

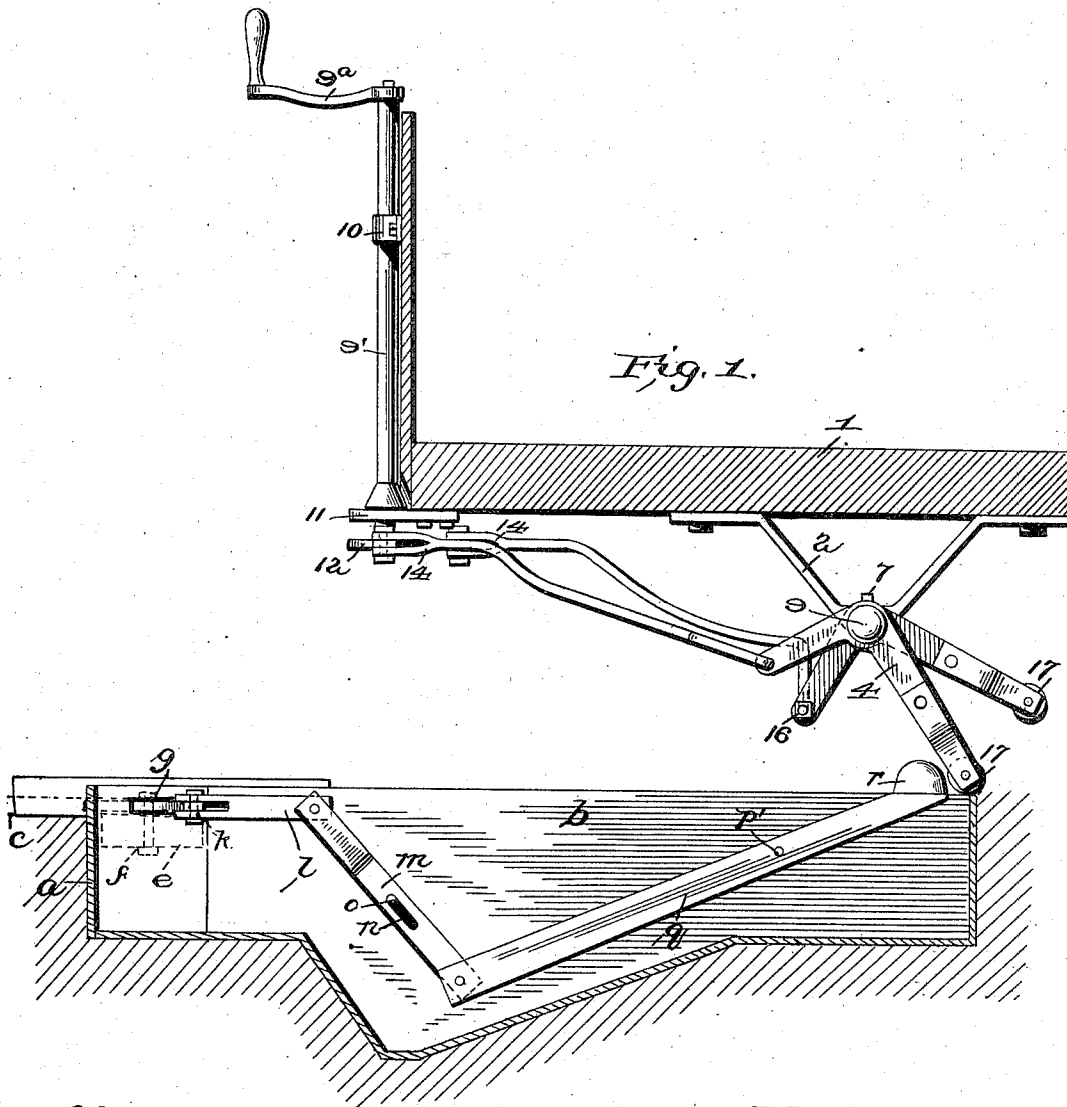
(No Model.)

2 Sheets—Sheet 1.

G. B. BARRON.
RAILWAY AND RAILROAD SWITCH.

No. 576,424.

Patented Feb. 2, 1897.



Attest
Wm. F. Hall
Notary Public

Inventor
George B. Barron
by Wm. Spear
Atty.

