

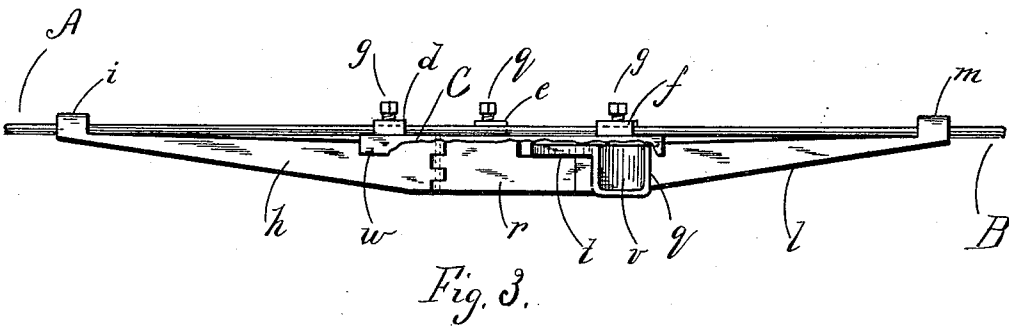
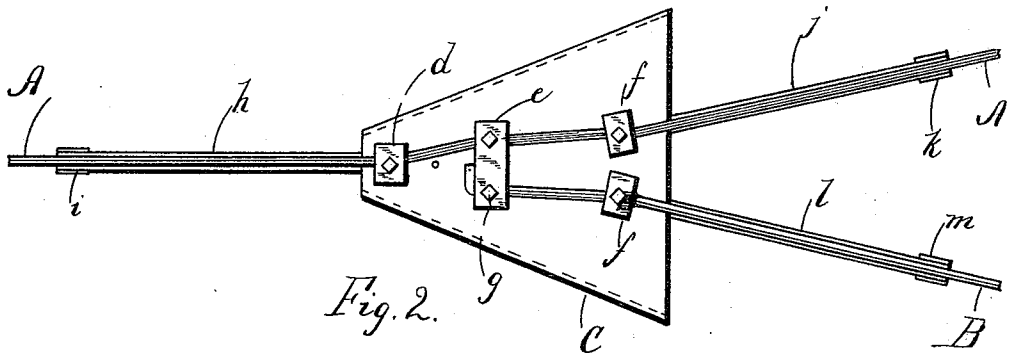
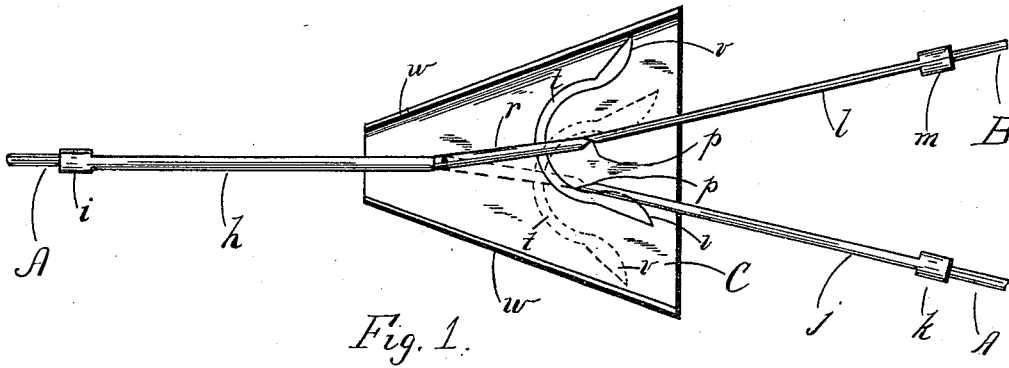
(No Model.)

2 Sheets—Sheet 1.

C. E. HUDSON.
TROLLEY SWITCH.

No. 461,611.

Patented Oct. 20, 1891.



WITNESSES
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E. A. Fay.

