(No Model.) 2 Sheets—Sheet 1.

N. W. HASKINS.

TROLLEY WIRE SWITCH AND CROSSING.

No. 525,016. Patented Aug. 28, 1894.

Fig. 1.

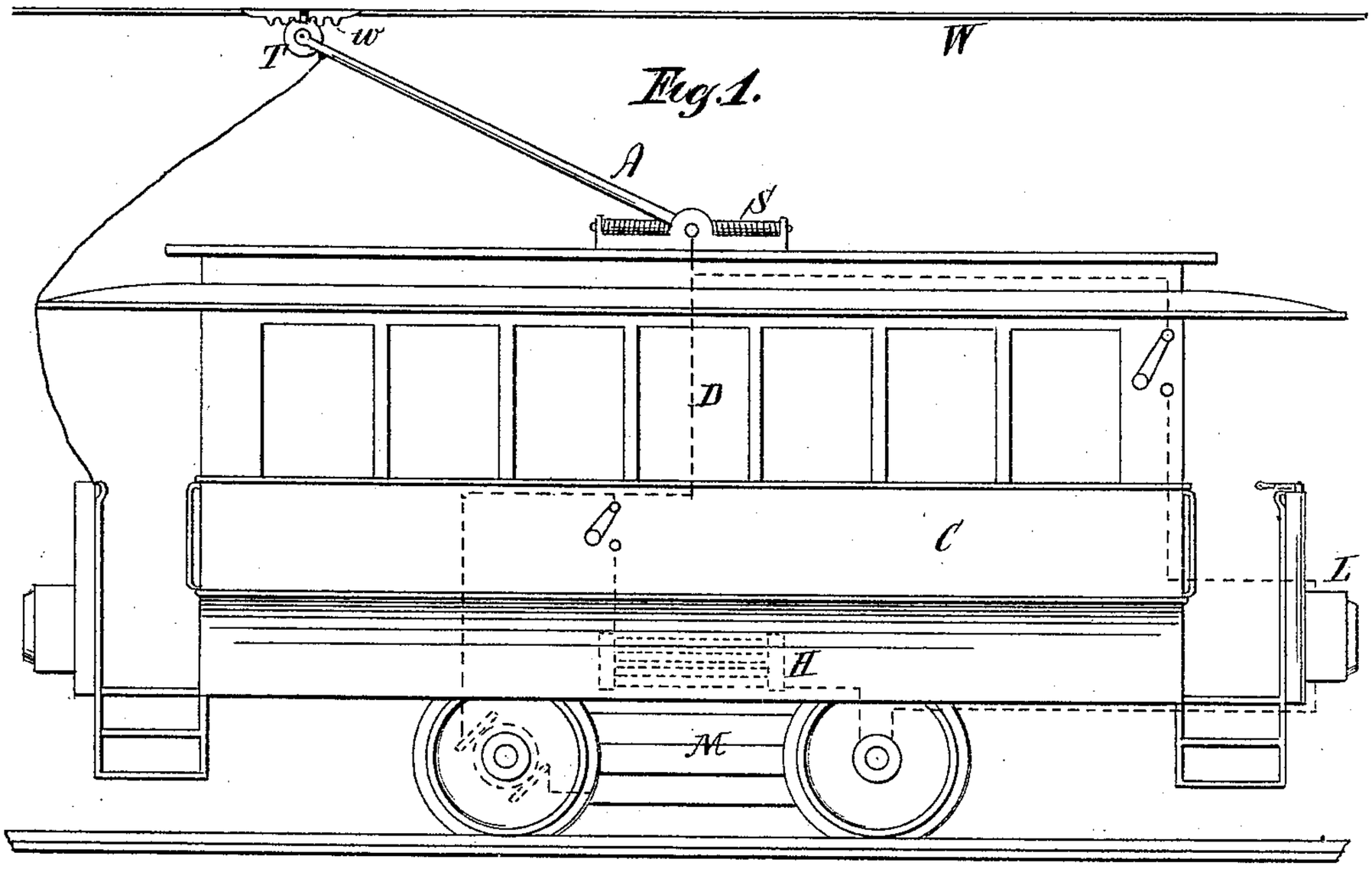

Fig. 2.

