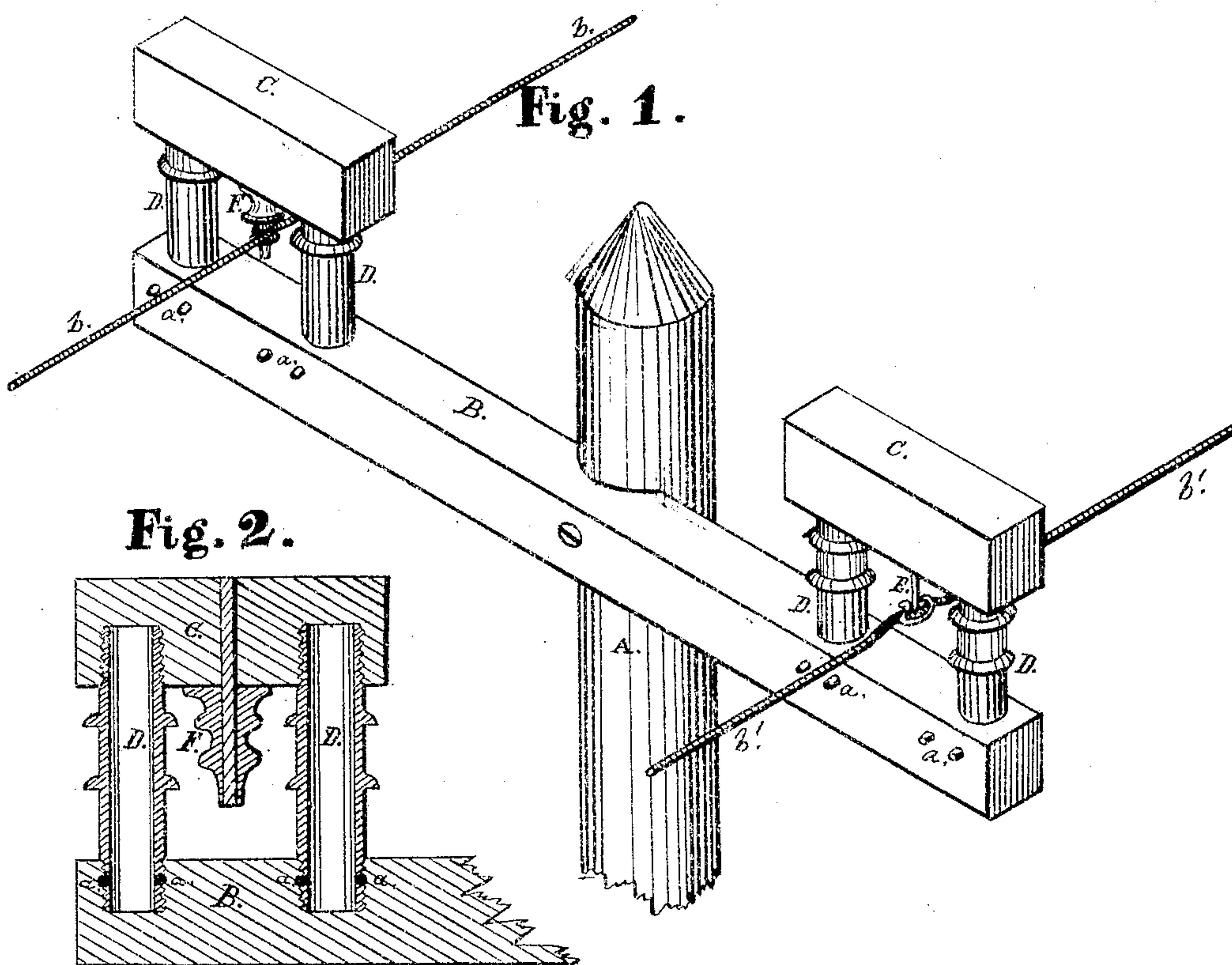


H. J. ROGERS.

Insulation of Telegraph Lines.

No. 133,595.

Patented Dec. 3, 1872.



Witnesses:

Thos. Houghton.

Saml. H. Water.