INVENTOR
Charles E. Hudson,
By C. A. Shaw & Co.,
ATTORNEYS

(No Model.)

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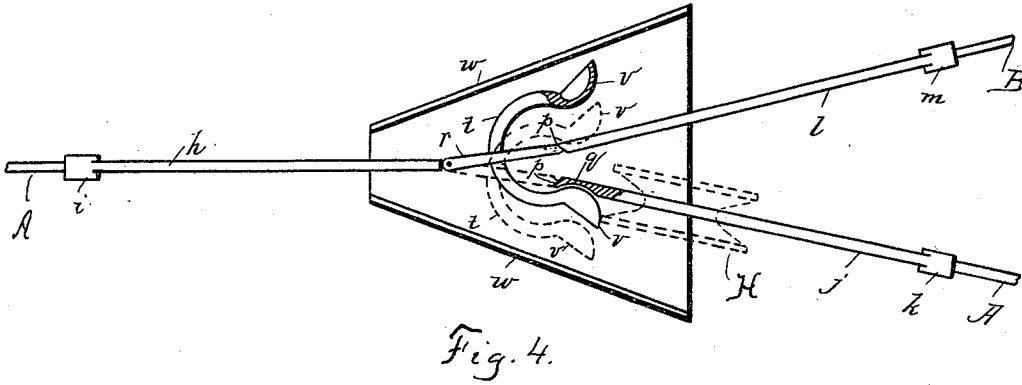


Fig. 4.

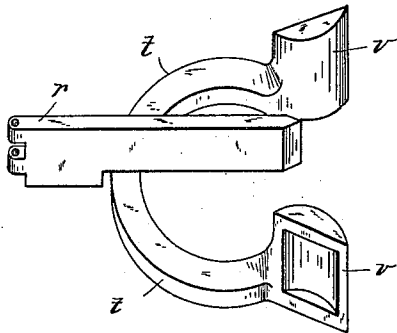


Fig. 5.

WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES E. HUDSON, OF LEOMINSTER, MASSACHUSETTS, ASSIGNOR TO THE
PIERCE BROTHERS & COMPANY, OF SAME PLACE.

TROLLEY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 461,611, dated October 20, 1891.

Application filed January 13, 1891. Serial No. 377,583. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. HUDSON, of Leominster, in the county of Worcester, State of Massachusetts, have invented certain
5 new and useful Improvements in Trolley-Switches, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science
10 to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a bottom plan view of my improved trolley-switch; Fig. 2, a top plan view
15 of the same, showing the switch-plate in position on the wires; Fig. 3, a side elevation of the same; Fig. 4, a bottom plan view, portions being broken away and the trolley-wheel shown in position; and Fig. 5, an enlarged
20 perspective view of the switch-tongue detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

25 My invention relates especially to a trolley-switch for the overhead conducting-wires in electric street-car systems; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective
30 device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following
35 explanation.

In the drawings, A represents the main wire, and B the branch wire.

40 The switch-body comprises an approximately triangular switch-plate C, provided on its upper face with a series of lugs *d e f*, in which the conducting-wires A B are secured by set-screws *g*. A horizontal arm *h* projects from the apex of the switch-plate C and is
45 provided at its outer end with ears *i*, which are folded over the wire A, assisting to support the plate in position. The arm *h* is curved vertically and its lower edge is of suitable width for the trolley-wheel of the car to
50 run on. A similar arm *j* projects from the base of the triangle and is provided in like

manner with lips *k* for securing it on the wire A. An arm *l* projects from the base of the switch-plate and is supported on the branch wire B by ears *m*. The inner ends of
55 the arms *j l* are beveled at *p*, as shown in Fig. 1, and each of said arms is provided with a groove or indentation *q*. (Shown in Figs. 3 and 4.) A switch-tongue *r* is pivoted to the inner end of the arm *h*, its free end being
60 beveled to conform to the ends of the arms *j l*. A curved or U-shaped lever *t* is secured centrally to the tongue *r*, the free ends of said lever being extended downwardly at *v* and curved to project into the indentations *q* of the
65 arms *j l*. The outer edge of the switch-plate C has a pendent flange or water-shed *w*.

