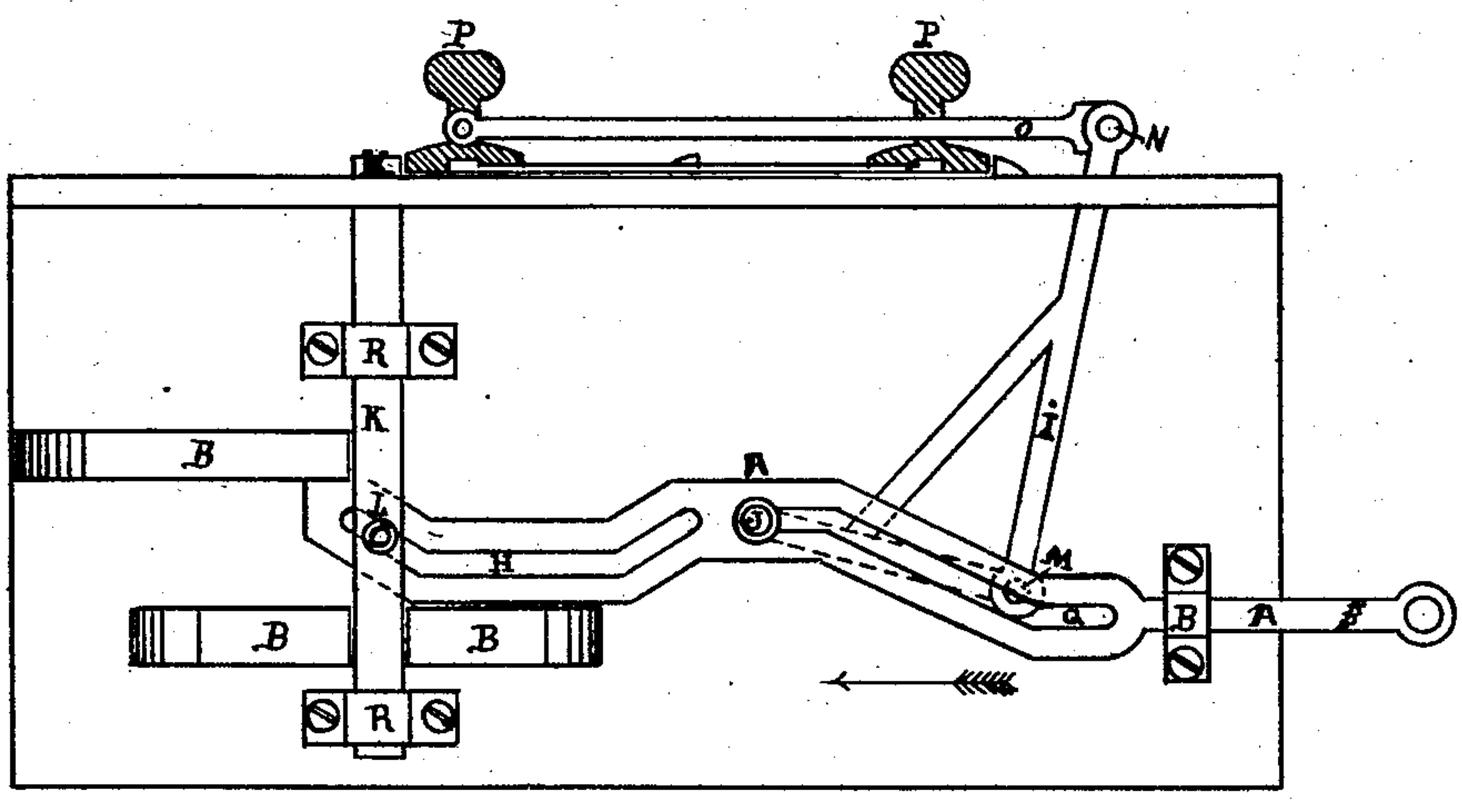
S. H. FINCH.

Railroad-Switches.

No. 155,435. Patented Sept. 29, 1874.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **155,435**, dated September 29, 1874; application filed May 27, 1874.

To all whom it may concern:

Be it known that I, SMITH H. FINCH, of the city, county, and State of New York, have invented a new and useful Improvement in Railroad-Switches, of which the following is a specification:

The object of my invention is to provide means for shifting and locking a rail or rails at one operation, thus avoiding the necessity of driving a wedge for the latter purpose after the said rail or rails have been shifted from one track to another. By this means I prevent the present danger of performing this operation, which has resulted in killing a great number of railroad employés.

My invention consists in the construction of a slotted bar, which has a reciprocating rectilinear motion imparted thereto by means of an ordinary switching-lever or other suitable means. The said bar is so arranged and combined with other devices, hereinafter mentioned, that, after the rails are shifted, a block is forced up at the side of the rail, and thereby it is held securely until the lever is shifted in an opposite direction, when the said block is first withdrawn, then the rail is moved, and, by a continuation of the motion of the lever, the block is forced up on the opposite side of the rail, by which it is thereby held in position, as before mentioned, when the lever was moved in the opposite direction.

In order, however, to make this fully understood, that the novelty and usefulness of my invention will be readily observed, I will proceed with the general description, having reference to the accompanying drawing, which represents my improved apparatus as applied to an ordinary two-rail track.

A is the sliding bar, supported by the guides B, to preserve its rectilinear motion. Bar A is provided with two peculiarly-constructed slots, G and H, the former of which (slot G) connects with one end of the bell-crank I by means of pin J, and the latter slot, H, is employed for operating the vertical reciprocating block K, being secured thereto by means of pin L. M is a pin located in bell-crank I, and upon which the said crank oscillates; and said crank is provided with another pin, N, to which is attached the rod O, leading from rails P P. The block K is secured in a vertical position by the guides R R.

The operation is as follows: Supposing the bar A to stand as shown in the accompanying drawing, the rail P appears at the end of its stroke in one direction, and the block K at the back of the said rail. Now, by moving the guided bar in the direction indicated by the arrow, the pin L, in connection with block K, is made to descend by the inclined portion at that end of slot H, while at the same time the straight portion at one end of slot G is presented to pin J; therefore the bell-crank has no motion until the said pin J strikes the inclined portion of slot G, when it begins to descend, carrying with it that end of the said bell-crank, shifting the rail to the opposite end of its stroke. This occurs, however, when the pin L has reached the lower end of its stroke and is moving through the straight portion of slot H, at the end of which it meets the inclined plane at this end of the slot and begins to ascend, forcing the block K up behind the rail. This is after the pin J has reached the lower end of the inclined plane of slot G and is moving through the second horizontal portion of said slot. By this means the said rail is unlocked, shifted, and relocked at one operation of the lever, and thus it remains until there is a reverse movement of the said lever, when the result is that of placing the apparatus in the position where the operation commenced.

I wish here to state that some slight modifications in this apparatus may be made in order to apply it in different localities; but

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the slotted sliding bar A with the bell-crank I, rod O, reciprocating block K, and a suitable operating-lever, all substantially as shown and described.

SMITH H. FINCH.

Witnesses:

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