

Fig. 4. Snow Plough, attached to Ballast Car.

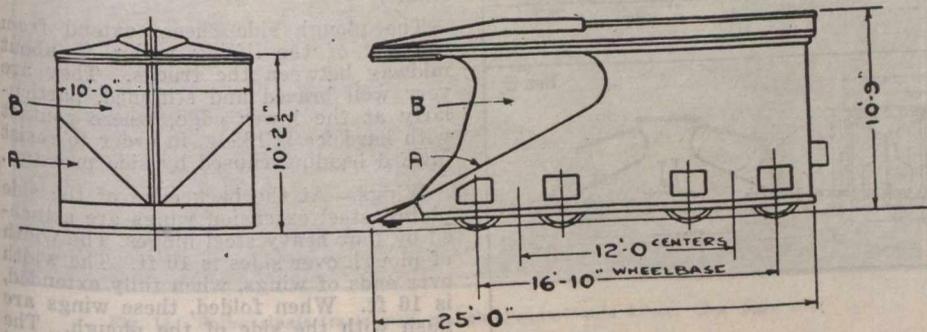


Fig. 5. Push Snow Plough, plain.

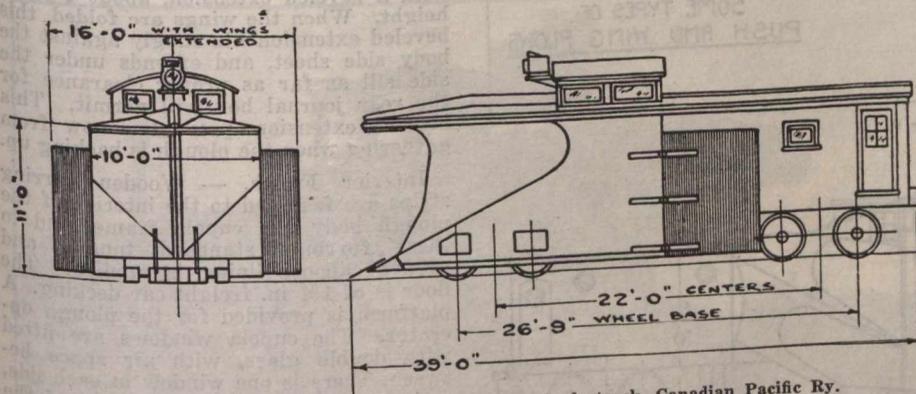


Fig. 6. Push Snow Plough, wing type, for single track, Canadian Pacific Ry.

