943,758.

J. W. THOMPSON.
AUTOMATIC SWITCH.
APPLICATION FILED DEC. 30, 1908.

Patented Dec. 21, 1909.
2 SHEETS—SHEET 1.

Fig. 1.

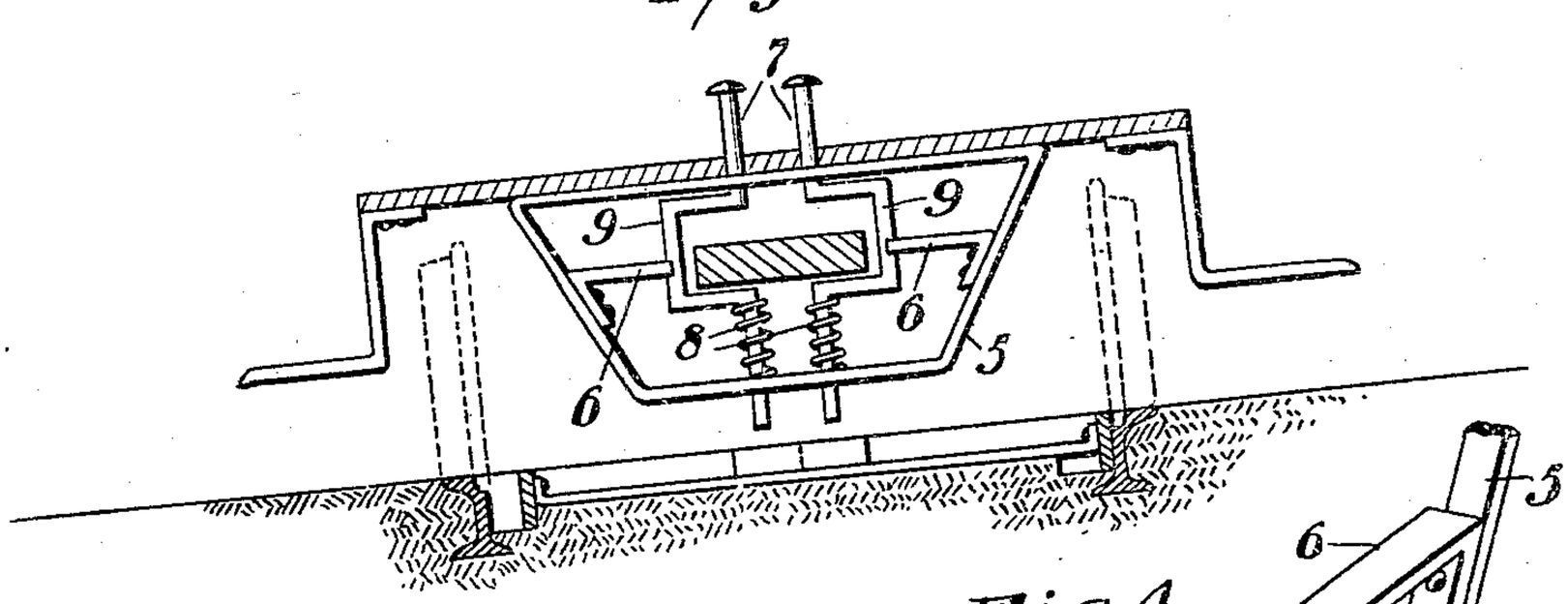

Fig. 4.

Fig. 2.

