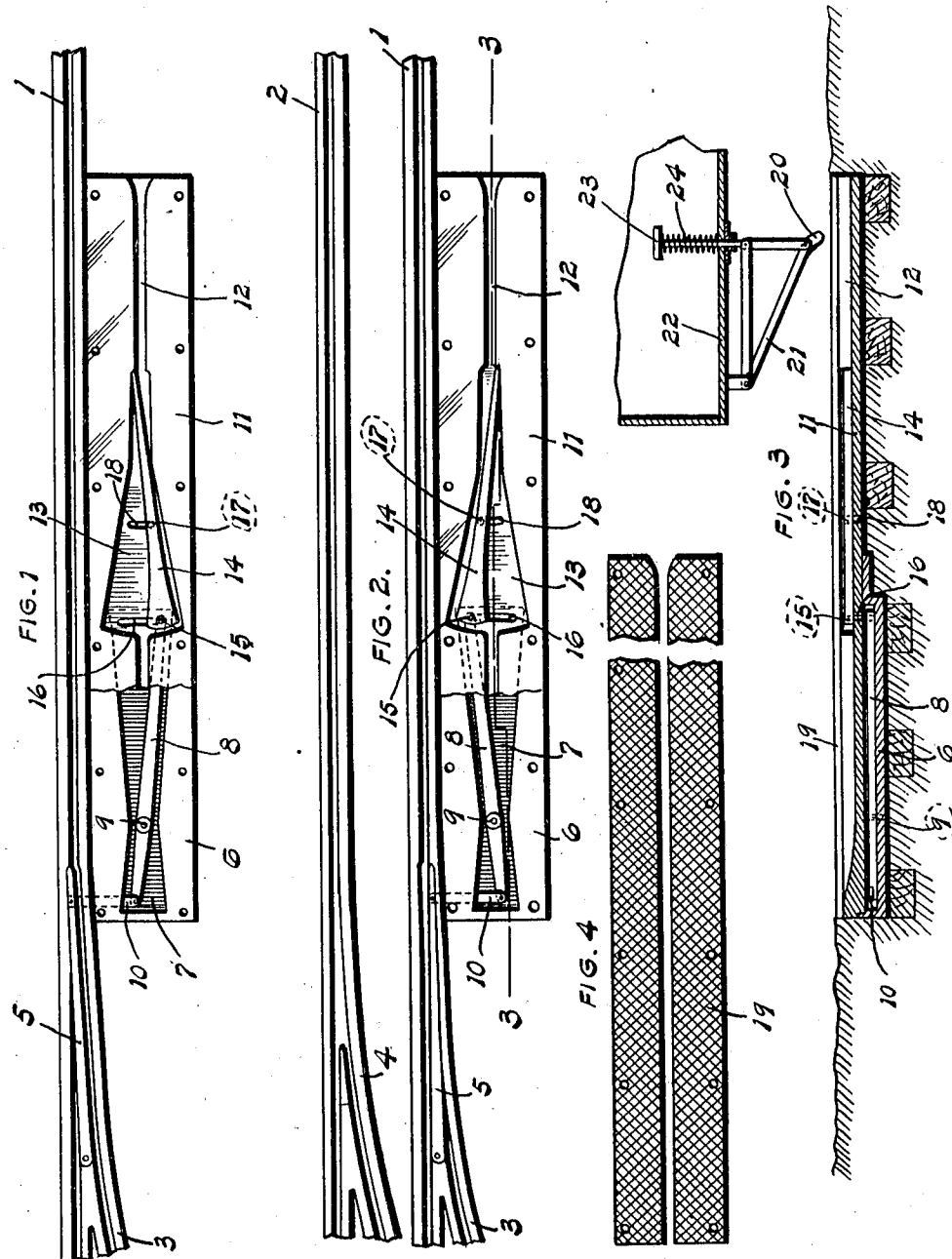


E. F. WIEDERHOLDT.
 SWITCH POINT THROWING MECHANISM.
 APPLICATION FILED MAY 20, 1911.

1,035,110.

