(No Model.)

A. WEBER.

CLAMP FOR ARC LAMP CARBONS.

No. 482,535. Patented Sept. 13, 1892.

Fig. 3.

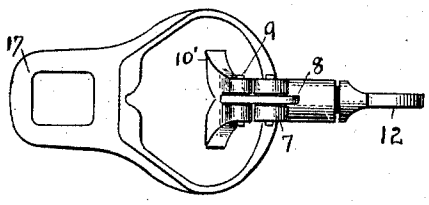


Fig. 1.

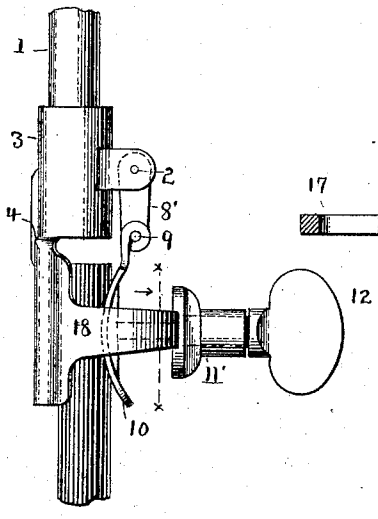


Fig. 2.

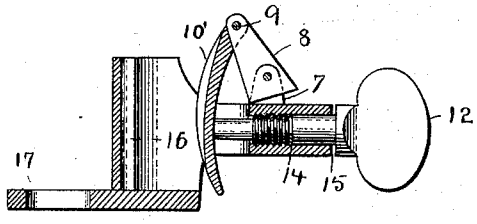


Fig. 5.

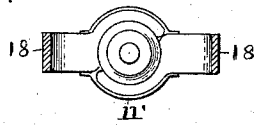
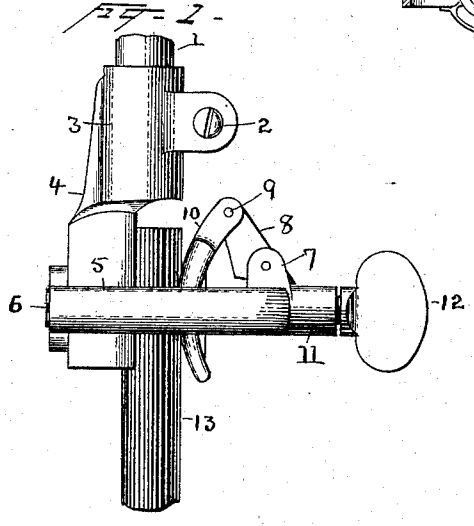


Fig. 4.



Witnesses
Morris A Clark
M. F. Oberly

Inventor
A. Weber,
By his Attorneys
Dyer & Seely

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AUGUST WEBER, OF SCHENECTADY, ASSIGNOR TO THE EDISON GENERAL ELECTRIC COMPANY, OF NEW YORK, N. Y.

CLAMP FOR ARC-LAMP CARBONS.

SPECIFICATION forming part of Letters Patent No. 482,535, dated September 13, 1892.

Application filed November 4, 1891. Serial No. 410,884. (No model.)

To all whom it may concern:

Be it known that I, AUGUST WEBER, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented a certain new and useful Improvement in Clamps for Arc-Lamp Carbons, of which the following is a specification.

The present invention relates to devices for holding carbons in arc lamps.

My object is to provide a device of this character in which the clamping member shall be connected to the body of the clamp, so that it will always be in place, and shall be so suspended that it will automatically move back when the clamp-screw is withdrawn, whereby the opening into which the carbon is to be inserted will be retained open when no carbon is in place, thus allowing an operator to insert a carbon without the necessity of manually moving the clamping member out of the way.

Another object is to provide for keeping carbon dust or ashes, melted copper, &c., from the threads of the clamping-screw.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view of a clamp adapted to hold the upper carbon of an arc lamp. Fig. 2 is a central section of a clamp adapted to hold the lower carbon. Fig. 3 is a plan view of the clamp shown in Fig. 2. Fig. 4 shows a slight modification, and Fig. 5 is a section on line $x\,x$ of Fig. 4.

Referring first to Fig. 1, 1 represents the carbon-carrying rod of an arc lamp, to the lower end of which the clamp forming the subject-matter of my invention is attached by means of the clamping-screw 2.

3 is a sleeve having an arm 4, which is secured to the ring-shaped body or extension 5 of the clamp, preferably by a screw 6.

At one side of the ring 5 are lugs 7, to which is pivoted a link 8, at the upper end of which in a vertical line outside the circumference of a carbon of normal size used in the clamp is the pivot 9 for the movable clamping member 10. This member 10 is of such shape and is so pivoted that it has a constant tendency to move away from the arm 4, the inner face of which forms one of the clamping-faces of the device. This tendency is given to the clamping-plate 10 by having it pivoted at the top and having the pivot outside of the center of gravity of the plate. The link 8 is so formed that it can only move a short distance in either direction.

