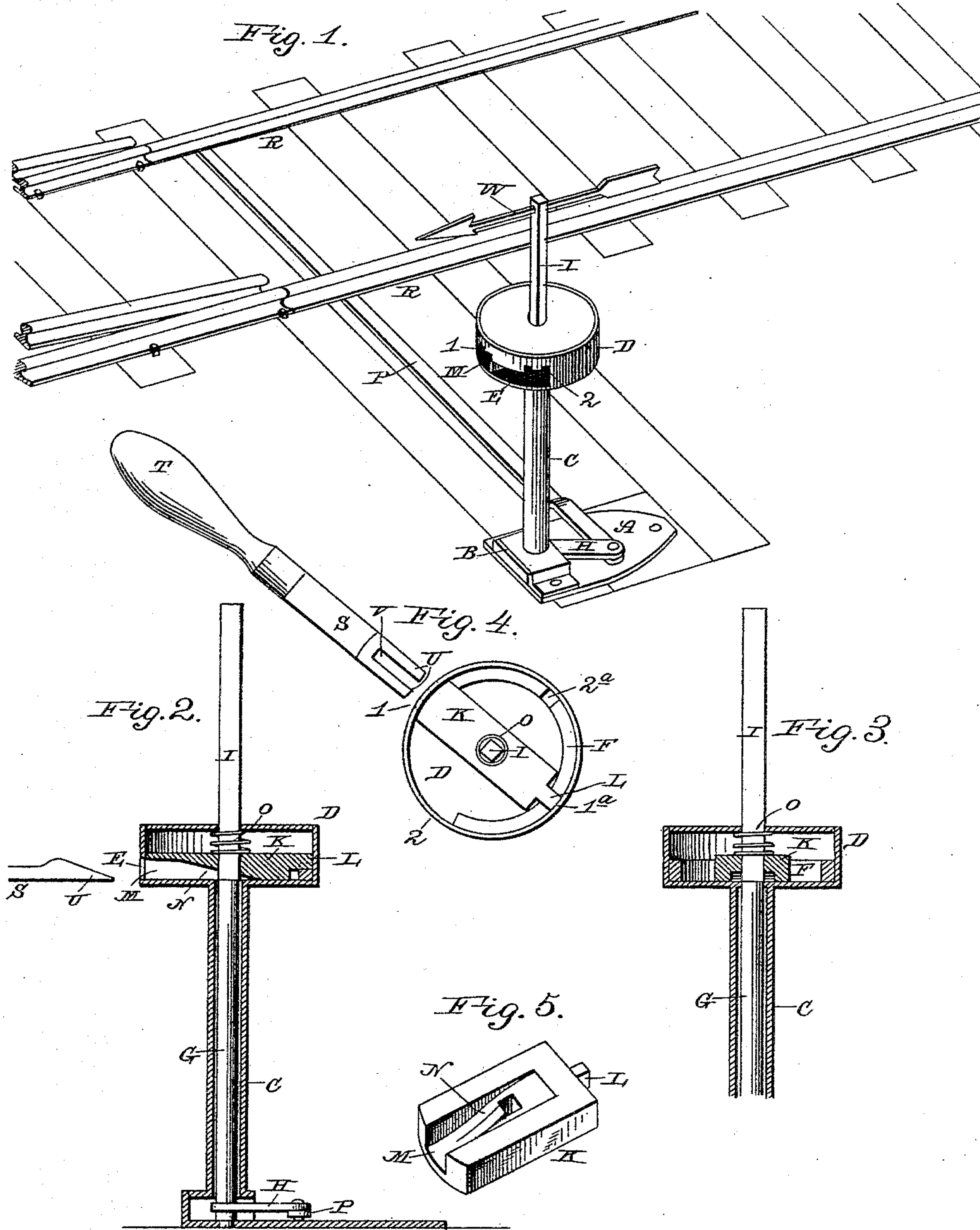


(No Model.)

N. NEWMAN.  
LOCK FOR RAILROAD SWITCHES.

No. 411,998.

Patented Oct. 1, 1889.



Witnesses

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# UNITED STATES PATENT OFFICE.

NELSON NEWMAN, OF SPRINGFIELD, ILLINOIS.

## LOCK FOR RAILROAD-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 411,998, dated October 1, 1889.

Application filed May 1, 1889. Serial No. 309,278. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON NEWMAN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Locks for Railroad-Switches; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in locks for railroad-switches; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of an apparatus embodying my improvements. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a similar view of the same, taken on a plane at right angles to Fig. 2. Fig. 4 is a sectional plan view of the locking-plate and case and a plan view of the key. Fig. 5 is an inverted perspective view of the locking-plate.

