

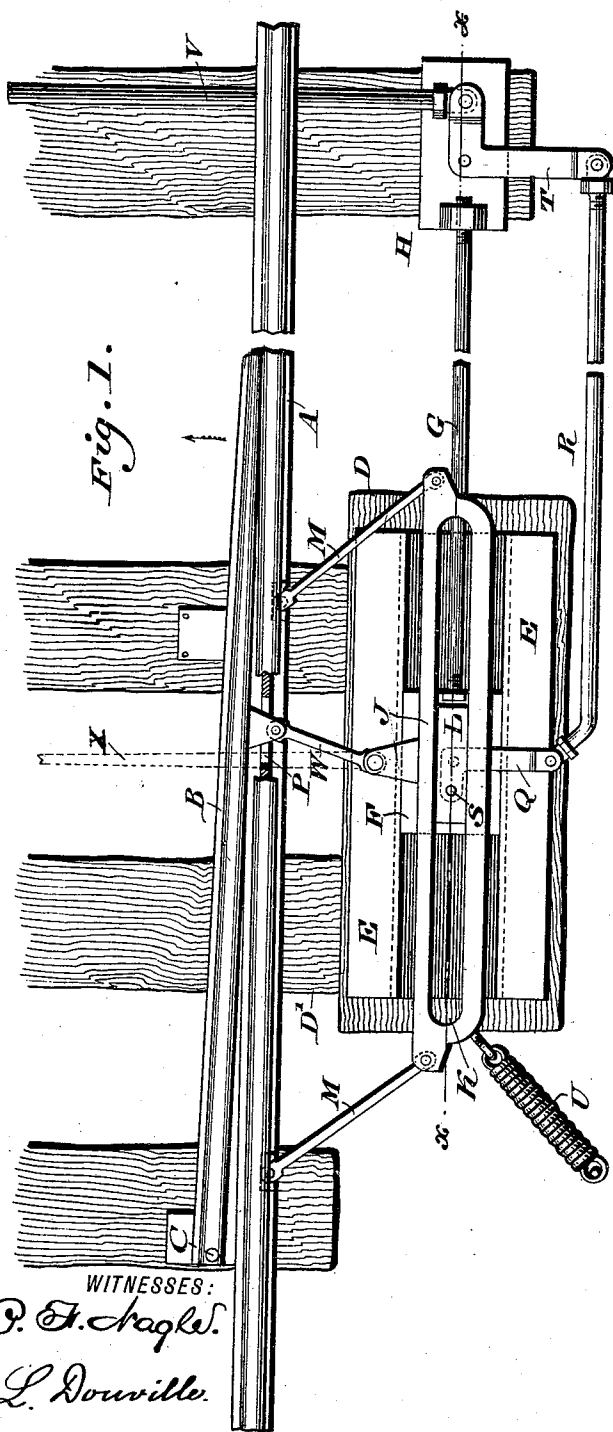
(No Model.)

A. BIXBY.

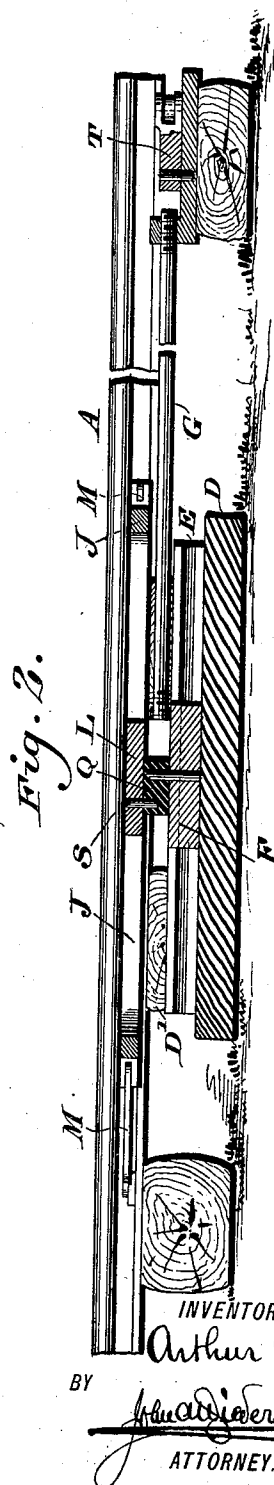
OPERATING MECHANISM FOR RAILWAY SWITCHES.

