

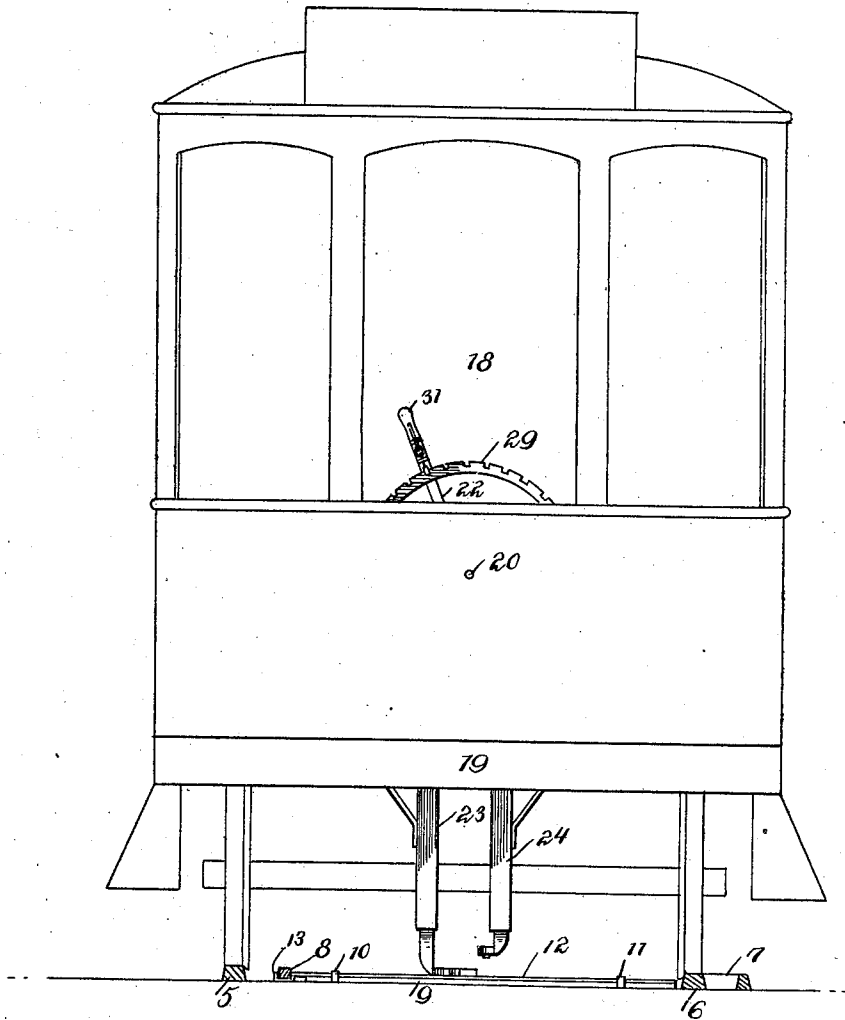
M. H. MOSHER,
OPERATING MECHANISM FOR STREET RAILWAY SWITCHES.
APPLICATION FILED AUG. 5, 1910.

996,507.

Patented June 27, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Inventor

Michael H. Mosher.

Witnesses

William Smith.

John Anderson.

