sheet iron, this annular space communicating at the bottom with the pit. A wall heater in this pit creates a current of warm air to pass up around the vertical pipe, the air entering cold through the 4 in. pipe. The discharge end of the standpipe is provided with an oil drip pan which can be swung clear while filling.

All the oil burning equipment, with the exception of the burner, which was purchased outside, was made in the company's Angus shops, Montreal, most of the component parts being constructed from standard shapes, plating and

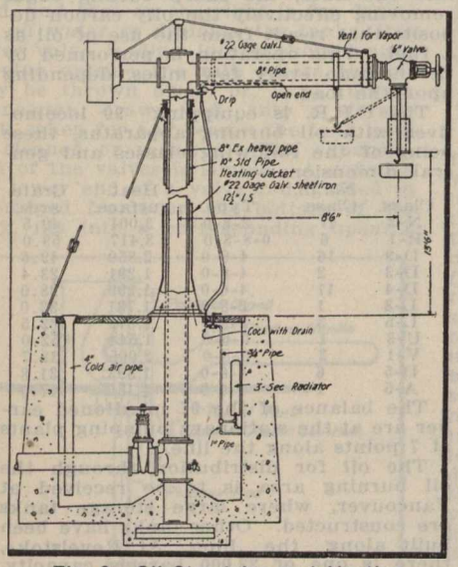

Fig. 8. Oil Standpipe and Heating Arrangements.

piping. The cost of fitting the locomotives out for oil burning is about $800 each, which includes material as well as labor, but does not include the stationary plants. To change the locomotives back to coal burning would necessitate an entire new ashpan, costing about $180, as it is now necessary to apply self-cleaning pans.

Adjustable Ventilators for Canadian Pacific Railway Refrigerator Cars.

A new type of adjustable ventilator for refrigerator cars has been invented at the C.P.R. Angus shops, Montreal. and has been applied to the cars built last year. So far. its application has been quite as expected in every particular, and, in all probability, this will be the type to be used on all C.P.R. refrigerator cars in future.

The accompanying four illustrations show the ventilator in its four different operative positions. The construction is quite simple, and is shown to the best advantage in fig. 1. Around the ice door opening in the roof of the car at either

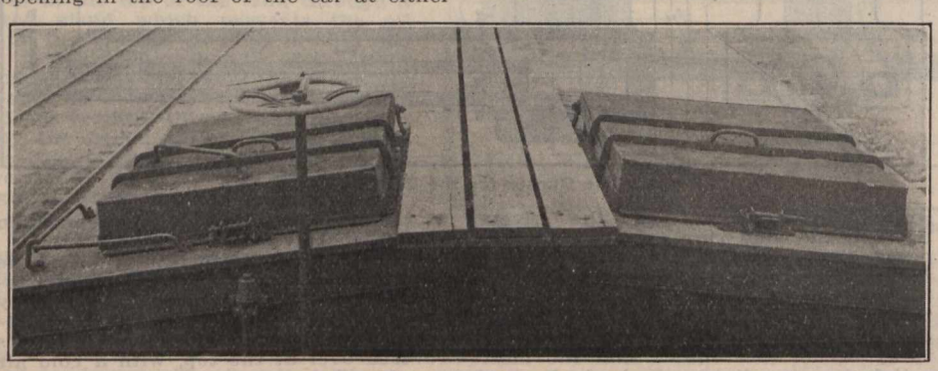

Fig. 4—Ventilator Closed and Clamped Down.

end, there is a metal frame on all but one side, viz., the end towards the end of the car, which is open nearly flush with the decking. Hinged at the rear of this frame, there is a hood-shaped door that can swing down over the top of the wire screening about twice the depth of

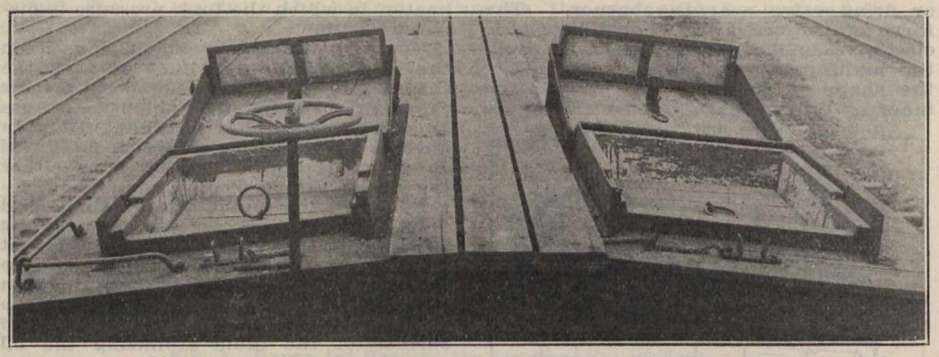

Fig. 1—Ventilator opened for Ice Filling.

