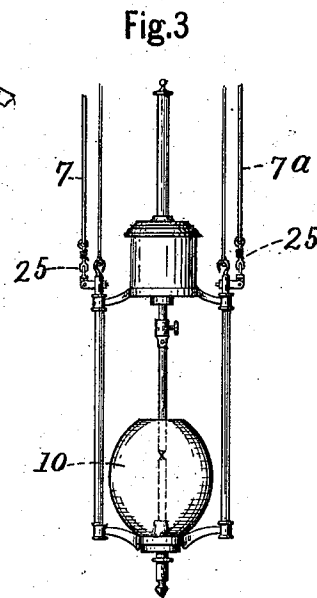
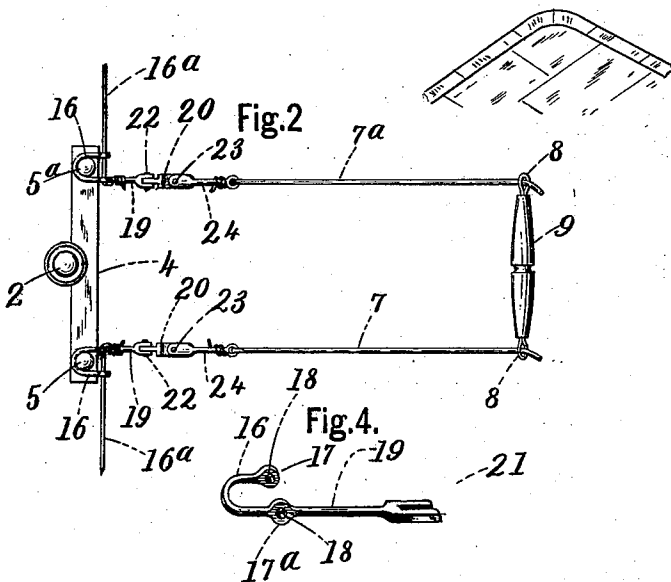
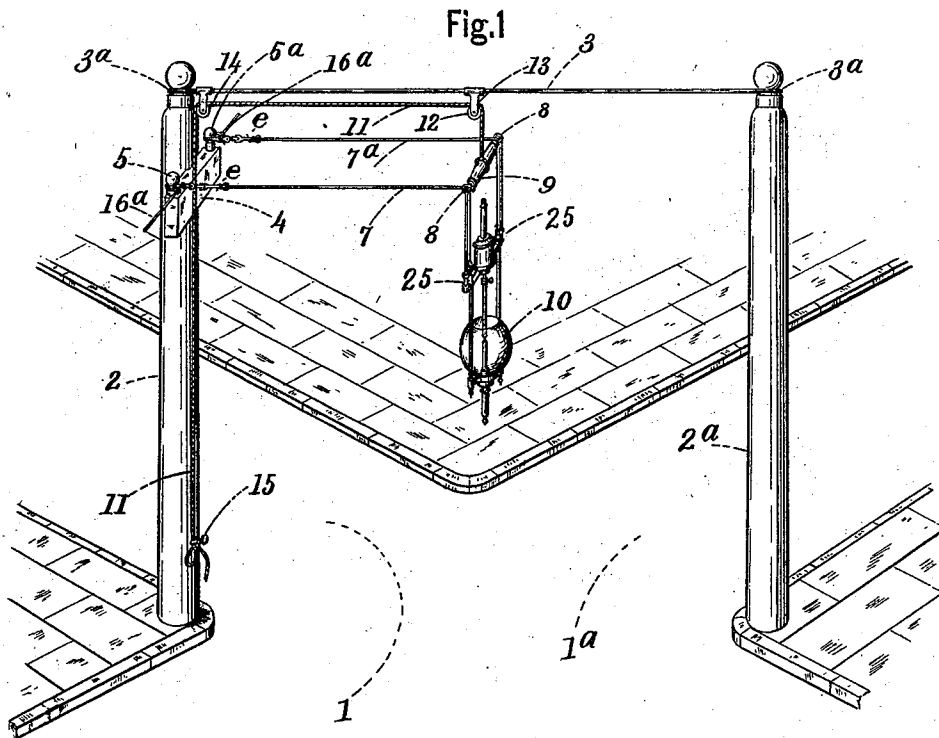


(No Model.)

L. E. THOMPSON.
ARC LAMP SUPPORT AND CONNECTION.

No. 510,303.

Patented Dec. 5, 1893.



Witnesses.
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UNITED STATES PATENT OFFICE.

LUCIUS E. THOMPSON, OF DUNKIRK, NEW YORK.

ARC-LAMP SUPPORT AND CONNECTION.

SPECIFICATION forming part of Letters Patent No. 510,303, dated December 5, 1893.

Application filed May 10, 1893. Serial No. 473,694. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS E. THOMPSON, residing in Dunkirk, in the county of Chautauqua and State of New York, have invented a new and Improved Device for Preventing the Lead-Wires for Electric Lamps from Breaking, of which the following is a specification.

My invention relates to improved connections for arc electric lamp lead wires, such lamps as are adapted to be movable up or down; its object is to provide a simple and efficient means for preventing the breakage of the lead wires and the invention consists in certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view showing the whole apparatus, the usual arrangement of the supporting or telegraph poles so as to bring the suspending wire diagonally across the streets being shown together with the arc electric lamp and the means by which it is suspended and raised and lowered. Fig. 2, is an enlarged plan view of a portion of the apparatus. Fig. 3, is an enlarged front view of an electric arc lamp, illustrating the manner of hanging and supporting it. Fig. 4 is an enlarged detached perspective view of one of the hook shaped connecting pieces.

