(No Model.)

F. H. CARPENTER.

ELECTRIC ARC LAMP.

No. 462,661. Patented Nov. 3, 1891.

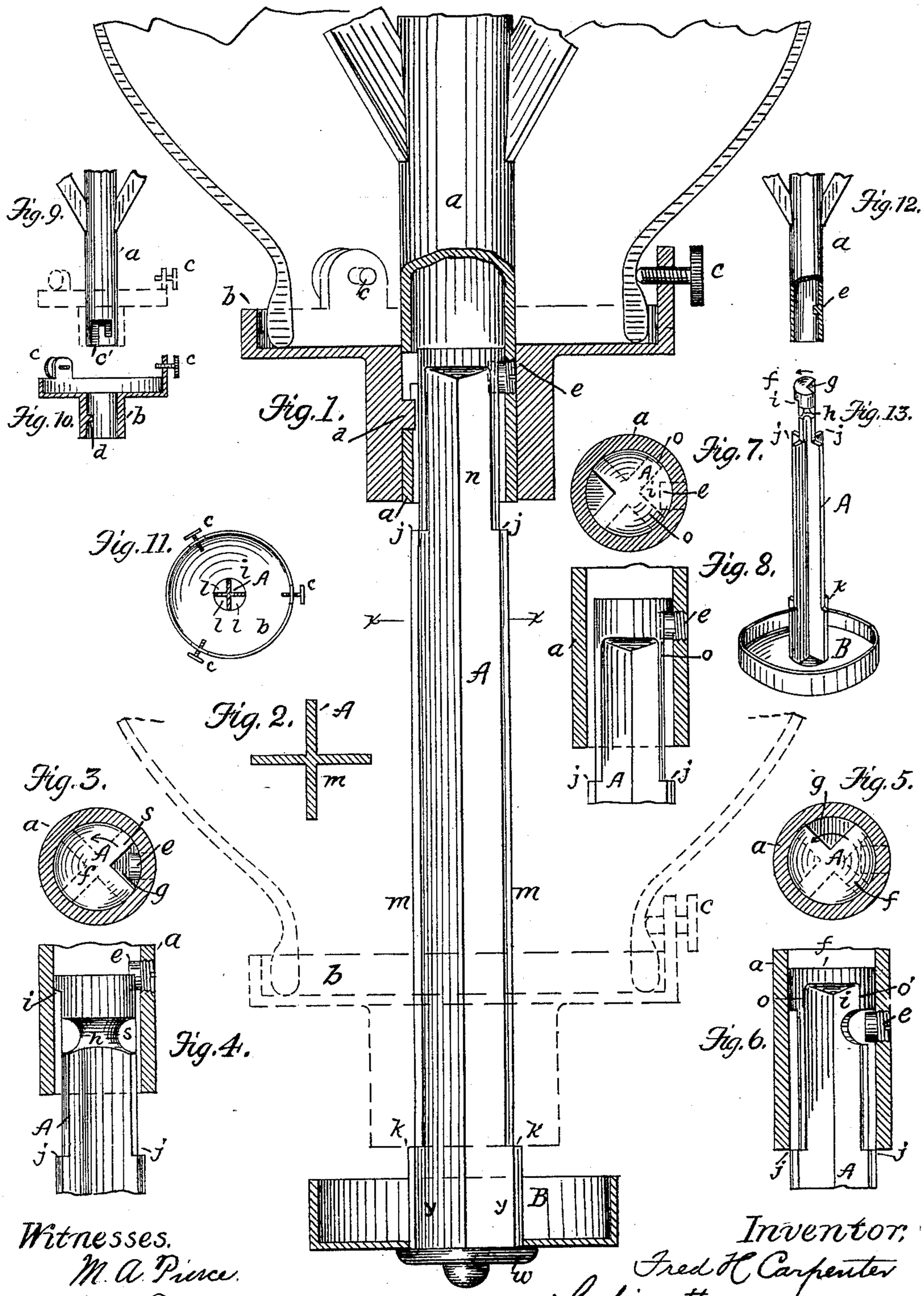

Fig. 1.

Fig. 9.

Fig. 10.

Fig. 12.

Fig. 11.

Fig. 7.

Fig. 8.

Fig. 13.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Witnesses.
M. A. Pierce.
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Inventor:
Fred H. Carpenter
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UNITED STATES PATENT OFFICE.

FRED H. CARPENTER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE RUSSELL ELECTRIC COMPANY, OF SAME PLACE.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 462,661, dated November 3, 1891.

Application filed May 7, 1891. Serial No. 391,886. (No model.)

To all whom it may concern:

Be it known that I, FRED H. CARPENTER, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Electric Lamps, of which the following is a specification.

This invention relates to electric lamps and to improvements in that special portion of the lamp by which the globes or shades are lowered in order that the lamp-trimmer may obtain access to the carbons for the purpose of resetting them or to perform any work required. There are at the present time several devices in use to facilitate the lowering of the globes for the purposes specified, all of which are, so far as I am aware, permanently attached to the lamp, the usual apparatus requiring an extension of the lower part of the lamp over which the globe is lowered. This form adds greatly to the length of the lamp and proves a very objectionable feature in many places where they are suspended, especially in rooms of buildings, &c., where head space is desirable and often imperative.

