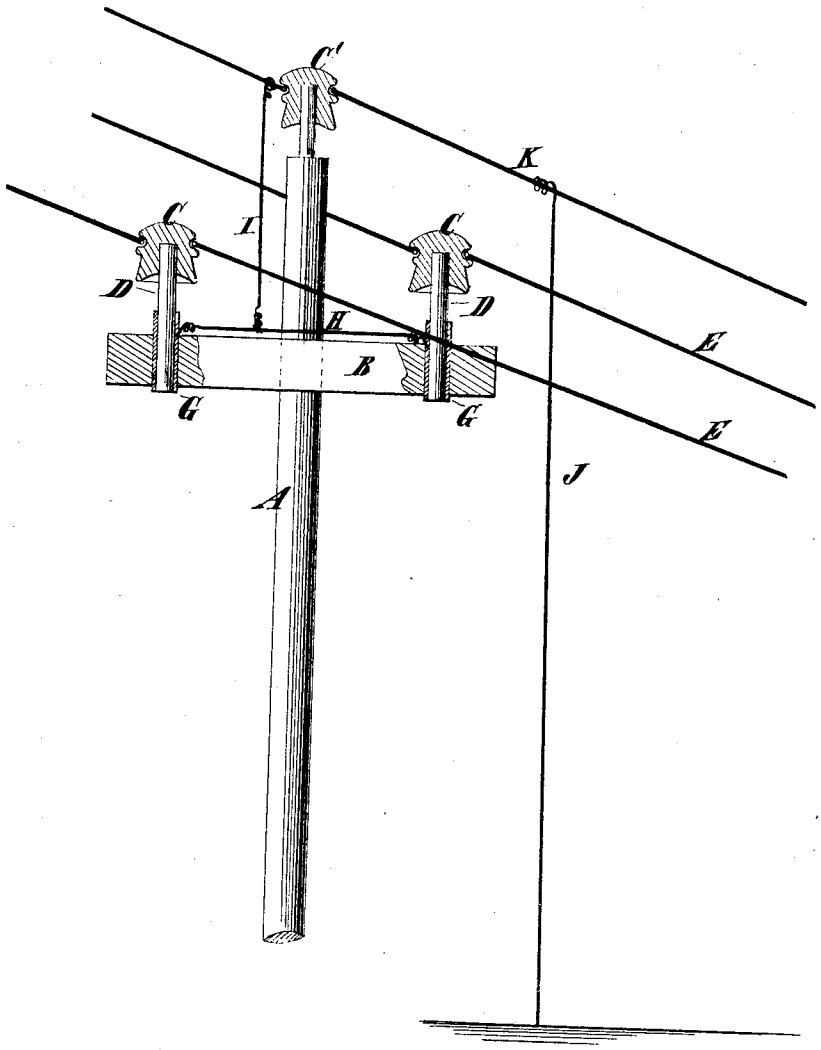
C. E. CHINNOCK.

Induced Current Guard for Electrical Conductors.

No. 224,580. Patented Feb. 17, 1880.



Witnesses:

Thomas E. Birch

Fred'k Haynes

Inventor.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES E. CHINNOCK, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOHN D. HARRISON, OF NEWARK, N. J.

INDUCED-CURRENT GUARD FOR ELECTRICAL CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 224,590, dated February 17, 1880.

Application filed December 24, 1879.

To all whom it may concern:

Be it known that I, CHARLES E. CHINNOCK, of Brooklyn, in Kings county, and State of New York, have invented certain new and useful Improvements in Electrical Conductors, of which the following is a specification.

The object of my invention is to obviate induced and escaping currents from reaching line wires or conductors in telegraphs or telephones and interfering with messages sought to be transmitted through the same.

The invention is especially advantageous for telephones, though applicable also to telegraphs.

The invention consists in the combination of insulators sustaining line wires or conductors and supports therefor, in electrical communication with each other through a guard or other wire or wires common to said supports, and in communication with the ground, whereby, in a simple manner, provision is afforded for carrying off escaping or induced currents at various points.

It also consists in the combination, with insulators sustaining line-wires and supported on shanks or fingers of wood or other suitable material, of conductors applied to said shanks or fingers, a wire connecting the conductors of these shanks or fingers, and a wire connecting the last said wire with a guard or other wire in communication with the ground, whereby a simple and convenient means of accomplishing the desired end is attained.

The accompanying drawing represents a pole and two line-wires and a guard-wire and appurtenances supported thereby embodying my invention.

A designates a pole, which may be erected in the ground, on a house-top, or in or upon any other suitable support, and provided with a cross-bar, B. C designates insulators, which may be of glass or other suitable material and of the ordinary or any other appropriate form. They are fitted upon the ends of shanks or fingers D, of wood or other material, inserted in the cross-bar B, and conductors or a conductor applied to the pole or cross-bar or to the shanks or fingers D serve or serves to intercept any electric currents induced or escaping from an outside point or source of electricity and prevent the same from reaching the insulators C and passing thence to the line-wires E, which they support, so as to interfere with the electric currents transmitted through the same and impair the clearness of the message conveyed by such currents. These line-wires E are connected to the insulators by being wrapped around grooves in them, or otherwise.

Although the insulators should intercept induced or escaping currents from an outside source, yet in practice they become moist or carbonized by smoke from passing trains or adjacent fires, and hence partially conductive—therefore the need of more effective means for intercepting the induced or escaping currents.

As here shown, I apply electrical conductors G, consisting of coils or cylinders of sheet metal or metallic foil, between the shanks or fingers D and the cross-bar B; but these conductors do not extend to the insulators C. The two conductors G, as here shown, are connected by a wire, H, and this wire is connected by a wire, I, to a guard-wire, K, extending along the tops of the pole A, and others of its kind, and supported on insulators C'. The guard-wire K is to be connected with the ground at proper points—as, for instance, by a wire, J—and thus it will, besides serving to prevent the contact of undesirable articles, such as crossing line-wires with the line-wires E, serve to carry off the induced or escaping currents intercepted by the conductors G. A wire not forming a guard-wire could, of course, be used.

In lieu of this construction, each conductor G may be connected directly with the guard-wire K, or to a ground-wire, and one conductor arranged to intercept induced or escaping currents passing toward either line-wire E, and connected to the guard-wire K; or a ground-wire may be utilized.

It will be seen that by my invention I provide a simple and effective means of intercepting induced or escaping currents and precluding them from interfering with the proper transmission of messages or impairing the enunciation of the messages.

It is obvious that an iron or other metallic

pole, or an iron cross-bar, or both, with wooden or metallic shanks or fingers for the insulators C, may be used as modifications of my invention; but I regard the previously-described construction as preferable.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of insulators sustaining line wires or conductors and supports therefor, in electrical communication with each other through a guard or other wire or wires common to said supports, and in communication at suitable points with the ground.

2. The combination, with insulators sustaining line-wires and supported on shanks or fingers of wood or other suitable material, of conductors applied to the shanks or fingers, a wire connecting the conductors of these shanks or fingers, and a wire connecting the last said wire with a guard or other wire in communication with the ground, substantially as and for the purpose specified.

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