(No Model.) 2 Sheets—Sheet 1.

C. C. JENNINGS.

APPARATUS FOR SUSPENDING ELECTRIC LAMPS.

No. 260,206. Patented June 27, 1882.

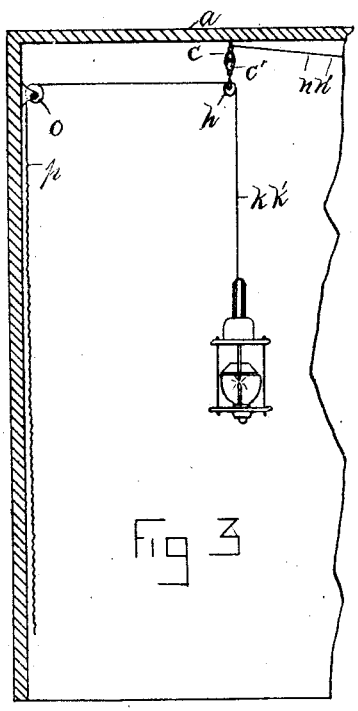

Fig 3

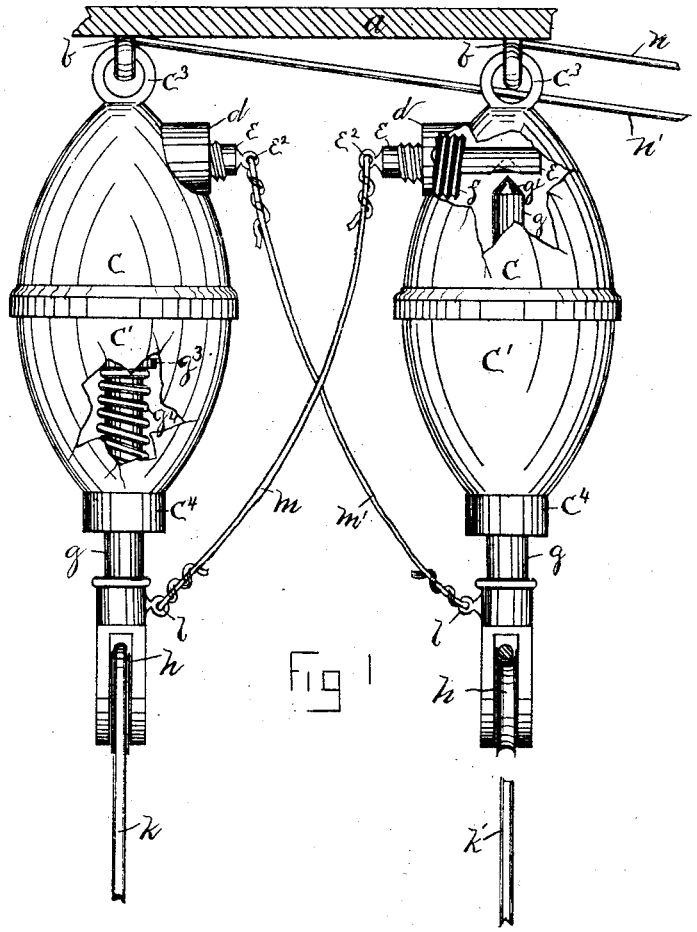

Fig 1

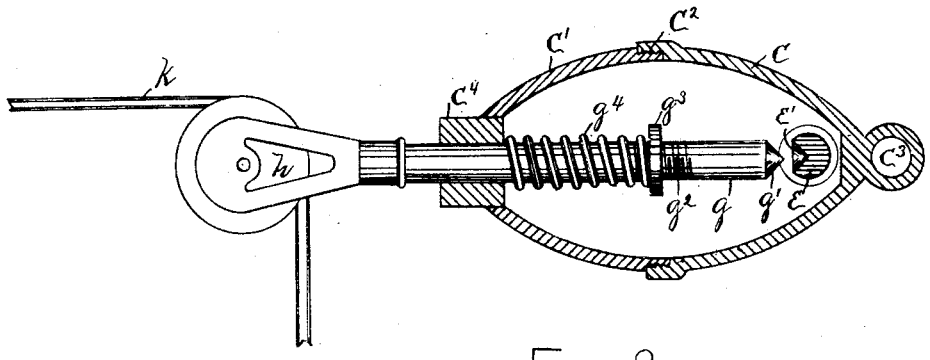

