J. H. A. NORMANDEAU.

ELECTRIC SWITCH.

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985,173.

Patented Feb. 28, 1911.

Fig. 1.

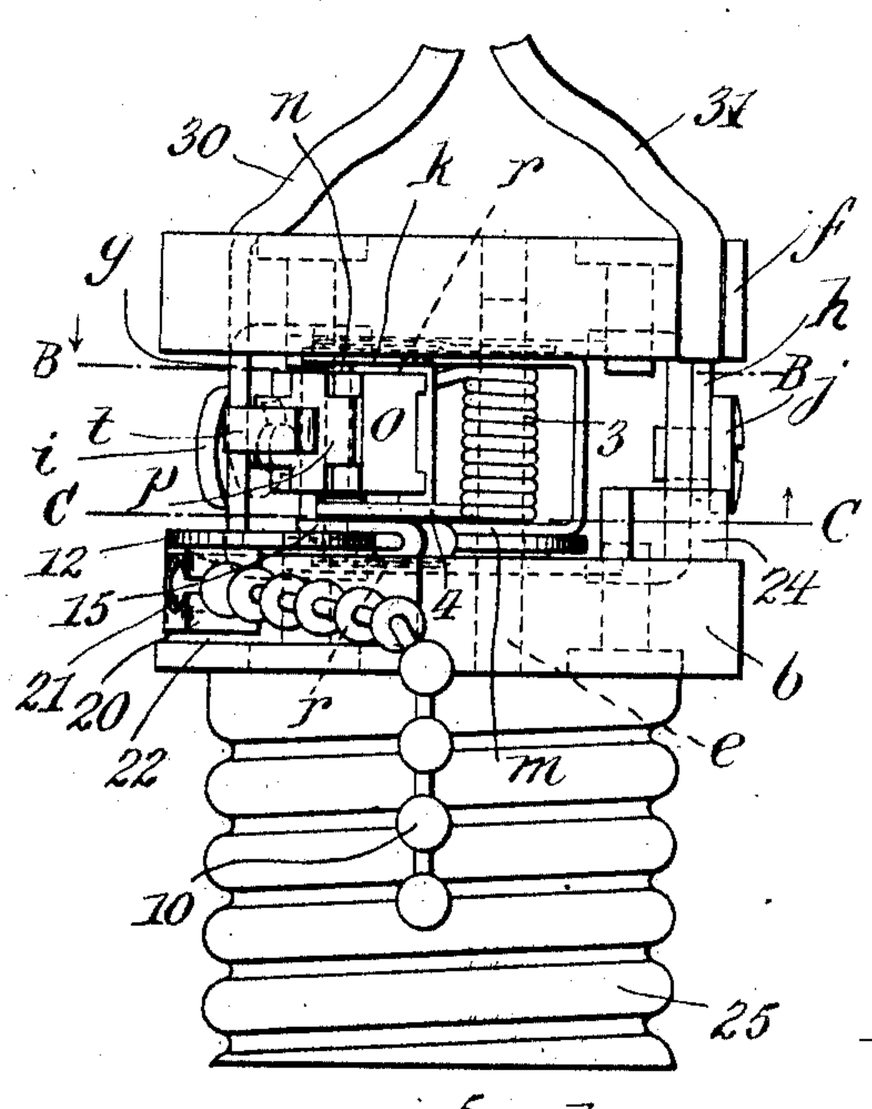


Fig. 2.

