

977,747.

H. C. MEAD.
RAILWAY SWITCH.
APPLICATION FILED APR. 11, 1910.

Patented Dec. 6, 1910.

3 SHEETS-SHEET 1.

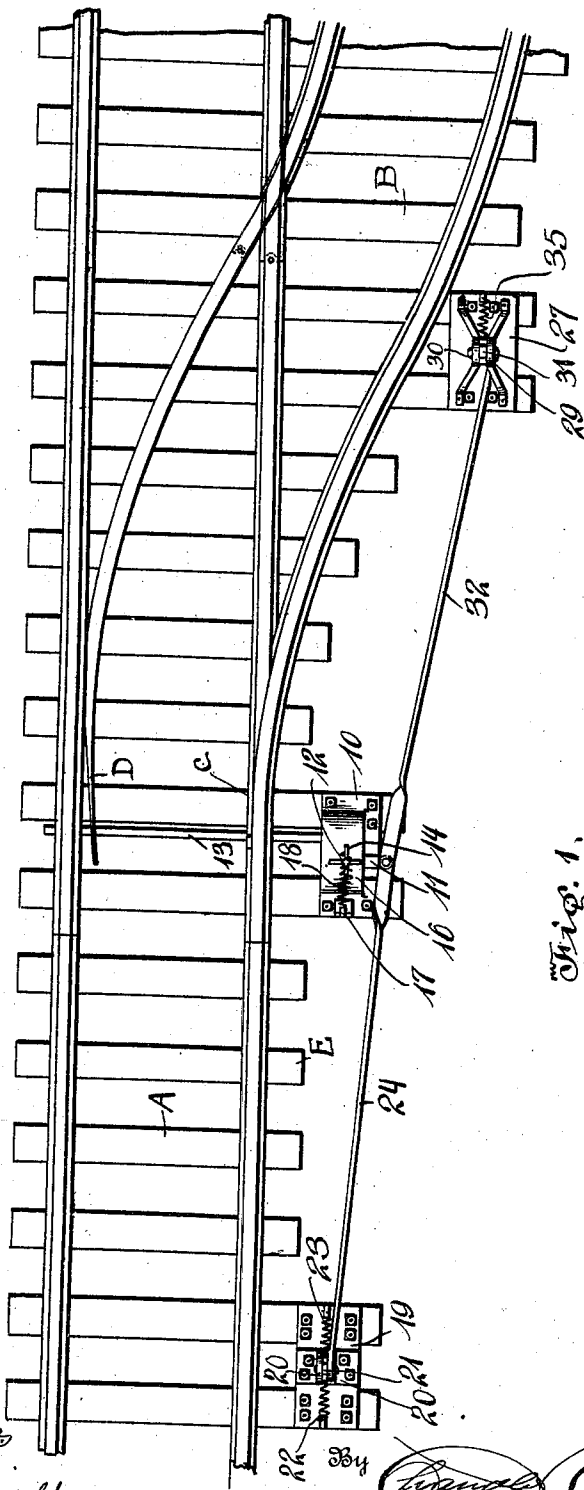


Fig. 1.

