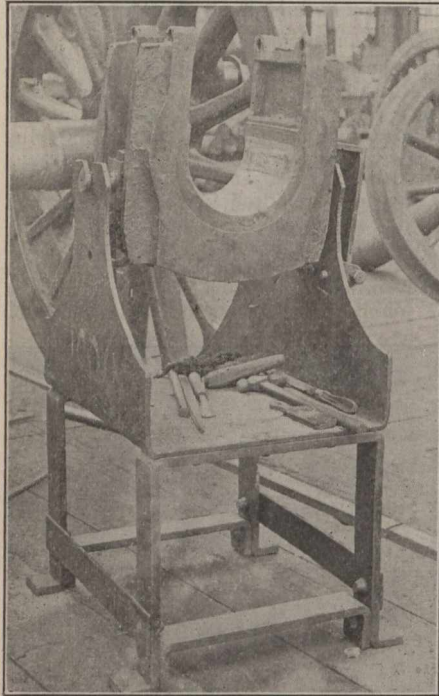


Railway Mechanical Methods and Devices.

Driving Wheel Brass Stand at the Grand Trunk Railway Stratford Shops.

In the G.T.R. shops at Stratford, Ont., there is in use a very convenient stand on which to place the driving wheel brasses while scraping them to a fit on the driving axle. The brass as it comes from the boring mill requires to be fitted to the axle in some cases, and may require lifting off the axle several times between these work-



Scraping Stand for Driving Wheel Brasses.

ings before a final good fit is attained. Lifting the brass off the axle each time, and placing in a convenient position for fitting, consumes time, and it is in the decreasing of the time consumed, and the ease of operation, that this stand excels.

In the vertical guiding sides of the brass as it rests on the axle, two lifting hooks are placed. These consist of a block of steel with a projecting trunnion bearing on one face, while on each of two opposite sides, there are pointed studs, which can be screwed out against the sides of the guiding ways of the brass, the trunnion bearing outward, forming a solid trunnion bearing on each side of the brass, all as shown in the accompanying illustration.

The fitting stand consists of a piece of plate bent upward at each end, and supported on a framework of wrought iron bars. The uppermost ends of the upturned edges of the plate, are cut out to the size of the lifting hook trunnions. The corners of the upturned ends of the plate are cut away to facilitate the workman's movements while scraping.

The brass on the axle is lifted by a swinging jib crane overhead, by means of the trunnions, and placed in a similar position on the stand, the legs downward. That is the normal position, from the fact that the greater weight being there holds them down. To hold the brass up the other way in the position shown in the illustration, there is an attachment to the other side of the supporting stand, consisting of a plate hinged half way down the

side, which can be swung up, a bent end fitting into the guiding way on the side to the right as indicated. The brass is thus in a convenient position for scraping, and the stand itself makes a handy table for the mechanic's tools.

