

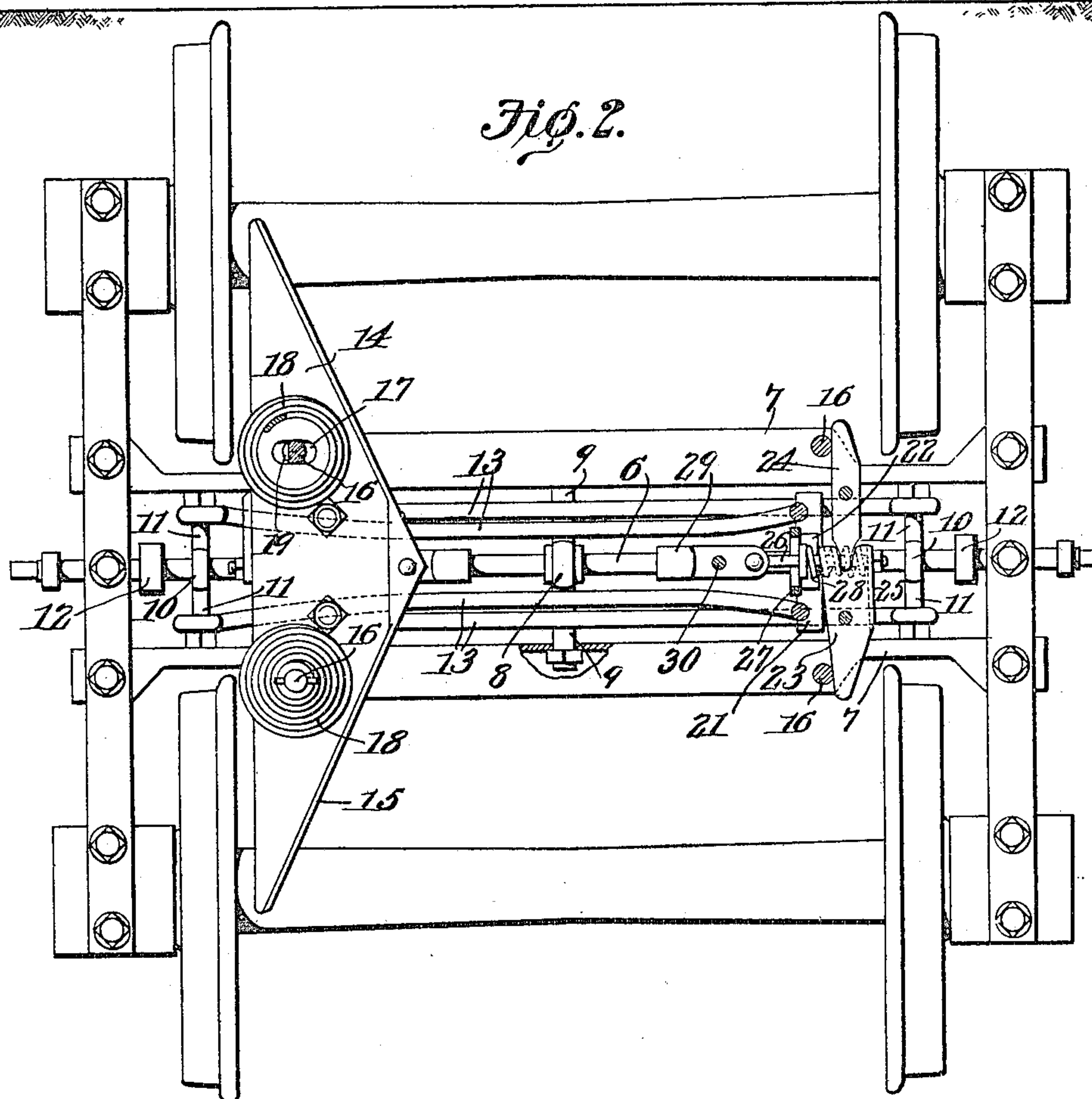