Fig 2

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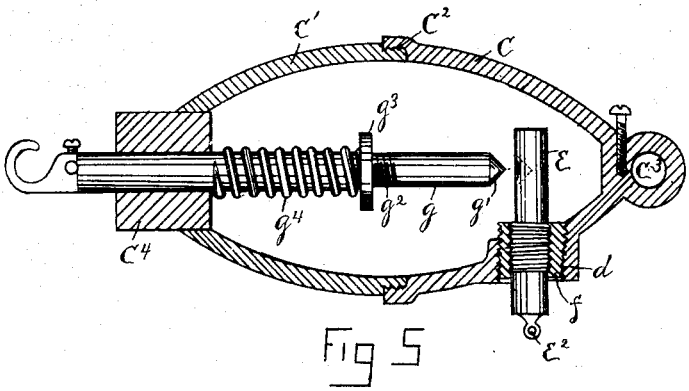

Fig 5

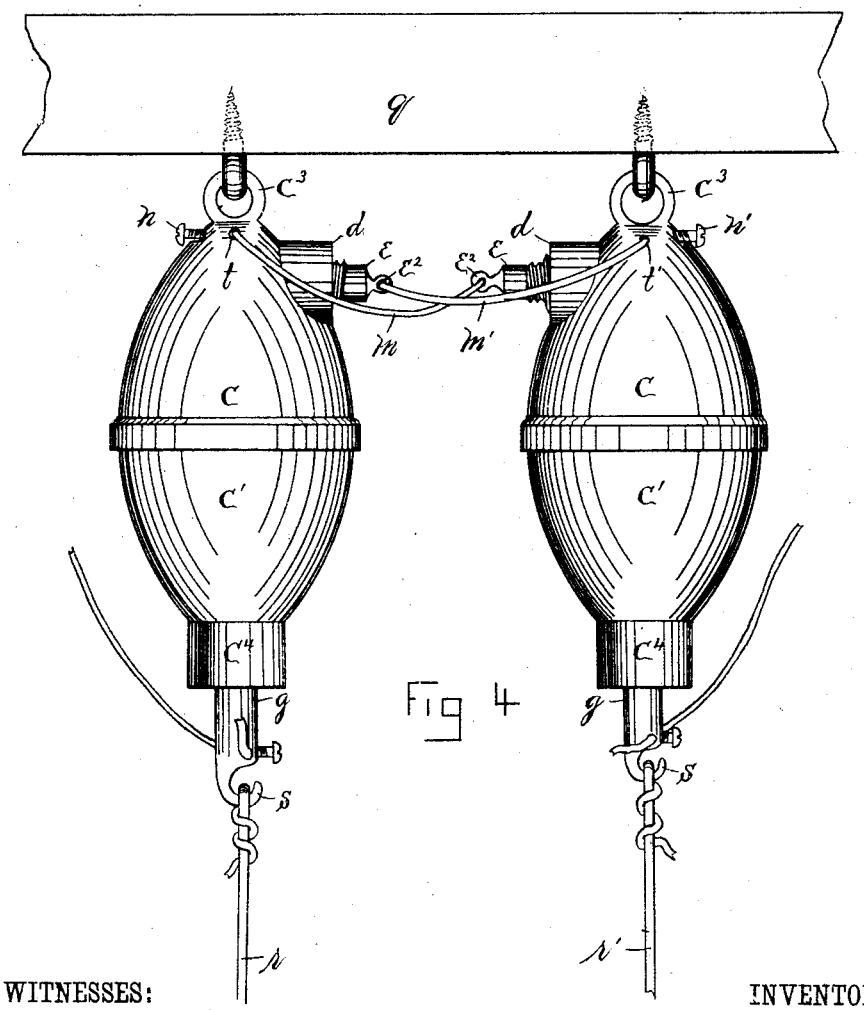

Fig 4

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CHARLES C. JENNINGS, OF BUFFALO, NEW YORK.

