

No. 140,770.

Patented July 15, 1873.

Fig. 1

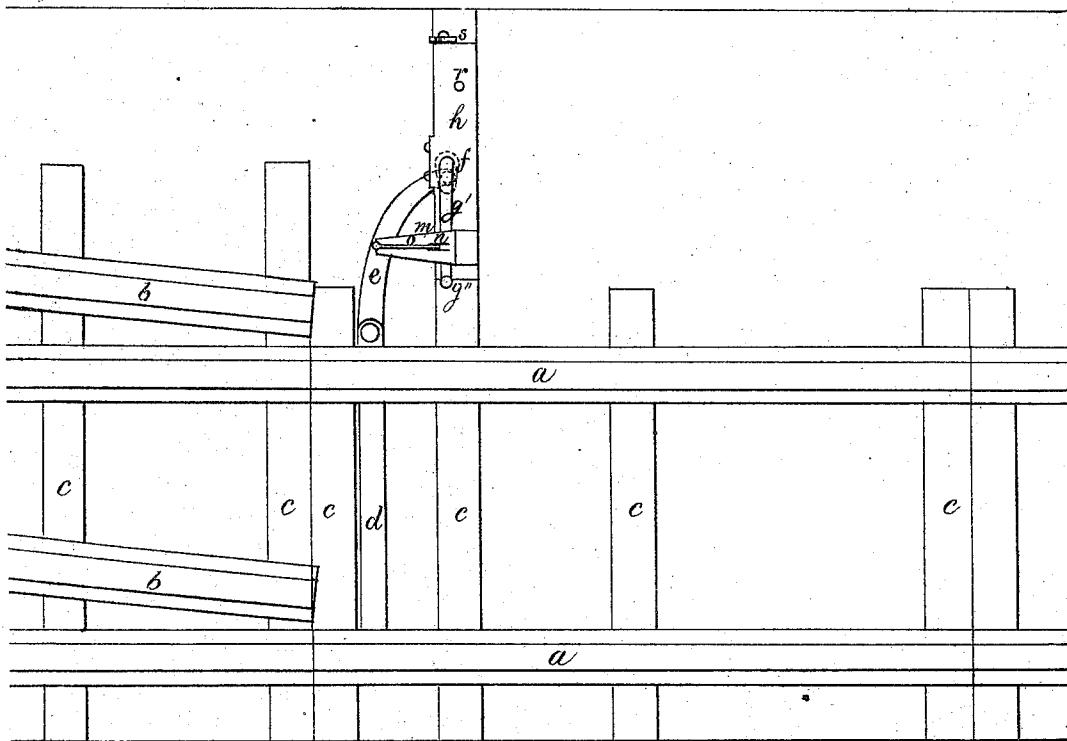


Fig. 3

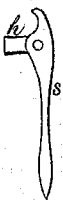


Fig. 4

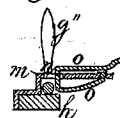
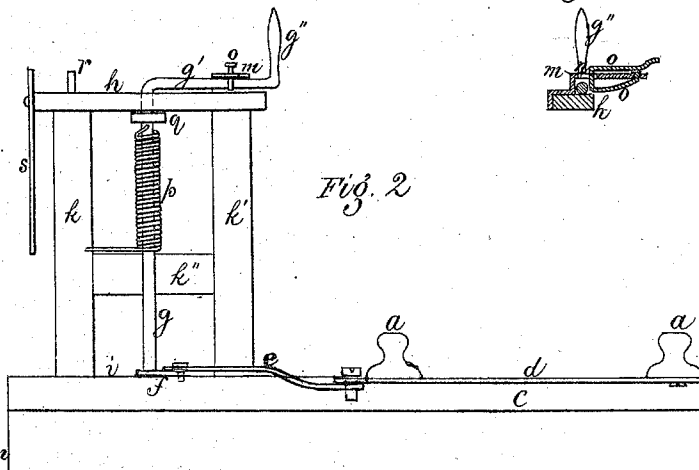


Fig. 2



Witnesses

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IMPROVEMENT IN RAILWAY SWITCHES.

