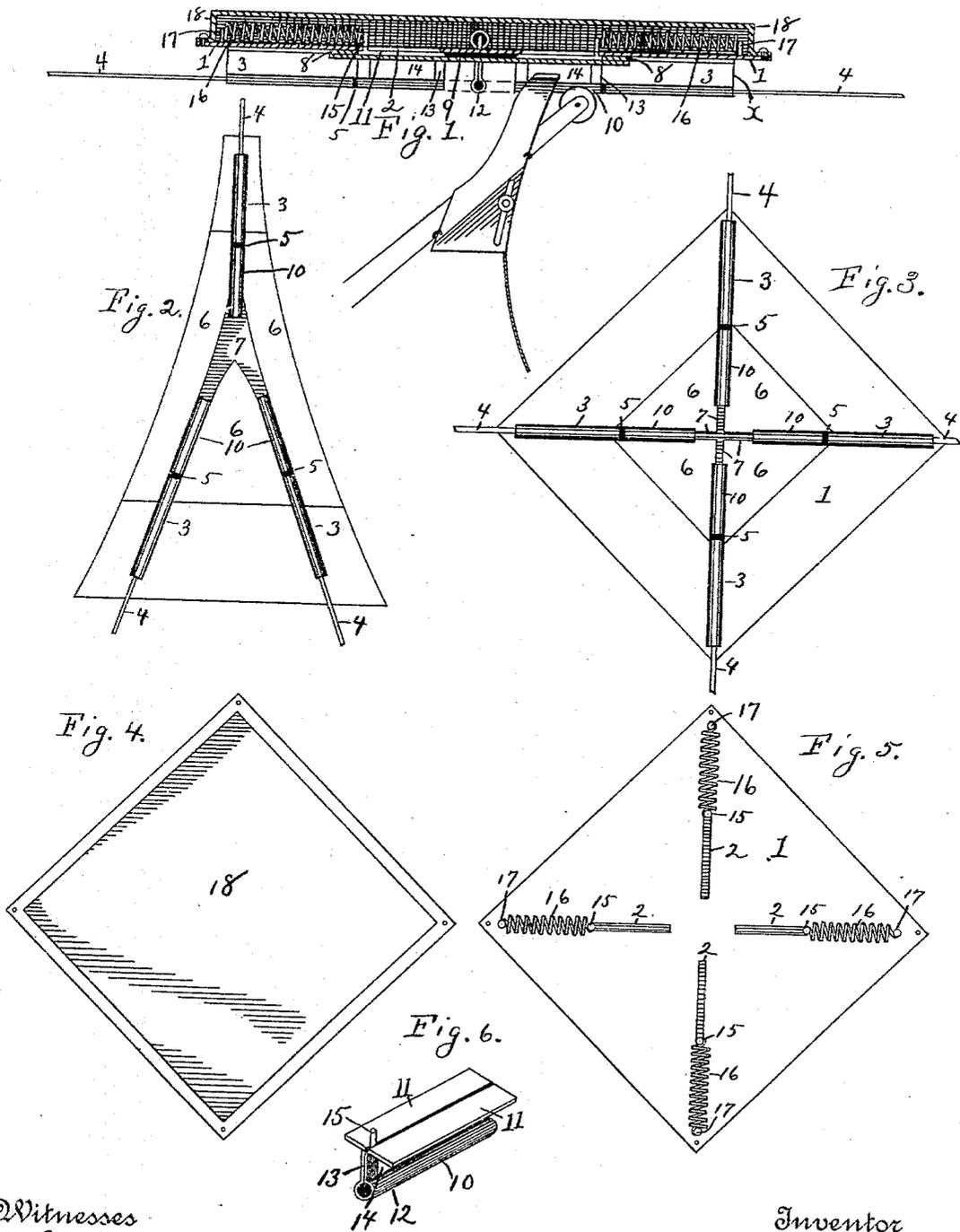


(No Model.)

W. W. HENDRIX.
ELECTRIC RAILWAY SWITCH AND CROSSING.

No. 511,017.

Patented Dec. 19, 1893.



Witnesses
Percy White
Edwin L. Bradford

Inventor
W. W. Hendrix
By Glascock & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM W. HENDRIX, OF BOWLING GREEN, KENTUCKY.

ELECTRIC-RAILWAY SWITCH AND CROSSING.

SPECIFICATION forming part of Letters Patent No. 511,017, dated December 19, 1893.

Application filed August 5, 1892. Renewed November 22, 1893. Serial No. 491,683. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. HENDRIX, a citizen of the United States, residing at Bowling Green, in the county of Warren and State of Kentucky, have invented a certain new, useful, and valuable Improvement in Switches and Crossings for Overhead Electric-Railway Systems, of which the following is a full, clear, and exact description.

My invention has relation to devices for switching and crossing the trolleys of electric cars. The switch is used to pass the trolley from the main wire to a branch or vice versa and the crossing is used to pass the trolley over at the intersection of two wires extending in opposite directions. The switch and the crossing are both constructed on the same principle and they will each be fully described hereinafter.

In the accompanying drawings: Figure 1, is a sectional view of the crossing showing the trolley in position to be passed over. Fig. 2, is a plan view of the under side of the switch. Fig. 3, is a plan view of the under side of the crossing. Fig. 4, is a plan view of the under side of the cover to the crossing. Fig. 5, is a plan view of the upper side of the crossing, the cover being removed. Fig. 6, is a detail perspective view of the sliding block used both in the switch and crossing.