APPARATUS FOR SUSPENDING ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 260,206, dated June 27, 1882.

Application filed May 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. JENNINGS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Apparatus for Suspending Electric Lamps; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for suspending electric lamps from poles or masts or in public halls and the interior of buildings generally, its object being to instantly and automatically reconnect the circuit when one or both of the lamp-suspending wires or cables which form a part of such circuit break from any cause whatever, or when the lamp is removed from the circuit; and to this end it consists substantially of a pair of frames or shell-like casings having adjustable spring-pressed rods adapted to be connected with the lamp-suspending cables or wires, each frame or casing having a rod insulated from such casing, one end of which rod being connected with the opposite side of the circuit and the other end thereof being adapted to receive contact from the spring-pressed rod when the tension of the suspended lamp is removed. These devices are connected with the line-wires of the circuit, and are arranged and combined to keep the circuit at all times intact, in a manner which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 shows a pair of my improved devices with portions broken away to show the interior arrangement. Fig. 2 is a partial section of one of the devices. Fig. 3 shows the manner of adjusting an electric lamp in connection with my improved devices. Fig. 4 shows a slightly-modified form of device, and Fig. 5 is a partial section of the same.

Referring to the drawings, *a* represents the ceiling of a hall or room from which my improved devices are suspended, and *b* are the staples which are employed in securing them to the ceiling.

The body or frame of my device is preferably of the form of an open or closed hollow ellipsoid, of brass or other good conducting metal. For convenience of access to its interior, it is divided into two portions, *c c'*, the portion *c'* being adapted to be screwed into the portion *c*, as shown at c^2, Figs. 2 and 5. I have herein shown the shell solid, that being preferred to one of open form. The upper portion, *c*, is provided at its top with the ring c^3, for the reception of the fastening-staple *b*.

d is a shouldered opening in the portion *c*, for the reception of the rod *e*, preferably of brass. Between this rod *e* and the shouldered opening *d* is interposed the ring *f* of insulating material, preferably hard rubber. The rod *e*, ring *f*, and shouldered opening *d* are all screw-threaded, so as to be readily removed when desirable.

e' (see Fig. 2) is a tapering socket in the inner end of rod *e*, and e^2 is an eye upon the outer end of rod *e*, for the reception of a conducting-wire. *g* is a metallic rod, preferably of copper or brass, which slides freely in the socket c^4 in the lower end of the shell portion *c'*. It has a tapering end, *g'*, adapted to fit into the socket *e'* in the rod *e*. This rod *g* is screw-threaded at g^2 for the reception of a button, g^3, between which and the socket c^4 is a spring, g^4, which can be compressed as much or as little as desired, by means of the button g^3. This spring tends to throw the rod *g* into contact with the rod *e*, as will be more fully hereinafter described. At the outer end of the rod *g* is the metallic pulley *h*, (see Figs. 1 and 2,) over which passes the lamp-suspending cables *k k'*.

l is an eye upon the rod *g*, just above the pulley *h*, for the reception of a conducting-wire.

m m' are conducting-wires connecting the rod *e* of each portion *c* with the rod *g* of the opposite portion, *c'*, as shown in Fig. 1.

n n' are the line-wires of the circuit, which are connected with the fastening-staples *b*.

In Fig. 3 I have illustrated the manner in which an electric lamp is suspended from the ceiling of a room by my improved device. The suspending cables or wires *k k'* pass from the pulleys *h h* over a pulley, *o*, secured to the side wall, and down to an easily-accessible point. The cables *k k'* are metallic from the lamp to

the point *p*, and from this point they are of non-conducting material, so that the attendant will not be affected by the current of electricity while adjusting the lamp in position.

