

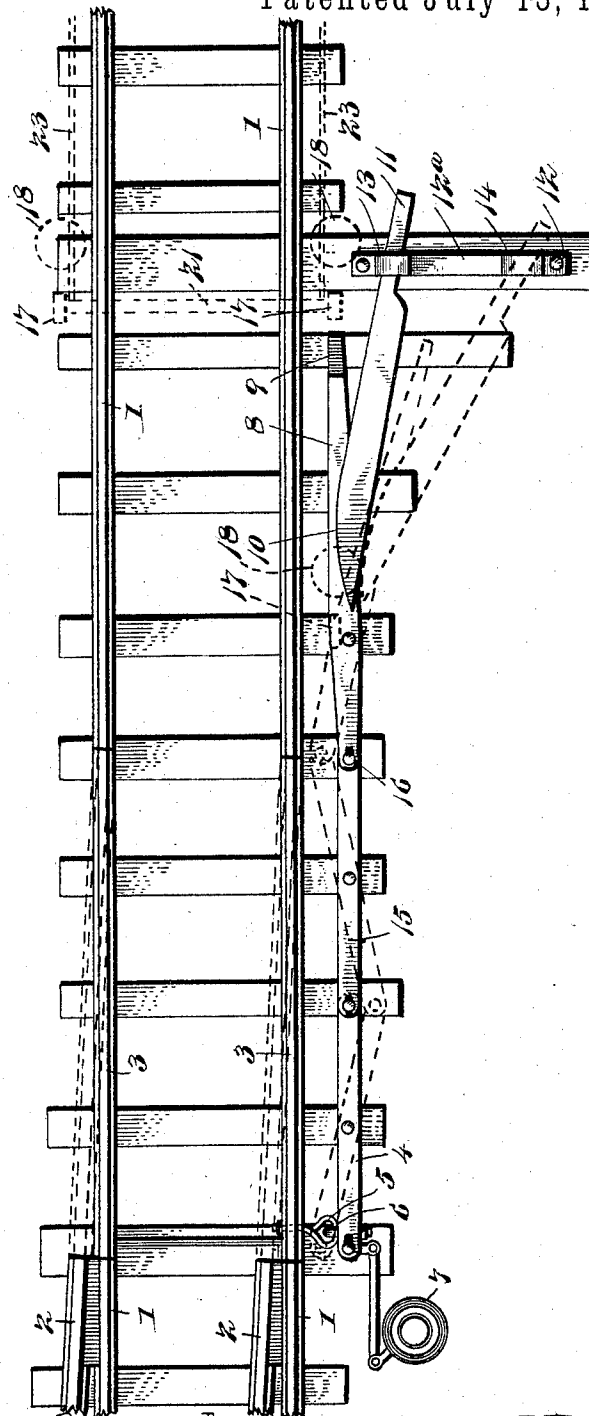
(No Model.)

2 Sheets—Sheet 1.

J. A. PALMER.
RAILWAY SWITCH.

No. 586,203.

Patented July 13, 1897.



Inventor

Witnesses

E. H. Stewart

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By his

Attorneys,

Julian A. Palmer

Cashow & Co.

