

F. G. EIBEL.
 SWITCH OPERATING MECHANISM FOR CARS.
 APPLICATION FILED MAR. 13, 1909.

940,136.

Patented Nov. 16, 1909.

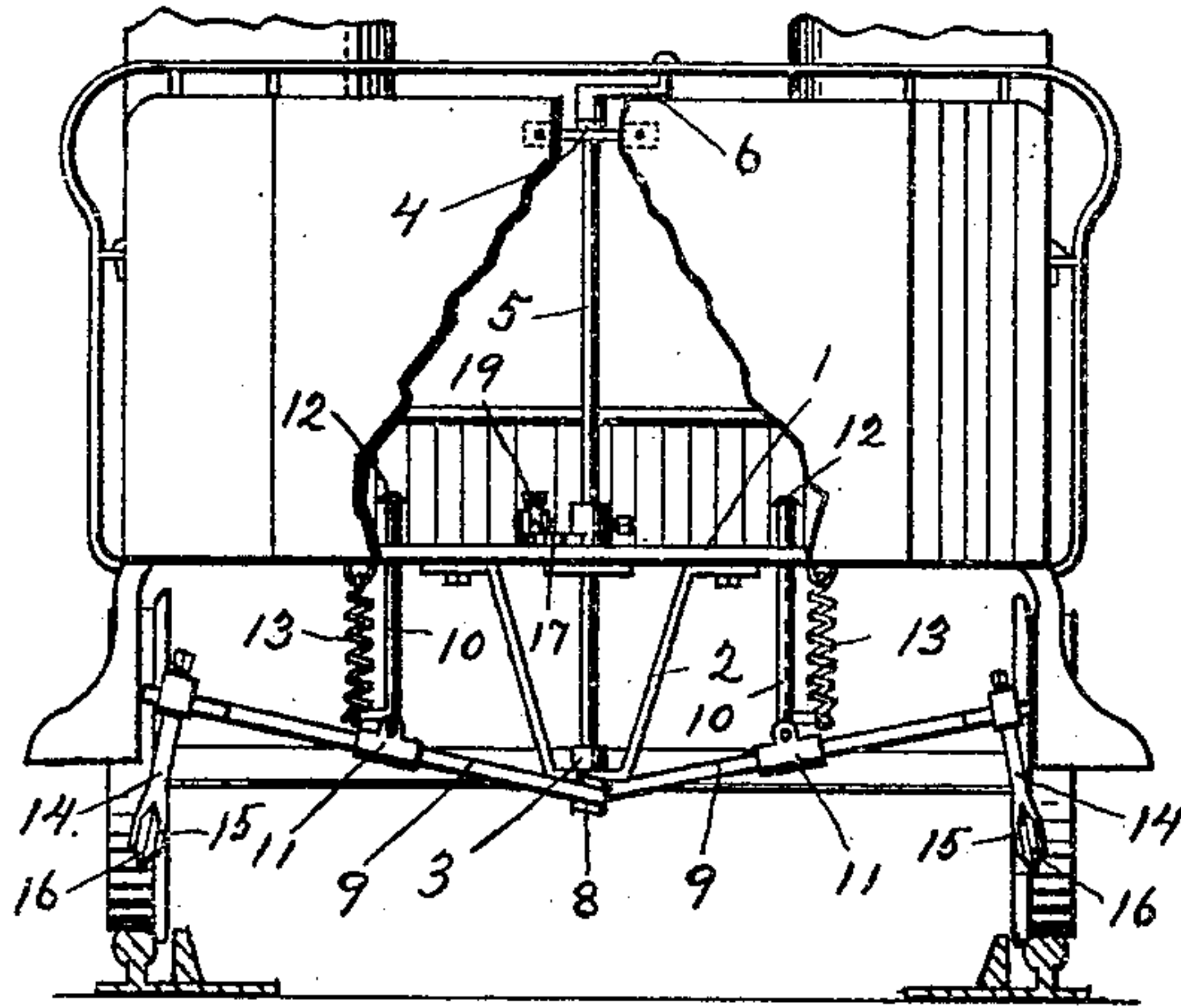


FIG 1

