S. CHESTER.

Improvement in Telegraph-Insulators.

No. 114,924. Patented May 16, 1871.

Side view of D

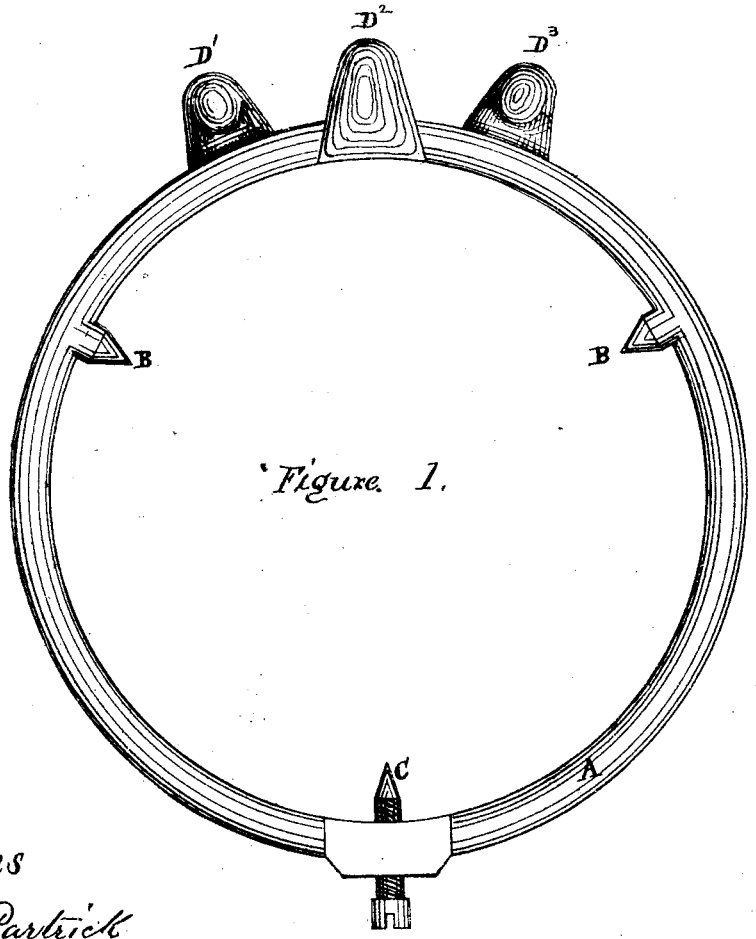

Figure 1.

Witnesses

James Partrick

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STEPHEN CHESTER, OF ELIZABETH, NEW JERSEY.

Letters Patent No. 114,924, dated May 16, 1871.

IMPROVEMENT IN TELEGRAPH-INSULATORS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, STEPHEN CHESTER, of the city of Elizabeth and State of New Jersey, have invented a new and useful "Improvement in Telegraphic Insulation," of which the following is a true and exact description.

My invention consists in the method of attaching the telegraph-wire to the ordinary glass, porcelain, ebonite, or other insulator, by means of a solid metal ring with projections to sustain the wire, which ring touches the said insulator only at three sharp points.

The ordinary method of attaching the telegraph-wire to ordinary glass or porcelain insulators is by means of what is technically known as a "tie-wire," or a wire which, being firmly wound once or twice round the insulator in a groove purposely prepared, the two ends are tightly twisted around the telegraph-wire on each side of the insulator.

The objections are the following:

First, glass or porcelain is an imperfect insulator only so far as moisture condenses on the surface and runs down in myriads of small streams of water, thus, by these numerous lines of connection, affording routes of escape from the telegraph-wire to the post, and thus to the ground. The tie-wire touches every portion of the circumference of the insulator in the plane of its circuit, thus connecting every line of moisture existing with the main wire.

Secondly, when the telegraph-wire known as "American compound wire" is used, the tie-wire destroys this wire by causing the outer covering of copper to crack and the inner core of steel to be exposed.

Referring to the accompanying drawing—

Figure 1 is an enlarged view of my improvement, in which—

A represents a ring of metal, (preferably of malleable iron;)

B B, two solid points projecting from the interior of the ring toward the center; and

C, a pointed screw passing through a portion of the ring, enlarged for that purpose.

The points formed by B B and C need not be equidistant, but may stand in such relative positions that when the point C is withdrawn by turning the screw the apparatus may be easily slipped over the insulator until the points B B are in the groove of the insulators, and be then secured by screwing the point C forward until the points B B and C touch the insulator lightly; but no other part of the apparatus touches the insulator.

The three hooks or supports, D^1 D^2 D^3, D^1 and D^3 turning in one direction and D^2 turning in the opposite direction, are intended to receive and support the wire.

It is not intended that the screw C should be turned forward so far as to clamp the ring firmly upon the insulator; nor that the telegraph-wire should be rigidly held by the supports D^1 D^2 D^3 when these latter stand in line with the direction of the wire.

These conditions being observed, it is evident, first, that the insulator is not likely to be broken by the contraction of the ring; and, secondly, that if the telegraph-wire should suddenly break on either side of said insulator the ring would instantly be revolved in the direction of the unbroken side, thus bringing the three hooks or supports into such relative position as to cramp the telegraph-wire and thus prevent its escape.

I do not claim surrounding an insulator with a metal ring when wood or metal is interposed between the insulator and said ring; nor do I claim the addition of hooks or supporters of any shape to an iron or metal ring under those conditions; but

I do claim—

1. The application of a metal ring, with three or more interior pointed projections, to attaching wire to telegraph-insulators, substantially in the manner and for the purpose as above set forth.

2. The application of hooks, turned in opposite directions, to the exterior edge of a metal ring surrounding directly a glass, porcelain, or ebonite insulator, for the purpose of holding telegraph-wire, and thus attaching it to said insulator, substantially in the manner and for the purpose as above set forth.

3. The combination of points B B and C and hooks D^1 D^2 D^3 with a movable ring surrounding a telegraph-insulator, substantially for the purpose, and in the manner as above set forth.

STEPHEN CHESTER.

Witnesses:

VAN ZANDT DAWES,

GEORGE M. HEDGES.