By

Victor J. Evans

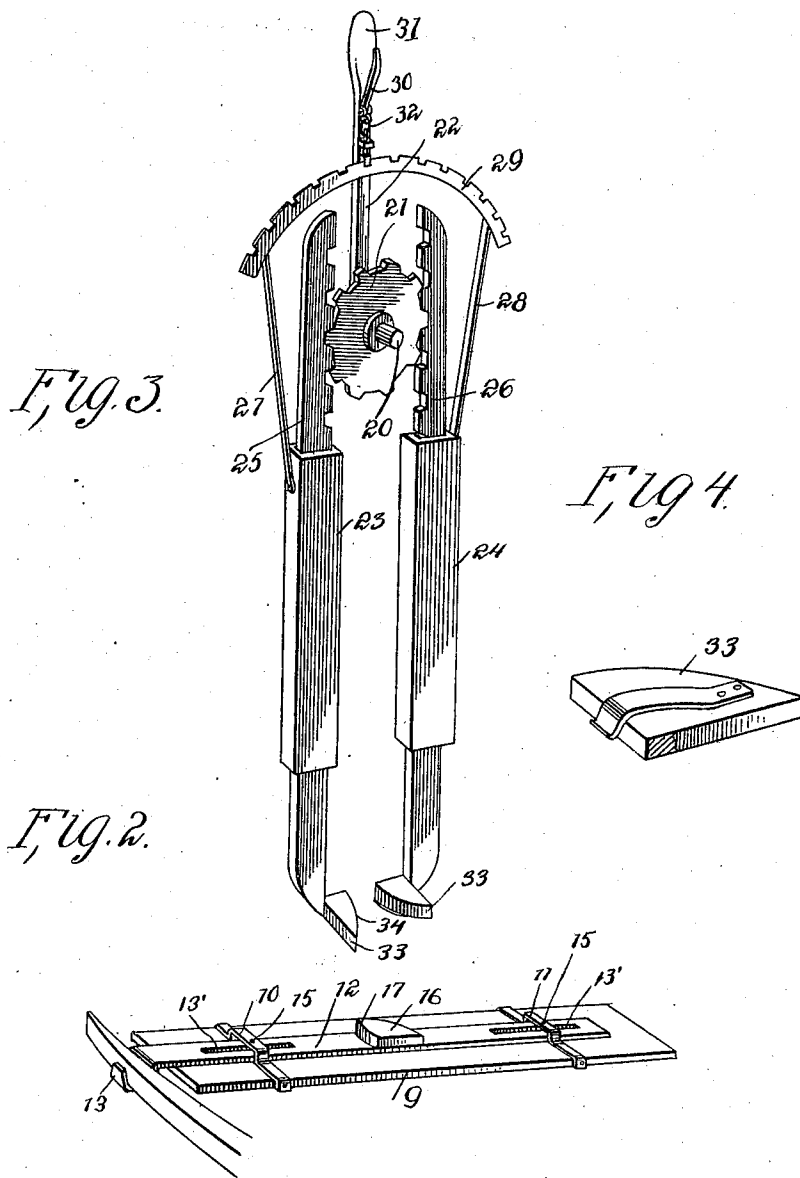
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Witnesses
 William Smith
 John A. Morgan

Inventor
 Michael H. Mosher.
 By Victor J. Evans
 Attorney

UNITED STATES PATENT OFFICE.

MICHAEL H. MOSHER, OF COLUMBIA CITY, INDIANA.

OPERATING MECHANISM FOR STREET-RAILWAY SWITCHES.

996,507.

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Application filed August 5, 1910. Serial No. 575,683.

To all whom it may concern:

Be it known that I, MICHAEL H. MOSHER, a citizen of the United States, residing at Columbia City, in the county of Whitley and State of Indiana, have invented new and useful Improvements in Operating Mechanism for Street-Railway Switches, of which the following is a specification.

This invention relates to improvements in operating mechanisms for street railway switches, and has for one of its objects the provision of a switch bar connected to a switch point and provided with a triangular-shaped lock positioned to be engaged by a member depending from a passing car in order to effect the shifting of the switch point.

Another object is the provision of a pair of relatively movable bars depending from a car and means for moving either of said bars into engagement with the block on the switch rod to effect shifting of the switch without the necessity of the driver leaving the car or bringing the car to a standstill.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size, and minor details of the device may be made, within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification;—Figure 1 is a front elevation of a car provided with my improved switch operating mechanism, and also showing the rails of a main line and siding in cross section and further showing a switch point and rod provided with my improved block. Fig. 2 is a perspective plan view of a portion of a switch point showing the switch rod and block. Fig. 3 is a detail perspective of the members for engaging with the block and also showing the means for actuating the members. Fig. 4 is a perspective bottom plan view of one of the shoes.

