(No Model.)

W. T. MANNING.

RAILROAD SWITCH LOCK.

No. 383,965. Patented June 5, 1888.

FIG. I.

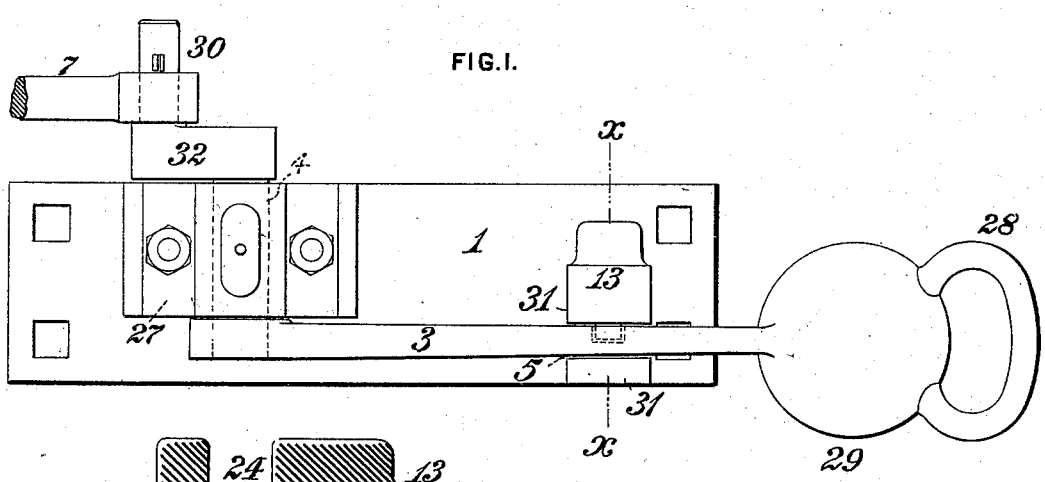


FIG. 3.

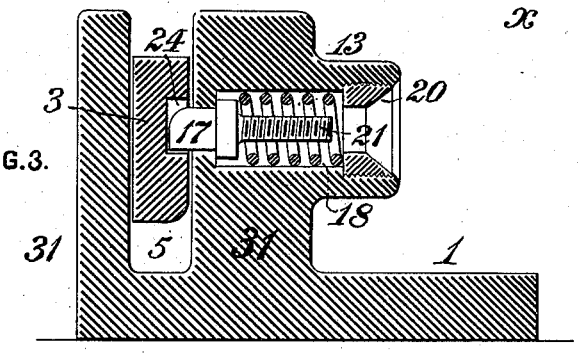
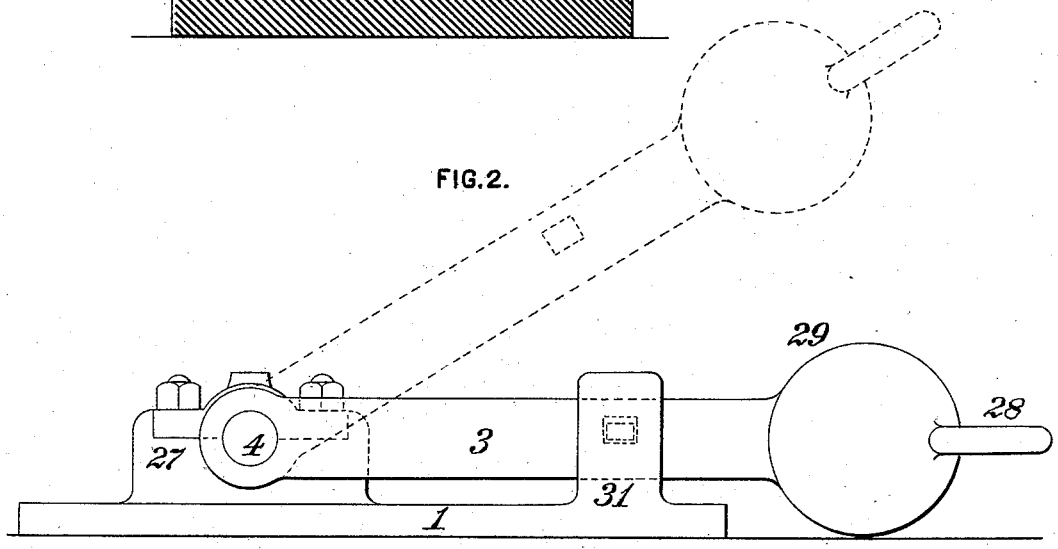


FIG. 2.



WITNESSES:

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F. E. Gaither.

INVENTOR,

Wm. T. Manning.

by J. Snowden Bell

Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM T. MANNING, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO I. N. KALBAUGH, OF SAME PLACE.

RAILROAD-SWITCH LOCK.

SPECIFICATION forming part of Letters Patent No. 383,965, dated June 5, 1888.

