(No Model.) 2 Sheets—Sheet 1.

F. M. LOCKE.

INSULATOR.

No. 573,092. Patented Dec. 15, 1896.

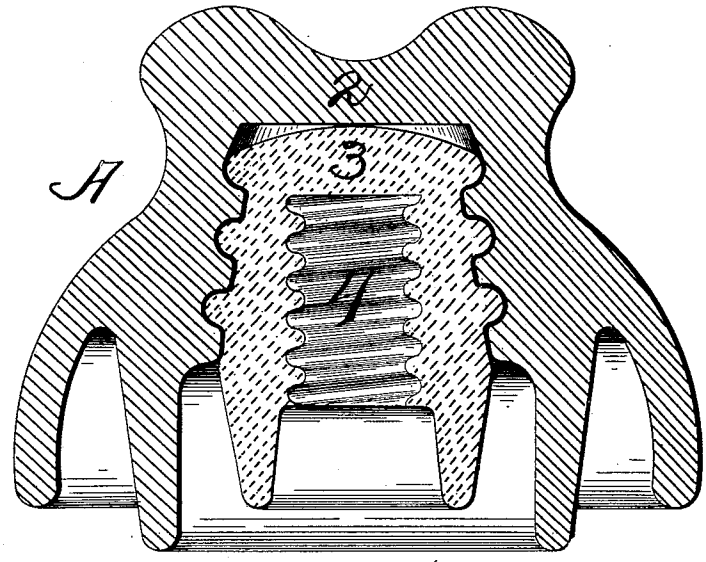

Fig. 1.

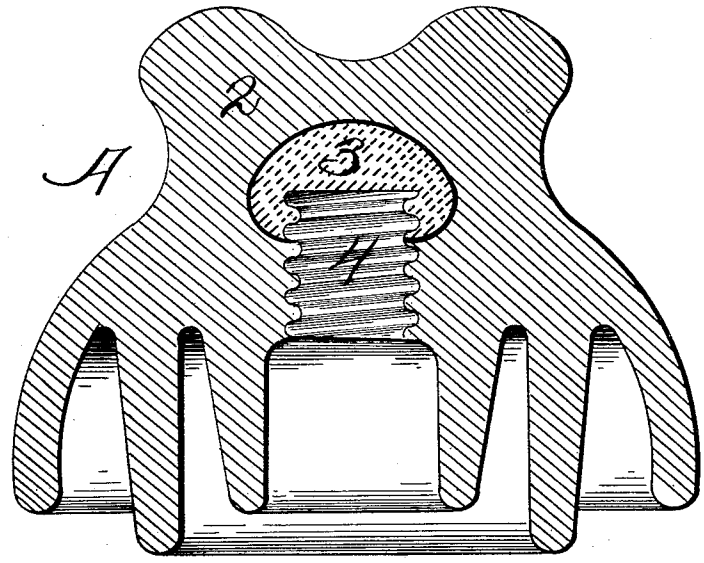

Fig. 2.

WITNESSES:
Charles W. Morrow
Elizabeth Dowling.

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

(No Model.) 2 Sheets—Sheet 2.

F. M. LOCKE.

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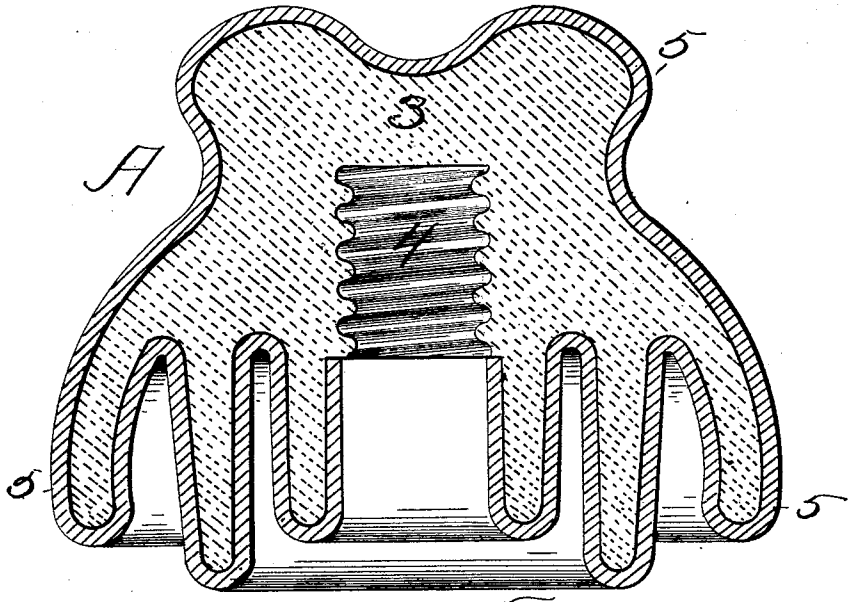

Fig. 3.

