

(No Model.)

V. A. THOMAS.
CARBON CLAMP FOR ARC LIGHTS.

No. 459,845.

Patented Sept. 22, 1891.

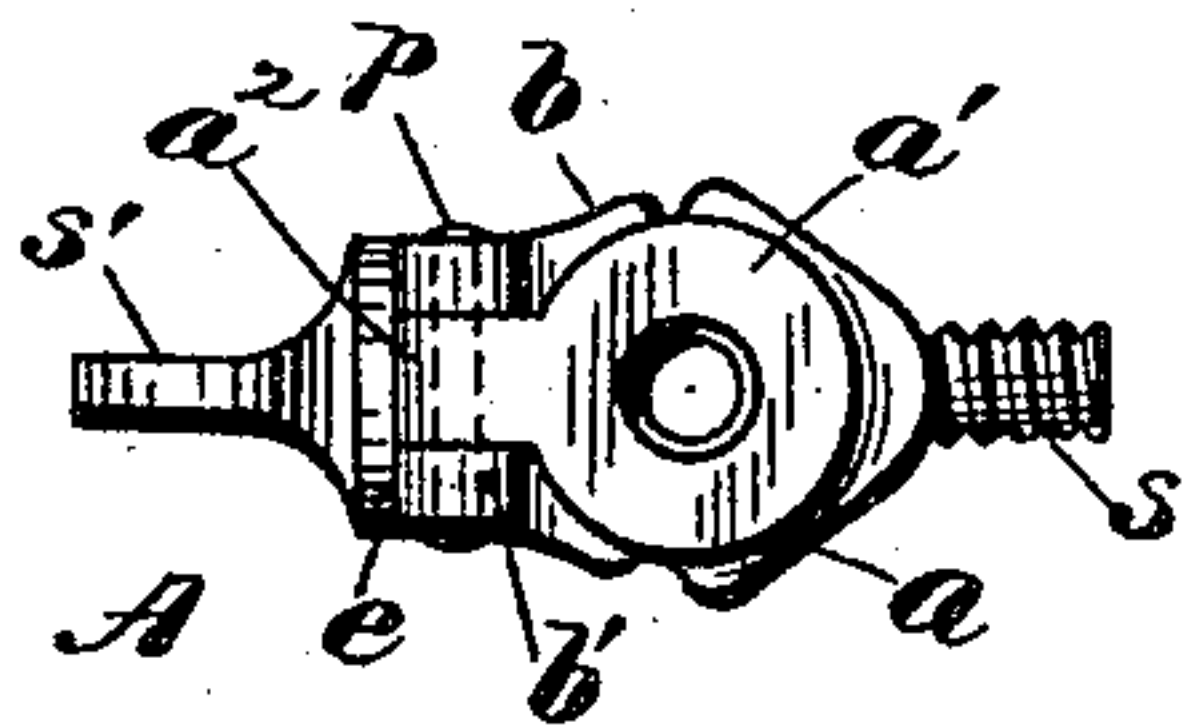


FIG. 2.

