(No Model.) 2 Sheets—Sheet 1.

L. C. POWERS.

AUTOMATIC STREET RAILWAY SWITCH.

No. 306,100. Patented Oct. 7, 1884.

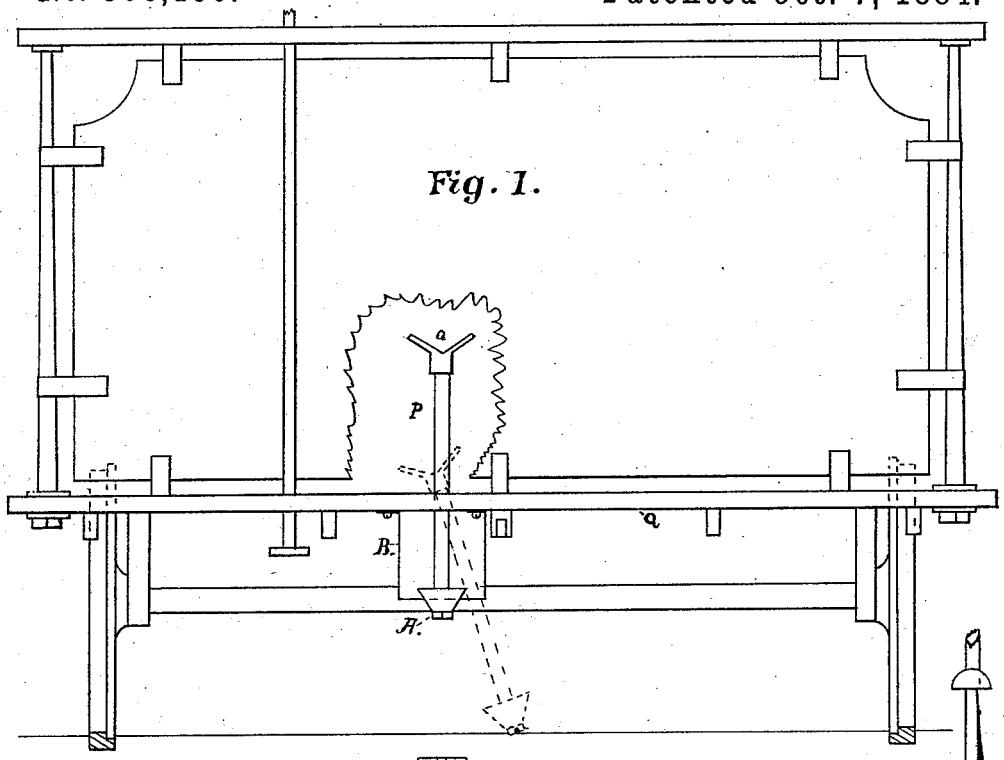


Fig. 1.

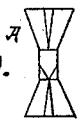


Fig. 9.

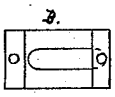


Fig. 8.

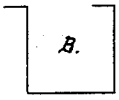


Fig. 7.

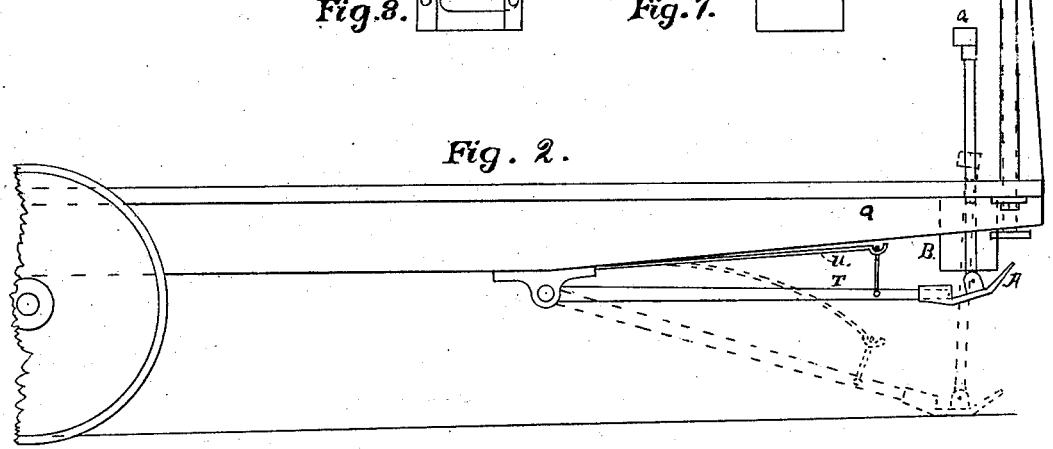


Fig. 2.

