

the center sills. The strut extends entirely across the plough.

Front End Frame.—The center end post consist of two 15 in., 33 lb. channels, which extend from the top of the

and about midway between the trucks. The roof extension, or hood, is built up of 3/16 in. steel plate, braced with 7 in., 9 3/4 lb. channels.

Side Construction.—The sides are con-

front edge is equipped with removable flanged rail shoes, provided with hardened steel wear plates. Adjustable cutter plates, which extend down on either side of, and between the rails, are bolted to the front edge of the nose. These plates are beveled to a sharp edge, and are applied in a number of narrow widths, so that sections can be renewed if damaged. The drop nose is operated from the cupola by an air operated toggle arrangement placed under the nose frame.

The plough side sheets extend from the end of the lifting wedge to about midway between the trucks. They are very well braced and stiffened, particularly at the lower edge, where contact with hard ice is likely, in order to resist inward bending caused by side pressure.

Wings.—At the back edge of the side plates, steel extension wings are attached by four heavy steel hinges. The width of plough over sides is 10 ft. The width over ends of wings, when fully extended, is 16 ft. When folded, these wings are flush with the side of the plough. The outer edges of the wings are provided with a beveled extension, about 4 ft. in height. When the wings are folded, this beveled extension fits snugly against the body side sheet, and extends under the side sill as far as proper clearance for the rear journal box will permit. This beveled extension prevents snow from gathering when the plough is backing up.

Interior Finish. — Wooden furring strips are fastened to the interior of the plough body and cupola frame, and to these furrings standard tongue and groove caboose lining is applied. The floor is of 1 3/4 in. freight car decking. A platform is provided for the plough operator. The cupola windows are fitted with double glass, with air space between. There is one window in each side, and one at the back of the body of the car. Furnishings consist of a work bench, standard caboose stove and oil lamps.

The operating mechanism is shown in fig. 16. The drop nose is raised and lowered by air operated cylinders located inside the car and securely anchored to the center sills. The operating valve is located on the right hand side of the cupola. The wings are forced outward by air pressure applied in large cylinders fastened to the bottom of the underframe. The piston rods in the cylinders are made of large diameter pipe, with a hinged connection fitted at each end. The wings are closed by air pressure, applied in two short stroke locomotive driving brake cylinders, fastened under the side sills. The push rods are attached to levers. One end of the lever is anchored to the underframe and the other end is attached to a chain connected to the wing. Separate operating valves, located in the cupola, are provided for each wing. The supply of compressed air is obtained from the air brake system, and to permit repeated movements of the drop nose, or wings, promptly and without interference to the operation of the air brakes, storage reservoirs of large capacity are provided, these being located inside of the car. In front of the cupola, on a platform, is an electric headlight. Current for this light is obtained from the locomotive headlight set through a suitable extension cord.

This article will be continued in next issue of Canadian Railway and Marine World. Additional illustrations alluding to the article appear on pages 473, 474 and 475.

