

H. N. HOPKINS.  
Railroad-Switch.

No. 219,476.

Patented Sept. 9, 1879.

Fig. 1.

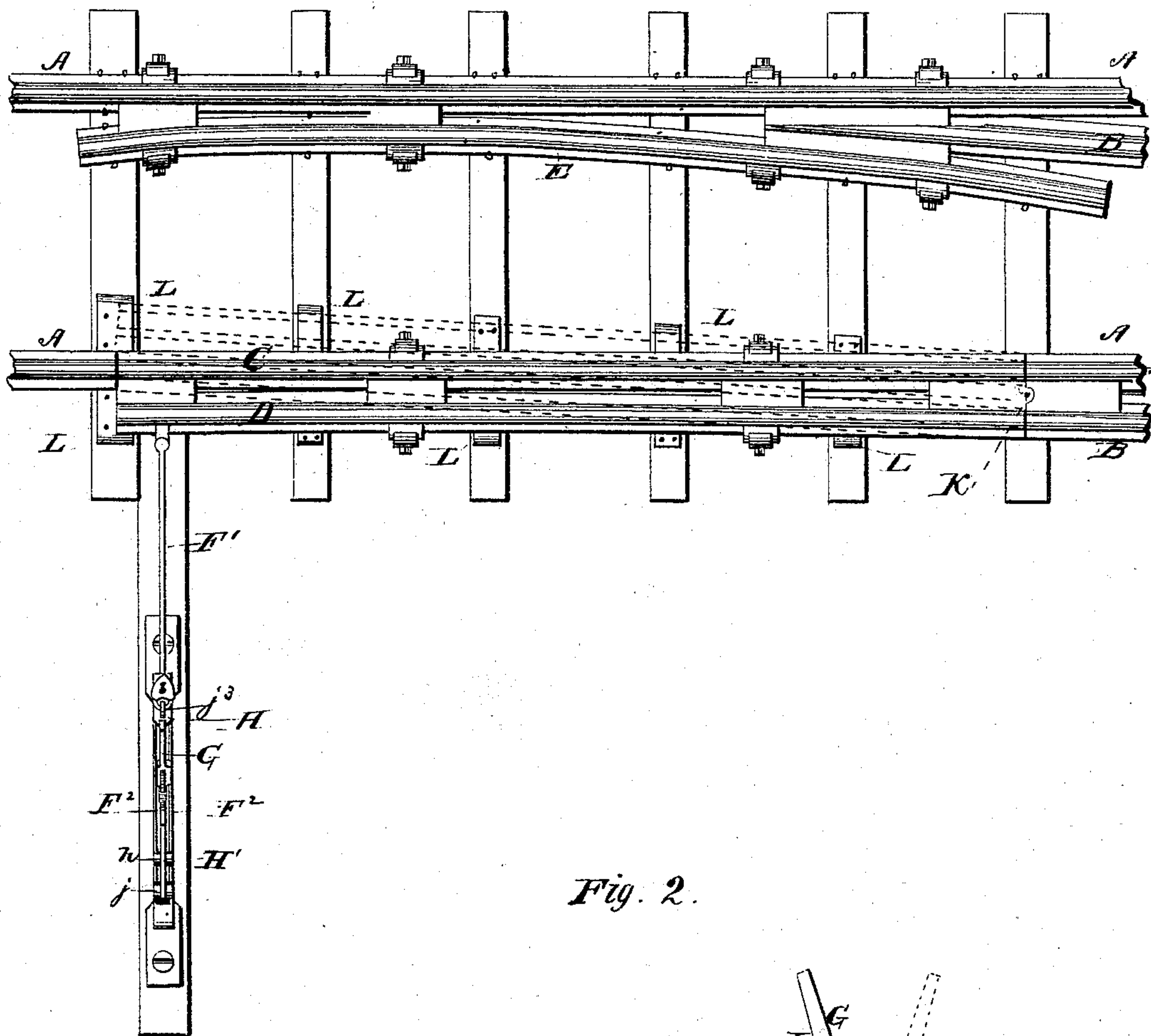
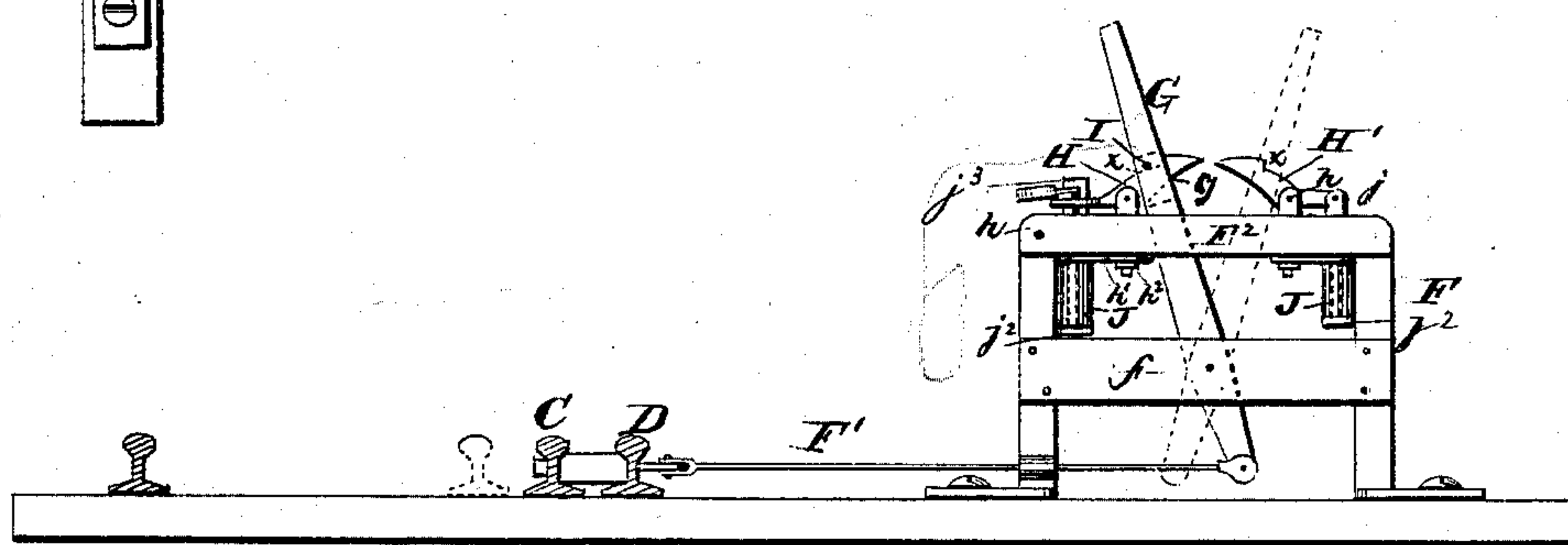


