(No Model.)

C. H. BENTON.

HOLDER FOR INCANDESCENT LAMPS.

No. 329,618. Patented Nov. 3, 1885.

Fig. 7.

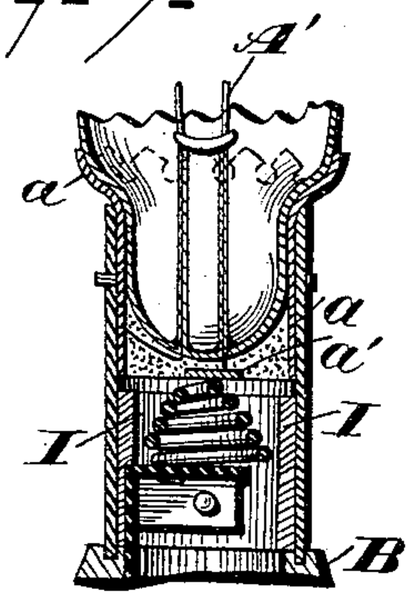


Fig. 1.

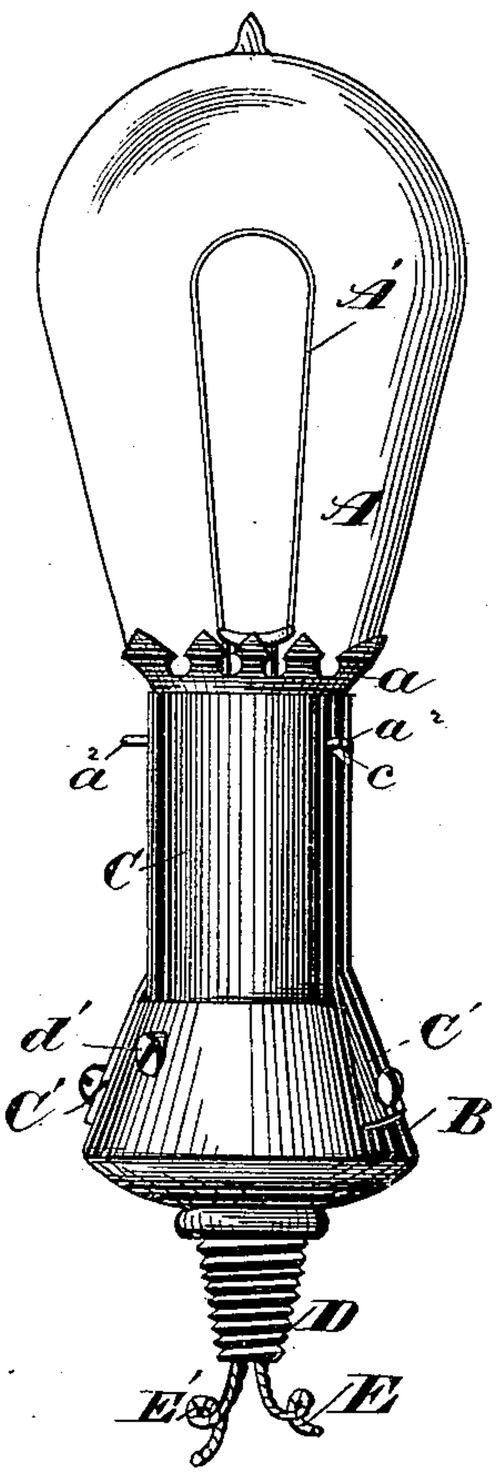


Fig. 2.

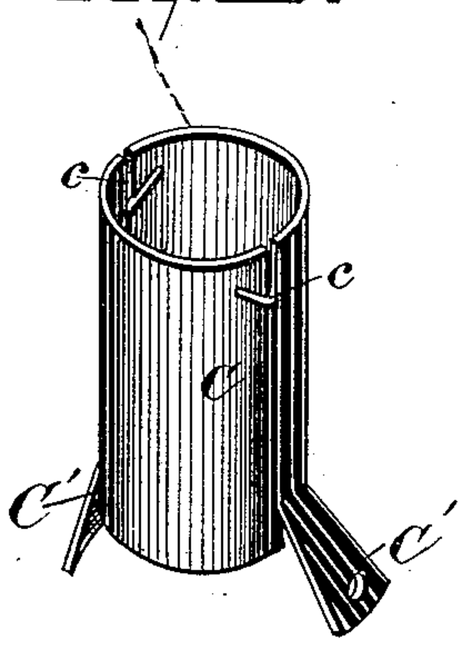


Fig. 3.