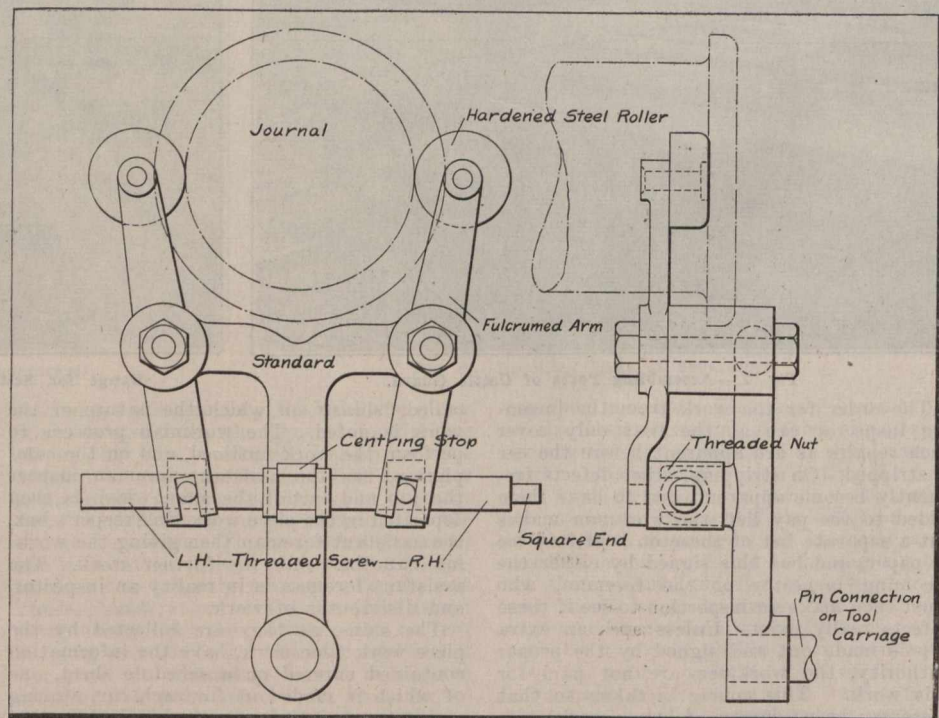
Double Axle Roller at the Central Vermont Railway Shops.

The practice of rolling the journals of car axles, on the completion of the machining in the lathe, is almost universally adopted for giving them a fine and smooth finish that will not be hard on the journal brasses nor entangle the waste in the journal box. In some few instances recently, special axle grinders have been employed for the purpose, and the results obtained have been most satisfactory. The tendency in all shops would seem to lead to the use of grinding wherever possible on bearing surfaces, yet at the same time, the older method of rolling seems to be so firmly entrenched as to be here to stay for some considerable time at least.

A marked improvement on the finishing tools of the single roller type is shown in the accompanying illustration. This is a double roller, so constructed as to equalize the springing tendency on one side as it

turned in the lathe, the roller jaws are kept wide open by turning the threaded screw so as to have the threaded blocks close together near the centering stop. When they are required for service, the screw action is reversed, bringing the rollers up against the journal sufficiently tight to give the required rolling action to smooth down the rough surface. The two rollers bear equally on both sides, as it is self adjusting on the pin support from the lathe tool carriage. The rollers are also so mounted as to have the pressure on both sides come diametrically opposite to each other.

The big advantage in such an arrangement lies in the fact that the heavy rolling pressure is equalized on both sides. With the single-roller type, the resulting thrust on the journal is all in one direction across the bed of the lathe, the reaction on the centres, if the rolling is required to reduce a very rough surface, is quite high, with a consequent injurious effect on the lathe. With two rollers placed opposite each other, the reaction is removed from the lathe centres. The double rollers also tend to produce a better job than the single, for, with the latter, the axle is sprung an amount varying according to the distance the tool is from the lathe centre. Consequently, the journal portion tends to be



Double Axle Roller Designed to Equalize the Springing Tendency.

exists in tools with a single roller. On a pin projecting from the side of the tool carriage, there is a vertical double arm standard, carrying at the outer end of each arm a fulcrumed arm. At the upper ends of the fulcrumed arms, there are hardened steel rollers, as in the usual construction. The lower ends of the fulcrumed arms are bifurcated to receive pins projecting from threaded nuts mounted on a right and left hand threaded screw, supported near the centre by a centering stop on the face of the vertical part of the standard. One end of this screw is squared for a socket wrench.

Normally, while the axle bearing is being

tapered smaller at the end. The double rollers have no tendency to spring from the equalized action, so that if the original turning is parallel, the resulting rolled journal will be equally true.

This tool is used in the Central Vermont Ry. car shops at St. Albans, Vt.

McDonald and Son, Toronto, who own a miniature railway at Scarboro beach park, Toronto, have requested the city council's permission to lay a miniature single track railway on Toronto island, from Hanlan's point to Centre island, for the carrying of passengers and light freight. The estimated cost is \$25,000.