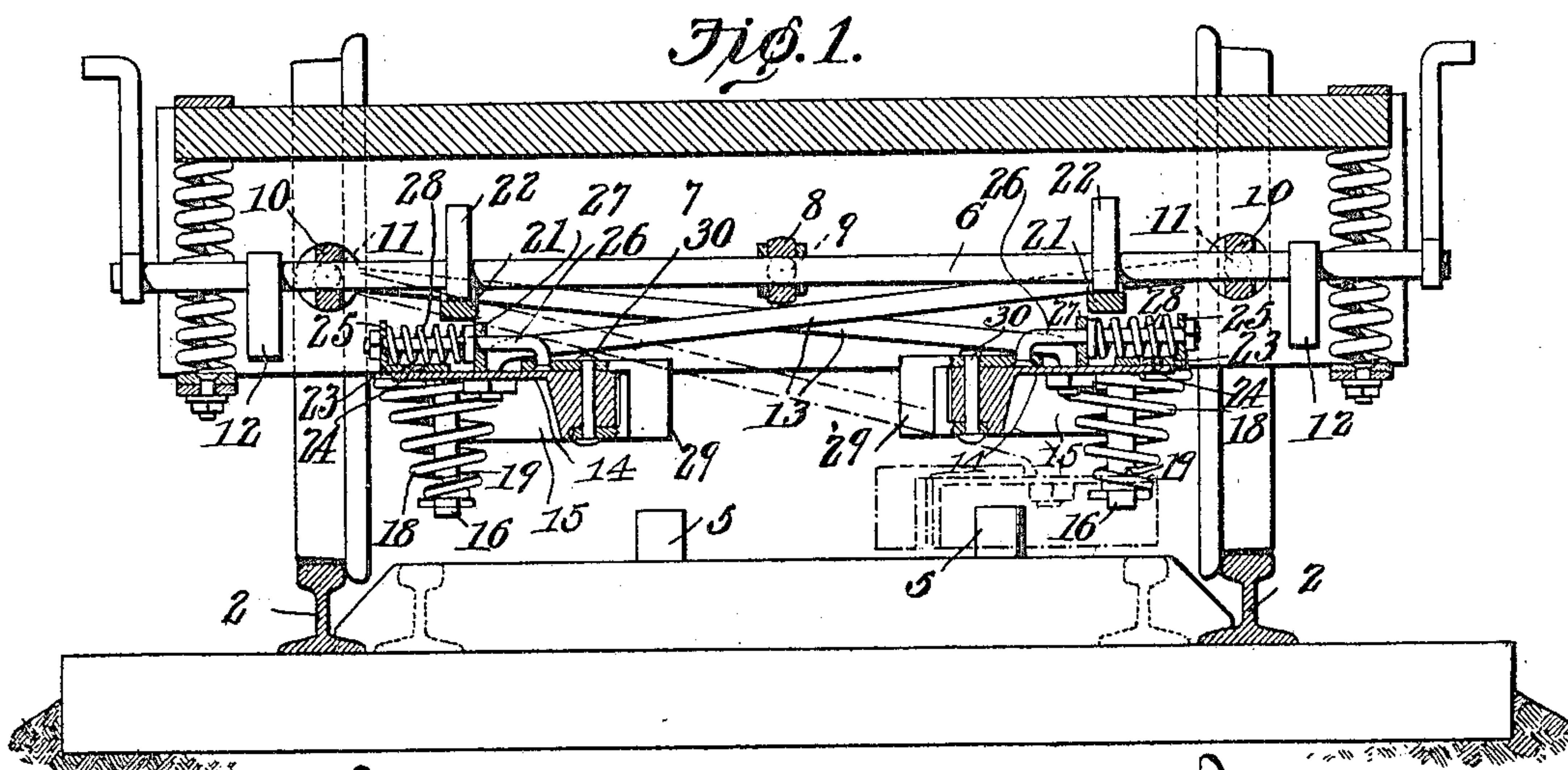
No. 831,672.