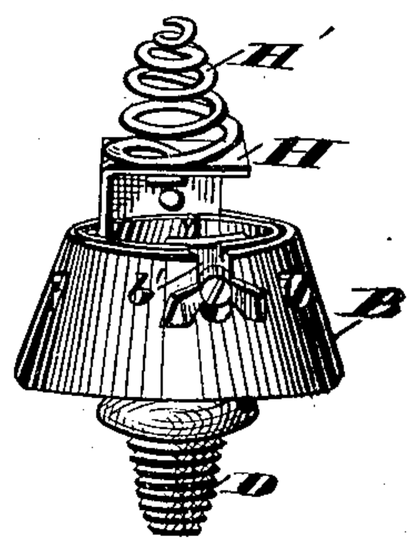


Fig. 4.

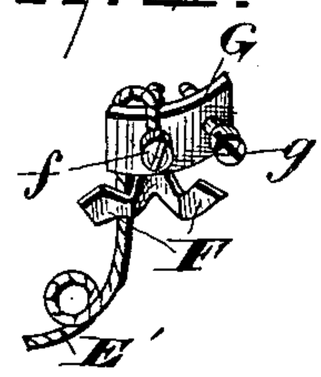


Fig. 6.

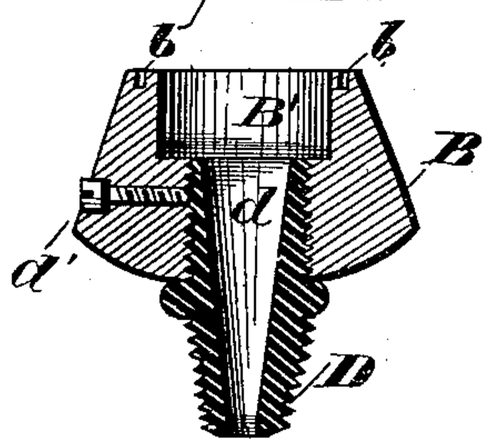
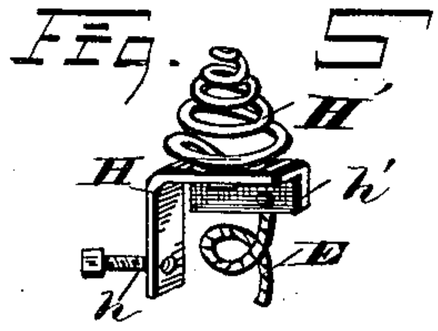


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES H. BENTON, OF CLEVELAND, OHIO.

HOLDER FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 329,618, dated November 3, 1885.

Application filed January 21, 1885. Serial No. 153,506. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BENTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Holders for Incandescent 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 pertains to make and use the same.

My invention relates to improvements in incandescent-lamp holders; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view in elevation of an incandescent lamp and holder embodying my invention. Fig. 2 is a view in perspective of the sleeve of the holder. Fig. 3 is a view in perspective of the holder with the sleeve removed. Fig. 4 is a view in perspective of an inside plate and attachments that are secured to the holder, forming a binding-post for one of the wires. Fig. 5 is a view in perspective of the other binding-post and attached spring that forms one connection with the lamp, showing also the means of securing this binding-post to the wooden part of the holder. Fig. 6 is an elevation in section of the wooden portion of the holder and supporting attachment. Fig. 7 is an elevation in section of the lower portion of the lamp and the upper portion of the holder.

A represents the lamp, the lower portion of which is cemented in the band *a*, in the usual manner. The filament A′ is secured, in the usual manner, at one end to the band *a*, and at the other end to the metal piece *a′*, that is embedded in the cement. (See Fig. 7.)

