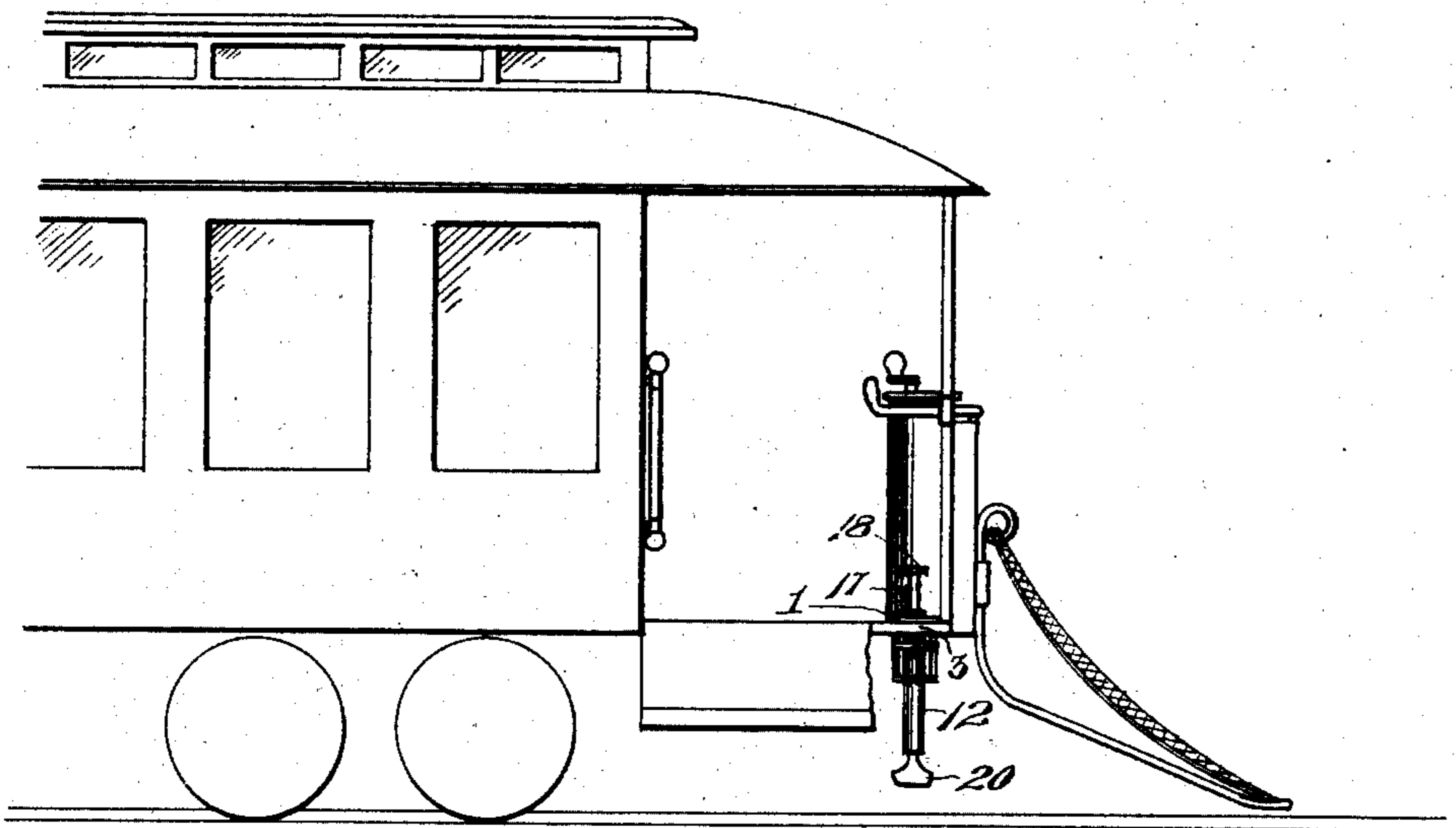


J. A. McCROSKEY.  
 SWITCH OPERATING MECHANISM.  
