

No. 674,518.

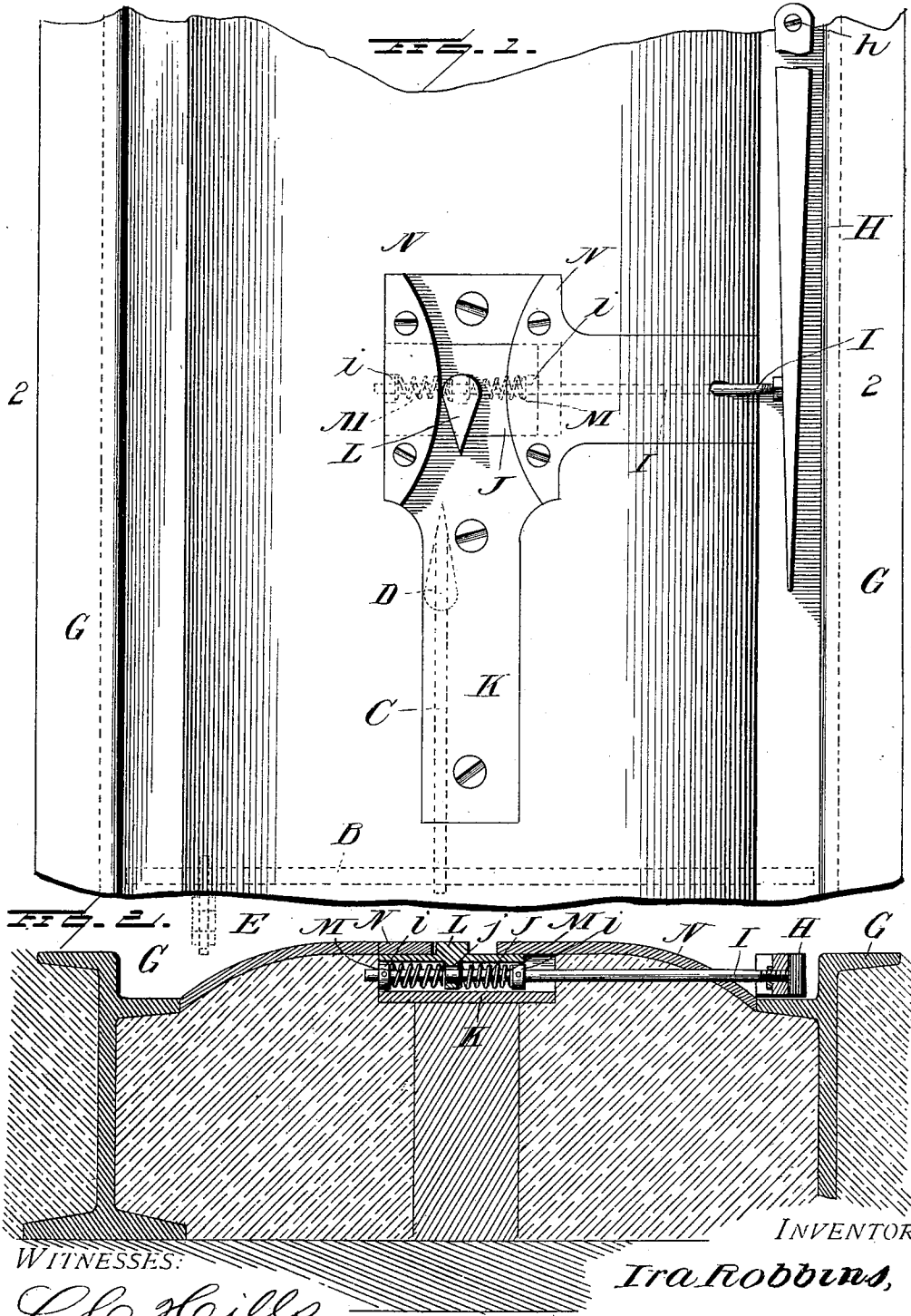
Patented May 21, 1901.

I. ROBBINS.
RAILWAY SWITCH.

(Application filed Sept. 1, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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W. F. Doyle.

