

(No Model.)

2 Sheets—Sheet 1.

J. E. MUSTARD.
SAFETY SWITCH.

No. 508,232.

Patented Nov. 7, 1893.

Fig. 1.

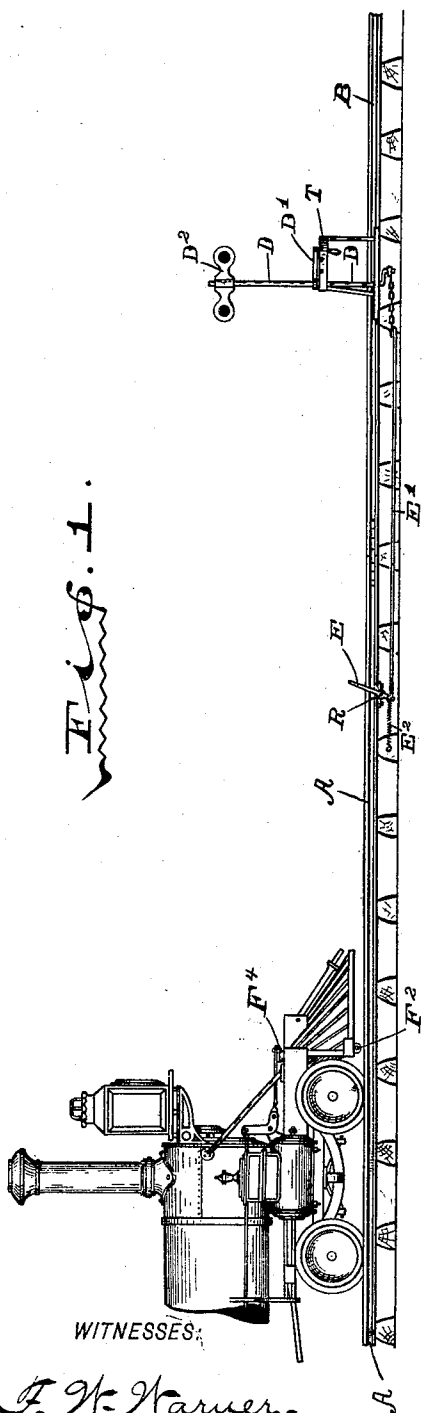
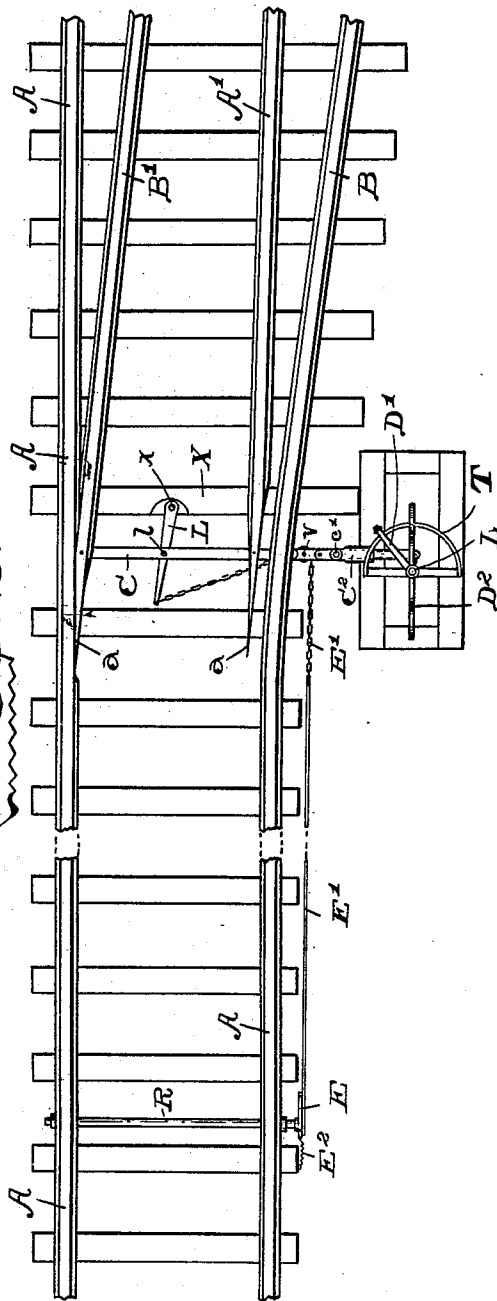


Fig. 2.



WITNESSES:

J. H. Warner.
J. L. Walsh.

INVENTOR

James E. Mustard,

BY

Chester Bradford,
ATTORNEY.