Arranged at the switch and beyond one side of the track is a base-plate A, on which is a box or case B, that is rectangular in form and has one side open. Rising from the said box or case is a vertical tube C, to the upper end of which is secured a circular case D, which is provided on one side with a slot E, that extends around about one-third the circumference of the case. At the ends of the said slot, in the upper side of the same, are re-entering notches 1 2, arranged in pairs, as shown.

On the inner side of the circular case, opposite the slot E, is an annular shoulder F, in the upper side of which, and arranged directly opposite the pairs of notches 1 2 diametrically, are notches 1<sup>a</sup> 2<sup>a</sup>, respectively. A vertical rock-shaft G is journaled in the upper and lower sides of the case, at the center thereof, extends down through the tube C, and has its lower end stepped in an opening in the base-plate. To the said rock-shaft,

near the lower end thereof, is attached an arm H, which extends from the open side of the box B. That portion of the rock-shaft which is above the bottom of the circular case is squared or angular in form, as at I.

A lock-plate K is arranged across the center of the circular case and within the same, and in the center of the said lock-plate is an angular opening, through which the angular portion of the rock-shaft extends. The said lock-plate is thus caused to rotate with the rock-shaft, and is adapted to move vertically thereon between the lower and upper sides of the circular case. At one end of the lock-plate is a stud L, which is adapted to engage the notches 1<sup>a</sup> 2<sup>a</sup>. In the under side of the lock-plate and extending to the opposite end thereof is an opening M, which communicates with the slot E, and the upper side of the said opening is inclined and forms a cam-face N. A spring O presses downward on the lock-plate. A link P connects the arm H to the switch-rails R.

A key S, having a handle T, is provided at its end with a pair of arms U, having their upper sides tapered to a point, and thereby forming cams. The notch V between the arms is of suitable width to engage the squared or angular portion of the rock-shaft when the key is inserted at either end of the slot E into the opening M of the lock-plate. By pressing in on said key its inclined faces, by engaging the inclined cam-face N, force the lock-plate upward, and thereby disengages its stud L from the notch 1<sup>a</sup> or 2<sup>a</sup>, and thereby render the rock-shaft free to be turned, so as to cause its arm H and the link P to move the switch-rails, the key serving as a lever for thus turning the rock-shaft. When the latter has been moved the requisite distance to cause the switch-rails to align with the side or main track rails, as may be desired, the stud L aligns with the notch 1<sup>a</sup> or 2<sup>a</sup> at the instant that the key reaches the end of the slot, and as the key is removed the spring forces the lock-plate downward and causes its stud L to enter the registering-notch, and thereby effectually lock the switch-rails in position.

A target or signal-arm W is attached to the upper end of the rock-shaft and serves to in-



dicade to an approaching train at a glance the position of the switch.

Having thus described my invention, I claim—

5 1. The combination of the case having the notches and the slot, the rock-shaft extending through the case and having the arm connected to the switch-rails, the lock-plate fast to and movable vertically on the rock-shaft  
10 and having the cam-opening communicating with the slot and the stud adapted to engage the notches, and the key adapted to enter the cam-opening and raise the lock-plate and to engage the rock-shaft, for the purpose set  
15 forth, substantially as described.

2. In a switch-lock, the combination of the rock-shaft having the connections to the switch-rails, the case having the slot and the notches diametrically opposite the ends of  
20 the slot, the lock-plate in the case, revoluble with and movable vertically on the rock-shaft and having the cam-opening at one end communicating with the slot and the stud at the opposite end adapted to engage the  
25 notches, the spring pressing down on the lock-plate, and the key-lever adapted to be inserted in the cam-opening to raise the lock-

plate and to engage and rotate the rock-shaft, substantially as described.

3. In a lock for railway-switches, the combination of the switch-shaft, the case in which the shaft turns, the lock-plate to lock the shaft fast in the case, and the key-lever adapted to simultaneously trip the lock-plate and engage the shaft to operate the switch, for the purpose set forth, substantially as described. 30 35

4. In a lock for railway-switches, the combination of the rock-shaft, the case in which the shaft turns, the lock-plate vertically movable on the shaft and revoluble therewith, having the cam N, and further adapted to engage the case and lock the shaft fast therein, and the key-lever having the cam U to engage and trip the lock-plate, and the open slot V to simultaneously engage the shaft and enable the latter to be turned, substantially as described. 40 45

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

NELSON NEWMAN.

Witnesses:

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