

Pumps.—There shall be one pump and one injector, both of brass. All connecting pipes to be of brass or drawn copper.

Foot-plate to be covered over with a cab, having windows in front and back.

Cleaving.—Boiler and firebox to be covered with strips of dry pine, and then with iron plates, No. 18, W.G., secured at joints with iron hoops 2" broad.

Brakes.—All the wheels to be fitted with powerful brakes.

Chimney to be fitted with a spark-bonnet.

Tank shall hold 300 of gallons water, and a coke box, to carry a due proportion of fuel, must also be provided.

Bell.—A bell-metal bell, 9" diameter, shall be placed on top of the boiler, with a rope reaching to foot-plate.

Cow-catcher.—A wooden cow-catcher to be placed in front of engine; to be strongly bound with iron, and to come within 3" of the rails.

Head-light.—A parabolic head-light, 13" diameter, similar to those used in Germany, to be provided.

Tools.—1 wooden tool-box with lock and key, 1 set of spanners, 1 shifting spanner, 1 monkey-wrench, 2 hand lamps, 6 iron tube plugs, 6 wood plugs, 1 tube bar, 1 chipping hammer, 1 lead hammer, 1 quarter hammer, 1 cross and 1 flat chisel, 1 tallow-box, 1 half-gallon tin oil can, 2 oil feeders, 1 set fireirons, 1 fire shovel, 2 screw-jacks.

Finish of Engines.—The engines shall be of the most approved modern construction, made of the best materials and workmanship, and to the satisfaction of the Engineer, who is to have full power of entering the works at any time, either in person or by deputy, during the progress of the work, and to reject anything he may deem imperfect either in materials or workmanship. Before leaving the works the boiler shall be tested with hydraulic pressure and also with steam before the cleaving is put on, and due notice to be given to the Engineer that he may be able to inspect them. After they are cleaved, all the working and other parts are to be fitted on the engine, and then the engines to be turned by steam, and due notice to be given to the Engineer.

Royalty.—All charges on account of royalty for patents, if any, are to be paid by the contractor.

Painting.—The whole of the engines to be painted, with the exception of polished work. All to have three coats of good oil paint, and the bright work must be protected from the influence of sea air or water in the best known manner, approved of by the Engineer. The whole of the parts of engines, except the boilers, tanks, wheels, axles, and frames, are to be packed carefully in strong, suitable boxes, bound with hoop-iron, and numbered for reference with list of contents.

The following duplicate parts and extra tools to be sent with every two engines:—1 set wheels, axles, axle-boxes; 1 set springs, 1 set tubes, 1 pair pistons, 4 sets piston packing, 1 pump with clacks complete, 2 buffers, 2 dozen gauge-glasses, 1 set copper stays, 1 pressure gauge, 1 set coupling and connecting rods, 4 lamps, 2 bottle-jacks, 2 traversing jacks, 2 crowbars, 2 jemmys, 2 striking hammers, 4 hand hammers, 6 flat chisels and 6 half round chisels, 1 plug rod, 2 tube drifts and 50 tube plugs, 1 split bar, 4 sets fire bars, 1 set ferrules for tubes, 4 hand lamps, 2 ratchet braces, 20 drills, 3 double-barrel force pumps, 1 portable forge, 30 feet hose with union joint and stop-cock.

For the following railways, engines, similar to the above and with similar duplicates and extra tools, are required, with the exception that the firebox is to be arranged to burn coal instead of wood, and therefore the spark-bonnet is not required.

Napier to Paki Paki Railway.

Wellington to Masterton Railway.

Waitara and New Plymouth Railway.

Invercargill and Mataura Railway.

The working parts of the different locomotives for the same railway are to be exact duplicates, and interchangeable.

Auckland, 17th January, 1872.

JOHN CARRUTHERS,
Engineer-in-Chief.

No. 22.

MEMORANDUM for the AGENT-GENERAL, London.

(No. 28, 1872.)

Public Works Office, Wellington, 19th February, 1872.

IN noting the arrangements you have made in connection with the ship "England," as reported in your letters of the 12th and 14th December, I remark that, in the lists of immigrants, only their names and ages are mentioned, the occupations being omitted.

You will have gathered from the memoranda I have sent to you from time to time, that a large immigration is required in order to carry on the public works authorized by the Legislature, and that it is, in the first instance, mainly with a view to supply that want that your attention to immigration is so urgently called. In the shipments per "Celæno" and "England" last year, the immigrants by the first vessel only were, as a whole, fitted for employment on public works, and the ordinary labour required by country settlers; and although I hope those now to be sent will be entirely of these classes, you will readily perceive that it will materially assist me in arranging where to place immigrants on arrival, if I am previously informed of their *bonâ fide* occupations.

Not having received copies of the agreements alluded to in your letter of the 16th November, to the Colonial Secretary, I am unaware of the steps you have taken to approve the immigrants selected by the various Continental firms with whom you have contracted. It seems to me, however, that it would have been better, and more likely to have secured the class of immigrants desired, had the shipping firms provided only the passages, and other means been adopted for selecting the immigrants; and, should it be in your power to amend the contracts in this respect, I think it would be very desirable to do so, although the cost might be increased thereby. It would also be desirable that the selection should be made, in all cases, from rural districts, the importance of which has, I notice, already engaged your attention.

J. D. ORMOND.