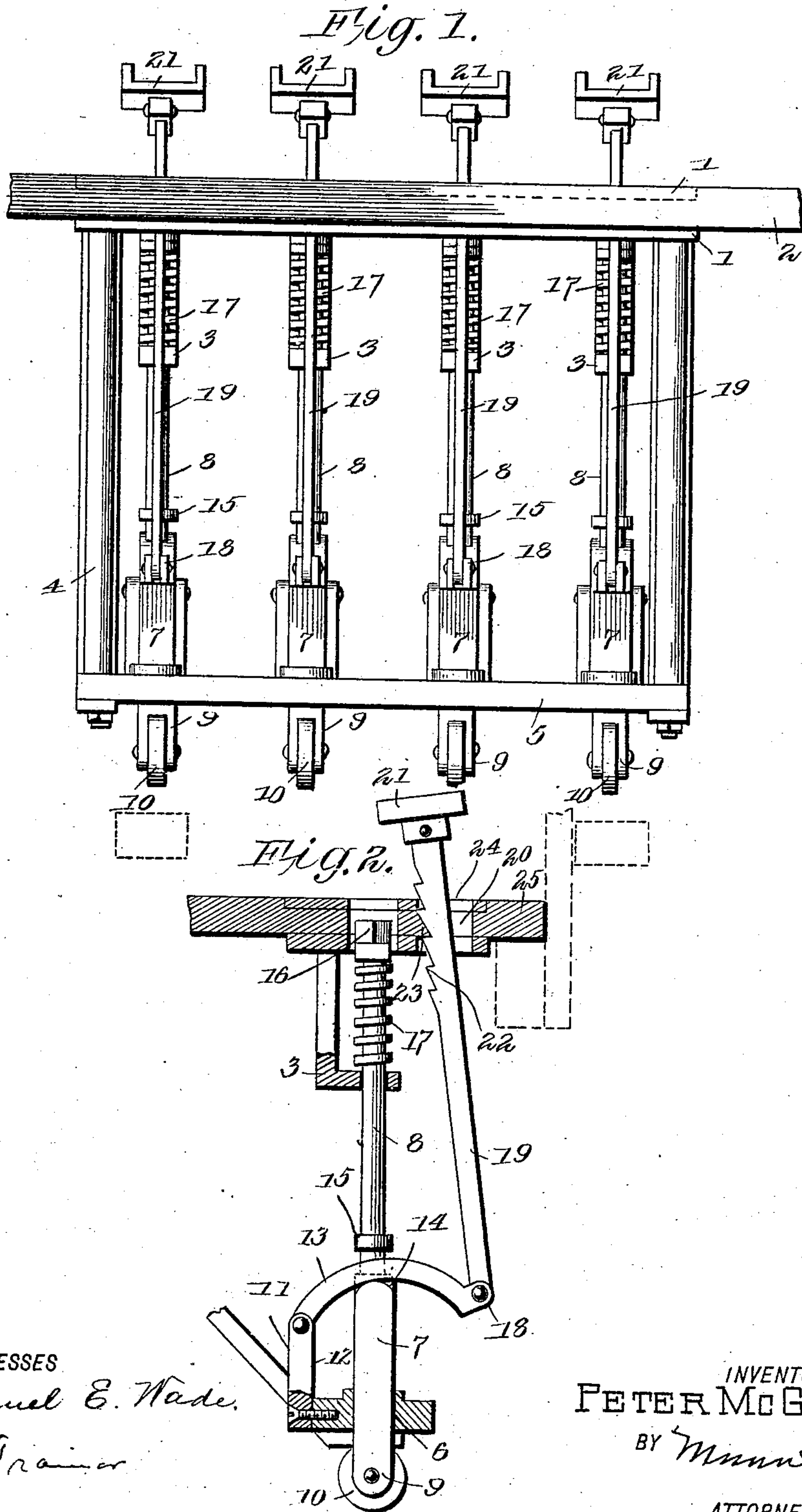


No. 884,195.

PATENTED APR. 7, 1908.

P. McGRATH.
STREET RAILWAY SWITCH.
APPLICATION FILED DEC. 5, 1907.



WITNESSES

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UNITED STATES PATENT OFFICE.

PETER McGRATH, OF DENVER, COLORADO.

STREET-RAILWAY SWITCH.

No. 884,195.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed December 5, 1907. Serial No. 405,181.

