

this rate of riveting will be very materially increased. It must be remembered that, in riveting up $1\frac{1}{2}$ in. rivets in a locomotive-boiler to carry a working-pressure of 250 lb. per square inch, the greatest care is essential to insure sound work.

The plate-bending rolls at Addington meet all ordinary requirements, and as only eight Class X boilers had to be made it was not considered necessary to import a specially heavy set of rolls for curving the eight seven-eighths cone-plates, it being known that the bending could be done in a private foundry.

Mr. Jenkinson's evidence as to machinery generally at Addington Workshops would appear to have been based on insufficient information. Although some of the machinery is old, and not up to date, it is still serviceable and doing useful work. With a view to increasing the daily output of work from the older machines which were built to use the old-fashioned carbon tool-steel, the strengthening and adaptation of such machines as are suitable has been commenced in order to enable modern high-speed tool-steel to be used. In Addington Workshops there are also a large number of modern and thoroughly efficient machines.

Although desirable to replace old machinery with the most modern tools, the cost of doing so would be very considerable and, in some instances, hardly warranted. It has been recognised that additional steam-hammers and other tools would be beneficial in the blacksmith and boiler shops, and as funds are allocated these will be provided.

A hydraulic flanging plant is not an essential at present: the maximum number of new boilers made each year for the whole of the railways does not exceed about twenty. Twenty locomotive-boilers would involve the flanging of 100 plates, which would only occupy such a costly plant a very small proportion indeed of the year.

Desiring in 1906 to ascertain particulars of improved methods and machinery in use in the principal Australian Railway Workshops and private foundries, our Workshops Managers from Addington and Petone were sent across to Australia to take detailed notes as to how the work there was arranged and executed, to note also special plant, machine tools, appliances, processes, and methods, or anything else likely to be of interest in New Zealand Railway Workshops, either for new or repair work. On the return of these officers they recommended that certain machines should be procured for Addington, and these machines were duly obtained, with the exception of two, one being a hydraulic flanging-press, and the other a mangle for straightening frame-plates for new locomotives. These two machines together were estimated to cost, put to work, nearly £5,000. As I have already pointed out, there is now, at present, not nearly enough flanging work for a big press. As to the mangle, which is a special machine for straightening new frame-plates for locomotives, our present output of new locomotives averages about ten a year, the frame-plates needed for which the mangle could handle in less than a week. The expenditure on such a special appliance was considered to be unwarranted in the meantime.

The question of improved overhead lifting-gear was also reported on, and my remarks on the subject have been already put before you.

In Hillside Railway Workshops a number of self-propelling travelling steam jib cranes have been built. These cranes have a lifting-capacity of 7 tons. The jibs can be raised or lowered under load, and cranes can be used either inside or outside the Workshops buildings. The Railway Workshops at Addington, Hillside, Petone, and Newmarket each have one of these cranes in regular use.

Regarding Mr. Jenkinson's statement that there were no pneumatic hoists at Addington Workshops, I would point out that these works are provided with a large air-compressor, air being led to the various shops. Practically all the machines doing heavy work are equipped with pneumatic hoists, some imported, and others made at Addington. Many of these pneumatic hoists are carried on travellers, so that they may be moved, with their load, about the shop.

All shops are provided with pneumatic drills, chipping-chisels, &c., and these are being added to each year.

Regarding the system of work adopted, the Workshops Manager issues orders for work to the different foremen concerned, who in turn arrange with their leading hands its distribution amongst the respective workmen. Charges for labour and material are dealt with on the various Workshop accounting forms, specimens of which forms have already been furnished for the information of the Commissioners. On completion of the work the Manager is advised by foremen on forms prescribed for that purpose.

Re the discipline maintained: The evidence already before the Commissioners is, I submit, conclusive on this point. The informant's allegations made to Mr. Ronayne, and embodied in the letter which Mr. Ronayne directed should be sent on to Addington for searching investigation, were, I submit, unwarranted, and have not been substantiated. From my own personal knowledge and observation I am satisfied that the officers do maintain efficient discipline.

Re the cost of production at Addington as compared with the cost in other Railway Workshops or private establishments, I submit that the cost of work executed at Addington compares favourably with that of any other Railway Workshops in the Dominion. The cost of doing similar work in the different Railway Workshops is liable to vary somewhat, and a comparison is the more difficult from the fact that Addington manufactures a proportion of the new work for the other Workshops. Then there is a variation in the local rates for material, each centre having a local contract for the supply of material. When a marked variation occurs in the cost of similar work done in any Railway Workshop the cause of the difference is closely investigated. I have put in, for the information of the Commissioners, a return showing the cost of manufacturing various classes of rolling-stock in different Workshops.

A new design of double-ended suburban tank engine, Class W_F, was put in hand at Addington in 1903. A complete set of new patterns was made and charged against the order for building these engines. Then, in consequence of inadequate accommodation and pressure of ordinary repair-work, the engines had