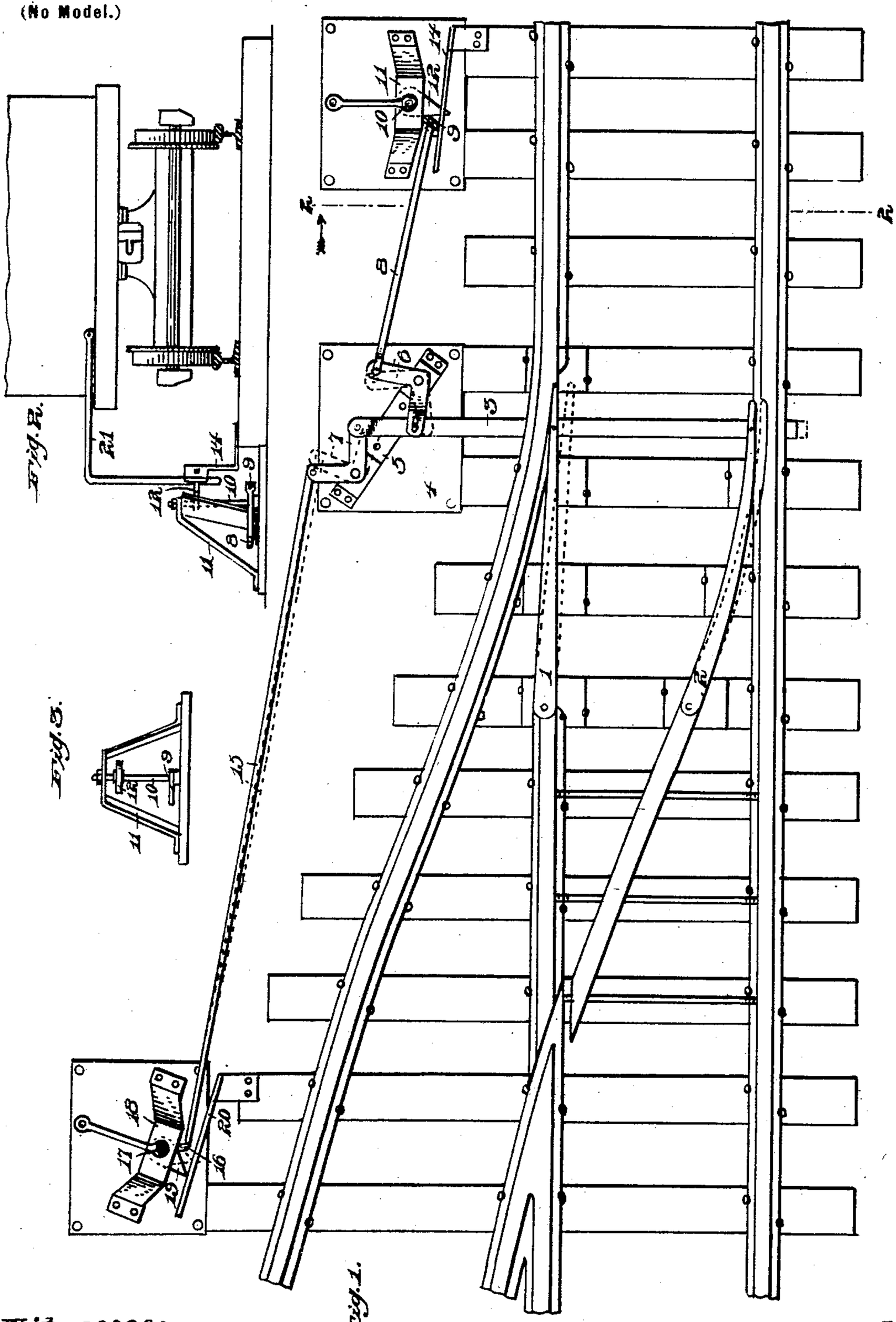
No. 677,164. Patented June 25, 1901.

A. A. ANDERSON.

AUTOMATIC THROWING AND LOCKING SWITCH.

(Application filed Mar. 14, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ANDREW A. ANDERSON, OF SCOTTHAVEN, PENNSYLVANIA.

AUTOMATIC THROWING AND LOCKING SWITCH.

SPECIFICATION forming part of Letters Patent No. 677,164, dated June 25, 1901.

Application filed March 14, 1901. Serial No. 51,183. (No model.)

To all whom it may concern:

Be it known that I, ANDREW A. ANDERSON, a citizen of the United States of America, residing at Scotthaven, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Throwing and Locking Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in railway-switches, and has for its object to provide means for automatically throwing the switch point or tongue from the locomotive or car, so as to permit the locomotive, car, or train to pass onto the side track, together with means for rethrowing or returning the switch tongue or point to the closed position to permit uninterrupted traffic on the main track.