BY

Ira Robbins,
E. A. Bond
Attorney

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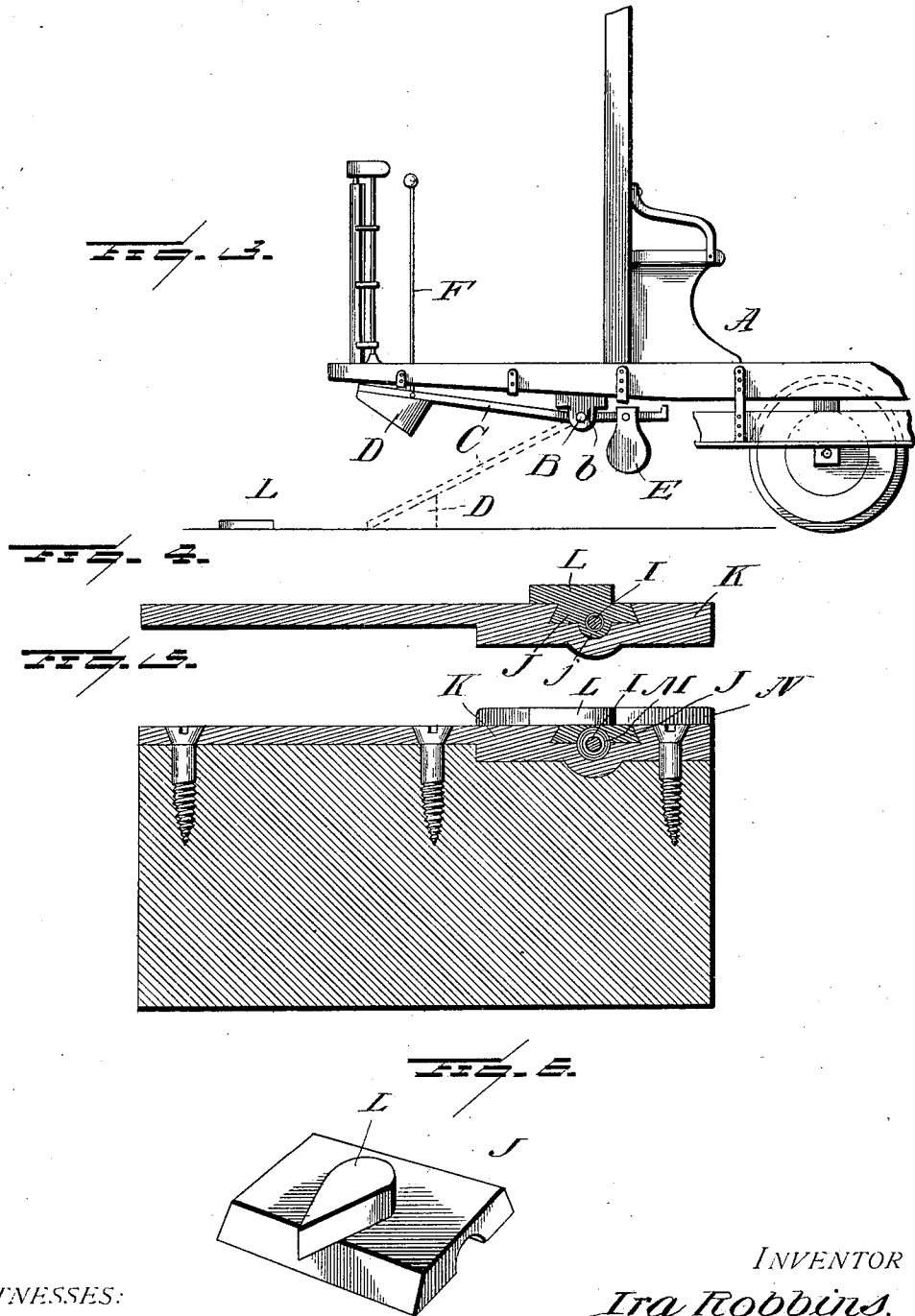
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L. C. Hills
Wm. F. Doyle.

INVENTOR
Ira Robbins,
 BY *E. A. Bond*
 Attorney

UNITED STATES PATENT OFFICE.

IRA ROBBINS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOSEPH
A. VANDEGRIFT, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 674,518, dated May 21, 1901.

Application filed September 1, 1900. Serial No. 28,781. (No model.)

To all whom it may concern:

Be it known that I, IRA ROBBINS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railway-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 appertains to make and use the same.

This invention relates to certain new and useful improvements in railway-switches of that class in which a wedge-block or other means is provided on the car and adapted to engage means between the rails for operating the switch-rail.

The present invention has for its objects, among others, to provide an improved switch and switch-operating mechanism of this character which shall be positive and reliable in its action, composed of few parts, not liable to get out of order, and in which provision is made for overcoming an obstruction that perchance might get between the switch-tongue and the rail. I provide a movable block mounted in guides and having upon its under side a lug through which passes loosely a shaft on which are two collars or the like, between each of which and the said lug is arranged a spring, each of sufficient tension to always operate the switch without the springs working to any extent; but should some obstruction get between the switch and the rail the spring would then yield enough to allow the operating-wedge to pass through between the center wedge and the adjacent guide portion without moving the switch-bar. The rod upon which the operating-shoe is mounted is movable laterally, so that the shoe may be made to pass upon either side of the pivoted wedge between the rails.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a top plan view of the mechanism between the rails, with the operating-wedge and its shaft shown in operative position by dotted lines. Fig. 2 is a vertical cross-section taken on the line 2 2 of Fig. 1. Fig. 3 is a detail in side elevation, showing the mechanism on the car. Fig. 4 is a longitudinal section taken on the line 4 4 of Fig. 1. Fig. 5 is a longitudinal section taken on the line 5 5 of Fig. 1. Fig. 6 is a perspective detail of the movable block and its wedge isolated from the other parts.