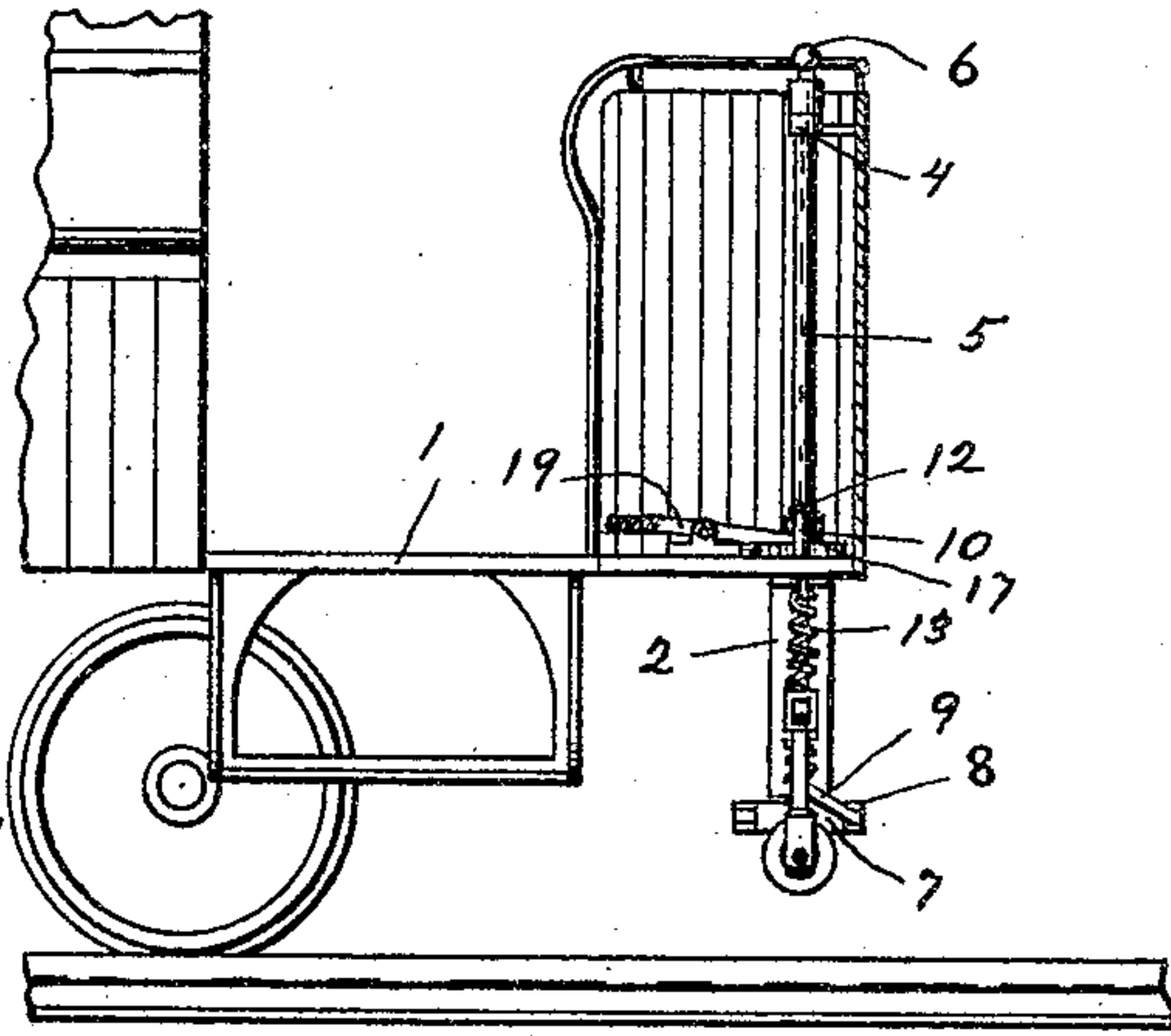


FIG 2

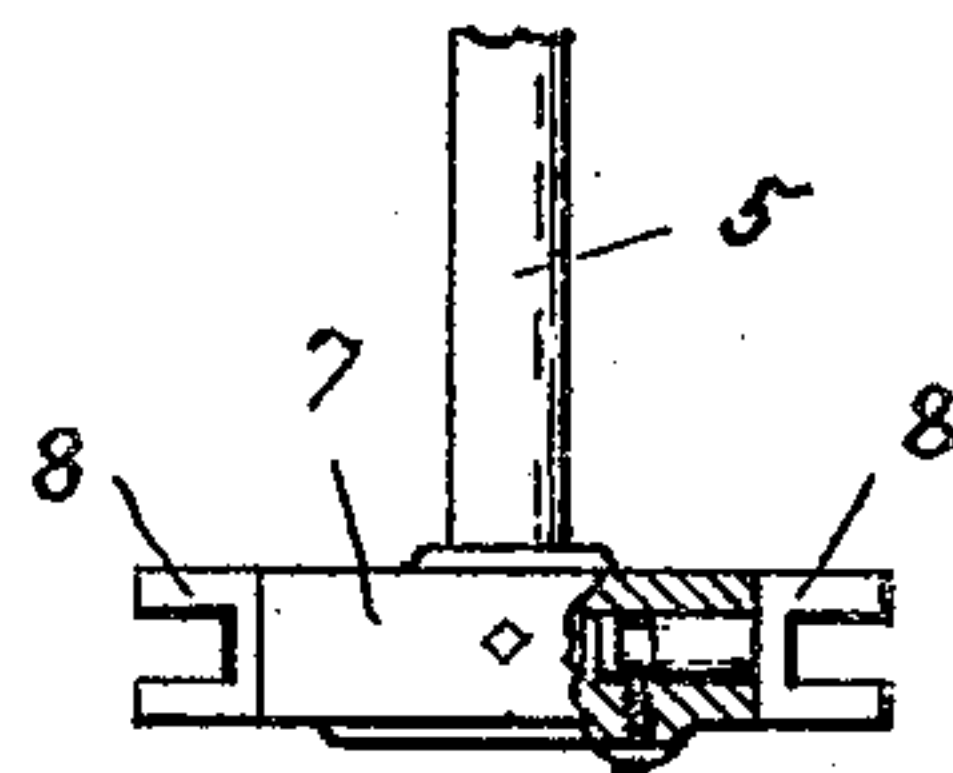


FIG 4

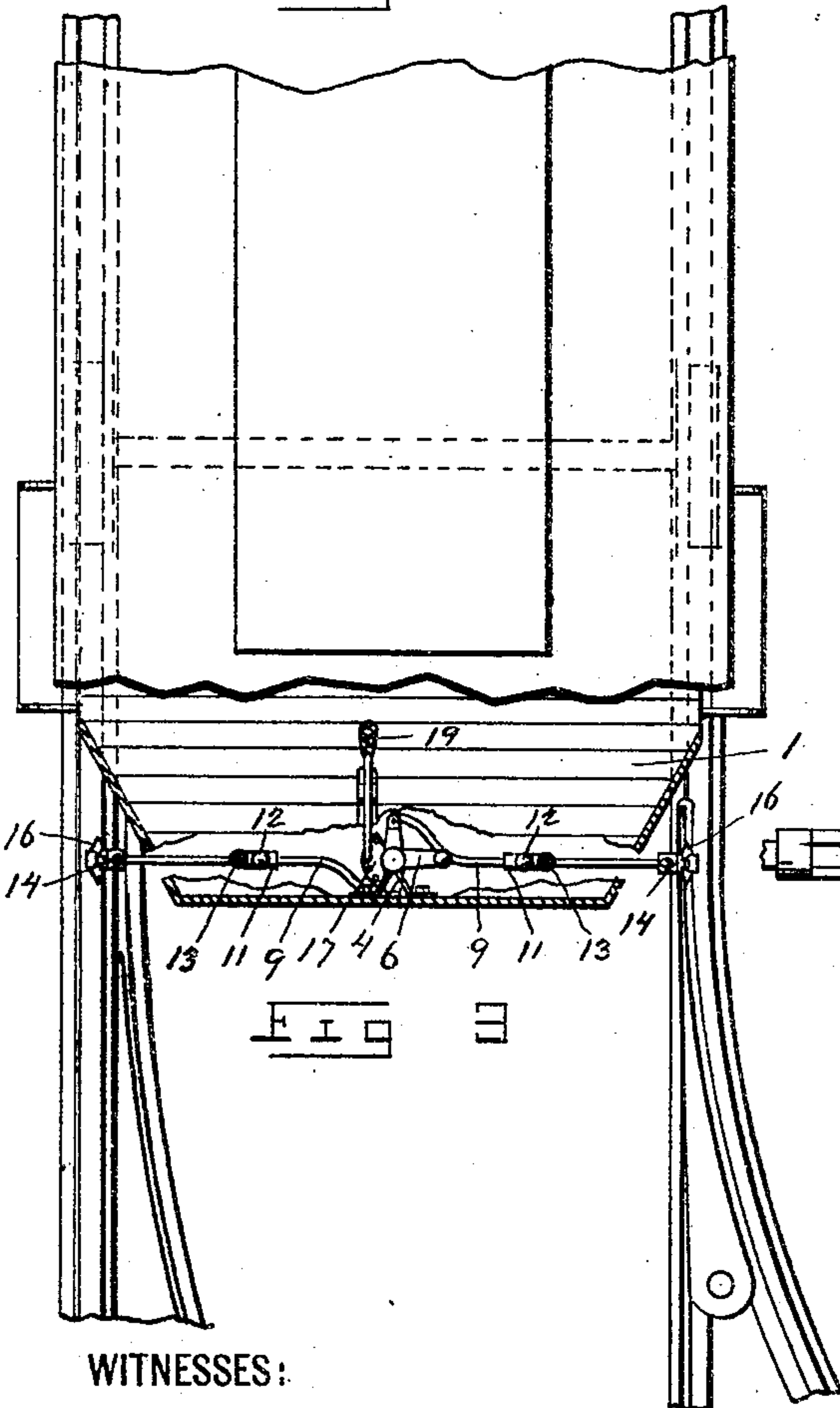


FIG 3

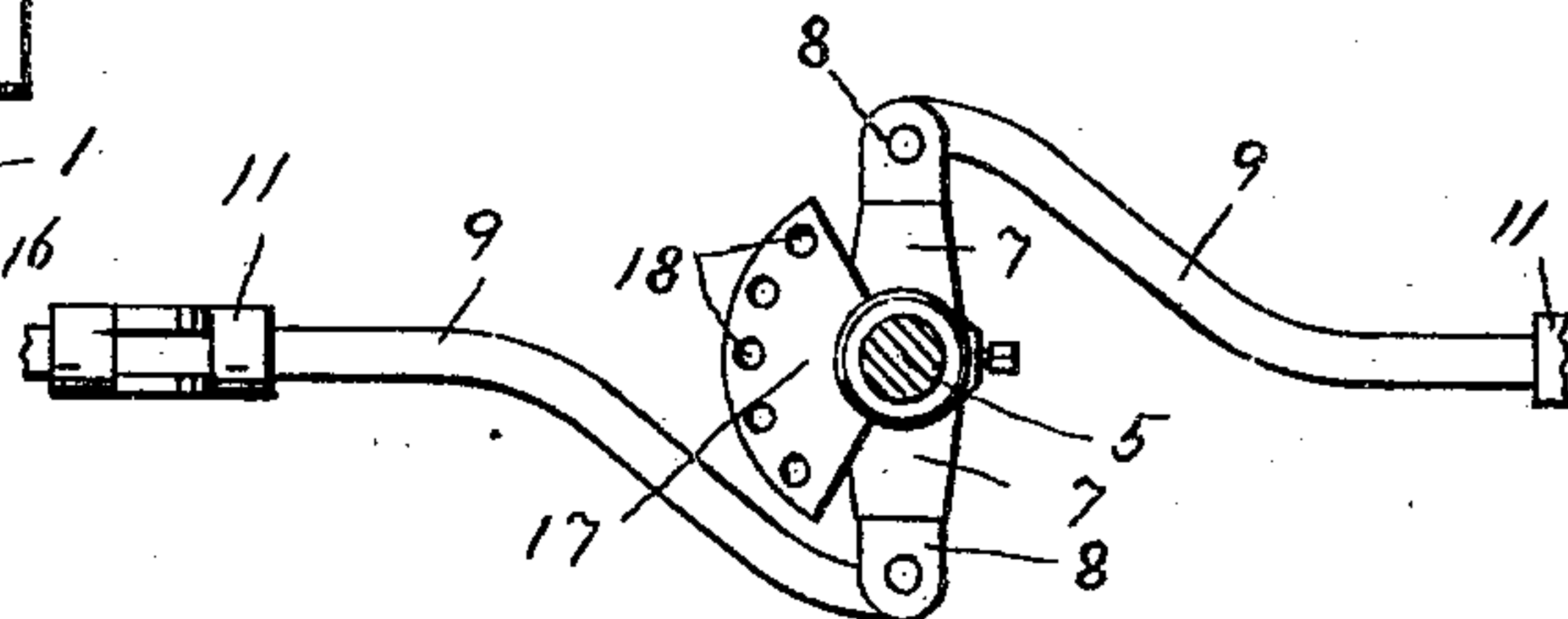


FIG 5

WITNESSES:

E. H. Meider.
Mabel L. Lefevre.

INVENTOR

Frank G. Eibel,

BY
John J. Thompson
 ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK G. EIBEL, OF LANCASTER, PENNSYLVANIA.

SWITCH-OPERATING MECHANISM FOR CARS.

940,136.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed March 13, 1909. Serial No. 483,214.

