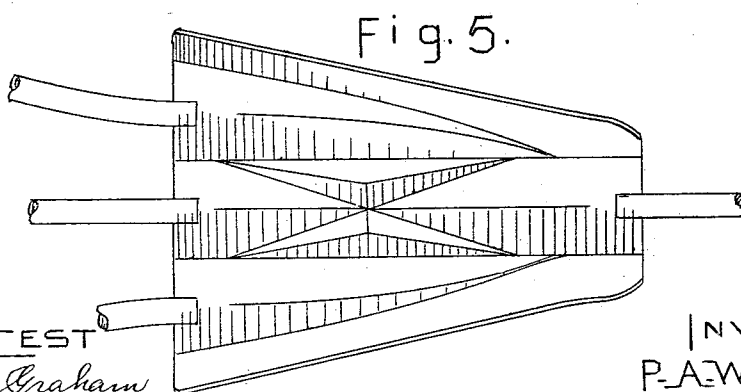
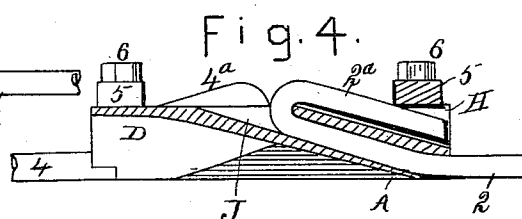
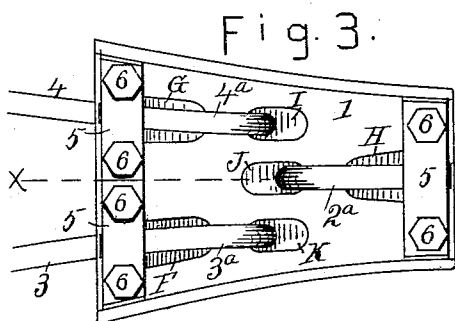
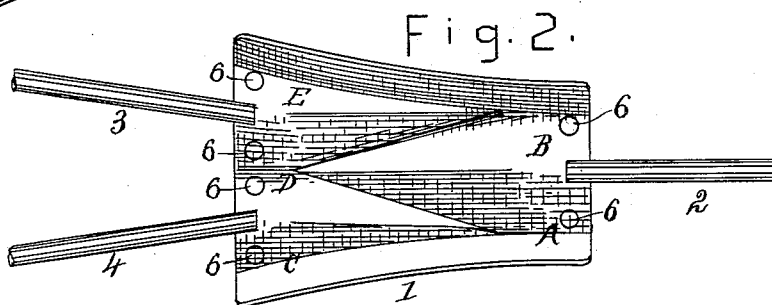
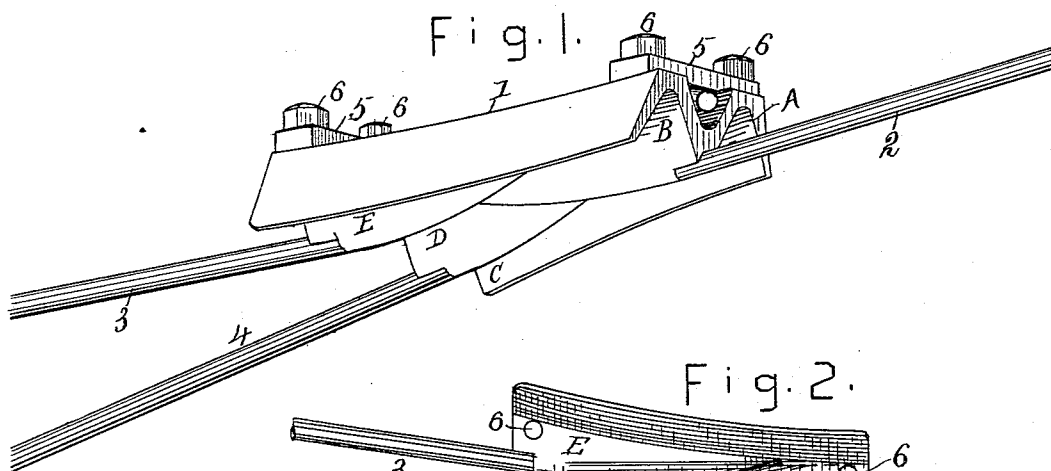


(No Model.)

