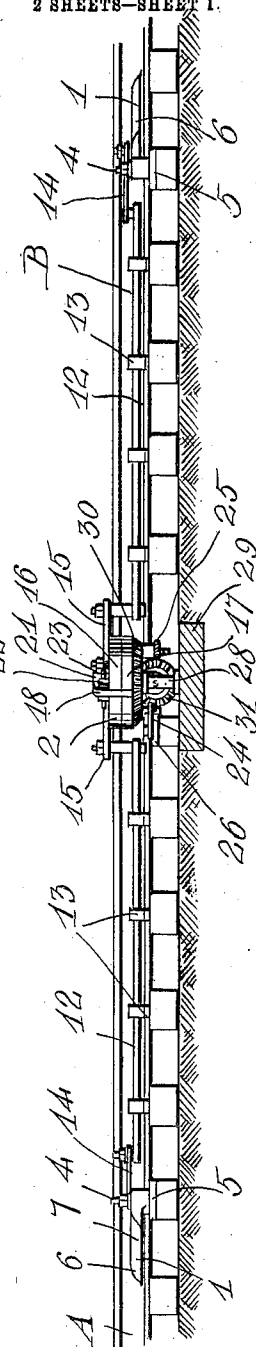
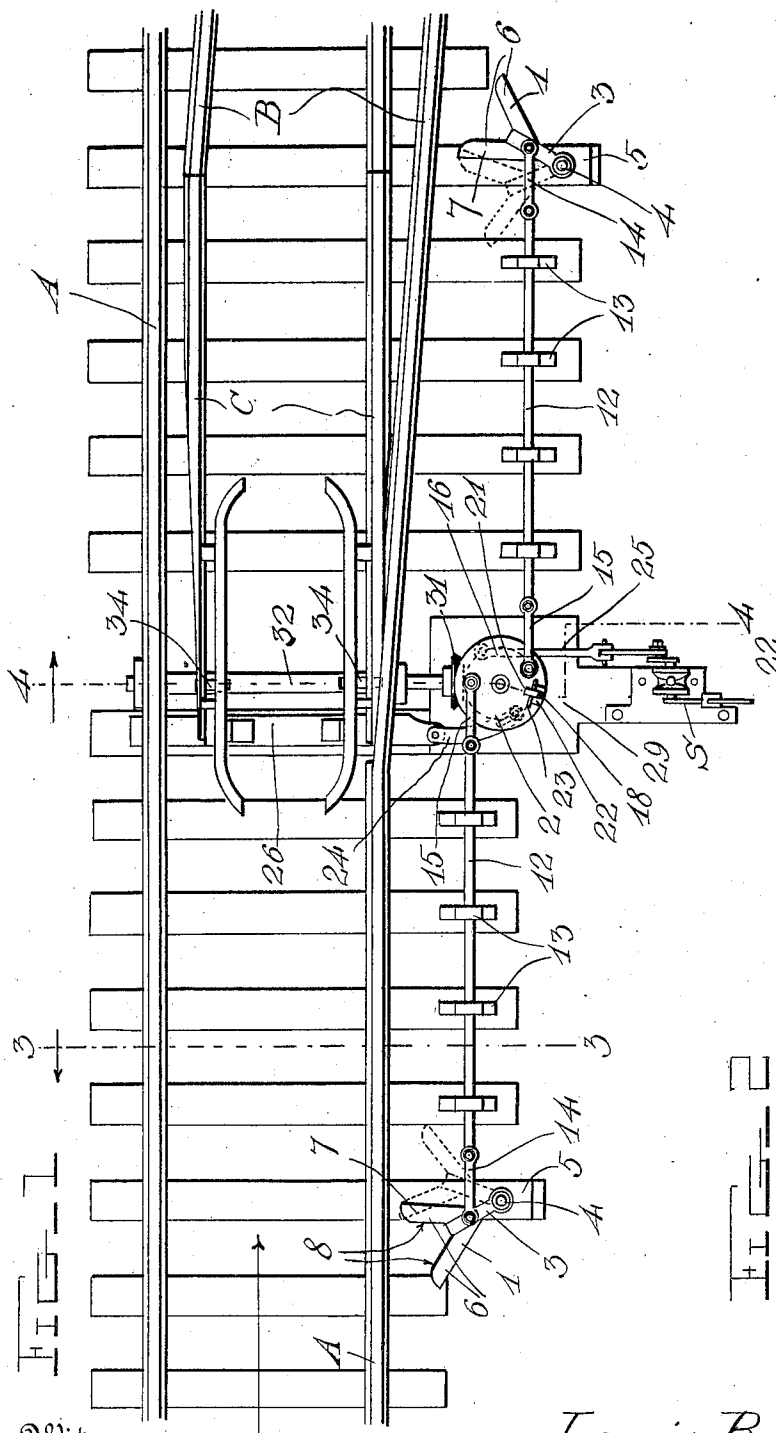


No. 836,135.

