(No Model.)

J. L. LA DRIÈRE & S. I. STONE.

RAILWAY SWITCH.

No. 525,423. Patented Sept. 4, 1894.

Fig. 1.

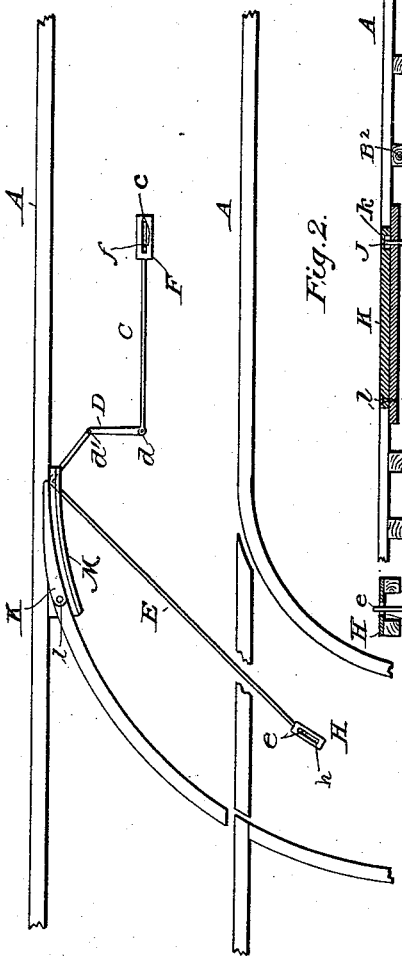


Fig. 2.

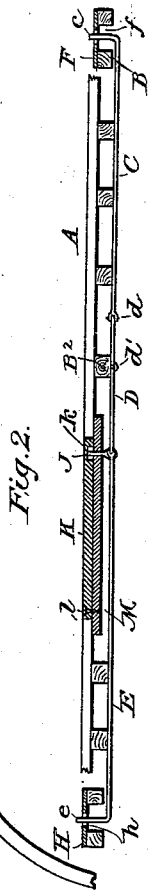
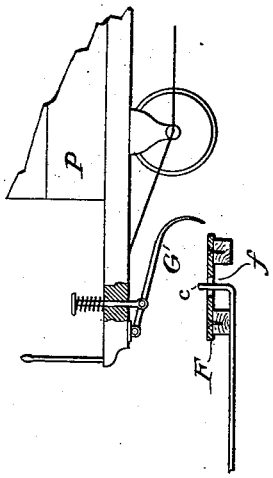


Fig. 3.



Witnesses:
Geo. K. Reeder.
Olive Van Epps.

S. I. Stone and
J. L. La Drière.
Inventors
per Edward P. Russell
atty.

UNITED STATES PATENT OFFICE.

JOSEPH L. LA DRIÈRE AND SPENCER IRVINE STONE, OF HELENA, MONTANA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 525,423, dated September 4, 1894.

Application filed December 27, 1892. Serial No. 456,509. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH L. LA DRIÈRE and SPENCER IRVINE STONE, citizens of the United States, and residents of Helena, county of Lewis and Clarke, State of Montana, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

Many mechanisms have been invented, to obviate the delay in time, and danger to life and limb of employés, in opening and closing the ordinary switches upon railways.

Our invention is to provide a means for so opening and closing switches, which shall be simple and inexpensive in construction, and easy in working, and which shall be operated from the moving car.

It consists of a series of operating rods, connected with the switch tongue, and moved by means of mechanism attached to the car.

Figure I shows plan view of track and rods. Fig. II shows side elevation of same. Fig. III shows side elevation of end of operating rod, and car mechanism.

Similar letters refer to similar parts in all the drawings.

Beneath the track consisting of rails A A and sleepers B B, are the operating rods C and E, and lever D. The free end of the rod C is turned upward at a right angle, at *c*. The plate F, is fastened to the sleepers B B, and has the slot *f*, in which the upturned end of the rod C works back and forth. The rod E is likewise upturned at its free end at *e*, and works in the same way in the slot *h* in the plate H. The rod C and lever D are connected by a knuckle joint at *d*. The lever D is bent at an angle of about one hundred and thirty-five degrees and is pivoted at the angle by the pivot bolt *d'* to the sleeper B^2. The ends of the lever D and rod E are connected by the pin J which also fits into a small slot *k'* in the switch tongue K. This switch tongue K works freely on the bolt *l*, at its base. The plate F is in the center of the main track, and the plate H in the center of the switch track, and the rods C, E and lever D are so arranged, that when the switch is open, as seen in Fig. I, the rod C is in the center of track, the lever D is at right angles to it, to the pivot *d'*, and the rod ends *c* and *e*, are at the ends of their respective slots, nearest the switch tongue.

Having thus described our invention its mode of operation is as follows: As a car P approaches the switch, on the main track, the switch being closed, the end of the rod C is at the end of the slot *f*, nearest to the car. As the car passes over it, the catch or pawl G is pressed down by the person in charge, and pressing against the end *c* pushes the rod C, which in turn acts on the lever D, and opens the switch by bringing the free end of the switch-tongue K to the main track rail, at the same time it draws the rod-end *e* to the end of the slot *h*, in the plate H, nearest to the switch tongue K. After the car has passed on to the rails of the switch, the pawl G is again pressed, and catches the end *e* and pushing the rod E, draws the switch tongue away from the rail, closing the switch and leaving the main track open. When a car comes from the switch to the main track, the operation is reversed at both points, and again the switch is left closed and main track open.

This switch mechanism is especially adapted to street railways and is a great saver of time and labor. The length of the rods C and E will be governed by the length of the cars used. The segment of the lever D, from the pivot *d'* to pin J may be made longer than the segment from pivot *d'* to knuckle *d*, so that a short motion of the rod-end *c* will swing the switch tongue K, sufficiently, to close and open the switch.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a railway switch, the combination with the switch tongue, of two operating rods, one lying in the main track, and one lying in the side track, each having a free end, adapted to be acted upon by mechanism on the cars, substantially as shown and described.

2. In a switch mechanism, the straight rod having its free end upturned, and working in the slotted plate, the bent lever jointed to said straight rod at one end, and to the switch

tongue at the other end, and pivoted at its angle, the straight rod jointed to the switch tongue and having its free end upturned, working in the slot in the plate, and the switch tongue, substantially as shown and described.

3. In a railway switch, the combination with the switch tongue, of two operating rods, one lying in the main track, connected with the switch tongue by a bent lever, the other lying in the side track, and connected directly with the switch tongue, each having a free end, adapted to be acted upon by mechanism on the cars.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 8th day of April, 1893.

JOSEPH L. LA DRIÈRE.
SPENCER IRVINE STONE.

Witnesses:
EDWARD C. RUSSEL,
E. A. MACRUM.