Railway Mechanical Methods and Devices.

Coupler Stripping Press at Michigan Central Shops.

In the M.C.R. shops at St. Thomas, Ont., there is in use a coupler stripping machine, designed by N. Marple, General Car Foreman, in whose department it is used. In wrecks or drawbar accidents, it frequently so happens that if the coupler is broken, the coupler yoke is still intact, and vice versa, and it is to save the good portion that this press is employed.

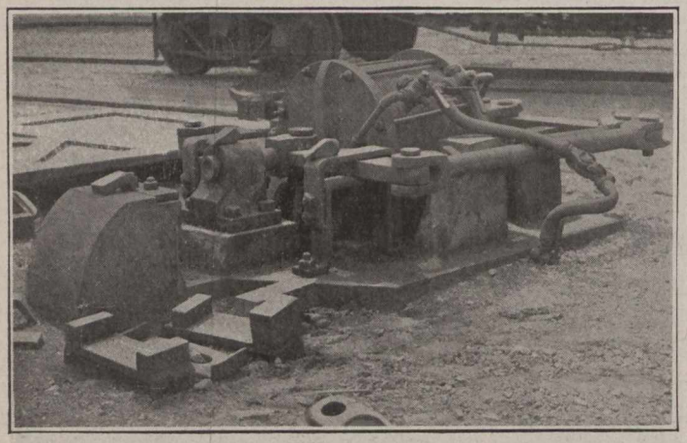


Fig. 1.—Air Operated Coupler Stripping Press.

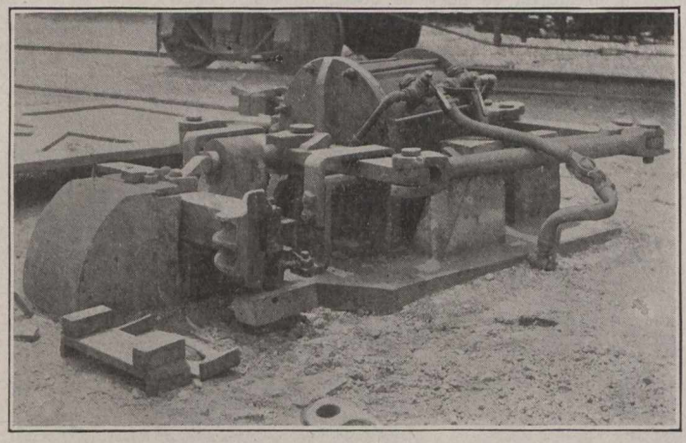


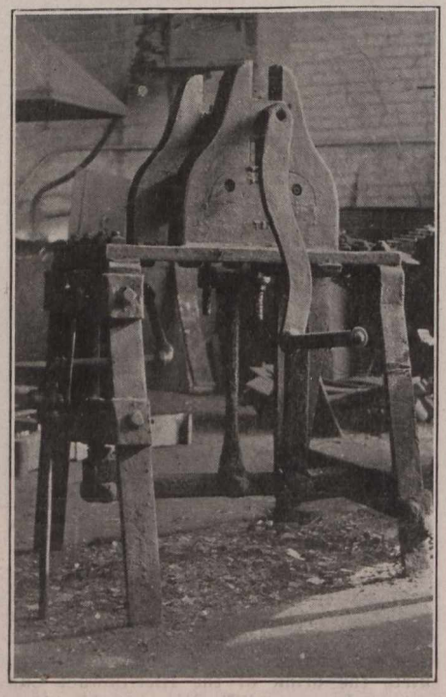
Fig. 2.—Coupler Stripping Press in Operation.

