No. 737,053. PATENTED AUG. 25, 1903.

H. A. AMMANN & A. D. CAMPBELL.

ELECTRIC RAILWAY SIGNAL.

APPLICATION FILED MAR. 9, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 3

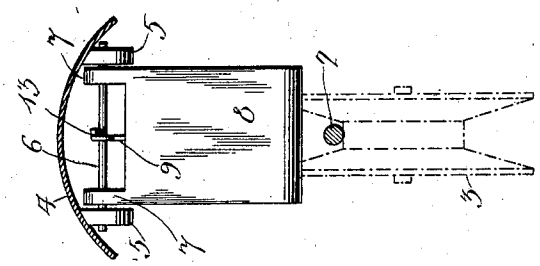


FIG. 2

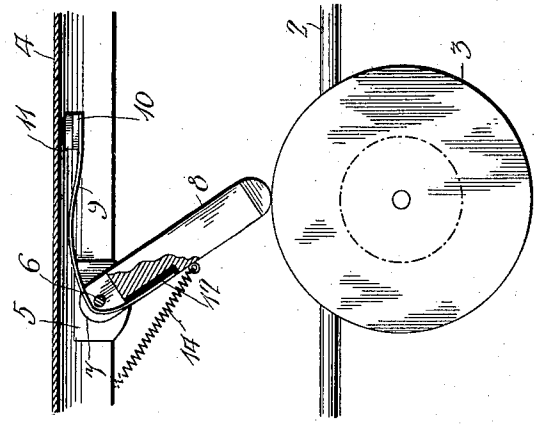
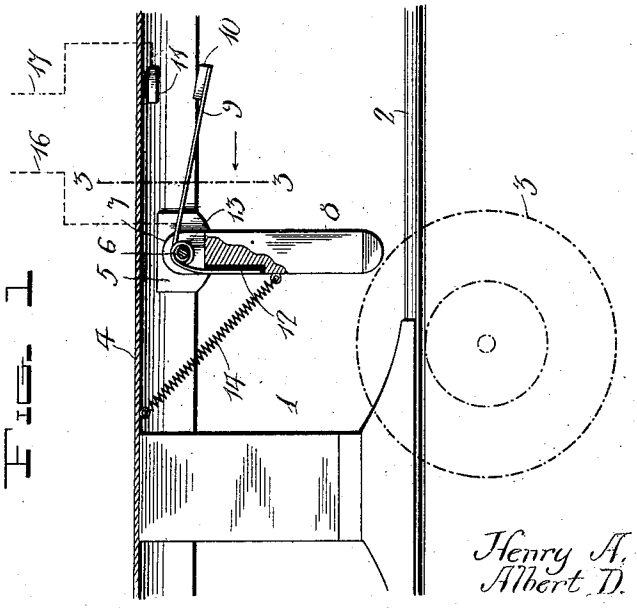


FIG. 1



Witnesses

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Albert D. Campbell

By

Their Attorneys

THE NORRIS PETERS CO. PHOTO-LITHO. WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 5

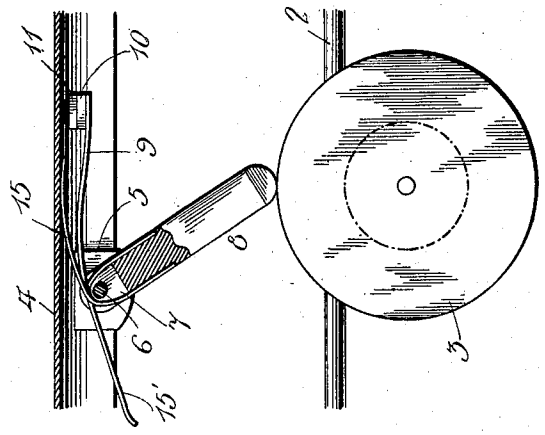
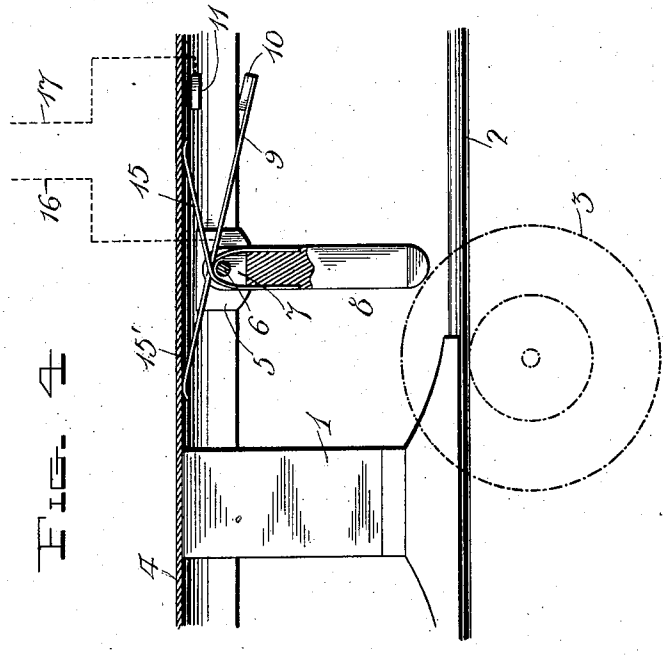


Fig. 4



Witnesses

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No. 737,053. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

HENRY A. AMMANN AND ALBERT D. CAMPBELL, OF SPOKANE, WASHINGTON.

