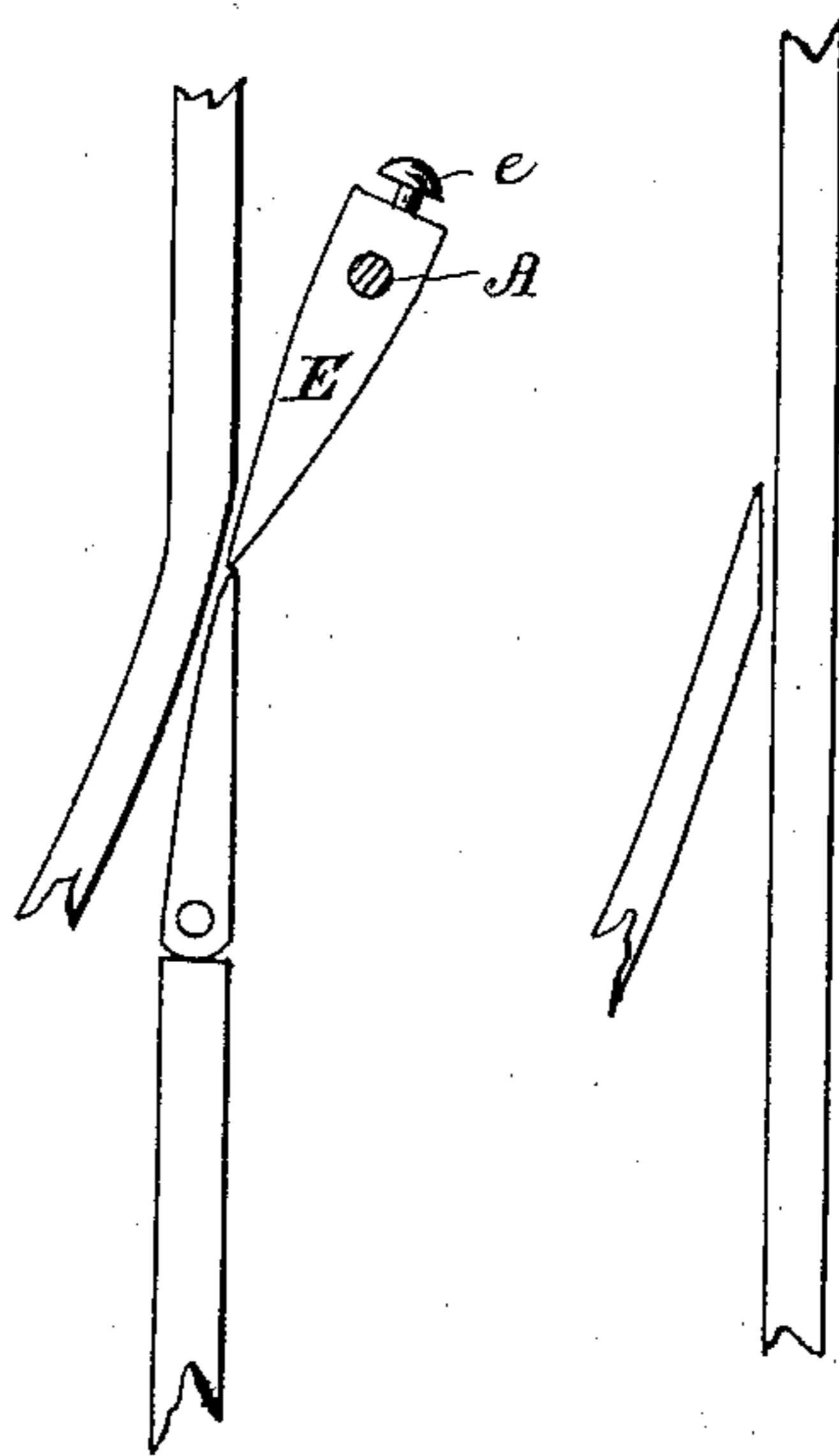
