(No Model.)

F. L. POPE.

INSULATOR FOR ELECTRICAL CONDUCTORS.

No. 290,922. Patented Dec. 25, 1883.

Fig. 1.

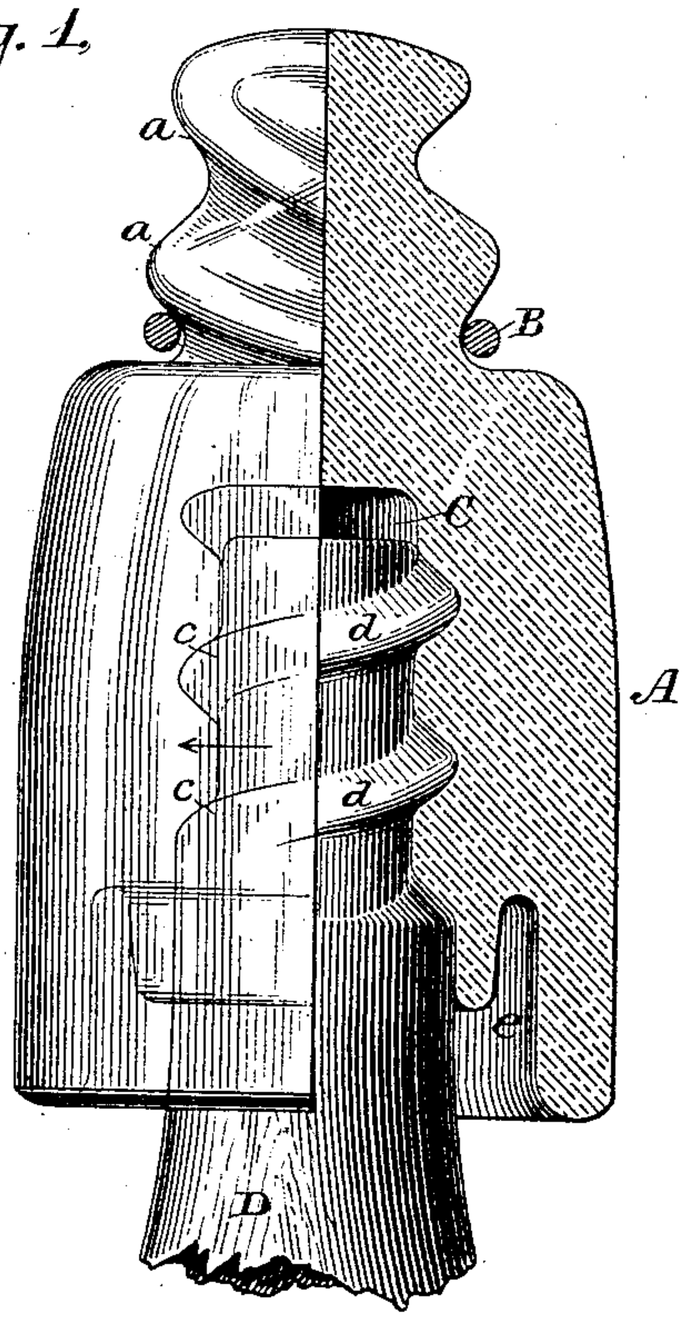
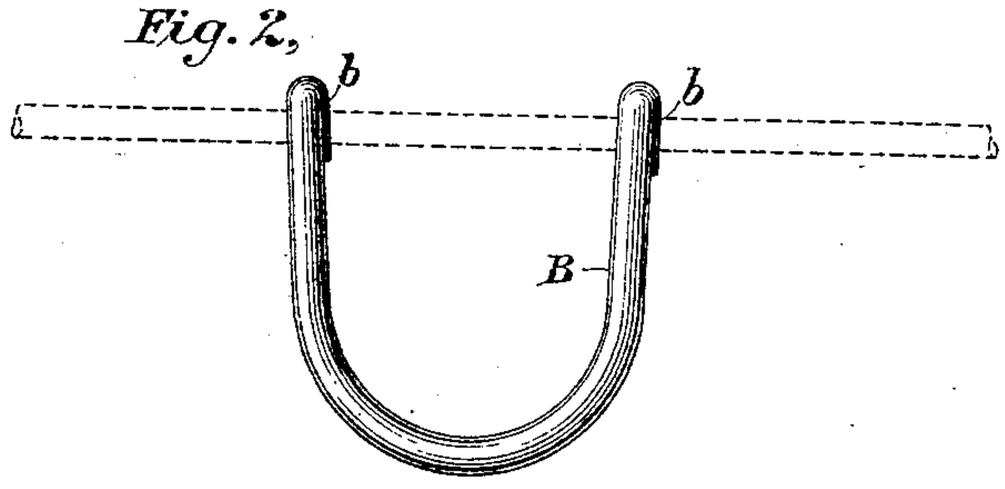


Fig. 2.



