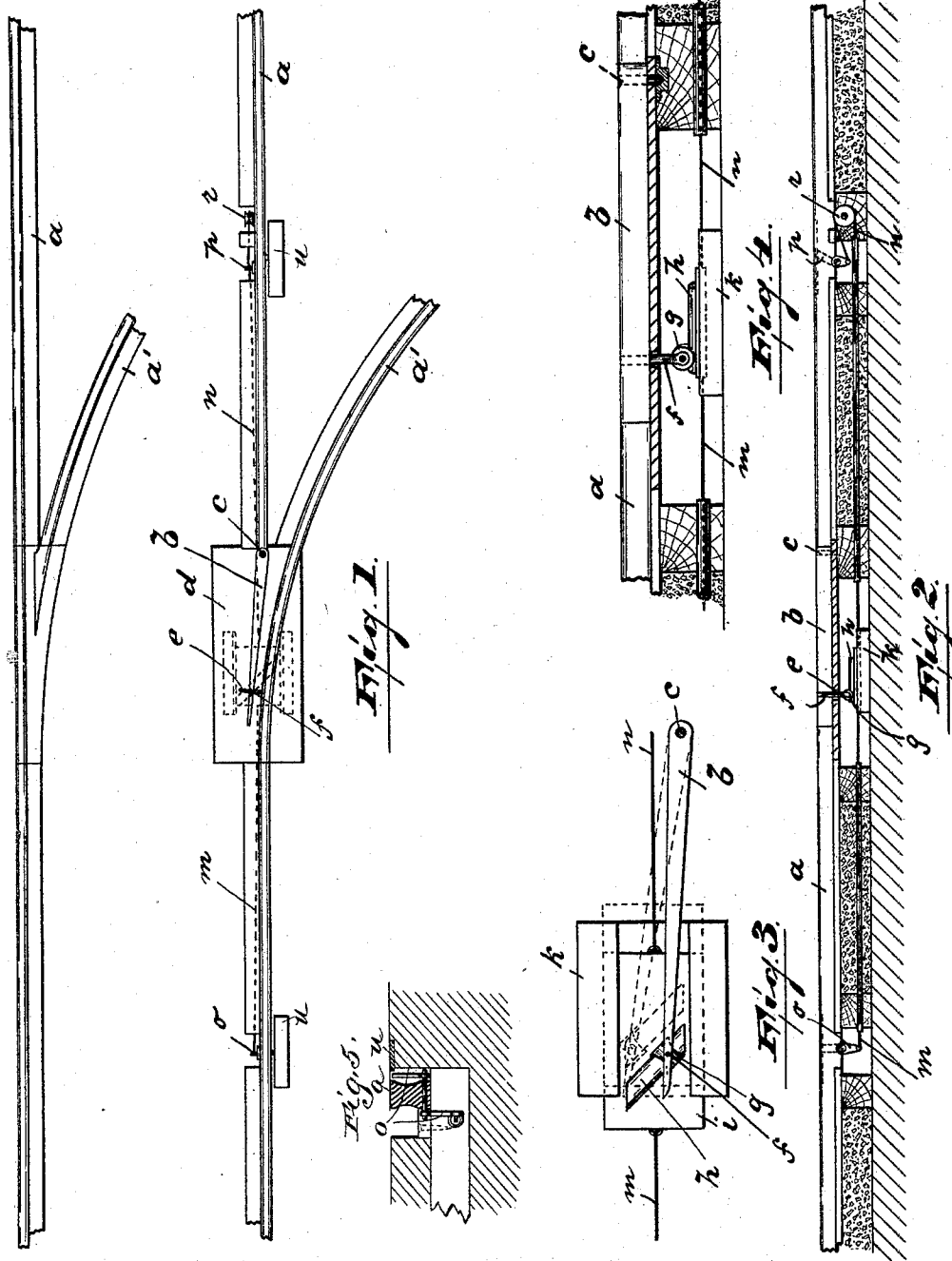


(No Model.)

H. B. BÜTTEL & W. H. COLSON.
RAILWAY SWITCH.

No. 496,996.

Patented May 9, 1893.



WITNESSES:

Wm. D. Bell.
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UNITED STATES PATENT OFFICE.