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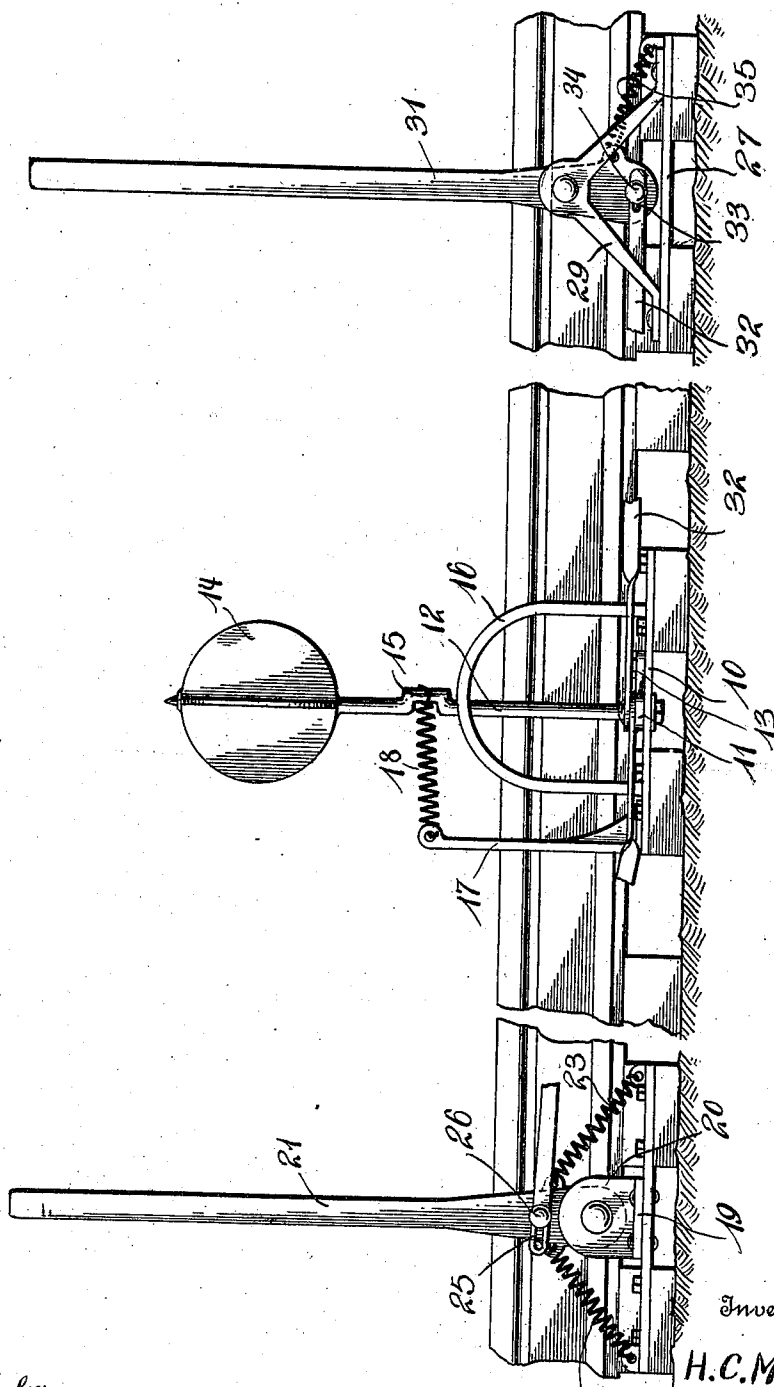
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3 SHEETS—SHEET 2.

Fig. 2.



