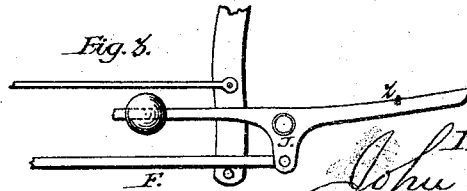
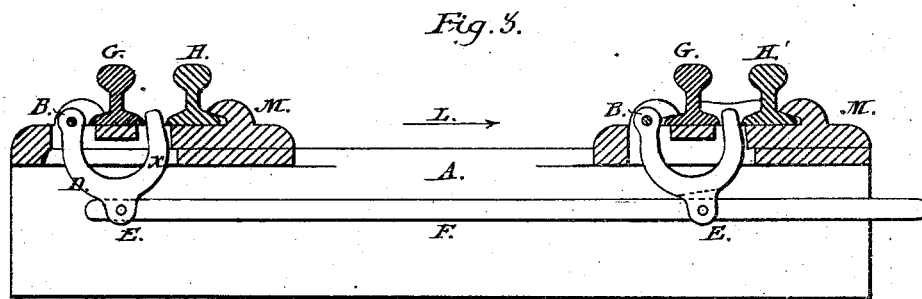
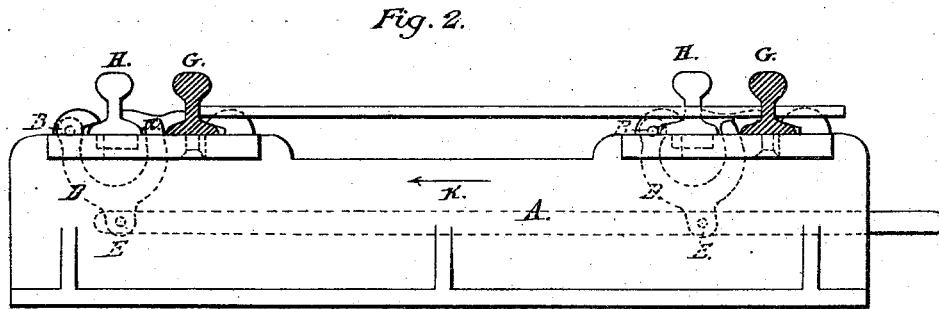
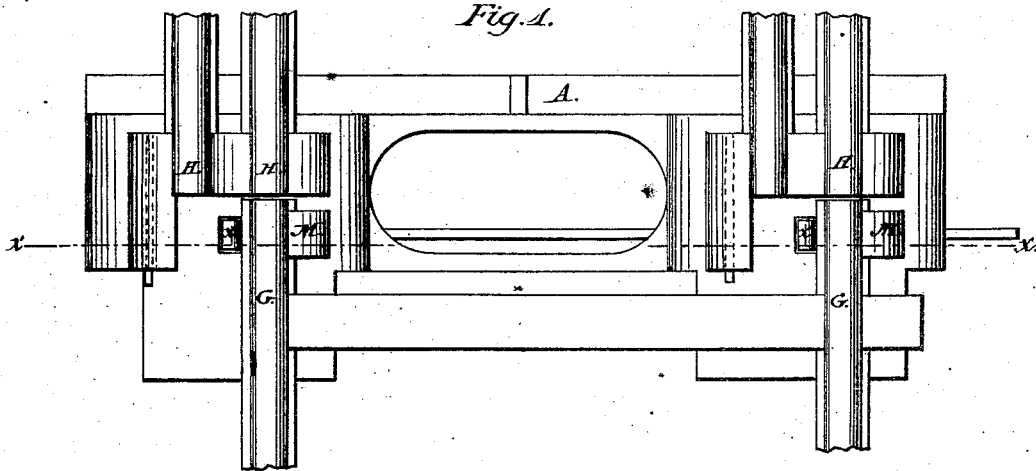


J. M. TOUCEY, W. H. SMITH & W. BUCHANAN.
Switch-Locking Device.

No. 160,364.

Patented March 2, 1875.



Witnesses:
A. R. Fryer
Robt M. Fryer

Inventors:
John M. Toucey
William H. Smith
William Buchanan

UNITED STATES PATENT OFFICE.

JOHN M. TOUCEY AND WILLIAM H. SMITH, OF NEW YORK, AND WILLIAM BUCHANAN, OF YONKERS, N. Y.

IMPROVEMENT IN SWITCH-LOCKING DEVICES.

Specification forming part of Letters Patent No. **160,364**, dated March 2, 1875; application filed January 7, 1875.

To all whom it may concern:

Be it known that we, JOHN M. TOUCEY and WILLIAM H. SMITH, of the city, county, and State of New York, and WILLIAM BUCHANAN, of Yonkers, in the county of Westchester and State of New York, have invented a new and useful Switch-Locking Apparatus, of which the following is a specification:

The object of our invention is to provide a cheap, simple, and effective device for locking switch-rails, to prevent the same from being moved without first disengaging the said locking device.

Our invention relates to vertical reciprocating bolts, which we operate by bell-cranks to force the said bolts up at one side of one or both rails.

The objection to the use of this sort of locking device as heretofore constructed arises, first, from the necessity of providing guides for the said bolts to preserve their rectilinear motion, which adds greatly to the trouble and expense of adjusting the same; and, secondly, from the difficulty of operating the same in the presence of snow and ice.

Now, it will be readily perceived from the general description of our device that these objections are entirely overcome, while the rails are as securely locked as by any previous method, however complicated.

We will now proceed with the description of the accompanying drawing, which represents a longitudinal section of the apparatus, having letters of reference marked thereon corresponding with similar letters used in the following description.

A is a bed-plate, composed of metal or other suitable material, to which is attached, by pins B and C, our locking device D, which consists of a hinged bolt, operated at pins E E' by rod F, which leads to a lever or other suitable apparatus for operating the same. G G' are the vibrating or shifting rails, and H H' are fixed rails, to and from which the aforesaid are shifted.

The necessity for locking such rails after being placed in the desired position is obvious. There is always more or less lost motion

between the joints of rods and other apparatus connected with the switching apparatus, so much so at some times as to permit the rail to move far enough to allow the wheels of a passing train to run off on another track, thereby sustaining great damage; but by the use of what we call the switch-lock, this danger is wholly avoided.

It will be observed that a pedal, J, is located at an ordinary switch. This pedal actuates a bell-crank or our lock-bolt by means of a rod, F, when a preponderance of weight is applied at the side of the same, which is marked Z. At the other side of said pedal is located a weight to overcome the resistance of the lock-bolt, and force it up at the side of the rail when power is not applied at the other side, thus making an automatic lock for the rail.

The operation is as follows: Supposing the apparatus to stand as shown in the accompanying drawing, the rod F is first moved in direction of arrow K, which disengages bolt D from one side of rails G G', when the same may be shifted in the direction of arrow L to rails H H, when the said bolts, by a reverse movement of rod F, will be brought up at the other side of first-mentioned rails, which are thereby held between said bolts and lugs M, as shown.

We are aware that our hinged bolt may be operated with or by various kinds of apparatus; therefore

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

1. The hinged bolt D, for the purpose of locking switching-rails, substantially as above set forth.

2. The combination of the hinged bolt D with rod F and a suitable operating-lever, for the purpose above set forth.

JOHN M. TOUCEY.
WILLIAM H. SMITH.
WILLIAM BUCHANAN.

Witnesses:

A. R. FRYER,
ROBT. M. FRYER.