frame, the sides fitting closely over the edges of the frame. Near the front of this hinged cover, there is a frame of

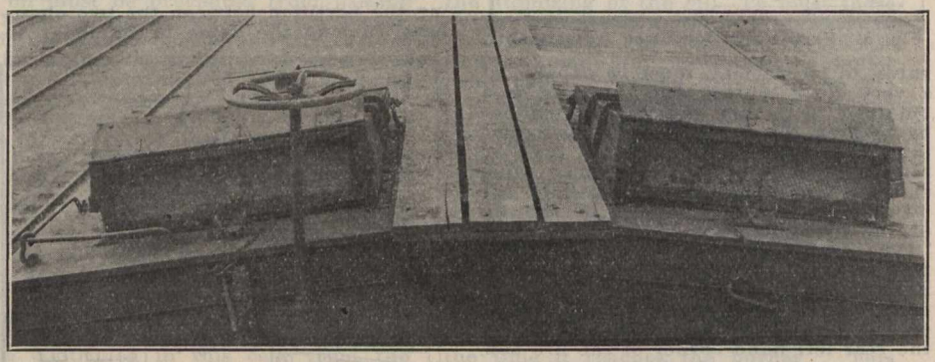

Fig. 2—Flap up to give Maximum Ventilation.

the front part of the swinging cover, and which is hinged to the cover as shown. This comprises the complete mechanism

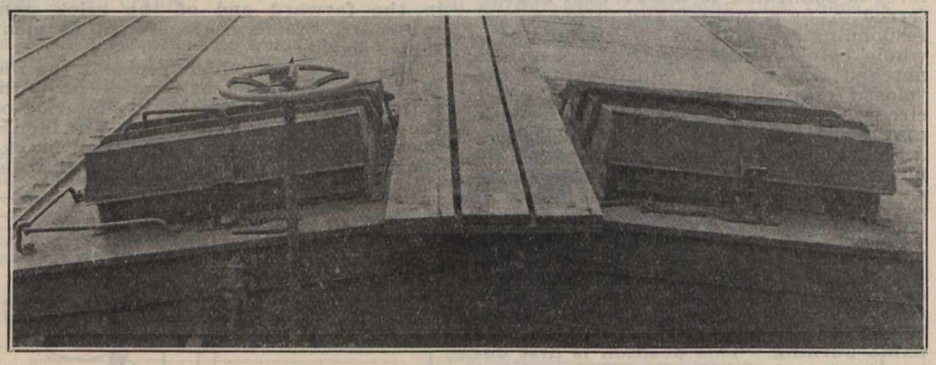

Fig. 3—Flap down to give Minimum Ventilation.

of the ventilator.

The ventilator is shown open for ice lling in fig. 1, which indicates in what a simple manner the ventilator may be applied to old refrigerator cars, as no change of design is necessitated in the main structure, the new device being an attachment that in no way interferes with the old arrangement.

When a considerable volume of air is required to circulate through the ice chests into the car, the ventilator is swung over into the position in fig. 2, with the hinged screen on the cover swung into its vertical position. On the front end of the cover there is a swinging flap, which for maximum ventilation is swung up as shown in this illustration.

For a reduction in the amount of ventilation, this end flap may be lowered into the position shown in fig. 3. The ventilating opening is thereby reduced to the small opening under the bottom of the flap. Intermediate amounts of ventilation may be obtained by varying the amount of this opening by means of raising or lowering the flap into the desired location.

To completely cut off all ventilation, the screen door in the cover is swung up flush with the top of the cover and there secured by the lugs shown in the centre of the swinging door in fig. 1. This permits the swinging door to come down flush on top of the hole framing into the position of fig. 4, where it can be secured as indicated.

This new type of ventilator permits of a wide range of ventilating currents of air for different classes of perishable freight under the varying climates to which the cargo is subjected during its transportation.