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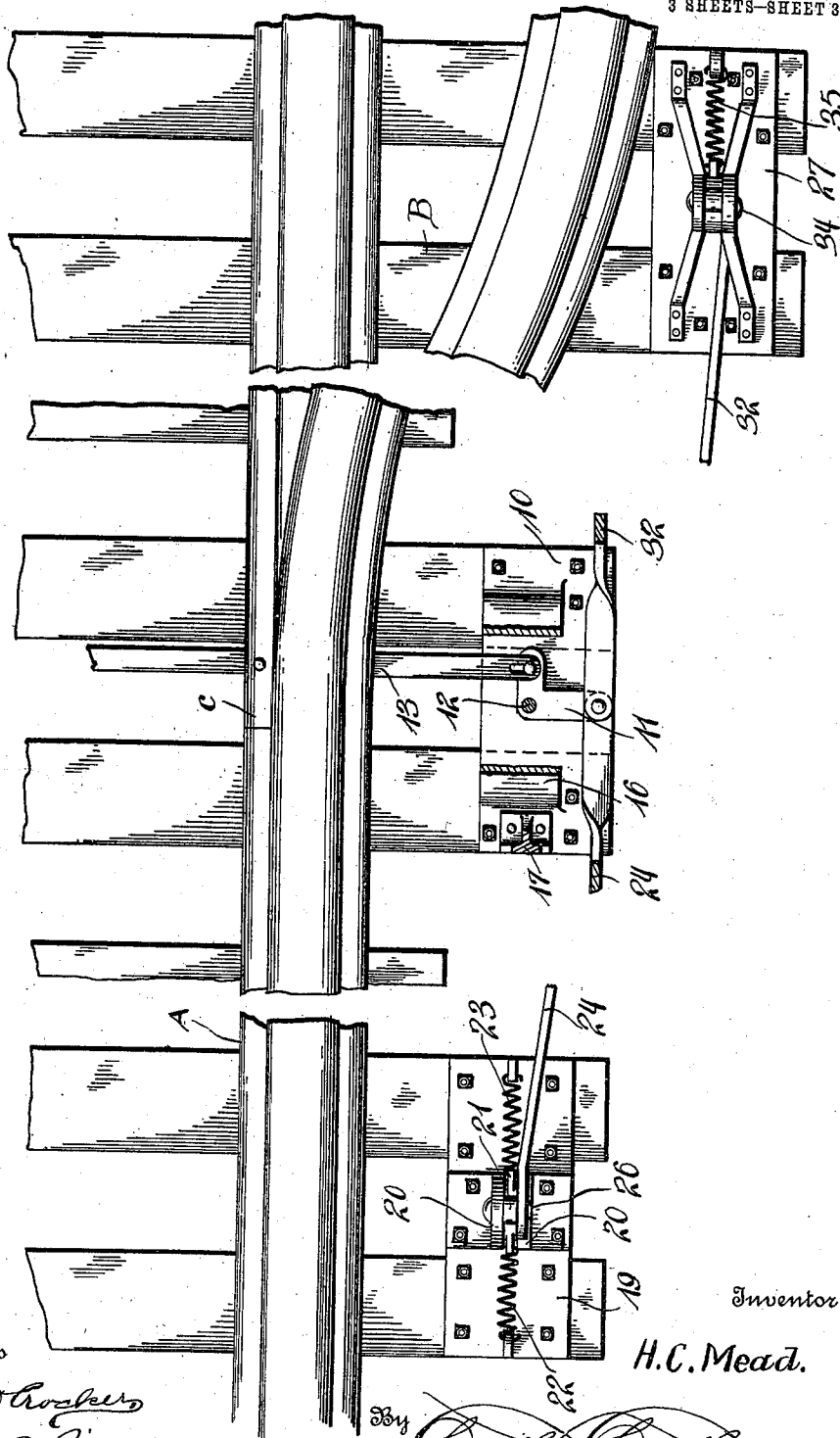
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY C. MEAD, OF ARLINGTON, SOUTH DAKOTA.

RAILWAY-SWITCH.

977,747.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, HENRY C. MEAD, a citizen of the United States, residing at Arlington, in the county of Kingsbury, State of South Dakota, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to railway switches; and more particularly to mechanisms for throwing the switch adapted to be operated by suitable projections carried at the front and rear respectively of a train traveling on the track.

The object of the invention resides in certain novel constructions and arrangement of parts, all of which will be fully described hereinafter and particularly pointed out in the claims.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters of reference denote corresponding parts in the several views and in which,

Figure 1 is a plan view of a main track and siding with the improved switch associated therewith; Fig. 2, an enlarged side view of the switch operating mechanism illustrated in Fig. 1, certain portions of said mechanism and the adjacent track being broken away; and, Fig. 3, an enlarged plan view of a fragment of what is shown in Fig. 1, with certain portions of the switch mechanism and track broken away and other portions of the switch mechanism shown in section.

Referring to the drawings, A represents generally the track and B the siding, while C and D designate the movable switch points controlling entrance upon the siding B from the track A.

Disposed upon the ties E is a plate 10 which has pivotally mounted thereon a bell crank 11 through the instrumentality of a vertically extending rod 12, which is adapted for rotation with the bell-crank 11. A bar 13 connects one arm of the bell-crank with the switch points C and D, whereby the oscillation of said bell crank will move said switch points so as to open and close the switch. The bar 12 carries at its upper end the usual target 14 for indicating the status of the switch while an offset portion 15 is

formed intermediately of said rod, the latter having a journal bearing just beneath the offset portion 15 in a U-shaped plate 16 which spans the plate 10. A vertical arm 17 rises from the plate 10 and a spring 18 has one end connected to the upper end of said arm and the other end to the offset portion 15 of said rod. From the construction just described it will be apparent that when the offset portion 15 is disposed in line with the direction of the pull exerted by the spring 18; said pull of the spring will be without effect to rotate the rod 12 and by this means the spring 18 is prevented from automatically tending to move the switch to open position. However, should the offset portion 15 be moved laterally from the position just referred to it will be apparent that the spring 18 will effect a rotation of the rod 12 and thus move the switch to and hold the same in open position.

