

No. 754,627.

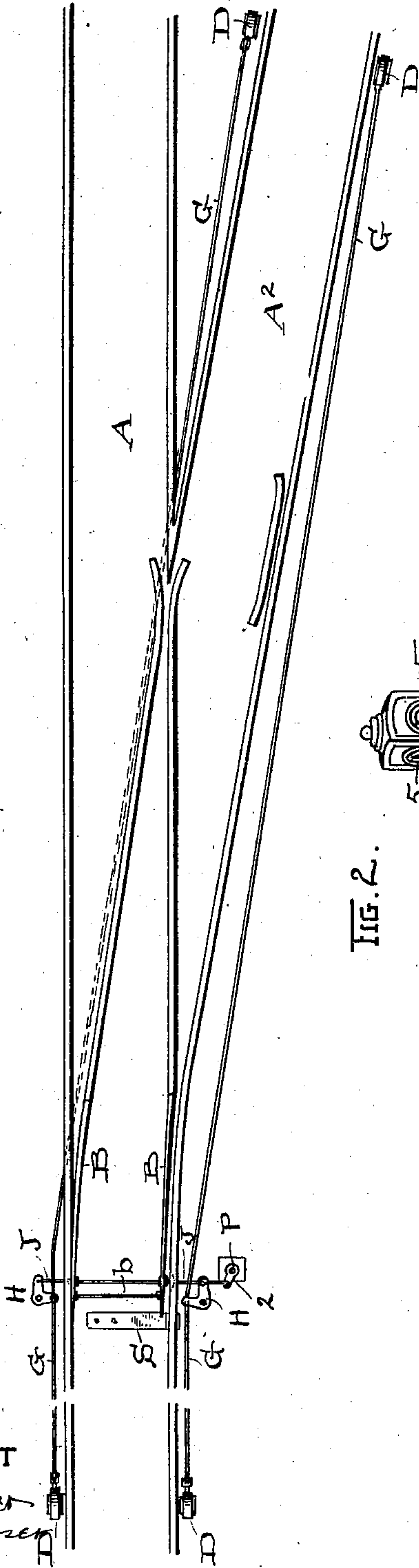
PATENTED MAR. 15, 1904.

M. M. WHITFIELD.
AUTOMATIC RAILWAY SWITCH.

APPLICATION FILED SEPT. 10, 1903.

NO MODEL.

FIG. 1.



ATTEST
R. B. Moser
a. m. Moser

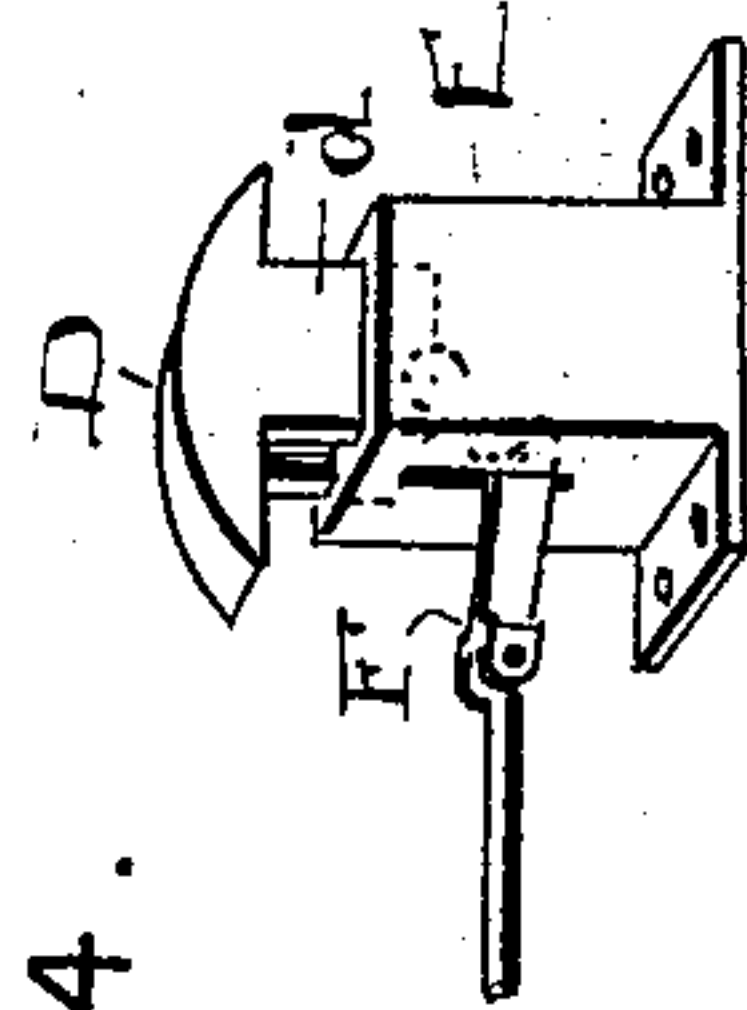


FIG. 4.

