

RAILROAD-SWITCH.

No. 174,662.

Patented March 14, 1876.



Witnesses
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IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **174,662**, dated March 14, 1876; application filed August 26, 1875.

To all whom it may concern:

Be it known that I, JOHN B. COREY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective of the invention. Fig. 2 is a broken perspective of the switch-gear.

My invention has for its object to produce an improved railroad-switch; and consists in the peculiar combination, construction, and arrangement of parts, having reference, first to means whereby the switch may be more or less automatic, and for preventing the jumping of the cars when switched from the main to side track, or vice versa; secondly, to dispense with flange-guards, and having a continuous rail; thirdly, to means whereby the lever for operating the switch-gear can be raised to a perpendicular position before sliding the switch-rails, thus affording a better leverage for operating the switch.

Referring to the accompanying drawing, A A represent the rails of the main track, and A' A' those of the side track. To the latter are pivoted movable switch-rails B B at *b*, which, being moved by suitable levers and rods, hereinafter described, switch the cars from the side to main track, or vice versa. The switch-rails B B are so constructed that they are of a greater vertical height than the rails of the main and side tracks, the webs of which switch-rails are cut away at each extremity, forming projections *n n* and *n' n'*. The projections *n n* rest upon the side-track rails, to which they are pivoted at *b b*. The projections *n' n'*, when the switch is closed, rest upon the rails of the main track, as shown in dotted lines of Fig. 1, thus making a continuous connection therewith without the aid of any flange-guards H H.

a is a cam projecting above the side rail A', and secured to the end of the rod *a'*, which rotates in the eyes or staples, as shown. *c* is

a lever secured to the rod *c'*, which holds said lever *c* in position beneath the cam *a*. *c'* is a crank or lever secured to the opposite extremity of the rod *c'*, and is connected by means of the rod *c''* to the pusher C. To the latter are secured movable switch-rails B B. G is a switch-gear for sliding the switch-rails. It consists of the quadrant D, having radial arms *d' d'* and the slot *d* on its curved sides. *f* is a weighted lever, which controls the operation of the switch passing through said slot *d*, and is loosely pivoted at *i*, which point is the center of the quadrant. E and E' are rods, which connect the pusher C with the quadrant D, being pivoted to the latter at *e' e'* on opposite sides, and on opposite radial arms. The rod E has a slot, *e*, at its point of connection with the quadrant D. The length of said slot, being equal to the movable distance of the switch-rail, controls the same, so that they will not slide a greater distance than is necessary in opening the switch. *h h* are crank-pins, which connect and support the quadrant D with and on the journals *g g*, which rotate in journal-boxes *g' g'*. C' is a brace connecting the switch-rails B B, so that they will both move parallel and at the same time.

Operation: When a train of cars moving in the direction of the arrows is to be transferred from the side to the main line, the wheels of the locomotive strike the cam *a*, depressing the same, which pushes down the lever *c*, rotating the rod *c'*, which actuates the crank *c'*, pushing forward the bar *c''* and pusher C, carrying with them the switch-rails B B, the projecting ends *n' n'* of said rails resting upon the rails of the main line, as shown in dotted lines, Fig. 1, and makes a connection therewith, which forms a continuous rail with the main line, dispensing with flange-guards H H, and allows the cars to pass from side to main line, or vice versa, without any jumping motion. When a train of cars is traveling from the switch, which is in direction of the arrows, on the main line, said switch being closed, the flanges of the wheels of the locomotives impinge against the switch-rails B B, and turn them upon their pivotal bearings and open the switch, and the train travels on without stopping and waiting for the switch-tender to open the switch. If at

the same time there is a train on the side track waiting for the above train to pass on, it is obviously seen that it can follow directly after the same, and the front wheels of the locomotive will depress the cam *a*, closing the switch, as already described, without assistance from the switch tender, thus making an automatic switch. When the train of cars is to be transferred from the main to side track, running toward the switch in a direction contrary to the shot of the arrows, the flanges of the wheels of the cars will impinge against the rails B B, thus causing the train to move upon the same and be transferred to the side track. When the switch is to be operated by a tender, the same being opened, the gear G assumes the position shown in full lines of Figs. 1 and 2. To close the switch the tender raises and pushes forward the lever F until it impinges against the end of the slot *d*, when it is then in or nearly in a perpendicular position, which position affords a more convenient leverage for operating the switch-rails, which, in the meantime, have not moved; but when the lever F impinges against the end of the slot *d*, and the pressure is continued, it rotates the quadrant D downwardly, which pushes forward the rods E' and E, pusher C, and switch-rails B B, and closes the switch. To open the switch the operation is reversed, and the slot *e* at the extremity of rod E being equal to the movable distance of said switch-rails, then the pivot *e'* impinges against the end of said slot *e*, it checks the movement of the quadrant D, and the lever F is moved to its original position at the end of the slot *d* of the quadrant D.

What I claim as my invention is as follows:

1. In a railroad-switch, the combination of cam *a*, rod *a'*, lever *c*, rotating rod *c'*, crank *c''*, lever *c'''*, the pusher C, and switch-rails B B, substantially as shown and described.

2. Combination in a railroad-switch of cam *a*, rod *a'*, lever *c*, rod *c'*, crank *c''*, lever *c'''*, pusher C, with bars E' and E, quadrant D, lever F, cranks *h*, journal and journal-boxes *g g* and *g' g'*, substantially as shown and described.

3. In a railroad-switch, the lost-motion switch-gear G, consisting of the crank-shaft *g*, connected to the rails B B, quadrant D, attached to the cranks *e' e'*, and the lever F, pivoted to the quadrant, so that it may be raised to a perpendicular position before sliding the switch-rails, substantially as shown and described.

4. In combination in a railroad-switch, the pivoted switch-rails B B and the lost-motion switch-gear G, substantially as shown and described.

5. The switch-rails B B recessed at both ends to form the projecting ears *n n'*, overlapping the main track A, and secured to the sliding rails A' by means of pivots *b* passing vertically through the ears *n*, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of July, 1875.

JOHN B. COREY.

Witnesses:

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