PATENTED SEPT. 25, 1906.

L. LOVOY.
TRUCK SWITCH OPERATING DEVICE.

APPLICATION FILED JUNE 14, 1906.

2 SHEETS—SHEET 1.



WITNESSES:
E. J. Stewart
J. A. Bishop.

Louis Lovoy, INVENTOR
By *C. A. Snow & Co.*
ATTORNEYS

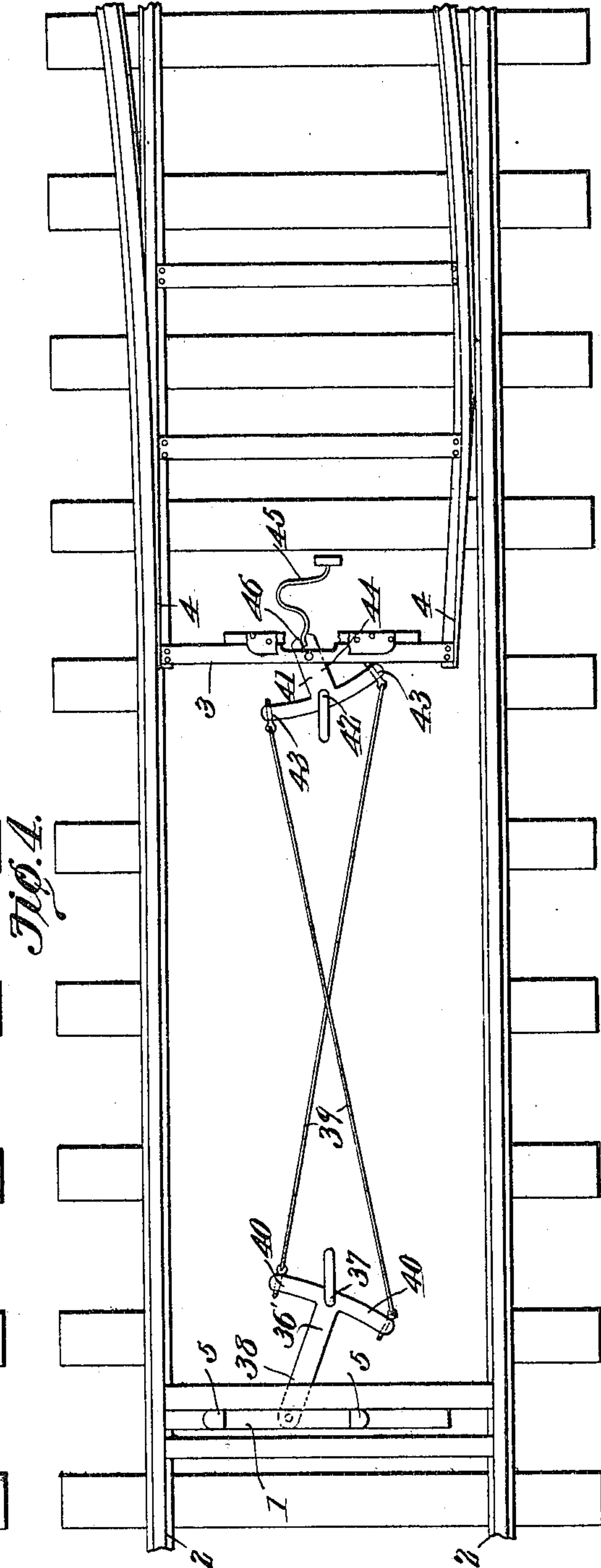
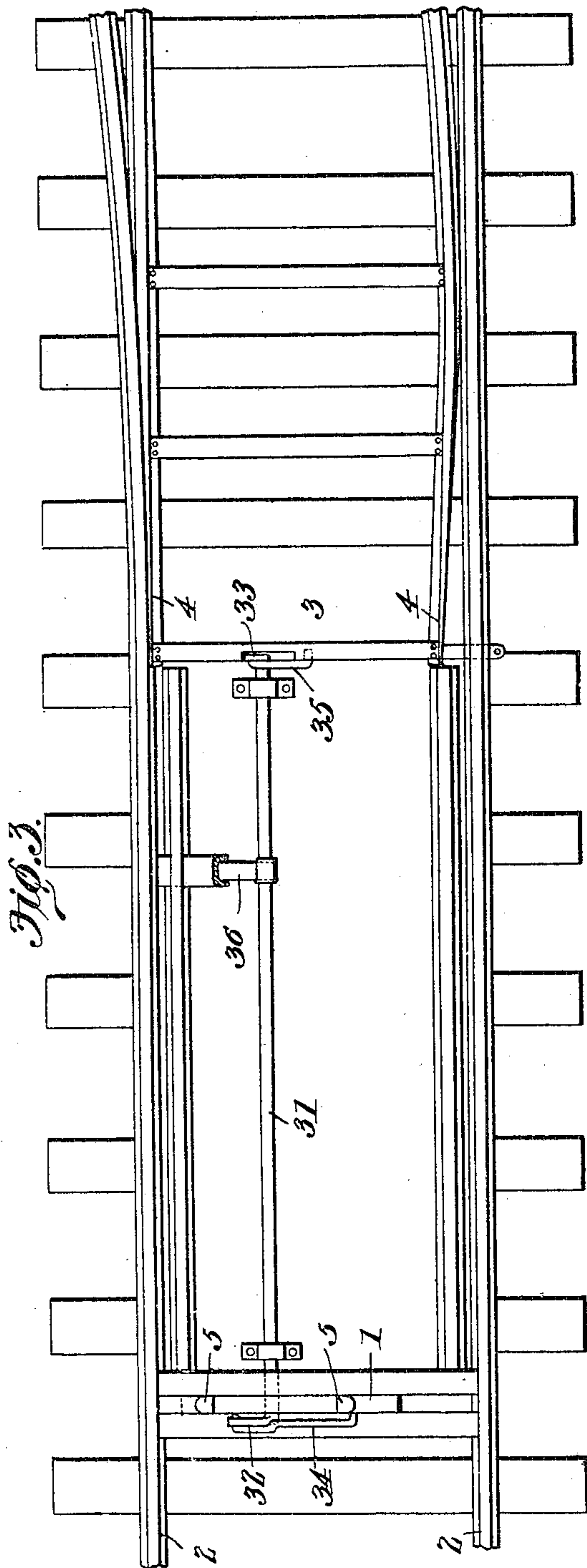
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UNITED STATES PATENT OFFICE.

