

(No Model.)

J. C. HAYES.
SWITCH LOCK.

No. 562,182.

Patented June 16, 1896.

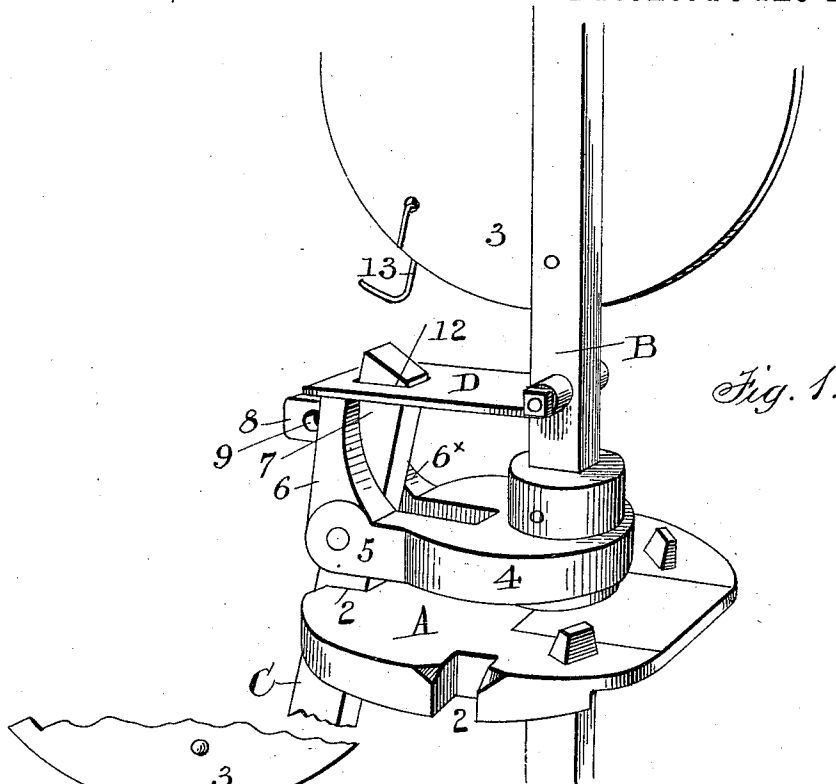


Fig. 1.

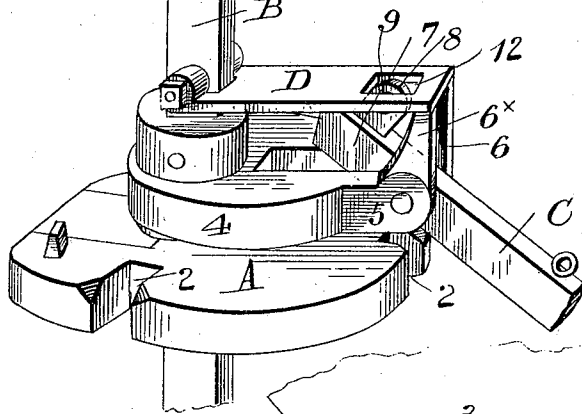


Fig. 2.

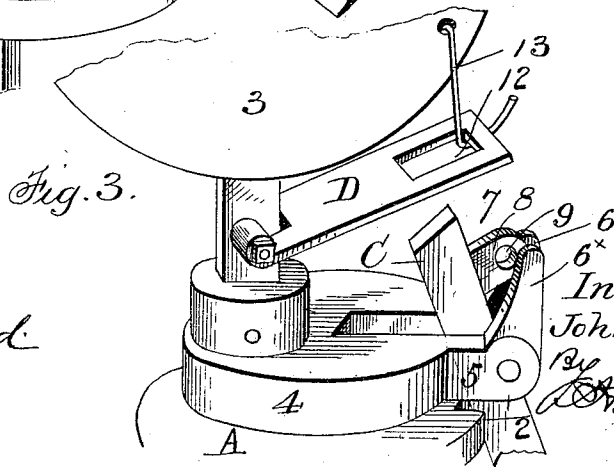


Fig. 3.

Witnesses:
H. L. Oyrand
A. B. Smith

Inventor:
John C. Hayes.

By
A. B. Wilbury
Attorney

UNITED STATES PATENT OFFICE.

JOHN C. HAYES, OF POCATELLO, IDAHO.

SWITCH-LOCK.

SPECIFICATION forming part of Letters Patent No. 562,182, dated June 16, 1896.

Application filed January 2, 1896. Serial No. 574,007. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HAYES, a citizen of the United States, residing at Pocatello, in the county of Bannock and State of Idaho, have invented certain new and useful Improvements in Switch-Locks; and I do 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 appertains to make and use the same.