Mounted upon the ties E on one side of the plate 10 is another plate 19 which has secured thereto an ear 20. Pivotal connection to said ear is an operating lever 21 which is normally balanced in vertical position by springs 22 and 23 which have their ends secured respectively to opposite sides of said lever above its pivotal connection with the ear 20, and to the plate 19. A link 24 has one end pivotally connected with an arm of the bell-crank 11 while its other end is provided with a longitudinal slot 25. A stud 26 projects laterally from the lever 21 through the slot 25 and thus operatively connects said lever with the bell crank 11. When the bell crank 11 has been moved so as to close the switch the stud 26 is disposed at the inner end of the slot 25 so that when the lever 21 is operated to open the switch the movements thereof are immediately transmitted to the bell-crank 11; the spring 22 serving to return the lever to normal position when the force applied in actuating said lever as before mentioned is removed. Mounted on the ties E, at the other side of the plate 10 and adjacent the rails of the siding B is a plate 27 upon which is mounted a pair of spaced journal brackets 29 and 30. Pivotal connection between the brackets 29 and 30 is an operating lever 31, the lower end of which is extended beyond its pivotal connection with said brackets. Pivotal connection with an arm of the bell-crank 11, in common with the link 24 is one end of a link 32; the other end of said link

being provided with a longitudinal slot 33. A stud 34 projects laterally from the lever 31 through the slot 33, at a point beneath the pivotal connection of said lever with the brackets 29 and 30. A spring 35 has one end connected with the lever 31 and the other end to the plate 27 and normally tends to hold the lever 31 so disposed that the stud 34 will be located at the outer end of the slot 33.

In operation, should a train approaching the switch desire to enter the siding B it will only be necessary to engage the lever 21 with a projection on the engine which will cause said lever through the instrumentality of the various connections heretofore described to open said switch with respect to the main track. During this operation of the lever 21, the lever 31 will be rocked on its pivot in a direction opposite to that in which the lever 21 is moved. A suitable projection on the rear of the moving train serves to engage and actuate the lever 31 to return the switch to open position with respect to the main track after the train has completely entered the siding. During this operation the spring 18 serves to automatically assist in moving the switch to open position and further serves to maintain the switch in open position when the latter has been thus moved.

What is claimed is:

1. In a railway switch, the combination of the movable switch points, a pivotally mounted bell-crank, connections between said switch points and one arm of said bell-crank whereby the oscillation of the latter will move the switch points to open and close the switch, a pair of pivoted levers disposed respectively on opposite sides of said

bell-crank, a pair of links having their adjacent ends pivotally connected to the other arm of said bell-crank; said links being each provided with longitudinal slots in their outer ends, a laterally projecting pin secured to one of said pivoted levers above its pivot and extending through the slot in the end of one of said links, a laterally projecting pin secured to the other pivoted lever below its pivot and extending through the slot in the end of the other link, and spring actuated means constantly tending to move and hold said levers so that the switch will be disposed in open position.

2. In a railway switch, the combination of the movable switch points, a pivotally mounted bell-crank, connections between said switch points and one arm of said bell-crank whereby the oscillation of the latter will move the switch points to open and close the switch, a vertical rod constituting the pivot of said bell crank and rotatable therewith, an intermediate offset portion formed in said rod, a vertical arm disposed adjacent said rod, a spring having one end connected to said arm and the other end to said offset portion, a pair of pivoted levers disposed respectively on opposite sides of said bell crank, a link connecting each of said levers with the other arm of said bell crank, one of said links being connected to the lever above the pivot point of the latter, and the other link connected to its lever below the pivot point of the latter.

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

HENRY C. MEAD.

Witnesses:

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H. G. TAMMERNIK.