LOUIS LOVOY, OF BIRMINGHAM, ALABAMA.

TRUCK-SWITCH-OPERATING DEVICE.

No. 831,672.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed June 14, 1906. Serial No. 321,731.

To all whom it may concern:

Be it known that I, LOUIS LOVOY, a subject of the King of Italy, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Truck-Switch-Operating Device, of which the following is a specification.

This invention has relation to switch-operating devices; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a switch for railway-tracks which may be thrown or operated by suitable mechanism mounted on a truck which passes over the track. The points of the switch are connected to a laterally-movable bar which is located between the rails of the track. The said bar is operatively connected with a second bar, also located between the track and which is provided with upwardly-extending lugs. The said bars are so mounted as to move simultaneously, and upon the truck of the car or locomotive that passes over the track is located flanges which are adapted to be depressed, so that the upper ends of said lugs will be in the path of said flanges as they pass over the last said bar. The flanges are pitched at an angle, and when they engage the said lugs they move the bars laterally, and consequently the switch is thrown. One flange is adapted when lowered to move the bars in one direction, while the other flange when lowered is adapted to move the bars in the opposite direction. Means is provided for retaining the said flanges in their depressed positions until they have engaged the lugs and operated the said bars. A means is also provided for automatically elevating the said flanges after they have engaged the said lugs and moved the bars.

In the accompanying drawings, Figure 1 is a transverse sectional view of the track and truck, showing the lug-engaging parts attached thereto. Fig. 2 is a bottom plan view of the truck with parts removed. Fig. 3 is a top plan view of one form of switch attachment. Fig. 4 is a top plan view of a modified form of switch attachment.

The bar 1 is located between the rails 2 2 and is adapted to move in a lateral direction with relation to the same. The bar 3 is also located between the rails 2, and the switch-points 4 4 are attached to the said bar. Means is provided for causing the said bars 1 and 3 to move simultaneously. In Figs. 3

and 4 two such means are illustrated and will be explained hereinafter. The bar 1 is provided with the upwardly-extending lugs 5 5.

The shaft 6 is journaled between the parallel beams 7 of the truck. Said shaft 6 is journaled in the bearing 8, and the said bearing 8 is supported by the arms 9 9, which in turn are attached to the beams 7 7. The bearings 10 10 are also supported by the beams 7 7 by means of the laterally-extending arms 11 11. The said bearings 10 10 receive the shaft 6 and are located near the ends of the same. The weights 12 12 are fixed to the shaft 6 and are adapted to retain the same in its normal position. The said weights are eccentrically mounted upon the said shaft 6.

