H. H. WARD.

INSULATOR FOR TELEGRAPH WIRES.

No. 49,482. Patented Aug. 15, 1865.

Fig. 1

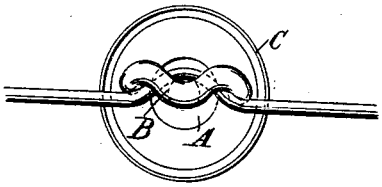
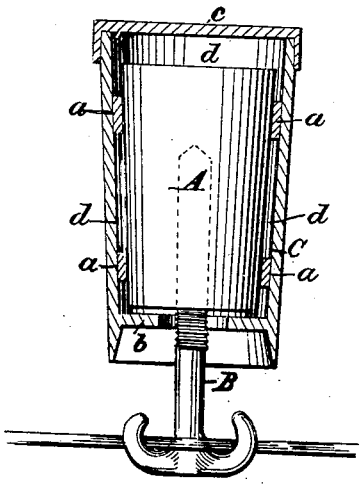


Fig. 2.



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IMPROVEMENT IN INSULATORS FOR TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. **49,482**, dated August 15, 1865.

To all whom it may concern:

Be it known that I, H. H. WARD, of the city, county, and State of New York, have invented a new and Improved Insulator for Telegraph-Wires, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of this invention. Fig. 2 is a longitudinal central section of the same.

Similar letters of reference indicate like parts.

This invention consists of an insulator for telegraph-wires and other conductors of electric currents, which is composed of a plug of wood or other non-condensing material, surrounded by a dead-air chamber, and protected by a cup or case of metal, or other suitable material, in such a manner that a dry support for the hook is obtained, forming a protection against rising dew and fog, as well as falling rain.

A represents a plug of wood, or other non-condensing material—that is to say, material of such a nature that the moisture contained in the atmospheric air will not readily condense on its surface. Said plug is turned in the form of a cylinder or truncated cone, or it may be made in any other convenient form or shape, and it is provided with a hole in the line of its longitudinal center, to receive the shank of the hook B, which may be fastened therein by means of a screw-thread, or in any other convenient manner.

The wood from which the plug A is made is kiln-dried, and boiled in oil and shellaced to keep out the moisture and prevent it from taking such up by capillary attraction, and it is inclosed in a cup or case, C, which is made of cast-iron or other suitable material. The inside diameter of this cup is somewhat larger than the diameter of the plug A, and it is provided with lugs or ribs *a* on its inner circumference, which serve to keep the plug in its center, and with a transverse partition, *b*, to continue the chamber.

A cap, *c*, which is fitted to the end of the cup and connected or soldered, protects the plug A, and when this plug is in its place the cup is surrounded by a dead-air chamber, *d*.

The atmosphere contained in this chamber is perfectly still, there being no circulation, and it is not liable to mix with the outside atmosphere. It remains dry and aids to form a perfect insulating medium around the wooden plug, which, being boiled in oil and shellac, forms itself a good non-conductor. No moisture is liable to condense on the plug A and to disturb its non-conductibility.

The cup C may be made of galvanized iron, which, being cheap and most convenient, will render my insulator more durable and desirable than any other insulator known to me. It can be readily secured to a cross-arm, block, or plug, in any convenient manner by clasps or clamps cast solid with the cup, or otherwise connected with the same, or by brackets or screws, and when properly adjusted it is not liable to get out of order, and experiments made with the galvanometer show that not enough electricity passes through my insulators to produce the slightest deviation of the needle.

I claim as new and desire to secure by Letters Patent—

1. An insulator for telegraph-wires, &c., provided with a dead-air chamber, *d*, substantially as and for the purpose set forth.

2. The combination of the plug A, cup C, and hook D, constructed and operating substantially as and for the purpose described.

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