

No. 661,841.

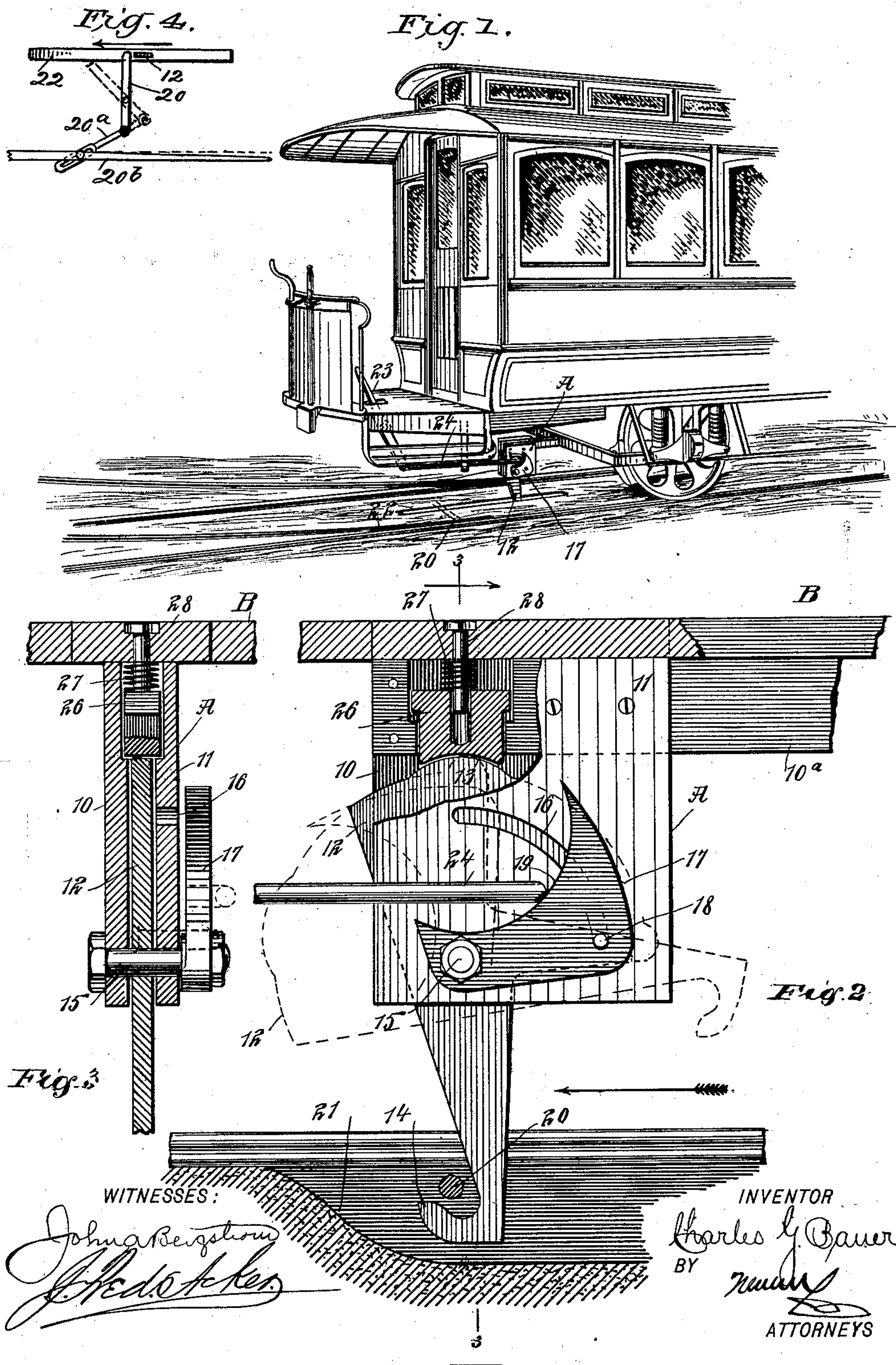
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C. G. BAUER.

SWITCH-CONTROLLING DEVICE FOR SURFACE CARS.

(Application filed Mar. 26, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

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SWITCH-CONTROLLING DEVICE FOR SURFACE CARS.

SPECIFICATION forming part of Letters Patent No. 661,841, dated November 13, 1900.

Application filed March 26, 1900. Serial No. 10,194. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. BAUER, a citizen of the United States, and a resident of New Rochelle, in the county of Westchester and State of New York, have invented a new and Improved Switch-Controlling Device for Surface Cars, of which the following is a full, clear, and exact description.

One purpose of the invention is to provide a switch-controlling device which is a fixture on the car and which may be immediately brought into action by the motorman or driver and when brought into action will automatically release itself after the switch has been set.

Another purpose of the invention is to construct a device of the character described which will be exceedingly simple and comprise but few parts, which will be so arranged that they will not be liable to displacement.

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 characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the forward end of the car, illustrating the application of the improvement thereto. Fig. 2 is a side elevation of the attachment, parts being broken away, and likewise a sectional view through the pit in a track in which the switch-bar is located, showing the device in operative position in positive lines and out of operation in dotted lines. Fig. 3 is a vertical section taken substantially on the line 3 3 of Fig. 2, and Fig. 4 is a detail plan view of a shifting device for the switch-tongue.