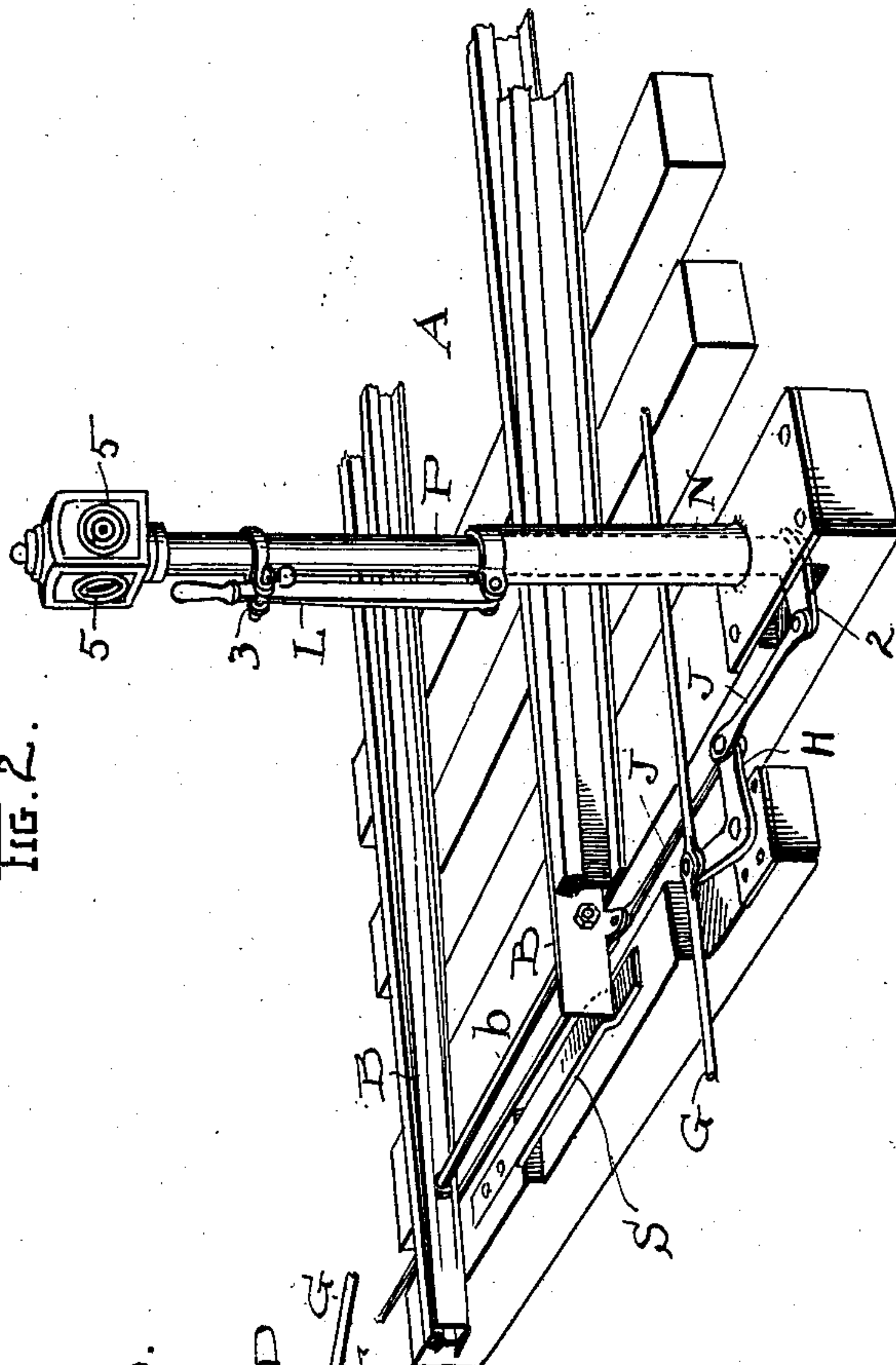
