

in the same illustration. It consists of a U frame supported on a table, the arms of the U being slotted to allow of vertical adjustment of a bell crank arm, the long arm of which forms the handle. A knife blade is fastened to this long arm, the cutter acting like a guillotine.

Machinery Guard in Timiskaming and Northern Ontario Railway Shops.

In view of the widespread safety first movement, it is interesting to note the different manner in which the railways are helping the movement along. While accomplishing the same results, each railway has a different method of going about its task, and in fact a wide range of ideas along these lines will be found in shops on the same railway.

The T. and N.O. Ry., in its shops at North Bay, Ont., is, in as far as possible, protecting all its shop machinery, a typical example of which is shown in the protected emery wheels in the accompanying illustration. This protecting hood is quite detachable, and in no way interferes with the operation of the wheels. The circumferential

Handling Wheels in Canadian Pacific Railway Shops at North Bay.

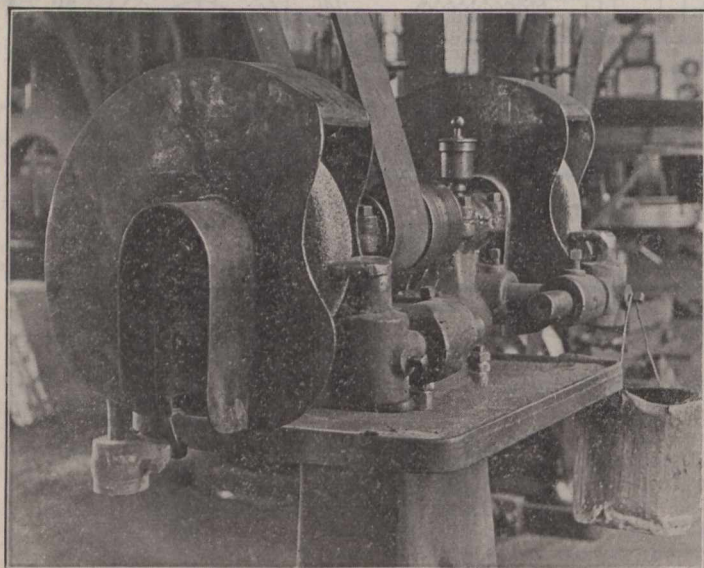
Instead of the usual practice of fitting axles to the bored wheel, at the C.P.R. shops at North Bay, Ont., the wheels are fitted to the axles, and it is claimed thereby that a considerable saving both in time and material is obtained. Observations made on axles that have had the wheels pressed off, showed that over 50% of them required no turning at all, and were in such shape as to be capable of pressing on again, without further machine work.

It is the practice in these shops, when the wheels have been pressed off in the usual manner, to put each axle in the lathe between centres, and try the wheel fit for accuracy. While generally not requiring much truing, it is usually advisable to take a feather cut over the full length, with a slight taper at the entering end. This cut requires but the fraction of the time usually employed in taking a heavy cut over the full length, the cut now being taken, usually not even removing all the discolored surface. The wheels are usually removed from the axles owing to their being worn beyond a

Yard Crane at Grand Trunk Railway Locomotive House, Allandale.

Adjoining the scrap bins of the G.T.R. locomotive house, at Allandale, Ont., there has been erected a small travelling crane, as shown herewith, for handling the various heavier parts that must be cared for at a divisional point. The crane runway consists of four old cast iron columns, removed from the company's old shops at Stratford, Ont., two on each side of the runway, each pair of which is spanned by a trussed rail, which forms the crane track. The crane consists of a pair of trussed rails, suitably mounted at the ends to small carriages, which run on the runway. A small crane carriage, operating on the crane rails, carries an air plunger hoist.

The primary object which led to the installation of the crane, was the demand for some means of lifting tender tanks from off the tender trucks for repairs. For this service it has proved quite valuable. An additional service to which it is put, is the handling of the scrap material from the small shop trucks to the scrap bins on the left. It is also of use in handling castings



Strong Protecting Hood for Emery Wheel.