Patented Aug. 6, 1912.



WITNESSES
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UNITED STATES PATENT OFFICE.

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SWITCH-POINT-THROWING MECHANISM.

1,035,110.

Specification of Letters Patent.

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Application filed May 20, 1911. Serial No. 628,466.

To all whom it may concern:

Be it known that I, ERNEST F. WIEDERHOLDT, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Switch-Point-Throwing Mechanism, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of a portion of a car track having a movable switch point, and showing my improved switch point throwing mechanism in connection therewith, the cover plate for said switch being removed. Fig. 2 is a plan view of my improved switch point throwing mechanism with the parts shifted into the positions assumed when the switch point is thrown so as to cause the car wheels to take the main track rails. Fig. 3 is a vertical section taken approximately on the line 3—3 of Fig. 2. Fig. 4 is a plan view of the cover plate used in connection with my improved switch point throwing mechanism.

My invention relates to mechanism utilized for shifting the movable switch points of car tracks, and which mechanism is located immediately adjacent one of the track rails, and is operated by suitable means located on the car, and manipulated by the motorman or car driver.

The object of my invention is to provide a simple inexpensive mechanism, comprising a minimum number of parts, which can readily be installed, and the top of which apparatus lies flush with the surface of the ground or the pavement, and therefore, offers no obstruction to general traffic.

Another object of my invention is to provide a switch point throwing mechanism, which can be shifted or thrown in either direction by simple means located on the car platform, and which means can be readily actuated by the motorman or car driver.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts herein after more fully described and claimed.

Referring by numerals to the accompanying drawings 1 and 2 designate the main track rails, and leading therefrom in the usual manner are the side track rails 3 and 4. 55

5 designates the movable switch point of usual construction, which is pivotally mounted at its rear end in the usual manner, so that its forward end or point is adapted to shift laterally to cause the car wheels to traverse the main track rails or to pass onto the switch rails 3 and 4. 60

6 designates a plate which is located beneath the surface of the ground or pavement immediately adjacent the main track rail 1, in front of the movable switch point 5, and formed in the top of said plate is a longitudinally disposed groove or recess 7. Located within this groove or recess 7 is a lever 8 fulcrumed at 9, and pivotally connected to the rear end of this lever is a transversely disposed link 10, which extends through a suitably formed opening in the side of the plate 6, and the outer end of this link is pivotally connected to the forward portion of the movable switch point 5. 75

11 designates a plate which is positioned directly upon the plate 6, and said plate 11 is considerably longer than said plate 6, and therefore, projects a short distance in front of the front end of said plate 6. Formed in the top of the plate 11 is a longitudinally extending groove 12, and at the central portion of said plate 11 this groove is widened to form a pocket or recess 13. Arranged within this pocket or recess 13 is a longitudinally disposed lever 14 which is adapted to be shifted from one side of said pocket or recess to the other, and seated in the rear end of this lever 14 is a pin 15, which projects downward through a transverse slot 16 formed through the plate 11, and the lower end of said pin is pivotally connected to the forward end of the lever 8. 85

17 designates a pin seated in the under side of the lever 14, which pin projects downward through a transverse slot 18 formed through the plate 11, at a point near the center of the pocket or recess 13. A cover plate 19 formed in two parts, and having a roughened or corrugated top surface is fixed on top of the plate 11 in any suitable 100

manner, and the slot or space between the two parts of this cover plate coincides with the groove 12 formed in the plate 11. The means employed for shifting the lever 14 and consequently shifting the switch point 5 consists in a wedge or tongue 20 carried by a frame 21, which latter is hinged to the under side of the car platform 22, and said frame is adapted to be depressed by a plunger 23, which is normally held in an elevated position by means of a spring 24.

