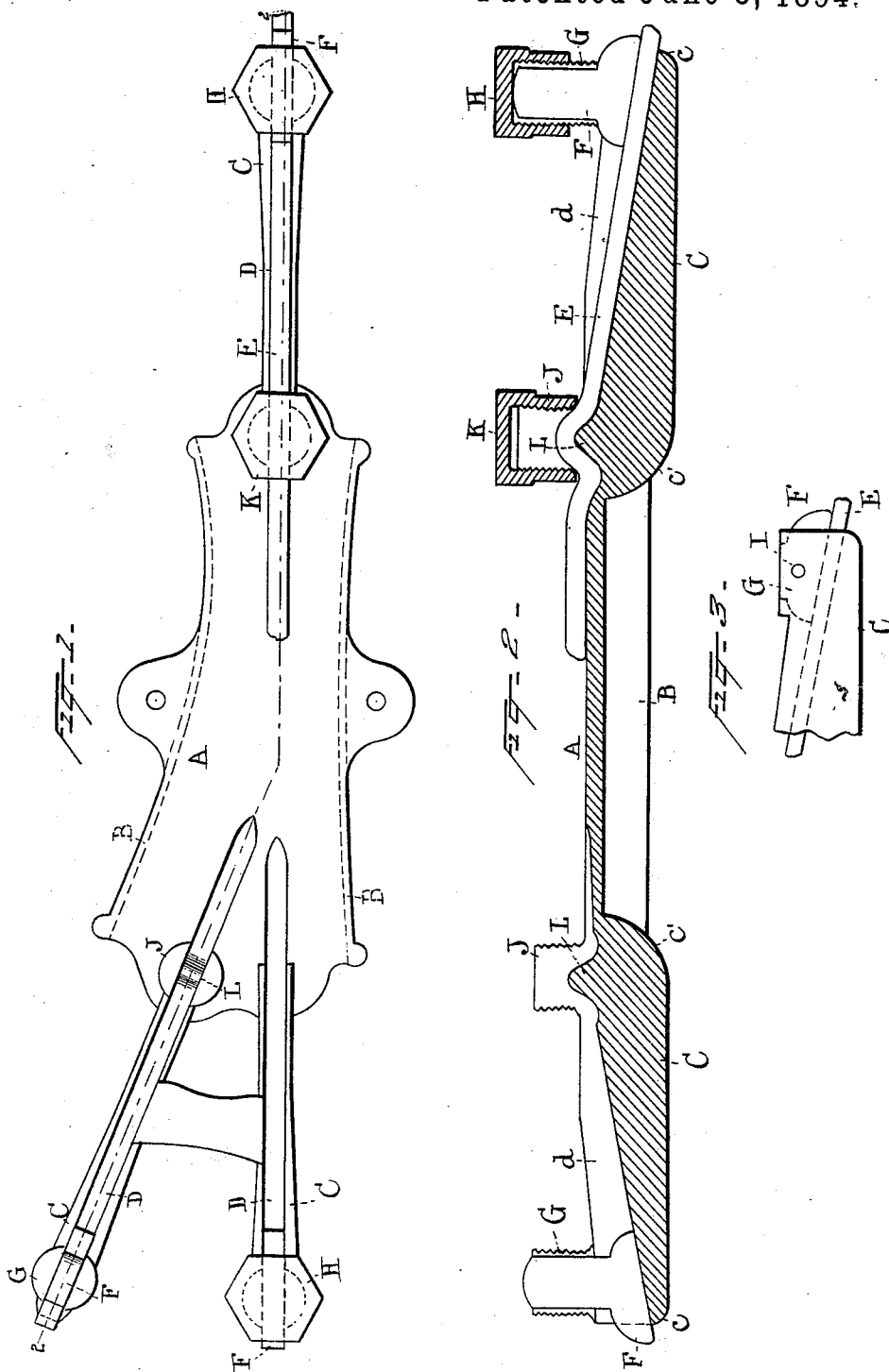


(No Model.)

M. A. SMITH & W. CLABAUGH.
ELECTRIC RAILWAY OVERHEAD SWITCH.

No. 520,971.

Patented June 5, 1894.



Witnesses
Lewis A. Clark.
Geo. B. Cronk.

M. A. Smith & W. Clabaugh, Inventors
By his Attorneys
Dyer & Seely

UNITED STATES PATENT OFFICE.

MILLER A. SMITH, OF BROOKLYN, AND WILLIAM CLABAUGH, OF NEW YORK, ASSIGNORS TO THE NEW YORK ELECTRICAL WORKS, OF NEW YORK, N. Y.

ELECTRIC-RAILWAY OVERHEAD SWITCH.

SPECIFICATION forming part of Letters Patent No. 520,971, dated June 5, 1894.

Application filed February 21, 1894. Serial No. 500,999. (No model.)

To all whom it may concern:

Be it known that we, MILLER A. SMITH, residing at Brooklyn, in the county of Kings, and WILLIAM CLABAUGH, residing at New York, in the county of New York, State of New York, citizens of the United States, have invented a certain new and useful Improved Device for Overhead Electric Railways, of which the following is a specification.

