

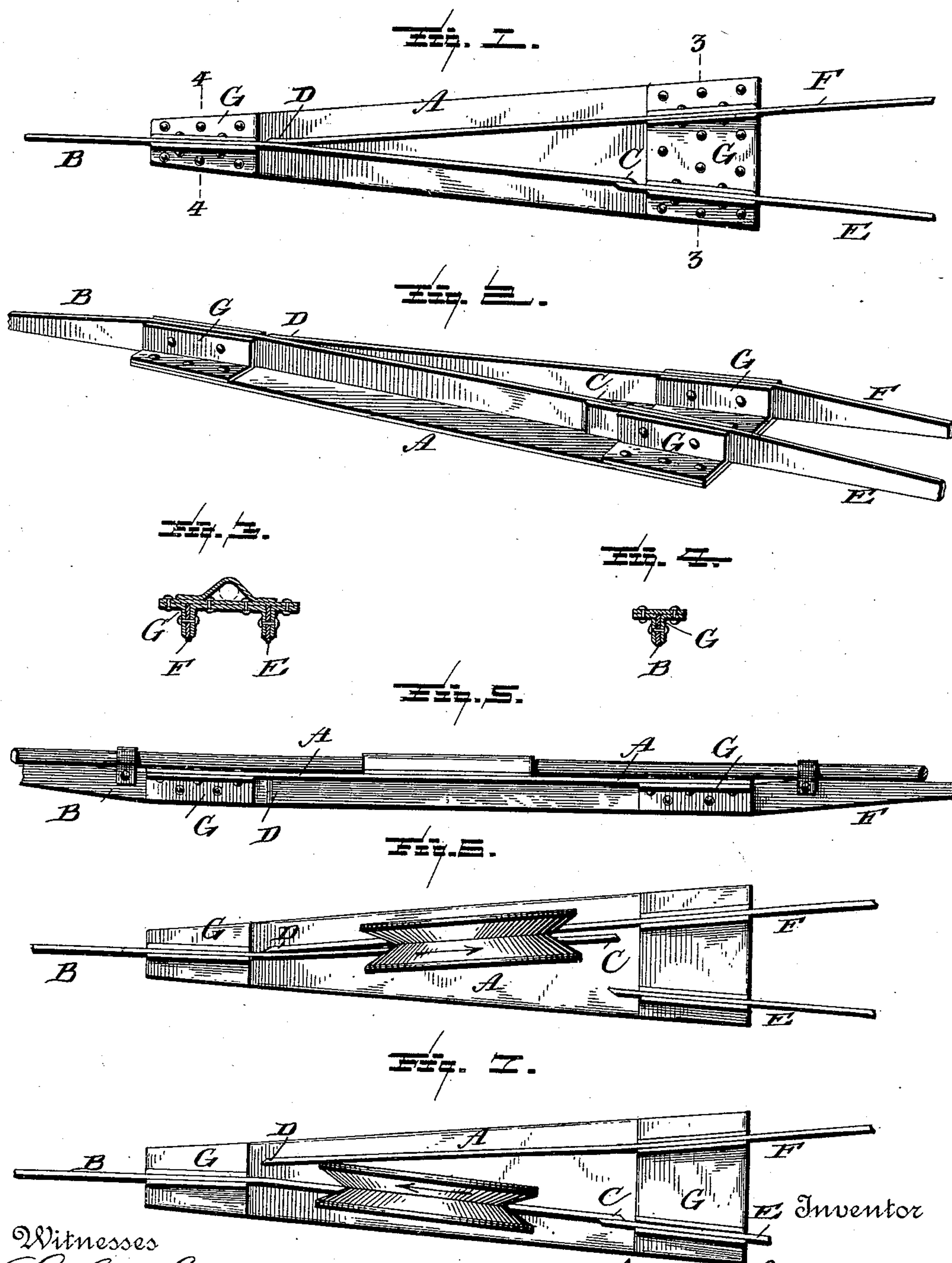
(No Model.)

J. W. MURRAY.

SWITCH FOR THE MOVING CONTACTS OF ELECTRIC RAILWAYS.

No. 437,613.

Patented Sept. 30, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN W. MURRAY, OF SAGINAW, MICHIGAN.

