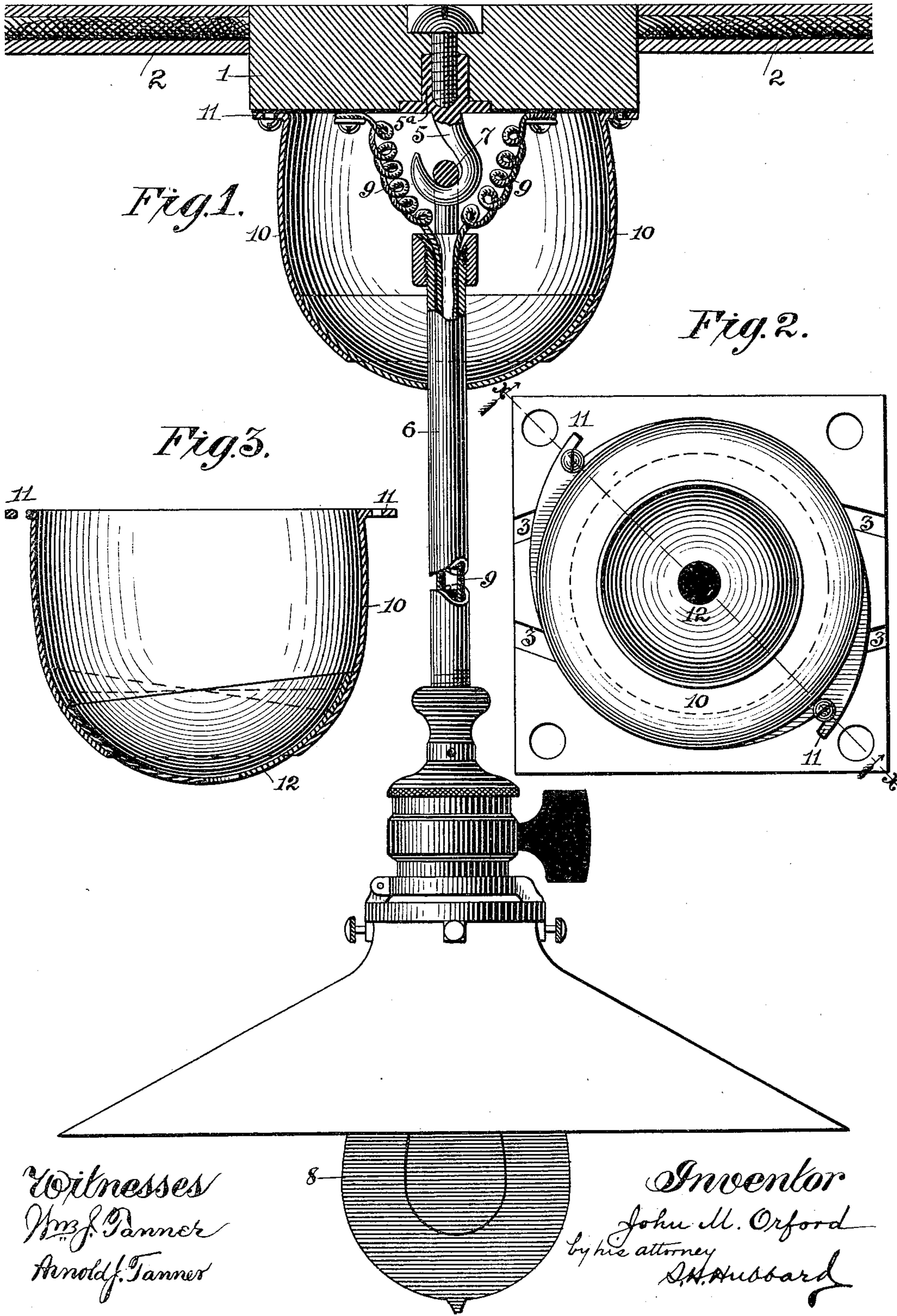


J. M. ORFORD.
ELECTROLIER.

No. 405,742.

Patented June 25, 1889.



