(No Model.)

B. RICE.

RAILWAY SWITCH.

No. 246,689. Patented Sept. 6, 1881.

Fig. 1.

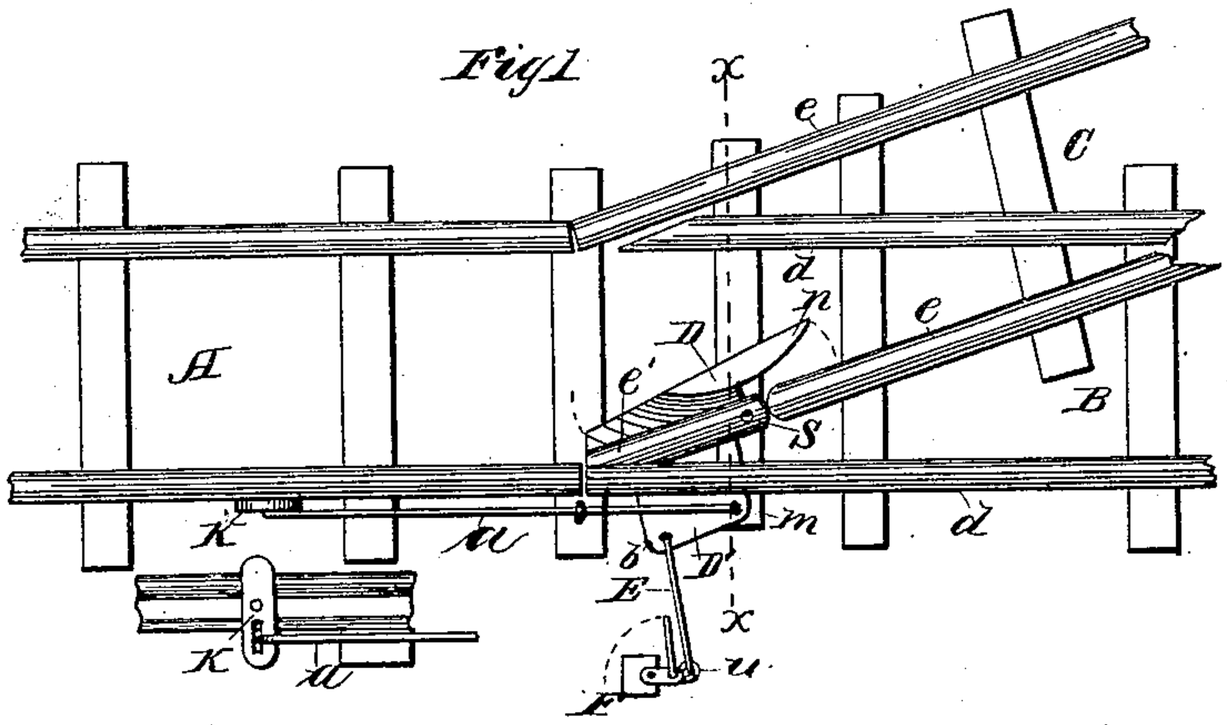


Fig. 2.

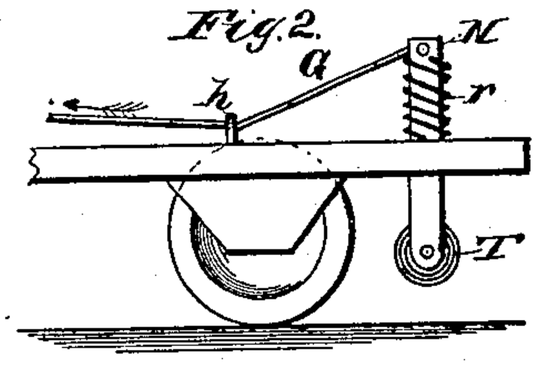


Fig. 3.

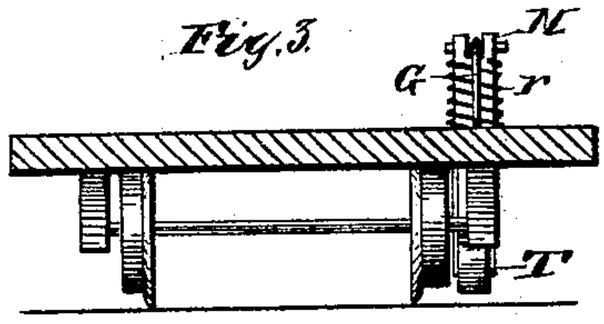
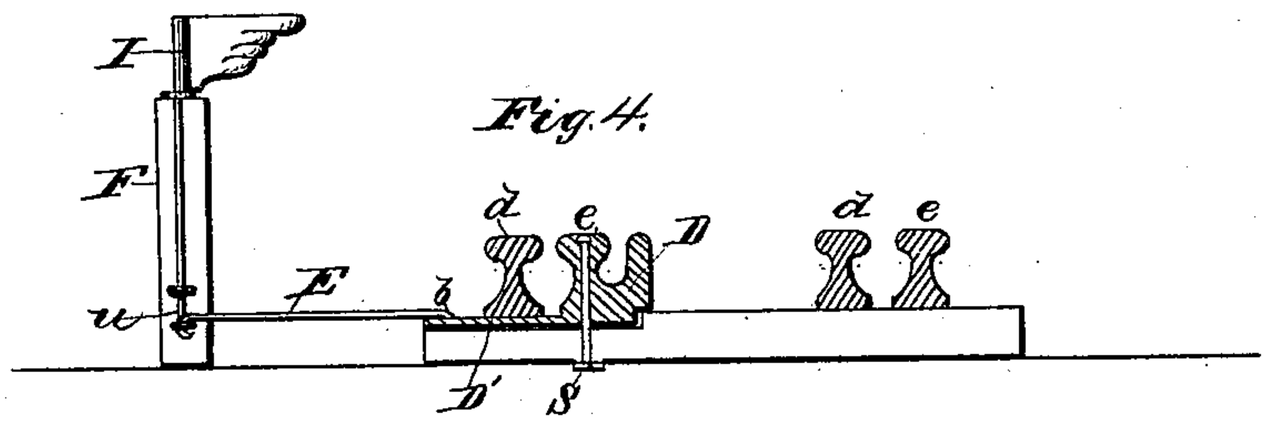


