best faggotted iron.

Slides to be of gun metal.

Wheels to be 30" diameter, of cast iron, with Low Moor tires; to be all coupled.

Axles to be of best Yorkshire iron.

Axle-boxes to be of best cold blast iron, and fitted with brasses and with packing pieces to take up the wear of guides.

Buffers.—The buffers shall be central and combined with the drag, and shall be 2' 6" from rail.

Springs.—The springs shall be of the best hammered spring steel.

Regulator shall be swan-necked, fixed in the dome.

Steam-pipes shall be copper, and fitted with brass flanges.

Safety-valves to be fixed on the dome, and fitted to blow off at 130 lbs. per square inch.