My invention relates to improvements in switch-locks to hold a railway signal and switch in a set position; and the object is to prevent the signal and switch from being displaced when an engine or train runs over the switch. Under the former means of locking employed in this connection the locking-lever sometimes jumps out of engagement, and thus causes disarrangement of the switch and consequent accidents, attended with loss of property and frequently sacrificing lives.

My invention dispenses with the necessity of using the old padlock system of securing the lever, by providing an automatically-operating locking-plate to engage with the lever and hold it in locked position in the switch-stand.

The invention is especially useful in yards where the fastening or locking means for the switch-lever consist, generally, of hooks or pins manipulated into engagement with the stand and lever, but which devices are liable to be left disengaged or not connected through hurry, oversight or carelessness of employees. The advantages attending my invention are that when a switch is thrown to the place extended the lever will be automatically locked simultaneous with its release by the operator, and the switch and signal held locked in the turned position.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation showing the locking means engaged with the lever. Fig. 2 is a similar view showing the nose of the lever disengaged from the locking-plate and raised in position to turn the switch. Fig. 3 is a view showing the locking plate or latch raised clear from the lever and suspended from the signal, being its position when operating a "flying switch."

A designates the table of the switch-stand supported by any of the usual means, and

having the switch-rod projected through it and connected at the lower end to the switch by any of the well-known means. These parts being of any well-known construction are not more fully specified, and it is not deemed essential to illustrate them complete in the drawings. The table of the switch-stand, as mentioned, can be of any of the constructions analogous to that shown, and which usually consist of a substantial metal plate A, circular or partly circular and having formed in its circumferential edge a number of radially-arranged notches or seats 2, into which the long arm of the lever engages to hold the switch locked and the signal secure in the set position.

B designates the signal-staff or switch-post, having a signal 3 secured thereto. On the signal-staff is mounted a hub or sleeve 4, provided with a lateral bifurcated arm 5, arranged to lightly rest and sweep over the face of the stand and of such length as to have the lever operatively fulcrumed therein to sweep around the stand and to engage the notches 2. At the free end of the bifurcated arm 5 are formed upward-extending lugs 6 6^x, on the ends of which the locking-plate rests when moved to a horizontal position into engagement with the end or nose of the lever.

C designates the lever, of the usual construction except as hereinafter stated. This lever C is fulcrumed between the bifurcations of the arm 5, at the ends thereof, and so that when raised the under face or edge thereof will move clear and free from the edge of the switch-table, as shown in Fig. 2 of the drawings, and that the lever will fall into the notches 2, when it is brought opposite to any one of them, as indicated in Fig. 1 of the drawings. The lock-engaging arm 7 of the lever is of such length as to extend a proper distance above the locking-plate, to make a good holding connection therewith, as shown in Fig. 1, and to provide means for additionally locking the lever in its set position, a lug 8 may be formed thereon, and provided with a hole 9 therethrough, to receive a pin or by which a padlock may be applied; the lug extending outward beyond the vertical studs 6 6^x, to admit of such appliance, as shown in Fig. 1 of the drawings. The end of the lever C is preferably inclined, as shown, to make

connection and disconnection with the locking-plate more certain and convenient.

To the signal post or staff is hinged or otherwise pivotally connected thereto a locking-plate D, turning therewith, and of such length that when disposed horizontally, the free end will rest on the ends of the vertical studs 6 6^x, substantially as shown in Fig. 1 of the drawings. In this locking-plate is formed a slot 12, which fits over the nose of the lever, and locks it and consequently the connected parts against being turned. When it is desired to throw the lever in the operation of what is called a "flying switch," the locking-plate is raised above engagement with the lever, and secured against return for the time being, by a hook 13, suspended from the signal, as shown in Fig. 3 of the drawings. The plate A, it will be perceived, falls automatically into locking engagement with the lever whenever the lever becomes seated in one of the notches in the edge of the switch-plate.

The operation and manipulation of my improved switch-lock are as follows: The parts being in engagement as shown in Fig. 1, and it being desired to throw the switch and turn the signal, all that is necessary is to lift the locking-plate from engagement with the nose of the lever, and then turn the lever to the notch desired and leave it fall in the notch,

when the locking-plate descends by gravity, the slot filling over the nose of the lever, and the parts are locked together, and the lever not liable to accidental displacement.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination with the table of a railway-switch stand, having radially-disposed notches in its perimeter, the signal-pole and switch-rod, of a hub secured rigidly on the signal-pole and resting on the table and formed with a laterally-projecting bifurcated arm having vertical lugs 6, 6^x on its free end, a lever fulcrumed between the arms and having its upper and shorter arm projecting above the ends of the vertical lugs, a locking-plate hinged to the signal-pole and formed with a slot in its free end to engage over the projecting end of the lever and to rest on the ends of the vertical lugs, and a hook hung in the signal to engage and hold the locking-plate lifted from the lever, substantially as and for the purpose specified.

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

J. C. HAYES.

Witnesses:

E. S. WHITTIER,

C. J. JOHNSON.