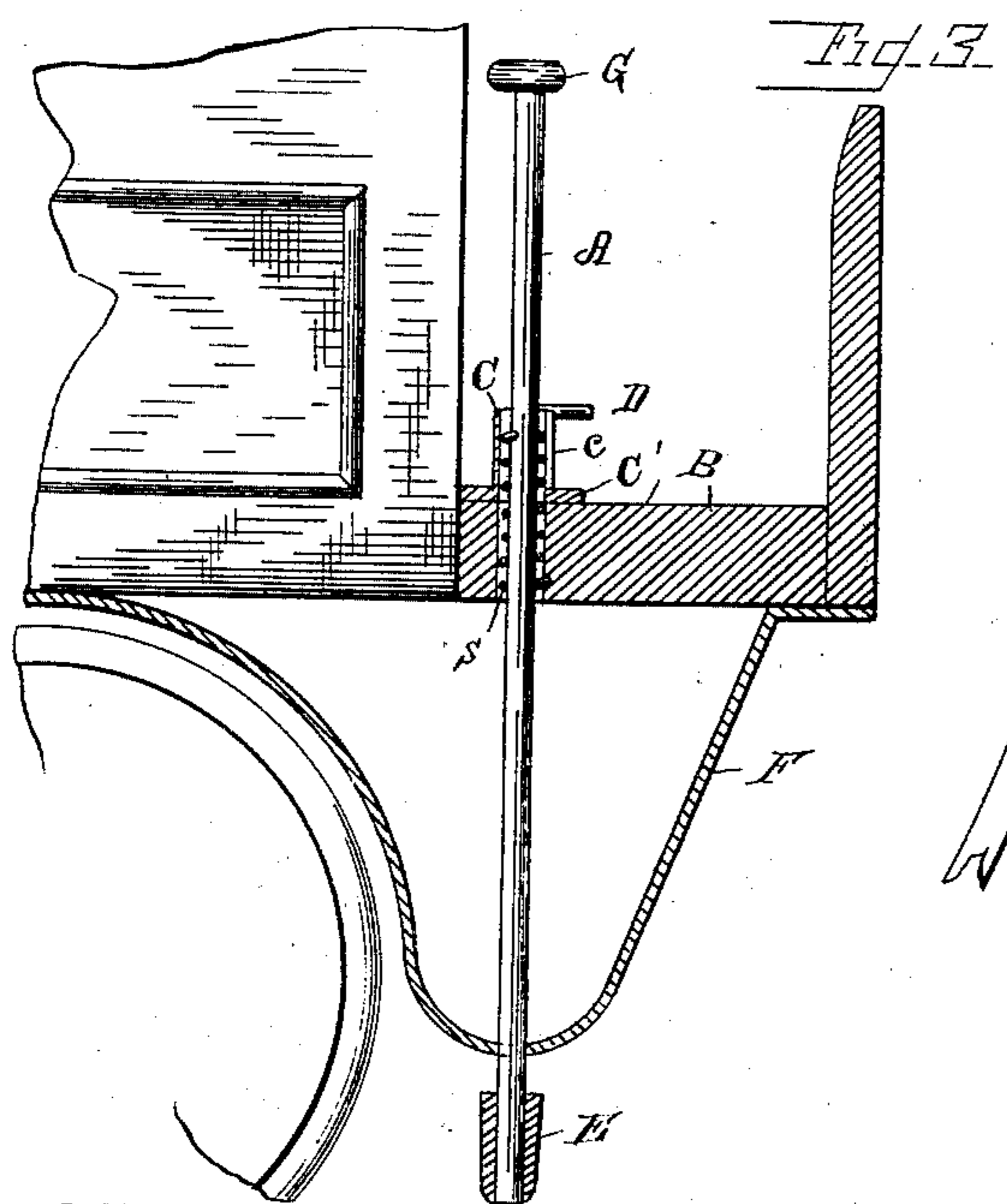
