No. 797,262. PATENTED AUG. 15, 1905.

W. K. BRYCE.

SWITCH ROD.

APPLICATION FILED JAN. 13, 1905.

FIG. 1.

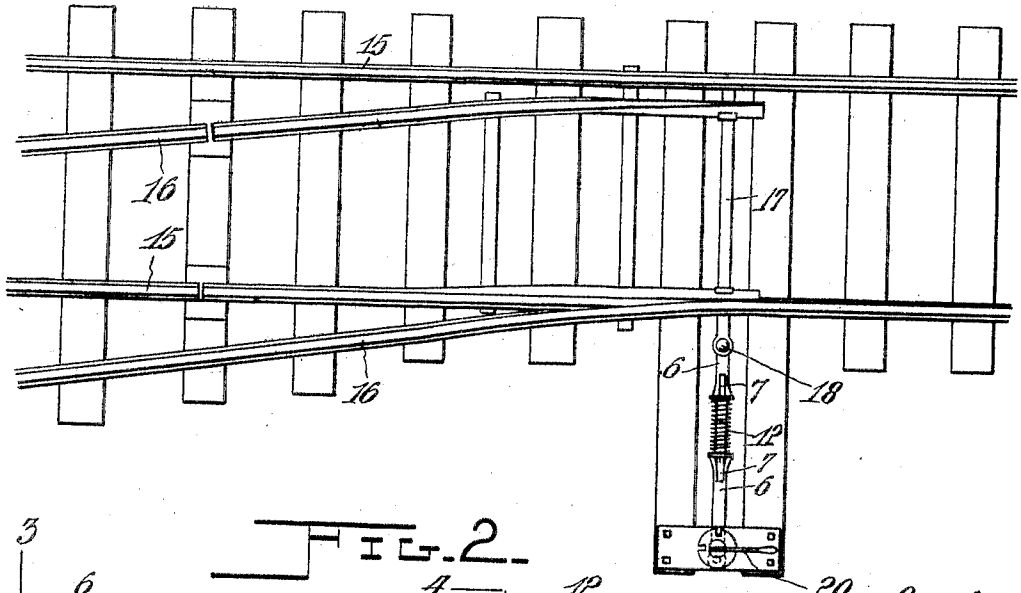


FIG. 2.

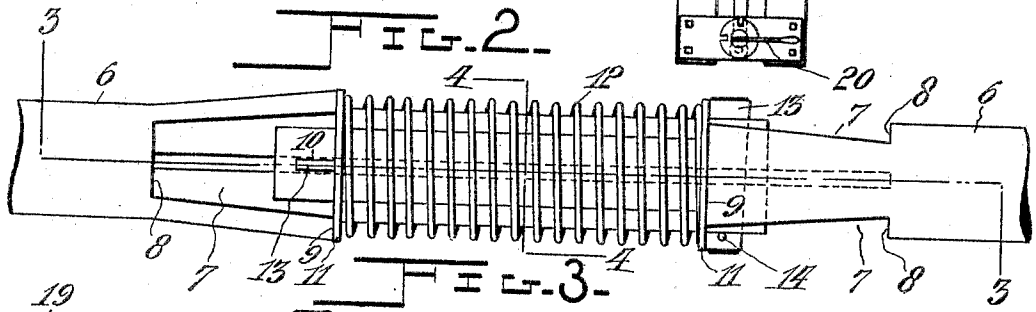


FIG. 3.

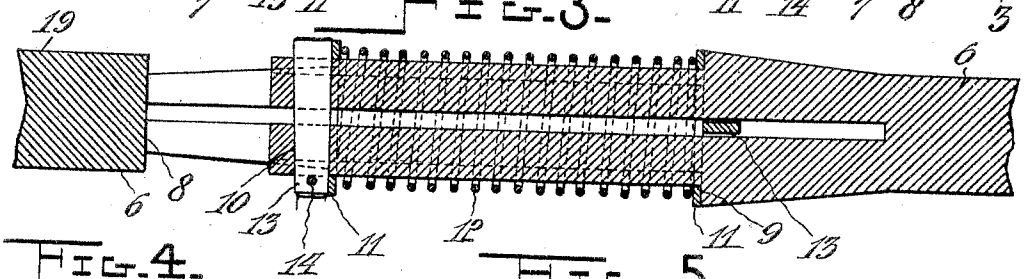


FIG. 4.

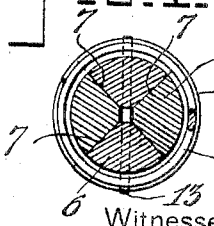
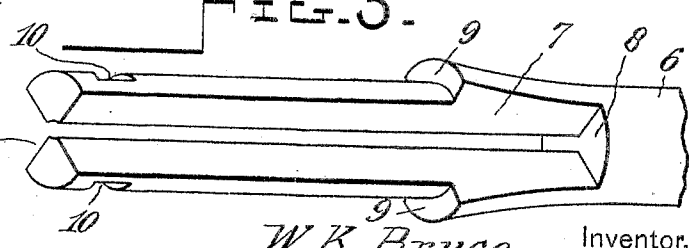


FIG. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SWITCH-ROD.

No. 797,262. Specification of Letters Patent. Patented Aug. 15, 1905.

Application filed January 13, 1905. Serial No. 240,966.

To all whom it may concern:

Be it known that I, WILLIAM KIRKPATRICK BRYCE, a subject of the King of Great Britain, residing at Winnipeg, county of Selkirk, in the Province of Manitoba, in the Dominion of Canada, have invented certain new and useful Improvements in Switch-Rods; and I do hereby declare that the following is 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 railroad-switches.