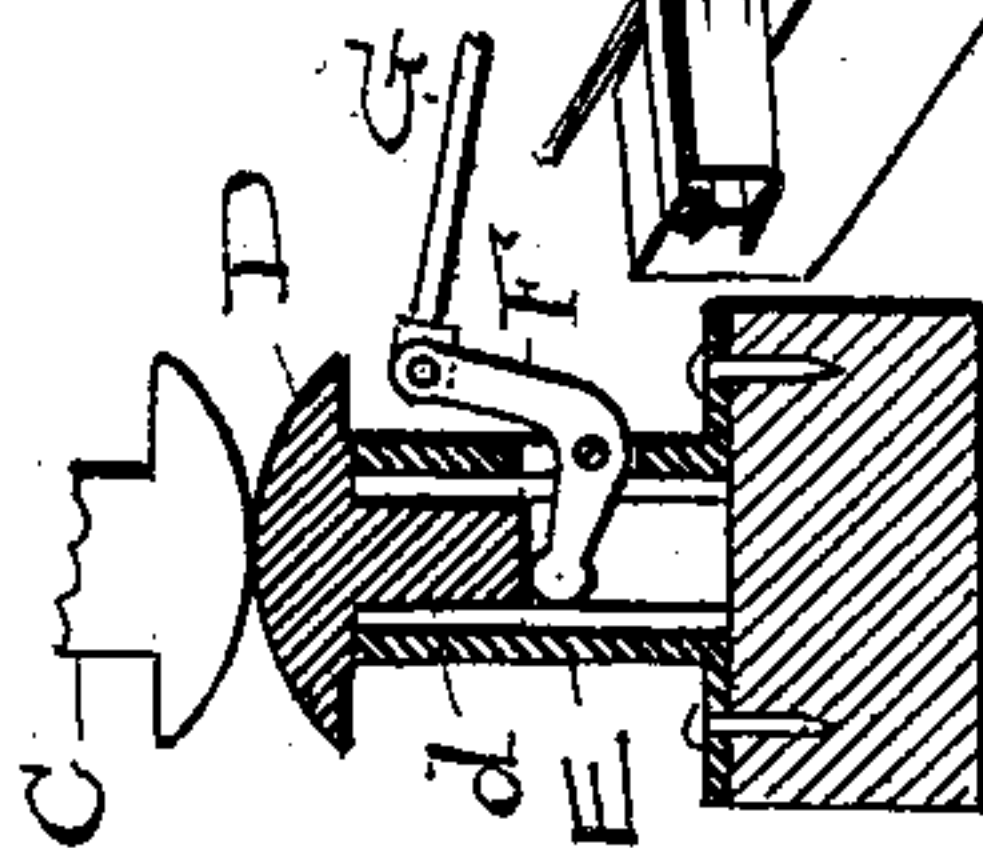