Inventor:

Henry J. Rogers.

by
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his atty.

UNITED STATES PATENT OFFICE.

HENRY J. ROGERS, OF NEW YORK, N. Y.

IMPROVEMENT IN INSULATION OF TELEGRAPH-LINES.

Specification forming part of Letters Patent No. 133,595, dated December 3, 1872.

To all whom it may concern:

Be it known that I, HENRY J. ROGERS, of New York, in the county and State of New York, have invented certain Improvements in the Construction of Telegraph-Lines, more particularly in the means of insulating the wires, of which the following is a specification:

My invention relates to what may be called a dual insulator, which is constructed in such a manner as to compel the current of electricity to overcome two insulators or insulating contrivances before it can reach the cross-bar of the telegraph-pole; and, also, overcome two other insulating devices before it can reach and perfect the circuit with another wire upon the other end of the telegraph cross-bar.

It is a well-known fact that wires which are perfectly insulated during dry weather lose their insulation more or less during damp weather, by means of a continuous water medium, sometimes between the wire and the earth through the bar and the pole down which the force of the electricity passes, and sometimes between two or more wires attached to the same pole or cross-bar.

The object of my invention is to interpose a series of insulators and dry surfaces under all circumstances between points liable to be brought into connection, as above, by the presence of moisture.

Figure 1 is a perspective view of the top of a telegraph-pole and cross-bar, and two dual insulators in position with wires attached. Fig. 2 is a vertical sectional view, cut in a vertical plane through the center of the insulators, cross-bar, and head-piece.

A is the telegraph-pole. B is the usual cross-bar secured to the same. C is a sub cross-bar, or a head-piece to and in which the insulators F and E are secured. D D are insulating columns, composed of glass, hard rubber, or other insulating material, provided with right-and-left hand screw-threads upon opposite ends, and also provided with projecting flanges for throwing off the moisture. E is an insulated hook, inserted in the sub cross-bar C, and insulated in the usual manner. F is another form of insulator, made of glass or other similar material, and secured to a pin fastened in the sub cross-bar C. *a a*

are pins for keying the insulators D D in place. *b b* is a telegraph-wire, secured in a loop to the insulator F. *b' b'* is the same secured to the insulator-hook E.

The method of proceeding when the line is in process of construction may be described as follows, to wit.: The wire being stretched across the end of the bar B, between the sockets of the two insulators D D, may be held there by any common pins inserted in the two holes provided for D D. When it is desired to secure the wire to the insulators and finish the construction, the insulators D D may be screwed into both the bar B and the sub cross-bar C, by simply turning the same with the parts in position, the wire remaining between the same. When the parts are entirely secured together, the wire may be raised from the cross-bar B, and being looped about the neck, provided for that purpose, on the insulator F, may be secured by a tie or strap wire applied as in Fig. 1 at F, or attached to the hook inserted as at E. It will be perceived that with this arrangement the electric current upon the wire *b*, in order to be conducted away, must first pass through the insulator F secured in the sub cross-bar C, thence through the insulator or insulators D, and so into the bar B, and to the ground; or through the insulators D D of the opposite end of the cross-bar B, up into the sub cross-bar C, and thence through the insulated hood E to the wire *b'*. The insulators D D are shown upon one side of the bar B with only one flange, and upon the other side with two flanges. I do not intend to limit the number of flanges employed; I use one, two, or more, as many as may be required. They may also be varied somewhat in form, their general purpose and object being to throw off the drip or moisture falling or condensing upon the apparatus. So other forms of insulators may be substituted in the place of D D.

The importance of perfect insulation is evident and need not be dilated upon; so, also, with security from accident, if the suspended wire breaks loose from the insulator in my invention it is caught and securely held by the supporters of the insulated sub cross-bar, and prevented from falling to the ground or across railroad-tracks.

Claims.

I claim as my invention—

1. The insulator F suspended between the two supports D D.

2. The sub cross-bar C provided with the insulator F, and supported upon the cross-bar B by the insulators D D.

3. Two or more sub cross-bars, C C, secured to the cross-bar B, in the manner and for the purposes set forth.

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Witnesses:

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