As seen in Fig. 1 the movable switch point 5 is so positioned as to cause the car wheels to pass onto the rails 3 and 4 of the switch or turn out, and when the motorman or driver of a car approaching the movable switch point desires to shift the same to cause the car wheels to traverse the main track rails the plunger 23 is moved downward by means of foot pressure, thereby moving the frame 21 carrying the wedge or tongue 20, downward, and said wedge or tongue passes through the slot or space beyond the two parts of the cover plate, and enters the groove 12 in the plate 11. As the car moves forward toward the movable switch point, the wedge or tongue 20 traversing the groove 12 strikes against the side of the lever 14, and as a result of such engagement and the continued forward movement of the wedge of tongue 20, said lever 14 is shifted laterally in the recess or pocket 13 until its position is reversed, and as a result of this shifting movement of said lever, the lever 8 is swung upon its fulcrum, thereby moving the link 10 laterally a short distance and consequently shifting the position of the forward portion of the movable switch point so that the car wheels in passing over said movable switch point will maintain their positions upon their main track rails. During the shifting movement of the lever 14 the pins 15 and 17 traverse the slots 16 and 18, and when the wedge or tongue 20 leaves the rear end of the lever 14 the forward end of said lever has been moved into proper position to be engaged by a succeeding car which is to be switched onto the side track or turn out. By locating the lower end of the pin 17 in a transversely disposed slot, a movable fulcrum is provided for the lever 14, and thus said lever can be shifted bodily by the wedge or tongue 20 engaging against the side thereof to reverse the position of said lever, and set its forward end in proper position to be engaged by the switch point actuating means carried by a succeeding car. When the lever 14 is engaged by the wedge or tongue 20 it is shifted bodily from one side of the recess 13 to the other, thus permitting the wedge or tongue to travel in a straight line from one of the grooves 12 to the other, and for this reason, and for the reason that the lever 14 after movement is in proper

position to receive the actuating means carried by a succeeding car, it is only necessary to provide one plunger or actuating member on the car platform, and thus the movable switch point is thrown in both directions by one and the same movement of the single actuating member on the car platform. If desired a small wheel or roller can be positioned on the lower end of the plunger 23, and which wheel or roller performs the same function as the wedge or tongue 20. If for any reason the actuating parts on the car platform become broken or are rendered inoperative the movable switch point 5 can readily be shifted as desired with the ordinary switch point turning bar, usually carried on the car platform or dash board.

A switch point actuating mechanism of my improved construction is comparatively simple, can be readily installed, is particularly adapted for use in connection with street railways, and by its use much time and labor is saved in the throwing of the movable switch points.

I claim:

1. In an apparatus of the class described the combination with a movable switch point, of a plate located adjacent said switch point, in which plate is formed a recess, a lever fulcrumed on said plate within said recess, one end of which lever is connected to the movable switch point, a second plate overlying the first-mentioned plate in which second-mentioned plate is formed a longitudinally disposed groove having a widened portion, a second lever positioned in the widened portion of the groove and adapted to be moved bodily by means carried by a car, said second-mentioned plate being provided with a pair of transversely disposed slots in the widened portion of the groove, a pivot pin passing through one of the slots and connecting the corresponding ends of the two levers and a pin seated in the second-mentioned lever and extending downward into the other one of the transverse slots for limiting the transverse movement of said second-mentioned lever.

2. In an apparatus of the class described the combination with a movable switch point, of a plate located adjacent said switch point, in which plate is formed a recess, a lever fulcrumed on said plate within said recess, one end of which lever is connected to the movable switch point, a second plate overlying the first-mentioned plate in which second-mentioned plate is formed a longitudinally disposed groove having a widened portion, a second lever positioned in the widened portion of the groove and adapted to be moved bodily by means carried by a car, said second-mentioned plate being provided with a pair of transversely disposed slots in the widened portion of the groove, a pivot

pin passing through one of the slots and
connecting the corresponding ends of the
two levers and a pin seated in the second-
mentioned lever and cover plate formed in
5 two parts and mounted upon the second-
mentioned plate on opposite sides of the slot
therein.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses,
this 15th day of May, 1911.

ERNEST F. WIEDERHOLDT.

Witnesses:

M. P. SMITH,
B. S. REID.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."