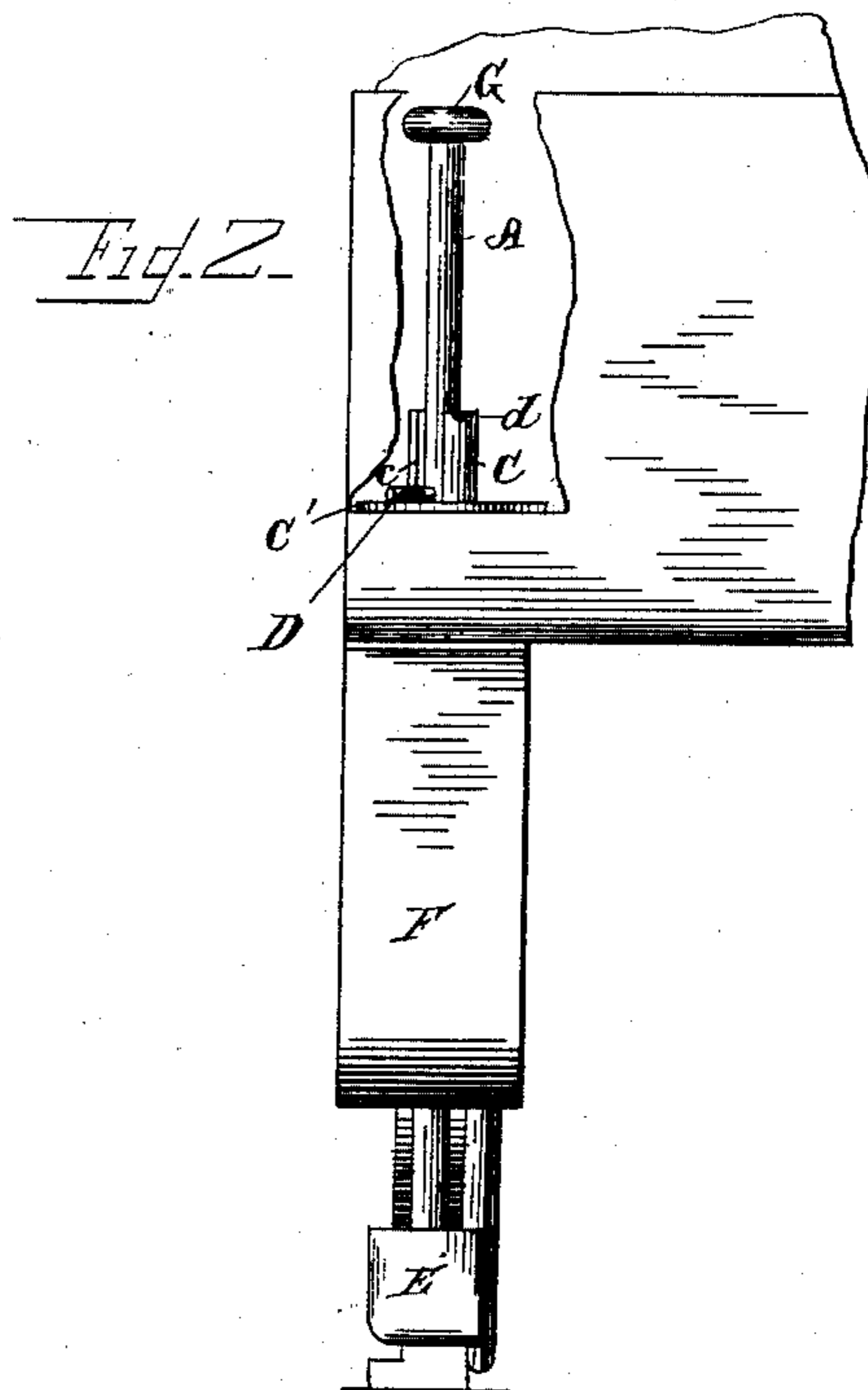