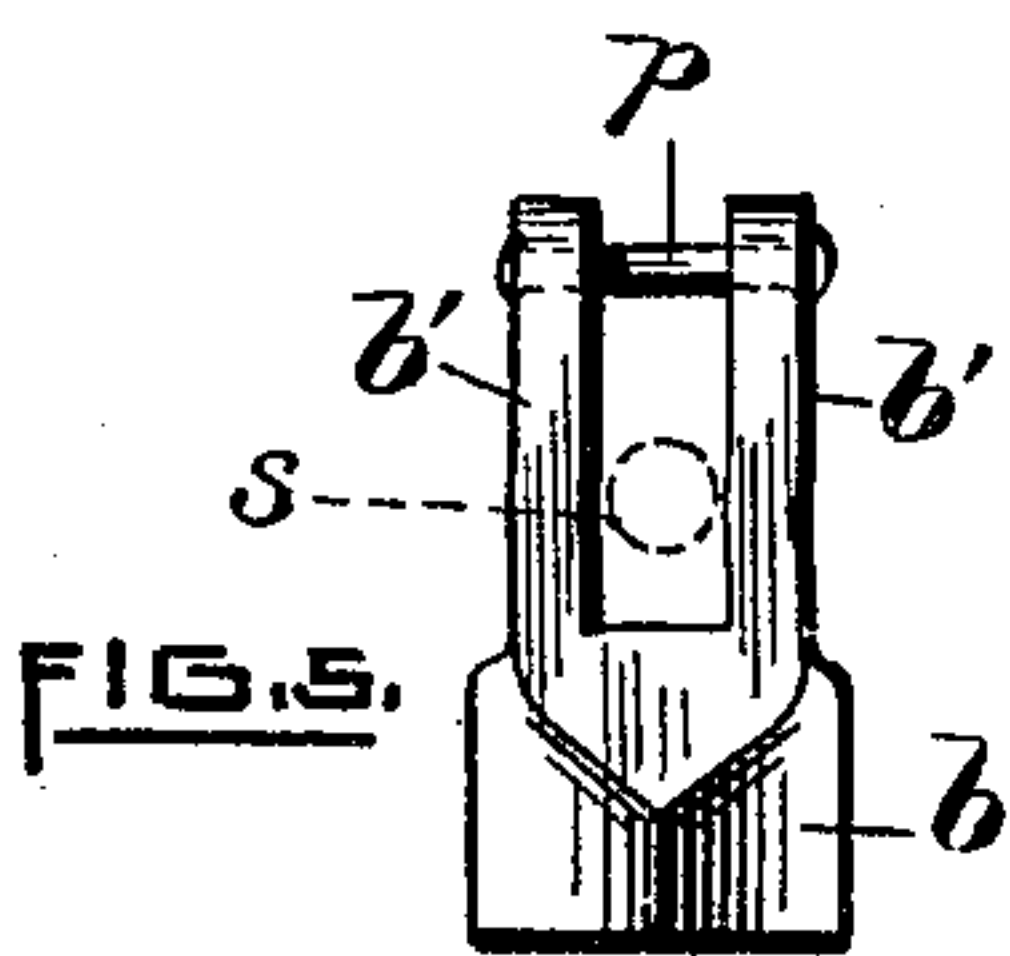


FIG. 5.

