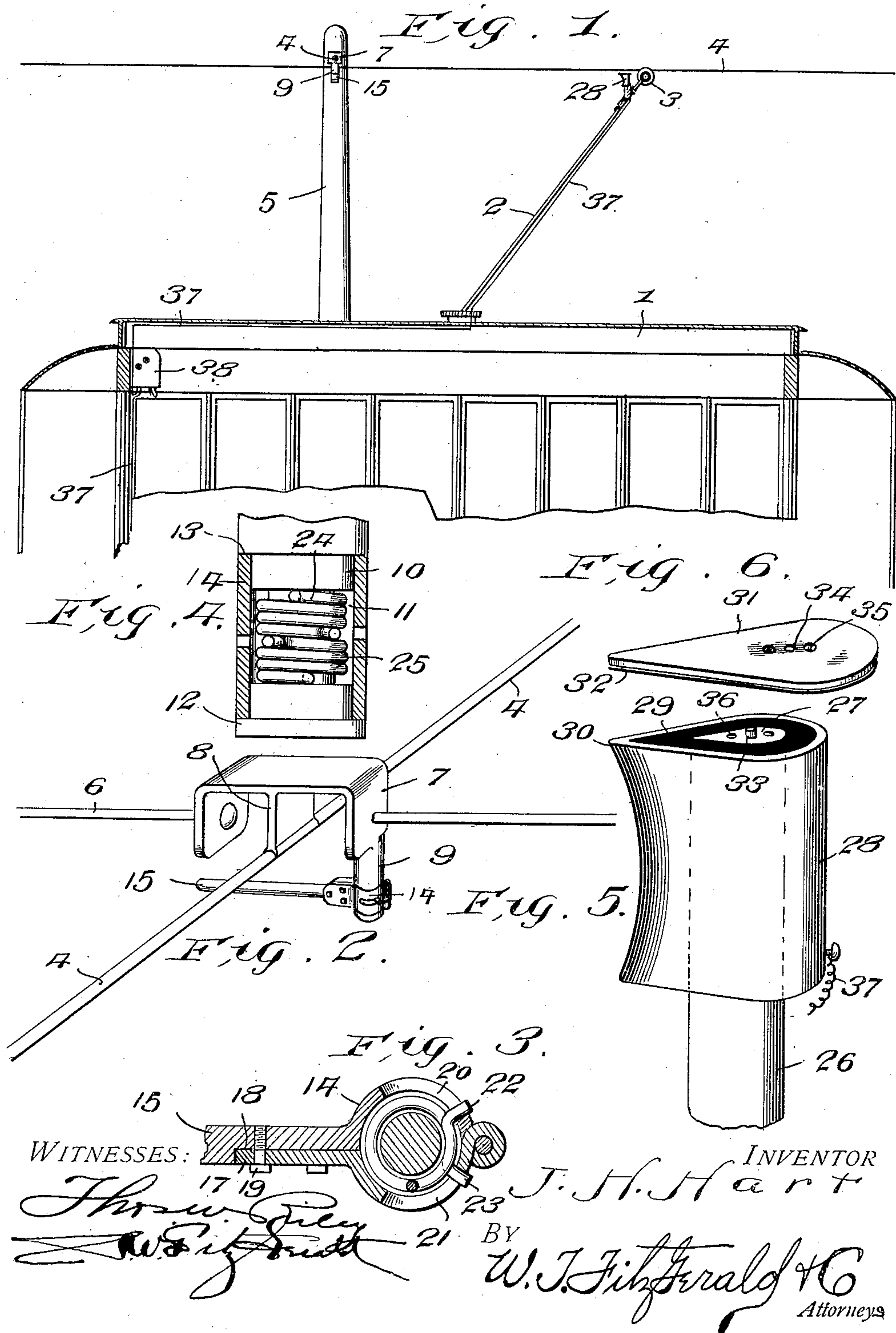


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ELECTRICAL CONTACT MAKER.
APPLICATION FILED JAN. 20, 1908.

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Patented Nov. 10, 1908.



UNITED STATES PATENT OFFICE.

JOHN HARRY HART, OF MEMPHIS, TENNESSEE.

ELECTRICAL CONTACT-MAKER.

No. 903,568.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN HARRY HART, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Electrical Contact-Makers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in electrical contact makers where electricity is used in any form and for any purpose where it is necessary to divert the current from the feed wire by instant contact and more particularly to that class adapted to be used in connection with the trolley wire and trolley pole of a street car for conveying an electric current to magnets in an indicator and my object is to provide means for transmitting a current of electricity from the trolley wire to magnets in an indicator or register, whereby said register will be operated.

A further object is to provide means for normally holding an arm suspended in the path of that portion of the contact-forming device carried by the trolley pole.

A further object is to provide means for properly insulating the parts of the contact point carried by the trolley pole and a still further object is to provide a shield for that portion of the contact mechanism carried by the trolley pole.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a sectional view through the upper portion of a car, showing a feed wire and trolley pole in elevation, Fig. 2 is a perspective view of a portion of the trolley wire showing the lever employed for engaging the parts of the contact device on the trolley pole, Fig. 3 is a sectional view on an enlarged scale through the pivotal end of the lever and supporting post therefor, Fig. 4 is a side elevation of the post employed for supporting the lever, showing the lever in section, Fig. 5 is a perspective view of the upper end of that portion of the contact device

carried by the trolley pole, and, Fig. 6 is a perspective view of a shield for the upper end of the device shown in Fig. 5.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the body of a car, to the roof of which is secured in the usual or any preferred manner, a trolley pole 2, said pole having at its upper end a wheel 3, which is adapted to engage and travel on a trolley wire 4.