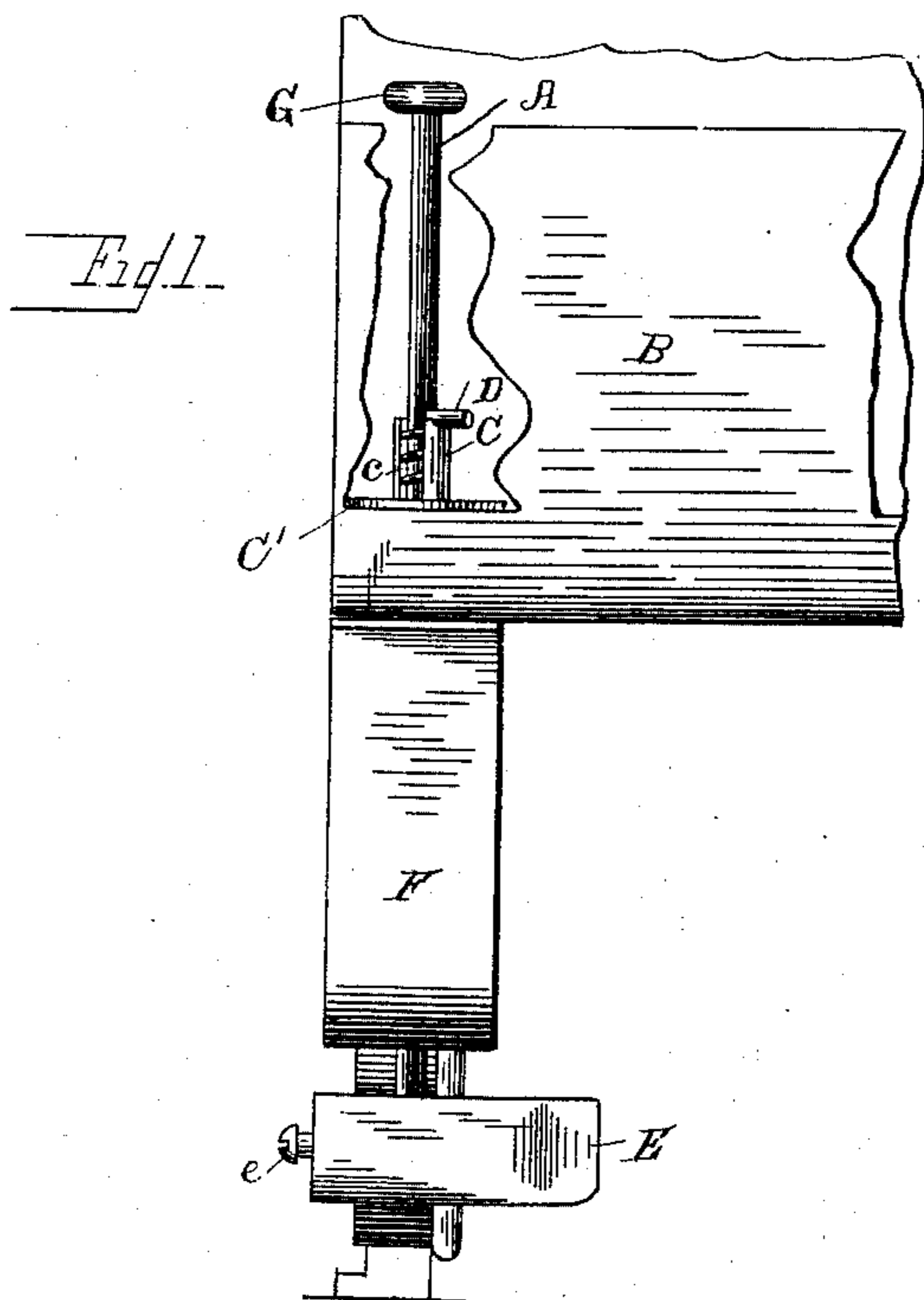


