(No Model.)

P. O. KEILHOLTZ.

CARBON HOLDER FOR ELECTRIC ARC LAMPS.

No. 348,978. Patented Sept. 14, 1886.

Fig. 1.

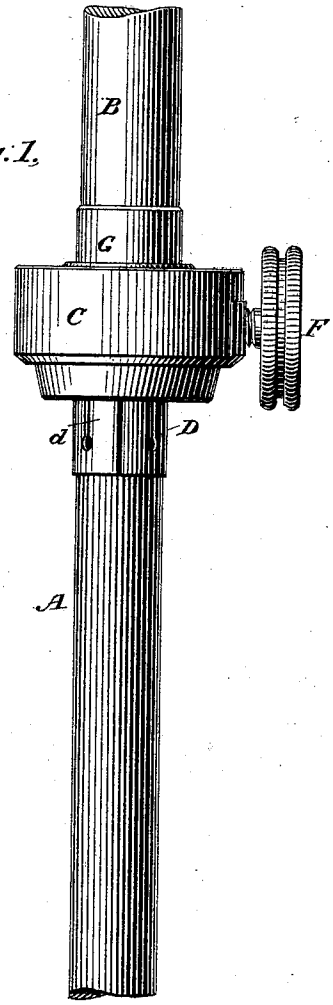


Fig. 2.

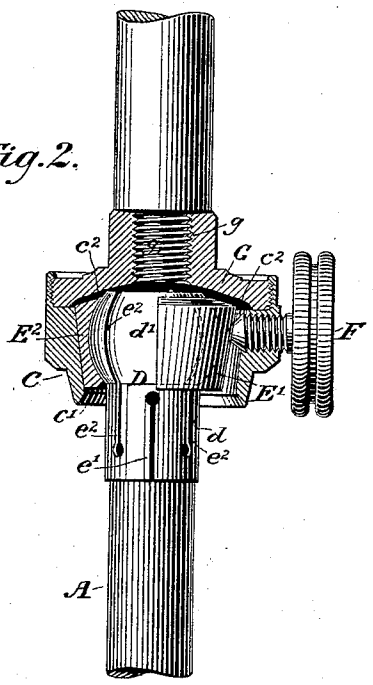
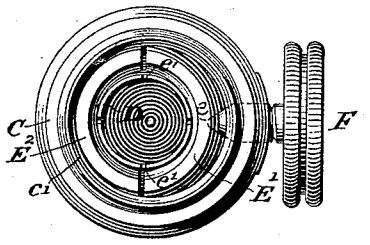


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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CARBON-HOLDER FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 348,978, dated September 14, 1886.

Application filed December 19, 1885. Serial No. 186,210. (No model.)

To all whom it may concern:

Be it known that I, PIERRE O. KEILHOLTZ, a citizen of the United States, and a resident of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Carbon-Holders for Electric-Arc Lamps, of which the following is a specification.

The invention relates to the class of devices employed for holding the carbons of an electric-arc lamp and adjusting their positions with reference to the arc to be formed.

The special object of the invention is to provide convenient means for clamping the upper carbon and holding it in any required position with reference to the lower carbon, so that it will center upon the latter and maintain its proper relative position as it is fed forward.

The further object of my invention is to provide such a holder that the act of binding the carbon into it will also secure the movable portion in any required position.

In carrying out the invention a resilient clamp for surrounding the end of the carbon is constructed with a compressible hollow ball or spherical enlargement, which enters a corresponding socket secured to the carrier-rod for the carbon. Two loose blocks or shoes within the socket together form an open concaved ring, encircling the enlarged portion of the clamp. A set-screw extends through the wall of the socket, and by pressing against one of the loose blocks compresses the spherical enlargement, and serves not only to bind the clamp in any required position, but at the same time it compresses the neck or the portion surrounding the carbon and causes it to clamp the same securely. In other words, the one operation of binding the clamp in the proper position serves also to clamp the carbon into the holder. A suitable cap is screwed into the end of the socket, and this is provided with a hollow screw-thread, which permits of its ready attachment to the carrier-rod.