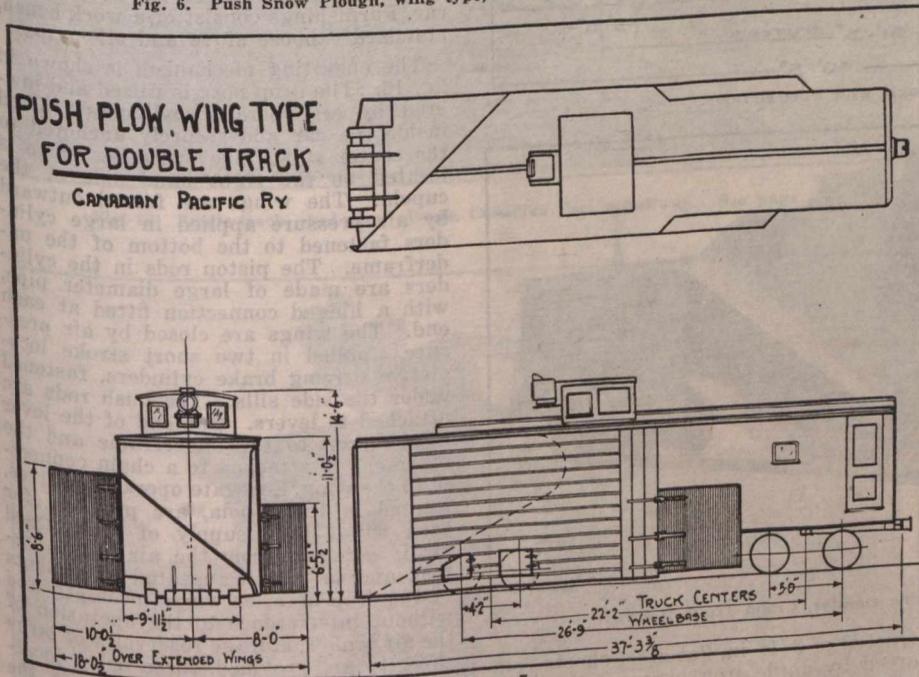


Figure 7.

down to within 8½ in. of the rail, in order to prevent snow crowding in under the front truck. The bottom portion is hinged to facilitate truck inspection. The car is of the ordinary box type, equipped with doors and windows, and has at the front end a small cupola, with seats for accommodation of the operator. All devices for the operation

of the plough are located in this cupola. Over the rear truck is a large box, filled with blast furnace slag to weigh down the back end. The ploughs are fitted with a flanger but have no wings. They have been built for single and double track in operation, the only difference being in the construction of the mold plates and the plough framing.

Canadian Pacific Railway Steel Plough. For many years the C.P.R. has built its ploughs of steel. It was the first railway to build and use an all-steel plough. The service given by this type has been very satisfactory. The all-steel plough has a number of advantages, including greater strength, lower maintenance cost, and affords greater protection to the men operating it. These steel ploughs have been built for both single and double track operation, and are equipped with drop nose, wings, and in some instances with ice cutters and flangers similar to those applied to rotary snow ploughs, all devices being controlled from the cupola. Two styles of ploughs have been built. The type shown in fig. 12 is used in territory where light, dry snows are frequent. On this type the roof extends forward over the mold plates to prevent snow flying upward. The other type shown in fig. 13 does not have the extension roof and is used where snows are usually wet and heavy. Fig. 14 shows a double track all steel plough, and fig. 15 a general arrangement drawing of the single track type.

Trucks.—The rear truck is of the standard arch bar freight type, with 33 in. diameter cast iron wheels mounted on 4¼ in x 8 in. M. C. B. axles. It is equipped with Simplex truck bolsters, M. C. B. coil springs and roller side bearings. The wheel base is 5¼ ft. The front truck is a special design of arch bar type, with 28 in. diameter steel tired wheels mounted on 5 x 9 in. M. C. B. axles. Simplex truck bolsters are used, the ends of which are fitted with a combination roller and wedge lateral motion device. This truck has no springs, the space usually occupied with springs being fitted with a wooden block. The first front trucks used under these ploughs had no lateral motion arrangement, and the wheels were mounted on locomotive truck axles with inside journals. The bearings and boxes were, therefore, practically inaccessible, except when the plough was standing over a pit. This resulted in numerous hot journals. Occasionally the arch bars bent sidewise, indicating the need of some lateral motion to prevent excessive side strain when the ploughs were passing through sharp curves and guided by the flanged wearing shoe. The present truck, with outside journals, and with lateral motion device, has overcome these troubles.

Brakes.—The rear truck only is equipped with brakes. The air brake consists of a schedule K. D. 812 equipment; the brake pipe extends the full length of the plough with standard angle cock and hose at the rear. On the front end of the pipe an angle cock is located behind the mold plate. Access to it is had through a small hinged door in the mold plate and connection is made by means of a special length of air hose. The hand brake is the ordinary standard box car type.

Draft Attachment.—The rear end is equipped with draft gear. At the front a standard pilot coupler is supported in a large steel casting riveted to the sloping front of the plough.

Underframe.—The center sills consist of two 15 in., 33 lb. rolled steel channels, with top and bottom cover plates. The side sills are 15 in., 33 lb. channels. The bolsters are box section, consisting of pressed plate diaphragms, with top and bottom cover plates. Approximately 6 ft. back of the center of the front truck is a very strong cross strut, consisting of two 15 in., 22 lb. channels applied horizontally to the top and bottom of