PATENTED NOV. 20, 1906.

L. R. PARSONS.
RAILWAY SWITCH.
APPLICATION FILED MAR. 19, 1906.

2 SHEETS—SHEET 1.



Witnesses
C. H. Giesbauer.

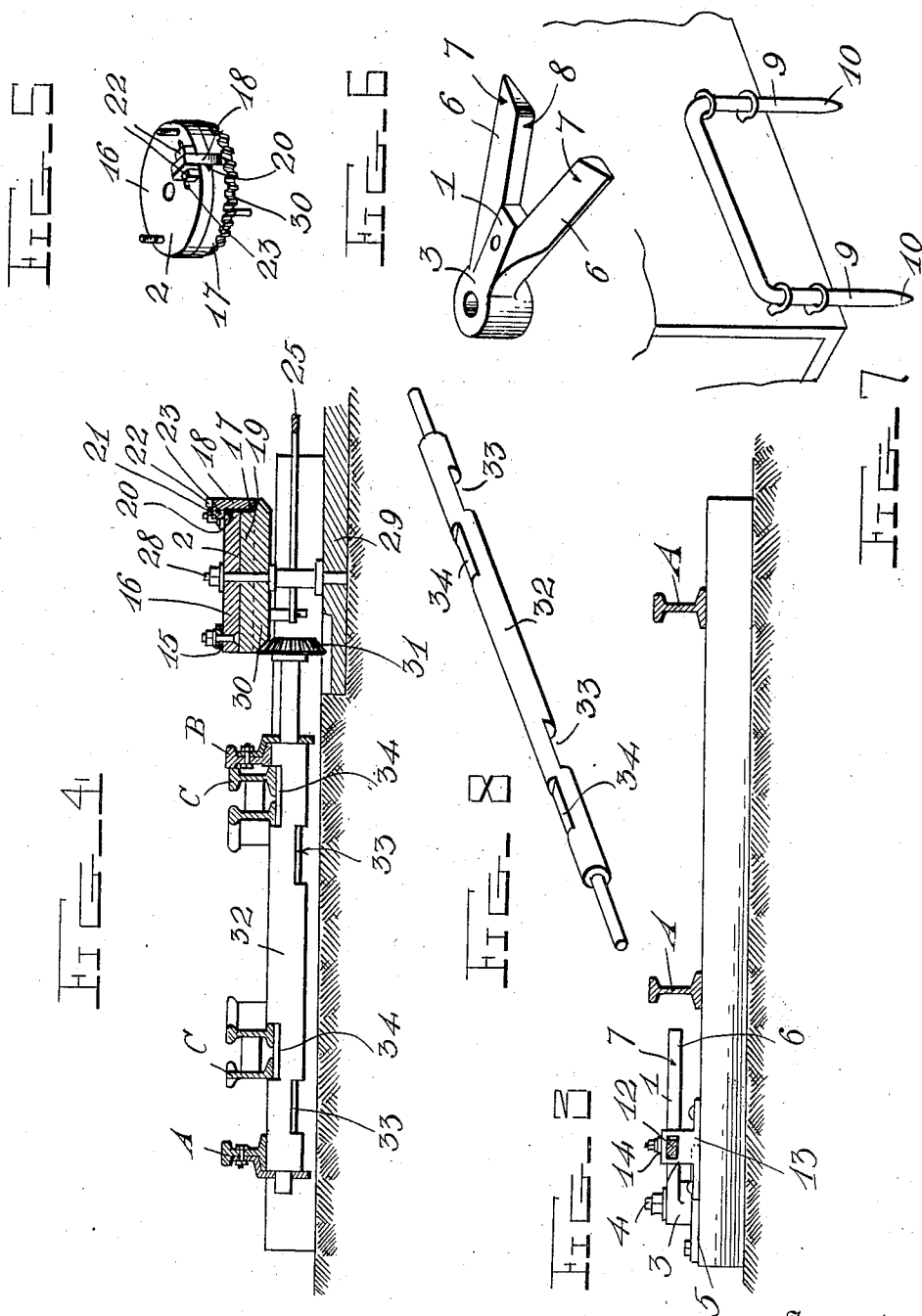
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Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS R. PARSONS, OF RARITAN, ILLINOIS, ASSIGNOR OF ONE-TWENTIETH TO ROBERT E. VEECH, OF STRONGHURST, ILLINOIS.

