(No Model.)

J. M. PICKELL.

SWITCH ATTACHMENT FOR CARS.

No. 458,484. Patented Aug. 25, 1891.

Fig. 1.

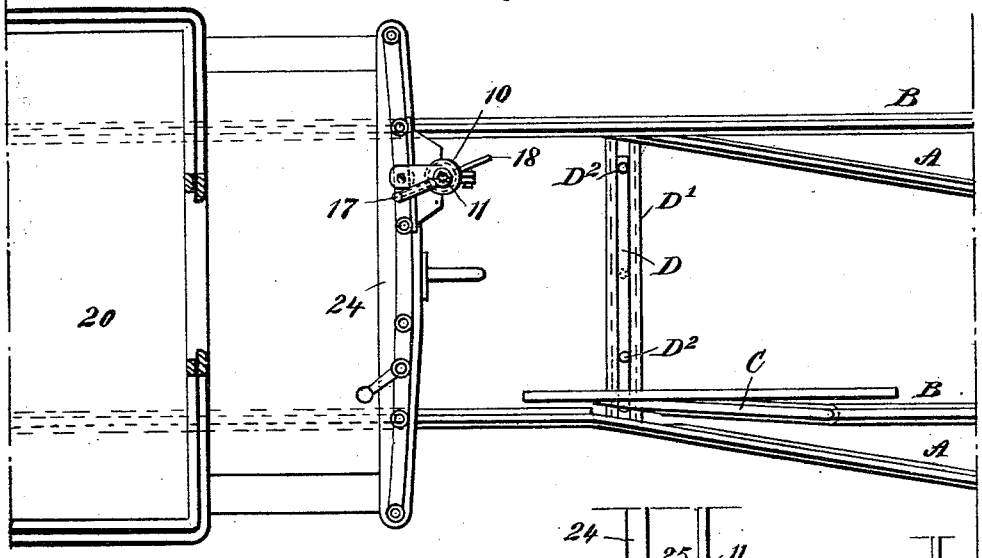


Fig. 2.

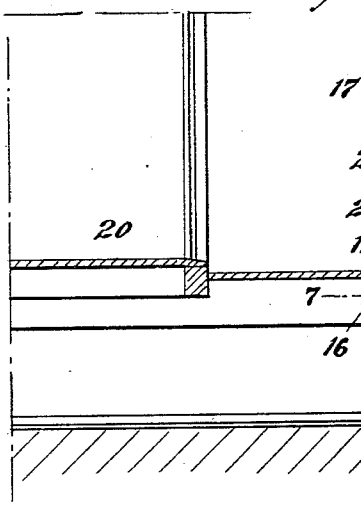


Fig. 3.

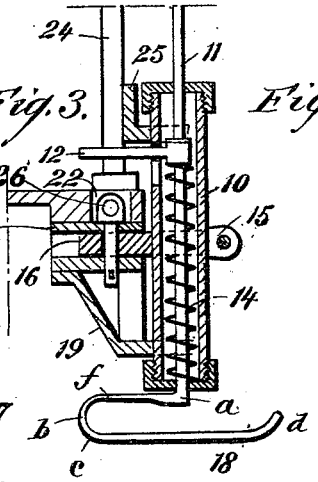


Fig. 4.

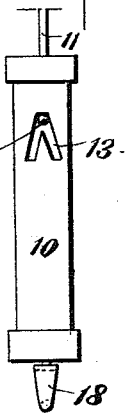


Fig. 5.

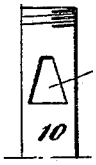


Fig. 7.

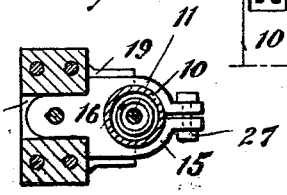
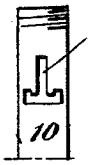


Fig. 6



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UNITED STATES PATENT OFFICE.

JAMES M. PICKELL, OF LAKE CITY, FLORIDA.