Fig. 2.



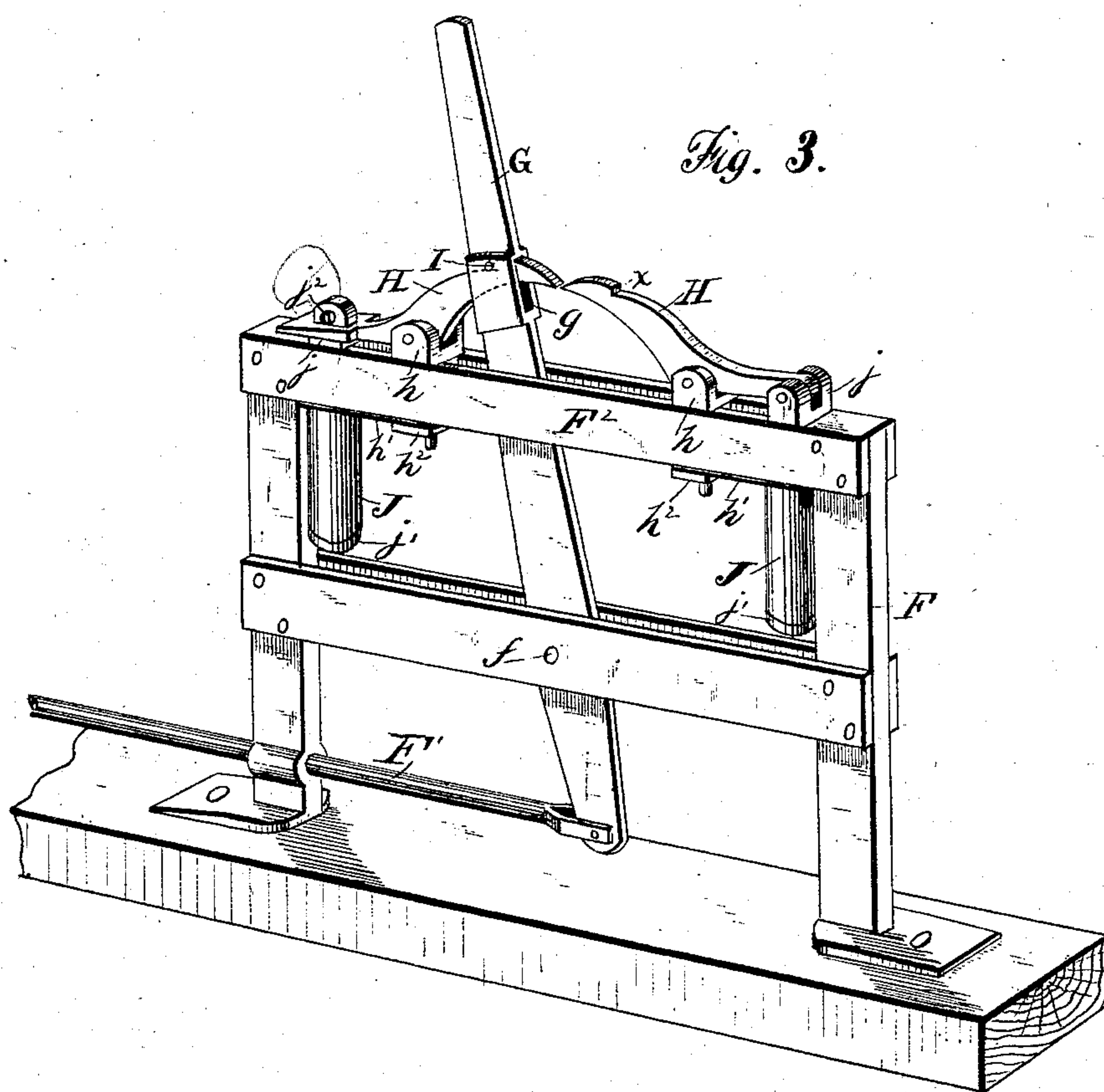
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# UNITED STATES PATENT OFFICE.

HENRY N. HOPKINS, OF TAUNTON, MASSACHUSETTS.

## IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. 219,476, dated September 9, 1879; application filed May 1, 1879.

*To all whom it may concern:*

Be it known that I, HENRY N. HOPKINS, of Taunton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top-plan view; Fig. 2, a side elevation; and Fig. 3 is a perspective view.

Similar letters of reference in the several figures denote the same parts.

This invention relates to improvements in railroad-switches; and consists in novel means for shifting and adjusting the switch-rails and temporarily locking them in adjusted position, which I will now proceed to describe.

In the drawings, A A represent the rails of the main track, B B the rails of the side track, C D the movable switch-rails, the former constituting the continuation of the main track, and the latter the continuation of the side track; E, the guard-rail; K, the joint or pivot of the switch-rails, and L L stops for limiting the movement of the switch-rails. F is a frame or standard, located at one side of the track, and G is a lever or operating-handle pivoted in said frame at *f*, and connected at its lower end by a rod or bar, F', to the free or outer ends of the pivoted switch-rails C D.