(No Model.)

J. L. BOYDEN.
TRAMWAY SWITCH ADJUSTER.

No. 371,247.

Patented Oct. 11, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN LEWIS BOYDEN, OF COBHAM, VIRGINIA.

TRAMWAY-SWITCH ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 371,247, dated October 11, 1887.

Application filed March 21, 1887. Serial No. 231,739. (No model.)

To all whom it may concern:

Be it known that I, JOHN LEWIS BOYDEN, a citizen of the United States, residing at Cobham, in the county of Albemarle and State of Virginia, have invented certain new and useful Improvements in Tramway-Switch Adjusters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a device for automatically operating tramway-switches; and it consists in certain attachments to the platform of a tram or street car, as will be hereinafter fully described, and specifically pointed out in the claims.

In the drawings, which fully illustrate my invention, Figure 2 represents my device when the shoe is lowered to engage with the switch-frog. Fig. 1 shows the device raised as when not in use. Fig. 3 is a sectional view, and Fig. 4 shows the manner in which the shoe automatically operates the frog.

A is a metal rod or standard passing through an opening in the platform B of the tram or street car, over which opening a metallic sleeve or thimble, C, is provided, having a plate, C', secured to the platform, and in the front of the sleeve is a vertical slot, *c*, extending down to the plate C', which slot receives a projection, D, on the rod A, and enables the standard or rod to be lowered to engage the shoe with the switch-frog, and also points the shoe in the proper direction to meet and operate the frog. At the lower end of the standard is attached the shoe E, which is wedge-shaped, of any suitable metal, and adjustably connected with the standard by means of the screw *e*. This standard is further secured by passing through an opening in the looped brace F on the car-bottom, and by loosening the screw *e* the shoe can be removed or turned on the standard, and the standard, when the shoe is removed, can be drawn up through its brace and the sleeve and entirely removed from the car when desired.

At the top the standard is provided with a

wheel, G, or equivalent turning device. A spiral spring, *s*, is attached to the standard and the sleeve and draws the standard down when the projection D is turned to enter the slot *c*. When not in use, the pin or projection D is raised from the slot in the sleeve and rests in a groove, *d*, on the top of the sleeve, thereby elevating the shoe E above the track; but when approaching a switch or siding the car-driver turns the standard until the pin D enters the slot *c*, which turns the pointed end of the shoe in the proper direction, and its weight and the pressure of the spring cause the rod to descend until the shoe is down to the rail, and it passes between the rail and the frog, and by shifting the frog opens the switch. The frog is pivoted at its larger end, as shown in Fig. 4. When the switch is open and the car has passed onto the siding or turn-out, the driver raises the standard until the projection or pin D is clear of the slot *c* in the sleeve, and rests it in the groove *e* on the top of the sleeve until it is to be used again, thus elevating the shoe and avoiding the danger of its encountering stones or other obstructions.

My device can be applied to any form of tram or street cars, and as it is close to the end of the car is not in the way of passengers on the platform, and by means of the regulating-screw in the shoe it can be entirely removed when desired.

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

1. An automatic switch-opener for tram or street cars, consisting of the standard having a wedge-shaped adjustable and removable shoe at its lower end, and provided with a projection or pin arranged to enter a slot in the sleeve, as described, and allow the shoe to be lowered to engage with and operate the switch-frog, all substantially as described.

2. The combination of the standard having at top a wheel or equivalent device for turning, and a shoe adjustably and removably connected by a screw, as described, at its bottom or lower end, the plate and sleeve or thimble provided with a groove to receive the projection or pin on the standard when it is raised, and a slot to direct the point of the shoe, all substantially as described.

3. The combination of the standard A, having a turning wheel or equivalent device at top, and provided with the projection D, with the sleeve and plate C C', the car-platform, 5 looped brace, and the adjustably-attached shoe, with its screw *e*, all arranged and operating substantially as described.
4. The combination of the standard provided with the regulating pin or projection D, 10 the sleeve C, having a groove at top, and a ver-

tical slot to guide the regulating-pin, the spring *s*, and the adjustably-connected shoe, with its regulating-screw, all substantially as described.

In testimony whereof I affix my signature in 15 presence of two witnesses.

JOHN LEWIS BOYDEN.

Witnesses:

M. E. BRAGG,

IOLA R. BRAGG.