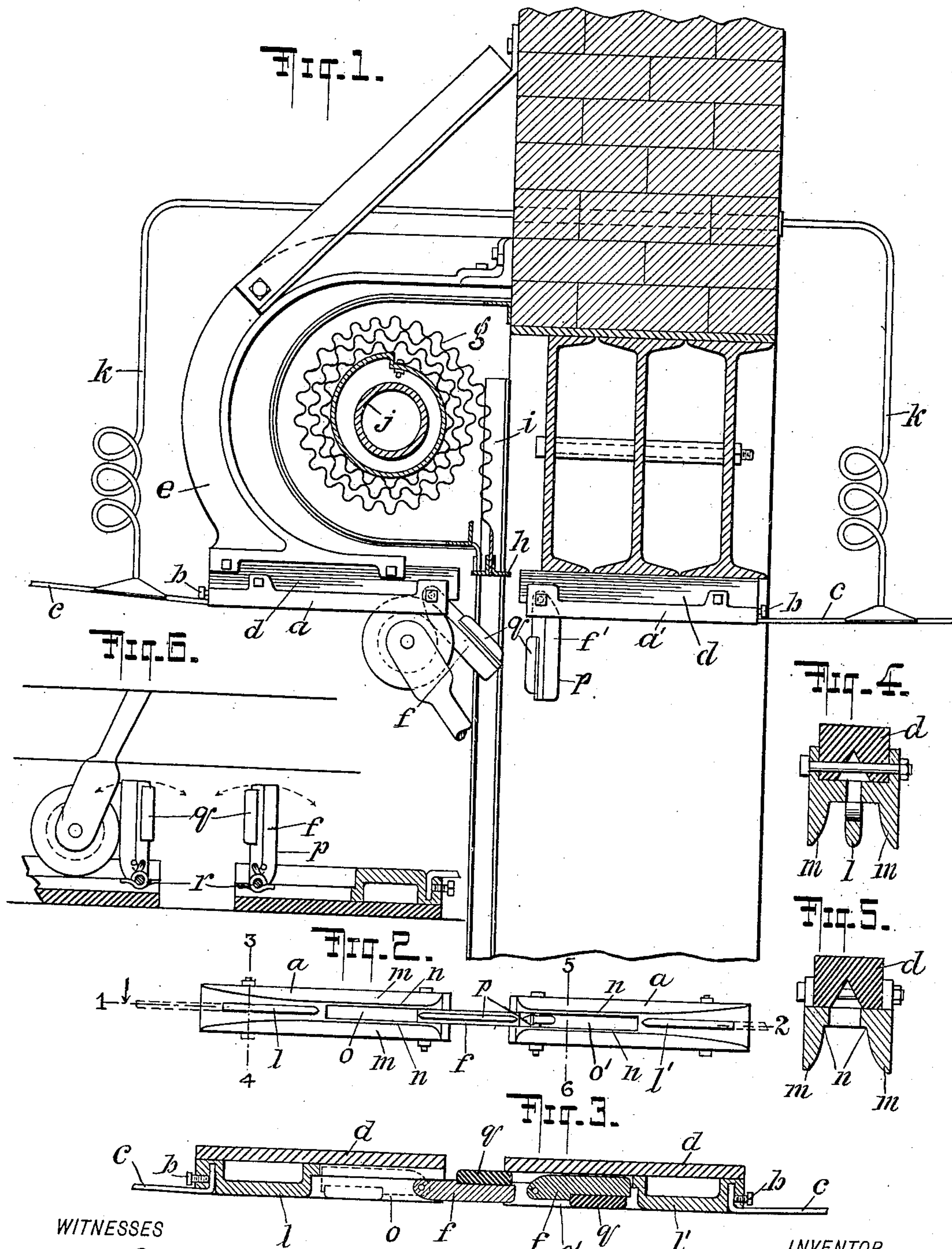


L. G. WILSON.  
ELECTRICAL TROLLEY DEVICE.  
APPLICATION FILED MAY 23, 1908.

945,660.

Patented Jan. 4, 1910.



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# UNITED STATES PATENT OFFICE.

LESTER G. WILSON, OF LARCHMONT, NEW YORK.

ELECTRICAL TROLLEY DEVICE.

945,660.

Specification of Letters Patent.

Patented Jan. 4, 1910.

Application filed May 23, 1908. Serial No. 434,519.

*To all whom it may concern:*

Be it known that I, LESTER G. WILSON, a resident of Larchmont, Westchester county, in the State of New York, have invented a new and useful Improvement in Electrical Trolley Devices, of which the following is a specification.

My invention relates more particularly to an improved arrangement of the trolley wire when laid into buildings or through archways and has for its object to provide a simple and effective means whereby an electrically driven car provided with an overhead trolley wheel or equivalent contact device, and taking current from a suitably located trolley wire or conductor, may pass freely through doors or other openings protected by rolling or sliding screens or blinds without interruption of its current supply, while yet leaving the screen or blind perfectly free at all times to move from its open to its shut position without requiring, in any way, the handling, adjusting, or arranging of the electric circuit.

My invention consists, substantially, in terminating the trolley conductor at points lying a short distance to each side of the roll or slide-way of the screen or blind, and in attaching each of said terminations to a suitably placed fixture acting both as a support and as a mechanical and electrical continuation of the trolley wire so that the trolley wheel will ride thereon; attached to each fixture is a movable switch element, free of the screen-way normally, but adapted to bridge the gap when the trolley wheel approaches from the outer end of the fixture; when approaching from the opposite direction the trolley wheel causes this switch element to be thrust out of its path as it passes and is in no way obstructed thereby.