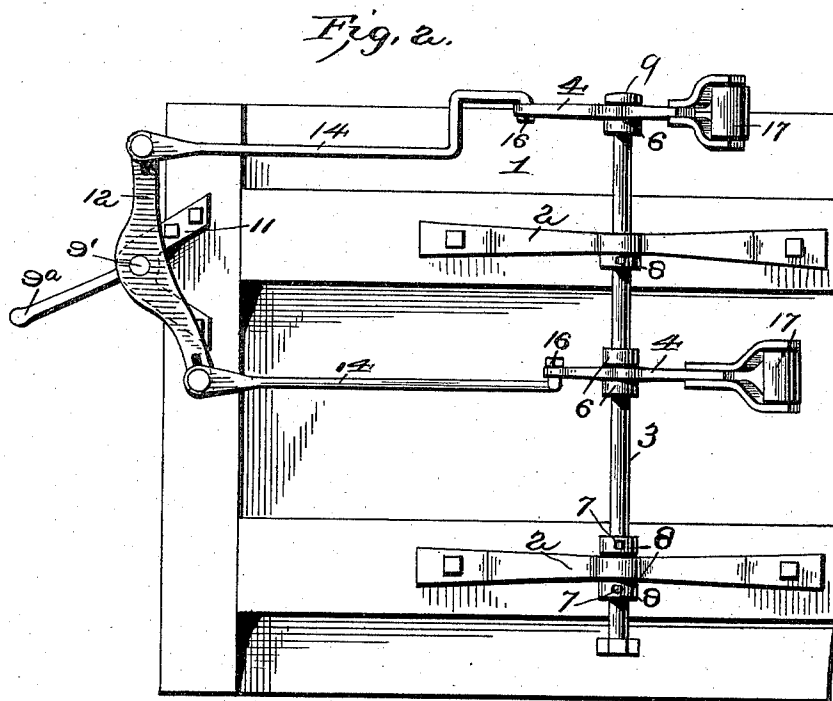
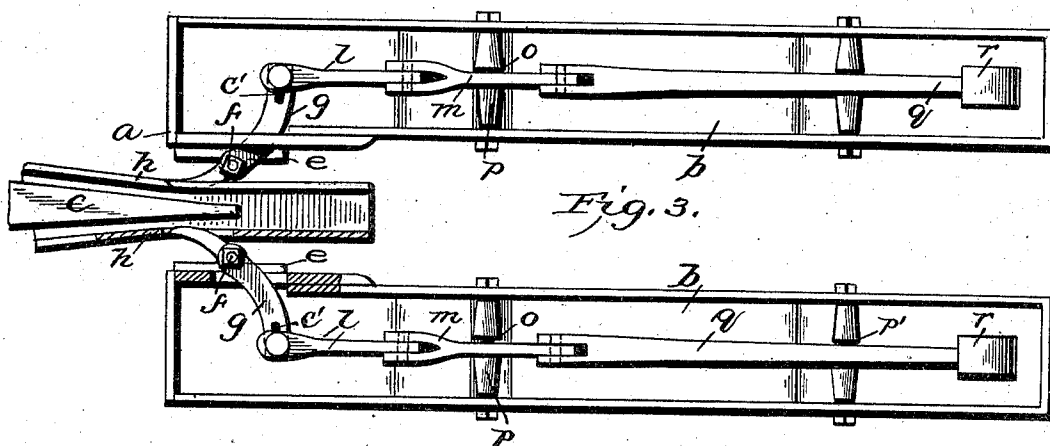
(No Model.)

2 Sheets—Sheet 2.

G. B. BARRON.
RAILWAY AND RAILROAD SWITCH.

No. 576,424.

Patented Feb. 2, 1897.



Attest
Wm. F. Hall
Notary Public

Inventor
George B. Barron
by Wm. Spear
Atty

UNITED STATES PATENT OFFICE.

GEORGE BRINKER BARRON, OF EASTON, PENNSYLVANIA.

RAILWAY AND RAILROAD SWITCH.

SPECIFICATION forming part of Letters Patent No. 576,424, dated February 2, 1897.

Application filed April 28, 1896. Serial No. 589,440. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BRINKER BARRON, a citizen of the United States, residing at the city of Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Railway and Railroad Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to devices for operating tramway-switches of that class in which the switch consists of a frog pivoted at one end and adapted to have its free or pointed end brought into contact or connection with the stationary rails arranged on the opposite sides of the same. This is accomplished by means of shifting mechanism for the switch, which is placed within a conduit or a trench made adjacent to the free end of the switch-rail and mechanism carried by the car coacting with that within the conduit, the mechanism carried by the car being operated manually to positively shift the frog as desired.

The invention consists in the particular construction and simplified arrangement of the mechanism beneath the track and also that carried by the car, as hereinafter more fully described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the mechanism, and Fig. 2 a plan view of the car. Fig. 3 is a plan view of the conduit.