P. A. WILLIAMS.
TROLLEY WHEEL SWITCH.

No. 555,145.

Patented Feb. 25, 1896.



ATTEST
Nora Graham.
William S. Graham.

INVENTOR
P. A. WILLIAMS.
by his attorney
L. P. Graham

UNITED STATES PATENT OFFICE.

PHILIP A. WILLIAMS, OF DECATUR, ILLINOIS, ASSIGNOR OF ONE-HALF TO
FRANCIS F. WILLIAMS, OF SAME PLACE.

TROLLEY-WHEEL SWITCH.

SPECIFICATION forming part of Letters Patent No. 555,145, dated February 25, 1896.

Application filed June 10, 1895. Serial No. 552,247. (No model.)

To all whom it may concern:

Be it known that I, PHILIP A. WILLIAMS, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Trolley-Wheel Switches, of which the following is a specification.

This invention is designed to provide a light, simple and efficient switch for the trolleys of electric cars. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a perspective representation of a switch embodying my invention. Fig. 2 is a diagram of the under surface of the switch. Fig. 3 is a plan of the upper surface of the same. Fig. 4 is a section on line X in Fig. 3. Fig. 5 is a diagram of the under surface of a modified form of switch.

The switch-plate 1 is made of brass or other metal adapted to act as a conductor of electricity. The wires 2, 3, and 4 are connected with the plate with their under surfaces flush or nearly flush with the under surface of the plate. V-shaped grooves, as A, B, C, D, and E, are formed in the under surface of the plate in such manner that a groove runs from each side of the main wire to the corresponding side of every wire at the opposite end of the plate, and thereby forms double paths for the flanges of the wheel of the trolley. The grooves merge one into another on account of their intersections, and the intervening ridges gradually depress and eventually end in grooves. The wires enter holes in the ridges between grooves, extend obliquely upward through the plate, curve backward and downward into recesses formed in the upper surface of the plate and are there secured by means of clamp-bars.

J represents the hole for wire 2, H is the recess, 2^a is the recurved end of the wire, 5 is the clamp-bar, and 6 are the securing-bolts.

I is the hole for wire 4, G is the recess, and 4^a the recurved end.

K is the hole for wire 3, F is the recess, and 3^a is the recurved end.

The clamp-bars for all the wires are designated by 5 and the bolts by 6.

The switch described specifically is a simple three-wire switch.

Fig. 5 shows the construction of a four-wire switch so far as the construction differs from that described, the principle in both cases, as well as in other obvious modifications, being precisely the same.

A trolley-wheel running along the main line 2 will follow the central ridge until its flanges are in the grooves A and B, and will then run along grooves D and E to wire 3, or along D and C to wire 4, depending on the direction taken by the car. The course of the wheel on the back trip, as well as its action on the plate, (shown in Fig. 5,) is obvious without special description.

The switch-plates may be cast to proper shape, the holes perhaps excepted. They are very light as compared with ordinary switches, and their connections may be made very secure.

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

1. A switch for trolley-wires comprising a plate having grooves in its under surface extending from each side of the main wire to the corresponding side of each switch-wire, holes extending obliquely upward through the metal left between grooves, recesses in the upper surface, above the holes, and clamp-bars above the recesses, substantially as set forth.

2. A switch for trolley-wheels comprising a plate having holes extending upward from the under surface of its ends, corresponding recesses in the upper surface of the plate, wires extending through the holes and bent backward into the recesses, clamp-bars holding the ends of the wires in the recesses, and grooves in the under surface of the plate extending one from each side of the main wire to the corresponding side of each switch-wire, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

PHILIP A. WILLIAMS.

Attest:

J. M. CLOKEY,
FRANCIS F. WILLIAMS.