(No Model.)

C. DEAVS.

EXTENSION ELECTROLIER.

No. 469,895. Patented Mar. 1, 1892.

FIG. 1.

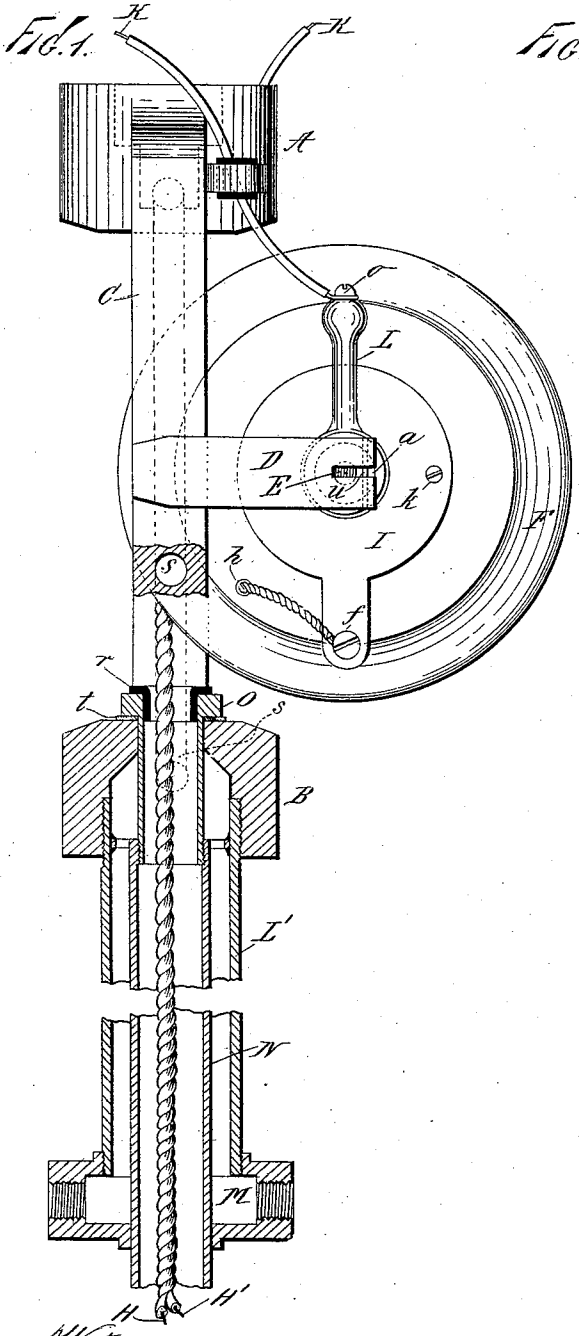
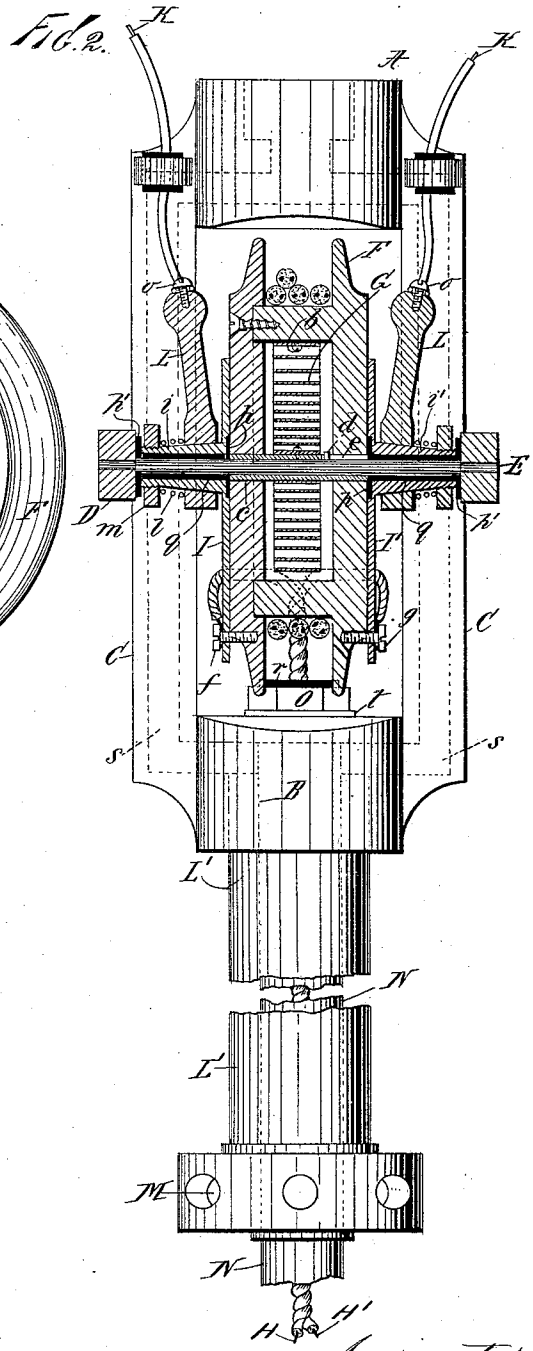


FIG. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES DEAVS, OF NEW YORK, N. Y., ASSIGNOR TO THE ARCHER & PANCOAST MANUFACTURING COMPANY, OF SAME PLACE.

EXTENSION-ELECTROLIER.

SPECIFICATION forming part of Letters Patent No. 469,895, dated March 1, 1892.

Application filed November 23, 1891. Serial No. 412,838. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DEAVS, of New York city, county and State of New York, have invented certain new and useful Improvements in Extension-Electroliers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to electroliers or devices for sustaining electric lamps, and particularly to that variety of such devices wherein provision is made for adjusting the lamp up or down or otherwise to vary its position, which variety is commonly known as "extension-electroliers," but sometimes under the name of "extension electro-gasoliers," as when provision is made for the use of gas in the structure.

