

No. 748,448.

PATENTED DEC. 29, 1903.

F. S. WHIPPLE.
HEATER FOR RAILWAY SWITCHES.

APPLICATION FILED SEPT. 14, 1903.

NO MODEL.

Fig. 1.

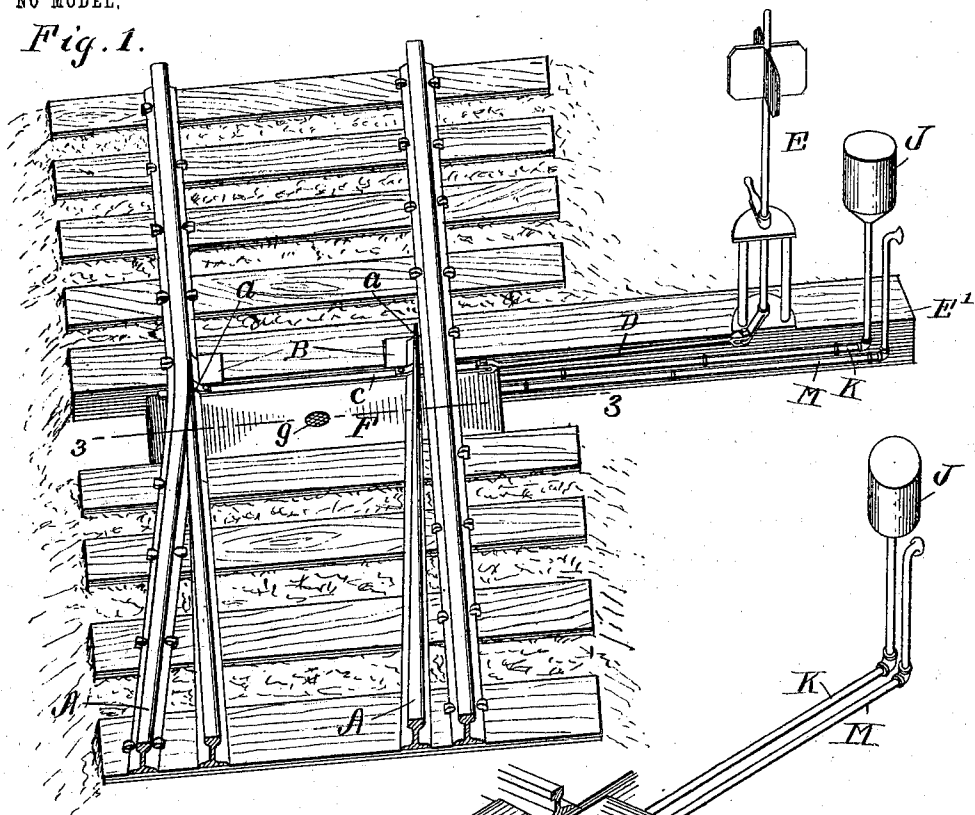


Fig. 2.

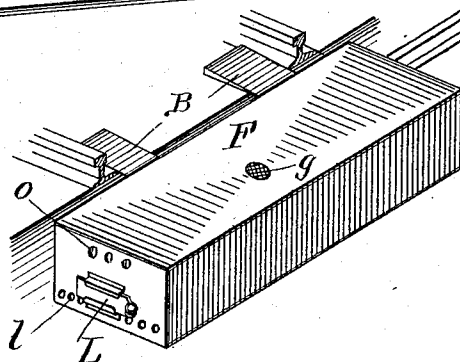
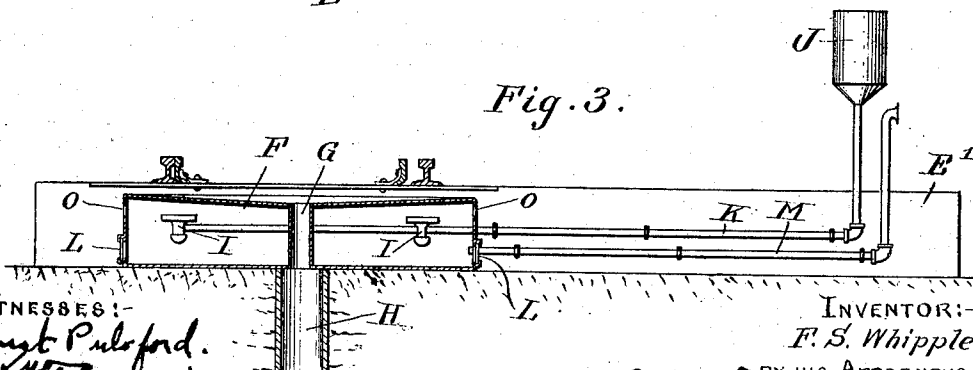


Fig. 3.



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HEATER FOR RAILWAY-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 748,448, dated December 29, 1903.

Application filed September 14, 1903. Serial No. 173,167. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK S. WHIPPLE, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Heaters for Railway-Switches, of which the following is a specification.

The object of my invention is to provide simple and efficient means for keeping the points of split railway-switches and interlocking rails clear of ice and snow. In snowy or sleety weather such switches often become so clogged with snow or ice that it is impossible to move them, and it is now customary to sweep away the snow or cut the ice. This practice is neither safe nor convenient.

According to my invention I provide means which while in use will prevent the formation of ice or the deposit of snow on the switch-points or other adjacent parts, and it will quickly melt any snow or ice which may have been deposited or formed before the apparatus is set in operation.