 APPLICATION FILED AUG. 20, 1907.

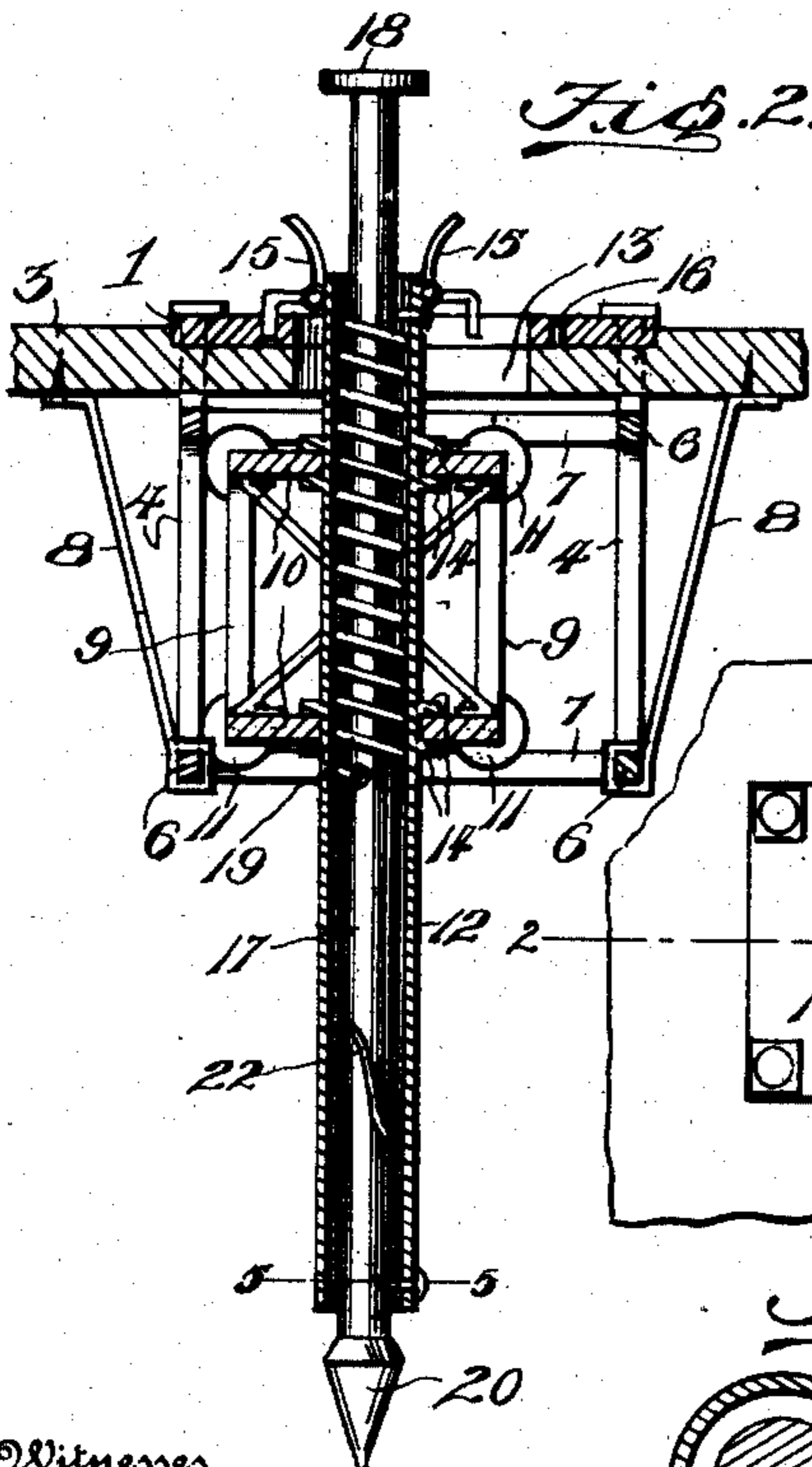
907,390.

Patented Dec. 22, 1908.