10 The object of our invention is the improvement of devices such as switches, crossings, &c., employed in connection with an overhead electric railway and interpolated in the line of the overhead wire.

15 More particularly our invention has reference to securing, at the point where the trolley leaves the line wire and makes contact with the switch, crossover, &c., or passes from the switch, crossover, &c., to the line wire, a continuation of contact for the trolley in the plane of the line wire, whereby sparking and jarring, with resultant liability of the trolley losing the line wire, are avoided, and at the same time securing adequate electrical contact between the line wire and switch, crossover, &c.

We realize the objects of our invention by employing on the switch, crossover, &c., ribs straight on their under or contact surfaces for the greater portion of their length, each rib having an inclined groove for the reception of the line wire or branch wires on its upper surface, said groove, at its outer end, being provided with a key contact and means for causing the same to bear rigidly upon said wires, and preferably at the other end of the incline an additional clamp for said wires, said clamp being designed to take the horizontal strain, while the key clamp at the outer end of the incline is designed to take the vertical strain of the said wires.

In the accompanying drawings forming part of this specification, Figure 1 is a top plan view of a switch embodying our invention. 45 Fig. 2 is a sectional elevation thereof taken on the line 2—2 of Fig. 1; and Fig. 3 is a modification of the key clamp.

The switch is of metal and comprises a central body portion A with dependent guide 50 flanges B at each side thereof, and ribs C.

Each rib C, as shown in Fig. 2, for the greater portion of its length, on the under or contact side is straight with its outer end slightly rounded at c, and its inner end where the trolley passes therefrom to the body A of the switch also rounded, such rounding being designed to permit easy contact between the trolley and the rib. Along its upper edge, each rib is provided with a groove D, said groove, as shown in Fig. 2, being inclined 60 from the inner end of the rib downward to the outer end, d in that figure representing one wall of the grooved portion.

In Figs. 1 and 2 we have shown the conductor E secured in place at the outer end of 65 the rib by means of a loose key F, said key entering said groove between a split screw-threaded boss G. Each boss G is adapted to receive a screw-nut H, whereby the key is forced firmly into contact with the conductor 70 so as to secure an adequate electrical contact between said conductor and the rib C. A modification of the key clamp shown in Figs. 1 and 2 is shown in Fig. 3, where the key F is riveted by a rivet I through plain bosses G 75 and thereby held rigidly in contact with the conductor E.

At the inner end of the inclined groove we provide a screwthreaded split boss J adapted to receive a screw-nut K. The part of switch 80 or other device below the split boss J is formed with an upward projection L. In the drawings we have shown this projection as near the inner end of the rib. As shown to the right of Fig. 2, where the conductor passes 85 over this projection, the nut K when forced down thereon causes the conductor to conform to the shape of the projection L and brings the conductor and projection into intimate electrical and mechanical contact. 90

It will be apparent that by employing a key clamp at the outer end of the incline rigidly secured in position and in close metallic contact with the conductor, the vertical strain will be taken up at that point, while at the 95 inner end of the incline the clamp there provided will take up the horizontal strain.

We claim—

1. The combination, in a switch, crossover &c., of a rib having a substantially horizontal 100

contact portion, an inclined groove, and a split key clamp at the outer end of said groove substantially as set forth.

2. The combination, in a switch, crossover &c., of a rib having a substantially horizontal contact portion, an externally screw-threaded key clamp at the outer end thereof, and a screw-nut for forcing the key of said clamp home, substantially as set forth.

3. The combination, in a switch crossover &c., of a rib having a substantially horizontal contact portion with an upper inclined groove therein, of an externally threaded split boss formed at the outer end thereof and having a key, and a screw-nut for forcing the key home, substantially as set forth.

4. The combination with a switch, crossover &c., of a rib having a substantially horizontal contact portion, an upwardly inclined groove formed therein, a key clamp at the outer end thereof, and a second clamp, substantially as set forth.

5. The combination, in a switch, crossover &c., of a rib having a substantially horizontal contact portion, an upwardly inclined groove formed therein, a projection at or near the

inner end of the groove, a split screwthreaded boss into which said projection enters, and a screw-nut, substantially as set forth.

6. The combination, in an electric railway device, of a metallic conductor, a conducting base-plate, an upward projection from said base-plate, a split screwthreaded boss into which said projection enters, and a screw-nut, substantially as set forth.

7. The combination, in a switch, crossover &c., of a main portion, contact ribs integral therewith, one or more of said contact ribs being provided at the outer end with a key clamp and at the inner end with a clamp formed by a screw-threaded split boss into which enters a projection from the switch, crossover &c., and a screw-nut for said boss, substantially as set forth.

This specification signed and witnessed this 14th day of February, 1894.

MILLER A. SMITH.
WM. CLABAUGH.

Witnesses:

EUGENE CONRAN,
GEO. B. CRONK.