

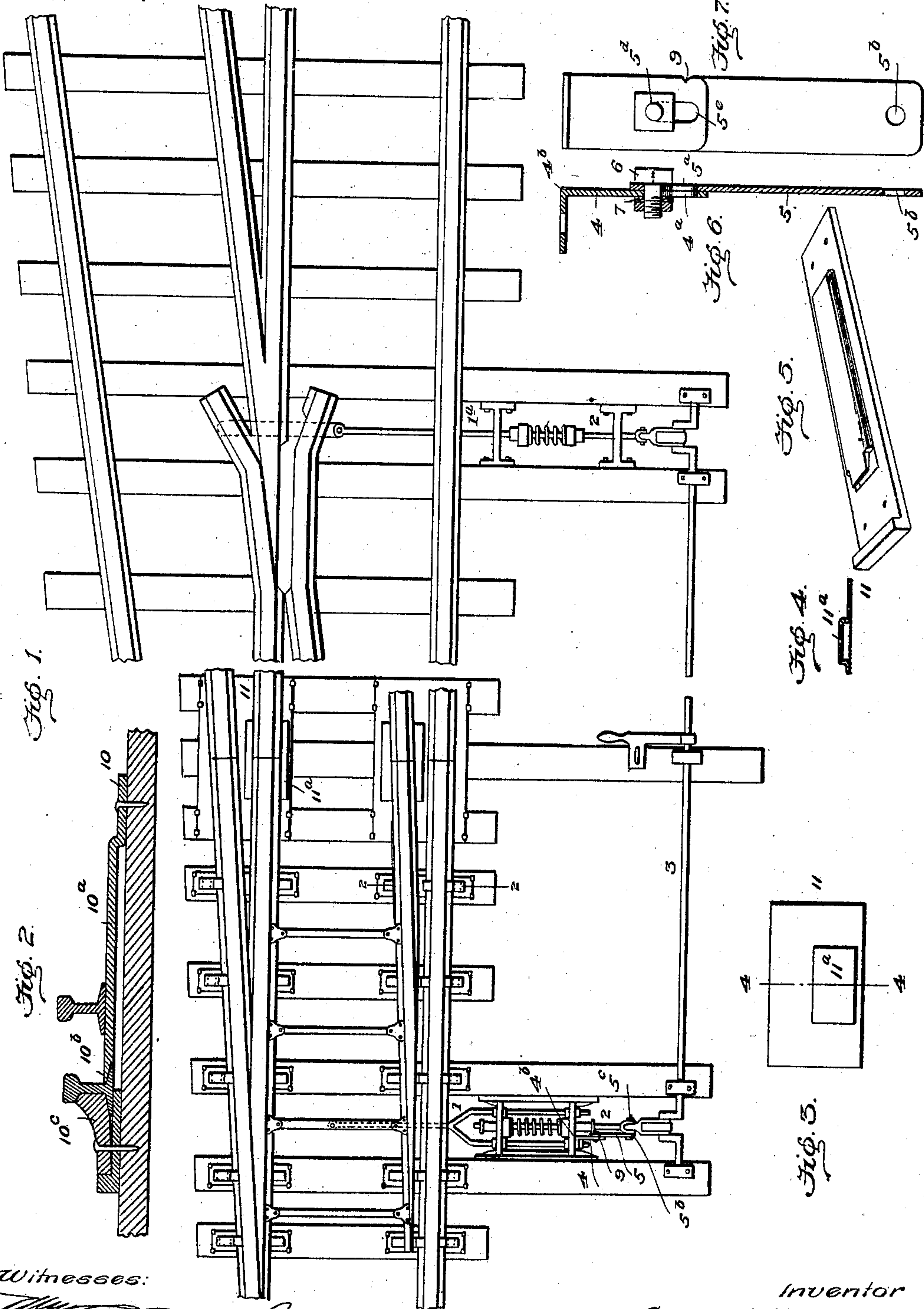
No. 647,230.

