(No Model.)

J. McCARTHY.

AUTOMATIC RAILROAD SWITCH.

No. 457,547. Patented Aug. 11, 1891.

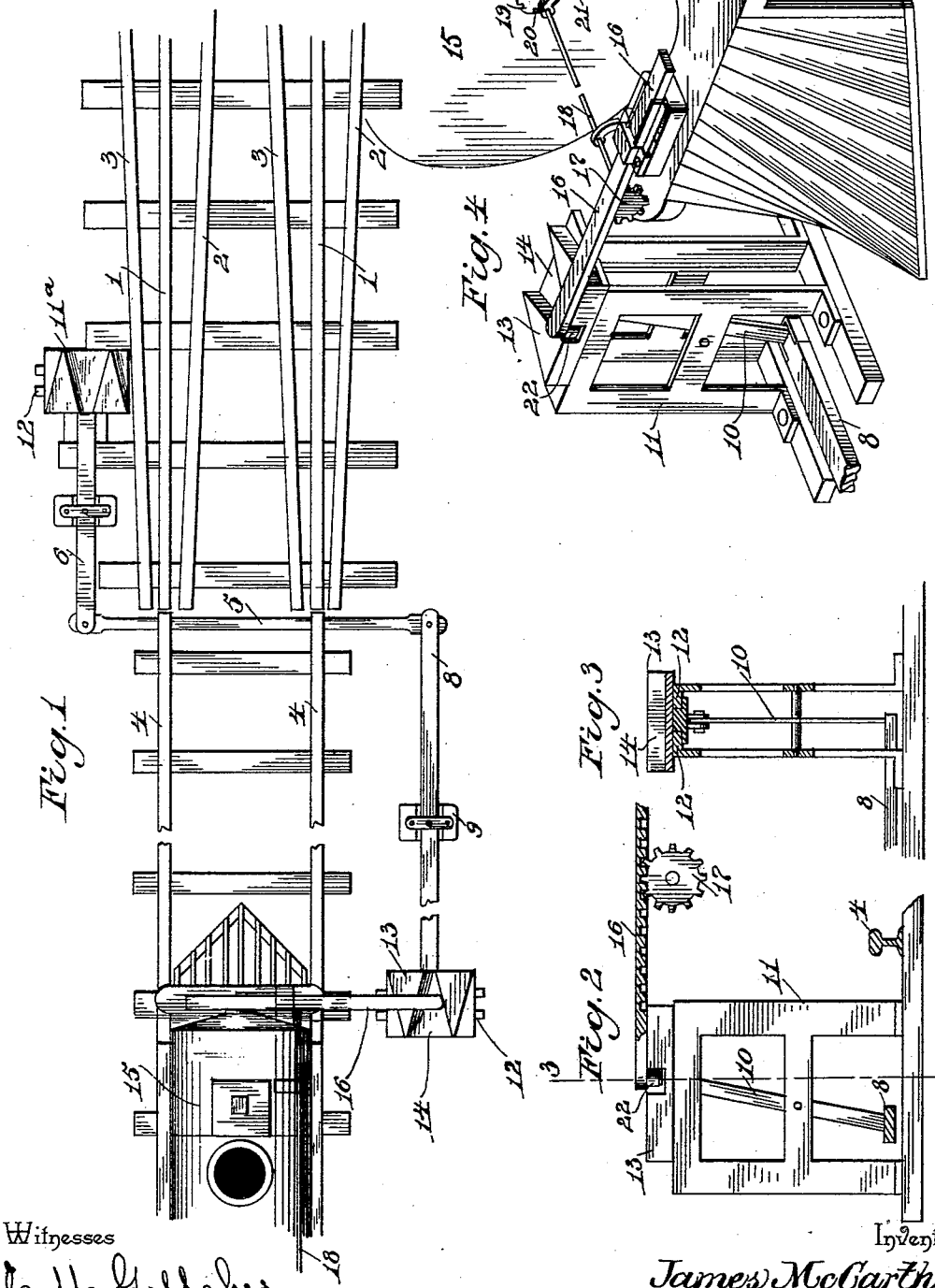

Fig. 1

Fig. 4

Fig. 3

Fig. 2

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES McCARTHY, OF MARINETTE, WISCONSIN.