In the accompanying drawings, Figure 1 is an elevation of a holder embodying the features of the invention. Fig. 2 is a section, and Fig. 3 an end view, of the same.

Referring to the figures, A represents a carbon, preferably the upper carbon, of an arc lamp, and B the carrier-rod for supporting the same and feeding it forward. Upon the end of this rod there is carried a clamp or holder, which is preferably attached thereto by being screwed upon the end of it in any suitable manner. This holder consists of an outer support, C, and a receiving-clamp, D, for the carbon. The clamp D consists of a cylindrical portion or neck, d, and a hollow extension or open spherical enlargement, d'. The clamp is constructed of metal of suitable thickness, and is made resilient by cutting slots e' e' e' from the outer end of the neck d toward the spherical portion, and similar slots or cuts, e^2 e^2 e^2, from the other end through the enlarged portion d'. The latter alternate in position with the first-named cuts. The clamp normally tends to spread sufficiently to allow the carbon to be easily inserted into the neck. The end d' fits loosely within its support or socket C, so that it may be turned both radially and laterally, the opening c' being large enough to allow sufficient movement of the neck to permit of the required adjustment of the carbon. The clamp is held in place by means of two curved blocks, E′ and E², which together form a nearly complete concave ring about the enlarged portion d' within the socket. There is a sufficient separation of the blocks, however, to allow one to be pressed toward the other until the portion d' is compressed and held rigidly. The same compression of the spherical portion of the clamp will cause the diameter of the upper portion of the neck to be lessened, and thus the carbon will be clamped.

The compression of the ball or enlargement d' is secured by a set-screw, F, extending through the wall of the socket C and pressing against the block E′. The end of this screw is preferably pointed, and it enters a conical opening, e, in the block E′. This construction prevents the blocks from slipping around within the socket, and thus becoming displaced.

The clamp D is inserted into the support or socket C through an opening, c^2, at the upper end thereof. A screw-cap, G, is screwed into the top of the support C, and this holds the parts in position. The cap is provided with a hollow screw, g, which screws upon a thread, g', at the end of the carrier-rod B.

This form of holder is also applicable, it will be understood, to the lower carbons; but it is especially intended for adjustably supporting

the upper carbon, and is well adapted to be employed in lamps in which the lower carbon is stationary.

I claim as my invention—

1. The hereinbefore-described carbon-holder, consisting of a clamp having resilient jaws, a spherical enlargement at its end, a spherical socket for receiving the same, and means for simultaneously compressing said socket and clamp.

2. The combination, substantially as hereinbefore set forth, of a carbon-clamp, a support, a yielding ball-and-socket joint uniting the two, and a set-screw compressing the same.

3. The combination, substantially as hereinbefore set forth, of the resilient jaws, the compressible enlargement integral therewith, the socket for receiving the same, the set-screw for compressing said enlargement and jaws, and means for securing said socket to the carrier-rod of an arc lamp.

4. The combination, substantially as hereinbefore set forth, of a resilient carbon-holding tube, an enlarged resilient extension of the same, movable blocks fitting loosely around said extension, a socket for receiving said extension and blocks, and means for compressing said blocks upon said enlargement.

5. A carbon-holder consisting of the clamp D, having alternating longitudinal slits e' and e^2, the blocks E′ and E², and means, substantially such as described, for supporting and binding the same.

6. In a carbon-holder, the combination, substantially as hereinbefore set forth, of a resilient clamp having an enlarged end, concaved blocks for receiving the enlarged end, a socket in which said blocks are placed, and a set-screw for pressing one of said blocks toward the other, and thereby compressing said clamp and binding it in position.

7. In a carbon-holder for electric-arc lamps, a compressible clamp having a spherical extension, concave blocks surrounding the same, in one of which blocks there is formed an indentation, a set-screw entering said indentation, and a support for the several parts.

In testimony whereof I have hereunto subscribed my name this 17th day of December, A. D. 1885.

PIERRE O. KEILHOLTZ.

Witnesses:
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