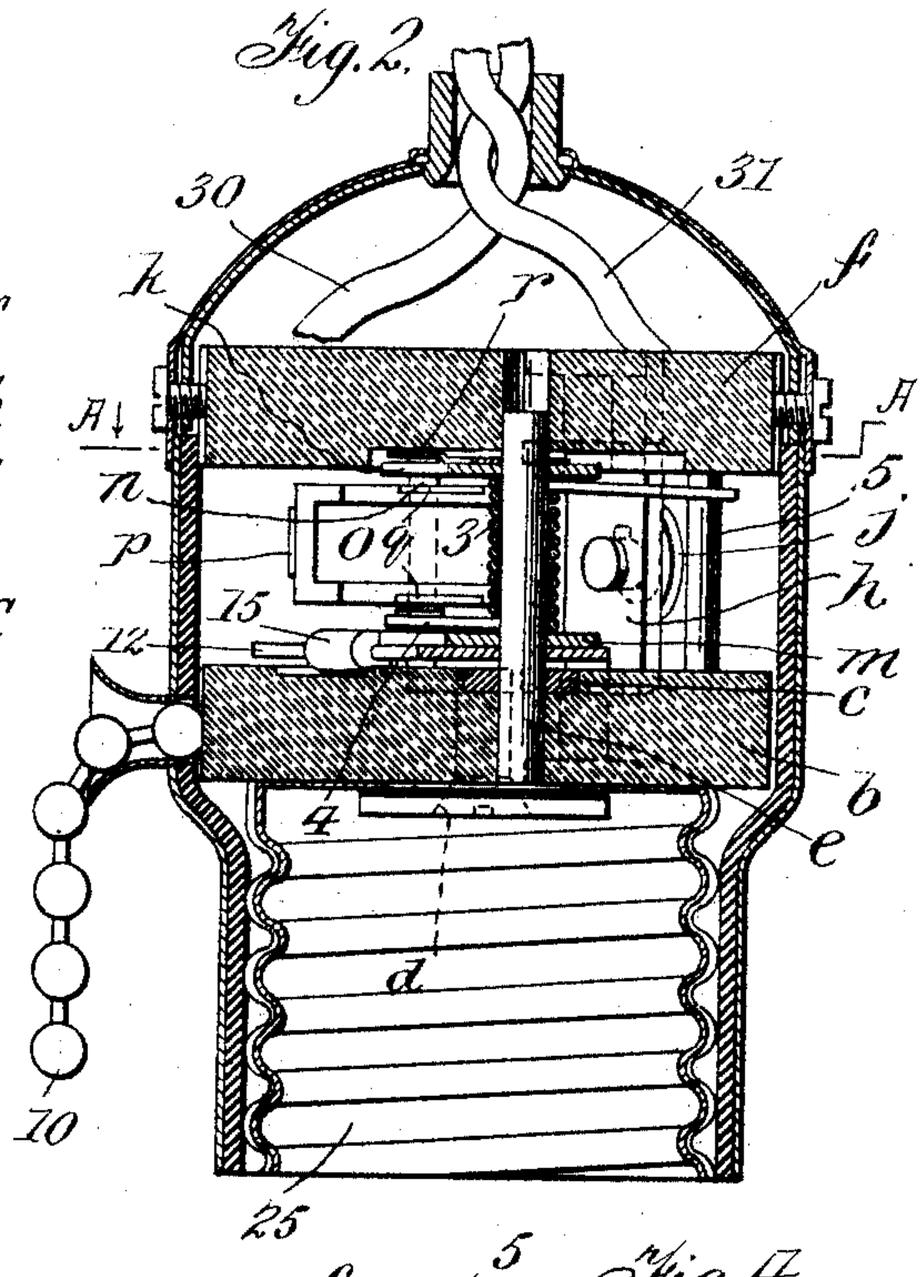


Fig. 3.

