

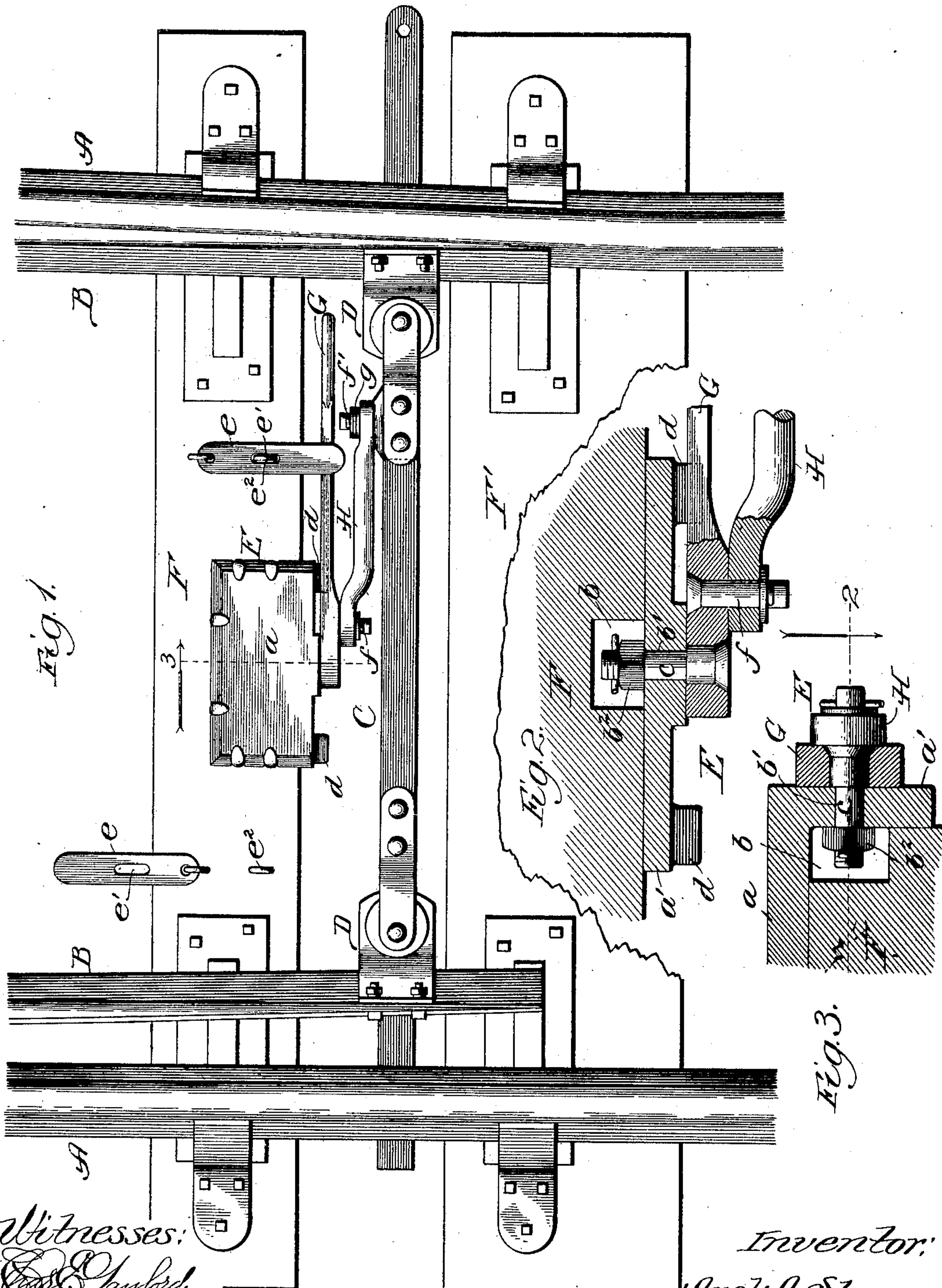
No. 711,363.

Patented Oct. 14, 1902.

A. A. STROM.  
RAILWAY SWITCH.

(Application filed July 15, 1902.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 711,363, dated October 14, 1902.

Application filed July 15, 1902. Serial No. 115,716. (No model.)

*To all whom it may concern:*

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

My invention relates more particularly to an improvement in the switch-stand and its connection with a switch for operating the latter to adapt them the better to be used in railways extending along thoroughfares or at places in a railroad where it is crossed by streets.

For the sake of convenience the location of the switch-stand for operating a railway-switch should be adjacent to the switch; but this may not be in a thoroughfare by reason of the obstruction which the ordinary switch-stand presents. To overcome this difficulty, I provide a construction of switch mechanism which enables the switch-stand and its connection with the switch to be located on the railroad-bed immediately between the rails of a split switch to reach above the surface of the road-bed so far short of the tops of the rails as to adapt the switch-stand to be boarded over or covered by way of continuing the pavement of the street across the railway-track, and thus prevent it from obstructing the street in any way.