From the body 5 projects a sleeve 11, having a hole through it for the reception of the clamp-operating screw 12. The inner end of the screw presses against the rear face of the clamp member 10, so that when the screw is turned to move it inward it presses the pivoted piece against the carbon 13. When the screw is turned in the reverse direction to withdraw it, the member 10 follows the screw under the influence of gravity, although there is no positive connection between them. The screw-hole is provided with a screw-thread, preferably for only a portion of its length. This is indicated most clearly in Fig. 2, which shows a screw of the same character as that of Fig. 1, and the screw is provided with a thread only for a portion of the length, which rests within the screw-hole. The portion from the shoulder 14 to the end 15 of the sleeve, which distance is a little greater than the full distance which the screw will have to be moved in the ordinary operation of the device, is smooth. The opposite end of the screw which projects from the screw-hole to the pivoted plate 10 is also smooth.

Instead of securing link 8 as in Fig. 1, it may be secured to the upper lugs by screw 2, as indicated in Fig. 4. The screw is preferably not made to draw the lugs against the link with sufficient force to prevent the link from swinging freely. In Fig. 4 the support for screw 12 is in the form of a sleeve 11′, secured to the arms 18. The uniting ends of these arms have the form shown in Fig. 5 and are secured together by the sleeve, the flange being spun over the arms, as indicated in Fig. 5. In the clamp intended for the lower carbon the sleeve 3 and arm 4 are omitted and one side of the ring-shaped body is enlarged, as indicated at 16, to form one face of the clamp.

17 is a lug by means of which the clamp can be secured to the lamp-frame.

The link and the pivots for supporting the movable member of the clutch are numbered the same in Figs. 2 and 3 as in Fig. 1.

The special advantage of supporting the movable member of the clamp so that it has a tendency to move away from the other face of the clamp has already been indicated. This makes the work of an operator in trimming the lamps easier than with old forms of clutches in which the movable member of the clamp frequently drops or gets thrown forward when the old carbon is removed, and the operator must by using his finger or some sort of a tool press the member back before he can insert the new carbon, and this is frequently inconvenient, as it requires the use of both hands. The screw is formed in the manner described for the purpose of protecting the screw-thread from dust or ashes, melted copper, &c., which falls from the arc or which gathers from other sources. When the screws used have long screw-threads, so that a part of the thread is exposed when the device is in use, substances such as those referred to collect on the thread and gradually work into the sleeve, clogging the screw. When melted copper falls on a screw the thread of which is uncovered, it sometimes locks the screw so that it is impossible to turn the screw by hand; but with the smooth shank extending into the sleeve this difficulty is entirely avoided, since the sleeve protects the screw on its screw-threaded portion, and a small quantity of copper or other material on the smooth part will not prevent the screw from turning.

What I claim is—

1. The combination, in a carbon-holder, of the main body, the extension therefrom, a link the lower end of which is pivoted to the extension, a clamping-jaw pivoted to the upper end of said link, and means for pressing the jaw against a carbon in the clamp, substantially as described.

2. The combination, in a carbon-holder, of the main body, the extension therefrom, a link the lower end of which is pivoted to the extension and having a stop to limit its forward movement when there is no carbon in the clamp, a clamping-jaw pivoted to the upper end of said link, but in a line outside of the circumference of a carbon of normal size used in the clamp, and means for pressing the jaw against the carbon in the clamp, substantially as described.

3. The combination of the clamp-body, the movable clamp member, a sleeve on the body, having a screw-hole, and a screw in the same for moving the movable member, said screw having a short screw-threaded section and a smooth section, both within the hole in the sleeve, the screw-threaded part of the screw being always within the sleeve during use of the device, whereby its thread is protected, substantially as described.

4. The combination, in a clamp for arc-light carbons, of the clamp-body having a projecting sleeve bored for the reception of a screw, a screw in said hole having a screw-threaded portion adapted to co-operate with the screw-threaded hole and a smooth portion adapted to enter the screw-hole, and a clamp member moved by said screw, the smooth portion of the screw being of such length that it always projects into the screw-hole during ordinary use of the device, so that the screw-thread will not be exposed, substantially as described.

5. The combination, in a clamp for arc-light carbons, of the clamp-body having a projecting sleeve bored for the reception of a screw, a portion of the hole being screw-threaded and a portion being larger and smooth, whereby a shoulder 14 is formed, a screw in said hole having a screw-threaded portion adapted to co-operate with the screw-threaded hole and a larger smooth portion adapted to enter the smooth portion of the hole, and a clamping-jaw moved by said screw, substantially as described.

This specification signed and witnessed this 30th day of October, 1891.

AUGUST WEBER.

Witnesses:
JOHN MCGHIE,
FREDK. D'A. GOOLD.