No. 679,593. Patented July 30, 1901.

J. H. BISSETT.

SWITCH THROWING AND LOCKING MECHANISM.

(Application filed Aug. 30, 1900.)

(No Model.)

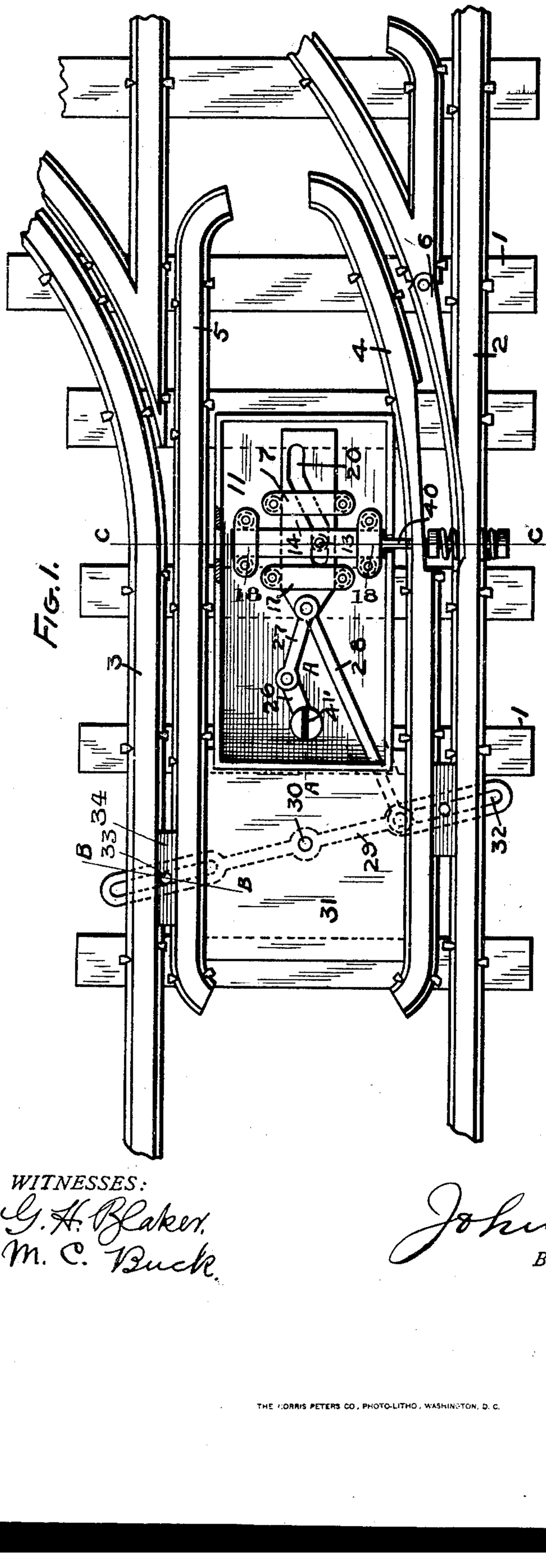

FIG. 1.

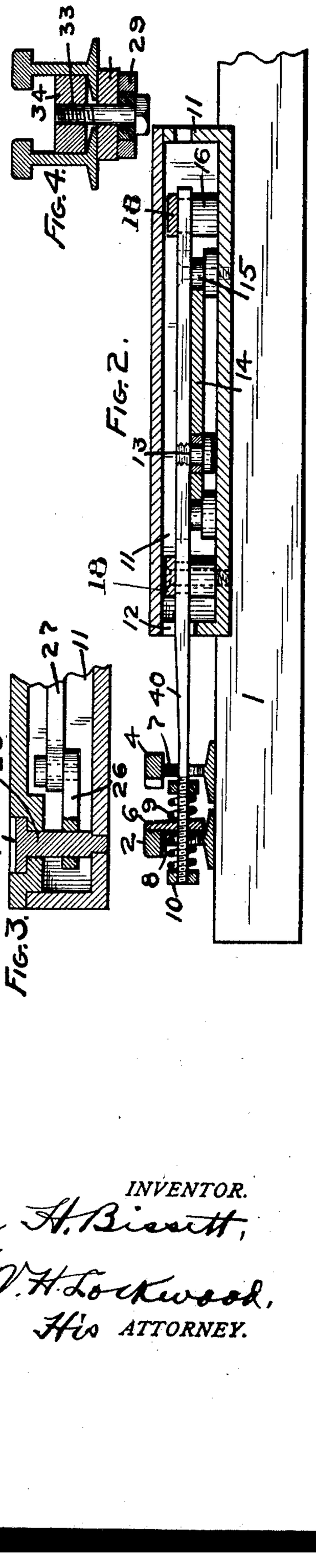

FIG. 4.

FIG. 2.

FIG. 3.

WITNESSES:
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SWITCH THROWING AND LOCKING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 679,593, dated July 30, 1901.