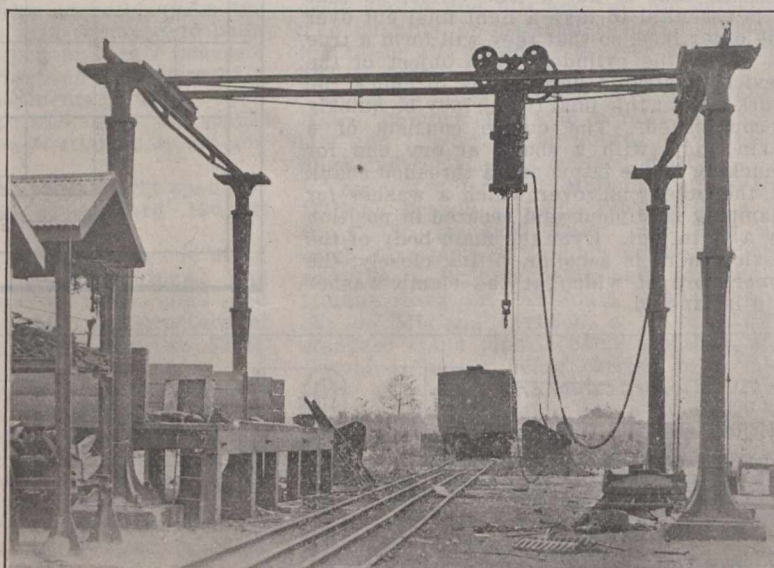
part of the hood consists of a wrought iron strap, 4 by $\frac{3}{4}$ ins., bent to shape, and with the lower end drawn down to a 1 in. diam. This round stem end fits into a casting, which is bolted to the underside of the grinder table at the back. The hood is secured in this casting by a set screw. The side members of the hood consist of $\frac{1}{2}$ in. plate, secured to the $\frac{3}{4}$ in. face of the circumferential strap by $\frac{1}{4}$ in. studs, cut off short and rivetted flush. These side sheets are flanged for the shaft openings, and a similar piece of $\frac{1}{2}$ in. sheeting, rivetted to the flange mentioned, forms a complete protection from the shaft. The wheel is thus completely protected, the greater strength of the hood being in the periphery, where it is required.

Another good instance of machinery protection is shown in the protection given to the gearing on a large locomotive lathe. The whole outer face of the gearing is covered by a large sheet, with an edging conforming to the contour of the gear arrangement. The whole guard is hinged to the floor, so as to fall away from the lathe when swung, a hinged rod in the centre of the side sheet forming a support to prevent the hood from dropping to the ground. These guards have been applied by E. McGahey, a machinist in the shop.

serviceable condition—or possibly one of a pair is in this condition, or else has some defect. Mated wheels are selected for applying to the axle, and these are bored to suit.

The shop output is about 40 pairs of wheels a day. The wheels for these are bored in a wheel borer that operates night and day. An axle lathe operating a 9 hour day can supply the full requirements of the wheel borer. Formerly, when it was the practice to fit the axle to the wheel, it required both a wheel borer and axle lathe operating night and day to give an even smaller output. This means a direct saving of a machine and operator at night, in addition to an increased output. As it is usually the failure of the wheel and not of the axle that necessitates the shopping, there is an added advantage in conserving the size of the axle, making it possible to pass through a greater number of shoppings, all the machining coming on the wheels.

A number of United States railways, having offices in Toronto, have appealed against the city assessing them for business purposes, and their representatives for income, claiming that they do not do business in Canada within the meaning of the act.



Travelling Crane for Locomotive House Service.

sent from the back shop to the locomotive house, lifting them from the flat cars, and placing them on the small shop trucks, tracks for which run under the craneway.

Central Ry. of Canada Discussed in British House of Commons:—Mr Sheehan asked the President of the Board of Trade in the Commons recently whether, having regard to the time which had elapsed since he promised to make inquiries into the position of the Central Ry. Co. of Canada, and to the fact that the principal question involved was its failure to comply with sec. 274 of the Companies Consolidation Act, he could state whether it was bound to comply with this section by reason of its having a London place of business at 363 Winchester House, E.C., and a London committee consisting of Sir Thos. H. C. Troubridge, T. Carmichael and A. L. Cohen; and, if so, would he take immediate steps to enforce the penalties imposed by the act upon companies who failed to comply with the requirements of the section in question? The President of the Board of Trade said in reply:—"Careful inquiries have been made, and the facts are now before Crown counsel with a view to advise whether proceedings can be instituted."