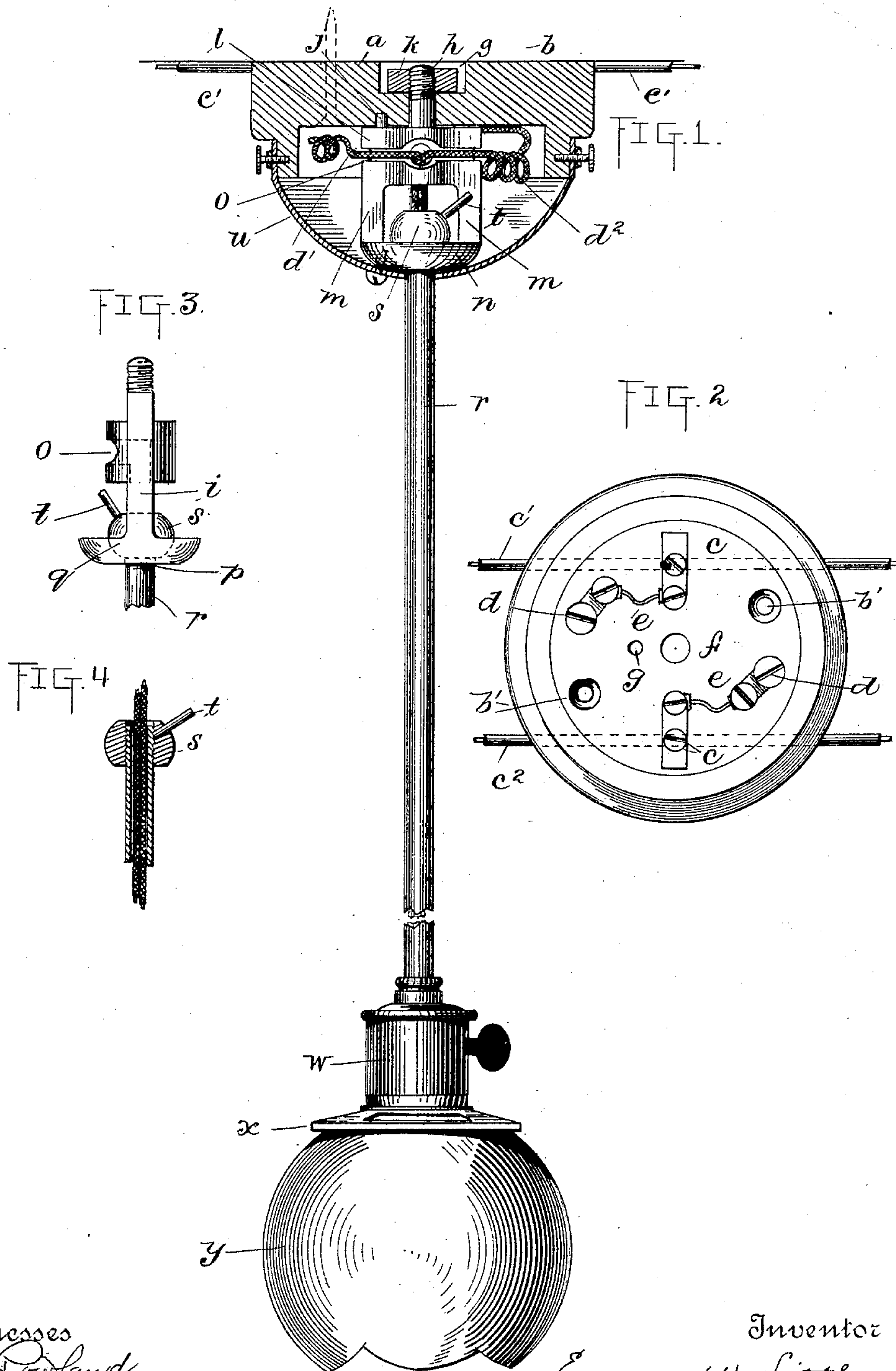


(No Model.)

E. W. LITTLE & J. T. ROBB.  
ELECTROLIER.

No. 433,687.

Patented Aug. 5, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EVERETT W. LITTLE, OF NEW YORK, AND JAMES T. ROBB, OF MOUNT VERNON, NEW YORK.

## ELECTROLIER.

SPECIFICATION forming part of Letters Patent No. 433,687, dated August 5, 1890.

Application filed August 10, 1889. Serial No. 320,356. (No model.)

*To all whom it may concern:*

Be it known that we, EVERETT W. LITTLE, of New York city, in the county and State of New York, and JAMES T. ROBB, of Mount Vernon, Westchester county, New York, have jointly invented a new and useful Improvement in Electroliers, of which the following is a specification.

Our invention has reference to electroliers for use with incandescent lamps, and particularly to those electroliers in which a loose connection is provided between the ceiling-block and the stem of the fixture.

The main object of our invention is to cheapen the construction of such electroliers and to provide a loose connection between the stem thereof and the ceiling-block, which will permit freedom of movement of the electrolier within certain limits in a horizontal and vertical direction, while at the same time securing absolute safety against detachment of the electrolier-stem from the ceiling-block.

Our invention consists, broadly, in forming a ball-and-socket joint between the ceiling-block and the stem of the electrolier, and concealing the said joint by a canopy surrounding the fixture-stem, and provided with an aperture to permit of the movement of the fixture.