Similar numerals of reference are em-

ployed to designate corresponding parts throughout.

The main rails are designated by the numerals 5 and 6, the siding by the numeral 7 and the switch point by the numeral 8. Positioned adjacent to the free end of the switch point is a plate 9 extending longitudinally of the cross ties, and arranged on the upper face of the plate and adjacent to its opposite ends are straps 10 and 11, the medial portions of which are spaced over the upper face of the plate and provided with guides. The shank portion of the switch rod is slidingly fitted in said guides, and at one end terminates in a hook 13, which straddles the base flange of the switch point. The shank 12 is provided adjacent to its opposite ends with oblong slots 13' and depending from the medial portions of the guides are pins 15, which are received by the slots, and form stops for limiting the movement of the switch rod. Positioned on the upper face and at the medial portion of the shank 12 is a triangular-shaped block 16, the said block being somewhat greater in length than the width of the shank 12 and its opposite sides slidingly curved to provide cam surfaces 17.

The car is designated in general by the numeral 18 and the dashboard thereof by the numeral 19. Secured to the medial portion of the dashboard and adjacent to the upper side thereof is a shaft 20, on which is journaled a pinion 21. An operating handle is designated by the numeral 22 and has its lower end portion fixedly secured to the inner face of the pinion 21.

A pair of channeled guide members are designated by the numerals 23 and 24, and are positioned above spaced openings formed in the floor of the car and on either side of the central line of said floor. Slidingly fitted in the guides 23 and 24 are rack bars 25 and 26, the teeth of said rack bars being on their opposed inner surfaces and engaging with the teeth of the pinion 21.

Rising from the upper end portions of the guides 23 and 24 and arranged on the outer sides of said guides are uprights 27 and 28, the upper ends of which are connected by an arcuate-shaped rack 29. The front face of the operating handle 31 is provided with a spring-pressed pawl and pivoted to said front face and above the pawl is an angular-

shaped handle 30, connection between one side of the handle and pawl being established by means of a link 32. The pawl normally engages with the teeth of the rack 29, and when lifted by means of the handle 30 may be oscillated. It will be evident when the operating handle 22 is oscillated that the pinion 21 will be likewise oscillated, whereby a relative reciprocating movement will be imparted to the rack bars 25 and 26. The rack bars 25 and 26 extend through the openings in the floor of the car and at their lower ends are provided with bearing shoes 33. The bearing shoes 33 are arranged on the opposed inner faces of the rack bars and the inner faces of said bearing shoes are curved to provide cam surfaces 34.

By reference to Fig. 1 it will be seen that the block 16 is so positioned that when the switch point 8 is open it will lie in the path of the shoe 33 positioned on the right in Fig. 1, thus it will be seen when the operating handle is moved to the right and the rack bar 25 moved downwardly until the shoe 33 is in the horizontal plane of the block 16 that the said shoe will engage with the right side of the block and owing to the cam surfaces 17 and 34 the switch point 8 will be shifted as the shoe 33 passes over the side of the block. It will be evident when the operating handle is moved to the opposite end of the rack the rack bar on the right will be lifted and the opposite rack bar lowered so that when the shoe at the lower

end of the rack bar on the left engages with the lock the switch point will be shifted in the opposite direction.

From the foregoing, it is evident that I have provided a device which is comparatively simple in structure and inexpensive in manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

I claim:—

In a switch operating mechanism the combination with a pivoted switch point, a switch rod, and a block secured to the switch rod; of a pair of vertically disposed rack bars slidably fitted on a car, and provided at their lower ends with shoes having cam surfaces, an operating handle movably fitted to the car, and a pinion secured to the handle and arranged between and engaging with said rack bars, whereby movement of the operating handle will impart a relative movement to said rack bars and position the cam surfaces of one of said shoes to engage with the block to effect shifting of the switch point, and spring elements on the lower faces of said shoes, for the purpose described.

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

MICHAEL H. MOSHER.

Witnesses:

FRANK HELLER,
HARRY HARTSOCK.