The whole mechanism is mounted on a heavy cast iron base, set into the ground on a solid foundation in the rip track yard. Centrally in this base casting, near the rear end, is mounted an air cylinder, which consists simply of a cast iron shell, to the ends of which are attached cover plates, bolts passing from end to end of the cylinder outside the shell, making a tight cylinder. Air connections for both ends of the cylinder pass in through the cover plates. Through the rear cover of the cylinder passes the plunger, a head on its outer end connecting it with two fulcrumed arms through two pins. The outer ends of these fulcrumed arms connect through links along the side of the machine to a cross member across the front cover plate of the machine. Cast integral with the base on each side of the cylinder is a heavy lug, through which, parallel to the cylinder, passes a heavy threaded bolt, the rear end of which is pin connected to a link, connecting to the fulcrumed levers at the rear, near their outer ends, these outside links acting as the fulcrum rods, the location of the fulcrum being adjustable by means of the threaded end of the bolt in the base lug.

The cross member in front of the cylinder is guided in horizontal ways, and from the front face of the cross member, projects a pin through a cast bearing bolted to the machine base. The outer end of this guided pin is cupped, as shown in fig. 1. From the front end of the base rises a heavy lug.

In stripping the yoke from the coupler, the combined coupler is placed in the machine against the heavy lug in the front end, as shown in fig. 2, with the rivet to be sheared in front of the guided pin. In the cupped end of this pin is placed a cutting chisel, as also shown in fig. 2, the rear end being rounded to fit into the guided pin. Turning on the air into the front of the cylinder, forces back the plunger, forcing out the inner ends of the fulcrumed levers, the links along the sides moving forward, and carrying along the front cross link with its guided pin and chisel, shearing off the rivet head close against the coupler yoke. The plunger is forced back into its normal position by letting air into the rear end of the cylinder. It will be noticed that the handles for both ends of the cylinder are connected together so as to act in unison.

Both rivet heads being sheared off, all that remains to be done is to drive out the rivet. One of the big advantages claimed for this method by Mr. Marple is that the rivet is uninjured, and may again be used for a smaller size of coupler. This method is a considerable improvement on the sledge and chisel method formerly in use.



Mechanically Operated Spring Leaf Roller.

G.T.R. Ordered to renew Rails. — The Board of Railway Commissioners has passed a rather unusual order, requiring the G.T.R. to renew the rails on its Barrie Division, between mileage 22 and 26, and until the completion of the work trains between Trout Creek and Powassan, Ont., are not to exceed 15 miles an hour.

Spring Leaf Roller at Canadian Northern Railway Shops.

The conventional spring leaf roller in the C.N.R. Winnipeg shops, J. Kiebler, Foreman, has been rearranged to have a power clamping attachment, as shown in the accompanying illustration. In place of the long fulcrumed foot lever, by means of which the upper roller is brought down on the pair of spring leaves, there is a short lever just the length of the machine base. This is fulcrumed, as usual, at the right end, with a link near its middle connecting with the bearings on each side, which are movable in vertical ways in the frame of the machine.

Between the machine legs, at the left, there is mounted a small air cylinder, the piston rod of which is attached to this fulcrumed lever. On turning the air valve, attached to the frame of the machine, the plunger is depressed, pulling down the upper rollers, and holding them down tightly on the spring leaves while the latter are being rolled, leaving both the blacksmith and helper freer to perform the necessary forming operations.

It is the intention to still further improve the roller by having the rolls operated by power. This is to be accomplished by having a long air cylinder attached to the side of the frame directly below the present location of the handle. To the upper end of the cylinder plunger rod will be attached a rack, engaging with a pinion on the handle end of the upper roller, the movement of the plunger thereby turning the roller. Both operators will thus be free of mechanical work. The cylinder will be double acting, to turn the rolls in both directions.

A new method of pushing forward the circular concrete mould has been introduced in the construction of the 90 mile water supply tunnel for New York. On the floor of the rough hewn tunnel head is laid a narrow strip of concrete flooring as the tunnel progresses, the inner surface of which is curved to form the lower portion of the circular formation on completion. This strip serves as a uniform flooring on which a narrow car can be operated, the car carrying the wall mould. The wall mould on the car is pushed forward between settings. The car also carries on its top, a pair of tracks over which the work cars operate, en route to the tunnel shaft.