No. 479,584.

Patented July 26, 1892.



WITNESSES:
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OPERATING MECHANISM FOR RAILWAY-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 479,584, dated July 26, 1892.

Application filed August 22, 1891. Serial No. 403,411. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR BIXBY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Operating Mechanism for Railway-Switches, Semaphores, Gates, &c., which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in operating rods or pulls for railway-switches, semaphores, gates, &c.; and it consists of means whereby compensation is made for the expansion and contraction of the said operating rod or pull, due to changes of temperature.

Figure 1 represents a top or plan view of a switch embodying my invention. Fig. 2 represents a sectional view on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings, A and B designate the main and movable track-rails, respectively, of a railway, the track-rail B being pivoted at C and operated as usual. To a suitable base D or to extensions of the ties D' are secured the ways or guides E E, in which is fitted a movable block or support F, to which latter is secured one end of a rod G, the other end of the said rod being fastened to any fixed or stationary object H at or near one end of an operating-rod R of the switch, semaphore, gate, &c.

J designates a bar, in the slot K of which is fitted a block L, adapted to move freely in said slot. The said bar J is connected at its ends by the parallel bars M M, which are of equal length, with the main rail and at the central part of one side by the link or bar W to the movable track-rail, said link W passing through an opening P in the main rail and pivoted to a lug on the said movable track-rail. An elbow-lever Q is pivoted to the block F and has one limb pivoted to one end of the operating-rod R, which latter is of substantially the same length as the rod G, and the other limb provided with a pin S, which is fitted in the block L. The other end of the operating-rod R is connected with one limb of an elbow-lever T, the other limb of which has connected with it an operating-rod V for a switch, semaphore, &c. A spring U con-

nected with the bar J and any suitable stationary object serves to restore the rail B, with its operative mechanism, to the position shown in Fig. 1. It will be seen that as the rods G and R, which in devices of this character may be of great length, either expand or contract under the influence of the temperature or any other cause, the block F will move freely in the guides E E and the block L correspondingly in the slot K of the bar J, and thereby automatically change the fulcrum-point of the elbow-lever Q in relation to the bar J without, however, interfering with the movement of said lever by the action of the rod R. The mechanism is shown and described as connected with a track-rail, but in lieu thereof a lever or an arm X may be employed.

It will be understood that when the bar J is drawn toward the lever T the link W is drawn straight and rail B operated away from rail A. The spring U acts to draw the bar T back and closes the rail B against the rail A, when the parts are free to act.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A movable track-rail, a bar linked to said track-rail and to a fixed support, a block movable on and controlled by said bar, a movable support, and a lever fulcrumed to said movable support and connected with said block, said parts being combined substantially as described.

2. The combination of a movable support, a lever pivoted thereto, a slotted bar, a block movable in said slot and pivoted to said lever, parallel arms connected to said bar, and an expansible and contractile rod G, connected with said movable support and said lever, substantially as described.

3. The combination of a movable track-rail, a main rail, a base with guides thereon, a block movable in said guides and having one end of a rod connected therewith, the other end of the said rod having a fixed connection, a lever pivoted to said block, an operating-rod connected with said lever, a slotted bar connected by parallel arms of equal length to said main rail and by a pivoted bar to said movable track-rail, and a block fitted and moving in said slotted bar and pivotally con-

nected to a limb of the said lever, substantially as and for the purpose described.

4. A compensator for the operative mechanism of a switch, semaphore, gate, &c., consisting of a block fitted and freely moving in suitable stationary guides, thereby forming a movable fulcrum, a lever mounted on said fulcrum, a rod connected therewith, and a rod secured to said block of substantially equal length to the rod connected with the said lever, said parts being combined substantially as and for the purpose set forth.

5. A movable track-rail, a main rail, a bar connected with said main and movable track-

rails and adapted to operate the latter, a fixed base with a block movable thereon, an elbow-lever pivoted to said block and to a second block guided on said bar, an operating-rod connected with said angle-lever, and a compensating rod, of substantially equal length to the said operating-rod, secured at one end to said first block and at its other end having a stationary support, said parts being combined substantially as described.

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