Specification forming part of Letters Patent No. **140,770**, dated July 15, 1873; application filed December 2, 1872.

To all whom it may concern:

Be it known that I, ALFRED C. GARRATT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Railroad Switches, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a top view, and Fig. 2 a side view, of my invention. Figs. 3 and 4 are parts in detail of the same.

This invention belongs to that class of railroad switches in which the switch automatically closes itself, unless forcibly held open by an attendant; and it consists in the combination of a vertical shaft provided with a cam at its lower end and a crank at its upper end, (the cam being connected with the switch-rails by a suitable rod,) with a frame located by the side of the track, in which frame the shaft is turned by the crank to open the switch, and automatically returned to place by a spring connecting the shaft and frame. The frame is provided with a latch or lock, which engages with the crank of the shaft and automatically locks it, when the switch is closed by the spring, thereby preventing the same from accidental displacement, all of which I will now proceed to describe.

In the accompanying drawings, Sheet No. 1, *a* represents the main tracks; *b*, the side tracks; and *c*, the sleepers, of a railroad, arranged as usual. Connected with the tracks *a* is a tie-rod or bar, *d*, to one end of which is pivoted, or otherwise attached, one end of a curved arm or bar, *e*, the other end of said arm being connected with, so as to be operated by, a cam or arm, *f*, secured to and partially revolved by a vertical rod or shaft, *g*, supported by and turning in the top *h* and bottom *i* of a switch-frame, provided with side posts *k* *k'* and cross-beam *k''*, or otherwise suitably connected with a switch-frame arranged as may be desired. The top of the rod or shaft *g* extends horizontally above the top *h*, and forms, or is provided with, a lever, *g'*, which, on the end, is provided with a crank or other suitable handle, *g''*. Attached to the top *h* at one end, and extending upward and outward transversely from it, is an arm-plate, *m*, the top or horizontal projecting portion of which is formed with a slot, *n*, through which plays up and down one end of a latch, *o*, Fig. 4, which extends up over and

down under the top of the arm or plate *m*, to the front of which the forward end of the latch *o* is connected, so as to be held and yet play freely. The vertical rod or shaft *g* is supplied on its top, beneath the top *h*, with a collar, *q*, and is provided on its upper portion with a spiral or other suitable spring, *p*, one end of which is attached to the rod *g*, and the other to the frame *k*. On the top *h* of the stand is a stem, *r*, against which the lever *g'* is pressed and held by the operator while the rails *a* are switched to the side track *b*; a curved pivoted lever, *s*, Fig. 3, being attached to the end of the top *h* for the purpose of more conveniently holding the lever *g'* while a train is being switched from the main to the side track.

The operation of my invention is as follows: The main track *a* remains closed, and forms a continuous track, which can only be turned by pressing down the top of the forward end of the latch *o*, which raises the other end and allows the lever *g'* to be turned out from under the plate *m*, so as to operate the rod *g* and tighten the spring *p*, and actuate the cam or arm *f*, by which the arm *e*, acting on the tie-rod or bar *d*, causes the track *a* to be drawn to one side and connect with the side track *b*, thus opening the side track only so long as the lever *g'* is held against the stem *r* by the operator; for, as soon as he lets go his hold on the lever, it is, by the action of the spring *p*, immediately carried back to and by the latch *o*, locked in its former position, and the main track opened continuously.

Having thus fully described my improvements, what I claim as my invention and desire to have secured to me by Letters Patent, is—

The vertical shaft *g*, provided with the spring *p*, crank *g'* at its upper end, and cam or cranks *f* at its lower end, the latter connected to the track by the rod *e*, in combination with the frame *h*, slotted arm *m*, and spring or latch *o*, all arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED C. GARRATT.

Witnesses:

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SAMUEL M. BARTON.