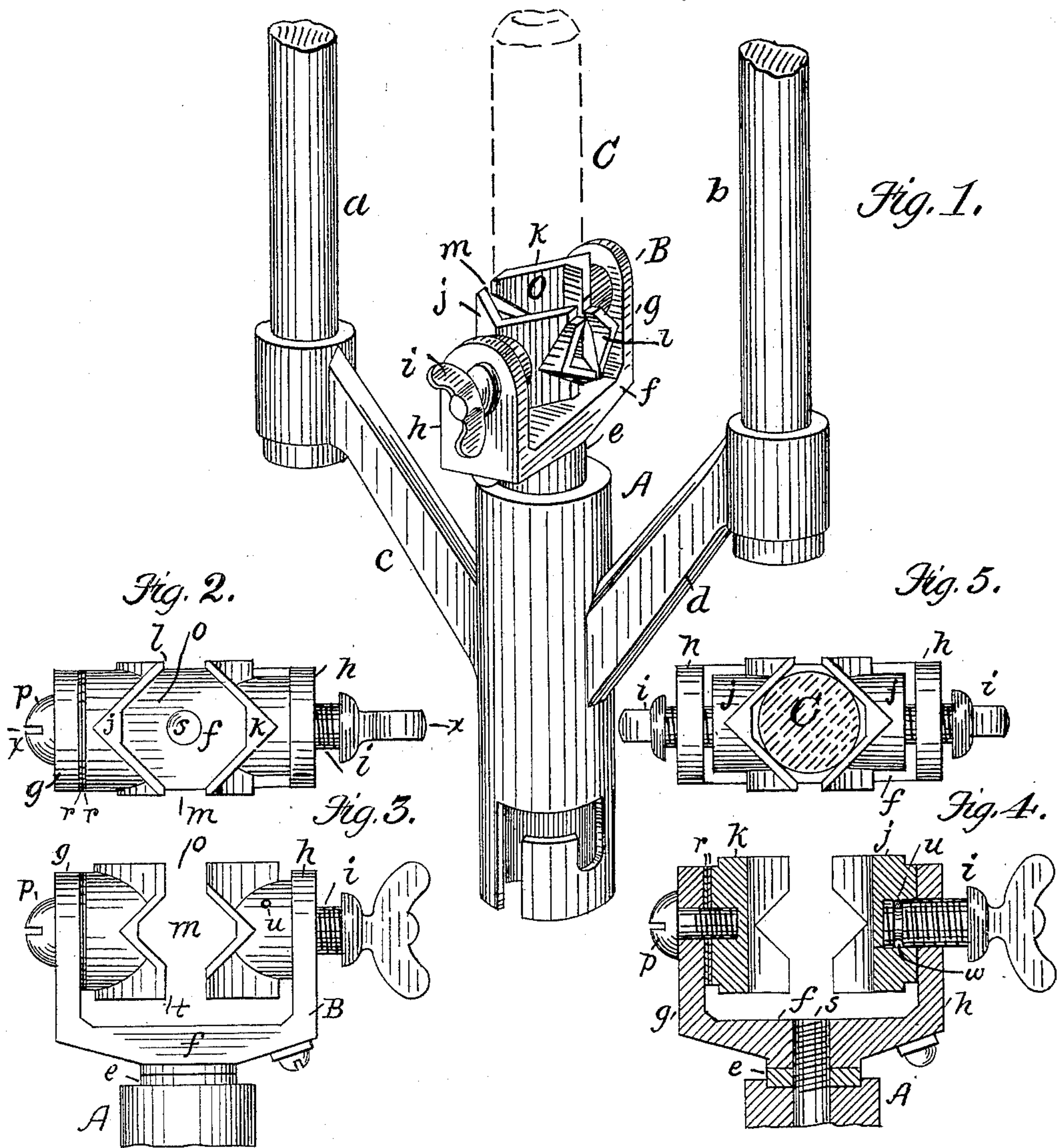


(No Model.)

H. E. CHAPMAN.
PENCIL CARBON HOLDER FOR ELECTRIC LAMPS.

No. 462,663.

Patented Nov. 3, 1891.



Witnesses.

M. A. Pierce.

U. M. Berthold.

Inventor:
Henry E. Chapman
By his attorney
Gerrill's Pierce

UNITED STATES PATENT OFFICE.

HENRY E. CHAPMAN, OF MELROSE HIGHLANDS, ASSIGNOR TO THE RUSSELL ELECTRIC COMPANY, OF BOSTON, MASSACHUSETTS.

PENCIL-CARBON HOLDER FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 462,663, dated November 3, 1891.