To all whom it may concern:

Be it known that I, FRANK G. EIBEL, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Switch-Operating Mechanism for Cars, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in railway switch operating devices and more particularly to that class employed on street railways, and designed to be operated by the motorman from the car platform.

The objects of the invention are to produce a simple, cheap and durable mechanism of this class, and one which may be set to operate the switch either to the right or to the left and from either direction. The devices now employed for this purpose are mostly designed to roll or slide along the rail and will then only operate the switch tongue from one direction; while by my device the operating roller is held above the rail and is given a downward thrust at the required moment to engage the crack between the switch tongue and the rail, and thus force the tongue of the switch in the required direction.

With these and other objects in view my invention consists in certain construction and combination of parts as will hereinafter be fully described and claimed, and which are illustrated in the accompanying drawings, which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views, and in which:—

Figure 1, is a front elevation, with parts broken away and in vertical section, of the car and switch-operating mechanism mounted thereon. Fig. 2, is a sectional elevation of the same. Fig. 3, is a top plan view of the same with part of the car platform and roof removed. Fig. 4, is a detail view of the shifting arm and swivel ends. Fig. 5, is a detail top plan view of the same, showing the connecting lever and locking segment.

Referring to the drawings, 1, indicates the platform of the car, to the under side of which is secured the frame or bracket 2, which is formed with the vertical bearing 3; while to the inner side of the dash of the car is secured the bearing bracket 4; and rotatably mounted in said brackets 3, and 4,

and extending through the platform 1, of said car is the shaft 5, to the upper end of which is secured the operating hand-lever 6. The lower end of said shaft 5, is extended below the bearing bracket 3, and has rigidly secured thereon the shifting arm 7, which is provided with the bifurcated swivel ends 8, and within which are pivoted the ends of the connecting rods 9. Upon either side of said shaft 5, in the car platform 1, are placed the foot levers 10, which have a vertical movement through suitable bushings in said platform 1, and which have pivoted upon their lower ends the longitudinal slides 11, which embrace the rods 9, which are adapted to slide therein. Said foot levers 10, being further provided with the foot caps 12, and the tension springs 13, which are secured to said levers 10, and to the under side of said platform 1, and tend to retain said levers 10, and rods 9, in a raised position. Upon the ends of said rods 9, in an adjustable manner are secured the roller arms 14, which are formed with a bifurcated end 15, within which is rotatably mounted the wedge or V-shaped roller 16.

The action of the shaft 5, is controlled and limited by the quadrant 17, which is provided with the orifice 18, and is secured upon said shaft just above the car platform 1, and which is adapted to be engaged by the spring actuated foot catch 19, so that said shaft may be locked at points of its quarter turn.

The operation of the device is so simple that a long explanation is unnecessary, but it may be stated that the rods 9, are extended or withdrawn, as the case may be, for bringing the rollers 14, in the correct position to engage the outer or inner side of the switch tongue, by the action of the shaft 5, and the shifting arm 7, and are held in place by the quadrant and catch; while the swivel ends of the arm 7, allow for all swing or jump of the car body.

The apparatus having been set for right or left hand turn, the motorman places his feet on the lever 10, which is connected with the side he wishes to operate, and just as the roller comes over the crack between the rail and the switch tongue, he presses down upon said lever which drives the V-shaped roller between the rail and the switch tongue and forces the switch tongue over as desired, and it will thus be seen that the device can be

operated equally as well from either a right or left turn, and when the car is going in either direction.

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

1. In a switch-tongue operating mechanism, the combination with the car frame, a supporting frame secured to and depending therefrom, a vertical shaft journaled in said hanger and provided with a turning and a locking means, a shifting lever formed with bifurcated swivel ends and secured upon the lower end of said vertical shaft, switch-tongue operating rods secured to said swivel ends and adapted to be extended or retracted by the action of said shaft, means for retaining said rods in a normally raised position, and means for depressing said rods to bring the switch-tongue mover into action.

2. In a railway switch operating mechanism, in combination with the car platform,

of a vertical shaft extending above and below said platform, a locking means secured upon said shaft above said platform for retaining said shaft in a semi-revolved position, a cross arm secured upon the lower end of said shaft below said platform, lateral movable rods carried in vertical movable slides and having their inner ends secured to said cross arm by a swivel connection, adjustable arms provided with swivel-tongue operating V-shaped rollers secured upon the outer ends of said rods, means for retaining the outer ends of said rods in a normally raised position, and means for depressing the ends of said rods and the switch-tongue operating rollers held thereby.

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

FRANK G. EIBEL.

Witnesses:

WM. J. COULTER,
MABEL L. LEFEVRE.