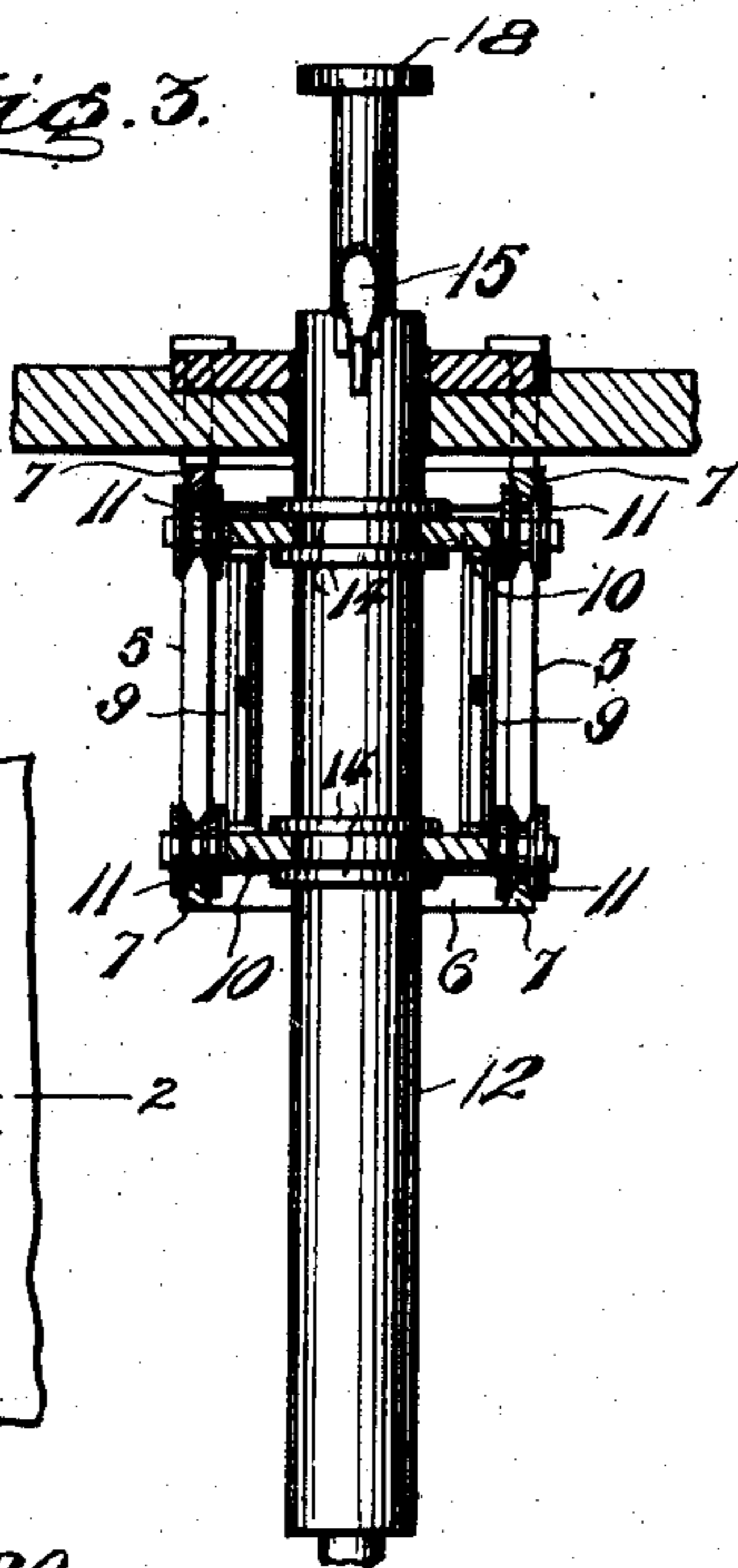
*Fig. 1*



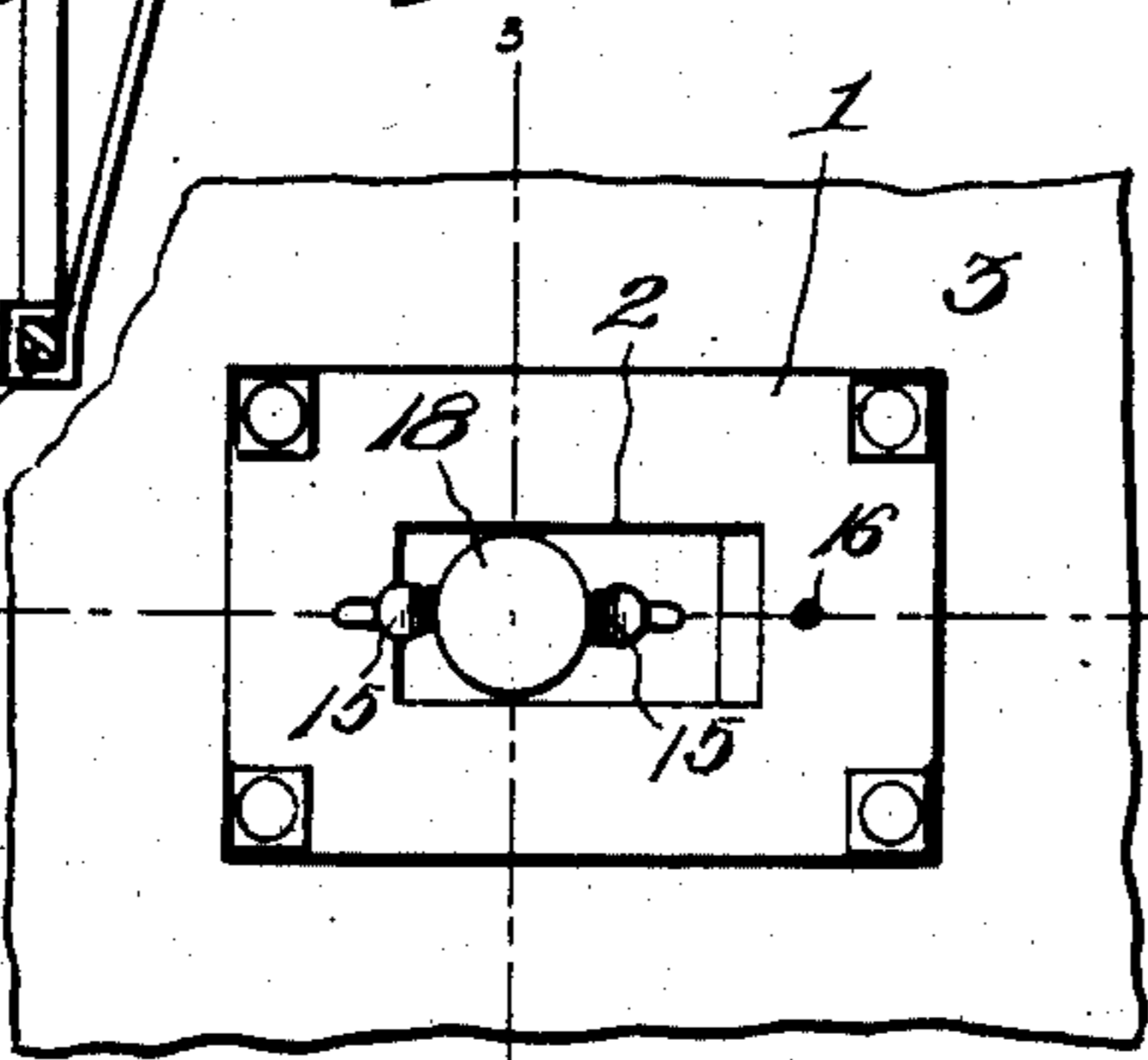
*Fig. 2.*



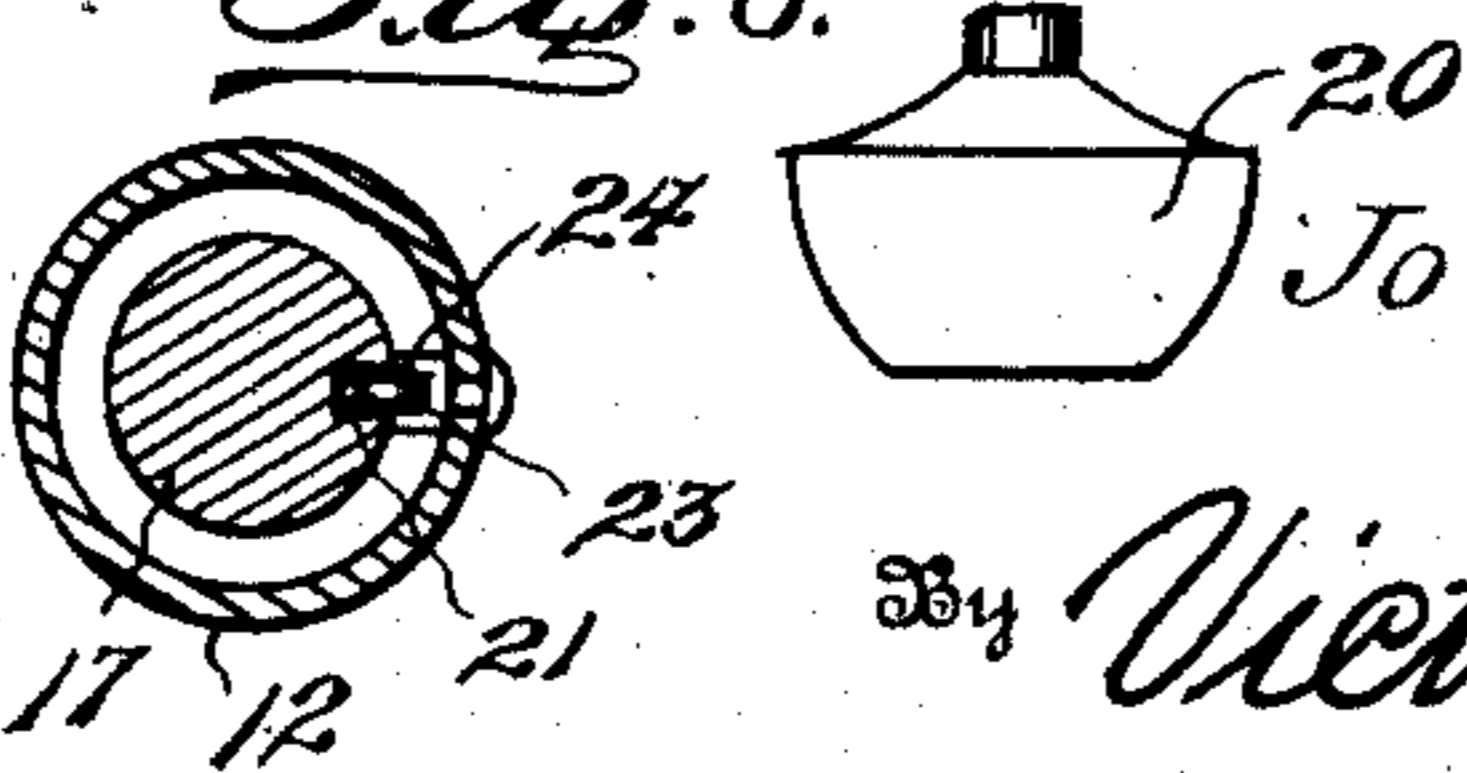
*Fig. 3.*



*Fig. 4.*



*Fig. 6.*



*Fig. 5.*

Witnesses

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# UNITED STATES PATENT OFFICE.

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## SWITCH-OPERATING MECHANISM.

No. 907,390.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed August 20, 1907. Serial No. 389,420.

*To all whom it may concern:*

Be it known that I, JOHN A. McCROSKEY, minister, and a citizen of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented new and useful Improvements in Switch-Operating Mechanisms, of which the following is a specification.

The invention relates to an improvement in switch operating mechanism, comprehending specifically the mechanism to be mounted on a car platform and adapted for operation by the motorman for properly setting the switch without the necessity of stopping the travel of the car for this purpose.

The main object of the present invention is the provision of a switch operating apparatus so constructed as to permit the motorman to actuate the same initially with the effect to depress the setting block into engagement with the switch point and simultaneously turn the block to initially move said point, the construction further permitting an independent lateral movement of the mechanism to initially arrange the apparatus for the setting of the switch.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a view in elevation, illustrating the application of my improvement to a car structure, Fig. 2 is a vertical central section through the apparatus, showing the same in position on a car platform, Fig. 3 is a front elevation of the same, the main frame being shown in section, Fig. 4 is a plan showing the application of the improvement to the car platform, Fig. 5 is an enlarged section on line 5—5 of Fig. 2, Fig. 6 is a side elevation of the setting head of the apparatus.