The lever is slotted at *g*, and within its slot is arranged a cross-bolt, I, which preferably carries a loose friction sleeve or roller. Upon opposite sides of the lever are arranged latches H H', the forward ends of which are preferably made pointed, and provided with shoulders *xx*, which are adapted to engage with the friction-sleeve on the bolt I when the lever is moved to the right or to the left. These latches H H' are pivoted in the upper ends or heads of short bolts or studs *h h*, the shanks of which pass down through the space between the upper cross-pieces, F<sup>2</sup>, and through a plate, *h*<sup>1</sup>, on the under side of said cross-pieces. The heads of studs *h* are shouldered or rabbeted, so as to rest upon the top of the side pieces, F<sup>2</sup>, and their lower ends, below the plates *h*<sup>1</sup>, are provided with screw-nuts *h*<sup>2</sup>, by which they

may be tightly clamped to or released from the frame to permit the latches to be adjusted nearer to or farther from the lever.

The shorter arms of the latches H H' are articulated to the upper ends of bolts *j*, which pass down between the upper cross-pieces of the frame and through perforations in the plates *h*<sup>1</sup>.

Springs J, preferably of rubber, are arranged upon the lower projecting ends of the rods *j*, and are held in place by screw-nuts *j*<sup>1</sup>. By screwing up these nuts the springs are compressed against the plates *h*<sup>1</sup>, and the bolts *j*<sup>1</sup> kept under tension.

As the lever is moved to the right or to the left by the wheels of the train or by the hand of the operator, the forward end of the latch H', or the latch H, as the case may be, comes in contact with the sleeve on the bolt I, and is depressed until the shoulder *x* is reached, when said end rises again and locks the lever temporarily in that position. Should a train now approach and shift the switch-rails to the other track, the tension of the spring on the engaged latch would be overcome, and the lever caused to shift over to the other side of the frame and engage with the other latch. By this arrangement at each setting of the switch the lever will be automatically unlocked from one spring-latch and automatically relocked to the other.

It is often desirable to so tightly lock the lever to the latch H that a person pulling on the handle cannot disengage it, while it will be readily disengaged by the action of the wheels of the passing train through the medium of the movable switch-rails and the connecting-rod before alluded to. To accomplish this result it is only necessary to provide a spring of increased rigidity and strength upon the shank of the bolt of said latch, and to provide means whereby the latch can be connected to and disconnected from its bolt, to enable the switch-tender to disengage the latch from the lever by hand when necessary.

As one way of effecting the connection required between the latch and its bolt, I provide the head of the bolt with a perforated or slotted extension or projection, *j*<sup>3</sup>, and form an opening or slot in the end of the latch for the passage of said projection. A padlock is then

applied to the opening above the arm of the latch, and the parts thus securely fastened together. With this arrangement the lever, when locked to the latch H, cannot be disengaged except by a passing train, or by removing the padlock, and the switch can be safely left without danger of its being tampered with.

The latches can be adjusted back and forth on the frame, nearer to or farther from the lever, in order to engage the latter at the proper point.

I claim as my invention—

1. The combination of the frame, the pivoted operating-lever carrying the friction-sleeve, and spring self locking and unlocking latches, located on opposite sides of the lever, substantially as described.

2. The combination, with the frame and the

operating-lever, of a latch on one side of the lever, permanently attached to its spring-shank, and another latch on the opposite side of said lever, detachably connected to its spring-shank, substantially as described, for the purpose specified.

3. The spring-latches, located on opposite sides of the operating-lever, and adjustable on the frame to and from said lever, substantially as described.

4. The combination of the frame, the operating-lever, and the spring-latches with the self-adjusting switch-rails, substantially as described.

HENRY N. HOPKINS.

Witnesses:

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