Referring to the drawings, Figure 1 shows an elevation, part in section, of my invention as applied to a doorway (of a car barn *e. g.*) protected by a rolling curtain or shutter, the shutter being shown in its open position, and a car being just about to pass through the doorway beneath it. Fig. 2 is a plan, looking from below, of the terminal fixtures with their switch elements and Fig. 3 is a sectional elevation of Fig. 2 along the line 1, 2; in both Figs. 2 and 3, the switch elements are shown in the limiting positions which they would assume for a trolley wheel passing over them from the left. Fig. 4 is a section along the line 3, 4 and Fig. 5 is a section

along the line 5, 6. Fig. 6 is an elevation showing the movable switch element as applied to an underneath trolley with the switch element restored to the normal by a spring instead of by gravity.

Like letters of reference indicate like parts throughout the specification and drawings.

*a, a'*, are two terminal fixtures, preferably identical and usually made of cast iron, to which are fastened by set screws *b, b'*, or equivalent devices, the two ends of the trolley wire *c, c'*; these fixtures are bolted or otherwise suitably attached each to an insulating block *d, d'*; this insulating block may be of wood, fiber, or other suitable material. One of these blocks is similarly attached to the curved yoke, *e*, on one side of the screen-way, and the remaining block, on the other side of the screen-way, either directly to the head of the opening or to a trolley board as may be preferred.

Attached to each fixture *a, a'*, is a switch element *f, f'*, hinged so that it will move freely in the vertical plane of the fixture and yet maintain good electrical contact; this switch element is preferably of hard copper or bronze but may be of any conducting material possessing the requisite mechanical strength.

*g*, is a rolling shutter with bottom bar, *h*, made to open and close in the runway *i*, by rotating, in the one direction or the other, on the shaft, *j*.

*k* is a conductor passing through the wall of the building, preferably insulated therefrom, and joined to the inner and outer trolley wire, *c, c'*, so as to maintain electrical connection between them.

The operation of my invention, referring to the drawings, in which the car is indicated as coming from the left, is as follows: The trolley wheel passes from the wire to the fixture, the groove of the wheel engaging with the V piece, *l*; leaving *l*, the wheel will run between the flanges, *m, m'*, making contact at its periphery with the surface *n, n'*, lying between the recess, *o*, and the flanges *m, m'*; as the wheel continues to move, it meets the switch element, *f*, which normally hangs vertically, and pushes it up, as shown in Fig. 1, until its outer end rests upon the opposite terminal fixture, *a'*, thus bridging the gap; the wheel passes over this bridge with its grooves engaging the V portion, *p*, of the switch element. From the bridge the wheel again contacts with its periphery



upon the surfaces  $n, n$ , of the right hand terminal fixture at the same time pushing the switch element  $f'$ , into the recess,  $o'$ , made to receive it, riding over it on to the V piece  $l'$ , and thence to the inner trolley wire proper. Each of the two switch elements  $f, f'$ , drops to the vertical again of its own weight as soon as the trolley wheel has passed.

The trolley wire inside the building may if preferred, be maintained "live" at all times by the use of separate inside "feeders" instead of by the use of the insulated conductor,  $h$ , passing through the wall.

A block of insulating material,  $q$ , is fastened to the inner sides of each switch element,  $f, f'$ , to prevent any possibility of "grounding" the trolley wire upon the bottom bar,  $h$ , of the curtain.

The embodiment of my invention, as just described, is a preferred form as applied to a curtain of the class stated. But I do not confine myself to the exact arrangement, details, and dimensions depicted and described as it is obvious that they may be widely varied without departing from the characteristic features of my improvement. Thus the movable switch elements,  $f, f'$ , may move in a vertical plane, as described, or in any other convenient plane axial to the fixture; they may be returned to their normal position by gravity, as described, or by any other suitable means, as, for example, in Fig. 6, where my invention is shown applied to an underneath trolley, the trolley wheel pressing the switch element down as it rides across the gap and the spring,  $r$ , restoring the switch element to its normally upwardly projecting position so soon as the

trolley wheel has passed; they may bridge the gap completely or with only sufficient completeness to prevent the trolley wheel from being wedged; each may establish electrical connection with the fixture beyond the gap or may be insulated therefrom by an air space or by solid insulation and take current from its own fixture only.

My invention is not necessarily restricted, even, to the partial or complete bridging of a gap traversed by screens or doors but may be applied to any gap in a trolley wire.

I now claim, therefore, as my invention:

In combination:—a rolling or sliding shutter, a fixture on each side the plane of said shutter the outer end of each fixture being joined to the end of a trolley wire and the bottom inner face of each fixture being provided with a space to receive a switch element; and identical switch elements pivotally attached as to one end at the inner end of each fixture and symmetrically placed as to the shutter the opposed sides of the switch elements being further provided with insulation, the two switch elements being adapted, further, the one to bridge the gap between the fixtures and the other to fit into a fixture space while the trolley wheel passes on them from one end of the trolley wire to the other, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses, this 20th day of May 1908.

LESTER G. WILSON. [L. s.]

Witnesses:

ELMER G. MILYONNE,  
HOWARD M. BOYD.