WITNESSES

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INSULATOR FOR ELECTRICAL CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 290,922, dated December 25, 1883.

Application filed May 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. POPE, a citizen of the United States, residing at Elmora, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Insulators for Electrical Conductors, of which the following is a specification.

My invention relates to certain improvements in the construction of insulators for supporting telegraph-conductors. It relates particularly to a form of insulator which is adapted to be screwed into a loop formed upon the conductor in any convenient manner—as, for example, by applying thereto a metallic shackle or clip of horseshoe form.

The object of my invention is to provide a means for easily securing an insulator of the class mentioned to its supporting-pin.

The invention consists in constructing the insulator not only with the necessary conical expanding screw upon its exterior, but also with an interior female screw, the groove of which winds in the opposite direction to that of the exterior screw, and is adapted to turn upon or receive the upper extremity of a supporting-pin provided with a corresponding screw-thread. By means of this improvement the insulator is secured to the pin by the same movement that serves to attach the conductor. Thus, considering the loop to have been formed on the line-wire, the end of the exterior screw to be inserted therein, and the insulator itself to be placed over the pin, by simply turning the insulator bodily in the required direction both attachments will be simultaneously made.

In the accompanying drawings, Figure 1 is an elevation of my improved insulator, illustrating the method of attaching the line-wire thereto and the insulator itself to the supporting-pin; and Fig. 2 is a detached view, showing the shackle or clip whereby the line-wire is attached to the insulator.

Referring to these drawings, A represents the body of the insulator, which is preferably made in the usual form of an inverted cup or bowl, and is of glass, porcelain, or other suitable non-conducting material. The upper portion of the insulator A is of smaller diameter than its main body, and is provided with a conical expanding screw, *a a*, the diameter of which increases from the top toward the bottom. A rigid horseshoe-shaped metallic clip or shackle, B, is provided for forming with the line-wire a loop, into which the expanding screw *a a* may be screwed. The curved inner surface of this shackle is adapted to fit the screw upon the insulator, as hereinafter explained. Both ends of the shackle are turned over, so as to form open hooks *b b*, adapted to grasp the line-wire.

In applying the insulator to the line the shackle is first attached to the line-wire at the proper place by means of the open hooks *b b*, which grasp the line-wire and form in connection therewith the irregular ring or stirrup for receiving the insulator. The top of the insulator, upon which is that portion of the screw *a a* of least diameter, is inserted into this ring or stirrup, and is then turned upon its longitudinal axis and thus screwed into the stirrup. By reason of the constantly increasing or expanding diameter of the screw, the insulator soon comes to a firm bearing, and the two are securely wedged together.

For the purpose of securing the insulator to the supporting-pin by the same operation, I provide a reverse screw-groove, *c c*, in the interior of a socket, C, which is formed at the lower end of the insulator. This screw-groove preferably encircles the interior socket, C, approximately the same number of times as does the thread *a* the exterior of the upper portion of the insulator. The supporting-pin D is provided with a screw-thread, *d d*, adapted to work in the screw-groove *c c*. It is evident thus that by turning the insulator bodily in the direction indicated by the arrow it will be both screwed upon the pin and into the ring or stirrup.

An annular groove, *e*, is preferably formed in the lower portion of the insulator for the purpose of preventing the moisture which may fall upon the surface of the insulator from reaching the support, thereby impairing the insulation.

I am aware that insulators have heretofore been constructed with a conical expanding screw upon their upper exterior portion; but such insulators have been provided with smooth sockets for receiving the supporting-pins, and have been secured in position merely by being fitted tightly upon the same. They are therefore liable to be pulled off from the pins.

By the use of the interior screw, the insulator

may be attached to the pin as readily and securely as any of the well-known forms of insulators, and the operation of so attaching them is accomplished by the movement which also secures the line-wire thereto.

I claim as my invention—

1. A supporting-insulator for telegraphic line-wires or other electrical conductors, having upon its exterior a conical or expanding screw-thread, and provided with a socket having an interior spiral groove winding in the reverse direction to that of the exterior screw, substantially as and for the purpose set forth.

2. The combination, substantially as herein-before set forth, with a shackle or horseshoe formed with hooked ends, as described, for grasping a telegraphic line-wire or other conductors, and thereby forming a stirrup or ring, of a supporting-insulator having a conical expanding screw-thread or spiral groove formed upon its exterior surface and a reverse hollow screw formed upon its interior surface, whereby it may be secured to a supporting-pin.

3. The combination, substantially as herein-before set forth, with a supporting-pin having a screw-thread formed upon one end thereof, of an insulator constructed with a corresponding screw-groove formed within a socket for receiving said pin, and a conical expanding screw-thread or spiral groove formed upon its exterior.

In testimony whereof I have hereunto subscribed my name this 22d day of May, A. D. 1883.

FRANK L. POPE.

Witnesses:

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