

(No Model.)

R. SKEEN.  
TROLLEY CONTACT DEVICE.

No. 567,754.

Patented Sept. 15, 1896.

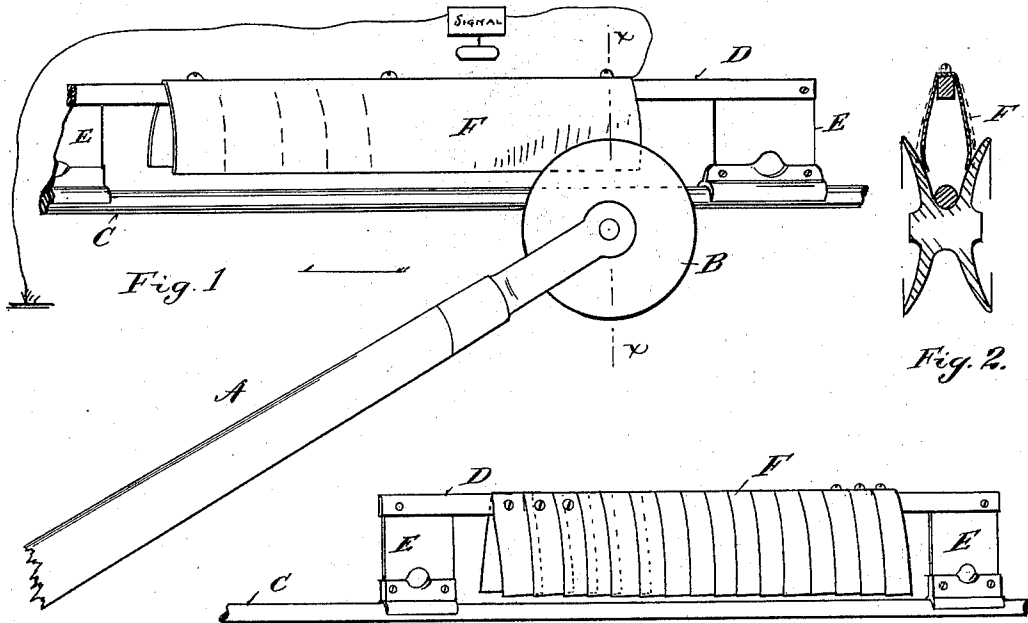
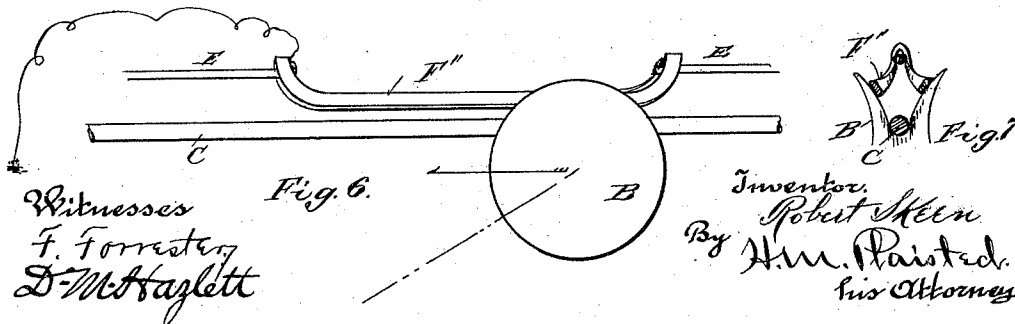
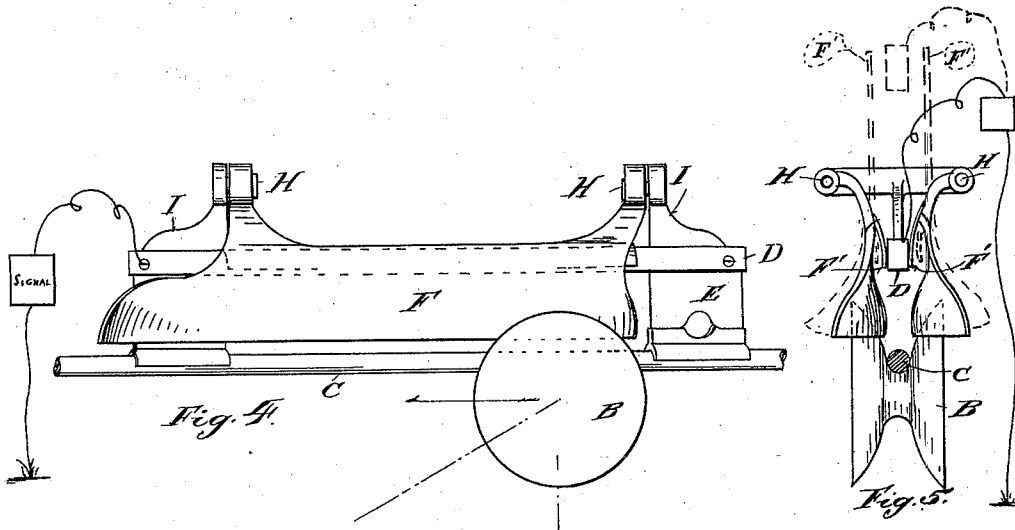


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ROBERT SKEEN, OF MADISON, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO THE SKEEN ELECTRIC SWITCH AND SIGNAL COMPANY, OF ST. LOUIS,  
MISSOURI.