Fig. 4.



Witnesses.

Wm Davis.

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UNITED STATES PATENT OFFICE.

BYRON RICE, OF WEST SCHUYLER, NEW YORK.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 246,689, dated September 6, 1881.

Application filed May 2, 1881. (No model.)

To all whom it may concern:

Be it known that I, BYRON RICE, of West Schuyler, of the county of Herkimer and State of New York, have invented new and useful Improvements in Railway-Switches and a way of operating the same; and I do declare that the following specification is a full description of the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, in which—

Figure 1 represents a plan and a perpendicular view of my improved switch. Figs. 2 and 3 represent side and section views, respectively, of a car or locomotive provided with means to operate the switch. Fig. 4 is a section taken on dotted line *x x*, Fig. 1.

The object of my improvement is to provide for railways a switch and signal mechanism that may be operated by the engineer, conductor, or switchman, and which shall be effective in preventing accidents caused by cars running off the track, and be cheaply and durably constructed, and be easily operated as desired.

A B designate the main line of railway. C represents a branch line, which has a block, D, with its short rail *e'* to complete the extension of rail *e* of branch line to the main-line rail *d*, making the switch to be what is called "open," as Fig. 1 represents, and when in that position a train can go on the branch line from A to C. Block D has a guide-rail, *n*, that extends beyond the pivot S horizontally, and is of the form shown, and of about the same height as rail *e'*, and stands far enough from rail *e'* to allow the flange of a car-wheel to pass between it and rail *e'*; but when block D is turned around on pivot S to open the main line the end of guide-rail *n* touches rail *e*, where the flange of a wheel pushes it around on pivot S as the car moves from branch C to main line A B. Block D has a flange that extends under and beyond main-line rail *d* far enough to pivot rod *a* at *m* and rod E at *b*, with room for their movement. Block D is bolted to rail *e* or to a sleeper at S, on which it turns horizontally, as shown by dotted lines in Fig. 1. Rod E connects the flange of block D to signal-foot *u* of rod and signal I, so as to turn it on its post F to point across the track when the block D is moved and connecting the branch line to the main line. Block D can be moved around, as desired, by a switchman moving the index-signal around, as indicated by the dotted figure pointing parallel to the main line when the switch is not open for the siding.

K is a trigger loosely bolted to the outside of main-line rail *d*, having a slot in its lower end to let rod *a* slide up in it when it is turned over backward, preventing the bending of rod *a*, which connects trigger K to block D, for moving block D and signal I.

The coiled-spring friction-wheel T is made of iron or other suitable material, and is arranged at the lower end of post N, which moves up and down in spiral spring *r*, Figs. 2 and 3, when said wheel is forced down to the track against the top end of trigger K, which is above the track a few inches. By the engineer pulling, by lever and rod connection or other means, the lever G under the fulcrum *h*, the block D, with its short rail, is moved around, making the main line clear. The engineer cannot make an open switch by any mistake, but can leave it open if it happens to be so when going toward it from main track A. When the car goes from the branch track C to the main-line track the flange of the front wheel of a car pushes the end of guide-rail *n* of block D around on bolt S and away from rail *e*, moving the short rail of block D to connect branch rail *e* with the main-line rail *d* before the wheel gets on it. When the car goes from B to A the short rail of block D is pushed around and away from main-line rail *d* by the flange of the front advancing wheel, making a continuous track, and at the same time moving signal I around and parallel to main-line track, also the trigger K is forced down on its pivot at the same time. A staple, as shown, holds down loosely rod *a*, and causes the end toward K to operate as a spring with its weight to right up trigger K when the switch is open.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a railroad-switch, the pivoted-point rail provided with a lateral and rearward extension adapted to be operated by the wheel

of a car or locomotive coming out of the siding to shift the switch to the siding, substantially as shown and described.

2. In combination with the pivoted switch-point having the lateral and rearward extension, as described, the transverse plate extending from said point under and beyond the main rail, and connections therefrom to the operating-levers, all substantially as shown and described.

3. In combination with a car or locomotive, a vertically-adjustable post, carrying at its lower end the elastic wheel formed of a coiled metallic band, and suitable operating mechanism, all substantially as shown and described.

4. The combination of the actuating mechanism upon the car or locomotive, substantially as described, with the pivoted point D D′ *n*, as and for the purpose set forth.

BYRON RICE.

Witnesses:
WILLIAM DAVIS,
JOHN WOOD.