Referring particularly to the drawings, my improved apparatus comprises a floor plate 1 formed with a longitudinally disposed opening 2 and set into an appropriate recess formed in the car platform 3. A main frame 4 is arranged beneath the platform, said frame including end bars 5 which are projected through the platform and floor plate and secured beyond the upper surface of the latter by a nut. The end bars are connected by cross struts 6, and by stringers 7 which are of approximately triangular form in cross section to provide tracks, for a pur-

pose which will presently appear. The main frame is thus operated beneath the platform in a substantial manner and may if desired be braced by diagonal braces 8 secured to the platform and cross struts.

Mounted for movement in the main frame is a carriage 9 which comprises upper and lower plates 10 connected by suitable frame bars and carrying grooved wheels 11 adapted for travel on the tracks 7, the wheels being arranged to travel above and below the respective sets of tracks, that is bearing on the lower tracks and upward against the upper tracks, so that the carriage is readily movable and properly guided during movement. Secured in the carriage is a cylindrical casing 12, the upper end of which projects above the carriage and through an elongated way or opening 13 in the car platform and through the opening 2 in the floor plate. The casing 12 is preferably secured to the carriage through the medium of fixed collars 14 above and below the respective plates 10, and the upper end of the casing at diametrically opposite points is provided with foot latches 15 adapted to engage openings 16 in the floor plate beyond the opening 2, whereby the carriage may be secured at either limit of movement.

Within the casing 12 is mounted the operating rod 19 being loosely disposed within the casing with a disk head 18 for convenient operation by the foot of the motorman. The rod is normally held in elevated position through the medium of a coil spring 19 which is terminally secured at the lower end to the rod and at the upper end to the interior of the casing. The lower end of the operating rod projects below the lower end of the casing and is provided with what I term a setting block 20, being in side elevation of approximately rectangular form with the sides curved slightly inward and downward and being of triangular shape in transverse vertical section, as clearly shown in Fig. 2. The block is normally disposed so that its greatest length is longitudinally of the car, that is in alinement with the track, as illustrated in Fig. 1.

The operating rod near the lower end is formed with a longitudinally disposed groove 21, which for a portion of its length extends directly longitudinally of the rod, being at the upper end projected in approximate spiral arrangement, as at 22. The interior of

the casing is provided with a stud 23 carrying a roller 24 of a size to fit in the groove 21, so that in the depression of the rod said roller, traveling in the groove will cause the rod to  
 5 move directly downward in the initial portion of its movement and then be partly turned through the travel of the roller in the spiral portion of the groove.

In operation with the parts constructed  
 10 and arranged as described the motorman on approaching the switch first observes to which rail (right or left) its point is adjacent, then if need be he moves the mechanism into a corresponding position by releasing the rear  
 15 foot catch 15, pressing forward on the operating rod, moving the carriage longitudinally of the main frame until the front foot catch attaches, then he simply depresses the operating rod by placing his foot on the disk 18,  
 20 when over the switch.

It is to be understood, of course, that there is a switch setting mechanism mounted on each platform so that the switch may be controlled no matter what direction the car is  
 25 traveling, it being obvious from the construction that the switch may be turned without the necessity of stopping the car or materially reducing its speed from the nor-

mal. After use of the switch setting apparatus the motorman may lock the carriage in 30 either forward or rear position by engaging the proper foot latch with the opening and floor plate.

Having thus described the invention what is claimed as new, is:— 35

1. The combination with a vehicle, of a carriage slidably movable thereon, a casing supported in the carriage, a rod movable longitudinally of the casing, said rod formed with a groove, and a guide member carried 40 by the casing fitting in said groove.

2. The combination with a vehicle, of a carriage slidably movable thereon, a casing supported in the carriage, a rod movable longitudinally of the casing, said rod formed 45 with a groove, and a guide member carried by the casing fitting in said groove, said groove being partly spiral to impart a rotary movement to the rod during operation.

In testimony whereof, I affix my signature 50 in presence of two witnesses.

JOHN A. McCROSKEY.

Witnesses:

ALBERT S. COWDIN,  
 CHAS. H. GREENE.