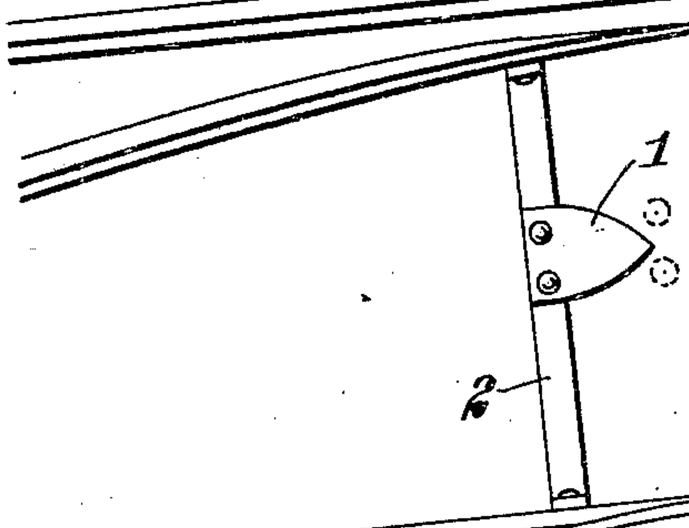

Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

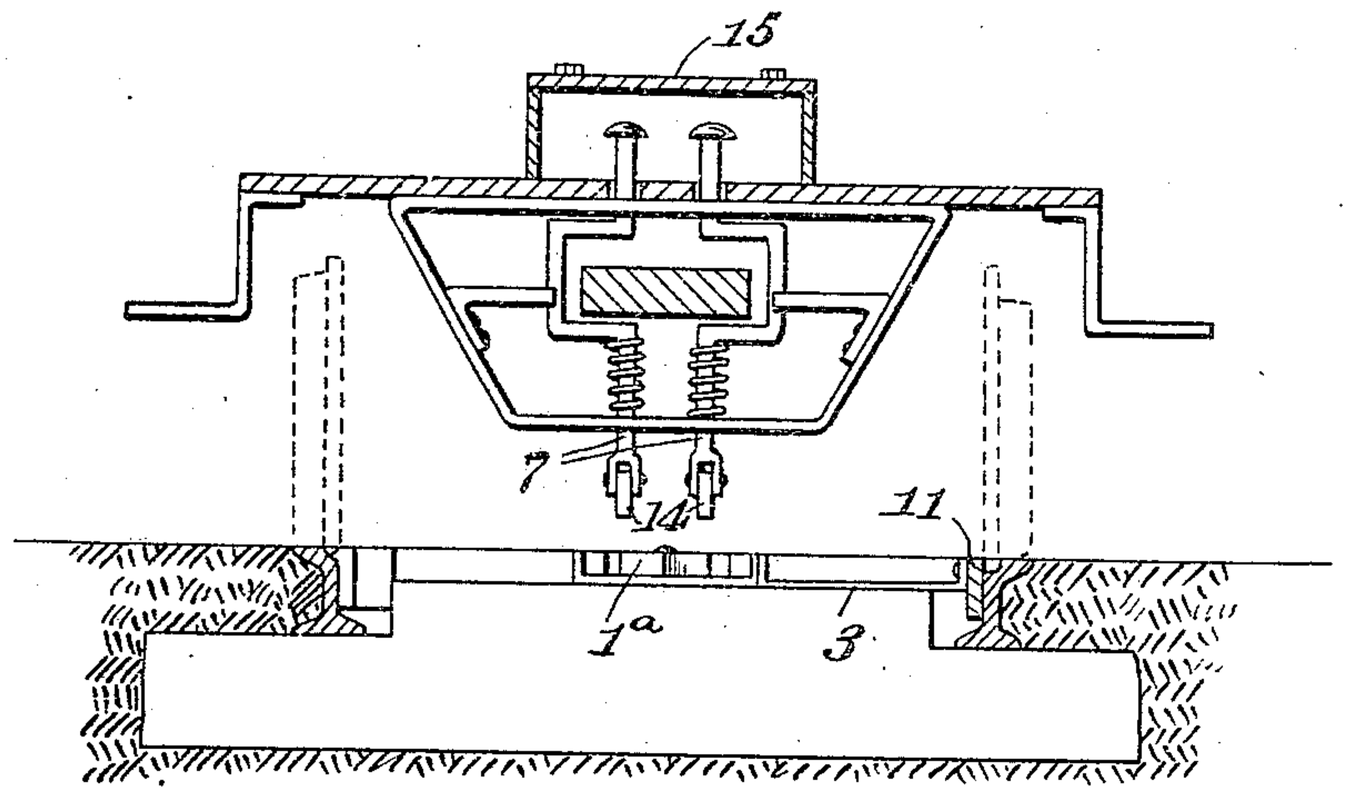

Fig. 6.