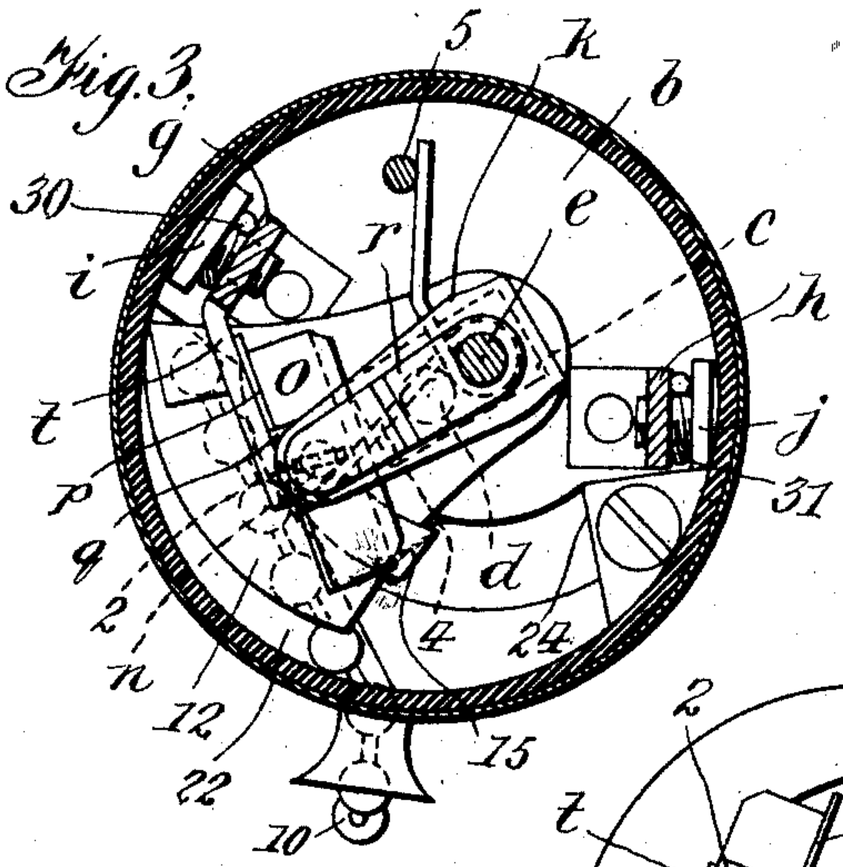


Fig. 4.

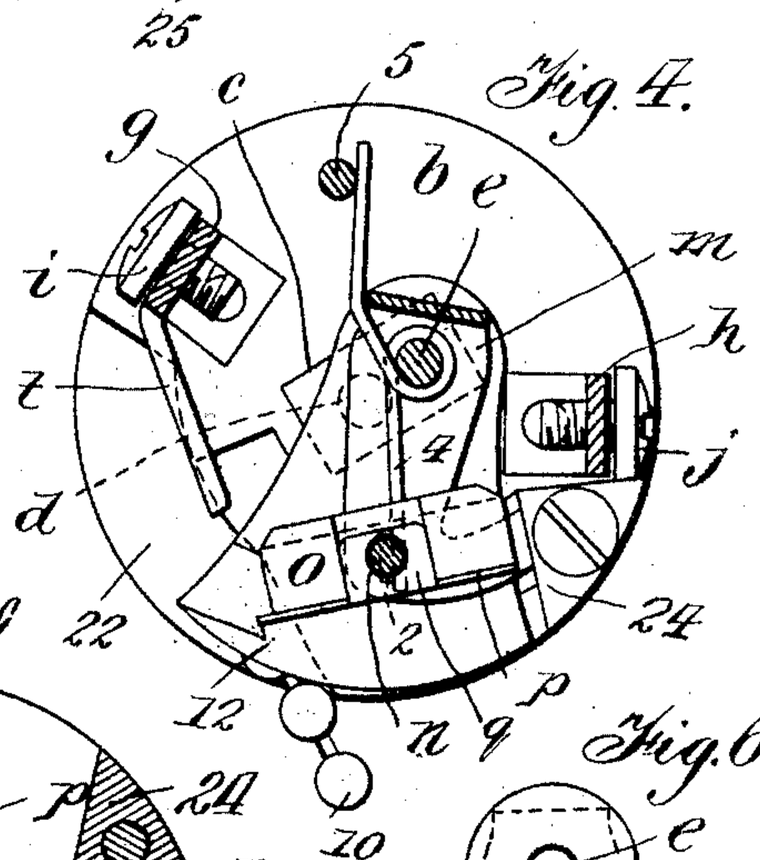


Fig. 5.

