

here also that the drawing of the plate has been entirely and successfully neglected.

For the foregoing information and for the photographs from which the illustrations were made we are indebted to R. A. Pyne, until recently Superintendent of Shops, C.P.R., Winnipeg, and Superintendent Motive Power and Car Department, Eastern Lines, Montreal.

Racks for Holding Triple Valves.

Some very serviceable racks for triple valves built in the C.P.R. passenger car shops air brake department, at Vancou-



Racks for Holding Triple Valves.

ver, are shown in the accompanying illustration. They are built entirely of scrap. The measurements of each rack over all are 9 ft. long x 21-3 ft. wide x 5 ft. high, carrying four tiers or rows of valves placed lengthwise on the rack. One rack is used for valves to be cleaned and repaired and the other for those in good order.

The frame is of 3-in. angle iron rivetted to an upright of the same material. The centre braces are of 1-in. iron pipe, 2 braces to each tier, with a $\frac{3}{8}$ -in. rod running lengthwise through the pipe and fastened with nuts on the outside ends, which make the rack quite rigid.

The capacity of each rack is 130 valves, and their use eliminates having to pile valves on the floor. We are indebted to T. Spence, General Car Foreman, C.P.R., Vancouver, for the foregoing information and for the photograph.

Railways' Coal Consumption.—United States railways in 1915 consumed 24% of the country's total coal production. Practically all of the 600,000 tons of anthracite and 62,700,000 tons of the 128,200,000 tons of soft coal consumed by railways were burned in the eastern district. Railways of the Western district burned 43,500,000 tons, and those of the southern district 22,000,000 tons.

The C.P.R. was reported from Raymond, Alta., Sept. 2, to be negotiating with the night-Svegan Co., for the purchase of its factory and plant there, which has been closed for some time.

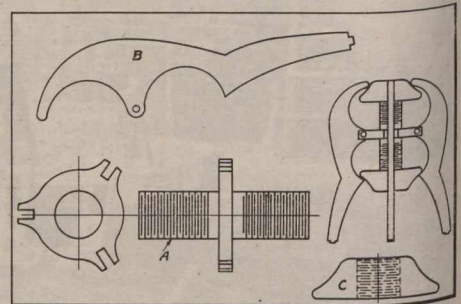
Auxiliary Chuck for Turning Piston Packing Rings.

The auxiliary chuck, the separate parts of which are shown herewith, is being used in the G.T.P.R. shops at Biggar, Sask., for holding piston gland packing rings in the lathe while they are being turned. The completed chuck is made up of a centre stem A, enlarged at the centre to form a fulcrum for the three arms B, which take the packing rings. The arms are controlled by the movement of the cones C, placed on either end of the centre stem, which is threaded at both ends for their adjustment. The

tapered shank can be held in the centre bore of the spindle, and keeps the work far enough away from its face so that better work can be accomplished. For details of this device we are indebted to W. W. Yeager, Locomotive Foreman, G.T.P.R., Biggar, Sask.

Cleaning Water Filters in C.P.R. Passenger Car Shops.

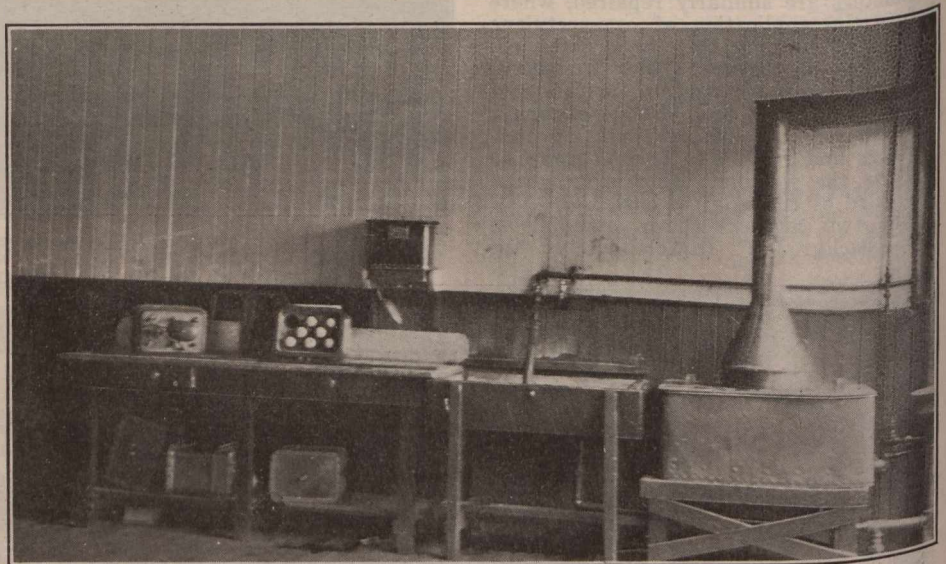
In the C.P.R. passenger car shops at Vancouver the dining car water filters are taken apart on a bench or table, which is lined with tinned sheet copper and drains to a sink in the centre. The inside filters are removed and entirely



Auxiliary Chuck for Turning Piston Packing Rings

washed out with warm water, after which they are sterilized in a copper tank, heated with live steam. The filters are then reassembled and tested with water pressure before being returned to the cars. We are indebted to T. Spence, General Car Foreman, C.P.R., Vancouver, for the foregoing information and for the photograph.

The Flying Train Failure.—A few years ago the Batchelet, Flying Train & Levitated Railways Syndicate was formed in England, to build and operate systems of levitated railways. An order has now been made for the winding up of the company and a liquidator has been ap-



Cleaning Water Filters in C.P.R. Passenger Car Shops.

ends of the arms which take the packing rings are each made with a lip on the end so that they will grip the rings either from the inside or the outside, thus enabling the ring to be turned completely by two adjustments of the chuck. When the inside and one end is turned the chuck is readjusted to the inside, and the outside and opposite end are turned. This appliance is easily held in the ordinary lathe chuck, or by adapting a Morse

pointed. The idea was based on the application of the principle of electro-magnetic repulsion. The "track" was represented by a series of electric coils with horseshoe shaped solenoids at regular intervals. On these coils being energized, the cigar-shaped aluminium carriage was repelled from the "track," and by similar means, propelled from point to point. It was claimed that a safe speed of 300 miles an hour could be attained.