Application filed March 14, 1888. Serial No. 267,169. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. MANNING, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Railroad-Switch Locks, of which improvement the following is a specification.

Letters Patent of the United States, No. 379,709, granted and issued to me March 20, 1888, set forth and claim a switch-stand and locking mechanism of such construction that the switch-lever shall, upon the withdrawal of the key, be automatically locked when thrown to close the main track, the lock being in such position unaffected by strain brought upon the lever in the passage of trains over the switch-rails, and the lever being prevented from being locked when in position to open the switch to the side track.

The object of my present invention is to attain corresponding results in the operation of switches having their levers mounted in stands of the type ordinarily termed "ground-stands."

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a plan or top view of a ground switch-stand embodying my invention; Fig. 2, a side view of the same; and Fig. 3 a transverse section, on an enlarged scale, at the line *x x* of Fig. 1.

The switch-stand is, similarly to those of this type heretofore generally employed, formed of a substantial base-plate of metal, 1, adapted to be spiked to a tie and provided with a bearing, 27, in which is mounted a short horizontal shaft, 4, upon which the switch-lever 3 is secured. The opposite end of the shaft 4 carries an arm, 32, provided with a pin, 30, to which is coupled the switch-bar 7, by which the switch-rails are thrown to be set to the main and side tracks, respectively. A ball or weight, 29, having a handle, 28, is fixed upon the free end of the switch-lever, which is moved by the operator, the gravity of the ball or weight, which rests upon the tie which supports the stand when the switch-lever is thrown into position to effect either of the desired adjustments of the switch-rails, maintaining the switch lever and rails as against displacement from such position by strain induced by the passage of trains over the switch-rails or otherwise.

When in position to set the switch-rails to the main track, the switch-lever 3 rests within a vertical recess, 5, in a block or standard, 31, formed upon or secured to the base-plate 1 or to the tie upon which the same is spiked, and is locked in such position by a spring-locking bolt, 17, fitted to slide transversely to the plane of movement of the switch-lever 3 in a lock-case, 13, which is fixed to, being preferably formed integral, as shown, with, the block 31. The end of the lock-bolt which adjoins the switch-lever is adapted to engage a lateral recess, 24, therein, the bolt being rounded off at its upper corner and the abutting edge of the switch-lever being correspondingly rounded to enable the lever to press the bolt out of the recess 5 and pass by its end in being brought into position to set the switch to the main track, in which position the locking-bolt is moved outwardly into the recess 5 and caused to engage the recess 24 of the switch-lever by a spring, 18, bearing against a collar on the locking-bolt and against an annular cap-piece, 20, fixed in the outer end of the lock-case 13 and having a central opening for the introduction of a key. The switch-lever will consequently be automatically locked in, and by its movement to throw the switch-rails to main-track position, and when in such position the movement of the switch-lever by unauthorized persons will be prevented by the locking-bolt, and the locking-bolt will be exempt from strains brought upon the switch rails and lever. It will be obvious that the portion of the standard 31 on the side of the recess 5, opposite that on which the lock-case 13 is fixed, may, if desired, be dispensed with where the switch-lever is sufficiently stiff to prevent its being sprung outwardly clear of the locking-bolt; but the construction shown is preferable, as it effectually prevents any such abnormal movement.

To provide for the unlocking or withdrawal of the locking-bolt 17 from the recess 24 of the switch-lever, so as to permit the movement of the latter to throw the switch-rails to side-track position, a threaded stem, 21, is formed

upon the locking-bolt, said stem being adapted to be engaged by a correspondingly-threaded socket on a switch-key, the rotation of which moves the locking-bolt longitudinally in its case and releases the switch-lever. If the key be removed after the switch-lever has been thrown, as it is the duty of the brakeman or other person operating the switch to do, the spring 18 returns the locking-bolt to initial position in readiness to automatically lock the switch when the lever is again thrown into main-track position. It will be seen that the operator is not called upon to lock the switch, and that the only case in which it will fail to be locked when in main-track position will be when the operator neglects to remove his key after unlocking and throwing the switch, which negligence will be detected and brought home to the proper person by his inability to produce the registered key with which he is charged.

I claim as my invention and desire to secure by Letters Patent—

The combination of a switch-stand having a horizontal base-plate and a bearing for the shaft of a switch-lever, a switch-lever having a lateral recess and journaled in said bearing, a weight fixed to said lever and acting to retain the same in position to effect either desired adjustment of the switch-rails, a lock-case fixed relatively to the base-plate of the switch-stand, and a spring locking-bolt fitted to slide in said case transversely to the plane of movement of the switch-lever and adapted to engage the recess thereof when the lever is thrown into main-track position and held by the gravity of the weight, substantially as set forth.

In testimony whereof I have hereunto set my hand.

W. T. MANNING.

Witnesses:
J. SNOWDEN BELL,
CHAS. H. MAYERS.