SWITCH FOR THE MOVING CONTACTS OF ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 437,613, dated September 30, 1890.

Application filed July 15, 1890. Serial No. 358,781. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. MURRAY, of Saginaw, in the county of Saginaw and State of Michigan, have invented a certain new and useful Improvement in Switches for the Moving Contacts of Electric Railways and the Like, of which the following is a specification.

My invention has relation to switches for the trolleys or other moving contacts now generally used in electric-railway systems in which the circuit through a motor carried by the car is completed through the contact of the trolley or its equivalent with an electric conductor which extends along the car-track. It has been devised more particularly with reference to the needs of a system of this general character in which the contact moves along the underside of an overhead conductor, and it is in this connection that I shall describe it; but at the same time I desire it to be understood that the invention, with such modifications as will suggest themselves to those skilled in the art, is applicable to any system in which the moving contact travels along a conductor.

The nature of my improvement and the manner in which the same is or may be carried into effect can best be explained and understood by reference to the accompanying drawings, in which I have illustrated the best way now known to me of carrying my invention into effect.

In the drawings, Figure 1 is an under side plan of the device embodying my invention. Fig. 2 is an under side perspective view of the same. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a section on line 4 4, Fig. 1. Fig. 5 is a side elevation of the device. Figs. 6 and 7 are diagrammatic views indicating the manner in which the device operates under the action of a trolley or moving contact.

A is a metallic plate, of brass, steel, or galvanized iron, on which are secured the strips or tongues B C D E F of steel, brass, or other conducting material. The part B, I term the "main." The parts E F are the branches or branch tracks leading to the branch wires, and the parts C D are the switch points or tongues. The parts B and C mechanically are in function and effect distinct and separate parts; but I prefer to make them of one piece or strip of metal, which is spring metal,

so that the part C may have the requisite vibratory and spring action. The same is true of the parts D F. Angle irons or braces G are employed by which the several parts are secured to the plate A. Any other suitable mechanical means for securing the parts in position can be employed. Each tongue or switch point C or D is vibratory. The switch-point C at one end is joined to or communicates with the main B and at its other and free end normally presses toward or against the branch E, so that for a trolley traveling over the branch E toward the main B it forms a leader for that trolley from said branch to the main. The switch point or tongue D is hinged reversely or oppositely with respect to the switch-point C—that is to say, its hinge or axis of vibration is at that end of it which is farthest removed from the main B, so that it shall point in a direction the reverse of that in which the switch C points. The said part D is joined to the branch F and its free end is normally spring-pressed toward or against the base of the switch-point C, or toward or against the main B, to which said part C is joined.

The result of this arrangement is as follows: If, as is supposed in Fig. 6, a trolley is traveling over the main toward the switch-points, then when it reaches the switch-points where they converge it will, by reason of its side flanges, which embrace both of the tongues C D, draw the tongue C toward its fellow tongue D, and will thus be deflected onto the branch F, holding the two tongues together, as seen in Fig. 6, until it clears tongue C, at which time the latter being released at once springs back into its original position. (Shown in Fig. 1.) When, on the other hand, a trolley is traveling over the branch E toward the main B, as supposed in Fig. 7, then as the trolley approaches the point where the switch-tongues converge and meet its flange on the side next to the tongue D will enter between the two tongues, thus pressing the free end of the tongue D to one side, as represented in the figure, and allowing the trolley unimpeded passage to the main B. As soon as the trolley passes the switch-point D the latter by its spring action at once returns to its original position, as in Fig. 1.

It is manifest that the switch points or

tongues C D, instead of depending upon their inherent flexibility and elasticity, can be jointed or hinged and can be spring-pressed or controlled by extraneous appliances. It is
5 also obvious that the apparatus in its structural details can be otherwise considerably modified without departure from my invention. I therefore do not limit myself to the specific details hereinbefore described and
10 illustrated; but

What I claim herein as new and of my own invention is—

The combination of the main B, the branches E F, and the oppositely or reversely pointed and spring-pressed vibratory switch points or
15 tongues C D, the combination being and acting substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand.

JOHN W. MURRAY.

Witnesses:

WILLIAM F. DENFELD,
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