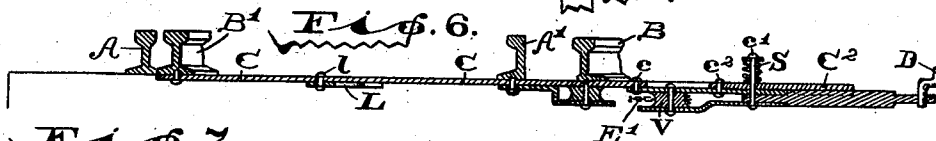
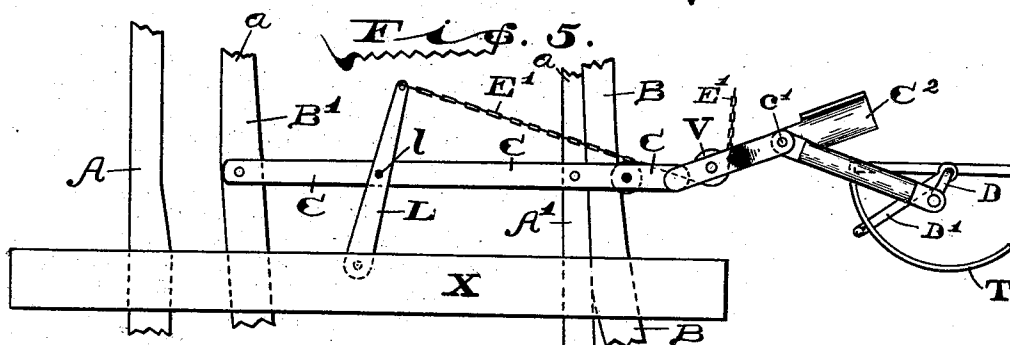
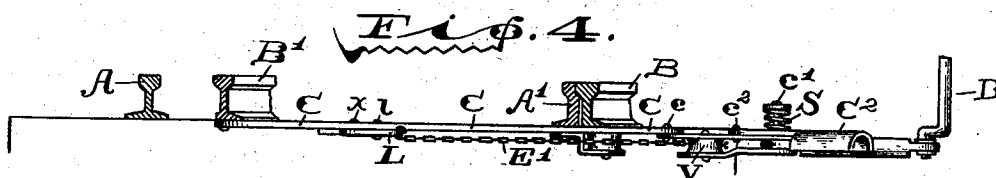
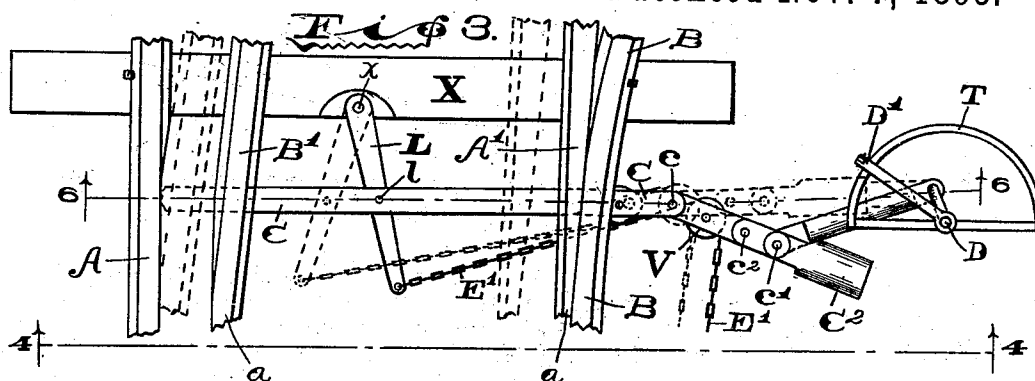
(No Model.)

2 Sheets—Sheet 2.

J. E. MUSTARD.
SAFETY SWITCH.

No. 508,232.

Patented Nov. 7, 1893.



WITNESSES:

F. H. Warner.
J. A. Walsh.

INVENTOR
James E. Mustard,

BY
Chester Bradford,
ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES E. MUSTARD, OF GLEN HALL, ASSIGNOR OF TWO-THIRDS TO GEORGE A. HARRISON, OF LAFAYETTE, AND THOMAS M. ANDREW, OF WEST POINT, INDIANA.

SAFETY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 508,232, dated November 7, 1893.

Application filed July 10, 1893. Serial No. 480,033. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. MUSTARD, a citizen of the United States, residing at Glen Hall, in the county of Tippecanoe and State of Indiana, have invented certain new and useful Improvements in Safety-Switches, of which the following is a specification.

The object of my said invention is to provide a means whereby, in case a railroad switch is left in the wrong position, it may be automatically set right by the locomotive in passing, at the same time providing the engineer with means, in case it is desired to take the side track, so that he can do so.

An apparatus embodying said invention will be first fully described, and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a railway track, switch and locomotive provided with my invention; Fig. 2 a top or plan view of the track and switch; Fig. 3 a detail plan of the switch and immediately adjacent parts on an enlarged scale; Fig. 4 a transverse sectional view thereof, as seen from the dotted line 4 4 in Fig. 3; Fig. 5 an under side plan view of the same; Fig. 6 a longitudinal vertical sectional view through the switch rod, when straight; Fig. 7 an under side plan of the cow catcher of the locomotive, with the mechanism peculiar to my invention attached thereto, and Fig. 8 a top or plan view of the same.