In the drawings a conventional form of car-bottom is shown at 1, having the hangers 2 depending therefrom, in which is supported the shaft 3, having the bell-crank levers 4 journaled thereon. The levers are held in position on this shaft against longitudinal movement by the collars 6, which are secured in place by set-screws 7. The shaft itself is also held against longitudinal movement by similar collars 8. A head 9, which bears against one of the bell-crank levers to hold it in place, also acts in conjunction with the collars 6 in holding the shaft. Parallel to and extending above the front dashboard of the car is a rod 9', provided with an operating-crank 9", this rod being held in position by means of the bracket 10, which is secured to said dashboard near the upper edge thereof,

and the bracket 11, fastened to the car-bottom. The lower portion of the rod 9' is enlarged and flared to form a bearing-flange 55 around the rod, this flange resting upon the upper face of the bracket 11, the continuation of the rod extending through an opening in said bracket and having a lever 12 mounted thereon. The opposite ends of this lever are pivoted between the bifurcated ends of the links 14, connecting the ends of said lever to the ends of the forward arms of the bell-cranks 4. These ends have openings therein, and the links are provided with lateral extensions which pass through said openings and have their extreme ends fitted with nuts 16 to prevent them from becoming disengaged from said bell-crank levers.

The rearward-extending or longer arms of the bell-crank levers 4 are bifurcated, and within these bifurcations are journaled the rollers 17, whose function will be hereinafter described.

Referring now to the conduit and the mechanism held therein, it will be seen that a frame *a* is provided, having the pair of extending legs *b*. This frame, however, can be dispensed with and the mechanism held between the walls of the conduit without recourse to a framework of any description, but I will in the present case describe the invention in connection with this frame. The switch *c* is secured at one end by a pivot, (not shown,) the free tapered end projecting between the legs of the frame *a*, as shown. A bracket *e* is secured to the frame *a* on each side of the end of this rail, and these brackets are so arranged that their upper edges will be about flush with the under side of said rail. The central portion of each of these brackets is enlarged to form a bearing to receive the stud or journal *f*, on which the bell-crank levers *g* are intermediately journaled. The forward arms of these levers project through slots in the sides of the adjacent rails *h* and act as pushers to move the free end of the switch.

The rearwardly-extending arms of the levers *g* project through slots in the frame *a* and have their ends provided with elongated openings *c'*, through which pass the pins *k* for pivotally securing said end between the forked ends of the links *l*. The opposite ends

of the links l are pivoted between the bifurcated ends of the sliding links m , which are slotted at n to provide passages for the rods o , upon which said links are held. To hold these links centrally upon the rod, space-blocks p are interposed between the opposite faces of the same and the walls of said frame a , in which the ends of the rods o are secured.

10 A rod p' , corresponding to the rod o , is secured in the frame a some distance to the rear of the said rod o and at a slightly-higher elevation than the same. The rods p' form pivots for the levers q , through which they enter to the rear of their centers. The longer portion of the levers q , being overbalanced, naturally assume positions lower than their ends. The extreme ends of the lower portions are forked to receive the ends of the lever m , to which they are pivotally connected.

20 The extreme opposite ends of the levers q have suitable blocks or projections r , affixed thereto, the upper faces of these blocks being preferably rounded. The blocks extend above the grade of the road-bed, and as a car approaches the operator thereof, by means of the crank-arm 9^a , rotates the rod $9'$, which through the link connections 14 depress either one or the other of the rearwardly-extending arms of the bell-crank lever 4 in accordance with the direction said crank-arm is moved. This action brings the roller carried by the said depressed arm in line with one of the blocks r , and as the car passes over said block it will be depressed by striking the roller, and the forward portion of the lever q raised. The sliding link m will thus be shoved forwardly and upwardly and through the link l the bell-crank lever g will be tilted, thus causing

40 the forward end of said lever to swing out-

wardly and press upon and shift the free end of the switch.

I claim—

1. The combination with a switch-frog, of a pusher independent thereof and means for operating the same including an obliquely-extending lever eccentrally pivoted whereby the longer portion thereof will overbalance the shorter, a horizontal link pivoted to the pusher, and a vertically-sliding link connected to said horizontal link at one end and to said heavier portion of said lever at its opposite end whereby a weighed part is formed to automatically return all the parts to normal position after each operation, substantially as described.

2. The combination with a switch-frog, of the pushers, the horizontal link secured thereto, the vertically-sliding link pivoted to said horizontal link, the lever carrying the projection pivoted to said vertical link and extending laterally therefrom, said lever being pivoted above the center thereof whereby the weight of the lower end of the same and said sliding link will automatically return said parts and the pusher to normal position after each operation, substantially as described.

3. The combination with the pivoted switch of the pusher comprising the bell-crank, the sliding links, the pivoted link connecting the same to said bell-crank lever, and the pivoted lever carrying the projection, said lever being connected to said sliding link.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE BRINKER BARRON.

Witnesses:

ROBT. I. JONES,
REUBEN KOLB.