HARRY B. BÜTTEL AND WILLIAM H. COLSON, OF NEWARK, NEW JERSEY.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 496,996, dated May 9, 1893.

Application filed May 7, 1892. Serial No. 432,109. (No model.)

To all whom it may concern:

Be it known that we, HARRY B. BÜTTEL and WILLIAM H. COLSON, citizens of the United States, residing at Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Railway-Switches; and we 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a switch for street-car or railway tracks, simple and durable in construction and which can be operated from the car, while the latter is in motion.

The invention consists in the improved switch, and the combination and arrangements of the various parts thereof, substantially as will be hereinafter more fully described and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures: Figure 1. is a top plan view of a track, provided with our improved switch. Fig. 2. is a longitudinal section of Fig. 1. Fig. 3. is an enlarged top plan view of the switch, the top plate being removed. Fig. 4. is an enlarged view of the central portion of Fig. 2, and Fig. 5 is an enlarged central sectional view through lever *o*.

In said drawings *a* represents the main track, with branch *a'*. The switch tongue *b* is pivoted at *c*, and is provided at or near its free end with a downwardly extending pin *f*, passing through slot *e* of plate *d*. To the lower end of said pin is secured a grooved wheel *g*, adapted to move on the rail *h*, which latter is secured to or made integral with block *i* and is arranged at a certain angle to the center line of the track. The said block *i* is adapted to be moved in the guide bed *k*, and is for this purpose connected through wire ropes or chains *m* and *n* with levers *o* and *p*. The wire rope *n* passes over a roller *r*. Said lever *o* (or *p*) is arranged with its lower arm inside of the rail, with its upper arm, between

the outside of the rail and the metal plate *u*, as clearly shown in Fig. 5 of the drawings.

Any suitable lever or device is arranged on the cars, so that the levers *o* and *p* can be operated at will, but as we do not make any claims for said car levers, description thereof is unnecessary.

As illustrated in the drawings, the cars are supposed to run in the direction, indicated by the arrow in Fig. 1. the side track being always open. If a car is to run over the main line (*a*), the car lever is lowered, and upon striking and forcing against the lever *o*, the latter will operate the block *i* by pulling on wire rope *m*. The block *i* is thus moved to the position shown in Fig. 3. and the wheel *g* is forced to travel on the angle rail *h*, whereby the switch tongue *b* is thrown over, and the main track opened for the car. When the car reaches and its lever strikes against the lever *p*, the block *i* is moved back to its normal position. As will be manifest, the levers *o* and *p* can be so arranged and situated, that the main track is always left open, and the car bound for the side track has to operate the switch, (in a similar manner as above described.)

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 main track, the branch and the switch tongue, of a grooved wheel pivotally secured to said switch tongue, a sliding block provided with a rail, at an angle to the center-line of said switch tongue, and adapted to guide and operate said grooved wheel, and means for operating said sliding block, all said parts, substantially as described and for the purposes set forth.

2. In a railway switch, the combination with the main track, the branch and the switch-tongue, of a plate arranged beneath the switch tongue and provided with an elongated slot, a pin secured at or near the free end of the switch tongue and extending downward through said slot, a grooved wheel pivoted to the lower end of said pin, a sliding block arranged beneath the plate and provided with a rail at an angle to the center line of the switch tongue, said rail being adapted to guide and control the travel of the said wheel, and

means for operating the said block, all said parts substantially as described and for the purposes set forth.

3. In a railway switch, the combination with
5 the main track and its branch, of a switch tongue, a plate arranged beneath the switch tongue, the latter being pivoted to the said plate, a slot in said plate, a pin secured at or near the free end of the switch tongue and
10 adapted to pass through and slide in said slot, a grooved wheel pivoted to the said pin and adapted to be operated by a sliding block, and a wire rope or chain secured to each side of the said block, and levers arranged on the
15 track, at each end of the switch, and con-

nected with their lower arms to the said wire ropes or chains, and adapted to be operated from the car, when in motion, all said parts being arranged and adapted to operate substantially as described and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 6th day of April, 1892.

HARRY B. BÜTTEL.
WILLIAM H. COLSON.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.