(No Model.)

# H. H. CUTLER.

## SUPPORT FOR AERIAL ELECTRIC CONDUCTORS.

No. 395,814. Patented Jan. 8, 1889.

Fig. 1,

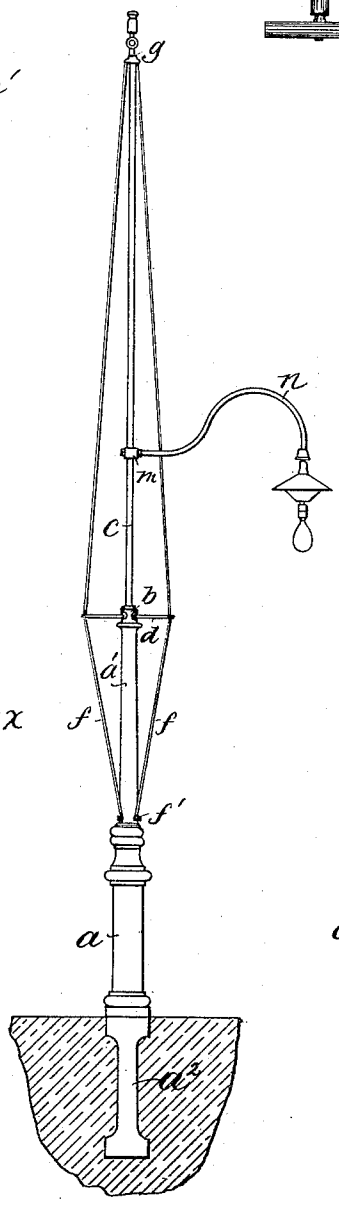



Fig. 4,

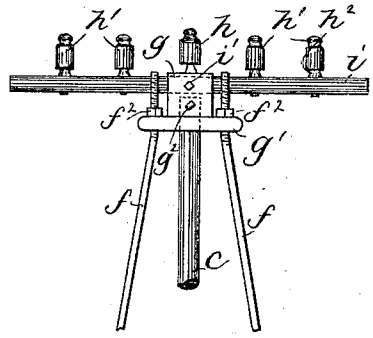



Fig. 5,

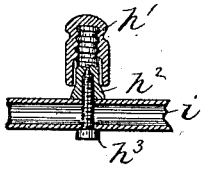



Fig. 6,

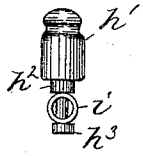



Fig. 7,

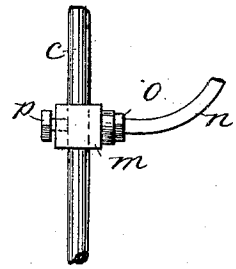



Fig. 2,

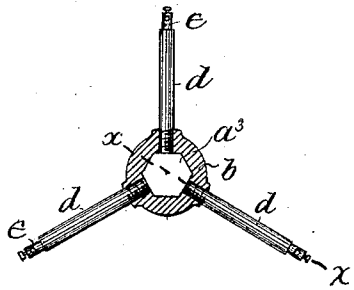



Fig. 3,

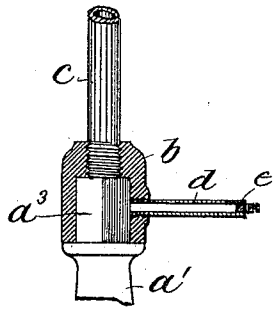



Fig. 8,

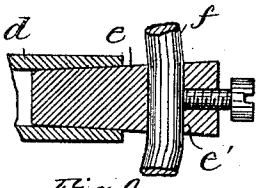
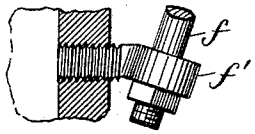



Fig. 9.

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Att'y.

# UNITED STATES PATENT OFFICE.

HENRY H. CUTLER, OF NEWTON, MASSACHUSETTS.

## SUPPORT FOR AERIAL ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 395,814, dated January 8, 1889.

Application filed July 16, 1888. Serial No. 280,040. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. CUTLER, of Newton, county of Middlesex, and State of Massachusetts, have invented an Improvement in Supports for Aerial Electric Conductors, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a support for aerial wires, and is especially useful for supporting the conductors employed where electric lighting is substituted for gas for illuminating streets.

One object of the invention is to utilize the existing lamp posts or supports for the lantern inclosing the gas-burners of the gas street-lamps as a portion of the support for the wires forming a part of the electric-lighting plant that replaces the gas-lamps; and the present invention is embodied in a support composed of a cast-iron post or upright having its lower end embedded in the ground and a tubular upright extension connected therewith and stiffened at the joint and supported against lateral pressure by tie-rods or braces, the whole constituting a trussed upright of sufficient height to support the electric conducting-wires at the requisite distance above the surface of the ground.

The invention consists, mainly, in details of construction of the devices for connecting the lower and upper portions of the post and for applying tie-rods or braces thereto, as will be hereinafter specified, and in the combination of such a trussed post with a lamp-supporting bracket adjustably connected therewith. The upright or support thus utilizes the cast-iron parts, which otherwise have no utility when the gas-illumination has been dispensed with, and such uprights are as strong and more durable and of better appearance than the wooden masts or poles commonly employed for supporting aerial electric conductors.

