



**The Petone Workshops.**

In the Dominion there are many Railway workshops. Of these four are in the North Island and three in the South. Of the Northern shops Petone is the most important. It is second, however, to Addington which possesses the best machinery and does the most difficult work. Petone is, for all that, well worth seeing. The first glance on arrival shows it to be a great hive of industry, and subsequent glances especially if you go in company with the watchful manager, Mr. Allan, or the chief of the Locomotive Department, Mr. Pearson, show you that the industry is largely of the mechanical order. Man, that is to say, watches and controls while machines work. The place is a forest of machinery. Its extent astonishes the visitor because the extent of the buildings is not revealed until you have entered in, taking with you the impression that the grimy structures of iron are but few and insignificant. That impression you soon cast off. Foundry, moulding shop, blacksmith's shop, pattern shop, carpenter's shop, carriage shop, erecting shop—it seems incredible these should be all here, each roomy, each well ordered, well stocked with machinery, well manned, and turning out work full bore. The surprise is not so great as it used to be before the new station was built as part of the duplication scheme. The old station masked the shops huddled together on the station ground. The new station has fallen back nearer the sea and the buildings are in better evidence.

In the yard close to the rails we note a locomotive tender in course of construction, in the bare metal stage: a tender large and of strange construction. For one of the X engines we are informed, here building for the Northern Trunk line. Two thousand two hundred gallons of water, four tons of coal—that decides the point of attack. A big X engine is in that building nearest to us, which is the Erecting Shop. We want to see it and we enter the Erecting Shop.

**Erecting and Machine Shops.**

The erecting Shop serves more purposes than one. It is a Maternity Home and a Hospital for the Locomotive race. Here are engines of all kinds laid up over great drop pits. The engine wheel drop-pit in the Erecting Shop contains the hydraulic cylinder and ram so arranged that when it is desired to take one or more pairs of wheels from under an engine it can be done without lifting the engine from the rails. The wheels to be operated on are lowered in to the pit by the ram and swung round on to a pair of rails placed at right angles to the

**Railway Workshops of the Dominion :  
PETONE**

track on which the engine is standing. They are then run along these rails until clear of the engine, lifted out of the pit by a crane and taken to the place desired. In one part new locomotives are being ushered into the world by the builders, and in others old stagers are getting doctored, repaired, patched up,

cleaned, painted, decorated, going through every process that tends to restore the engine to brilliancy, efficiency, and self-respect. There are two big engines, one the much described X variety in the hands of the builders. He is nearly finished and looks formidable in "the buff," almost ready for the painters to dress him in his uniform suit with the distinctive title and the customary devices. The other is the class E engine referred to later on.

Other engines taking a turn in the hospital are of all kinds. They range not quite from A to Z, but from E to X. E is the most powerful engine in the Dominion. X is the type for the Northern Trunk—there are eight of these. Of these one is out and about its work; another is being built here as noted; the rest are in course of construction at Addington; there is an F engine, one of the babies of the system, going through something not far removed from the "lock, stock, and barrel" process; there are some Baldwin compounds, and there are engines of many varieties all tended by the hands of cunning artificers. These engines are in many stages from the painless dismemberment of extreme illness, to the brilliant shining paint of elaborate convalescence. The men are scattered about, some working on the engine bodies, others at the rows of benches handling chisel and file, spanner and hammer, and all the implements of their trade; while others are in the machine shop hard by, tending the numerous great machines which are pressing on the work of building and repair, making parts, shaping, drilling, planing, sawing, grinding, moving perpetually. Shafts revolve above sending down the power to the machines by lines of belting which seem to be in endless succession. Such is the Erecting and Machine shop—a long lofty building in two compartments divided down the centre by the row of benches aforesaid. In one compartment are the engines in the hospital and maternity home as before described; in the other are the machines in rows.

Half way down one side of the Machine Shop is the engine room. It is a glassed chamber of order, reclaimed from the working wilderness and stocked with the necessary motive powers. Chief of these is the engine that drives all this machinery around. A 75 h.p. "Allan Porter" type engine made at Addington. A neat compact smooth working type, daintly fashioned, a miracle of compactness, every part finished in a style worthy of the best traditions of the English workshops. This engine alone would justify the whole expense of the policy of which the

Addington establishment is the leading representative

There is also a compressor for compressing the air which plays a great part in the working of the shop. It may be regulated to any pressure. When we saw it, the limit was set at 100lbs., and whenever the gauge pointed to that strength a safety valve threw the machine out of gear and there was no more increase of the pressure. When the pressure fell below the indication, the machinery was thrown into gear again and the pressure rose to the limit.

A dynamo in a corner completes the equipment giving light all over. On the whole, nothing is wanting here except a little additional room for moving about. But there is room enough for the working for all that.

A glance here is sufficient to convince the visitor that the supremacy of the Americans is a thing not acknowledged. Firstly the finish of the American engines is not equal to that of the British made or the Dominion article either. A roughness of the American surfaces under their glittering varnish proclaims the inferiority of the American work. Secondly the bulk of the machinery is English, some of it up to date, the very best of its kind. There are American machines in the plant, and very good they are. But they do not dominate and the chief part of the work is done by machines of British make, proclaiming the fact that Britain in this department of industry is easily first.

**Machinery at Petone Workshops.**

*The following is the list of the Machines in the Petone Workshops.*

MACHINE AND BOILER SHOP.	
Number.	Description
(About) 21	Lathes
3	Wheel lathes
12	Drilling machines
6	Milling machines
1	Slotting machines
2	Shapers
1	Planer
3	Screwing machines
1	Buffing machine
1	Cold saw
1	Circular saw
2	Punching and shearing machines
(About) 10	Grinders
1	Plate roll, and numerous other smaller machines for various purposes
BLACKSMITHS' SHOP.	
1	Bar cutting machine
4	Steam hammers
GENERAL.	
2	Large overhead travelling cranes
1	75 h.p. Porter Allen high speed engine
1	Dynamo, 110 volts, 200 amp.
2	Stationary boilers
1	Air Compressor (Cap. 285 cub. ft. of free air per minute) fitted with an automatic cut off on steam cylinder, which is adjustable to cut off the steam supply when the pressure required in air reservoir is reached

**IRON FOUNDRY.**

In the iron foundry is a new vibrating table moulding machine, operated by compressed air; this machine is used principally for brake.