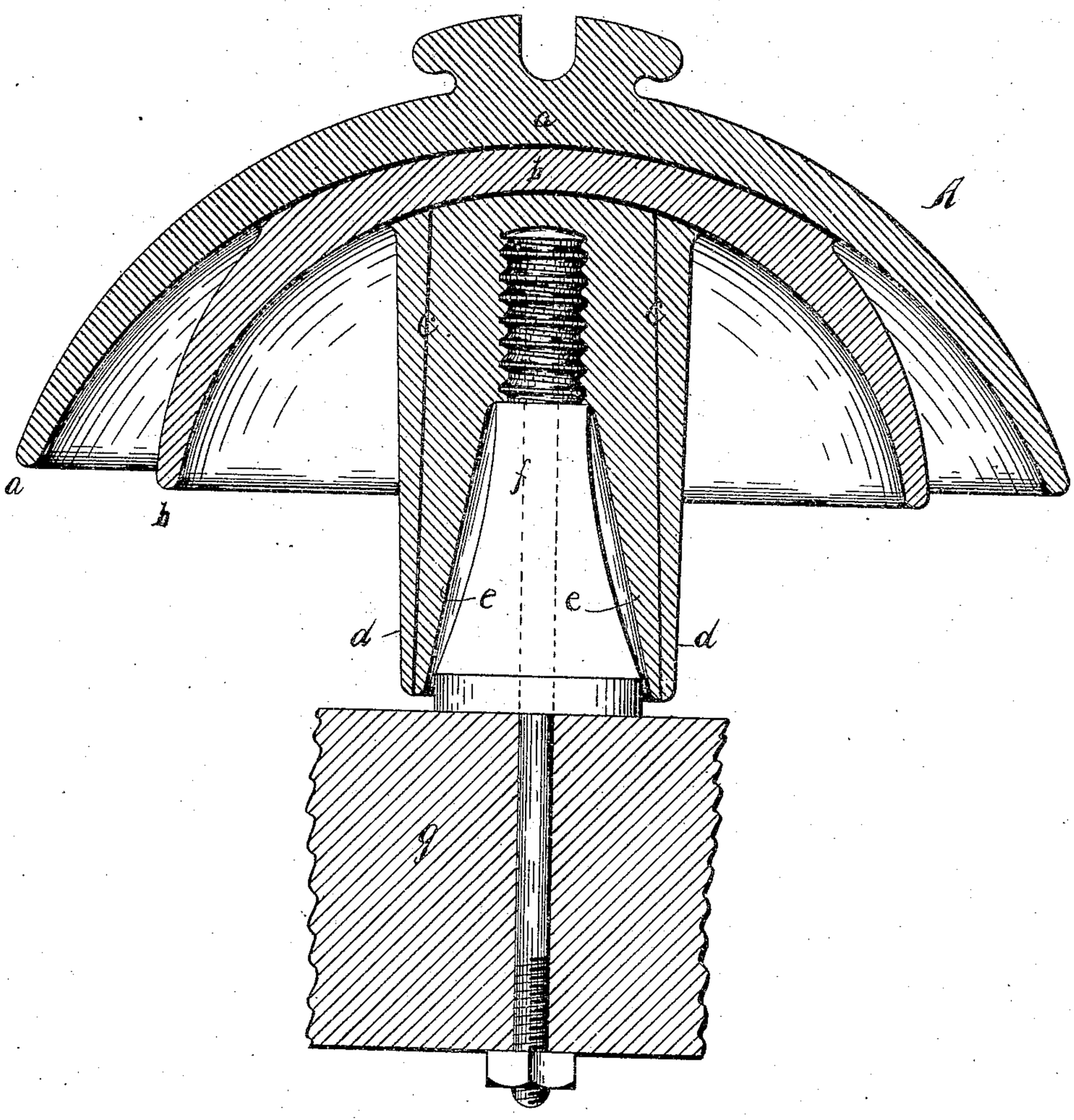
(No Model.)

F. M. LOCKE.

INSULATOR.

No. 605,109. Patented June 7, 1898.



WITNESSES:

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FRED M. LOCKE, OF VICTOR, NEW YORK.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 605,109, dated June 7, 1898.