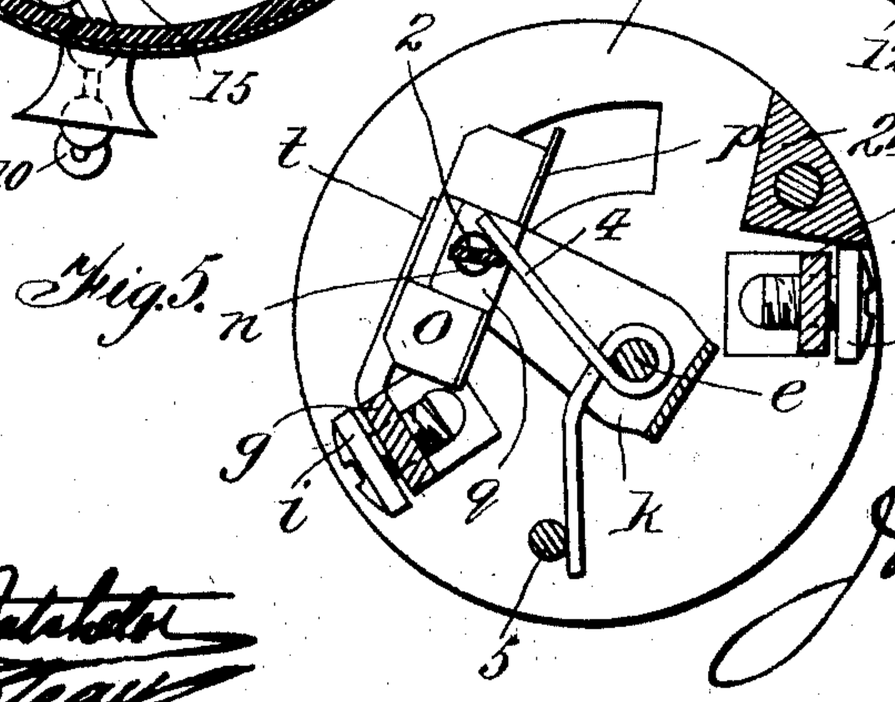
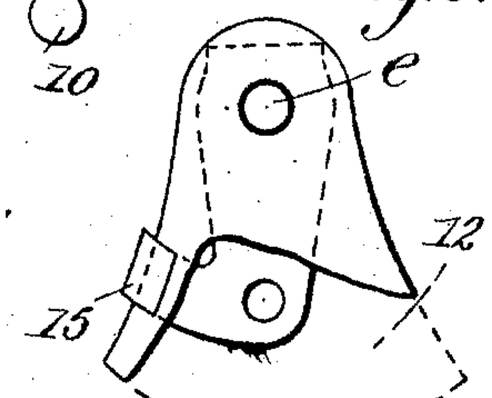


Fig. 6.



Witnesses

Albert E. Batchelor

C. F. Dieterich

Joseph H. A. Normandeau

Inventor

By Attorney

John P. Shaw

UNITED STATES PATENT OFFICE.

JOSEPH HILDEGE ARTHUR NORMANDEAU, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR TO MONARCH ELECTRIC COMPANY LIMITED, OF MONTREAL, CANADA.

ELECTRIC SWITCH.

985,173. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed June 4, 1910. Serial No. 564,998.

To all whom it may concern:

Be it known that I, JOSEPH HILDEGE ARTHUR NORMANDEAU, of the city of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Electric Switches; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has for its object to provide a quick action switch and one less liable to get out of order, than electric switches heretofore known, and it consists of the construction and combination of parts hereinafter described and pointed out in the claims. For full comprehension, however of this invention reference must be had to the accompanying drawings forming a part of this specification and in which for purposes of illustration it is shown applied to a pull socket for electric lamps.

Similar reference characters indicate the same parts.

Figure 1 is a side elevation of my improved socket with the shell removed; Fig. 2 is an axial sectional view of the complete socket; Fig. 3 is a horizontal sectional view taken on line A A Fig. 2; and illustrating the parts in position with the circuit closed; Fig. 4 is a similar view taken on line B B Fig. 1 the parts being in the position assumed with the cord or chain pulled, the circuit being open; Fig. 5 is a horizontal sectional view taken on line C C Fig. 1 looking up, and illustrating the parts in the same positions as in Fig. 3 but with the movable contact member reversed and the circuit open; and Fig. 6 is a detail plan view of the underside of the carrier for the movable contact member.

An insulating carrying disk *b* has a short diametrical plate *c* countersunk therein with one end connected rigidly thereto by a central contact screw *d*, the opposite end having fixed therein a standard *e* the upper end of which is embedded in an insulating disk *f*, spaced from and connected to the disk *b* by a pair of brackets *g* and *h* of suitable conducting metal and carrying binding screws *i* and *j*. On the standard and in electrical connection therewith is pivoted a U-frame in the arms *k* and *m* of which is mounted an arbor *n*, having a reversing contact block *o* of insulating material fastened thereon and having attached to one side a contact strip *p* with perforated side lugs *q* at its sides straddling the block and having the ends of the arbor passed therethrough and in electrical contact therewith, while a pair of contact springs *r* supplement the electrical connection between the arbor and standard. Electrical connection between the bracket *g* and the contact strip *p* is effected by an arm *t* which constitutes a portion of the means for operating the block and reversing it to cause it to present its contact and insulating sides alternately to the said arm *t*.