Witnesses;
Fred. D. Chase
Henry L. Hinckley.

Inventor.
Lucy C. Powers.

(No Model.) 2 Sheets—Sheet 2.

L. C. POWERS.

AUTOMATIC STREET RAILWAY SWITCH.

No. 306,100. Patented Oct. 7, 1884.

Fig. 4.

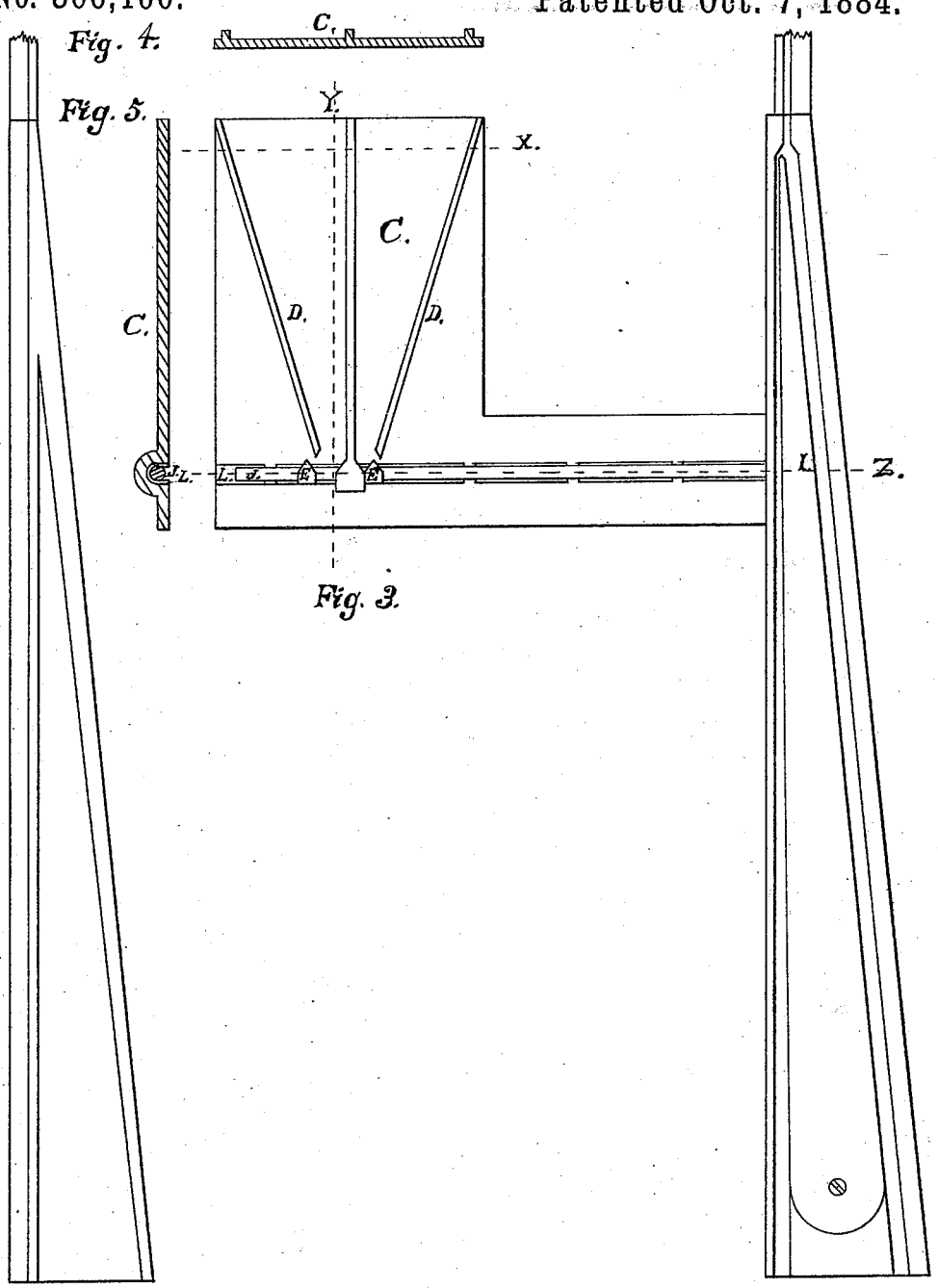
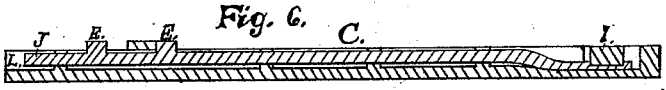


Fig. 5.

Fig. 3.

Fig. 6.