My invention is described as follows:

I will first describe the construction and operation of the crossing and then that of the switch.

The crossing consists of the plate 1, having the elongated perforations 2, as shown in Fig. 5. To the under side of the said plate is rigidly fixed the stationary blocks 3, said blocks adapted to receive in their outer ends the electric wires 4, and the inner ends of said blocks may be provided with the rubber or otherwise elastic cushions 5. There is one of these stationary blocks to each perforation in plate 1, and the inner end of the block is placed at or near the outer end of the elongated perforation. The part of the stationary block that receives the wire and holds the cushion is cylindrical, the wire entering one end of the cylinder and the cushion being secured in the other. The intermediate part of the block or that part between the cylinder

and the plate 1, is a solid sheet of metal the thickness of which is not so great as the diameter of the cylinder. (See Fig. 1.) To the under side of the plate 1, and in its middle are secured the angular plates 6. Said plates are so arranged as to have the slots 7, between their adjacent edges and between the outer edges of said plates and the said plate 1, are the strips of metal 8, (see Fig. 1,) which form a space 9, between the inner portions of the said angular plates 6, and the plate 1. (Also see Fig. 1.)

Fig. 6, is a perspective view of the sliding block 10. Said sliding block has at its upper part the flanges 11, and at its lower part the cylinder 12, similar to the cylinder of the stationary block. Connecting the flanges of the said sliding block and the said cylinder are the strips 13, one at each end of the said block. There is an open space 14, between the two strips at each end of the block and the cylinder and the flanges of the said sliding block. Extending upward from one end of the said sliding block is a lug 15.

There is a sliding block to each stationary block the end of the sliding block having the lug 15 being next to the stationary block. (See Fig. 1.) The flanges 11, of the said sliding blocks are located in the space 9, and the lug 15, of each block extends upward through one of the elongated perforations 2, in the plate 1. The strips 13, extend downward through the slots 7, between the edges of the plates 6. Thus the sliding block 10, is loosely held in its place. A coil spring 16, has one of its ends attached to the lug 15, and its other end secured to the lug 17, which is rigidly secured to the top side of the plate 1, at or near the rear end of the stationary block. Thus the sliding block is held back against the stationary block. The springs 16, on top of the plate 1, are covered by the metallic covering 18, which is secured to the said plate in any suitable manner. With the exception of the rubber cushions 5, the entire crossing is constructed of metal, and the current of electricity from the wires passes through the crossing.

The only difference between the switch as shown in Fig. 2, and the crossing as shown in Fig. 3, is in the shape of the plate 1, and the shape of the plates 6, said plates being shaped

as shown in the said Fig. 2. The switch has the stationary blocks, 3, connected to wires 4 and having cushions 5, slots 7, between the plates 6, sliding block 10, constructed identical with the one described, and the springs and covering as heretofore described.

This crossing and switch are designed to be used in conjunction with a trolley provided with my attachment for preventing the trolley from jumping off the wire while the car is in motion. The application for patent of the United States Government on the said attachment above mentioned I file at the same time this application for patent is filed, Serial No. 442,263, filed August 5, 1892. Said attachment consists of two jaws hinged to the trolley near the wheel, said jaws having their upper ends overlapping each other over the wire, as shown in Fig. 1. Said jaws are held together by connecting springs and by means of said springs they automatically close themselves, when pried apart by coming in contact with the supports of the wire, after they pass the said supports. When the said jaws come in contact with the edge x , of the stationary block, they are pried apart just wide enough to allow the intermediate portion to pass through. Said jaws then pass on to the sliding block 10, and the first strip 13, passes through the jaws, when the jaws are automatically closed as above described. The tension of the spring 16, being very slight, when the closed jaws strike the second strip 13, instead of prying said jaws apart the said sliding block will slide over until it strikes the opposite sliding block (as indicated by dotted lines in Fig. 1). The shock of this sudden resistance will pry the jaws apart and the trolley passes on over the opposite sliding and stationary blocks, and the spring 16, which has been distended will contract and pull the removed sliding block back in its place. Substantially the same movements as above described are undergone when the trolley passes over the switch.

Having described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. In combination with a trolley provided with jaws that overlap over the wire a switch or crossing consisting of stationary blocks connected with the ends of the wire, sliding blocks abutting against the stationary blocks and adapted to be moved by the jaws of the trolley, a coil spring having one end attached to the sliding block and the other to another part of the switch or crossing said spring being adapted to pull the said sliding block back in place when said block is disengaged from said jaws, substantially as shown and described and for the purposes set forth.

2. A switch or crossing substantially as shown and described and for the purposes set forth consisting of a plate provided with elongated perforations, angle plates having slots between their edges and a space between them and the perforated plate said angle plates being connected with the perforated plate by an intermediate strip, stationary blocks secured to the perforated plate, sliding blocks working in the space between the perforated plate and the angle plates, coil springs having one end secured to the said sliding block and the other to another part of the switch or crossing, a suitable covering adapted to protect and cover the said coil springs; all substantially as shown and described and for the purposes set forth.

3. In a switch or crossing substantially as shown and described, a sliding block its upper part consisting of flanges, its lower part consisting of a cylinder and its front and rear ends consisting of connecting strips, substantially as shown and described and for the purposes set forth.

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

WILLIAM W. HENDRIX.

Witnesses:

J. S. BRIGGS,
THOS. B. LYNE.