RAILWAY-SWITCH.

No. 836,135.

Specification of Letters Patent.

Patented Nov. 20, 1906.

Application filed March 19, 1906. Serial No. 306,856.

To all whom it may concern:

Be it known that I, LOUIS R. PARSONS, a citizen of the United States, residing at Raritan, in the county of Henderson and State of Illinois, have invented certain new and useful Improvements in Railway-Switches; and I do 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.

My invention relates to improvements in automatic railway-switches, and more particularly to the one set forth in Patent No. 811,738 granted to me February 6, 1906.

The main object of the present invention is to improve and simplify the construction and operation of devices of this character, and thereby render the same more durable and efficient and less expensive.

Another object of the present invention is to provide means whereby the car-actuated trip mechanism may be thrown out of operation, so that the switch-points may be actuated by hand.

Another object of the invention is to provide a simple, durable, inexpensive, and efficient trip device adapted to be actuated by suitable mechanism upon a moving car or train.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a portion of a main-line track and its siding with my improved mechanism for operating the switch-points applied thereto. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are vertical transverse sectional views taken, respectively, on the lines 3-3 and 4-4 in Fig. 1. Fig. 5 is a perspective view of the rotary wheel or element which connects the switch-points to the trip devices along the track and the usual switch-stand. Fig. 6 is a perspective view of one of the trip-levers having the beveled angularly-projecting arms. Fig. 7 is a detail view of the device carried by the car or train for actuating the trip-levers, and Fig. 8 is a perspective view of the locking-shaft.

Referring more particularly to the drawings, A denotes the main track, B denotes a

siding leading from the main track, and C 55 denotes a pair of movable switch-points which are actuated by my improved mechanism. This mechanism comprises one or more oscillatory trip devices or levers 1, arranged adjacent to the track upon one or 60 both sides of the switch-points and actuated by suitable devices upon the cars or trains passing over the track, and a rotary disk or wheel 2, mounted to one side of the track adjacent to the switch-points and operatively 65 connected to the latter, the trip levers or devices 1, and the usual switch-stand, which is conventionally illustrated at S. Two of the levers 1 are shown, one being arranged at a suitable distance from each end 70 of the switch and each being similar and of substantially Y shape. The main or body portion 3 of each of the levers 1 is pivoted adjacent to one of its ends upon a vertical pivot 4, arising from a base-plate 5, which is 75 secured upon the top of one of the cross-ties. The lever 1 is thus mounted to swing horizontally, and its two angularly-projecting arms or branches 6 extend inwardly or toward the track and have their outer and upper 80 faces beveled, as shown at 7, their inner faces 8 being vertical or perpendicular. Any suitable devices for actuating these levers may be mounted upon the locomotives, coaches or cars, and the cabooses of the trains passing 85 over the track; but I preferably employ a device similar to that shown in Fig. 7 of the drawings. This device comprises vertically-extending members or arms 9, which slide vertically in suitable guides and have rounded or beveled lower ends 10, which lie normally in the path of the arms 6 of said levers. It will be seen that when one of the arms 9 engages the vertical or inner face 8 of one of the arms 6 the lever 1, which carries the arm 95 6, will be swung or actuated and that when the arm 9 engages the beveled face 7 of one of the arms 6 its lever will not be actuated, since the rounded end 10 of the arm will slide upwardly and over the beveled face 7. Each 100 of the levers 1 is operatively connected to the rotary disk or element 2 by a longitudinally-extending rod 12, which is preferably of square or rectangular form in cross-section and is slidably mounted in guides 13, secured 105 upon the cross-ties, as clearly shown in the drawings. The outer end of each of the rods 12 is connected to the body portion 3 of one

of the levers 1 by a link 14, which is pivotally connected at one of its ends to the rod and at its other end to the lever.