The principal objects of my invention are to provide or produce a simple, cheap, efficient, reliable, and durable means for maintaining a constant electric communication between the main stationary conducting-wires and the adjustable sections of conductors leading to the lamp or lamps, to insure the necessary insulation of the current within the structure, and to provide for winding and unwinding the adjustable sections of conductors smoothly and easily and without damage to their covering or interference with other parts.

Subordinate objects are the provision of simple means for mounting and securing the winding-drum, so that it may be adjusted to place by any one without difficulty, or may be readily dismounted, when required, to render the working parts compact, so that they will occupy but little space, and to adapt improvements alike for use in a structure wherein gas is employed or one sustaining only electric lamps.

To accomplish these objects and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain new and useful arrangements or combinations of parts and particulars of invention, all of which will be herein first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a vertical view, partly in section and partly in elevation, upon a plane at right angles with the drum-shaft; and Fig. 2 is a similar view upon a plane passing through the drum-shaft, the two views showing all parts of an electrolier or electro-gasolier which are necessary to an understanding of my invention and illustrating my improvements in position for use.

In both figures like letters of reference indicate corresponding parts.

A B are sockets united by branches C C, the socket A being intended for application to a gas-pipe or other means of support and the socket B intended to receive the depending portions of the structure of whatever character they may be. Upon the branches C are projecting arms D D, slotted, as at *a*, to receive the ends of the drum-shaft E, which ends are flattened or otherwise fashioned, so that when located the shaft will be held from turning.

F is a drum of wood or other non-conducting material having an interior chamber which accommodates the drum-winding spring G, of which the outer end is connected with the drum, as at *b*, and the inner end with a sleeve *c*, which slides easily upon the shaft and is prevented from turning thereon by a pin *d*, which enters a slot *e* in the sleeve.

H H′ are the sections of electric conductors which extend to the electric lamp. These for convenience, are twisted together to form one cable; but they may be left separate, if desired. The cable or the sections being flexible are wound upon the drum, as indicated, one section being held, as by a screw *f*, in electric connection with a metallic plate I on one side of the drum and the other, as by a screw *g*, with a similar plate I′ on the opposite side, both being carried through suitable perforations, as *h*, in the drum-heads.

K K are the main lines or conductors. The plates I I′ are provided with hollow and slightly-conical hubs *i i′*, which turn with the drum, each plate being secured to the drum, as by a screw *k*.

To insure absolute metallic connection between the main conductors and the plates I I′, (and therefore between the main conductors and the adjustable sections,) and to permit the drum to turn without interrupting this

connection, I mount upon the hubs *i i'* arms L L, suitably perforated to make a close fit with the conical hubs. These arms permit the hubs to revolve freely in them, and by their use the current is not subject to any interruption as it is when a pointer or finger is made to ride over a flat surface. The bearings are large and smooth, and the arms are held to their working position by light springs, as *l l*, bearing at one end against nuts *m m*, threaded upon the hubs. The ends of arms L constitute binding-posts upon which the conductors K are secured, as by screws *o o*. The hubs *i i'* are insulated from the shaft, from the spring-sleeve *c*, and from the arms D, as by washers *p p'* and cylinders *q q*, made of rubber or other suitable material.

As thus far described, when the cable (which carries the electric lamp) is pulled down the drum winds the interior spring, which, when the cable is released or the lamp elevated, automatically turns the drum, and thus winds the cable upon it, taking up all its slack and keeping it from buckling in any part of the structure. The drum is so located that the cable will lead fairly from it to and into the tube below. The mouth or the entrance to the tube may have a non-conducting thimble *r*, against which the coverings of the sections are not liable to wear, but which, in case the coverings should become damaged at any point, will prevent electric contact between the wires and the mouth of the tube. When gas is to be employed in addition to the electric lamps, the branches C, one or both, are perforated or channeled, as at *s s*, and conduct gas to the lower socket, whence it is delivered to a gas-pipe L', and thence conducted to a chamber M, from which any number of branches may project. In this form the gas-passage is separated from the tube N containing the cable, which tube is held in place by any preferred means, as by use of a hollow plug O, threaded into the upper end of said tube and making a gas-tight joint with socket B, as by use of a leather washer *t*.

To prevent the drum from being accidentally dismounted its shaft may be keyed into arms D, as by a removable key *u*.

As will be apparent, the drum may be easily mounted or dismounted, and the electric connections need no fine adjustments, being automatically held to working position.

When constructed and arranged substantially in accordance with the above explanations, the improvements are found to answer all the purposes or objects of the invention previously set forth.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an extension-electrolier, the combination of the spring-drum, the wires or cable mounted thereon, the plates secured to the drum and having the conical hubs, the arms having their lower ends fitting on said hubs, the springs for holding the arms in position, and the conducting-wires connected to the arms.

2. In an extension-electrolier, the combination of the socket or sockets, the branches, the arms formed with bearings, the shaft mounted in the bearings, the spring-drum on the shaft, the plates connected to the drum and having the hubs, the wires connected to the plates and wound on the drum, the non-conducting cylinders and non-conducting plates, the arms fitting the hubs, and the conductors connected to the arms.

3. In an extension-electrolier, the combination of the sockets, the branches, the tubes secured to the lower socket, the chamber connected to the tubes or pipe, the spring-drum, the wires or cable thereon, the plates carried by the drum and having the conical hubs, the non-conducting plates and cylinders, the arms fitting the hubs, the springs for holding the arms in position, and the conducting-wires connected to the arms.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

CHARLES DEAVS.

Witnesses:
W. J. MORGAN,
WORTH OSGOOD.