

No. 712,394.

Patented Oct. 28, 1902.

F. H. LINCOLN.
POLE STRUCTURE.

(Application filed July 8, 1902.)

(No Model.)

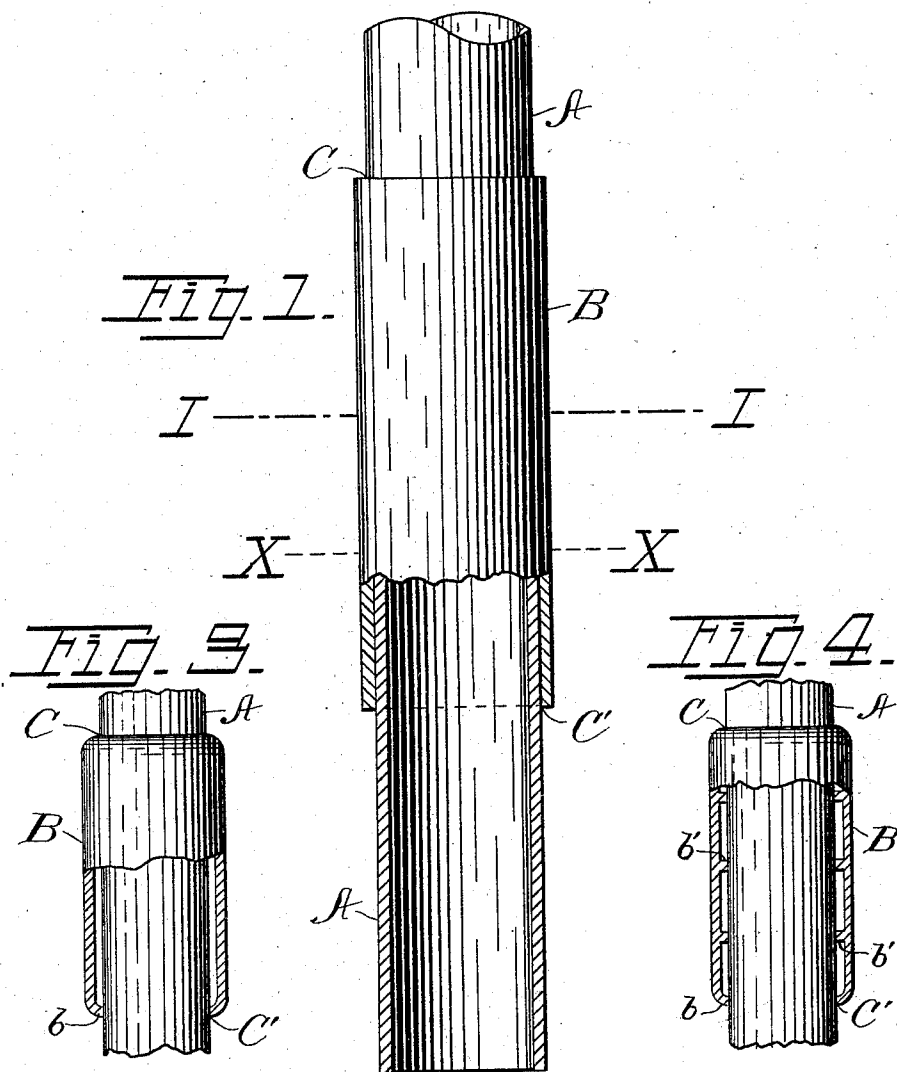
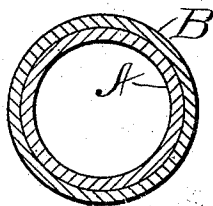


Fig. 2.
Witnesses
Spencer B. Prentiss
Marcus Hopkins



Inventor
Frederick H. Lincoln,
by Low. D. Thayer.
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK H. LINCOLN, OF PHILADELPHIA, PENNSYLVANIA.

POLE STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 712,394, dated October 28, 1902.

Application filed July 8, 1902. Serial No. 114,779. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. LINCOLN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Pole Structure, of which the following is a specification.

My invention relates to improvements in pole structures, and particularly to the construction of metallic poles—such as trolley-suspension poles, electric-light poles, telephone and telegraph poles, and awning, hitching, and lamp posts, which are usually erected near the curb of city streets and along the side of country roads. Such poles, as is well known, are attacked by rust most rapidly at that portion or those portions adjacent the ground-level, and where they are placed in proximity to the line of an electric railway or other circuit carrying heavy currents the same portion is exposed to the most vigorous action of electrolysis. It is this portion of the pole also which is subjected to the greatest lateral strain.