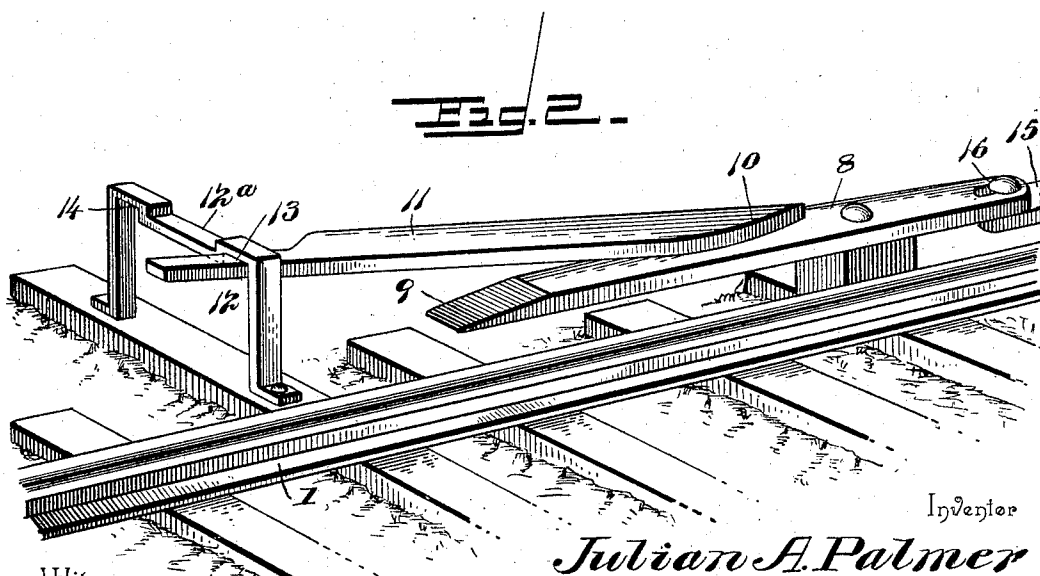
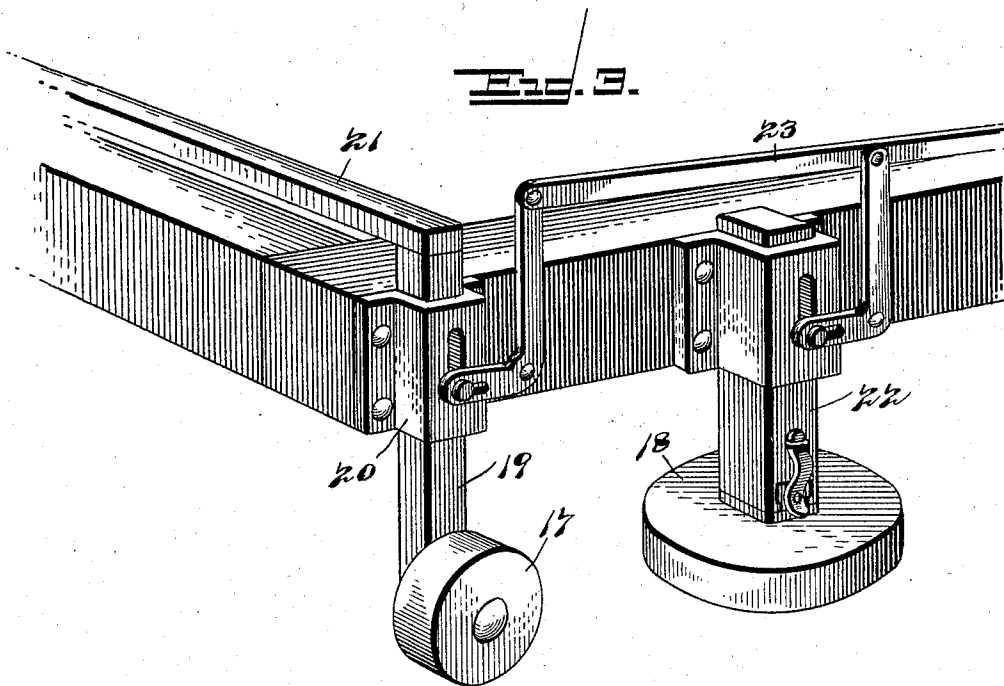
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UNITED STATES PATENT OFFICE.

JULIAN A. PALMER, OF HILLSDALE, MICHIGAN.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 586,203, dated July 13, 1897.

Application filed February 25, 1897. Serial No. 624,995. (No model.)

To all whom it may concern:

Be it known that I, JULIAN A. PALMER, a citizen of the United States, residing at Hillsdale, in the county of Hillsdale and State of Michigan, have invented a new and useful Railway-Switch, of which the following is a specification.

My invention relates to railway-switch mechanism; and the object in view is to provide a simple and efficient construction and arrangement of parts adapted to be controlled from the engine or other part of the rolling-stock for setting a switch without checking the motion of the train.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a switch mechanism constructed in accordance with my invention, showing the operating devices in connection therewith. Fig. 2 is a detail view in perspective of the switch-operating arm and lock. Fig. 3 is a similar view of the operating mechanism, showing the contiguous portions of a car-truck.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the main-track rails, 2 the siding-track rails, and 3 switch-rails connected for simultaneous movement and attached to a horizontally-swinging switch-lever 4, which is fulcrumed upon a suitable support at one side of the track. This switch-lever is terminally attached to the contiguous switch-rail by means of an eye 5, engaging an extended keeper 6 on said rail, and preferably connected with the contiguous end of the switch-lever is a signal-stand 7. Also mounted for horizontal swinging movement, at a distance from the switch sufficient to allow the adjustment of the switch-rails before the front end of a train reaches the latter, is an operating-lever 8, of which the front extremity is beveled, as shown at 9, for a purpose hereinafter explained. Carried by this operating-lever is a diagonally-disposed shoulder 10 or cam 10, and the lever is extended beyond the beveled portion 9, and preferably in the plane of said shoulder or cam, to form a lock-

ing-arm 11, which is arranged in operative relation with a lock 12. This lock consists of a bracket or keeper having a horizontal upper side 12^a, forming a guide for the locking-arm, and having its extremities offset, as shown at 13 and 14, to receive the locking-arm when the operating-lever is respectively in the positions to close and open the switch. The locking-arm is yieldingly held in contact with the upper side of the keeper or bracket, whereby in changing it from one position to another it bears against the guide forming the top of said bracket and swings firmly into engagement with the offsets when arranged in alinement therewith. This yielding quality of the locking-arm may be produced in a variety of ways, but in the construction shown in the drawings I have adopted the plan of making the operating-lever of a sufficiently-yielding material to give the necessary resilience to the locking-arm.