The object of my invention is to provide a switch-rod which is extensible in two directions and adapted to prevent the breakage of switch-points, switch-rods and switch-stands by the passage of a train over the switch when it is not properly set.

A further object of my invention is to provide means in a device of the character mentioned which will effectually prevent binding of the movable parts.

A further object of my invention is to provide a construction in such a device that will not require the spring used to be pressed or wound rigidly to any of the parts; and my invention consists of the construction, combination, and arrangement of parts, as herein illustrated and described.

In the accompanying drawings, forming a part of this application, I have illustrated one form of embodiment of my invention, in which drawings similar reference-numerals designate corresponding parts, and in which—

Figure 1 is a top plan view showing the application of my invention. Fig. 2 is an enlarged plan view of my invention. Fig. 3 is a vertical section, taken longitudinally, of my invention on the line 3 3 of Fig. 2. Fig. 4 is a vertical section, taken transversely, of my invention on the line 4 4 of Fig. 2; and Fig. 5 is a perspective view of one of the slidable members of my invention, the other parts being removed to show the construction.

Referring to the drawings, 6 6 are oppositely-disposed, similarly-formed members, preferably cylindrical in shape, in which are formed the slots 7 7, extending longitudinally from one end thereof, which slots each comprise a segment of approximately ninety degrees of the circumference of said member and extend radially from its axis and which slots terminate in shoulders 8 8, formed integral with the body of said members. These shoulders are adapted to limit the movement of said members when they are placed end to end and one slid upon the other. For a portion of their length said members 6 6 are cut away on their circumference to form the shoulders 9 9 and in their slotted ends are each provided with a tapered opening 10, extending entirely through the member at that point. Disposed against each of the shoulders 9 9 is a washer 11, against which washers thrust the opposite ends of a helical spring 12, which is so formed that it exerts an equal pressure on the washer all the way around the member 6 when the members 6 6 are pulled apart, a cotter 13 being inserted in the openings 10, which cotter bears against its adjacent washer and is provided with a split pin 14, adapted to retain it in position. It is evident from the drawings that the shoulders 9 resist the pressure of the spring 12 when the members 6 6 are forced toward each other.

In the drawings 15 15 are the rails of a main track.

16 16 are the rails of a siding, to the latter of which is connected in any suitable way a switch-rod 17. One end of my invention is attached to the outer end of the switch-rod, as by the rivet 18, this end of my invention being flattened for that purpose, as seen at 19, Fig. 3. The opposite end of my invention is secured in any suitable way to a switch-throwing lever 20 of ordinary construction.

In the operation of my invention it is obvious that when a train from a siding passes to the main track the switch-tongue 15 will be thrown out of the way by the flanges of the wheels, and as soon as the train has passed the switch-tongue will resume its normal position—that illustrated in Fig. 1. When the switch is thrown to its other position, a train passing over the switch will throw the switch-tongue 16 in an opposite direction. Otherwise its operation is the same. As the spring 12 is not rigidly connected to any of the parts, there will be no binding when the spring is compressed in either direction.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, as many of the details may be changed in form or position without affecting the operativeness or utility of my invention or departing from the spirit of the invention thereof.

Therefore I reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structure set forth.

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

1. A switch-rod comprising a plurality of interlocked members, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

2. A switch-rod comprising a plurality of longitudinally-slotted interlocked members, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

3. A switch-rod comprising a plurality of interlocked members, each provided with a slot extending radially from its axis, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

4. A switch-rod comprising a plurality of interlocked members, each provided with a plurality of segment-shaped slots extending radially from its axis, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

5. A switch-rod comprising a plurality of interlocked members, each provided with a plurality of segment-shaped slots, each of said slots comprising ninety degrees of the circumference of said members and extending radially from the axis thereof, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

6. A switch-rod comprising a plurality of interlocked members, provided with longitudinal slots, each terminating in a shoulder, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

7. A switch-rod comprising a plurality of interlocked members, each provided with longitudinal slots which terminate in a shoulder integral with said member, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

8. A switch-rod comprising a plurality of slidably-interlocked members, a spring disposed on said members, and members contacting with said spring, and adapted to maintain it in position.

9. A switch-rod comprising a plurality of slidably-interlocked, slotted members, each provided with an exterior shoulder, a spring disposed on said members, washers disposed on said members intermediate of the ends of said spring and said shoulders, and means carried by said members to compress said spring.

10. A switch-rod comprising a plurality of slidably-interlocked, slotted members, each provided with an exterior shoulder, a spring disposed on said members, washers disposed on said members intermediate of the ends of said spring and said shoulders, and a projecting member carried by said members to compress said spring.

11. A switch-rod comprising a plurality of slidably-interlocked, slotted members, each provided with an exterior shoulder, a spring disposed on said members, washers disposed on said members intermediate of the ends of said spring and said shoulders, and a cotter carried by said members to compress said spring.

12. A switch-rod comprising a plurality of slidably-interlocked, slotted members, each provided with an exterior shoulder, a spring disposed on said members, washers disposed on said members intermediate of the ends of said spring and said shoulders, a cotter carried by said members to compress said spring, and a split pin adapted to secure said cotter in position.

13. In a device of the character described, a switch and a switch-throwing member, in combination with a plurality of slotted members, a spring disposed on said slotted members, and contacting means, adapted to compress the spring in a plurality of directions, one of said members being connected with the switch and the other of said members being connected with the switch-throwing member.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM KIRKPATRICK BRYCE.

Witnesses:

C. J. MURPHY,

H. H. MORTON.