The wire 4 is preferably suspended from poles 5 by means of guy wires 6, the outer ends of said wires being secured in any preferred manner to the posts 5, while the inner ends thereof are secured to depending portions of a hanger 7, the central portion of said hanger being provided with a depending rib 8, to which the trolley wire 4 is fixed, the rib 8 being of less width than the diameter of the trolley wire, so that the wheel 3 may readily pass the hanger without contacting any portion thereof.

Depending from one end of the hanger 7, is a post 9, said post being reduced in size to form collars 10, while that portion of the post between the collars is still further reduced in size to form a peripheral channel 11. The lower collar 10 is formed slightly above the lower end of the post 9, thereby forming a disk 12, between which and the shoulder 13 above the upper collar 10, is adapted to fit a socket 14 on the end of a contacting lever 15. The socket 14 is formed in two sections, one section of which is integral with the lever 15, while the opposite section is hingedly secured to the integral section, the hinge 16 being formed on that face of the socket in line with the longitudinal plane of the lever 15, the opposite edge of the hinged section being provided with a plate 17, which enters a recess 18 in one face of the lever 15 and is fixed to said lever by means of screws, or the like 19.

The walls of the two sections of the socket are provided with slots 20 and 21, respectively, in which are adapted to be seated the ends 22 and 23, respectively, of coiled springs 24 and 25, said springs being seated in the channel 11 and the opposite ends thereof fixed to the reduced portion of the post 9, said springs being mounted in such

manner as to exert tension on the socket 14 in opposition to each other. The ends 22 and 23 of the springs normally engage the ends of the slots 20 and 21, respectively, adjacent the hinge 16, thereby normally holding the contact lever suspended below and at right angles to the trolley wire 4, but permitting the lever to yield or swing upon the post 9 a sufficient distance to permit the trolley pole to pass without throwing the trolley wheel from the trolley wire, and, as soon as the trolley pole has passed by the lever, the springs will immediately return the lever to its initial position.

Fixed to the trolley pole 2 in any suitable manner, is an arm 26, the upwardly extending end 27 of which rests in the path of the contact lever 15 and has thereon a contact head 28, said contact head being hollow and adapted to fit over the end 27, the head being greater in circumference than the end of the arm, whereby a space is formed in which is located any suitable form of insulation 29, thereby insulating the contact head from the arm.

The end 27 and contact head 28 are substantially pear-shaped in cross section, thereby presenting a tapered edge 30 to the contact lever 15 and, by forming the tapered edge concave between its ends, a firm contact between the lever 15 and head 28 will result at whatever angle the contact head may engage the lever.

Fitting over the upper end of the contact head 28, is a shield 31, which is slightly larger in proportion than the contact head 28 and overlaps the edges thereof, thereby preventing rain or the like from entering between the shield and end of the head, said shield being provided on its lower face with suitable insulating material 32, which insulation fits between the upper end of the head and lower face of the shield. The shield is secured in position over the upper end of the head by providing the end 27 with a stem 33, which extends through an opening 34 in the shield 31 and at opposite sides of the opening 34 are screws 35, which pass through the shield and into threaded openings 36 in the end 27.

Attached to the head 28 in any suitable manner is a circuit wire 37, which wire extends from the head, along the trolley pole 2 and into engagement with magnets (not shown) in a register 38, said register being preferably located in one end of the car body 1, while a similar wire 37 extends from the magnets to the ground to complete the circuit. This construction is adapted more particularly to be used in connection with an indicator for successively indicating street crossings and my object is to so locate the levers 15 along the line of the track-way, that when one street has been passed, the

head 28 will be brought into engagement with the next succeeding lever and the magnets in the register energized, thereby operating the register to display the name or number of the next cross street.

In operation, as the car moves forwardly, the tapered edge 30 of the head 28 is brought into engagement with the lever 15 extending across the path of the head, the engagement of the head with the lever, closing the circuit between the trolley wire and magnets in the register, and, by mounting the lever on the post in the manner shown, said lever will swing on the post and allow the head to pass without disturbing the trolley pole or causing the wheel at the upper end thereof to leave the trolley wire and, as soon as the lever is released from the head, the springs 24 and 25 will immediately return the lever to its initial position or extended across the path of the contact head.

It will be thus seen that I have provided a very cheap economical means for tapping and obtaining an electric current from the trolley wire and cause the same to intermittently operate any suitable form of register of the kind indicated and it will further be seen that the contact may be readily made without interfering with the operation of the trolley pole and wheel attached thereto.

What I claim is:

1. The herein described contact forming device comprising the combination with an electrically energized wire and a lever yieldingly suspended across the path of said wire; of a contact head having a tapered edge, a supporting arm for said head, insulation between said head and arm, a shield for the upper end of said head and means to support said head and move the same into engagement with the lever, whereby an electric circuit will be formed.

2. The herein described contact forming mechanism, comprising the combination with a head; of a lever, a socket on said lever, a post adapted to receive said socket, said socket having slots in the wall thereof, springs surrounding said post within the socket, the tension of said springs being oppositely disposed, one end of said springs being secured to the post and the opposite end thereof disposed in said slots and means to connect said post with an electrically energized wire, whereby a circuit will be completed when the head is moved into engagement with the lever.

3. The herein described contact forming device comprising the combination with an electrically energized wire, and a lever yieldingly suspended across the path of said wire; of a contact head, a supporting arm for said head, and a shield for the upper end of said head.

4. The herein described contact forming

device comprising the combination of an
electrically energized wire, and a lever yield-
ingly suspended across the path of said wire;
of a contact head, a supporting arm for said
5 head and a shield for the upper end of said
head projecting beyond the edges thereof.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

JOHN HARRY HART.

Witnesses:

J. L. Woods,

PATTI CHAMBERLIN.