Referring to the accompanying drawings, Figure 1 is a broken plan view showing a railway-switch equipped with my improvement. Fig. 2 is a broken section taken at the line 2 on Fig. 3 and viewed in the direction of the arrow; and Fig. 3 is a section taken at the line 3 on Fig. 1, viewed in the direction of the arrow and enlarged.

A A denote the main or stock rails of a railway, and B B denote the point-rails of a split switch. The point-rails are connected by a tie-bar, (shown as the "head-rod" C,) and, as shown, the head-rod is connected at each end with the adjacent switch-rail through the medium of a device D, operating to effect the adjustment of the distance of separation of the point-rails to compensate for wear upon them or upon the switch-stand connections with the rails by spreading the

latter apart for the purpose, as occasion requires—say from about one-sixteenth of an inch to a greater fraction of an inch. The adjustment connection is old and well known to those skilled in the art, and therefore does not require detailed illustration and description in this connection. The particular adjustment shown in the drawings is that set forth in my former patent, No. 625,196, dated May 30, 1899; but it may be any other suitable adjustment, such as that set forth in either of my former patents, Nos. 457,904 and 457,905, of August 18, 1891, or No. 543,605, dated July 30, 1895.

E is the switch-stand, located between the point-rails B. It comprises a flat metal plate *a*, spiked down upon a tie F and having a vertical flange *a'* on one edge extending upon a side of the tie and covering a recess *b*, formed in the latter, with which coincides an opening *b'* in the plate-flange.

G is the operating-lever, fulcrumed on a pin *c*, which passes through the flange-opening *b'* into the recess *b*, wherein it is fastened by a nut *b<sup>2</sup>*. The lever works in the space between ties and its vertical throw is limited by stops *d d*, projecting at opposite ends thereof from the face of the plate-flange *a'*, and at each end of the throw of the lever means for locking it are shown in the form of a hasp *e*, hinged to the tie F to be extended horizontally across the lever and embrace at an eye *e'* a staple *e<sup>2</sup>* to receive a padlock. (Not shown.)

H is the switch-bar, forming a link connection between the switch-stand and switch. It is pivoted on one end on a pin *f*, projecting from the operating-lever to one side of the fulcrum *c* and at its opposite end to a pin *f'*, projecting from a side of the head-bar C near the adjustment at one end. It is important that the connection of the bar H shall be immediately with the bar C, and not with a switch-rail, since in the latter case the connection would prevent or obstruct separation of the rails to adjust them; whereas by providing the bar H to the head-rod, as shown, any adjustment of the latter for spreading the rails, which may involve changing its angle with relation to the switch-rails and



thereby moving it farther away from or closer to the tie F, the change of angle will be compensated for by the connecting-bar adjusting itself along the length of the pins  $f f'$ . If  
 5 it be desired to hold the bar H in place at each adjustment of the switch, washers  $g$  may be provided in desired number on the pin  $f'$  to hold the bar against the side of the tie-rod.

To operate the switch, the lever H is turned  
 10 on its fulcrum  $f$  in the space between the adjacent ties F and F', which is the only part of the road-bed below the rails which may not be planked or paved at the street-crossing where the switch is provided, the switch-operating mechanism, except the parts thereof  
 15 in the space between the tie F and head-rod, being adapted to be thus covered, (though leaving openings for the play of the hasps  $e$ ,) because it is entirely below the plane of the  
 20 treads or heads of the rails.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch, the combination with the switch-rails, of a switch-stand located on the road-bed between them, a tie-  
 25 bar connecting said rails and provided with means for adjusting their distance apart, and a switch-bar connecting said stand immediately with said tie-bar, the parts of the switch-  
 30 operating mechanism being below the plane

of the rail-heads, substantially as and for the purpose set forth.

2. In combination with the rails of a railway-switch, a switch-stand comprising a plate adapted to be fastened down upon a tie between the switch-rails and provided with a  
 35 flange carrying stops and an operating-lever fulcrumed upon said flange, and a switch-bar pivoted at one end to said lever and adapted to be pivotally connected at its opposite end  
 40 immediately with the switch-rail tie-bar, substantially as and for the purpose set forth.

3. In a railway-switch, the combination with the switch-rails, of a switch-stand between said rails, comprising a plate fastened  
 45 down upon a tie and having a flange carrying stops and covering a recess in said tie and an operating-lever fulcrumed to work between ties on a pin passing through the  
 50 flange into said recess, a tie-bar connecting said rails and provided with means for adjusting their distance apart, and a switch-bar pivoted at one end to a side of said lever and at its opposite end to said tie-bar, substantially as and for the purpose set forth.

AXEL A. STROM.

In presence of—

ALBERT D. BACCI,  
 JOHN H. LEE.