ELECTRIC RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 737,053, dated August 25, 1903.

Application filed March 9, 1903. Serial No. 146,957. (No model.)

To all whom it may concern:

Be it known that we, HENRY A. AMMANN and ALBERT D. CAMPBELL, citizens of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Electric Railway-Signals; and we do hereby 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.

This invention, which relates to signaling appliances adapted more especially for use in connection with electric railways to signal the approach and location of cars or trains, is an improvement on the construction of signal appliance which forms the subject-matter of our application for patent filed November 19, 1902, Serial No. 131,933.

The nature of the present improvements will be readily understood, reference being had to the following detailed description and to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of a signaling appliance embodying our invention. Fig. 2 is a similar view with certain of the parts in a different position. Fig. 3 is a transverse sectional view on line 3 3 of Fig. 1. Fig. 4 is a side elevation, partly in section, of another form of signaling appliance embodying our invention. Fig. 5 is a similar view with certain of the parts in another position.

Referring to the drawings by numerals, 1 denotes the support resting on and securely fastened to the trolley-wire 2, and 3 is the trolley-wheel.

On the support 2 is a hood 4 of arch form in cross-section, the function of which is to protect the circuit making and breaking parts from rain and snow. The ordinary trolley-wire hanger (not shown) may be used to support the hood 4 when advisable, or the hood may be held by the support 1 and the hanger. Fixed to and depending from the hood 4 are ears 5 5, in openings in which is mounted a rod 6, on which is pivotally supported, through the medium of ears 7 7, a plate 8, having a rounded lower end. Secured to the plate is an arm 9, which extends upwardly from the plate and over the rod 6 and thence forwardly, and its free end is provided with a contact-surface 10. Secured to the under side of the hood 4 is a fixed contact 11, preferably insulated from the hood and located in the path of the free end of the arm 9. The plate 8 may be of insulating material throughout or the secured end of the arm 9 may be insulated from the plate, as shown at 12. The arm 9 may, as shown at 13, Figs. 1 and 3, be coiled around rod 6 or may have the single bend. (Shown in Figs. 2, 4, and 5.)

14, Figs. 1 and 2, is a retracting coiled spring, attached at its ends to eyes respectively on the plate 8 and hood 4. In Figs. 4 and 5 we have shown in lieu of the coiled spring 14 a leaf-spring 15, which is secured by a depending end to the plate 8 and presses at its free end against the under side of the hood 4. The function of the spring 14 and the spring 15 is to restore the plate 8 to its normal vertical position and to prevent the sending in of false signals, which might otherwise be caused by rebound of the arm, wind-pressure, and so forth.

15′ is a spring similar to the spring 15, secured by a depending end to the plate 8 and extending in a direction opposite to the latter spring and pressing at its free end against the hood. The spring 15′ operates with the spring 15 to center the plate after movement to the right and to restore the plate to normal position after movement to the left by a car or train going in that direction. The springs 15 15′ are independent of the arm 9.

In practice the plate normally assumes the vertical position. (Shown in Figs. 1, 3, and 4.) In such normal position of the plate the contact-arm 9 and fixed contact 11 are in separated relation. An electric circuit is established through circuit-wires 16 and 17, respectively, leading from the arm 9 and contact 11, by the engagement of said arm and fixed contact in the movement to the right of the plate 8, this being accomplished by the trolley-wheel 3, the plate extending into the path of the wheel sufficiently to provide for the requisite extent of movement. The spring 14 or spring 15 operates to restore the normal position of the parts and to separate the contacts and break the circuit after the wheel has

passed, and said spring 14 or spring 15 also prevents the rebound of the plate and the sending in of a false signal by second engagement of the contacts. A car or train running in a direction to the left will move the parts to the left without producing a signal, but will send in a distinctive signal from a reversely-disposed appliance. The arm 9 being of resilient material will yield after engagement of the contacts, as shown in Figs. 2 and 5, the adjustment of the parts being preferably such that the engagement will take place some time before the plate has reached the end of its movement to the right, whereby a good contact between the parts 10 and 11 is insured.

We claim as our invention—

1. A circuit-closer for electric railway signaling appliances, consisting of a support, a swinging plate thereon, a spring-arm extending from the plate at its pivot and carrying a contact, a contact in the path of the aforesaid contact, and means for retracting the plate and arm after movement.

2. A circuit-closer for electric railway signaling appliances, consisting of a support, a swinging plate thereon, a spring-arm extending from the plate at its pivot and carrying a contact, a contact on the support in the path of the aforesaid contact, and springs extending forwardly and rearwardly of the plate and engaging the support to retract the plate after movement in either direction.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY A. AMMANN.
ALBERT D. CAMPBELL.

Witnesses:
A. W. WITHERSPOON,
E. STANDLEY.