Our invention further consists in providing a chamber above the ball of the ball-and-socket joint, whereby a vertical movement of the electrolier is permitted.

In the accompanying drawings, illustrating our invention, Figure 1 is an elevation of an electrolier and suspending parts adapted to be used with an incandescent lamp, the ceiling-block being shown in section. Fig. 2 is a bottom view of the ceiling-block with the line-wires in their channels. Fig. 3 is a side elevation of the ball-and-socket joint forming the suspending device; and Fig. 4 is a section through the ball of the suspending-joint, taken in a plane to show the stop-pin in elevation.

In the drawings, *a* is the ceiling-block secured to the ceiling by screws *b*, passing through the holes *b'* *b'*. The ceiling-block may be of any desirable construction. In the example shown *c c* are contacts for the line-wire *c'* *c'*, and *d d* contacts for the lamp-wires *d'* *d'*. A safety-fuse *e* is interposed between

the contacts in the usual manner. A hole *f* is formed in the ceiling-block, and adjacent thereto, in the bottom of the ceiling-block, is formed a recess *g*. The hole *f* is designed to receive the screw-threaded arm *h* of the suspending piece *i*, and the recess *g* is designed to receive the pin *j* of said suspending piece. When the suspending piece *i* is placed in position in the ceiling-block, it is held suspended therein by a nut *k* on the screw-threaded end of the arm *h*, the nut being countersunk in the ceiling-block. The suspending piece is held from rotation by the pin *j* in the recess *g*. The body of the suspending piece *i* is formed of an upper cross-piece *l*, depending arms *m m*, and bottom piece *n*. The upper cross-piece *l* is channeled across one face, as shown at *o*, Figs. 1 and 3, and is bored vertically, as shown in dotted lines at *p*, Fig. 3. By this arrangement each of the lamp-wires *d'* *d'* may be carried in a separate channel from its contact, and brought down through the cross-piece, and thence through other parts to the lamp-socket, the liability of said wires to twist being thus decreased. The bottom piece *n* is formed with a circular recess, as shown by the dotted lines at *q*, Fig. 3, and is bored through at the center of the recess to permit of the passage of the stem *r* of the electrolier, which stem is smaller in diameter than said bore. A tapped ball *s*, adapted to roll in said circular recess, and of such size as to permit it to be passed between the arms *m m* and leave a space for vertical play between it and the cross-piece *l*, receives the screw-threaded end of the stem *r*. By this arrangement, when the parts are in the position shown in Fig. 1, a swinging movement of the electrolier is permitted, the circular recess and ball *s* forming a ball-and-socket joint. A vertical movement of the electrolier is also permitted, as the chamber formed in the suspending piece is of greater height than the ball *s*. A stop-pin *t* projects above to one side of the ball *s*, and serves to confine the movement of the ball *s* within certain limits, the arms *m m* serving as stop-pieces for said pin.

A canopy *u*, provided with a central aperture larger in diameter than the stem *r*, serves to cover the face of the bottom of the ceiling-



block, the aperture thereof permitting movement of the electrolier. This canopy may be secured in any desirable manner, either directly to the ceiling-block, as shown, or by screws passing through the upper rim of the canopy and into the ceiling-block. A bayonet-joint may also be used for this purpose, or the canopy may be secured to the bottom piece *n* by a screw passing through the canopy and into a tapped hole in said bottom piece. We have shown the canopy secured in place both at its upper and lower portions. In practice, however, it will be necessary to secure it at one portion only, and we prefer to secure it at its lower portion in the manner shown.

The lamp-socket *w* may be of any desirable construction, and is provided with a lamp in the usual manner. A shade-holder *x* and shade *y* may be used, if desired.

We claim—

1. In an electrolier, the combination, with flexible lamp-conductors, of a suspending piece and stem, a ball-and-socket joint formed between said suspending piece and stem, and a canopy surrounding said stem and concealing said joint provided with an aperture to permit the movements of the stem, substantially as set forth.

2. In an electrolier, the combination, with flexible lamp-conductors, of a ball-and-socket joint formed between the end of the fixture-stem and a piece on the ceiling-block provided with a chamber of greater height than said ball, substantially as set forth.

3. In an electrolier, the combination, with flexible lamp-conductors, of a ceiling-block, a stem, a suspending piece on the ceiling-block, a recess formed in the bottom of said suspending piece, a ball adapted to move in said recess, and a screw-threaded connection between said ball and said stem, and a canopy surrounding said stem, hiding said ball and socket, provided with an aperture sufficiently large to permit the swinging of the electrolier, substantially as set forth.

4. In an electrolier, the combination, with flexible lamp-conductors, of a ceiling-block, a suspending device attached thereto, provided with a channel across its face for each of the lamp-wires, and a vertical bore, substantially as set forth.

5. In an electrolier, the combination, with flexible lamp-wires, of a ceiling-block, suspending device, stem, ball-and-socket joint between said suspending device and said stem, and a canopy secured in place around said stem and ceiling-block by means of a screw passing through said canopy and into a tapped hole in said suspending device, substantially as set forth.

This specification signed and witnessed this 5th day of August, 1889.

EVERETT W. LITTLE.  
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Witnesses:

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