Application filed May 7, 1891. Serial No. 391,885. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. CHAPMAN, residing at Melrose Highlands, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Pencil-Carbon Holders for Electric Lamps, of which the following is a specification.

This invention relates to pencil-carbon holders such as are used to support and hold the carbons in electric-arc lamps, and has for its especial object to provide a carbon-holder by which the carbon may be readily introduced and centered relatively to the opposite carbon and secured, and from which it may be quickly removed, and also by which carbons of differing diameters can be used in the same lamp, means being provided for this purpose, thus securing in one device a manifold automatically-self-centering carbon-holder.

In carrying out my invention I provide a standard or support, which is secured to the shank part of the lower frame or to the feeding-rod of an electric lamp, swiveled to which standard are two clamps which grip the pencil carbon. These clamps are secured to supports by adjusting screws or studs and rotate thereon, by means of which studs they are caused to approach each other and hold the carbon between them. These clamps are hollowed or beveled out on their faces in two directions in the same plane, at an angle to each other, to embrace the circumference of the carbon, the hollows in one direction being larger than those in the other direction, in order that differing sizes of pencils may be used, if desired.

In the drawings, Figure 1 is a perspective view of the lower part of an electric lamp, showing my improved carbon-holder in position, a pencil carbon being shown in dotted lines between the clamps. Figs. 2 and 3 are respectively a top and side view of the carbon-holders detached. Fig. 4 is a section on line *x x* of Fig. 2. Fig. 5 is a modification.

A is a shank, provided with arms *e d*, connecting with the rods *a* and *b*, and forms the lower frame of an electric lamp.

B is a standard or support, secured to the shank A by the screw *s*, which is entered from

the inside of the shank A. The standard B has two lugs *g* and *h* extending upward.

k and *j* are clamps secured between and swiveled to the lugs *g* and *h*, respectively. The clamp *k* is secured to the lug *g* by the screw *p*, which is screwed hard down. Washers *r r* are interposed between the lug and the clamp and act as friction-springs. They allow the screw and clamp to be rotated in the lug and serve to hold the clamp in position. The clamp *j* is secured to the thumb-screw *i* by means of the pin *w*, which works in a score *u* in the circumference thereof. The lug *h* serves as a nut for the thumb-screw.

Referring to Figs. 1, 2, and 3, as the clamps *k* and *j* face each other, it will be seen that their faces are hollowed or beveled out in two directions at right angles to each other. *o t* represents the space between the clamp-faces in the perpendicular, and *l m* the space between them in the horizontal direction, the former being the larger across, and will accommodate a carbon, say, of seven-eighths of an inch in diameter, while the smaller diameter *l m* will take in a carbon of one-half inch diameter.

As shown in the drawings, the perpendicular space is arranged for the larger diameter. In order to use a small carbon, the clamps *g* and *h* are rotated one-quarter of a circle around, which brings the space *m l* into perpendicular. In some types of electric lamps it may be desirable to use pencil carbons of an oval shape. For such the clamping device herein shown is especially applicable.

By means of the beveled faces of the clamps the pencil carbon is, when clamped between them by turning the thumb-screw *i*, perfectly centered in a line at right angles to the axis of the rods *a b*. This is of great importance in the type of electric lamps employing in connection with a negative pencil carbon a positive disk carbon, such as described in patent No. 432,284, issued to E. C. Russell.

To provide means for centering the pencil carbon in directions at right angles to each other, and thus secure a perfectly centrally-adjusted carbon, I have devised the modification shown in Fig. 5, in which both clamps

are secured to thumb-screws *i i*, in the manner illustrated in the previous figures for the clamp *j*.

It will be perfectly apparent that after the
5 beveled clamps or jaws have centered the carbon in one direction by adjusting the thumb-screws *i i*, it will be as well centered in the direction at right angles thereto. I have shown the carbon-holder applied to the
10 lower or negative carbon; but I also use it in connection with the upper or positive carbon by attaching it to the feeding and adjusting rod in a manner similar to which I have shown it connected to the shank A.

15 I claim—

A pencil-carbon holder for electric-arc lamps, consisting of a standard secured to the

lamp-frame and provided with a pair of lugs, screws mounted in the said lugs, clamps carried by the inner ends of the said screws and 20 each having its inner face provided with beveled recesses at right angles to each other, one of the screws having an annular groove near its inner end, and a pin in the clamp carried by the said screw engaging said groove, 25 as specified.

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

HENRY E. CHAPMAN.

Witnesses:

GEO. WILLIS PIERCE,
A. W. ROUNDS.