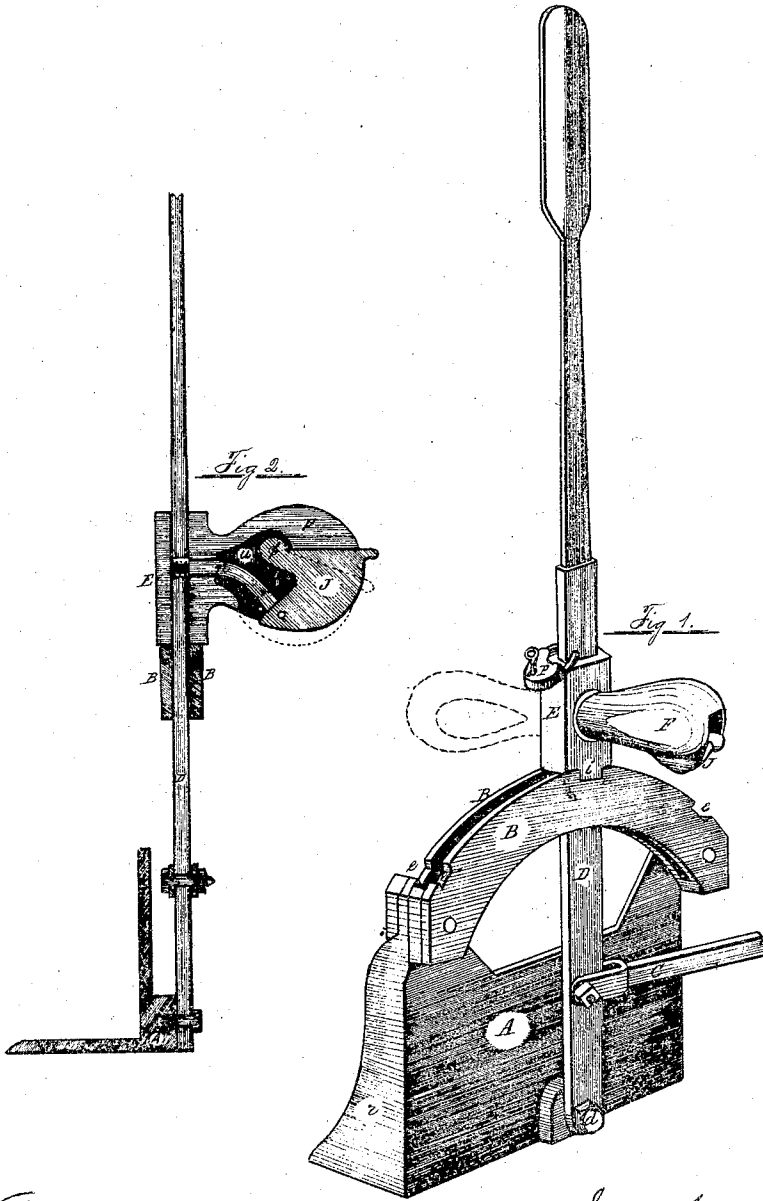


C. C. Dodge,

Railway Switch.

No. 106259.

Patented Aug. 9, 1870.



Witnesses
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CHARLES C. DODGE, OF MARSHALL, MICHIGAN.

Letters Patent No. 106,259, dated August 9, 1870.

IMPROVEMENT IN SWITCH-STANDS.

The Schedule referred to in these Letters Patent and making part of the same.

I, CHARLES C. DODGE, of the city of Marshall, in the county of Calhoun and State of Michigan, have invented certain Improvements in Switch-Stands for operating railroad switches, of which the following is a specification.

My invention relates to combining with the target-lever a sliding sleeve, furnished with end-tongues, to latch into the groove-notches in the segmental bars of the frame, and provided with a bulbous or ball-shaped side protuberance to serve as a handle, and aid the sleeve, by adding to its gravity in latching with the frame.

Also, to combining with said sleeve and lever a pendulous tumbler and jointed bolt, placed in the interior of the bulbous protuberance, to operate also by gravity in bolting the sleeve automatically to the target-lever at the moment said sleeve becomes latched to the frame.

