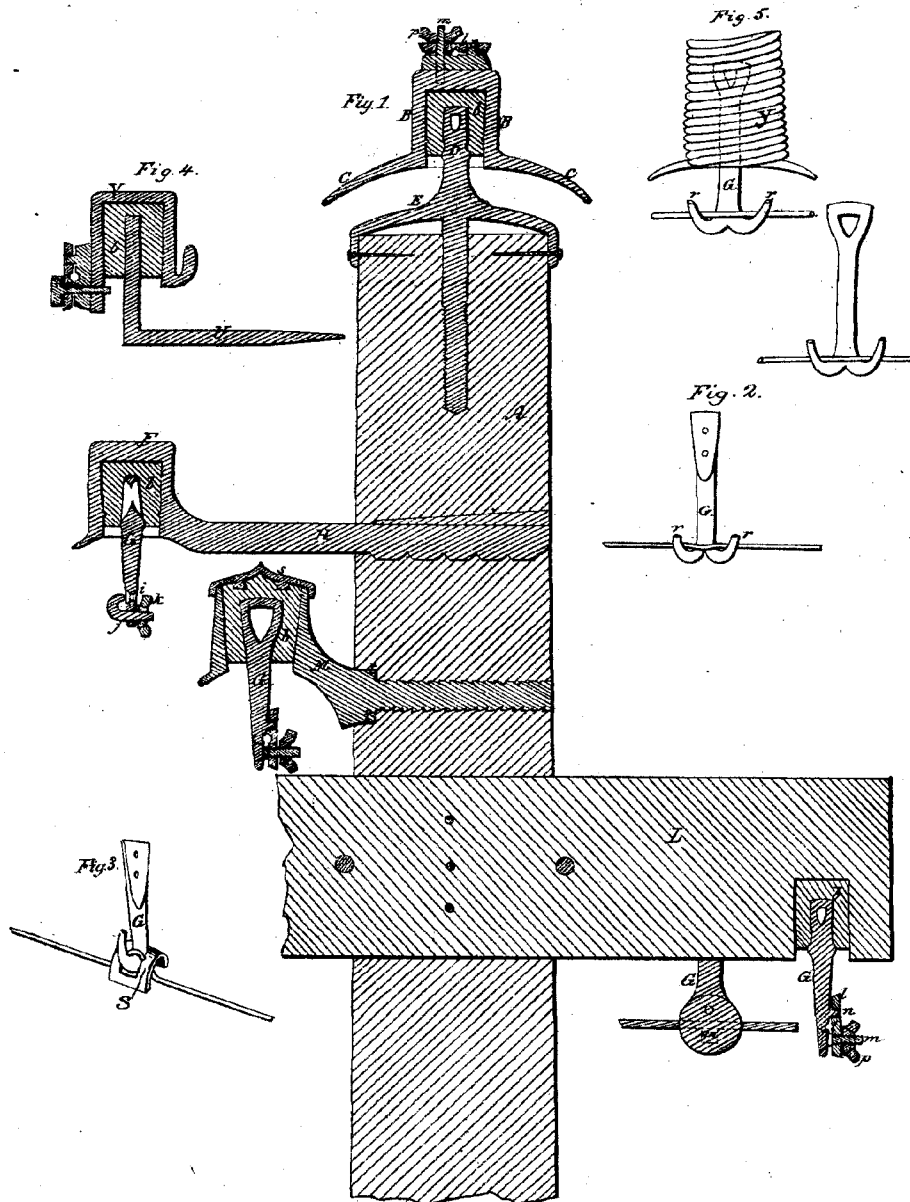


L. R. LIVINGSTON, J. J. ROGGEN, C. ADAMS,
A. KENDALL & A. VAIL.
SUPPORTER FOR TELEGRAPH WIRES.

No. 6,779.

Patented Oct. 9, 1849.



UNITED STATES PATENT OFFICE.

L. R. LIVINGSTON, J. J. ROGGEN, AND CALVIN ADAMS, OF PITTSBURG, PA.
AND AMOS KENDALL AND ALFRED VAIL, OF WASHINGTON, D. C.

IMPROVEMENT IN SUPPORTERS FOR TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. 6,779, dated October 9, 1849.

To all whom it may concern:

Be it known that we, L. R. LIVINGSTON, J. J. ROGGEN, and CALVIN ADAMS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, and AMOS KENDALL and ALFRED VAIL, of Washington, in the District of Columbia, have invented a new and Improved Manner of Insulating and Supporting Telegraph-Wires; and we do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

The nature of our invention consists in confining the shank of a telegraph-wire holder or supporter in a protecting socket or cavity by means of some suitable insulating substance placed, while in a fused or softened state, in the socket around the shank of the wire holder or supporter; or, if preferred, the insulating substance can be first placed in the socket or cavity and the shank of the wire holder or supporter inserted therein while it (the insulating substance) is in a soft state. The socket that incloses the insulating substance that surrounds the shank of the wire holder or supporter, serves to protect the insulating substance from external injury and from the injurious effects of moisture, and also from the effects of sudden changes in the temperature of the atmosphere.