While the primary object of the invention is to utilize existing lamp-posts when an electric-light plant is substituted for gas-illumination, it is obvious that supports of the same construction may be made for supporting telegraph or electric-light wires or other aerial electric conductors. The support, post, or upright is shown in this instance as also provided with a bracket or arm for supporting an electric lamp at the proper height for street-illumination.

Figure 1 is a side elevation of a post or upright for supporting electric conductors embodying this invention; Fig. 2, a horizontal section, on a larger scale, showing the construction of the joint between the cast-iron support and the wrought-iron extension or continuation of the same; Fig. 3, a vertical sectional detail on line $x\,x$, Fig. 2; Fig. 4, an enlarged detail showing the construction of the upper end of the pole or support and cross-arms thereon; Figs. 5 and 6, sectional details of said cross-arms and the means for attaching the insulators thereto; Fig. 7, a detail showing the construction of the lamp-supporting bracket with the main upright, and Figs. 8 and 9 details to be referred to.

The lower or base portion, $a\,a'$, of the support or upright is of cast-iron, being shown as of the form commonly employed for supporting street-lamp lanterns, and having a portion, $a^2$, embedded in the ground and making a secure foundation for the part above-ground. Such lamp-posts are commonly made with a neck, $a^3$, (see Figs. 2 and 3,) which receives the base of the lantern proper; and in making the said lamp-posts constitute a portion of a wire-support in accordance with the present invention a block or socket-piece, $b$, is provided, having a socket that fits over the projection or neck $a^3$, and also having threaded openings to receive pieces of piping, like an ordinary pipe-fitting. One of said openings in the block $b$ is directly over the top of the base portion, $a\,a'$, of the post, and receives the lower end of a tube or piece of piping, $c$, usually of wrought-iron, that extends upward from the base $a\,a'$ to any required height—usually one to one-half or more times the height of the base portion, $a\,a'$. In order to support the said upper portion, $c$, against lateral pressure, the block $b$ is provided with three or more laterally-threaded sockets, receiving laterally-projecting tubular arms $d$, (see Figs. 2 and 3,) which screw in against the neck $a^3$, and thus tightly fasten the block $b$ thereto. The said arms $d$ receive at their

outer ends a number of plugs, *e*, (see Fig. 8,) having transverse openings *e'*, through which are passed tie-rods *f*, which are fastened at their lower ends upon the base *a a'* of the post, as shown at *f'*, Fig. 1, and in Fig. 9, and are fastened at their upper ends in a cap-piece, *g*, placed on the upper end of the extension *c*, as shown, said cap-piece *g* having a flange, *g'*, provided with openings, through which the tie-rods are passed and then fastened by nuts $f^2$ bearing on said flange.

The low ends of the tie-rods are passed through eyes in bolts *f'*, screwed into the base portion or lamp-post, (see Fig. 9,) and are then fastened by nuts, by which the proper tension may be attained.

The cap-piece *g* fits upon the end of the extension *c*, and is fastened there by a set-screw, $g^2$. By this construction the upward extension *c* of the post or support is securely braced against lateral pressure, making a strong and very rigid support from the ground to the top of said extension.

When support is required for a single wire only, an insulator may be fastened directly upon the cap-piece *g*, as shown at *h*, Fig. 4; but when several wires are to be supported on the post the cap-piece may be provided with a cross-arm, *i*, consisting of a piece of pipe passed through a transverse socket in the cap-piece *g* and fastened therein by a set-screw, *i'*, the said cross-arm supporting any desired number of insulators, *h'*, which are fastened thereon, as best shown in Figs. 5 and 6.

The cross-arm is bored vertically at the points where insulators are to be attached, and a sufficient portion of the usual wooden insulator-pins, $h^2$, are fastened upon the said cross-arm by bolts or screws $h^3$, passed through the opening in the cross-arm and screwed into the insulator-pins.

When desired to use the post also as a support for an electric lamp, a short tube or sleeve, *m*, (see Fig. 7,) is fitted upon the tubular extension *c*, which is of uniform diameter, said sleeve *m* having fastened into it at one side a tubular arm or bracket, *n*, which may be bent to the desired shape and extends at any desired distance to one side of the post, the said arm *n* screwing into the sleeve *m* and being made fast by a check-nut, *o*. The bracket may then be moved up or down or turned laterally about the post until the lamp at the end thereof is brought to the desired position, when the bracket is made fast by a bolt or set-screw, *p*, screwed into the sleeve *m* until it clamps the same by engagement with the upright *c*.

I claim—

1. A post or support for aerial electric conductors, comprising a base portion having its lower end embedded in the ground and terminating at its upper end in a prismatic neck, combined with a socket-piece having a recess that fits upon said neck, a tubular extension having its lower end secured in said socket-piece, and lateral arms fastened in said socket and bearing against the said prismatic neck of the base portion, and tie-rods bearing against the ends of said lateral arms and secured to the base portion below said arms and to the tubular extension above said arms, substantially as described.

2. The combination of the cast-iron lower portion and wrought-iron tubular extension thereof, with lateral brace-arms at or near the juncture of said portions, plugs inserted in the ends of said brace-arms provided with transverse openings and set-screws, and tie-rods passing through said openings and fastened to the cast-iron portion below the wrought-iron portion above said arms, substantially as and for the purpose described.

3. The combination of a post or support composed of a cast-iron lower portion and tubular extension, with braces and tie-rods, with a lamp-supporting bracket connected with said tubular extension and vertically and laterally adjustable thereon, as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY H. CUTLER.

Witnesses:
JOS. P. LIVERMORE,
M. E. HILL.