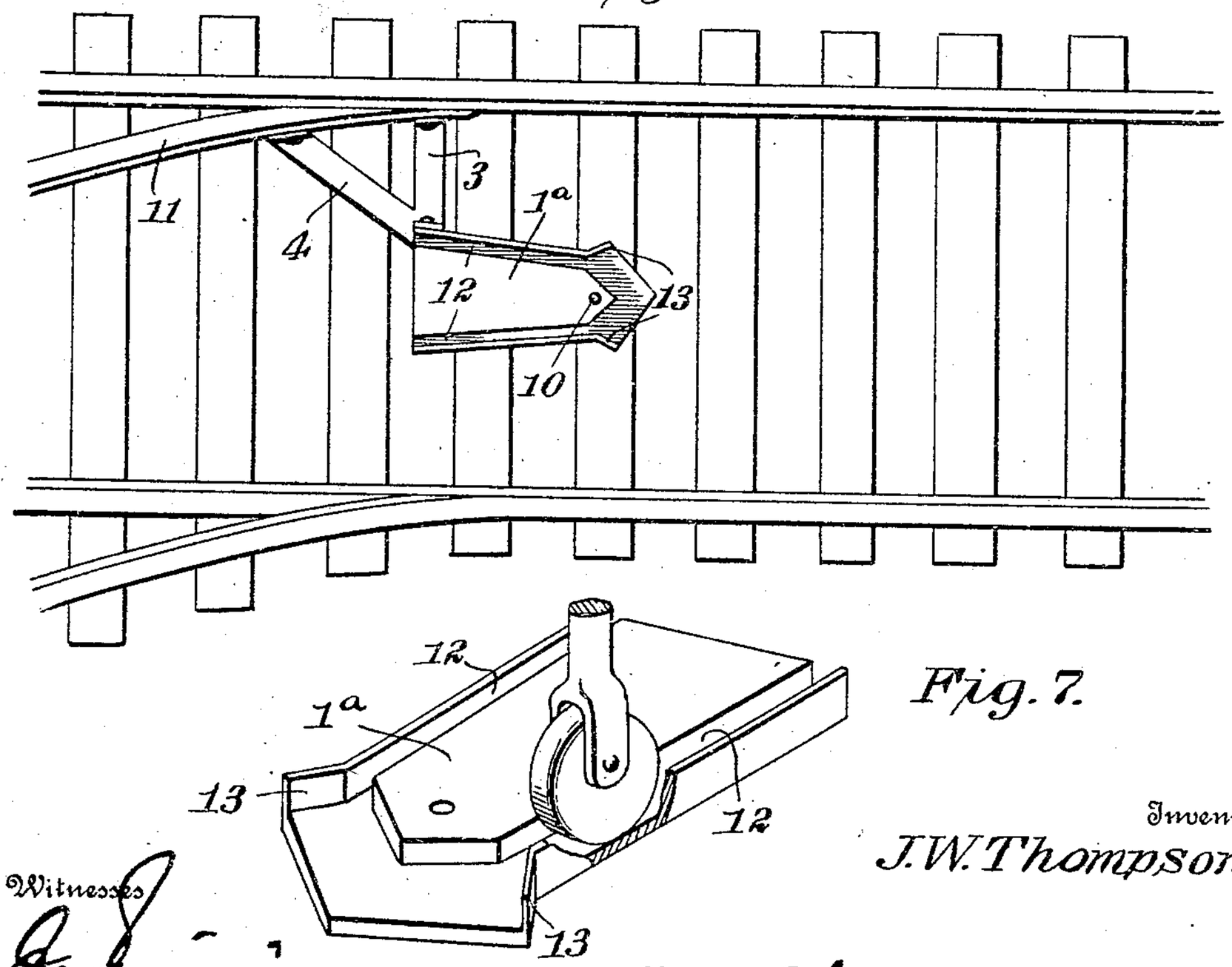

Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES W. THOMPSON, OF MONROE, LOUISIANA, ASSIGNOR OF ONE-FOURTH TO GUY P. STUBBS, OF MONROE, LOUISIANA.

AUTOMATIC SWITCH.

943,758. Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed December 30, 1908. Serial No. 469,957.

To all whom it may concern:

Be it known that I, JAMES W. THOMPSON, citizen of the United States, residing at Monroe, in the county of Ouachita and State of Louisiana, have invented certain new and useful Improvements in Automatic Switches, of which the following is a specification.