The inner ends of the rods 12 are similarly connected by links 15 to the rotary element or wheel 2, which latter consists of superposed concentrically-pivoted disks 16 17, which are adapted to rotate independent of each other and which may be locked to rotate together by any suitable means. As shown, this means consists of a latch or lever 18, which is pivoted at 19 in a notch or periphery of one of the disks and adapted to be swung into and out of a similar notch 20 in the other of said disks. The free end of the latch or lever 18 has an offset portion 21, adapted to project between lugs 22 upon the opposite sides of the notch 20 and apertured to receive a pin, lock, or other device 23, by means of which the latch or lever is secured in its closed or locked position. The links 15 have their outer ends pivoted to the inner ends of the sliding bars 12 and their outer ends pivoted at diametrically opposite points upon the upper face of the upper disk 16. The lower disk 17 has pivoted upon its under face at diametrically opposite points oppositely-projecting links 24 25, the former of which is pivoted to one end of a cross-bar 26, which is secured to the switch-points C and the latter of which is operatively connected to the usual switch-stand S. It will be seen that when the two disks of the rotary element 2 are locked together by the latch or lever 18 the switch-points and also the switch-stand will be actuated whenever one of the levers 1 is actuated by a passing train and that when the disks 16 17 of the element 2 are disconnected by releasing the latch or lever 18 the switch-stand S may be actuated by hand to throw the points of the switch without actuating the trip-levers 1 and their connecting-bars 2.

The disks 16 17 of the element 2 rotate upon the vertical pivot 28, provided upon a suitable base 29 upon the cross-ties, and upon the lower disk 17 is formed or secured a bevel-gear 30, which meshes with a beveled pinion 31 upon a transversely-extending shaft 32, which is adapted to lock the switch-points C in their opened and closed positions. This locking-shaft 32 is mounted in suitable bearings and extends beneath the track-rails and switch-points, as clearly shown in Fig. 4 of the drawings. In longitudinal alinement adjacent to the opposite ends of the said shaft are formed notches or recesses 33, which are adapted to receive the bottom faces of the switch-points C when in their opened positions, and upon opposite points on said shaft are formed similar notches or recesses 34, into which the switch-points are adapted to drop when in their closed position. The pinion 31 is one-half the size of the gear 32, so that when the latter is rotated one-fourth

of a revolution by the operation of one of the levers 1 the shaft 32 will make one-half of a revolution to cause either the pair of notches 33 or the pair 34 to be turned uppermost to receive the switch-points while the other pair is disposed at the bottom of the shaft, so that they will not become filled or clogged with snow, ice, and the like.

The operation of the mechanism is as follows: When the main-line track is closed, as shown in Fig. 1 of the drawings, and a train is approaching the switch in the direction of the arrow, the trip arm or device 9 upon the locomotive will engage the vertical side face 8 of the inwardly-extending arm 6 of the adjacent lever 1 and swing the latter to the dotted-line position shown in said figure. This operation of said lever will also shift the other lever 1 to its dotted-line position, (shown in Fig. 1,) and it will rotate the element 2, which latter will actuate the switch-points and the switch-stand and also lock the switch-points in their opened position, so that the train will pass onto the siding. As the caboose or rear coach or car upon the train passes the other lever or device 1 the arm 9 upon the same will engage the vertical face of the inwardly-extending arm of said lever and actuate the mechanism to return the switch-points to their normal position to close the main line. By means of the latch 18 it will be seen that the automatic trip mechanism may be thrown out of operation to permit the switch-points and switch-stand to be readily operated by hand.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined by the appended claims.

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

1. A railway-switch having a movable switch-point, in combination with train-operated means, including a rotary element, to move said point, means to lock said switch-point in either position thereof, manually-operated means, including a rotary element, to operate said locking means and to also move said switch-point, and means to connect and disconnect said rotary elements to cause them to move either simultaneously or separately.

2. The combination with a main track and a siding, of a movable switch-point, a switch-stand, a trip device mounted adjacent to the track, superposed rotary disks or elements, one being connected to said trip device and the other to said switch-point and said switch-stand, and means for connecting said disks or elements to cause them to move together.

3. The combination with a main track and a siding, of a movable switch-point, a switch-

stand, a trip device mounted adjacent to the track, superposed rotary disks or elements, one being connected to said trip device and the other to said switch-point and said switch-stand, and a latch or lever pivoted upon one of said disks and adapted to enter a seat in the other to lock them together, substantially as described.

4. The combination with a main track and a siding, of a movable switch-point, a switch-stand, a trip device mounted adjacent to the track, superposed rotary disks or elements,

one being connected to said trip device and the other to said switch-point and said switch-stand, a locking means for securing said disks together, and means for retaining said means in its locked position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses

LOUIS R. PARSONS.

Witnesses:

T. J. ROBERTS,
J. E. AMERMAN.