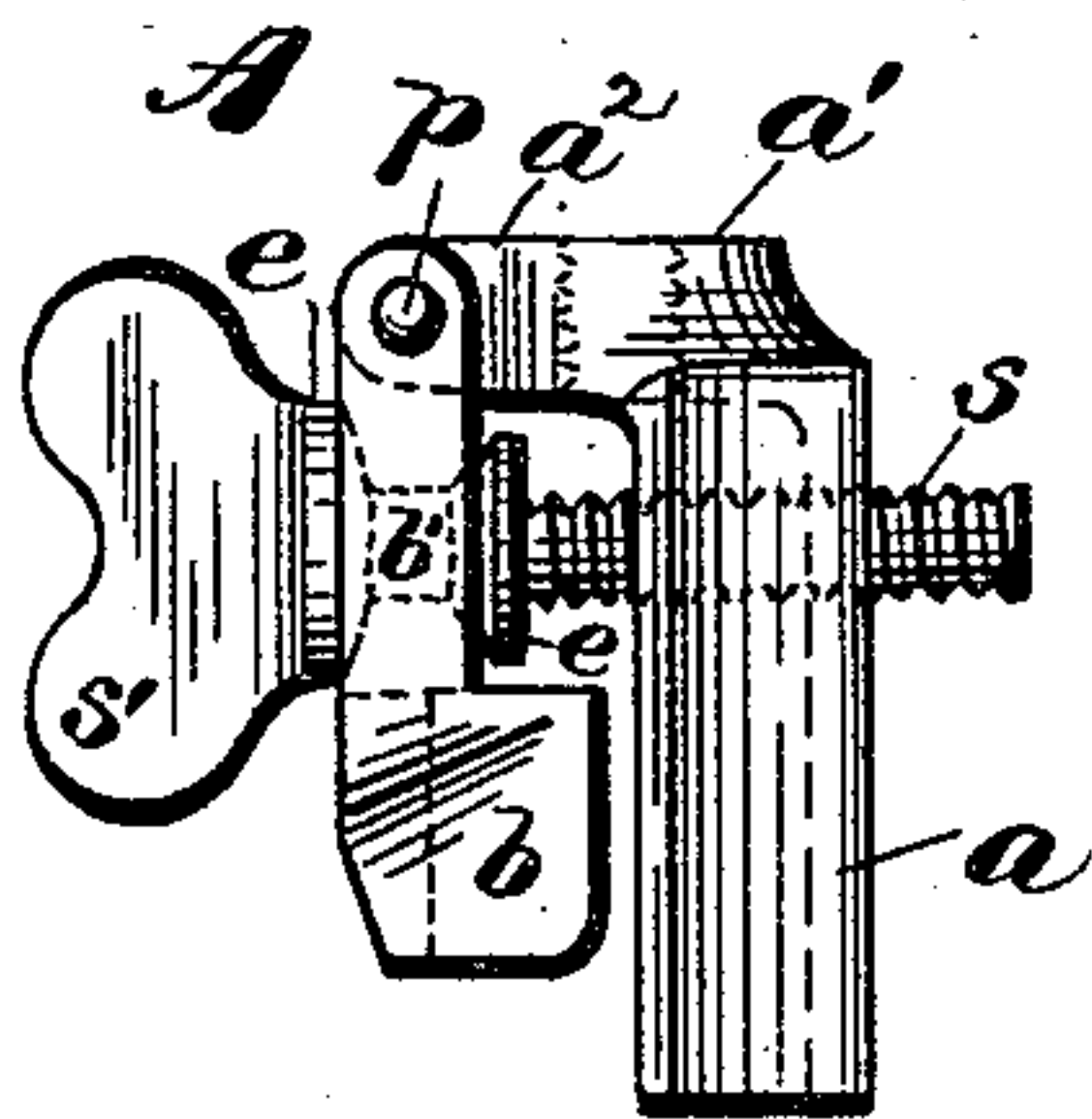


FIG. 1.