The locking-arm resists downward movement to disengage it from the offsets of the guide, and this resistance is sufficient to make it necessary to exert considerable downward pressure upon the beveled extremity of the operating-lever in order to secure the disengagement of the locking-arm from one offset preparatory to swinging the lever to the other position. Any desired connection may be established between the operating and the switch levers, that shown in the drawings consisting of an intermediate lever 15, also mounted to swing in a horizontal plane and terminally connected by sliding joints 16 with the contiguous extremities of said levers.

In order to facilitate the change of adjustment of the operating-lever, I preferably employ operating mechanism carried by the rolling-stock, as by the engine of a train, the same being wholly under the control of the engineer, and said mechanism preferably consists of a vertical depressing-roller 17 and a following horizontal shifting-roller 18, arranged in rear of the depressing-roller, and adapted, respectively, to engage the beveled extremity 9, to depress the locking-arm out of engagement with the offsets 13, and engage the diagonally-disposed shoulder or cam 10, to move the operating-lever to the opposite adjustment. The manner of arranging these rollers, which comprise the essential feature of the mech-

anism, may be varied to suit the construction of the engine or other member of the rolling-stock to which the device may be applied, as well as suit the portion of the vehicle to which it may be convenient to affix it. In the construction illustrated I have shown the depressing-rollers mounted upon uprights 19, fitted in suitable guides 20, it being understood that one of these depressing-rollers is arranged at each side of the vehicle to enable the switch to be operated from an engine moving in either direction, and a cross-bar 21 connecting the uprights to insure the simultaneous operation of the depression-rollers. In the same way the operating or shifting roller is mounted upon a vertically-movable slide 22, to which, in common with the frame supporting the depressing-rollers, is connected adjusting mechanism of which I have deemed it necessary to show only the contiguous portion of a suitable connection, as a rod 23. Any suitable adjusting devices may be employed for operation by the occupant of the engine-cab. The shifting-roller is also preferably yieldingly held in its normal position, whereby in case it meets with resistance in moving the operating-lever it is adapted to yield sufficiently to avoid straining or breaking either the lever or the means whereby the roller is mounted upon the car.

It will be understood that the above-mentioned means for submitting and adjusting the depressing and shifting rollers may be substituted by any other mechanism capable of accomplishing substantially the same result—namely, that of adapting said rollers to be arranged either in or out of their operative positions, as may be desired by the engineer—such as a lever supporting said rollers or the equivalent thereof.

Various other changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a railway-switch mechanism, the com-

bination with switch-rails and a switch-lever connected thereto, of an operating-lever mounted for horizontal movement contiguous to the track-rails and operatively connected with said switch-lever, said operating-lever having a vertically-yielding locking-arm, and a lock having a horizontal guide and terminal offsets for engagement by said locking-arm, the locking-arm being adapted to be depressed against its vertical resilience to disengage it from one offset for horizontal movement into engagement with the other offset, substantially as specified.

2. In a railway-switch mechanism, the combination with switch-rails, of a horizontally-swinging operating-lever connected with the switch-rails and having a beveled extremity adapted to be engaged by a depressing-roller, a locking-arm carried by the operating-lever and yieldingly held thereby against depression, and a lock having a guide provided with terminal offsets in engagement with either of which the locking-arm is held by the resilience of the operating-lever, said operating-lever also having a diagonal shoulder or cam for engagement by a horizontal shifting-roller, substantially as specified.

3. In a railway-switch mechanism, the combination with a horizontally-swinging vertically-yielding operating-lever provided with a diagonal shoulder or cam, and locking devices in engagement with which said lever is held when in its normal position, and from which it is adapted to be disengaged by terminal depression, of operating devices including a depressing-roller to disengage the operating-lever from the locking device, and a shifting-roller to coact with said diagonal shoulder or cam and impart swinging movement to the lever, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JULIAN A. PALMER.

Witnesses:

SYLVESTER F. DWIGHT,
BENJAMIN E. SHELDON.