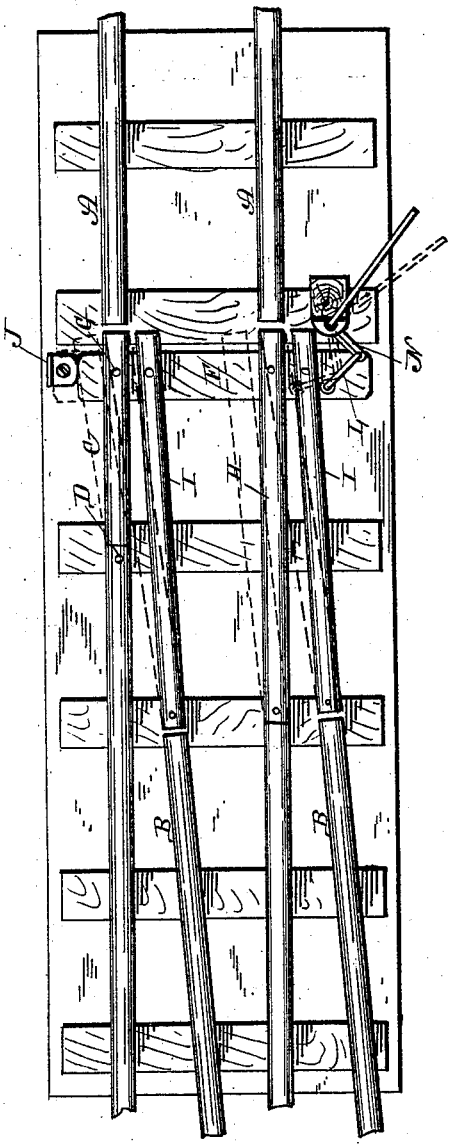
(No Model.)

# B. F. PURVIANCE.

## AUTOMATIC RAILROAD SWITCH.

No. 304,664. Patented Sept. 2, 1884.




Witnesses.
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# UNITED STATES PATENT OFFICE.

BENJAMIN F. PURVIANCE, OF KEOKUK, IOWA, ASSIGNOR OF ONE-HALF TO CHRISTIAN HILLS, OF SAME PLACE.

## AUTOMATIC RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 304,664, dated September 2, 1884.

Application filed January 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. PURVIANCE, of Keokuk, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Automatic Railroad-Switches; 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 pertains to make and use it, reference being had to the accompanying drawing, which forms parts of this specification.

My invention relates to an improvement in automatic railroad-switches; and it consists in the combination of three pivoted long rails and one hinged or pivoted short rail or bar, and a suitable mechanism for shifting these movable rails back and forth so as to connect with the main or the side track, as will be more fully described hereinafter.

The object of my invention is to construct an automatic switch which is operated by the wheels of a passing train going in one direction, in case the switch has not been moved, so as to properly connect with the main track.

The accompanying drawing represents a perspective of a switch embodying my invention, the movable parts being shown in one position in solid lines and in another position in dotted lines.

A represents the main track, and B the side track. Upon one side of the main track is placed the pivoted or hinged bar or short rail C, which is pivoted to the main track at D, and to the movable cross-bar F at G. When the switch is moved so as to connect the main and side tracks, this short rail is moved to one side, as shown in dotted lines. Upon the opposite side of the main track is placed the long pivoted rail H, which is also connected at its free end with the movable cross-piece. Between the rails of the side track and the stationary rails of the main track with which it connects are placed the two pivoted rails I, which are about the same length as the long pivoted rail of the main track, and these pivoted rails I are also connected at their free ends with the endwise-moving cross bar or tie. Thus it will be seen that the switch consists of three long rails and one short bar or rail, and that the free ends of all four rails are connected to the same endwise-moving cross-bar. Connected to this cross-piece, which is limited in its movement in one direction by a suitable stop, J, is the connecting-link L, which is fastened at its lower end to the vertical crank-operating rod N. Whenever connection is to be made between the main track and the side track, the switch must be operated by some one, so as to make the proper connection; but if the next train which is moving along the main track in the opposite direction approaches the switch, and the switch has been left so as to connect the side and main tracks together, there is no necessity of stopping the train for the purpose of operating the switch, for the wheels of the cars or locomotive will shift the switch automatically. As soon as the front wheels of the locomotive or cars strike the switch, the outer rail being stationary and the inner rail being movable, the stationary rail serves as a fulcrum against which the flanges of the wheels bear, and thus force sidewise, so as to move the switch-rail of the main track laterally far enough to connect with the main rail at the other end. The whole movement of the switch takes place before the wheels of the car or locomotive reaches the short pivoted rail of the switch. The wheels of the car or locomotive will always move the switch just far enough to make a perfect connection with the main track before the movement of the switch stops, and as the flanges of the wheel and the forward motion of the cars or locomotive is sufficient to move the switch-rails under any circumstances, it is impossible for the rails to ever fail to connect.

By this construction it will be seen that while the switch has to be operated in order to make connection with the main track and the side track, the cars or locomotive do their

own switching when moving in one direction, and hence there is no need of any care or attention in this respect.

Having thus described my invention, I claim—

In an automatic railroad-switch, the combination of the three long rails and one short rail with the rails of the main and side tracks, an endwise-moving bar, to which the ends of the switch-rails are fastened, and a suitable means for moving the bar, substantially as shown and described.

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

BENJAMIN F. PURVIANCE.

Witnesses:

A. J. PURVIANCE,

A. J. MCCRARY.