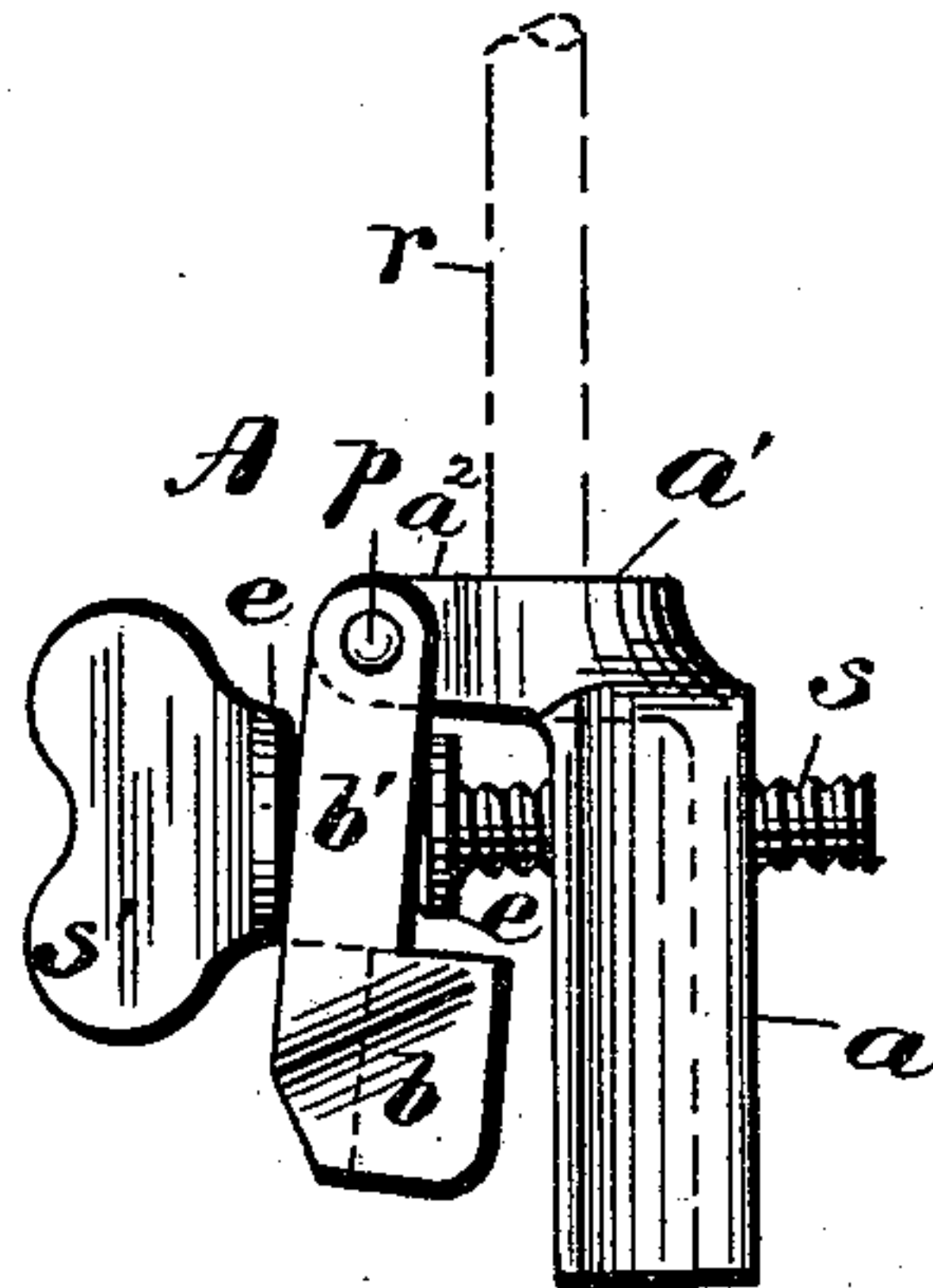


FIG. 6.

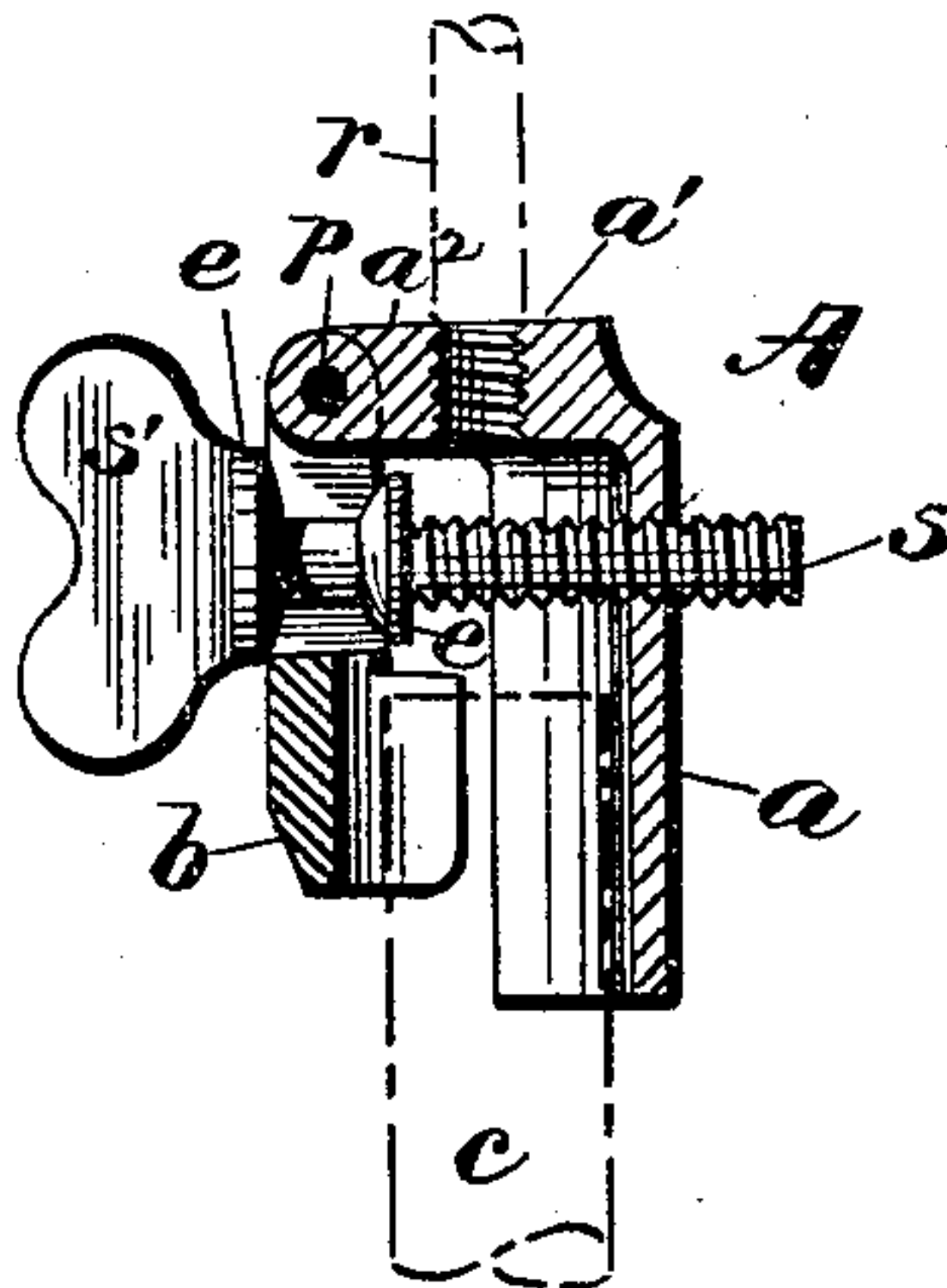


FIG. 4.