In the use of my improvement, the parts being in the position shown in Fig. 1, the switch is closed to direct the trolley of a car
70 on the branch line onto the main line A. A car coming from the right, as viewed in Fig. 4 on the main line, its trolley-wheel H engages the head *v* of the lever *t*, which is disposed in the indentation *q* of the arm *l*, forcing
75 said lever outward into the position shown by dotted lines and the switch-tongue *r* into contact with the arm *j*, closing the switch to direct said trolley onto the continuation of the main line. The switch-plate and arms
80 being in contact with the conducting-wires, the current is not broken in changing the switch. By curving the lever *t* and providing it with the curved heads *v*, projecting into the indentations, as described, in the switch-
85 plate arms a longer leverage is obtained and the switch-tongue caused to act more quickly when said lever is engaged by the trolley. It will be seen that the action of the trolley on the switch is positive, said trolley remaining
90 in contact with the curved head *v* and holding the switch against the corresponding arm *l* or *j* until the trolley has passed onto the tongue *r*. When a car is coming from
95 the opposite direction, or from the left as viewed in Fig. 1, if said car is designed to pass onto the branch line B, the track-switch, moving the car in the desired direction, acts thereon before the trolley engages the tongue
100 *r*. Said trolley, being mounted in the ordinary fashion at the rear of the car center, or, in any event, at the rear of the forward truck

of said car, will cause the switch-tongue *r* to move in the direction said car is going and enable the trolley to pass onto the corresponding overhead wire. The indentations *q* may
 5 be extended through the plate-arms, if desired, to enable the heads *v* to be projected farther.

Having thus explained my invention, what I claim is—

10 1. In a trolley-switch, a switch-plate provided with arms attachable to the main and branch conducting-wires, in combination with a switch-tongue pivoted on said plate, and a lever secured to said tongue with its arms in
 15 position to alternately engage the main and branch wire arms, whereby the switch may be set when said lever is engaged by the trolley, substantially as described.

2. In a trolley-switch, a switch-plate provided with lugs for securing the main and
 20 conducting wires thereto, arms projecting from said switch in the same plane with said wires and in contact therewith, a pivoted switch-tongue interposed in the main-wire
 25 arms, and a curved lever secured to said tongue and adapted to alternately contact with the main and branch wire arms and provided with an elongated curved head for projecting
 30 into an indentation in said arms, substantially as and for the purpose set forth.

3. In a trolley-switch, the switch-plate C, pro-

vided with the arms *h l j*, in combination with the tongue *r*, pivoted to the arm *h*, and the lever *t*, secured to said tongue in position to
 35 contact with the arms *l j*, substantially as and for the purpose set forth.

4. In a trolley-switch, a switch-plate C, provided with the arm *h* and arms *l j*, having the indentations *q*, in combination with the
 40 switch-tongue *r*, pivoted to said arm *h*, and the curved lever *t*, secured to said tongue and provided with the curved heads *v* for projecting into said indentations, substantially as described.

5. In a trolley-switch, a switch-plate attach-
 45 able to the conducting-wires, in combination with a switch-tongue, as *r*, pivoted on said plate and provided with a curved lever *t*, having oval or curved heads *v* adapted to be engaged by the trolley on the main or branch
 50 wires and move said tongue, substantially as described.

6. The switch-plate C, provided with the flange *w* and arms *h j l*, in combination with the pivoted switch-tongue *r*, provided with
 55 the lever *t*, having the curved heads *v* adapted to be projected into the indentation, as *q*, in the arms *l j*, substantially as described.

CHARLES E. HUDSON.

Witnesses:

O. M. SHAW,

K. DURFEE.