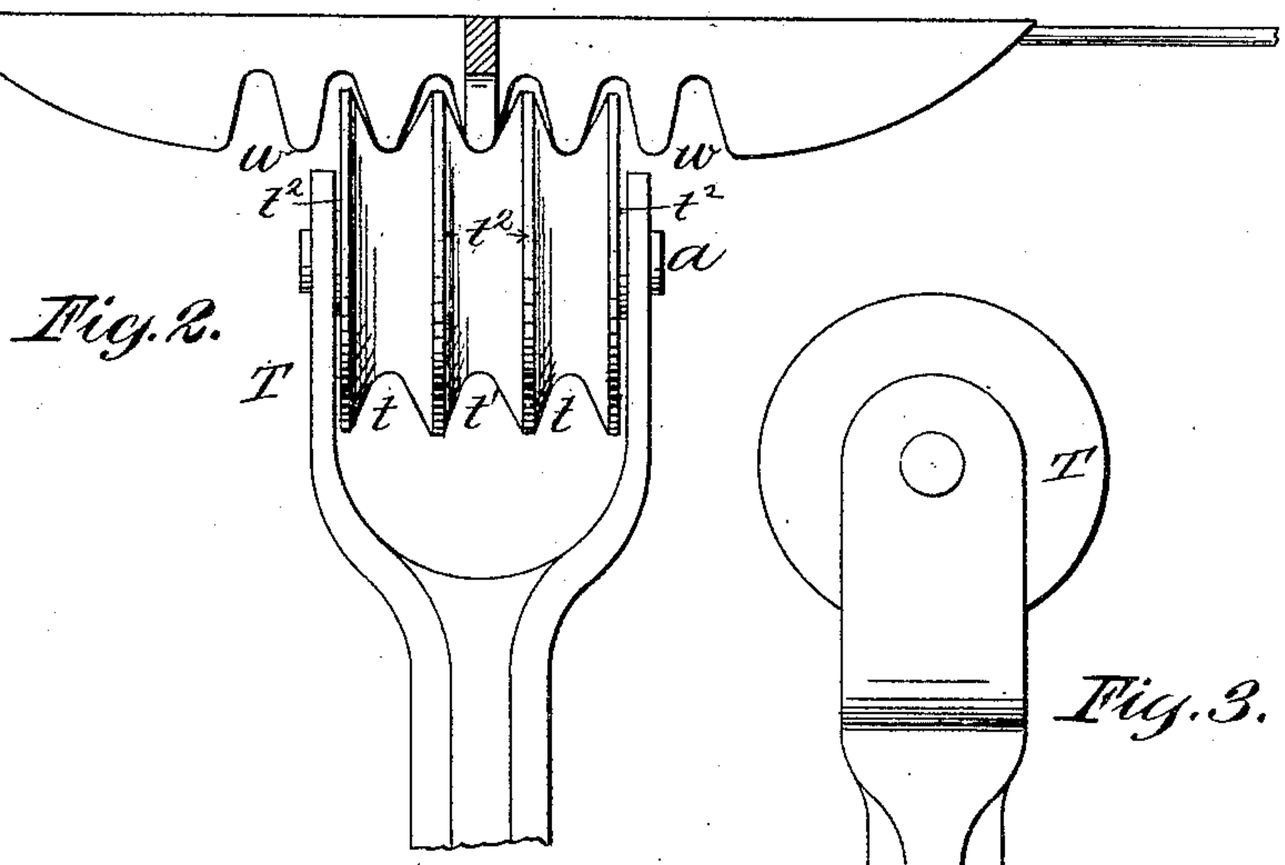

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