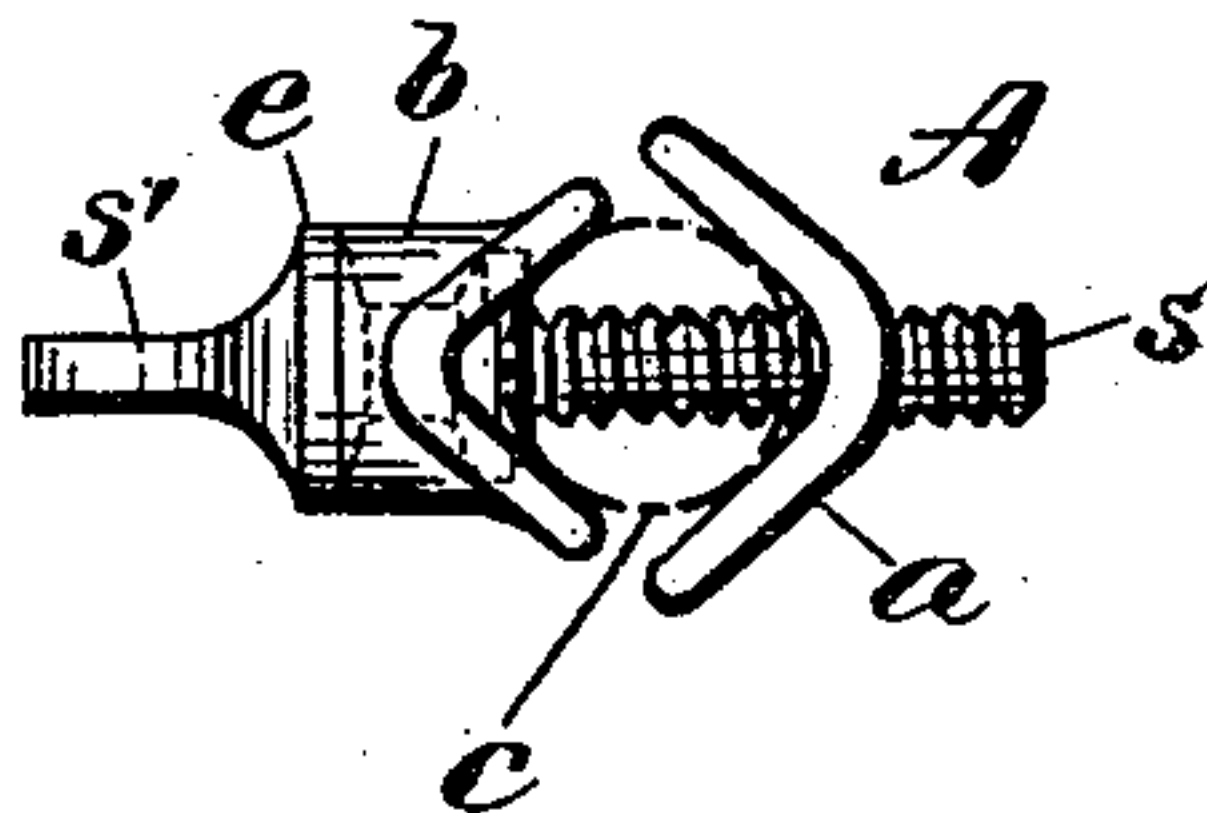


FIG. 3.

WITNESSES.

Charles Hammingan
H. E. Carpenter

INVENTOR.

Van A. Thomas.

by Remington & Henthorn
Attys

UNITED STATES PATENT OFFICE.

VAN A. THOMAS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF
TO ANDREW D. ROSS, OF SAME PLACE.

CARBON-CLAMP FOR ARC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 459,845, dated September 22, 1891.

Application filed December 27, 1890. Serial No. 375,983. (No model.)

To all whom it may concern:

Be it known that I, VAN A. THOMAS, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Carbon-Clamps for Arc Lights; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention has relation to detachable carbon-clamps for arc lights; and it consists in the combination of two jaw members having their lower portions arranged to receive and clasp an end of the upper carbon. One of the said jaws is normally stationary and adapted to be secured to the carrier-rod of the feeding device, the other jaw being provided with two upwardly-extending ears and jointed to the other jaw, and a collared thumb-screw tapped into the stationary jaw, the collared portion at the same time being in engagement with the ears of the movable jaw, all as will be more fully hereinafter set forth.