The arms 13 13 are pivoted at their upper ends to the laterally-extending arms 11 11, and to the lower ends of the said arms are attached the horizontal plates 14. The inner edges of the said plates 14 are provided with the depending flanges 15. The said plates in horizontal plan are triangular and their front and rear pointed ends extend some distance beyond the sides of the beams 7, the apex of the angle of the said plates being located substantially below the center longitudinal axis of the shaft 6. The pins 16 16 are attached at their upper ends to the beams 7 7 and pass through the perforations 17 in the said plates 14. The said pins 16 serve as guides for the said plates. The coil-springs 18 surround the pins 16 and are fixed at their lower ends to the said pins and bear at their upper ends against the under side of the plates 14. The tension of said springs is such as to have a tendency to retain the plates 14 and their attachments in elevated positions.

The side of each pin 16 is provided with a notch 19. The arms 13 13 are connected together near their upper ends by the cross-piece 21, and attached to the shaft 6 directly above each cross-piece 21 is an eccentric 22. Said eccentric bears against the cross-piece 21, located below the same, and when the shaft 6 is partially rotated in one direction one eccentric 22 will cause the set of arms 13, with which it is operatively connected, to descend at their lower ends, while when the said shaft 6 is partially rotated in the opposite direction the other set of arms 13 are caused to descend at their lower ends. Each plate 14 is provided on its top with two levers 23 and 24. The inner ends of said levers intermesh and are adapted to move in a transverse direction

together. The outer edges of said levers are adapted to enter the notches 19 of the pins 16 when the plate 14 is depressed, and thus the said plate 14 is held in its depressed position. The edge of the lever 23 is provided with a flange 25. The link 26 is fixed at one end to said flange 25 and passes through the guide 27, which in turn is fixed to the top of the plate 14.

10 The coil-spring 28 is interposed between the guide 27 and flange 25. The tension of said spring is such as to force the intermeshing ends of the levers 23 and 24 away from the lug 27, and consequently to retain the
15 edges of the said levers in contact with the edges of the pins 16 16 and within the notches 19 when the plate 14 is depressed. The trip 29 is pivoted to the plate 14 and extends down in front of the apex of the angle thereof.
20 The link 26 is pivoted to the end of said trip 29 just behind the pivotal point 30 thereof.

Any suitable means may be provided for partially rotating the shaft 6. Such means is not shown in the drawings, as it forms no
25 part of this invention; but it is understood that any of the common lever mechanisms as are used upon cars for moving brake-beams, &c., may be applied in this connection. When one of the plates 14 is depressed
30 by the partial rotation of the shaft 6, as above described, the lower edge of the said plate will extend below the upper edge of the lug 5. Consequently as the depending flange 15 of the said plate comes in contact with the lug
35 the said lug and bar 1 are moved laterally with relation to the track, and as the bar 3 moves simultaneously with the said lug the switch-points 4 are thrown in advance of the truck having the lug-engaging means. After the
40 lug 5 is moved as far laterally as possible the trip 29 strikes the said lug, and the said trip is turned upon its pivot 30. This draws the link 26 toward the pointed end of the plate 14 and overcomes the tension of the coil-
45 spring 28. At the same time the intermeshing ends of the levers 23 are moved toward the lug 27, and the edges of the said levers are moved out of the notches 19. The tension of the coil-springs 18 then comes into
50 play and immediately raises the plate 14 and its attachments into its elevated position.

As shown in Fig. 3 of the drawings, the means for causing the bars 1 and 3 to move laterally with relation to the track 2, and simultaneously, consists of the shaft 31, which
55 is journaled between the rails 2 2 and extends parallel with the same. The cranks 32 and 33 are formed at the ends of the shaft 31, and to the end of the crank 32 is pivotally attached the end of the link 34. The other end of the said link is pivotally attached to the side of the bar 1. The link 35 is pivotally attached at one end to the crank 33 and at its other end is pivotally attached to the bar 3.
65 The spring 36 is fixed at one end to any suit-

able stationary object and engages the said shaft 31, and its tension is adapted to retard the rotary movement thereof.

In the form of the means for connecting the bars 1 and 3 shown in Fig. 4 of the draw-
70 ings the T-lever 36 is fulcrumed at the point 37 between the rails 2 2. The power end 38 of the said lever is pivoted to the bar 1, and the wires or rods 39 are attached to the working ends 40 40 of the said lever. A smaller
75 T-lever 41 is fulcrumed at the point 42 between the rails 2 2, and the said wires or rods 39 cross each other and are attached at their other ends to the ends 43 43 of the lever 41. The end 44 of the lever 41 is pivoted to the
80 bar 3. The spring 45 is secured at one end to any suitable stationary object and at its other end enters the recess 46 in the end 44 of the lever 41. The tension of said spring 45
85 is such as to have a tendency to retain the lever 41 in either of the positions they may assume when the bar 3 is located at one or the other side of the track.