S. H. JENKINS.  
RAILWAY.

Patented Apr. 10, 1900.

(Application filed Oct. 10, 1899.)

(No Model.)



Witnesses:

*Robert Lawson*

Inventor  
- Samuel H. Jenkins.

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Attys.



# UNITED STATES PATENT OFFICE.

SAMUEL H. JENKINS, OF CHATTANOOGA, TENNESSEE.

## RAILWAY.

SPECIFICATION forming part of Letters Patent No. 647,230, dated April 10, 1900.

Application filed October 10, 1899. Serial No. 733,187. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL H. JENKINS, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Railways; 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.

My invention relates to certain improvements in railways; and its object, among other things, is to provide against the displacement of the switch by accident or design and yet permit an engine or cars to pass from the siding to the main line or the passage of a through train on the main line with perfect safety and adapted to provide for the automatic return or replacement of the switch and frog rails after such passage.

To these ends the invention consists of the combination and arrangement of parts including their construction, substantially as hereinafter more fully disclosed, and specifically pointed out in the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a plan view of an automatic railway-switch in its general structure or organization of the type disclosed in my Letters Patent No. 324,773, dated August 18, 1885, embodying my present improvements. Fig. 2 is an enlarged cross-section on the line 2 2 of Fig. 1. Fig. 3 is a plan view of one of the bed-plates. Fig. 4 is a section on line 4 4 of Fig. 3. Fig. 5 is a detail view of another plate. Fig. 6 is a section through a "strap," and Fig. 7 is a plan view thereof.

Latitude is allowed herein as to details, as they may be changed or varied without departing from the spirit of my invention, and the same yet remain intact and be protected.

In carrying out my invention I employ in connection with each of the operating-rods 1<sup>a</sup> of the switch and frog rails, respectively, and the spring-cushioned pitmen or rods 2 2 of the throwing-bar 3, all substantially as in said patent, an adjustable contrivance or attachment. This attachment consists principally of two metal straps or members 4 5, provided at their lapping or meeting ends

with elongated coincident slots 4<sup>a</sup> 5<sup>a</sup>, respectively, and through these slots is passed a suitably nutted and headed bolt 6, between the head and nut of which and said straps are preferably inserted or sandwiched washers 7 7, more particularly to afford suitable bearings for said nut and head. The inner end of the strap or member 4 is offset or bent at a right angle, as at 4<sup>b</sup>, and slipped on one arm of the switch-actuating rod 1, said arm passing through an aperture in said offset and nutted thereto, thus fixing the same rigidly thereto. Said bolt 6 fixes said straps or members one to the other as against individual movement under ordinary pressure or when the switch and frog actuating rods are not subjected to the spreading action of the engine-wheels passing in contact with or over the switch and frog rails. In the latter case, however, the individual movement of the members is readily shown by means of notches 9, one formed in the edge of each strap and adapted to register when the straps are in proper relation to each other. These straps will prevent the movement or displacement of the switch and frog rails by hand or prying, as would be practiced or resorted to to misplace or disarrange the rails to cause the derailment of an engine or cars; yet by means of the slots of said straps or members the latter will be permitted under stress to have the requisite independent or individual movement necessary to allow for the movement of the switch and frog rail actuating rods when subjected to the action of the engine or car wheels passing over said rails, the spring-cushions of said rods automatically returning the frog and switch rails to their original position after the passage of the engine or cars.