SWITCH ATTACHMENT FOR CARS.

SPECIFICATION forming part of Letters Patent No. 458,484, dated August 25, 1891.

Application filed November 12, 1890. Serial No. 371,153. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. PICKELL, of Lake City, in the county of Columbia and State of Florida, have invented a new and Improved Switch Attachment for Cars, of which the following is a full, clear, and exact description.

My invention relates to switch attachments for cars, particularly for street and tram cars, and has for its objects to provide a device capable of being actuated either by the hand or foot of the driver to move the frog of a switch without having to stop the car, and to so construct the device that the shoe thereof may be turned to the right or left, as occasion may require, and when released will return to its normal position, and so that neither the horizontal nor the vertical oscillation of the car will interfere with its efficiency.

A further object is to provide a means whereby the device may be conveniently and expeditiously shifted from one dash-board to the other, thus necessitating the employment of but one device upon each car, or upon the forward car only when two or more cars are coupled together, as in cable or electric railway systems.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of a portion of a car having the attachment applied and the switch of the track over which the car is passing. Fig. 2 is a partial longitudinal section through the car, the device being shown in side elevation. Fig. 3 is a vertical central section through the device. Fig. 4 is a rear elevation of the casing of the device. Figs. 5 and 6 are partial rear elevations of the casing of the device, illustrating slight modifications therein; and Fig. 7 is a transverse section taken practically on the line 7 7 of Fig. 2.

The switch-rails A connect in the usual manner with the main rails B, one of the latter being provided at one extremity with a frog C, and to the point of the frog one end of a shifting-bar D is pivoted, which shifting-bar is held to slide laterally between the rails in a casing or housing D′, the shifting-bar being provided at either or both ends or at the center with an upwardly-extending pin or stud D^2. It will be understood that only one pin D^2 is necessary on the shifting-bar and that it will be placed so as to engage the shoe of the switch device, hereinafter described. If found desirable and in order to lessen the friction, the shifting-bar may be arranged to slide between rollers located in the housing, or the rollers may be attached to the shifting-bar itself and bear on the sides of the housing.

The shifting device consists of a casing 10, preferably cylindrical and capped at top and bottom. Within the casing a rod 11 is held to slide vertically, the rod passing through suitable apertures in the caps of the casing, and to the rod 11, within the casing, the inner end of an arm 12 is rigidly secured, which arm extends outward through an opening 13 in the back of the casing. Around the rod 11, within the casing, a spring 14 is coiled, one end of which spring has a bearing against the bottom cap and the opposite end against the arm 12, as is best shown in Fig. 3, or against any other bearing suitably attached to the rod. The casing at or near its center is surrounded by a split collar 15, which is fastened rigidly to the casing by means of a headed bolt 27, provided with a suitable nut, and said collar is formed with a horizontal extension or tongue 16 at its rear, provided with a pin-aperture. The upper end of the rod 11 has secured thereto in any suitable or approved manner a detachable crank 17, and upon the lower end of the rod is formed a shoe 18, which shoe is preferably hook-shaped, being carried horizontally rearward at *f*, then curved downward at *b*, and carried horizontally forward at *c*, its forward extremity being upturned at *d*; but if in practice it is found desirable the shoe 18 may partake of the form of an inverted T. The shoe may have the reverse position to that shown and described, the curved portion *b* being directed toward the front of the car and the upturned end toward the rear of the car, and may be made detachable from the rod 11 at *a*, and in that event should be given a certain degree of elasticity in a vertical direction between the

points *f* and *c*, so that as the point *c* comes in contact with the housing D′ the shoe may adjust itself to the vertical oscillations of the car.