Witnesses:
Fred. D. Chase
Henry Le. Huckley.

Inventor.
Luray C. Powers.

UNITED STATES PATENT OFFICE.

LURAY C. POWERS, OF SOMERVILLE, MASSACHUSETTS.

AUTOMATIC STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 306,100, dated October 7, 1884.

Application filed December 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, LURAY C. POWERS, a citizen of the United States, residing at Somerville, county of Middlesex, and State of Massachusetts, have invented an Improvement in Automatic Street-Railway Switches, of which the following is a specification.

The object of my improvement is to allow the draft-animals perfect freedom in passing over the switch, as far as throwing the same is concerned, and to place the entire responsibility of operating the same on the driver, who easily controls the switch by placing his foot upon a step located above the platform of car and connected by a shaft to a shoe underneath said platform, and by pressing downward until said shoe reaches the earth or paving, along which it is carried by the car until an attachment in the street connected with the switch point or tongue is reached, the sole of the shoe passing through either channel of plate C, formed by projecting or raised pieces on said attachment, and thereby throwing the switch-tongue in the direction desired. I attain these objects by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of car-platform and my attachment; Fig. 2, a side elevation of same; Fig. 3, a plan of switch with my improvement attached; Fig. 4, a vertical section of my attachment in street on line X of Fig. 3; Fig. 5, a vertical section of attachment in street on line Y of Fig. 3; Fig. 6, a vertical section of attachment in street on line Z of Fig. 3; Fig. 7, a front elevation of hanger B; Fig. 8, a top or plan view of hanger B; Fig. 9, a bottom plan view of shoe A.

Similar letters refer to similar parts throughout the several views.

A represents the shoe with wedge-shaped sole; P, rod extending up through hanger B and platform of car.

a represents a double step fixed to top of said rod, all of which are suspended from the car by brace T, hinged to bottom of car Q, and spring U in Fig. 2. Said spring may be either a lever or spiral, and serves to carry the attachment up and support the same under the car, out of the way when not in use.

The dotted-line portions of Figs. 1 and 2 represent position of attachment when the driver or operator has with his foot pressed on one end of step *a*, throwing the shoe A in the opposite direction, as illustrated, until it has reached the paving. The brace T forces it forward with said car until it comes in contact with and operates on mechanism of plate C by the sole of shoe A passing through either channel on plate C, formed by raised ribs D D, and a third one running centrally on said plate, as shown in Fig. 3 of the drawings. The shoe then comes in contact with a V-shaped projection, E, which is made fast to rod J by rivets or otherwise, and said rod being connected with switch-tongue I, the shoe operating as a wedge, thereby throws said tongue either way from raised ribs D D. Rod J is connected at outer end to switch-tongue I by bolt or notch, and lies in a chambered groove, L, in plate C, thereby allowing the use of salt or other preventives against freezing, if found necessary. In Fig. 8 will be seen a slot in hanger B, to allow oscillatory motion of rod P, which occurs when the downward pressure is changed from one end of double step *a* to the other, hanger B being secured up to bottom of car-platform. The working parts D D on plate C are located about midway between the rails.

To operate the switch to the right or the left hand, as the case may require, I have a right and left hand plate, C, with rod J running to the right or left, as the case may require.

In running off a switch, (which is running the same direction the switch points,) the flange of the car-wheel will always throw the switch-tongue into its proper position; but in running upon a switch the switch-tongue must be properly placed that the car may be conducted upon the desired line.

In order to provide for running the car either end foremost upon a switch, I place an attachment on each end; but only one is to be used at a time, and that one is the one that happens to be on the platform foremost. Both attachments must be placed in such a position so it will make no difference which end of car is used for the front end. The plate C is placed in the same relative position with the rails, so the one attachment on each platform will serve to operate either a right or left hand switch.

I am aware that prior to my invention street-

railway switches have been made which were operated from platform of car by various devices; I therefore do not claim such broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a street-railway switch, of the rod J, with raised piece E thereon, said rod to be connected with switch point or tongue, and supported or kept in place by iron plate C, with guide-strips D D thereon, all substantially as described, and for the purpose specified.

2. The combination of the shoe A, having the wedge-shaped sole, with the double-channeled plate C, having the central rib terminating in a V-shaped head, and the switch-rod J, having similar V-shaped projections, all substantially as set forth.

3. The combination of the shoe A, having the wedge-shaped sole, the operating-rod P, and the double step *a*, loosely mounted upon the car to swing transversely to engage with either channel of the plate C, substantially as set forth.

LURAY C. POWERS.

Witnesses:
FRED. D. CHASE,
HENRY L. HINCKLEY.