B is the wooden portion of the holder, to which is secured the sleeve C, that when the parts are assembled embraces the band *a*, and is locked in a manner hereinafter shown. The sleeve C is provided with the ears C′, that fit over a portion of the part B, and are secured by screws, as shown in Fig. 1, the bottom of the sleeve resting in the annular groove *b*. The part B has an annular chamber, B′, that is in open relation with the duct *d* leading through the plug D. This plug, as shown in Fig. 6, is threaded at both ends, and is screwed into the part B, and is held from unscrewing by the set-screw *d′*. This plug furnishes a convenient means of supporting the lamp, and by means of the duct *d* a concealed exit is had for the terminals E and E′. The binding-posts G and H are secured to the part B on the inside, and much difficulty has been encountered in making such attachments durable, and at the same time having these parts detachable. To overcome this difficulty, I make the plate G and the leg of the plate H to fit the wall of the chamber B′, and secure these parts, respectively, by the screws *g* and *h*, that pass through the wood with the heads on the outside and screw into threaded holes in the respective plates. The plate G is provided with the screw *f*, for securing the terminal E′, that may be bent over the edge of the plate, as shown in Fig. 4, and passed through the duct *d*. A slot, *b′*, in the wood renders the head of the screw accessible. A thin metal strip, F, is secured to the plate G, and passing out through the slot *b′* is bent over the edges of the wood, as shown in Fig. 3, and the arrangement of parts is such that one of the ears C′ when in position presses upon the strip F, making an electrical connection therewith, and conceals the strip and slot. The contact of the sleeve C with the band *a* completes the electrical connection between the terminal E′ and the end of the filament A′ that is attached to the band *a*. The terminal E is secured to the post H by the screw *h′*, and also passes out through the duct *d*. To the top of the plate H is secured the spring H′, that is coiled spirally and conically, as shown in Figs. 3, 6, and 7. The free end of this spring when the parts are assembled presses against the plate *a′*, and completes the electrical connection between the terminal E and the end of the filament that is connected with the plate *a′*, and thus forms a circuit from one terminal to the other. The coils of the spring H′, by reason of its conical or conoidal form, may be compressed within each other, and the free end may thus be compressed a much greater distance than if the spring were made cylindrical. These conical or conoidal spiral springs are made to compress into a small space, and still have sufficient recoil for the purposes required, and as compactness is desirable in these holders this form of spring is important. The portion of the sleeve C that is adjacent to the spring has a lining, I, of any suitable non-conducting

material, to prevent the possibility of the spring H′, in case it is bent or misplaced, from coming in contact with the sleeve C and consequent short-circuiting.

As a convenient and reliable means of attaching the lamp to the holder in such a manner that it may easily be detached, I have provided the band *a* with laterally-projecting pins a^2, and the sleeve C with angular slots *c*, that receive the pins. The form of these slots is shown more clearly in Fig. 1, the outer portion, respectively, being approximately longitudinal with the sleeve, while the inner portion turns at an acute angle and tends upward. As the lamp is placed in the holder and the pins passed to the bottom of the slots *c* the spring H′, as aforesaid, comes in contact with the plate a^2 and is compressed. When the lamp is turned so that the pins a^2 pass to the end of the oblique portion of the slots, the recoil of the spring H′ locks the parts in this position, holding them firmly. With this construction the holder is reduced to a small compass, the attachments are strong and durable, the parts are all accessible for repairs or adjustment, the electrical connections are reliable, and with, as aforesaid, the terminals concealed the device is ornamental and attractive in appearance, and the holder can be made at a small initial cost.

What I claim is—

1. In an electric-lamp holder, the combination, with a hollow wooden part, of binding-posts secured thereto on the inside, so that the terminals are concealed, and having as a means of attachment screws with the heads abutting against the wood on the outside, and the screw ends engaging threaded holes in the respective binding-posts, substantially as set forth.

2. In an electric-lamp holder, the combination, with a binding-post, of a spring secured thereto and arranged to form an electrical connection with one end of the filament of the lamp, and the said spring coiled spirally, and the spiral arranged conical or conoidal in form, substantially as set forth.

3. In an electric-lamp holder, the combination, with the sleeve C and the spring H′, each forming a part of the electrical circuit, of a lining in the sleeve of non-conducting material intermediate between the said sleeve and spring, substantially as set forth.

4. In an electric-lamp holder, the combination, with the band *a*, having one end of the filament electrically connected therewith, and the spring H′, electrically connected with one of the terminals, and arranged to be electrically connected with the other end or leg of the filament, of the sleeve C and a pin and angular slot forming a bayonet-lock for connecting sleeve C to the band *a*, substantially as set forth.

5. In an electric-lamp holder, the combination, with the hollow wooden part B, with binding-posts secured on the inside thereof in the manner described, and a suitable duct or passage-way forming a concealed exit for the terminals, of the sleeve C, provided with the ears or equivalent devices C′, arranged to connect electrically with one of the binding-posts, and to cover such connecting parts and to secure the sleeve to the part B, substantially as set forth.

6. In an electric-lamp holder, the sleeve C, provided with the ears C′, integral therewith, and forming a means of attaching the sleeve to the wooden part of the structure, and forming a concealed electrical connection with one of the binding-posts, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 5th day of December, 1884.

CHARLES H. BENTON.

Witnesses:

CHAS. H. DORER,

ALBERT E. LYNCH.