Heretofore carbon-clamps of the class referred to have usually been so constructed that the movable jaw was practically loose and independent of the other jaw and screw. There are disadvantages or objections to the use of such former clamps. In opening the clamp by means of the screw the movable jaw frequently fails to follow the screw, thereby causing the "trimmer" considerable trouble and loss of time before he can replace a new carbon in the clamp or holder. Sometimes the carbon becomes burned onto the clamp, the loose jaw preventing the trimmer from readily detaching it. Sometimes the trimmer will unconsciously unscrew the clamping-screw from the stationary jaw into which it is tapped, thereby permitting the loose jaw to fall to the ground.

By means of my improvement all the foregoing disadvantages are overcome, because, first, the movable jaw is jointed to the other jaw. Consequently it cannot drop out even though the screw be removed, and, second, the

screw itself is provided with collars so arranged that the jointed jaw is forced to always move laterally in unison with the screw. The cost of the carbon-clamp is practically no greater than clamps unprovided with my improvements.

In the appended sheet of drawings, Figure 1 is a side elevation of my improved carbon-clamp. Fig. 2 is a plan view. Fig. 3 is an inverted end view. Fig. 4 is a longitudinal central sectional view of the device. Fig. 5 is a side elevation of the movable jaw detached, and Fig. 6 is a side view showing the jaws fully separated.

The clamp or holder as a whole is designated by A. The stationary jaw *a* is provided with a top portion *a'*, from which extends a lateral projection or ear *a²*, the latter being drilled to receive a joint-pin *p*. *b* indicates the other or movable jaw, having two parallel elongated sides or ears *b'*, arranged to receive the ear *a²*. The jaw *b* is jointed to the stationary jaw by means of a pin *p* passing through the said parts *b'* and *a²*, as clearly represented.

s designates a screw tapped into the upper portion of the jaw member *a*. The opposite end or head is provided with a "thumb-piece" *s'* to facilitate the turning of the screw. The head portion of the screw is also provided with two collars *e e*, arranged to receive and engage opposite sides of the ears *b'*, the stem of the screw at the same time passing freely between the ears, as represented by the drawings. The inner vertical sides of the lower portion of the jaws are preferably made angular (see Fig. 3) in order to clamp the carbon *c* (see dotted lines) more readily and firmly. The end *a'* of the jaw *a* is tapped to receive the end of a carrier-rod *r*. (See dotted lines, Figs. 4 and 6.) When in use, the centers or axes of the rod *r* and carbon *c* should be in line. As the carrier-rod and its other attached mechanism form no part of my present invention, therefore I deem it unnecessary to further illustrate and describe them.

Now from the foregoing it will be seen, as before stated, that an arc lamp provided with my improved carbon-clamp possesses advantages over lamps using the ordinary form of

carbon-clamp. The movable jaw cannot, when in use, become detached and fall. The screw itself cannot be entirely unscrewed unless the joint-pin *p* be first withdrawn and the jaw *b* positively follows the movement of the screw, thereby readily permitting the trimmer to remove the burned carbon and replace it by a new one.

In lieu of the pin *p*, the movable jaw may be made to interlock loosely with the other jaw, although I prefer the arrangement as shown and described. A spiral spring might be substituted for the inner collar *e* of the screw, the action of the spring being to force the jaw *b* outwardly upon unscrewing the threaded stem *s*. An objection to the use of a spring is that sometimes the carbons are nearly consumed before being renewed. In such case the clamp, &c., become very hot, thereby destroying the efficiency of the spring.

I claim as my invention—

1. The carbon-clamp hereinbefore described, consisting of a normally-stationary jaw member adapted to be secured to a car-

rier-rod, a movable slotted jaw member jointed to the other jaw, the two jaws being arranged to receive and hold a carbon, and a collared clamping-screw tapped into the stationary jaw and having the slotted portion of the movable jaw in engagement with the collared part of the screw.

2. In a carbon-holding clamp, the combination of a normally-stationary jaw *a*, a movable jaw *b*, jointed thereto, provided with two laterally-separated ears *b'*, a double-collared clamping-screw *s*, tapped into the stationary jaw and passing loosely between said ears and having the faces of the collars adjacent to the vertical edges of the ears beveled or rounded off, substantially as shown and hereinbefore described.

In testimony whereof I have affixed my signature in presence of two witnesses.

VAN A. THOMAS.

Witnesses:

CHARLES HANNIGAN,
GEO. H. REMINGTON.