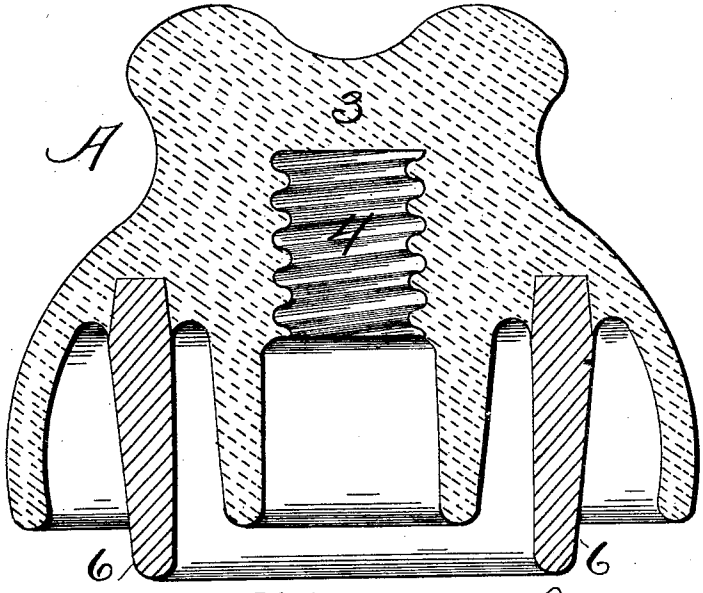

Fig. 4.

WITNESSES:
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Fred M. Locke
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRED M. LOCKE, OF VICTOR, NEW YORK.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 573,092, dated December 15, 1896.

Application filed August 24, 1896. Serial No. 603,668. (No model.)

To all whom it may concern:

Be it known that I, FRED M. LOCKE, of Victor, in the county of Ontario, in the State of New York, have invented new and useful Improvements in Insulators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to insulators for electric conductors.

Heretofore great difficulty has been experienced in producing insulators which would not leak over their surfaces or puncture.

I have discovered that a porcelain insulator has a high surface resistance, but is liable to be punctured, and also that a glass insulator has low surface resistance, but is much less liable to be punctured.

The object of this invention is to produce an insulator in which two insulating materials of different degrees of resistance and of puncturability are combined, so that both of said materials will coöperate, the one to produce high surface resistance and the other to provide means to prevent puncturing. This combination can be provided with one or more skirts or petticoats to increase the resistance, all being of any form desired, of any suitable combination of suitable materials, and provided with a suitable recess or socket to receive a suitable support; also, a layer of suitable insulating material can be applied between the members to further insulate and secure them together and to take up expansion and contraction and to furnish an insulating-packing between them or between one of them and the support; also, the parts aforesaid may be fused together.

I do not limit myself in any respect to any of the forms, sizes, or proportions of the several parts, or to any particular style of connection between them, the drawings herein being for the purpose of illustrating the principle of my invention and not the precise construction thereof.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of my insulator, omitting the support. Fig. 2 is a like view showing a different form of inner member. Fig. 3 is a like view showing the inner member enlarged and the outer member like a thin covering thereon. Fig. 4 is a like view showing the entire body of the same material as the inner member, except that one of the petticoats is fused or otherwise secured in place.

A is an insulator comprising an outer member 2 of any suitable material, as porcelain, for its surface-resisting properties, although it is puncturable by currents of high voltage, and an inner member 3 of any suitable non-puncturable material, as glass, set, screwed, or otherwise secured in or connected to the outer member and having a socket 4 to receive the support, here shown as interiorly threaded.

In all cases the inner member is designed to and does insulate the support auxiliary to or in conjunction with the insulation of the outer member, and even though the latter is punctured there can be no leakage through the puncture.

In Fig. 1 the inner member contains the entire socket for the support, and may be screwed or molded into the outer member. In Fig. 2 said inner member is molded into the outer member, and part of the socket is in each member.

In Fig. 3 the inner member contains the entire socket, and is covered or inclosed within a skin or layer 5 of the same material as outer member in the other figures.

In Fig. 4 the body contains the entire socket, and is composed of the same material as the inner member in the other figures, and one skirt or petticoat 6 (or more) is composed of the same material as the outer member in the other figures, is made separately, and then fused or otherwise suitably secured in place in or upon the other member.

A layer of paraffin or other suitable insulating material, or of suitably-prepared cloth, fiber, or other material, can be inserted or applied between the inner and outer members to coöperate with them in the insulation of the support.

In Fig. 2 the outer member can be inverted, and melted paraffin or other suitable material can be poured in or otherwise applied to the cavity within said member, and will operate and perform the same antipuncturing and other insulating functions as though glass were used.

In Fig. 3 the outer member can be composed of porcelain molded and baked onto a glass inner member and glazed, if desired.

By this construction of insulator a metallic support can be used with high voltage of current.

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

1. An insulator comprising two members, the outer one composed of insulating material puncturable by an electric current, and an inner member of less puncturable insulating material within the other and provided with a suitable recess to receive an insulator-support.

2. An insulator comprising two members, one consisting of insulating material having high surface resistance, but puncturable by electricity, as porcelain, and the other consisting of insulating material having high resistance against puncture, and low surface resistance applied to the former opposite to the points thereof most liable to puncture.

3. An insulator comprising two members respectively composed of insulating materials having different degrees of puncturability, and having varying degrees of surface resistance connected together and adapted to be supported substantially as shown and described as a means for insulating currents of very high voltage.

In witness whereof I have hereunto set my hand this 17th day of August, 1896.

FRED M. LOCKE.

In presence of—
C. W. SMITH,
HOWARD P. DENISON.