In carrying out my invention I place beneath the switch-points or interlocking rails and between the ties a metal box containing hydrocarbon-burners supplied with fuel from a small adjacent tank and which heat the box, the latter in turn transmitting its heat to the surrounding air and those portions of the switch which it is desired to keep clear. The box fits snugly between adjacent ties and has a dished top connected with a drain-pipe, which empties into a soil-pipe in the road-bed, the lower end of which pipe is located below the frost-line. Such melted snow or water as is deposited on the top of the box is carried off into the ground, and hence the switch is maintained in operative condition. The box, while large enough to fill the space between the adjacent ties and to extend below both rails, is comparatively light and portable and may be easily placed in position or removed. The supply-tank is connected with the burners by a pipe which may also serve to support the tank at a suitable distance from the track. Suitable air-inlets are formed in the box, or an air-pipe may be employed which may be extended out laterally from the box and open above the ground-level, so as not to become filled with snow or water. Other features of

the invention will be hereinafter fully explained.

In the accompanying drawings, Figure 1 is a perspective view of so much of a railway-switch with my improvements applied as is necessary to illustrate my invention. Fig. 2 is a perspective view of my improved heater, showing the supporting-plates of the switch-points inclined toward the dished top of the heating-box. Fig. 3 shows a longitudinal section on the line 3 3 of Fig. 1.

I have shown my invention applied to a very simple form of switch; but it may without modification or with very slight modification be applied to other forms.

The switch-rails A have their points *a* resting on supporting-plates B, and they are connected by a cross-bar C, to which is jointed a rod D, connected with the switch-operating mechanism E, mounted near the outer end of the long tie E'.

The heating-box F is preferably constructed of sheet metal, such as galvanized iron, though it may be cast in one or more pieces. It is closed at the top and on all four sides and preferably, also, at the bottom, though the bottom piece may be omitted. The box is of sufficient length to extend the entire width of the track, and it preferably is made to project a short distance from each side thereof. It is arranged to fit snugly between two adjacent ties, and its top is located a short distance below the lower level of the switch-rails and their connecting cross-bar C to allow of their free movement and also to leave room to accommodate electrical devices used in block-signals. Asbestos paper may, if desired, be located between the box and the ties to prevent possibility of the latter being burned. The top of the box is dished from its opposite ends and sides toward the center, where the mouth of a drain-pipe G is located. This pipe extends vertically through the box to the mouth of a soil-pipe H, sunk into the road-bed below the box and extending, preferably, to a point below the frost-line. This pipe is preferably made of porous material and is permanently fixed in the ground. When the box is removed, the soil-pipe may be closed by a suitable cover. The mouth of the drain-pipe is preferably provided with a strainer *g* to keep the pipe

clear. The plates B, on which the ends of the switch-rails rest, are inclined toward the top of the box and slightly overlap it, so that any water that tends to accumulate on these plates is directed onto the top of the box and so finds its way to the drain.

Within the box are located a suitable number of hydrocarbon-burners I, preferably two are used, and they are located directly below the switch-points. The burners are supplied with gasoline or other suitable liquid fuel from a small tank J, with which they are connected by a pipe K, that extends out laterally from the box and along the side of the long tie E for a suitable distance to enable the tank to be located above the road-bed a suitable distance from the track.

Access may be had to the burners to light them through the doors L, and air may be admitted to the interior of the box by openings in the ends thereof. It may, if desired, be conveyed to the box by a pipe M, which may extend out from the box parallel with the pipe K and open at some point above the ground-level, so as to insure its always being clear. The pipes K and N may be secured by suitable devices to the tie E'; but these should be made readily detachable, so that after warm weather has commenced the heater as a whole may be readily removed and stored. The products of combustion from the burners escape through openings O, formed in the ends of the box just below the top.

I claim as my invention—

1. The combination with a road-bed and switch-rails, of a heating-box placed between adjacent ties below the rails and having its top constructed to drain the water accumulating on it to a drain-pipe, a drain-pipe extending to the top of the box and receiving the water therefrom, and means within the box for heating it.

2. The combination with a road-bed and switch-rails, of a heating-box placed between

adjacent ties below the rails and provided with a dished top and a drain-pipe extending to the top of the box and means for heating the box.

3. The combination with a road-bed and switch-rails, of a heating-box placed between adjacent ties below the switch-points and provided with a dished top and a drain-pipe communicating with the dished top, plates for supporting the ends of the switch-points which incline toward the top of the box and means for heating the box.

4. The combination with a road-bed and switch-rails, of a heating-box placed between adjacent ties below the rails and having a dished top and a drain-pipe, a soil-pipe communicating with the dished top permanently buried in the road-bed and into which the drain-pipe empties and means for heating the box.

5. The combination with a road-bed and switch-rails, of a heating-box placed between adjacent ties below the rails and having a dished top and a drain-pipe communicating with the dished top, hydrocarbon-burners within the box, a fuel-supply tank and a pipe supporting the tank and conveying fuel to the burners.

6. The combination with a road-bed and switch-rails, of a heating-box placed between adjacent ties below the rails and having a dished top and a drain-pipe communicating with the dished top, hydrocarbon-burners within the box, a fuel-supply tank, a pipe supporting the tank and conveying fuel to the burners and an air-pipe extending from the box laterally and having its outer end located above the ground-level.

In testimony whereof I have hereunto subscribed my name.

FREDERICK S. WHIPPLE.

Witnesses:

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JOHN H. LORD.