Briefly described, the invention comprises, in connection with the switch tongue or tongues and a bar connected thereto, a pair of switch-stands, one located near the entrance to the switch or side track, with mechanism connected to said stand and to the bar attached to the switch-tongues to be engaged and operated by an arm or lever carried by the locomotive or car. Another switch-stand is located some distance from the entrance to the switch or side track and is also connected to the bar attached to the switch-tongues and is adapted to be operated by the same arm or lever carried by the car or locomotive to return the switch to the closed position after the locomotive or car has passed onto the side track, all of which construction, together with other details entering into my invention, will be hereinafter more specifically described, and particularly pointed out in the claim.

In describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference will be employed to designate like parts throughout the several views of the drawings, in which—

Figure 1 is a top plan view of a part of a main and side track, showing my improved switch in position with the switch-points closed. Fig. 2 is a front elevation of a part of a car, showing the trip arm or lever carried thereby, also showing one of the switch-stands in side elevation. Fig. 3 is a detail side elevation of one of the switch-stands.

In the accompanying drawings, 1 2 indicate the two switch-tongues, the one forming a part of the main-track rail at the switch and the other forming a part of one of the side-track rails, as in the ordinary construction. Connected to these switch-tongues underneath the rails of the track is a bar 3, which extends outwardly to one side of the track over a base-plate 4, having a stand 5 secured thereon. Pivotally mounted on this stand 5 is a pair of bell-cranks 6 7, the former having a slotted end to engage with a pin carried by the bar 3 and its other arm or end connected by a rod or lever 8 to a crank 9, carried on a vertical shaft 10, which is journaled in a switch-stand 11, located near the entrance to the side track. This shaft 10 also has mounted thereon a cam 12, having a pointed free end which is adapted to engage with a locking-spring 14, secured to a cross-tie opposite the stand 11, said spring being provided with a suitable slot or aperture to receive the pointed end of the cam. The other bell-crank 7 has its one end pivotally connected to the bifurcated outer end of the bar 3 and its other arm or end connected to a rod or lever 15, attached to a crank 16, carried on a vertical shaft 17, journaled in a switch-stand 18, located some distance along the side track from the entrance thereto. This vertical shaft also carries a cam 19, having a pointed free end to engage with the locking-spring 20, carried by a cross-tie opposite the stand, said spring being provided with a suitable aperture or slot to receive the said pointed end of the cam.

A suitable trip-arm 21 is attached to the car or locomotive for operating the mechanism to throw the switch-points.

In operation, assuming the switch to be in the open position, as shown in Fig. 1, for traffic on the main track, the trip-arm 21 is dropped to the position shown in Fig. 2 of the drawings, and as the car or locomotive enters or approaches the switch this arm 21 will engage the cam 12, between the stand 11 and locking-spring 14, and turn the shaft 10, so as to operate, through the connection of rod 8 with crank 9 and bell-crank 6, the switch-

bar 3 to move the switch-points from the position shown in full lines in Fig. 1 to the position shown in dotted lines in the same view, thus opening the switch to permit the car to pass to the side track. As the car passes along the side track the arm 21 comes into engagement with the cam 19, operating the shaft 17, and through the connections of rod 15, bell-crank 7, and bar 3 returns the switch to the open position for the main-track traffic, the cam 12 returning into engagement with the slot or notch in the locking-spring 14, thus locking the switch in the open position.

A switch constructed in accordance with the illustration and description herein given is particularly adapted for use in connection with coal-road tracks and the like, wherein single cars are hauled and it is desired to place side tracks at intervals along the main track to permit the passing of the cars. With this device it will be observed that the car that is to take the side track opens the switch and also closes the same, so that the car coming in the opposite direction on the main track may proceed without interruption.

It will be noticed that in the practice of the invention various changes may be made in the details of construction without departing from the general spirit of the invention.

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

In a switch, the combination of a pair of switch-tongues and a bar connected thereto, of a base-plate, an upright stand mounted thereon, a bell-crank pivotally mounted on said stand, one end of said bell-crank having a slot formed therein and adapted to engage a pin carried by the said bar, a switch-stand, comprising a base-plate, an upright frame carried thereby, a vertical shaft journaled in said frame, a crank carried by the said shaft, a rod connecting the said crank and the other end of the bell-crank, a cam provided with a pointed end secured to said shaft above the said crank, a spring carried by one of the ties, the said spring being slotted to receive the cam, a second bell-crank mounted on the said first-named stand, one end of said crank being secured to the end of the said bar, a second switch-stand, comprising a base-plate, an upright frame carried thereby, a vertical shaft journaled therein, a crank carried by the said shaft, a rod connecting the said crank and the other end of the second-named bell-crank, a cam provided with a pointed end secured to said shaft above the said crank, a spring carried by one of the ties, the said spring being slotted to receive the said cam, substantially as described.

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

ANDREW A. ANDERSON.

Witnesses:
JOHN NOLAND,
E. E. POTTER.