To all whom it may concern:

Be it known that I, PETER McGRATH, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, have made certain new and useful Improvements in Street-Railway Switches, of which the following is a specification.

My invention is an improvement in mechanism for operating street railway switches of the character shown and described in my co-pending application, Serial No. 383,264, filed July 11th, 1907, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof—Figure 1 is a front view of the operating mechanism, and Fig. 2 is a side view of one of the shafts and the mechanism connected therewith.

In the construction shown in the above-mentioned application, the switch is operated by a plurality of vertically swinging levers provided with cam-shaped surfaces projecting through slots in the casing which incloses the mechanism.

The mechanism comprises a plate 1 secured to the bottom of the platform 2 of the car, and having integral therewith four depending brackets 3. Rods 4 extend downward from each end of the plate 1, and a cross bar 5 is secured to the lower end of the rods, the said cross bar being provided with four spaced square openings 6 therethrough, each of said openings being adapted to receive the square portion 7 of a vertically slidable shaft 8, the lower end of the shaft being provided with ears 9, between which is journaled a roller 10.

Each of the four shafts 8 is similar in construction and only one will be described, it being understood that a shaft is provided for operating each swinging lever. Brackets 11 are secured to the rear of the cross bar at spaced intervals, and the upper free edge of each bracket is provided with a plurality of notches 12, and within each notch is pivotally mounted one end of a segmental lever 13, the said levers being arranged in pairs, and the members of each pair having their free ends connected together. The shaft 8 has its upper end reduced and made cylindrical, and the cylindrical portion is received between a pair of arms, segmental shoulders 14 being formed on the shaft between the

square portion and the cylindrical portion, upon which the lower edges of the arms bear.

A collar 15 is arranged on the shaft above the arms, and the upper end of the shaft is headed as at 16, and a spring 17 is arranged between the head of the shaft and the bracket 3 before mentioned, the lower end of the bracket being provided with an opening for receiving the cylindrical portion of the shaft.

The connected end of each pair of segmental levers 13, is provided with spaced ears 18, and between the ears is pivoted the lower end of a vertically sliding bar 19, movable through an opening 20 in the plate 1 before mentioned, and provided on its upper end with a treadle 21, by means of which a motorman may operate the shaft with his foot.

One of the edges of the bar 19 is provided with a plurality of notches 22, adapted to engage beneath a catch 23, for retaining the shaft in its lowered position. Plates 24 are arranged upon the upper surface of the platform 2; the said plates being provided with openings as shown, corresponding to the openings in the plate and the platform.

It will be understood from the description, that when the motorman desires to throw the switch, he will depress the shaft 8 corresponding to the swinging lever belonging to the switch, which he wishes to operate, and as the car passes over the said lever it will be depressed.

I claim—

1. The combination with the car, of switch operating mechanism comprising a plate secured to the platform and provided with an integral bracket, a cross bar provided with a square opening supported by the plate and depending therebelow, a shaft having a square portion slidable through the opening and a round portion slidable in the bracket, said shaft having its upper end headed, a spring arranged between the head and the bracket, a roller journaled in the lower end of the shaft, a bracket secured to the cross bar, a pair of curved arms pivoted to the bracket, said arms being arranged on each side of the shaft, the shaft having shoulders for engagement by the lower edges of the arms, and a collar for engagement by the upper edges, a bar slidable through the platform and connected with the ends of the arms, said bar being provided with teeth on one edge thereof, the platform having a catch

for engagement by the teeth, and a treadle on the upper end of the bar.

2. The combination with the car, of switch operating mechanism, comprising a spring supported shaft, a roller in the lower end of the shaft, and means for depressing the shaft, said means comprising a pair of curved arms mounted for swinging movement, the shaft being between the arms and having projections above and below the arms for engagement thereby, a bar slidable through the platform and provided with teeth on one edge thereof, the platform having a catch for engagement by the teeth, and a treadle on the bar.

3. The combination with the car, of switch operating mechanism comprising a spring supported shaft, a roller in the lower end of the shaft, means for depressing the

shaft comprising swinging arms fixed at one end and engaging the shaft, a bar slidable through the platform and connected with the free ends of the arms for swinging the same, means for retaining the bar in its lowered position, and a treadle on the upper end of the bar.

4. The combination with the car, of switch operating mechanism comprising a spring supported shaft, a pair of swinging arms fixed at one end and engaging the shaft, a bar slidable through the platform and connected with the free ends of the arms for swinging the same, and a treadle on the upper end of the bar.

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Witnesses:

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