In the accompanying drawings, A, Figure 1, represents a section of the upper portion of a post surmounted by a metallic protecting-cap, E, and an insulated wire-supporting cap, B, and having pendent insulated wire-holders G G confined in inverted sockets or cavities in the arms H M L projecting from the sides of the post. The protecting-cap E may be confined to the top of a post by a screw-shank descending from its center into the post, or by a rim descending from its periphery and embracing the top of the post, or by any other suitable means. From the center of the top of the cap E there rises a supporting-shank, D, which is confined within the socket in the cap B by the insulating substance *b*, thereby causing the cap B to be perfectly insulated and supported. A telegraph-wire is confined to the top of B in the manner represented in the drawings; or it may be confined to the top or sides of the cap in any other appropriate man-

ner. An inclined rim, C, projects from the base of the cap B of sufficient width to conduct the water that may fall upon it clear of the sides of the post.

H is a metallic arm let into and confined to the post, having a metallic cap, F, cast upon or otherwise secured to its outer extremity, in the cavity within which cap the shank of the wire-holder G is confined and insulated by the insulating substance *b*.

L is a wooden arm secured to and projecting from the side of the post, having a socket formed in its lower edge, in which the shank of the holder G is insulated and confined by the insulating substance *b*. We shall sometimes cast an inverted conical opening or open cavity in the outer end of the metallic arms for the reception of the insulating substance *b* and the shank of a wire-holder inclosed therein, as represented in the drawings, at the outer end of the metallic arm M. We shall protect the insulating substance in this open cavity by a cap, S, fitting over its top and confined thereto by lugs descending from its underside into the insulating mass, as shown in the drawings.

In Figs. 2 and 3 and in the other drawings we represent four different methods of confining the telegraph-wire to the holder, either of which or any other that may be deemed preferable may be adopted.

The cavities or sockets for the reception of the insulating substance for confining and insulating the shanks of the wire holders or supporters therein must be of such a form as to securely retain the insulating substance therein, and the shanks of the wire-holders must be of such a shape as to prevent their being drawn out of the insulating substance.

For insulating and confining the shanks of the wire holders or supports within their protecting sockets or cavities we shall employ glass or brimstone; or we shall employ a composition of brimstone, rosin, and gum-shellac, in about equal parts as to bulk, or any other insulating substance that may possess a sufficient degree of strength and tenacity.

Fig. 4 in the accompanying drawings represents the manner in which we shall make use of the metallic arms U that have heretofore been employed in the old and imperfect methods of insulating and supporting telegraph-

wires in our improved and more perfect manner of insulating and supporting them. We shall do this by insulating and securing a wire-supporting cap, V, upon the vertical portion of the arm U by means of some suitable insulating substance, b, placed within the cap and around the vertical portion of U, substantially in the manner hereinbefore described. The wire may be secured to the side of the cap V in the manner represented in the drawings, or by any other that may be preferred.

When glass is made use of for confining a shank within a metallic socket or cavity both the shank and the socket must be raised to a high temperature before placing the fused glass within the socket and around the shank.

Fig. 2 in the accompanying drawings represents a manner of confining the telegraph-wire to the pendent holder G by means of two hooks, r r, branching outward and upward from the bottom of the holder, the wire being sprung or bent into such a form that it can be dropped into the hooks and pass at the side of the holder, by which means the wire will be securely retained in its place.

Fig. 3 represents a manner of retaining the telegraph-wire within a single suspending-hook at the lower end of the holder G by means of a link, s, through which a bight of the wire is passed previous to placing it upon the hook.

Fig. 5 in the accompanying drawings represents a metallic tube or cup, y, for the reception of the telegraph-wire holder G, in which it is confined by means of some insulating material, as before described, and which cup or tube is confined in a hole or socket in a wooden supporter by means of a screw formed on its periphery.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The uniting and confining the shank of a pendent wire-holder or the upright portion of a supporter within a protecting socket or cavity by means of some suitable insulating substance placed while in a fused or softened state within the socket or cavity, and occupying the space between its interior surface and the shank of the holder or supporter, substantially in the manner herein set forth, not intending, however, to limit ourselves to the particular forms or positions of the insulated wire holders and supporters referred to above, the essence of our invention as herein claimed being the production of an insulated connection between the wire-supporters and the holders by placing the insulating material while in a fused or softened state within a socket or cavity in the one and around the shank of the other.

2. The manner of confining the telegraph-wire to the holder G by means of a notch or hook thereon and a loop or link, s, combined therewith, substantially as represented in Fig. 3.

L. R. LIVINGSTON.
AMOS KENDALL.
ALFRED VAIL.
J. J. ROGGEN.
CALVIN ADAMS.

Witnesses to the signatures of L. R. Livingston, Amos Kendall, and Alfred Vail:

B. B. FRENCH,
J. READ BAILEY.

Witnesses to the signatures of J. J. Roggen and Calvin Adams:

HENRY JONES,
GEO. A. NUGENT.