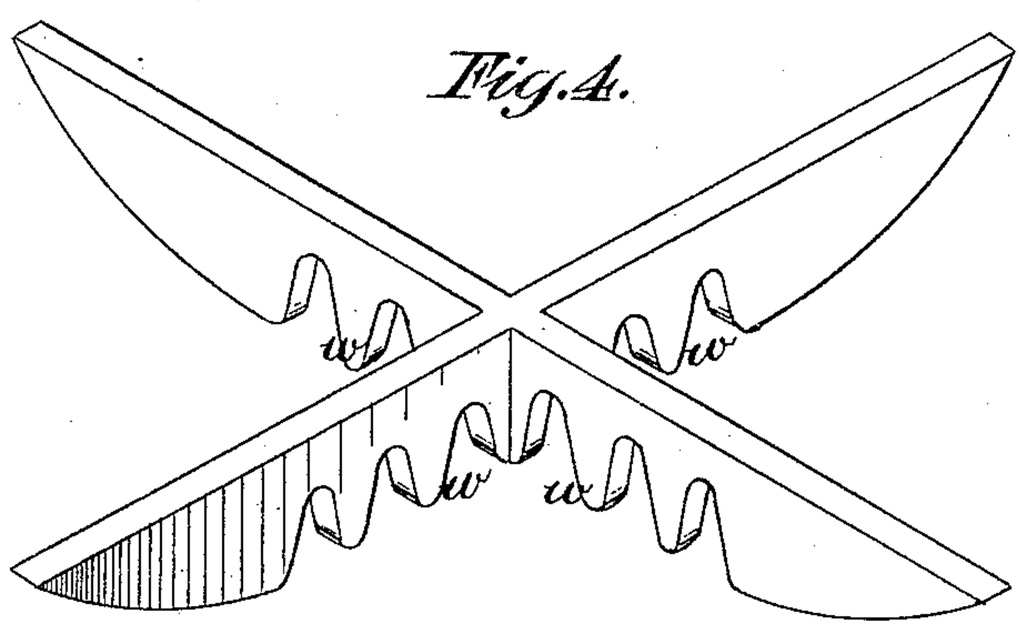


Fig. 5.

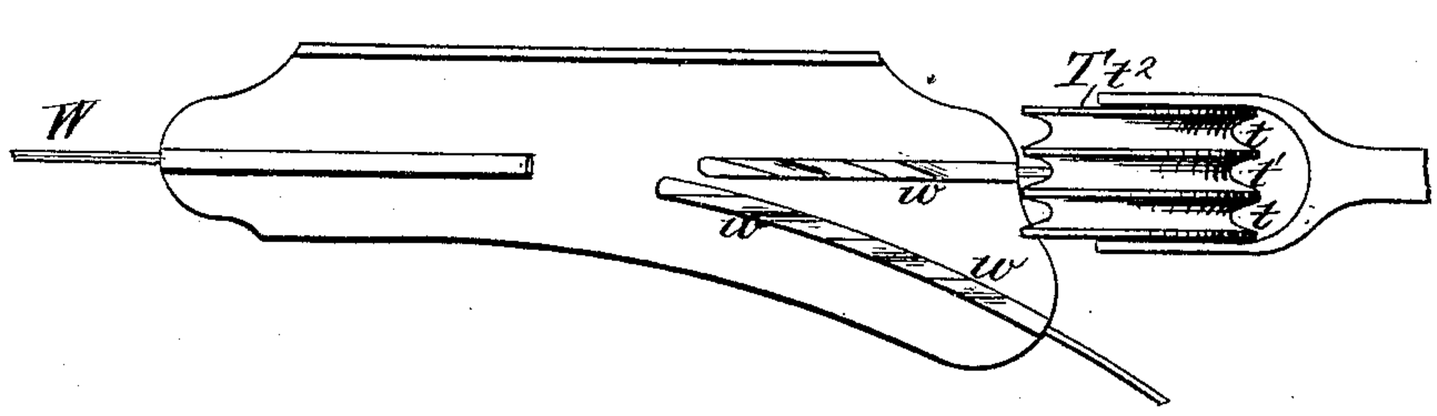
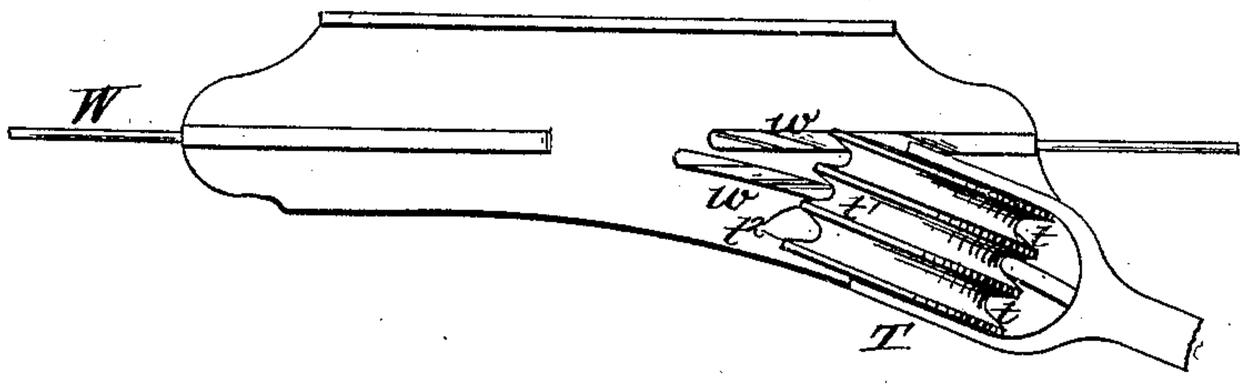