A represents the frame of the device, which is attached, preferably, to the truck B of the car, but may be otherwise applied, if desired. This frame A consists, usually, of two side pieces 10 and 11, separated by an interposed beam 10^a or by equivalent means, so that a space is formed between the side pieces 10 and 11, in which a switch-operating arm 12 is placed. The switch-operating arm 12 is much wider at one end than at the other. In fact, the arm is usually made to taper to a

greater or less extent and at its wider end is provided with a central projection 13, while at its narrower end the said arm terminates in a hook 14. The switch-operating arm 12 is pivoted in the casing A by a suitable pin 15, to which the arm is secured, and this pin 15 projects beyond the outer face of the casing. At the outer end of the pin 15 a segmental actuating-block 17 is secured, the block being attached to the pin near one end of the former, and the actuating-block 17 is provided with a concaved surface 19, which faces the end of the car adjacent to which the device is located. A segmental slot 16 is produced in the outer member 11 of the casing A, and a pin 18, which is secured to the actuating-block 17, is mounted to slide in the slot 16, and the pin is also connected with the arm 12. As the actuating-block 17 is carried rearward the switch-operating arm 12 is brought to a vertical position, in which position it acts upon the switch-operating devices; but when the actuating-block 17 is in the forward position (shown in dotted lines in Fig. 2) the switch-operating arm 12 is in the horizontal position. (Shown in dotted lines in the same view, Fig. 2.) When the switch-operating arm is in its vertical position, the hook portion 14 thereof is adapted to enter a slot 22, produced between the rails and parallel therewith, and at the slot 22 the switch-controlling bar 20 is located in a pit, the ends of the bottom wall of which pit are upwardly inclined, as shown at 21 in Fig. 2.

The switch-controlling bar, as is shown in Fig. 3, is suitably pivoted at or near its center to a proper support and is also pivotally connected with a transmitting-rod 20^a, having sliding and pivotal connection with a switch-point 20^b. The switch-controlling mechanism, however, may be varied in construction; but the controlling-bar 20 is always so pivoted that it may be carried to and from the slot 22.

The device is operated through the medium of a lever 23, which is shown as carried up through a suitable opening in the platform of the car, and this lever may be worked by the feet or the hands of the motorman or driver. The lower end of the lever 23 is pivotally attached to a bar 24, the rear or inner

end of which bar is arranged for engagement with the concaved surface 19 of the actuating-block 17. The switch-operating lever is held in its vertical position by means of a block 26, mounted to slide in the casing A, the under surface of which block is concaved, so as to neatly receive the convexed projection 13 at the upper end of the switch-operating arm when it is to engage with the switch-bar, and this block is controlled by a spring 27, which is guided by a pin 28, around which the spring is coiled, as shown in Figs. 2 and 3.

In operation when the switch-operating arm is lowered to the position shown in positive lines in Fig. 2 as the car advances the hooked lower end 14 of the switch-operating arm will engage with the switch-operating bar 20 and will so move the said bar out of its path that the switch will be opened and closed, as intended, as indicated in Fig. 4. As the car advances the hooked lower end of the switch-operating arm, which is within the pit, when freed from engagement with the switch-controlling bar will engage with the upper inclined end 21 of the said pit and said hooked end of the switch-operating arm will be carried upward until its wider end overbalances the smaller end, and the switch-operating arm is carried to the horizontal position. (Shown in dotted lines in Fig. 2.)

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

1. A switch-controlling device consisting of a pivoted arm which is normally in a vertical position, the said arm having a curved lower member adapted to engage with a switch-controlling mechanism, devices substantially as described, for controlling said switch-controlling device from the platform of a car, and means in conjunction with the switch-controlling mechanism whereby the pivoted arm when parted from the switch-controlling

mechanism will be automatically carried to an upper or horizontal position, as described.

2. A switch-operating device for cars, comprising a support, a switch-operating arm pivoted in said support, being secured to its pivot, an actuating-block for the switch-operating arm, attached to the pivot of said arm, a guide for the actuating-block, and means for imparting movement to said actuating-block from a lever at the platform of a car.

3. A switch-controlling device, comprising a support, an actuating-block secured to a pin, which pin is mounted to turn in said support, a switch-operating arm located within the support and secured to the said pin, which arm is tapering and provided with a hook at its narrower end, means for binding the upper end of the switch-operating arm when the said end is within the said support, and an actuating mechanism for the actuating-block, which mechanism may be operated from the car, as specified.

4. The combination, with a casing, a pin pivoted in the said casing, an actuating-block secured to the said pin, having guided movement upon the casing, the actuating-block being provided with a concaved forward edge, and means for throwing the actuating-block in a rearward direction, which means may be operated from the platform of the car, of a tapering switch-operating arm secured to the pivot-pin of the actuating-block within the said casing, the wider end of the switch-operating arm being provided with a projection and its narrower end being curved, and a tension-controlled latch adapted to engage with the projection at the wider end of the switch-operating arm when such arm is in operative or vertical position, as described.

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Witnesses:

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