Application filed August 30, 1900. Serial No. 28,498. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BISSETT, of Anderson, county of Madison, and State of Indiana, have invented a certain new and useful Switch Throwing and Locking Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

This invention relates to means for throwing a switch and for holding it in place after it is thrown, so that it will not be accidentally moved, and cars can run in the opposite direction without changing the position of the switch-rail.

The full nature of my invention will be understood from the accompanying drawings and the description following of one form of device embodying said invention; and the scope of said invention will be understood from the claims following said description.

In the drawings, Figure 1 is a plan of a section of a rail end switch and my means for throwing and locking the same. Fig. 2 is a vertical cross-section through the switch-throwing bar. Fig. 3 is a vertical section on the line A A of Fig. 1. Fig. 4 is a section on the line B B of Fig. 1.

Referring now to the details of construction of the device herein shown for the purpose of illustrating the general nature of my invention, 1 represents the cross-ties; 2, one of the main rails of a railway-line; 3, the other rail; 4 and 5, the guard-rails, and 6 the switch-rail. The main rail 2 is recessed to receive the end of the switch-rail. The guard-rail 4 has a similar recess for the same purpose, so that the switch-rail moves laterally between the recessed portions of said rails 2 and 4. A transverse switch-throwing bar 40 extends through a suitable hole in the small end of the switch-rail and through the openings 7 and 8 in the rails 2 and 4. On each side of the switch-rail a spiral spring 9 is coiled about the bar 40 and held against the switch-rail by the nuts 10. The openings 7 and 8 are large enough to permit the free movement of said ends and springs. When the transverse bar 40 is in the position shown in Fig. 2, it opens the switch, as shown in Fig. 1, and the spring 9 holds the switch open but permits the passage of a car along the main line in the opposite direction without interfering with the switch, as the switch-rail flies back into place as soon as the car-wheel runs through it. Likewise if the switch were in the opposite position resting against the guard-rail 4, so as to close the switch, a car could run upon the main line from the switch-line without interfering with the switch-rail, as it would spring back into place against the guard-rail as soon as the car would pass through.

Between the guard-rails I place a low flat box or case 11 with side openings 12 for the movement of the transverse bar 40. The main part of said bar 40 lies in said box 11 and is actuated by the sliding plate 14, whose edges rest upon the flanges of the antifriction-rollers 15, as shown in Fig. 2, and abut laterally against said rollers. In the box 11 there are posts 16, with straps 17 across the top with a passage-way between the posts and straps for the reciprocation of the bar 40, so as to furnish a guide for said bar in its movements. Suitable straps 18 likewise hold the sliding plate 14 down in place, said straps being secured on the arbors of the antifriction-rollers 15. Said sliding plate moves longitudinally with the track and is provided with an inclined groove 20, through which the wrist-pin 13 extends, which is secured to the transverse bar 40. Therefore the bar 40 is moved transversely to and fro by the reciprocation of the sliding plate 14.

Two means are provided for actuating the sliding plate 14. A rotatably-mounted vertical pin 25 (shown in Fig. 3) has secured to it the crank 26, which is connected by the connecting-bar 27 to said sliding plate. The head of the pin 25 is provided with the groove 41 to receive the end of the tool that the motorman places in said groove and twists like a screw-driver and partially rotates, thus moving the sliding plate in the direction desired. Means for actuating said sliding plate from the car is also provided. This consists of the connecting-bar 28, which at one end is pivoted to the sliding plate 14 and at the other end to the lever 29, (shown in dotted lines in Fig. 1,) that is centrally pivoted at 30 within the box 31, so as to extend across the track under both rails 2 and 3, as shown in Fig. 4.

Each end is provided with a long slot 32, through which the bolts 33 extend and are connected with the blocks 34, that rest loosely between one of the main rails and one of the guard-rails, so as to be longitudinally slidable. These blocks are engaged by some attachment to the car over which the motorman has control and which enables him to move either block 34 in either direction, and such movement of said block through the lever 29 and bar 28 will actuate the sliding plate 14 and throw the switch. These two means of throwing the switch are preferably combined in order that either one may be used as desired and as is most convenient at the time.

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

1. The combination with a main rail of a railway and a guard-rail beside it, of a switch-rail between them and movable into line with either of them, a movable transverse bar extending through all three of said rails, a spring on said bar on each side and acting against the switch-rail, the holes in said main rail and guard-rail being large enough to permit the movement of said transverse bar and the springs thereon through them, and means for actuating said transverse bar.

2. The combination with a railway switch-rail, of a transversely-movable bar connected therewith, a plate slidable at a right angle to the direction of movement of said bar for actuating said bar, a rotatable pin vertically mounted with the head exposed and slotted, a crank on said pin, and a bar pivotally connecting said crank and sliding plate.

3. The combination with the main rails of a railway, a guard-rail beside each of said main rails and a switch-rail, of a transversely-movable bar connected therewith, a plate slidable at a right angle to the direction of movement of said bar, a lever centrally pivoted and extending across the track beneath the main rails thereof longitudinally slotted at each end, sliding blocks between the main rails and the guard-rails, pins in said blocks operating in the slots in said lever, and a bar pivotally connecting said lever and sliding plate.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

JOHN H. BISSETT.

Witnesses:
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