Referring to the said drawings, 1 and 1^a, represent, for illustration, two streets at a point where they cross each other.

2 and 2^a, represent two vertical supporting or "telegraph poles" set at opposite corners of the two streets and secured in the usual and well known way at the corner of each street just inside of the curb stone. The object in setting the supporting poles in this way is to bring a supporting cross wire 3, which is securely connected to the top of each pole at or about the points, 3^a, diagonally across the two streets substantially as shown in the illustration. To one of the poles; 2 for instance, is secured in the ordinary way, the usual cross-bar, 4, at the top near each end of the cross-bar 4, is secured the ordinary glass insulators 5 and 5^a, and to each insulator is secured by double jointed connecting pieces at or about the points *e*, the electric lead wires 7 and 7^a, which pass substantially horizon-

tally to about a central position over the streets and then through an eye piece, 8, at each end of a cross-bar, 9, and from thence they pass down to and are secured by jointed connections to the arc electric lamp, 10, of which I have shown an ordinary construction. The construction of these jointed connecting portions will be more particularly described in detail hereinafter. The cross-bar, 9, is suspended by a rope, 11, see Fig. 1, which rope (or its equivalent) passes up over a grooved pulley, 12, which is secured to the cross suspending wire, 3, by the hanger, 13. The rope, 11, then passes along back toward the pole, 2, and over a grooved pulley, 14, connected in a similar manner to the suspending cross wire, 3, and then downward alongside of the pole where its end is secured to a pin, 15, in any well known way, at a convenient point for reaching it near the foot of the pole.

From the above description it will be seen that by releasing the end of the rope or cord, 11, from the pin, 15, the lamp may be let down to within convenient reach for cleaning or renewing the carbons, or for repairs, and may be readily drawn up again and then secured as before mentioned. This operation when continued for some length of time renders the lead wires (when such wires only are used, liable to break at or about the points, *e*. One of the objects of my invention is to avoid this objection by the employment of jointed connections at or about the said points, *e*.

In Fig. 2, (which is enlarged) I have shown the double jointed hook shaped device for connecting the lead wires to the insulators, also the main line wires to the hook shaped connecting portions and through them electrically with the lead wires which conduct the electric current to and from the arc electric lamp.

Referring to Figs. 2 and 4, (particularly Fig. 4) 16 represents the hook shaped portion of the jointed connecting portion. These hooks catch around the insulators 5 and 5^a, and are each provided with an enlarged portion, 17, and 17^a, having a perforation, 18, through each enlarged portion, see the perspective view Fig. 4, where these parts are shown more clearly. When these hook portions, 16, are hooked over the insulators as shown in Fig. 2, the end of the main line wire 16^a is

passed through both the perforations, 18, and then bent to one side and wound around the shank 19, of the hook portion, 16, substantially as shown in the plan view, Fig. 2. This construction not only holds the hook rigidly to the insulator because the main line wire in passing through the perforations 18, passes by the open portion of the hook and closely to that side of the insulator thereby holding it securely thereto, but it also affords a suitable means for holding the main line wires. At the opposite end of the hook portion, 16, is a link, 20, pivoted between the jaws, 21, of the hook portion by a pin 22. See Fig. 2. The opposite end of the link, 20, is jointed by a pin, 23, located at right angles to the pin, 22, to a holding portion, 24, so that the two joints together form a joint that can turn in any direction required in this construction, to the opposite ends of the holding portions 24, (of which there are two as shown) are connected the lead wires 7 and 7^a, which pass forward through the loops or pieces, 8, and then down to the arc electric lamp, where they are also each connected by a double joint, 25, to said lamp.

From the above described construction it will be obvious that the lamp can swing in either direction or be raised up or down without any danger of breaking the lead wires and the device also provides a secure fastening for the lead wires to the insulators.

I claim as my invention—

1. The combination of an arc electric lamp movable up and down, with a substantially horizontal supporting wire having its ends connected to the top of two supporting poles located at opposite sides of a street, a means consisting of a cross bar suspended by a rope which passes over grooved friction rollers connected by hangers with said cross supporting wire and then down along side of one of the supporting poles when it is secured, for supporting the lamp, two lead wires connected by a double joint with the lamp and having

their ends pass up from the lamp and through loops in the end of the cross bar and from thence toward the cross bar on the pole, insulators on said cross bar and double jointed connections consisting of hook portions to catch over the insulators and having transverse perforations through the end of the hooks and through their shanks to receive the main line wires, links pivoted to the opposite ends of said hook portions having their opposite ends pivoted to holding pieces connecting with the lead wires, the pivots passing through the links being at right angles to each other, the whole being combined for joint operation substantially as described.

2. The combination of an arc electric lamp, a means substantially as above described for suspending it and moving it up or down, with jointed movable connecting portions consisting of hook portions adapted to hook on to the insulators, each hook having cross perforations through which the main line wires pass and are secured thereto, each hook portion having a link pivoted to its opposite end and a holding portion having one end pivoted to the link by a pin passing at right angles to the pivot pin at the opposite end of the link, the opposite end of the holding pieces being connected to the lead wires connecting with the lamp substantially as described.

3. A flexible connection for connecting the lead wires of an arc electric lamp with the insulators and the main line wires, consisting of a hoop portion 16, having the cross perforations 18, to receive and hold the main line wire, a link pivoted to the opposite end of the hook portion by a pin, 22, having its opposite end pivoted by a pin 23, at right angles to the pin, 22, to a holding portion 24, as and for the purposes described.

LUCIUS E. THOMPSON.

Witnesses:

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