A stirrup 19 is attached to the bottom of each platform of the car 20 at the center, or at the right or left of the center, or at such point as may be most convenient and practicable, which stirrup is provided with a concave recess in the front face of its lower end and a horizontal recess 21 in its upper face, the said horizontal recess being adapted to receive the tongue 16 of the collar 15 of the device, as shown in Figs. 3 and 7, and in each platform a recess 22 is produced, which usually extends through said platforms. The lower ends of the recesses 22 are covered by plates 23, the stirrups being attached to said plates by means of bolts or equivalent fastening devices and the recesses 21 in the stirrups being immediately beneath the plate. The plate 23 and the top plate of the stirrup are provided with registering pin-apertures, which pin-apertures are also adapted to register with the pin-aperture of the tongue 16 of the collar when said tongue is inserted in the undercut recess 21 of the stirrup.

Upon the front faces of the dash-boards 24 of the car, brackets 25 are secured, provided with a concavity in their lower forward ends, and openings are also created in the dash-boards near the brackets and below the same. The device is attached to either dash-board by causing the back of the casing to engage with the concaved surfaces of the stirrup 19 and the bracket 25 and also causing the tongue or extension 16 of the collar 15 to enter the undercut recess 21 of the stirrup, when a pin 26 is passed through the apertures of the plate 23, the tongue, and upper plate of the stirrup, the head of the pin entering the recess 22 of the platform. When the device is thus placed in position, the arm 12, attached to the rod 11, will extend inward over the platform through the opening in the dash-board, as shown in Fig. 3. The opening 13 in the rear face of the casing may be of different shape from that described—as, for instance, it may be of an inverted-**V** shape, as shown in Fig. 4, whereby when the arm 12 is pressed downward the shoe may at the same time be carried over to the right or to the left, or the opening may be of an inverted-**T** shape. (Illustrated in Fig. 6.) Thus when the arm is pressed downward into the vertical member of the **T** upon reaching the horizontal member it may be carried to the right or to the left and locked by entering recesses in the end walls of said members. Another form of opening is illustrated in Fig. 5, which is essentially triangular. When the latter form of opening is employed, the arm in being carried downward is made to travel in engagement with either wall of the opening, as may be required.

It is obvious that the device may be operated by the foot of the driver through the medium of the arm 12, or it may be operated by the hand through the medium of the crank 17. The frog is shifted as desired by pressing the rod 11 of the device downward and carrying the arm 12 to the left or right, as may be necessary, just before the car reaches the shifting-bar D, and the shoe will then engage with one or the other of the pins D^2, which, as the car moves forward, will be automatically thrust to the right or left. If it is desired to travel to the right, the rod 11 is pressed down and the arm 12 turned to the left and held in that position until the shoe comes up to the pin D^2, engages it, and thrusts it aside in passing. If it is desired to travel to the left, then the rod 11 is pressed down and the arm 12 turned to the right.

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

1. In a switch attachment for cars, a casing, a spring-actuated rod held to slide in said casing, extending beyond the top and bottom thereof, and terminating at its lower end in a shoe, an arm attached to the rod and projected outward through an opening in the casing, and an attaching mechanism, substantially as described, for removably securing the casing to the car, as and for the purpose specified.

2. In a device of the character described, the combination, with a casing provided with an apertured horizontal extension attached to its rear face and an opening in its rear face having irregular walls, of a rod held to slide in the casing and extending above and below it, the said rod being provided with a horizontal curved shoe at its lower end, an arm rigidly attached to the rod and extending outward through the opening in the casing, and a spring coiled around the rod below the arm within the casing, substantially as and for the purpose specified.

3. In a device of the character described, the combination, with the platform of a car provided with a stirrup attached to its under face and brackets attached to its dash-boards, of a switching device consisting of a casing having a horizontal extension adapted to fit in a socket in the stirrup and bear against the brackets, a spring-actuated rod held to slide in the casing, extending above and below it, and terminating at its lower end in a curved shoe and at its upper end in a crank, and an arm attached to the rod and extending outward through an opening in the casing and through the dash-board, and means, substantially as shown and described, for guiding the movement of the rod laterally and vertically and also for securing the casing to the stirrup, as and for the purpose specified.

JAMES M. PICKELL.

Witnesses:
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JNO. J. EARLE.