Fig. 6.



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UNITED STATES PATENT OFFICE.

NAAMAN W. HASKINS, OF BROOKLYN, NEW YORK.

TROLLEY-WIRE SWITCH AND CROSSING.

SPECIFICATION forming part of Letters Patent No. 525,016, dated August 28, 1894.

Application filed April 23, 1894. Serial No. 508,573. (No model.)

To all whom it may concern:

Be it known that I, NAAMAN W. HASKINS, a citizen of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electric Trolley-Ways, of which the following is a specification, sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My present invention relates to the electrical connections used where conductors cross each other or join each other at curves, &c., and is designed to provide for the free passage of the plural-grooved trolley without danger of its over-riding or being displaced from its conducting wire, while crossing another line or rounding a curve; and the invention consists essentially in forming the flanges npon the corner or cross plates with notches which coincide in position with the several flanges upon a trolley with the plural bearing surfaces, so that the trolley will pass over a cross conductor, or over a branch of the same conductor, without touching either, its contact with its own conductor being thus preserved and maintained, and the dangers and delays of broken contact avoided.

In the accompanying drawings, Figure 1, is a diagrammatic representation of a car and section of trolley line; Fig. 2, a cross section of one conductor at right angles to a cross conductor, showing the trolley in the act of passing the crossing. Fig. 3, is a side elevation of the trolley with plural bearing surfaces. Fig. 4, is an isometrical perspective of two conductors crossing each other at right angles, and formed according to my invention. Fig. 5, is a plan of the under side of a curved or branch connection, showing the trolley on the main line; Fig. 6, a similar view showing the trolley on the curve.

The car C, is represented symbolically as being provided with the electro-motor M, an electric heating device H, and an electric head light L, each in a separate circuit, but all connected with the main wire D, leading from the trolley arm A.

The trolley arm A, is held upward to press the trolley T against the conductor W, by the springs, S, or by equivalent means.

The trolley is formed with two or more bearing grooves t, t, t, arranged at right angles to a common axis a.

In operation, while the sides of the main bearing groove t', are in contact with the wire W, under normal conditions, the outer grooves receive and engage the wire W, whenever the trolley loses its proper alignment by reason of jar, twist or otherwise, and maintains the electrical contact until the trolley is returned to its normal position. Where the conductors W, intersect or join each other they are formed with notches or grooves w, w, which coincide in position with the paths of the flanges t^2, t^2, upon the trolley T, so that the latter can pass a cross line or swing around a curve onto the main line, or vice versa, with freedom,—the flanges t^2, t^2, passing through the notches or grooves without contact with the sections of the conductor in which they are formed.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with a trolley consisting of a plurality of grooved annular bearings, an electrical conductor for trolley lines formed with notches or grooves at or adjoining its intersection with a similar conductor, said notches or grooves coinciding in position with the paths of the several flanges upon the said trolley, substantially in the manner and for the purpose described.

NAAMAN W. HASKINS.

Witnesses:
GEORGE WILLIAM MIATT,
D. W. GARDNER.