The operation of my improved apparatus, as shown in Fig. 1, is as follows: The weight of the suspended lamp operating against the springs g^4, which surround the rods *g*, serves to keep the rods *e* and *g* apart, as clearly shown in Figs. 1 and 2, in which event the currents of positive and negative electricity will pass from the line-wires *n n'* through the portions *c c'* to the rods *g*, and from thence through the pulleys *h* to the suspending wires or cables *k k'* and into the suspended lamp. Should either or both of these cables break, or should the lamp be detached, thereby removing the tension upon the springs g^4, instantaneous contact will take place between the rods *g* and *e*, and the broken circuit will be as quickly restored through the medium of either one or both of the wires *m m'*, which connect the two devices. These wires *m m'* remain passive while the rods *e* and *g* are not in contact by reason of the rods *e* being insulated from the portions *c;* but the instant the tension upon one or both of the springs g^4 is removed, either intentionally or accidentally, either one or both of the wires become a part of the circuit, thereby preserving its integrity to such an extent that no perceptible change can be noticed in the other lights upon the circuit. For example, if the wire or cable *k'* should become detached from the lamp the rods *g* and *e* of the right-hand device in Fig. 1 are instantly in contact, and the current, instead of passing down to the lamp, will pass from the rod *g* into the rod *e* and across the connecting-wire *m* into the left-hand device, thus instantly reconnecting the broken circuit. Should the other cable, *k*, become detached, the effect is reversed, and should both cables become detached the current has the double advantage of selecting either of the two paths just described.

In Figs. 4 and 5 I have shown a slightly modified form of device, which is adapted to be used in connection with apparatus for suspending electric lamps in streets, for which I have already made application for Letters Patent the 4th day of April, 1882.

In the application above named the lamp-suspending cables are rigidly secured to a cross-beam, (partially shown at *q* in Fig. 4,) which travels upon supporting-cables secured to buildings on both sides of the street. The lamp-suspending cables herein shown at *r r'* pass over insulated pulleys upon a movable carriage.

In order to adapt my improved devices to the street apparatus, I have substituted the hooks *s* for the pulleys *h h*, the rest of the device remaining essentially the same.

I have also shown in Fig. 4 a slight change in the manner of applying the connecting-wires *m m'*, which is equally well adapted to both forms of devices herein shown. Instead of connecting these wires *m m'* to the lower ends of rods *g*, I have connected them to the top of the portions *c c* by passing them through holes *t t'*, provided with the tightening-screws *u u'*, the effect being substantially the same as in the arrangement shown in Fig. 1; or these conducting-wires *m m'* could be connected directly to the opposite line-wires of the circuit without substantial change in effect.

In suspending my improved apparatus from the top of a pole or mast the frames or casings are to be attached to projections rigidly secured at the top of the pole or mast, in the same manner in which they are shown attached to the ceiling in Fig. 1, or in any other well-known way.

I claim—

1. An apparatus for suspending electric lamps, consisting substantially of a pair of frames or shell-like casings having adjustable spring-pressed rods adapted to be connected with the lamp-suspending cables or wires, each frame or casing having a rod insulated from such casing, one end of which rod being connected with the opposite side of the circuit, and the other end thereof being adapted to receive contact with the spring-pressed rod when the tension on the spring-pressed rod is removed, the frames or casings being suitably connected to the ceiling or mast and to the line-wires of the circuit, all combined and operating as and for the purpose stated.

2. An apparatus for suspending electric lamps, consisting of the two hollow shell-like casings, each having the separable portion *c c'*, the rods *g g*, screw-threaded at g^2, and having the adjustable buttons g^3 g^3 for compressing or relaxing the springs g^4 g^4, encircling the rods *g g*, which rods are further provided with the pulleys *h h*, over which the lamp-suspending wires or cables pass, the removable rods *e e*, insulated from the portion *c* of the casing, and having their inner ends provided with the tapering sockets *e'*, adapted to receive the ends of the rods *g g*, and the conducting-wires *m m'*, adapted to carry the current of electricity from the outer ends of the rods *e* to the opposite sides of the circuit, all combined and operating substantially as shown and described, and for the purpose stated.

3. In an apparatus for suspending electric lamps, the combination of the hollow casing having the two separable portions *c c'*, and the insulated rod *e* in the portion *c*, with the rod *g*, provided with the pulley *h*, the spring g^4, and the button g^3, by means of which the broken current of electricity is restored and diverted in the proper direction, substantially as shown and described.

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Witnesses:
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OTTO HODDICK.