My invention provides for a device which is to be carried by the lamp-trimmer and which is to be automatically locked to the lamp, and forms a part of the same during the time he is trimming the lamp and upon which the globe is lowered and held during the trimming process, and when the globe is raised and secured to its place the device is removed by the trimmer to be used in all the lamps in his charge, it being in fact a detachable extension interlocking device for the purposes specified.

My invention also provides for a flue in the said device, when attached, into which the carbon dust, dislodged from the inside of the globe and from the metal parts of the lamp, can be brushed and got rid of instantly without the necessity of raising the globe from its seat. I also provide means whereby such carbon dust can be collected into a dust-holder attached to the said detachable extension device, and when the device is detached the dust can be dumped all together in some proper place. This is a desideratum with lamps used in interiors to prevent the dust from being scattered.

In the drawings, Figure 1 is a sectional elevation of the lower part of an arc lamp, showing my detachable extension device connected thereto, showing the globe in full lines in its normal position and in dotted lines in its lowered position. Fig. 2 is a cross-section on line *x x* of Fig. 1. Figs. 3, 4, 5, 6, 7, and 8, illustrate the insertion of the detachable extension into the lamp. Figs. 9 and 10 show the common means for attaching the globe-seat to the lamp. Fig. 11 shows a plan view of the globe-seat or holder as it appears when lowered onto the detachable extension. Fig. 12 shows a sectional view of the lower part of a lamp; and Fig. 13 is a perspective view of the detachable extension detached and illustrating its introduction into the lamp.

a is the lower part of an arc-lamp, which supports the lower or negative carbon pencil. It is hollow, and is provided with a bayonet-locking slot *c'* to operate in connection with a stud *d* on the interior of the hub *b* of the globe-seat or holder *b* in a well-known manner. The globe is secured in its seat by the screws *c c c*. In many lamps now in use there is no provision for holding the globe when it is released from the shank *a*, and they are frequently broken by the trimmer letting them fall, and where provision is made it is usually by extending the shank *a*, making a long projection upon the bottom of which the globe is rested when lowered.

A refers to my detachable extension device, (see Fig. 13,) the body being made in the form of a cross with four equal wings of three diameters *n*, *m*, and *y*, the largest being at the bottom. At the bottom is a disk *w*.

B is a cup, which may be integral with A or separate. If the latter, it is made to slide on over the top and rest upon the disk *w*. At the top is a locking-key *f*, a right-angle sector *g* being cut out of the round end, a score *h* being cut around the base, and a socket *i* higher up with abutments *o o'* on each side, forming a seat for a bolt or stud.

Within the tubular part *a* of the lamp is a stud *e* to support the detachable extension device when inserted therein, and constitutes its locking-bolt.

When the device is to be inserted into the part *a*, it is presented so that the sector *g* will pass over the stud *e*, as shown in Figs. 3, 4,

12, and 13, and pushed in until the offsets *j j* on A strike the end of *a*. A is then turned in the direction of the arrow, so that the score *h* passes the stud *g*. (See Figs. 5 and 6.) A is turned until the stud *g* strikes the wing or abutment *o*. Then it is allowed to drop. It will be seen that the stud *e* is now in a socket *i* composed of the top *f* and abutments *o* and *o'*, which prevent it from turning, the device A being supported by the stud *e*. The globe-holder *b*, which is supported on the outside of the tubular part *a*, can now be detached therefrom by lifting, turning, and dropping the same down over the device A into the position shown in dotted lines, Fig. 1, where it rests upon the offsets *k k*. When in this position, the lamp can be trimmed and brushed. The carbon dust is brushed through the spaces *l l*, (see Fig. 11,) formed by the globe-holder *b* and the wings *m*. In an outdoor lamp the carbon dust escapes into the air; but in an interior lamp a cup B is attached to A, as shown, into which the dust is collected and carried away. The globe is replaced by elevating and locking the same. The device A is removed by lifting and turning in the direction reverse of the arrow until the wing or abutment *s* strikes the stud *e*, when it is allowed to drop down and become detached. It forms part of the "kit" of the lamp-trimmer and is constructed to fit every lamp in his circuit.

This device can be varied in construction so as to fit any style of arc lamp, and is applicable to all arc lamps that I am aware of. If the bolt *e* was on the end of the detachable extension and the locking feature in the lamp, the result would be the same.

I claim—

1. A detachable extension device for electric lamps, provided with means for locking with the lamp and means for supporting the globe.

2. The combination, with an electric lamp, of a detachable extension device provided with means for locking with the lamp and means for supporting the globe.

3. A detachable extension device for electric lamps, provided with means for automatically locking with the lamp and for supporting the globe and with a flue, for the purpose described.

4. A detachable extension device for electric lamps, provided with means for locking with the lamp, means for supporting the globe, and a flue and a dust-receptacle.

5. A detachable extension device cruciform in cross-section, provided with means for interlocking with an electric lamp and means for supporting the globe.

6. A detachable extension device cruciform in cross-section, provided with means for interlocking with an electric lamp, means for supporting the globe, and a dust-receptacle.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of May, 1891.

FRED H. CARPENTER.

Witnesses:

GEO. WILLIS PIERCE,

A. W. ROUNDS.