When the locomotive passes through a switch, the switch remains in the position as
90 when the locomotive passes through—that is to say, the switch does not jump back to the position it was in before the locomotive passed. Any suitable hand-operated means
95 (not shown) may be provided for operating the switch manually to permit the truck or locomotive to come out of the switch upon the track.

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

1. A switch-operating mechanism consisting of a bar located between the rails and attached to the switch-points, said bar adapted to slide laterally of the track, a second bar
105 also located between the rails and operatively connected with the first said bar and adapted to slide simultaneously therewith, and a means carried by a truck for engaging and operating the last said bar.

2. A switch-operating mechanism consisting of a bar located between the rails and attached to the switch-points and adapted to slide laterally of the track, a second bar also
115 located between the rails and being operatively connected with the first said bar and adapted to slide simultaneously therewith, said second bar having lugs, a truck adapted to pass over the track and having means for engaging said lugs and operating the bars.

3. A switch mechanism consisting of a bar located between rails and adapted to slide laterally of the track and being connected with the switch-points, a second bar also lo-
125 cated between the rails and adapted to slide laterally, T-levers fulcrumed between the rails and having their ends pivotally attached to said bars, cross-rods connecting the ends of one T-lever with the ends of the other
130 T-lever, a truck adapted to move upon the

track and having means for engaging one of said bars to operate the same.

4. A switch mechanism consisting of a bar located between rails and adapted to move laterally and being attached to the switch-points, a second bar also located between the rails and adapted to move laterally, T-levers suitably fulcrumed and being pivotally attached at one end to one of said bars, cross-rods connecting the ends of one lever with the ends of the other lever, a spring suitably secured and bearing against one of the T-levers, and a means attached to a truck and adapted to engage and operate one of said bars.

5. A switch mechanism consisting of a bar located between the track-rails and being operatively connected with the switch-points, a means for moving said bar consisting of a plate of triangular shape in horizontal plan, said plate having a depending flange adapted to engage said bar, said plate being mounted upon the truck and means for raising and lowering said plate.

6. A switch-operating mechanism consisting of a bar located between the track-rails and being operatively connected with the switch-points, a plate located upon a truck, a means for moving said plate vertically, said plate when depressed adapted to engage said bar and operate the same, means for holding said plate in said depressed position, a trip attached to the plate and adapted to engage the bar and release the plate-holding means whereby the plate may elevate.

7. A switch-operating mechanism consisting of a bar located between the track-rails and being connected with the switch-points, a plate carried by a truck, said plate being adapted to move vertically, pins attached to the truck and passing through perforations in the plate and serving as guides for the same, said pins having notches, a means for depressing said plate, spring-actuated levers fulcrumed upon the plate and adapted to en-

ter the notches of said pins, a trip pivoted to the plate and being connected with said levers, said plate when in depressed position adapted to engage and operate said bar, said trip adapted to engage said bar and be operated in order to release the plate.

8. A switch mechanism consisting of a bar located between the track-rails and being operatively connected with the switch-points, a plate carried by a truck, said plate being adapted to move vertically, arms attached at their lower ends to said plate and supporting the same, a shaft journaled to the truck, an eccentric attached to said shaft and being adapted to engage and operate said arms.

9. A switch-operating mechanism consisting of a bar located between the track-rails and being operatively connected with the switch-points, a plate carried by a truck and adapted to move vertically, arms supporting said plate at their lower ends, said arms extending laterally and being pivoted at their upper ends to the truck, a shaft journaled in an elevated position between said arms, an eccentric fixed to said shaft and adapted to engage and operate said arms.

10. A switch-operating mechanism consisting of a bar located between the track-rails and being operatively connected with the switch-points, a plate carried by a truck and adapted to move vertically, arms attached to said plate at their lower ends, said arms being pivoted at their upper ends to the truck, a shaft journaled to the truck and having weights attached thereto which are adapted to maintain the shaft in its normal position, an eccentric fixed to the shaft and adapted to engage and operate said arms.

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

LOUIS LOVOY.

Witnesses:

CHAS. DENEGRÉ,

JOHN DENEGRÉ.