AUTOMATIC RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 457,547, dated August 11, 1891.

Application filed April 3, 1891. Serial No. 387,535. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCCARTHY, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented a new and useful Automatic Railroad-Switch, of which the following is a specification.

This invention relates to automatic railroad-switches of that class in which the switch may be set automatically by means of a device attached to a train, thus enabling such switch to be entirely controlled by the engineers of passing trains, and thus to a great extent avoiding the danger so frequently arising from misplaced switches.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a plan view of a railroad-switch constructed in accordance with my invention. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a sectional detail view taken on the line 3 3 in Fig. 2. Fig. 4 is a perspective detail view showing the switch-operating mechanism of a train and the corresponding mechanism of the switch.

Like numerals of reference indicate like parts in all the figures.

1 1 designate the main-line rails; 2 2 and 3 3, the siding-rails, and 4 4 are the pivoted switch-rails, all of which are constructed and arranged in any suitable well-known manner. The pivoted switch-rails are connected near their free ends by the bridle-bar 5, one end of which is connected with a lever 6. To the other end of the bridle-bar is pivotally connected one end of a lever 8, which is fulcrumed upon a block or support 9, and the opposite end of which is pivotally connected with a lever 10, which is mounted vertically in a suitable stand. (Indicated by 11.) The said stand is provided at its upper end with flanges 12, forming a track for a sliding block 13, the upper side of which has a slot or recess 14, the sides of which converge in the directions of the sidings. The upper end of the lever 10 is connected with the under side of the shifting-block 13 in such a manner as to permit the latter to move laterally upon the track formed by the flanges 12, motion being transmitted through the levers 10 and 8 and the bridle-bar 5 to the pivoted switch-rails. A stand 11^a, similar to the stand 11, is arranged adjacent to the siding, and the lever 10^a, pivoted in said stand, is connected pivotally with the end of the lever 6. One end of the bridle-bar 5 is to be connected in the usual manner with a suitably-constructed signal to indicate the position of the switch.

Suitably mounted upon the locomotive 15 is a transversely-sliding rack-bar 16, engaging a pinion or spur-wheel 17 upon a shaft 18, which is mounted in suitable bearings and which extends rearward to a point within convenient reach of the engineer or fireman. Said shaft has a hand-wheel 19, which may be provided with stops 20, adapted to be engaged by a catch 21, whereby it may be retained in any desired position. The outer end of the rack-bar 16 is provided with a downwardly-extending roller 22, adapted to engage the wedge-shaped groove 15 of the shifting-block. It will be observed that the rack-bar 16 may be adjusted to such a position as to move the shifting-block in either one of the switch-stands either to the right or to the left or to restore it to a central position, thus opening the switch either to the right or left hand siding or to the main track, as may be desired.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In an automatic railway-switch, the combination, with the pivoted switch-rails and the bridle-bar connecting the same, of a lever connecting said bridle-bar with a lever mounted vertically in a suitable stand provided with flanges at its upper end, a shifting-block mounted slidingly upon said flanges and having at its upper side a groove or slot formed with converging sides, and a roller mounted adjustably upon a locomotive to engage the said grooved shifting-block, substantially as and for the purpose set forth.

2. In an automatic railway-switch, the combination, with the pivoted switch-rails and the connecting-levers, of the shifting-stands provided at their upper ends with flanges forming tracks, the shifting-blocks mounted slidingly upon the same and having in their upper sides grooves or slots provided with con-

verging sides, a rack-bar mounted slidingly upon a locomotive and having a downwardly-extending roller at its outer end, and means for adjusting the said rack-bar, substantially as and for the purpose set forth.

3. In an automatic railway-switch of the class herein described, the combination, with the shifting-block mounted slidingly upon a suitable stand and having in its upper side a groove or slot provided with converging sides, of a transversely-sliding rack-bar mounted upon a locomotive and having a downwardly-extending roller at its outer end, a shaft having at its front end a spur-wheel engaging said rack-bar and provided at its rear end, which is extended within reach of the engineer, with a hand-wheel having suitable stops, and a pawl or catch adapted to engage the latter, substantially as and for the purpose set forth.

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

JAMES McCARTHY.

Witnesses:
FRED PRATT,
ED KENNEDY.