FIG. 2.

FIG. 3.



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MARK M. WHITFIELD, OF LORAIN, OHIO, ASSIGNOR TO JOHN F. SHARP,
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AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 754,627, dated March 15, 1904.

Application filed September 10, 1903. Serial No. 172,558. (No model.)

To all whom it may concern:

Be it known that I, MARK M. WHITFIELD, a citizen of the United States, residing at Lorain, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Automatic Railway-Switches; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to
10 which it appertains to make and use the same.

My invention relates to railway-switches; and the object of the invention is to provide a switch mechanism whereby a passing train may throw the switch automatically, all substantially as shown, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a section of a railway-track and switch therein. Fig. 2 is a perspective view
20 of a portion of railway track and switch and switch-throwing mechanism. Fig. 3 is a sectional elevation of the contact mechanism for throwing the switch from the car, and Fig. 4 is a perspective elevation of the said mechanism as shown in Fig. 3.

A represents an ordinary railway-track, and A² may be regarded as a side track, and B represents the switches for said tracks, adapted to be thrown to one side or to the other, according to the direction the train is to travel. As shown in Fig. 1 the switch is closed on the main line. Now it is desirable that the switch should be within control upon the car or locomotive, so that the engineer or motorman
35 may run his car or train over the main line or upon the side track, as may be proper at the time, and the invention is of a character which enables the motorman or conductor to control the direction of the car without leaving the car and by lowering the shoes C, which are carried by the car. The said shoes are in duplicate, one on each side of the car or locomotive, and are designed to be lowered so as to make contact with the post D, having a
45 stem *d* extending down into the rectangular box or housing E. This box or housing is rigidly fixed upon one of the cross-ties in a suitable position and relation to the track and the switch outside the track on both sides and

at such distance from the switch that the train may pass at a very rapid rate and yet surely throw the switch before the train reaches it. Each of the said parts C and D have convex heads, so that when the post D is raised to depressing position and the shoe C is lowered thereto the contacting surfaces will be rounded or inclined in respect to each other and make an easy and practical engagement without doing violence to either part and yet depressing the post D sufficiently to throw the switch. The stem *d* of the post is rectangular, preferably, corresponding to the cross-section of the box E, so that the relationship of the parts will not be disturbed by the up-and-down movement of the post. Mechanism for operating the switches B intervenes the post and the said switches, and the initial member of said mechanism is the bell-crank lever F, pivoted in its angle in the box E and having one arm extending into position to be engaged by the stem of post D, while the other arm outside said box is connected by a link or rod G with another bell-crank lever H, likewise supported on a cross-tie and engaged by its other arm with the switch-operating link or bar J. This bar connects directly with the switches B, which are tied together by a rod *b*, and extends laterally on both sides of the main track relatively as shown. At the near side the said bar or rod J is operatively connected, by means of an arm 2, with an upright and rotatable post P, upon which there is affixed a lever L. This post is adapted to rotate within a cylindrical or tubular fixed housing N, supported upon one of the cross-ties, and the lever L ordinarily is locked in raised position, as shown, and it is affixed to the said post by means of a clip, band, or the like 3, so that when the lever is released to something like a horizontal position it can be used to rotate post P and throw the short arm 2 beneath to actuate the switch. This gives individual control of the switch when it is desired; but ordinarily the lever is not used and the switch is actuated automatically from the car.

It will be understood that the parts C, D, E, and G are duplicated and upon both sides

of the track and for both directions of travel, so that when a train is going in one direction or the other it will throw the switch, if this be desired, and rods G extend alike from both
 5 sets of depressible devices at the side of the track. If the switch is not to be thrown, the shoe C is not depressed, and it will ride over the post D without touching it, and the said post is understood to be wholly under the con-
 10 trol of the conductor or motorman.

A further and advantageous feature of the invention is the spring S, which is flat and adapted to bear up against the bottom of the switch and to serve frictionally to prevent
 15 the switch from creeping or working away from the place to which it has been mechanically carried. This helps to insure the maintenance of the switch in its place whether it be thrown to one side or the other and is of
 20 material consequence in an automatic mechanism of the kind described. The rotatable post P carries the usual signal-lights 5 on its top, and these are operated when the switch is thrown from the car and change their po-
 25 sition accordingly. Hence said posts have to do with the said automatic mechanism.

What I claim is—

1. In an automatic switch for railways, a track and a box set at the side of the track, a
 30 depressible post set into said box and having a segmentally-rounded head, a bell-crank lever pivoted in said box and engaged upon by said post and a switch-operating rod connected with said lever, in combination with a shoe
 35 having a rounded head adapted to bear upon the rounded head of the said post, substantially as described.

2. In railway-switch mechanism, a box at the outside of the track, a depressible post
 40 slidable up and down in said box, and a bell-crank lever operatively engaged by said lever, in combination with the switch and mechanism for throwing the switch operatively con-
 45 nected with said bell-crank lever, and a flat spring beneath the switch and pressing against the bottom thereof, whereby the switch is prevented from creeping away from its work-
 ing position, substantially as described.

3. The switches and the mechanism to operate the same automatically from a car, in
 50 combination with a signal-light supporting-post, a housing in which said post is rotarily supported, a lever pivotally supported on said post and means to lock the lever temporarily
 55 thereon independently of said housing, a set of switches and a lever-and-link mechanism connecting the post operatively with the said switches, whereby the said switches can be
 60 thrown automatically or by hand, substantially as described.

4. In automatic switches for railways, a box and a depressible post set therein from the top
 65 having a head with a rounded top surface, and a bell-crank lever pivoted in said box and having one portion beneath said post and the other portion outside said box, substantially as de-
 scribed.

In testimony whereof I sign this specification in the presence of two witnesses.

MARK M. WHITFIELD.

Witnesses:

R. B. MOSER,
 H. T. FISHER.