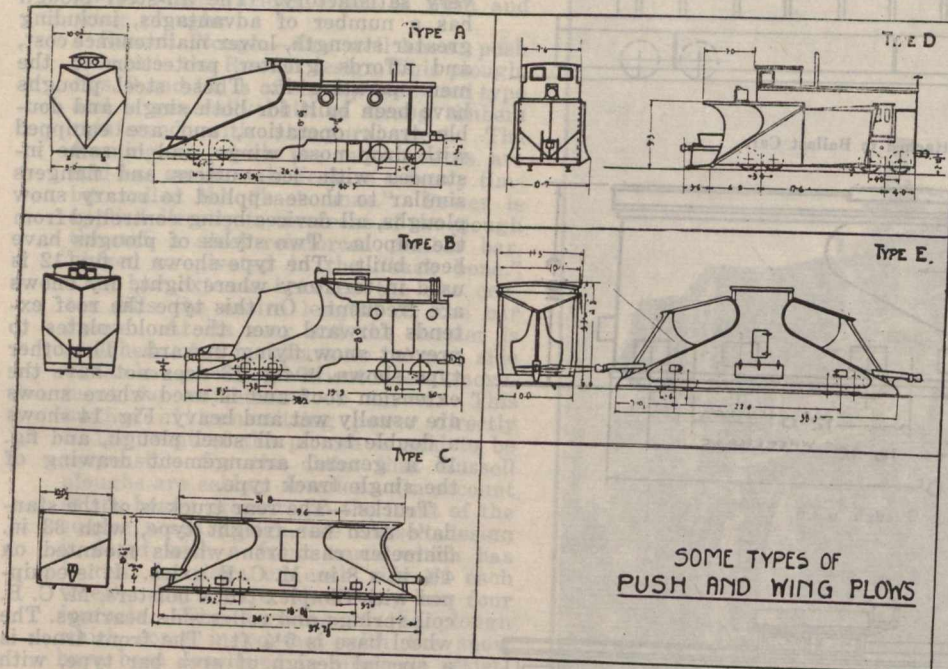


Figure 8.

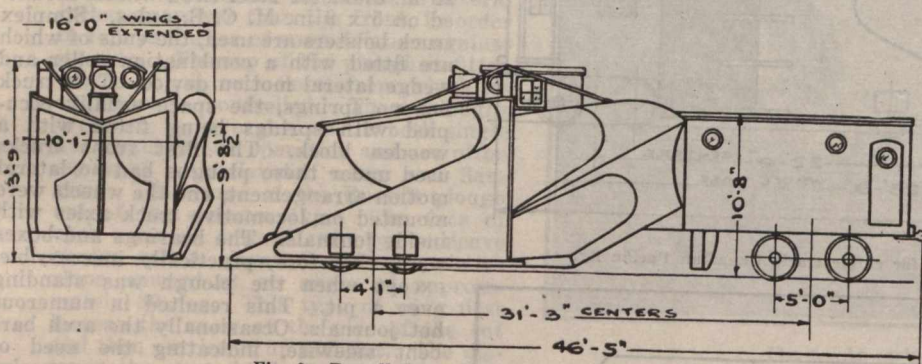


Fig. 9. Russell Snow Plough, with wing elevator.

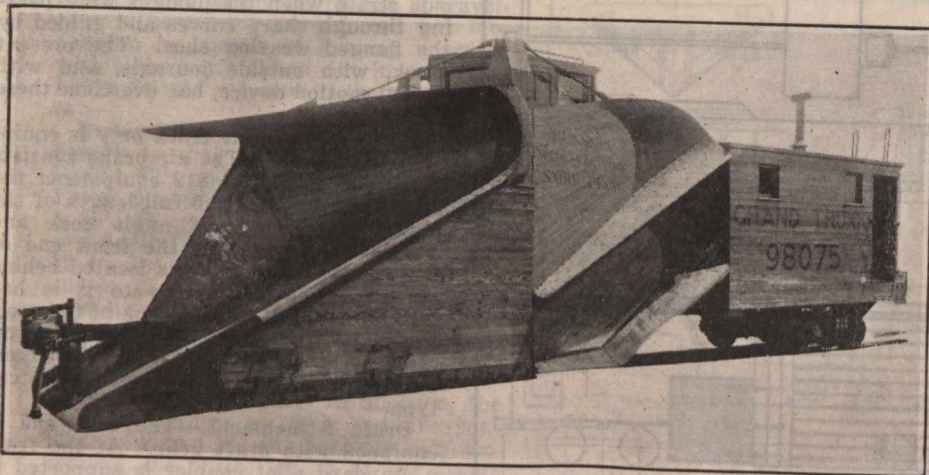


Fig. 10. Russell snow plough, with wing elevator, Grand Trunk Railway.

center sills, at a point just back of the front center plate, to the roof. The center of the bottom, or lifting wedge, is supported by two 10 in., 20 lb. channels, riveted to the front end of the center sill channels, and to the center end posts. The sides of the lifting wedge are supported by two 10 in., 20 lb. channels. These are supported by the front bolsters and extend diagonally upward and toward the rear to a point near the roof

constructed of 3/16 in. flat steel sheets reinforced by angle iron braces and posts.

End Construction.—The ends are constructed of 3/16 in. flat steel sheets. Attached to the side frames are heavy corner angles extending from the bottom of the side sills to the top of the side plate.

The cupola consists of a steel frame made of plates and angles.

The drop nose consists of a heavy plate, carried on large cast steel hinges. The