## TROLLEY CONTACT DEVICE.

SPECIFICATION forming part of Letters Patent No. 567,754, dated September 15, 1896.

Application filed September 19, 1895. Serial No. 562,984. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT SKEEN, a citizen of the United States, residing at Madison, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Trolley Contact Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in trolley-contacts.

This invention belongs to the class of circuit makers or breakers operated by the passage of a trolley along a trolley-wire, whereby an electric current is sent for an instant or other period to another point for signaling or other purposes.

My improvements have reference to a contact device normally dead, but electrically energized by the passage of the trolley along the wire and in contact with said device; have reference to a plate in one piece or in multiple adapted to form such trolley-contact, and to peculiarities of construction and arrangement hereinafter described and claimed.

25 In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 represents a side view of a trolley and a portion of its pole, its trolley-wire, and my improved device applied thereto; Fig. 2, a vertical section on the line *xx* of Fig. 1; Fig. 3, a side view of my contact-plate in multiple; Fig. 4, a similar view to Fig. 1, showing the plate with a secondary contact-surface; Fig. 5, an end view of Fig. 4, looking to the right; and Figs. 6 and 7, a side and end view of a bar-contact for the trolley-wheel.

30 The letter A represents a trolley-pole carrying the usual trolley B, adapted to contact with the trolley-wire C. Above the trolley-wire is mounted a supporting-bar D on insulations E, carried by the trolley-wire itself, or otherwise supported. Upon the bar D is a plate F, bent in the form of a horseshoe or double loop, so that the lower edges approach but do not touch the trolley-wire C, but near enough to be in contact with the trolley-wheel as it passes that point. The trolley as it passes the device forms an interposed connection which spans the space from the trol-

ley-wire to the plate F, as shown in Fig. 2, and sends a current to the signal G or other point till the trolley passes off from the plate. The wings of the plate F have a normal tendency outward, as indicated by the dotted lines in Fig. 2, thus securing certain contact with the trolley. If desired, the plate may be divided into fingers, as indicated by dotted lines, Fig. 1, so that the retarding action on the trolley may be reduced to a minimum. In Fig. 3 is shown the contact-plate in multiple with edges overlapping, as indicated by dotted lines, by which only the plate-fingers directly opposite the trolley will be compressed.

65 In Fig. 4 the normal tendency of the plate F outward is secured by pivoting it at H to the supporting-bar. In connection with this form I may also employ a secondary contact portion F', preferably formed by spring extensions on each wing, adapted to be brought in contact with the supporting-bar D, which in this form supports the pivots H and insulated blocks I. Thus the trolley will first contact with the wing F, compress it inward, and make contact with it and the bar D to close the circuit.

Fig. 5 shows that the wings of the plates F are turned outward at one end. This is useful in single-track railways, so that the trolley will operate the device when going one way only. When going in a reverse direction, the trolley will separate the wings and will not operate the device.

80 In the forms first described (shown in Figs. 1 and 3) the passage of the trolley in either direction will send a current to the signal or other point. In the form shown in Figs. 4 and 5 the trolley will send a current when traveling in one direction, but will be inoperative on the return.

In Figs. 6 and 7 the contact-bar F'', having diverging wings, is supported above the trolley-wire, but out of contact with the same at all times. The passage of the trolley will span the intervening space by contacting the groove of the trolley with the laterally-flaring wings and send a current, as previously described.

Referring again to Fig. 5, the secondary contact F' may be extended above the pivot-points H, as indicated by the dotted lines.

When on this side of the pivot-points, they will make and break contact reversely to their action when located as shown in full lines. That is, the separation by the trolley  
 5 of the wings F will close the circuit when the contact portions F' are above the pivots II. The compression of the wings will then open the circuit, as is indicated in Fig. 5. Thus  
 10 the device may be used for making or for breaking the circuit, as may be determined by circumstances and requirements.

While I have shown the contact device as having two wings and in duplicate, it is evident that I may dispense with one side of the  
 15 plate, if so desired. The preferred form, however, in order to secure certainty and equalize the action on the trolley, is in duplicate, as herein shown and described.

The construction illustrated in Figs. 4 and  
 20 5 is not claimed specifically in this application, as it is so claimed in my application, Serial No. 579,611, filed February 17, 1896, on electric contact devices.

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

1. An improved trolley contact device, comprising a contact-piece extending along  
 30 horizontally above the trolley-wire and insulated therefrom, but in the path of the trol-

ley, and capable of lateral motion but none vertically, and adjunctive devices electrically connected to said contact-piece, substantially as described.

2. A trolley contact device provided with  
 35 a series of flexible finger-pieces electrically connected, insulated from the trolley-wire and mounted in the path of the trolley-wheel to be energized by contact with the said  
 40 wheel.

3. A trolley contact device comprising a supporting-bar adapted to be insulatingly  
 45 mounted above the trolley-wire and having depending plate-fingers adapted to contact with the trolley-groove as the trolley passes  
 45 along the adjacent wire.

4. An electrical contact device comprising a double series of plate-fingers electrically  
 50 connected adapted to be compressed or expanded laterally toward or from each other, whereby the compressing or expanding means will be retarded only by the reaction of the fingers directly in contact therewith.

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

ROBERT SKEEN.

Witnesses:

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 F. FORRESTER.