Like letters of reference indicate like parts throughout the several views in which they appear.

Referring now to the details of the drawings by letter, A designates a portion of a street-railway car of known construction except as pertains to this invention, as will be hereinafter described.

B is a transverse shaft supported in suitable brackets or bearings *b*, depending from the under side of the platform, as seen in Fig. 3, and this shaft is so mounted as to be capable of movement laterally, so that the operating-wedge carried thereby may be brought to engage upon either side of the wedge on the movable block mounted between the rails and soon to be explained. This shaft has extending lengthwise of the track an arm C, the forward end of which carries the wedge-shoe D, as seen in Fig. 3 and as indicated by dotted lines in Fig. 1.

E is a counterbalance-weight for normally keeping the forward end of the arm C, and consequently the wedge-shoe D, in its elevated position, as shown by full lines in Fig. 3. It is designed to be depressed into operative position when desired by the motorman or driver by means of a lever F, which may be arranged to be operated by either the hand or foot, and after the wedge-shoe has performed its function pressure on the said lever is removed, when the weight returns it to its normal position.

G represents the rails, and H the movable switch-tongue, of usual construction. It is pivotally mounted, as at *h*, and near its free end it has adjustably connected thereto one end of the rod I. This rod is disposed trans-

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versely of the length of the rails, as shown, and at a point near its other end it is provided with the collars, nuts, or analogous means *i*, the portion of the rod between said collars
 5 passing loosely through a lug *j* on the under side of the movable block J, which, as seen in the cross-sections, Figs. 4 and 5, is dovetailed and mounted to move in a suitable guide K, suitably supported as shown, and upon the
 10 upper face of this block is the wedge L.

M represents springs around the rod I between the collars *i* and the lug *j* on the under side of the movable block. These springs are of such tension that normally the switch is
 15 free to be moved without the aid of the springs, but if an obstruction gets in between the switch-tongue H and the adjacent rail the springs will then yield and allow the wedge-shoe D to move without danger of breaking
 20 any of the parts.

N represents cap-plates, the entrance between which is rounded or inclined, as seen in Fig. 1, to allow the wedge-shoe to more readily enter to engage the wedge L, as will
 25 be readily understood. The rod I passes through an opening in one of these cap-plates, as seen in Figs. 1 and 2, and it is thus steadied in its movements.

The operation will be readily understood
 30 from the foregoing description, when taken in connection with the annexed drawings, and a further detailed explanation does not seem necessary.

From the above it will be seen that I have
 35 provided a simple, cheap, yet reliable and efficient switch, and while the structural embodiment of my invention as herein illustrated seems at this time to be preferable I do not wish to be limited to the exact details
 40 of construction herein shown and described, but reserve the right to make such changes, variations, and modifications as come properly within the scope of the protection prayed.

What is claimed as new is—

45 1. The combination with a movable switch-tongue and a rod fixedly connected therewith, of a movable block carrying the wedge and loosely connected with said rod to be normally moved therewith, said block having a dove-

tail portion moving in a correspondingly-
 50 shaped guide, as set forth.

2. The combination with the movable switch-tongue, and a rod fixedly connected therewith, of a movable block mounted to
 55 move in a guide, a wedge carried thereby, a dovetail guide in which works a correspondingly-shaped portion on said block, and means whereby the said block normally moves with the rod and under abnormal conditions moves
 60 independently thereof, as set forth.

3. The combination with a movable switch-tongue, and a rod fixedly connected therewith, of a movable block having dovetail portion
 65 moving in a correspondingly-shaped guide and with which block said rod is loosely connected, and springs acting upon opposite sides of said block and arranged as described to normally permit of the movement of the block
 70 with the rod, but allowing the block to have movement with relation to the rod under abnormal conditions, as set forth.

4. The combination with the switch-tongue, the rod fixedly connected thereto, and a movable block having a dovetail portion movable
 75 in a correspondingly-shaped guide and having a depending lug loosely embracing the said rod at the end farthest from its connection with the switch-tongues of projections on the
 80 rod upon opposite sides of said lug, and springs between said lug and projections and acting upon opposite sides of the block to normally compel it to move with the rod, the rod being
 loosely movable through the lug, as and for the purpose specified.

5. The combination with the switch-moving
 85 devices embodying a movable block having a dovetail portion movable in a correspondingly-shaped guide, of a wedge-shoe carried by a car and mounted on a rod shiftable laterally, and a counterweight operatively con-
 90 nected with said rod as and for the purpose specified.

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

IRA ROBBINS.

Witnesses:

C. P. S. GARWOOD,
 H. E. COUGHLIN.