The present invention provides novel means for operating the switches of railways, being particularly adapted for street car traffic, whereby the person operating the car may throw the switch in the desired direction to meet existing requirements.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a front view of the lower portion of a car showing the application of the invention, the track being in section; Fig. 2 is a top plan view of the switch indicating in a general way the position of the switch operating means; Fig. 3 is a top plan view of a modification; Fig. 4 is a detail view of a portion of the frame showing the manner of connecting the cross bar thereto; Fig. 5 is a view similar to Fig. 1 of a modification; Fig. 6 is a top plan view of the modification; and Fig. 7 is a perspective view showing the lower portion of the trip bar in position in a groove of the modified form of cam.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The movable part of the switch is provided with a cam 1 which may be of any form and construction, so as to coöperate with actuating means mounted upon the car to admit of the operator throwing the switch in the desired direction. Fig. 2 illustrates the cam 1 applied to the switch points of what is known as a split switch, a cross bar 2 connecting the switch points to cause them to move in unison. In Fig. 3 an arm 3 is illustrated as connecting the cam 1 to the movable tongue, a brace 4 strengthening said arm and fixing the position of the cam.

The actuating means for throwing the switch is mounted upon the platform of the car in convenient position to be operated by the foot, either of the conductor or the person operating the car. It is to be understood that each end of the car may be similarly equipped with actuating means.

A frame 5 is pendent from the platform of the car and is provided at opposite points with inwardly extended arms 6. Trip bars 7 are mounted vertically in the upper and lower cross bars of the frame 5 and are normally held elevated by means of springs 8. Each trip bar 7 is provided with an offset or crank portion 9, which engages the inner ends of the arms 6, and which also spans the draw bar to provide clearance therefor. The lower ends of the trip bars 7 are transversely spaced and are adapted to be projected into the path of the cam 1. Upon depressing one of the trip bars 7 it will engage with the cam 1 and throw the switch in one direction. Upon depressing the other trip bar 7 it will engage with the opposite side of the cam 1 and throw the switch in the opposite direction. When pressure is released from the trip bars 7 they are moved upward out of the way by the action of the springs 8, the latter being mounted upon the lower portions of the trip bars and confined between the lower cross bar of the frame 5 and the lower arms of the crank or offset portions 9 of said trip bars.

The cam 1^a shown in Fig. 6 is pivoted near one end as indicated at 10 to a tie of the track and its pivot end is connected to the switch point 11 by means of arm 3 and brace 4. Grooves or channels 12 are provided along opposite edges of the cam and flare at their forward ends, as indicated at 13, so as to direct the respective trip arms into the grooves when throwing the switch. The grooves or channels 12 diverge rearwardly and since the trip arms travel in straight lines it is apparent that the cam is turned upon its pivot 10 in one direction or the other according to the trip bar depressed to enter one or the other of the grooves 12, thereby throwing the switch in the required direction.

The trip bars 7 are provided at their lower ends with rollers 14, so as to minimize the friction and resistance when said trip bars are depressed to enter one or the other of the grooves 12. A housing 15 is arranged over the upper ends of the trip bars, so as to protect the same when not required for immediate service.

Having thus described the invention, what is claimed as new is:

1. In combination with a railway switch and a cam connected with the movable part of the switch, a frame secured to the car and having oppositely spaced openings formed therein, transversely spaced trip bars mounted for vertical movement in said openings and provided with off-set portions spanning the draw bar, and springs surrounding the trip bars and bearing against the frame and off-set portion of said trip bars for exerting an upward pressure thereon to normally hold the trip bars out of action.

2. In combination with a railway switch and a cam connected with the movable part thereof, a frame attached to the platform of the car and comprising upper and lower members, and arms extended inward from the end portions of said frame, trip bars mounted to move vertically in said frame and transversely spaced, each embodying a crank or offset portion in its length, said offstanding portions engaging the arms projected inward from the frame and spanning the draw bar, and springs mounted upon the lower portion of the trip bars and confined between the lower cross bars of the frame and the opposite portions of said trip bars.

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

JAMES W. THOMPSON.

Witnesses:
GUY P. STUBBS,
J. C. THEUS.