In said drawings the portions marked A represent the rails of the main railway track; B the rails of the side track; C the switch rod; D the operating shaft of the switch; E a lever adapted to be operated from the locomotive, and F the shaft of the mechanism on the locomotive whereby said lever may be operated.

The rails A A' and B B' are of an ordinary and well known form. The rails A' and B' terminate in the points α , which are the movable points of the switch.

The switch rod C is connected to the points α and to the operating shaft D, as is usual. As shown most plainly in Figs. 3, 4, 5 and 6, however, it is composed of three parts jointed

together by the pivots $c c'$. Secured to the middle part of this rod by a pivot c^2 is a clasp C^2 by which, under ordinary circumstances, the rod is kept straight and stiff like an ordinary non-jointed switch rod. This clasp C^2 , however, is adapted, on occasion, to be forced out of engagement and permit the joints to move on their pivots, and the parts to assume the positions shown in full lines in the drawings Figs. 3, 4 and 5. Commonly, however, it is held into engagement by a spring S. The central portion is composed of two members, and between them is a sheave V, around which a chain from the lever E runs.

The operating shaft D of the switch-stand is of the ordinary and well known form, and is provided with a lever D' by which it may be operated, and the switch-stand has the usual top D' by which it may be operated, and the switch stand has the usual top T over which the lever moves, and two appropriate points whereon it can be fastened. Upon the top of the shaft D there is preferably an ordinary signal D².

The lever E is mounted on a rock shaft R therefor, and is positioned at an appropriate point alongside the track, and extends up a short distance above the track, where the striker on the locomotive may come in contact therewith. To its lower arm is connected a rod or rope or chain E' which runs over the sheave V to the end of a lever L pivoted to the switch bar C by a pivot l at a central point, and the other end whereof is pivoted at x to a cross-tie X or some other convenient structure. Secured also to the lower end of the lever E and operating against the pull of the rope or chain E' is a spring E² whereby the rope or chain is kept tight, and the lever held down, after it has been forced over by the locomotive.

The shaft F on the locomotive is preferably located on the cow catcher, and extends up through the same. On its lower end is secured a cross bar F' connected by links f' to sliding bars F², which are adapted to project out at the sides of said cow catcher, or be withdrawn so as not to project at pleasure. They may be held outwardly by springs F³ secured to the under side of the cow catcher, and bearing against projecting pins f^2 in the sliding

bars F². Upon the upper end of the shaft F is an arm F⁴, by which, through suitable links, levers and rods, said shaft may be operated by the engineer from the cab, or otherwise, as may be desired.

The operation is as follows: Suppose the switch to be turned, as shown most plainly in Fig. 2, and locked, and an approaching train desires to continue on the main track, instead of taking the siding, the sliding bars F² are permitted to project and strike the lever E, which forces the clasp C² out of engagement, and throws the parts of the switch bar into the position shown in Figs. 3, 4 and 5, at the same time drawing on the chain or rope E', thus pulling the lever L, and shifting the switch. The spring S yields under the pressure to permit the clasp C² to be thrown off as described. If it is desired to take the siding instead of the main track, the engineer, through his rods, links and levers, turns the shaft F, withdrawing the sliding bars F², which thus escape the lever E, and the switch is not disturbed.

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

1. The combination, in a railway switch, with the switch points, of a switch-bar composed of three parts jointed together, a spring clasp whereby said parts are normally held straight, a lever located alongside the track and connected to said switch-bar, and a strike or contact device on the moving train adapted

to come in contact with said lever, whereby the jointed switch-bar is forced from its straight position and the switch is operated, substantially as set forth.

2. The combination, in a railway switch, of the switch points, the switch-bar C composed of three parts jointed together, a clasp C², a spring S whereby said clasp is held into engagement, a lever E adapted to be operated from the moving train, a rope or chain E' running thence to a lever L attached to the switch-bar and around a sheave V mounted in one of the parts of the switch-bar, and said sheave, said several parts being arranged and operating, substantially as set forth.

3. The combination, in a switch, of the switch points a, the switch-bar C connected thereto and composed of three parts pivoted together, the switch-stand shaft D, a lever L pivoted to one of the cross ties and to the switch-bar, a sheave V mounted in one of the parts of the switch-bar, a rope or chain E' running from said lever around said sheave to a lever alongside the track, said lever, and means for operating the same from the moving train, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Glen Hall, Indiana, this 6th day of July, A. D. 1893.

JAMES E. MUSTARD. [L. S.]

Witnesses:

C. C. TAYLOR,
ALLEN BOULDS.