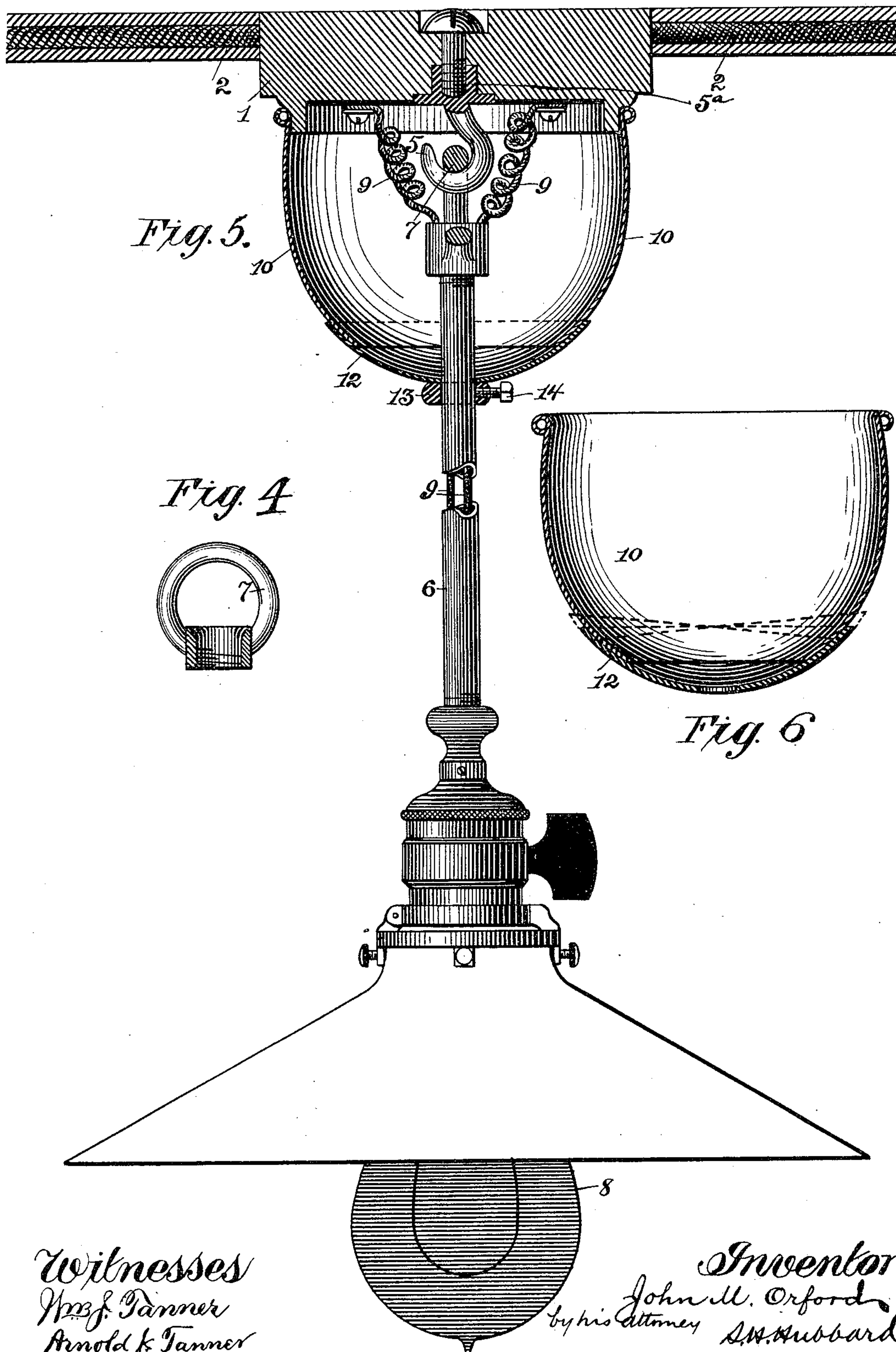
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN M. ORFORD, OF BRIDGEPORT, CONNECTICUT.

ELECTROLIER.

SPECIFICATION forming part of Letters Patent No. 405,742, dated June 25, 1889.

Application filed February 20, 1889. Serial No. 300,556. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. ORFORD, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electroliers; 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 certain new and useful improvements in electroliers, and is particularly intended for use with incandescent lamps.

Heretofore in the lighting of stores and factories, where cheap fixtures are required, it has been usual to suspend the lamps by means of a flexible cord containing the flow and return wires; but this method is open to the objections that the weight of the lamp and shade upon the cord tends to stretch it, and thereby displace the insulation upon the conductors, and to the further objection that moisture and dirt, by working through the textile covering, frequently establish between the wires a connection of high resistance, and thereby a short circuit, which sets fire to the cord and destroys the loop-circuit that feeds the lamp. In addition to these objections the cord is constantly exposed to abrasion or damage from one cause or another.

It is the object of my invention to provide an electrolier which shall be cheap enough to take the place of the cord, and which shall be so attached to the ceiling that it may swing freely within certain limits and thereby avoid the resilient vibration characteristic of a rigidly-secured fixture, which said vibration not only creates an apparent unsteadiness of the light, but also causes much breakage of lamp-filaments.