The object of my invention is to simplify and render more certain the first self-latching operation, and then secure automatically the latching device from displacement by the jar of a passing train; and my invention is fully embodied in the accompanying drawing, in which—

Figure 1 represents a three-throw switch-stand, (latched and bolted to the set of the main track,) shown in perspective.

Figure 2 is a vertical central section of the same, through the center of the lever and sleeve protuberance.

Similar letters of reference indicate like parts in both figures.

A is the stand, usually of cast-iron, in one piece, with base flange through which it is securely bolted to the bed-sill, (not shown.)

B B are the two segmental guide-bars, bolted through interposed lining-strips, to each end of the stand.

D is the target-lever, working between the guide-bars, and pivoted to a boss on the stand at *d*, which point is the center of the circle arc of said bars.

C is the jointed end (broken off) of the bar connecting the lever with the switch-rails, (not exhibited for want of space).

E is a cast-metal sleeve, cored out centrally, to embrace and slide freely up and down on that part of the lever immediately above the guide-bars.

A projecting tongue, *i*, is formed at the lower end of each of the two wide side walls of the sleeve, to fit and drop into the cross-grooves *e e*, &c., in the upper edges of the guide-bars.

F is a bulbous or ball-shaped handle, cast on the side of the sleeve, to lift or slide it up on the lever with one hand, and so disengage it from the grooves *e*.

This handle is made moderately heavy, to add to the gravity of the sleeve, so that it may act promptly in latching.

A similar protuberance may be cast on the opposite side, (as shown by dotted lines, fig. 1,) but in practice, I find only one to be the best, as the weight then counteracts all tendency to jam in the lifting action.

A chambered slot (of which the unfilled part is shown at *u*) is cored out in the casting, to receive the pendulous tumbler-plate *J*, pivoted at *f*, and jointed, as shown, to a locking-bolt, *n*, the end of which bolt passes freely through a hole in the sleeve and lever, and locks them together, and the conformation and arrangement of the parts are such that, as the bolt passes through the lever, the lower side of the tumbler will drop down below the under side of the bulbous handle, as clearly shown in both figures of the drawing.

When the operator desires to throw over the switch-rails from one track to another, he grasps the lever with one hand, and placing the palm of the other under the protuberance *F*, he lifts up the sleeve from its engagement with the bar-grooves, and the lever is free to move.

Before the hand gets a bearing to lift up the sleeve, it must first raise the tumbler and withdraw the jointed bolt from the lever; then, when the sleeve is lifted, the lever moved over a little and the lifting hand removed, the sleeve rests by its tongues *i i* on the smooth edges of the guide-bars, and the end of the bolt *n*, actuated by the pendulous gravity of the tumbler *J*, presses against the face of the lever just above its bolt-hole. The lever is now pushed or pulled in the required direction, and when the weighted sleeve comes to the notches its tongues fall into the grooves, the end of the bolt *n* enters the hole in the lever, and the lever, sleeve, and stand-bars are automatically latched and bolted together beyond the possibility of disconnection, except by the hand-lifting operation, as aforesaid, which may be temporarily arrested, when necessary, by the usual padlock *P*.

In some situations on railways, the handle-weighted sleeve alone, without its internal bolting device, may be sufficient to secure the lever, while, under different conditions, the use of such or equivalent device, as a complete safeguard, will be found indispensable.

In my mode of operating and securing switches, all extra forged or fitted appendages on the lever, and all other expensive shop fitting, are entirely dispensed with.

The latching sleeve, loaded with its side protuberance, is formed in one casting, all the bearing or rubbing faces of which may be smoothly chilled. Operating by gravity in direct lines, its action is prompt

and sure, while it can readily be manipulated by grasping its ball or bulb, even in the darkest night.

I claim—

1. The sleeve E, provided with tongues *i i*, and also with the side protuberance F, acting as a compound weight and handle, recessed to receive a latching device, in combination with the target-lever D and grooved guide-bars B B of the stand A, or any equivalent frame, substantially as and for the purpose specified.

2. The pendulous tumbler J and bolt *n*, in combination with the aforesaid sleeve E, protuberance F, and lever D, substantially as and for the purpose set forth.

CHARLES C. DODGE.

Witnesses:

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