The objects of the invention are, first, to produce a pole in which the stock or supporting portion is effectually protected from moisture and other matter contained in contiguous earth and from electrolysis at the portions where such protection is most needed and desirable; second, to produce a pole in which that portion adjacent the ground-level is strengthened and reinforced.

Other objects will more fully appear as I proceed with the description of the invention.

In attaining these objects I combine with a pole-stock a sleeve so secured thereon as to hermetically inclose those portions of the stock adjacent the proposed ground-level, this sleeve preserving the pole-stock intact, besides strengthening it in the part to be subjected to the greatest strain.

My invention is illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts throughout the various figures, and in which—

Figure 1 is a side view, partly in elevation and partly in section, showing one form of my improved pole. Fig. 2 is a transverse section of the same, taken on the line X X of Fig. 1. Fig. 3 is a view in elevation showing a modification, part of the sleeve being

broken away; and Fig. 4 is a similar view showing a second modification.

Referring to the drawings, and first more particularly to Fig. 1 thereof, A is the lower portion of a pole or post stock, which may be of any preferred form, in this instance shown as a hollow cylinder. The sleeve B, having an internal diameter slightly less than the external diameter of the stock, is shrunk upon the stock to hermetically inclose those portions thereof adjacent the proposed ground-level. (Indicated in Fig. 1 by the dotted line I I.) This is effected by heating the sleeve until sufficiently expanded and then slipping it on the stock to the desired place, which may be smoothed or machined when desirable or necessary to receive it. When cool, the sleeve forms with the stock at C C' a hermetic closure, so that without the addition of packing, &c., the portions of the stock inclosed are effectually protected from moisture and injury both immediately above and below the surface of the ground when the pole is set. Furthermore, the sleeve forms an integral part of the pole and strengthens it both by its added thickness and by pressure upon the stock, which prevents distortion of the latter.

In Fig. 3 I have shown a pole structure in which the sleeve portion has a greater internal diameter than the external diameter of the stock and is provided at its extremities with internal flanges *b* of the proper internal diameter to make the necessary close contact with the stock-surface to form a hermetic closure. Pressure is thus exerted upon the stock only at the points at which moisture would otherwise gain access to the protected portions, and a greater diameter is given to this part of the pole, by which its purchase-surface upon the ground is increased. In Fig. 4 a similar construction is shown, with the addition of a plurality of internal flanges *b'* intermediate the flanges *b*, each of these flanges when the sleeve is in position exerting pressure upon the pole-stock, thereby both strengthening the stock and bracing the sleeve against the pressure of the ground. The number of these intermediate flanges is optional and may be varied to meet different conditions—such as the thickness of the sleeve, height of the pole, &c.

Although I have shown and described a cylindrical pole, I do not wish to limit the scope of the invention to that particular form, as other forms well known or hereafter to be devised may be employed without departing from the principles above set forth. Many other changes also may be made in the details of construction without departing from the spirit of the invention, and these, I wish it to be understood, fall strictly within the scope thereof.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a pole structure, the combination with a stock designed to be set with a portion thereof below and a portion above the ground-level, of a sleeve shrunk upon and hermetically inclosing those portions of said stock adjacent the proposed ground-level, substantially as described.

2. In a pole structure, the combination with a cylindrical stock designed to be set with a portion thereof below and a portion above the ground-level, of a sleeve shrunk upon and hermetically inclosing those portions of said stock adjacent the proposed ground-level, substantially as described.

3. In a pole structure, the combination with a hollow stock designed to be set with a portion thereof below and a portion above the

ground-level, of a sleeve shrunk upon and hermetically inclosing those portions of said stock adjacent the proposed ground-level, substantially as described.

4. In a pole structure, the combination with a stock, of a sleeve having a greater internal diameter than the external diameter of said stock and provided with an internal flange at each extremity, said sleeve being shrunk upon and together with said flanges hermetically inclosing those portions of said stock adjacent the proposed ground-level, substantially as described.

5. In a pole structure, the combination with a stock, of a sleeve having a greater internal diameter than the external diameter of said stock and provided with a plurality of internal flanges, said sleeve being shrunk upon said stock to force said flanges into intimate contact therewith and hermetically inclose those portions of said stock adjacent the proposed ground-level, substantially as described.

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

FREDERICK H. LINCOLN.

Witnesses:

FRANK B. ELLIS,
ARTHUR H. BURNS.