It is further the object of my invention to fully protect the conducting-wires from abrasion or other injury, to so inclose the ceiling-block, connections, fuses, &c., that they shall not be exposed to view nor accessible to dust, and so that in case of the blowing out of the fuse the melted metal may not fall down upon objects below the lamp, while at the same time the swing of the fixture is not materially interfered with.

With these ends in view my invention con-

sists in the construction and arrangement of parts hereinafter fully explained, and then recited in the claim.

In order that those skilled in the art to which my invention appertains may fully understand the construction and operation thereof, I will describe the same in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a section through the ceiling-block and canopy, the tubular hanger and lamp being shown in elevation; Fig. 2, a plan view of the ceiling-block with the canopy attached thereto; Fig. 3, a section through the canopy and cover-plate on the line *x x* of Fig. 2; Fig. 4, a detail elevation of the suspension-ring for the hanger; Fig. 5, a view similar to Fig. 1, but showing a slightly-different method for retaining the canopy and plate in position; and Fig. 6, a section through the canopy, as shown at Fig. 5.

Like numerals denote the same parts in all the figures of the drawings.

1 is a ceiling-block adapted to be secured by screws or other fastenings at the point where a lamp is to be suspended. The main wires 2 pass through channels 3, cut in the face of this block, and the lamp-wires 9 are connected with the main wires by interposed fuses of any ordinary construction secured upon the face of the ceiling-block. The fuses are not shown.

5 is a hook whose shank 5^a is squared to prevent rotation, and is secured centrally in a mortise in the block, and 6 is a tubular hanger having a ring 7 at its upper end. This ring extends over the top of the hanger from side to side, leaving ample space for the wires to pass down into the hanger. Upon the lower end of this hanger, which may be of any suitable length, is secured the lamp 8. From the ends of the fuses the lamp-wires 9 extend downward inside the hanger and are connected to the lamp.

10 is a hemispherical canopy of sheet metal or porcelain, which may be secured to the ceiling-block by the engagement of small hooks 11 at its periphery with screws in the ceiling-block, but which I prefer to support as hereinafter set forth. This canopy has a circular aperture of considerable diameter in its cen-

tral lower side, as seen at Figs. 1, 2, 3, 5, and 6, and 12 is a cover-plate, which is conformed to the contour of the canopy, and which lies contiguous thereto, the hanger passing 5 through a small central opening in said plate.

In Figs. 5 and 6 I have shown the cover-plate as applied to the outside of the canopy, and said canopy is upheld against the block and the cover-plate against the canopy by a 10 ring 13, which has a binder-screw 14, and which runs upon the hanger.

In the operation of my invention the entire weight of the lamp and hanger is supported by the hook at the center of the ceiling-block, 15 and therefore the lamp-wires are not subjected to any tension whatever. They are, furthermore, perfectly prevented by their passage through the hanger from abrasion or other injury. The connection between the 20 hook and the ring at the top of the hanger, as will be readily observed, is such as to prevent the hanger from being turned axially to any great extent, and the possibility of a short circuit by the intertwisting of the lamp-wires 25 is thereby effectually prevented.

As the cover-plate is free to move relative to the canopy, and as the aperture in the bottom of the latter is of considerable size, the hanger, which passes through the cover-plate, 30 may swing freely upon its hook-and-eye joint, carrying the cover-plate with it. The cover-plate is large enough so that the aperture in the bottom of the canopy will be closed by means thereof as against the entrance of 35 dust, and as the canopy and plate are of thin metal or porcelain they will present the appearance of a solid hemisphere. This closing of the bottom of the canopy, besides excluding dust and imparting a finished ap-

pearance to the ceiling-connection, serves to 40 prevent the escape of any melted metal in the case of a fuse blowing out.

To examine or make repairs or changes upon the ceiling-block, the canopy, as shown on Sheet 1, may be disengaged from its screws 45 and allowed to slide down upon the hanger, when the block is fully exposed. In the construction shown upon Sheet 2 the same result is accomplished by loosening the binding-screw in the ring. This last-named construc- 50 tion, while it shows the ring at the bottom of the canopy, does away with the necessity of the hooks upon the latter and the screws upon the ceiling-block. For several reasons, principal among which is the fact that it is diffi- 55 cult to form hooks or other simple fastenings upon a porcelain canopy, I prefer the means for upholding said canopy and the cover-plate which appear upon the second sheet of the drawings. 60

I claim—

In an electrolier, the combination, with the ceiling-block and the hanger hinged thereto, of a canopy adapted to fit against the block and open as to its lower end, a cover-plate 65 arranged around the hanger and conformed to the contour of the canopy, and means, as a ring and binder-screw, arranged upon the hanger, whereby the cover-plate is retained against the canopy and the latter against the 70 ceiling-block, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. ORFORD.

Witnesses:

S. H. HUBBARD,

M. C. HINCHCLIFFE.