In order to cause the block to coact with the arm *t* the arbor *n* has the portion thereof between the block and the arm flattened as at 2 and set transversely to the block, and a coiled spring 3 encircling the standard has one end 4 bearing upon one edge of the flattened portion of the arbor and its opposite end engaging a pin 5 carried by the disk, the end 4 imparting to the block a tendency to lie substantially at right angles to the arm *t* when free from the latter.

The connection between the pull chain indicated at 10 and the frame *k m* is effected by means of a segmental plate 12 of insulating material centrally perforated to fit over the standard and fastened to the arm *m* by an extension 15 from such arm bent around one edge of the plate, which has the lower end of the arbor *n* projecting through it and coacting with the standard and extension 15 in preventing displacement of the plate with relation to the arm *m*. An angular plate 20 with a key hole slot 21 therein is carried by the under side of the plate 12 and accommodated in a recess 22 in the base the end ball or head of the chain and the wire upon which the beads are strung fitting into the key-hole and being held therein by the lined shell 23. A stop 24 limits the movements of the segmental plate and consequently the contact block in one direction and the engagement of the plate 20 with the end of the recess 22 limits the movement in the opposite direction.

The threaded shell for receiving the lamp is indicated at 25.

The terminal wires 30 and 31 are connected to the brackets *g* and *h* by the binding screws *i* and *j*.

The electric circuit through this mechanism is from terminal wire 31 through bracket *h*, lamp shell 25, the lamp (not shown) screw *d*, plate *c*, standard *e*, arms *k* and *m* and springs *r*, arbor *n*, lugs *q*, strip

p, arm t, and bracket g to the other terminal wire 30.

The spring r together with the arms of the carrier frame afford a sufficiently good conductor to prevent the flow of enough current through the actuating spring to impart the temper thereof.

A pull upon the chain 10 swings the segmental plate 12 and with it the frame m and block o until the segmental plate is stalled by the stop 24, the block o meanwhile sliding along the contact arm t and the instant the end of the block clears the end of the arm it is swung to the position shown in Fig. 4 by the action of the spring 3 bearing on the edge of the flattened portion 2 of the arbor. Upon the chain being slackened or released the spring returns the segmental plate to its normal position, the block being engaged at one end by the end of the arm t thus causing the spring 3 to swing the block upon its arbor so that the reverse side thereof is caused to lie in bearing relation with such arm; the effect being that the circuit is closed or opened and the lamp either lighted or extinguished as required.

What I claim is as follows:—

1. The combination with an electric circuit, of means for opening or closing the same consisting of a contact member; a second contact member having different sides electrically conductive and insulative respectively; means connecting the opposite terminals of the circuit to the said first mentioned contact member and electrically conductive side of the second member respectively; means retaining the said contact members normally in bearing relation; means for moving one of the members relatively to the other; and means for turning the said second member.

2. The combination with an electric circuit, of means for opening or closing the same consisting of a contact member; a second contact member having its opposite sides electrically conductive and insulative respectively; means connecting the opposite terminals of the circuit to the said first mentioned contact member and electrically conductive side of the second member respectively; means retaining the said contact members normally in bearing relation; means for moving one of the members relatively to the other; and means for reversing the said second member.

3. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact member; a movable contact member having its opposite sides electrically conductive and insulative respectively; means connecting the opposite terminals of the circuit to the said first mentioned contact member and electrically conductive side of the second member respectively; means retaining the said movable contact members normally in bearing relation with the fixed contact member; means for moving one of the members relatively to the other; and means for reversing the said movable member.

4. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact member; a carrier adapted to be moved clear of the fixed contact member; a reversible insulated block pivotally mounted in the carrier and adapted to engage the fixed contact member; a contact strip upon one side of the block; means for moving the block, means for reversing the block, and means connecting the terminals of the circuit to the fixed contact member and contact strip upon the block respectively.

5. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact member; a carrier adapted to be moved clear of the fixed contact member; a reversible insulated block pivotally mounted in the carrier and adapted to engage the fixed contact member; a contact strip upon one side of the block, means for moving the block, means for reversing the block simultaneously with the said movement thereof, and means connecting the terminals of the circuit to the fixed contact member and contact strip upon the block respectively.

6. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact arm; a carrier adapted to be moved clear of the fixed contact member; a reversible insulated block pivotally mounted in the carrier and adapted to engage the fixed contact member; a contact strip upon one side of the block, means for moving the block in the direction in which the contact arm lies, means for reversing the block, and means connecting the terminals of the circuit to the fixed contact arm and contact strip upon the block respectively.

7. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact member; a pivoted carrier adapted to be swung clear of the fixed contact member; a reversible insulated block pivotally mounted in the carrier and adapted to engage the fixed contact member; a contact strip upon one side of the block, means for swinging the block, means for reversing the block simultaneously with the said movement thereof, and means connecting the terminals of the circuit to the fixed contact and contact strip upon the block respectively.

8. The combination with an electric circuit, of means for opening or closing the same consisting of a fixed contact member; a carrier adapted to be moved clear of the fixed contact member; an arbor pivoted in

the free ends of the carrier and having a flattened portion, a reversible insulated block mounted rigidly upon the arbor and adapted to engage the fixed contact member; a contact strip upon one side of the block and having side lugs in electrical connection with the arbor; a coiled spring resisting movement of the carrier and having one free end bearing upon the flattened portion of the arbor and bent to lie at a suitable angle to the fixed contact member; means for moving the block, means for reversing the block, and means connecting the terminals of the circuit to the fixed contact member and contact strip upon the block respectively.

9. In an electric lamp socket, the combination with a pair of insulated frame pieces; brackets spacing the frame pieces and one of such brackets having a contact arm; a carrier; means pivotally fastening the carrier between the frame pieces; a device upon the carrier presenting a flat portion; a block of insulating material pivotally mounted upon the carrier; a contact strip upon one side of the block; means yieldingly retaining the carrier in line with the contact arm; means yieldingly bearing upon the said flat portion; means connecting the poles of the socket to the said arm and strip respectively, and means for moving the carrier against the resistance of the spring.

10. In an electric lamp socket the combination with a pair of insulated frame pieces; brackets spacing the frame pieces and one of such brackets having a contact arm; a U-form carrier; a standard pivotally fastening the carrier between the frame pieces; an arbor pivotally mounted in the free end of the carrier and having a flat portion; a block of insulating material mounted rigidly upon the arbor; a contact strip upon one side of the block and having lugs in electrical connection with said arbor; means yieldingly retaining the carrier in line with the contact arm; means yieldingly bearing upon the said flat portion; means connecting the poles of the socket to the said arm and strip respectively; and means for moving the carrier against the resistance of the spring.

11. In an electric lamp socket the combination with a pair of insulated frame pieces; brackets spacing the frame pieces and one of such brackets having a contact arm; a U-form carrier; a standard pivotally fastening the carrier between the frame pieces; an arbor pivotally mounted in the free end of the carrier and having a flat portion; a block of insulating material mounted rigidly upon the arbor; a contact strip upon one side of the block and having lugs in electrical connection with said arbor; means yieldingly retaining the carrier in line with the contact arm; means yieldingly bearing upon the said flat portion; means connecting the poles of the socket to the said arm and strip respectively; an insulated segmental plate fastened to the carrier and a pull cord attached to the segment for moving the carrier against the resistance of the spring.

12. In an electric lamp socket, the combination with a pair of insulated frame pieces; brackets spacing the frame pieces and one of such brackets being of electrical conductive material and having a contact arm; a contact screw passed through one of the frame pieces and fastening the last mentioned bracket thereto, such screw constituting one of the poles of the socket; a U-form carrier consisting of electrical conductive metal; a standard pivotally fastening the carrier between the frame pieces; an arbor pivotally mounted in the free end of the carrier and having a flat portion; a block of insulating material mounted rigidly upon the arbor; a contact strip upon one side of the block and having lugs in electrical connection with arbor; a coiled spring yieldingly retaining the carrier in line with the contact arm and having one end disposed to yieldingly bear upon the said flat portion; a lamp holder carried by the last mentioned frame piece and constituting the other pole; and means for moving the carrier against the resistance of the spring.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOSEPH HILDEGE ARTHUR NORMANDEAU.

Witnesses:
WILLIAM P. MCFEAT,
JOHN A. O'KEEFE.