The outer end of the strap or member 5 has a slot-and-bolt connection 5<sup>b</sup> 5<sup>c</sup> with a crank of the throwing-bar crank-rod 8, compensating lost motion and allowing for the compression of the spring-cushion of the switch-actuating rod arising from the strain or stress required to throw or shift the switch. A similar arrangement of parts, answering to the aforesaid described attachment, is also employed in connection with the frog-rail-actuating rod 1<sup>a</sup> to effect a like rigid connection between said rod and the throwing-bar crank-



rod. The switch being set for the main or through line or track, the bolt 5<sup>b</sup> rests or bears against the edge or end 5<sup>a</sup> of the slot 5<sup>b</sup> of the strap or member 5, thus producing a rigid connection between the switch-actuating rod 1 and the throwing-bar crank-rod to prevent unauthorized movement of the switch. A train passing from the siding onto the main track or line would compress the spring-cushion of the switch-actuating rod, also that of the frog-rail-actuating rod, and force the bolt 6 along the slot 4<sup>a</sup> by moving the strap or member 4, allowing the train to enter the main line in perfect safety without injury to the switch. The switch being set for the siding, the bolt 5<sup>c</sup> will rest or bear against the opposite edge or end 5<sup>c</sup> of the slot 5<sup>b</sup> of the strap or member 5, likewise producing a rigid or fixed connection between the parts aforesaid. A train passing along the main line or track would compress the spring-cushion of the switch-actuating rod and force the bolt 6 along the slot 5<sup>a</sup> by moving the strap or member 5, allowing the train to pass over the switch in perfect safety without injury thereto.

In order to prevent injury to the rails of the main line by the wheels of the cars striking thereagainst when approaching them from the switch, the switch-rails are preferably slightly raised above the rails of the main line, as shown in Fig. 2. This is accomplished by mounting the switch-rails upon plates 10, which are each provided with a substantially-rectangular struck-up portion 10<sup>a</sup>, which serves as a bed upon which said switch may slide, said struck-up portion forming a lip, as 10<sup>b</sup>, adapted to lap the inner edge of the flange of the outer rail, the outer edge of the rail being held by a stay-block or by an upwardly-turned plate 10<sup>c</sup>, riveted to the plate 10. It is obvious that these plates 10 may be secured to the ties by spikes or in other suitable manner. By this construction it will be seen that the rails will be firmly held within the chairs, while the beds for the switch-rails, being integral with the chairs, cannot be accidentally displaced. Other plates, as 11, may be used beneath the portions of the switch-rails furthest removed from the frogs, and the struck-up portions 11<sup>a</sup> thereof are gradually reduced in height until the top of the switch and main rails are brought into the same horizontal plane.

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

1. In a railway-switch, the combination, with the switch-actuating spring-cushioned rod and the throwing-bar crank-rod, of the adjustable attachment comprising two members adapted to form a rigid connection therebetween, substantially as set forth.

2. In a railway-switch, the combination, with the switch-actuating rod and the throwing-bar crank-rod, of the adjustable attachment comprising two members adjustably connected together and adapted to form a rigid connection between the aforesaid parts, substantially as specified.

3. In a railway-switch, the combination, with the switch-actuating spring-cushioned rod and the throwing-bar crank-rod, of the "straps" or members having slot-and-bolt connection one with the other, one offset and secured to said switch-actuating rod, and the other having a slot-and-bolt connection with said crank-rod, substantially as specified.

4. In a railway-switch, the combination, with the switch-rail-actuating rod and the throwing-bar crank-rod, of the coupled-together "straps" or members, one having a slot at its inner end and a slot at its outer end adapted to receive bolts, one coupling said "straps" or members together and the other connecting with said crank-rod, substantially as set forth.

5. In a railway-switch, the combination, with the switch-rail-actuating rod, and the throwing-bar crank-rod, of the "straps" or members, one having an offset or right-angled end portion, adapted to be connected to said switch-rail-actuating rod, and a slot at its inner end, and the other "strap" or member having a slot at its inner end and a slot at its outer end, said slots adapted to receive bolts, one coupling said "straps" together and the other connecting with said crank-rod, substantially as set forth.

6. In a railway-switch, the combination, with the sliding rails and means for operating the same, of a plate having a struck-up portion adapted to form a bed for said rails, the end of said struck-up portion terminating in a lip, and a plate secured thereto, said lip and plate forming a chair for the main-line rail, substantially as described.

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

SAMUEL H. JENKINS.

Witnesses:

E. M. DODSON,  
J. H. MCLEAN.