Application filed April 23, 1898. Serial No. 678,547. (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 drawing, is a full, clear, and exact description.

This invention relates to improvements in insulators, having more particular reference to those which are made from porcelain or suitable insulating material.

In passing a current of electricity of high voltage over a wire I have found that the static discharge from the surface of the insulator supporting the wire or the arcing of the current around the insulator burns the insulator-pin off on a plane with the bottom of the petticoat extending the lowest. I have also found that by providing the insulator with a long central petticoat, which incloses the pin down to a point adjacent to the cross-arm, and by making it small in diameter in proportion to the adjacent petticoats of the insulator above it this central piece is the most valuable insulating-surface of the whole insulator on account of the fact that the area of the surface is so small that but little moisture at most can congregate there, it being one of the principles of insulation that the smaller the conductor the greater the resistance and that the surface of any insulator is a conductor to a more or less extent when damp.

My object therefore consists in so constructing an insulator as to prevent this leakage of the current over the insulator to the support, and thereby obviate the burning off of the pin.

The more recent use of high-voltage currents has made it necessary to secure absolute insulation, so as to prevent the burning off of the pin upon which the insulators are mounted. Otherwise great damage is done, besides the loss of the electromotive force; and to that end my invention consists in constructing an insulator having its inner petticoat extending down to a point adjacent to the cross-arms upon which the pin is mounted to serve as a protecting-sleeve for the pin and increase the arcing distance of the current around the insulator.

My invention consists in the several new and novel features of construction hereinafter described, and which are specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawing, in which I show a vertical section of an insulator constructed in accordance with my invention mounted upon a pin secured to the cross-arm.

A is an insulator constructed of several pieces or shells, these pieces being secured together in any suitable manner. While I do not limit myself to the method of securing them together, I have found that by coating them with a layer of flux, slip, or glaze and then nesting them together in their proper position and then baking them in the kiln, so as to form practically a single insulator, all constructed in one piece, to be the more preferable way. I have also found that in many cases it is advisable to turn the insulator up after the parts have been nested together and to pour into the interstices or crevices between the parts glaze, so that when they are baked or vitrified this glaze will melt down in and fill up the crevices complete, and thereby produce a series of non-puncturable seams of glaze.

Referring now to the drawing, the insulator A is formed of the outer shell *a* and inner shell *b* and a central petticoat *c*, so elongated as to form a protecting-sleeve for the insulating-pin, as shown in the drawing. This central piece, or "central petticoat," as I choose to call it, may be constructed in two parts *d e*, being secured together, preferably, by coating with flux, slip, or glaze and then vitrifying the parts together, so as to form but a single piece. It will thus be observed that in the event of the current escaping over the outer shells, if the outer surface of the inner petticoat does not resist the current, the seam of glaze between the outer shell and inner shell of the inner petticoat will resist it.

Insulators constructed as above described I have found impossible to break down by any known current, and I have also found that by allowing the inner petticoat to extend down, so as to form a sleeve for the purpose of protecting the pin, prevents its being broken off.

f is the pin, constructed in any suitable

manner, so that the insulator may be mounted thereon, and is provided with any suitable means for securing to the cross-arm *g*.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An insulator made of porcelain or suitable insulating material, constructed of two or more parts fitted one into the other, and secured together, the inner part being provided with a socket by which it is mounted, said inner part or shell extending down to a point adjacent to the cross-arm, forming a sleeve for the purpose of protecting the pin from static discharge, or arcing, or leaking of the current around the insulator.

2. An insulator made of porcelain, or suitable insulating material, constructed of two or more parts fitted one into the other, and secured together, said inner part extending down to a point adjacent to the cross-arm, or resting upon the cross-arm, and forming a sleeve for the purpose of protecting the pin from static discharge, or arcing or leaking of the current around the insulator.

3. An insulator made of porcelain, or suitable insulating material, having one or more petticoats, the inner petticoat being constructed of two or more parts secured together, and extending down to a point adjacent to the cross-arm, or resting upon the cross-arm forming a sleeve for the purpose of protecting the pin from static discharge, or arcing, or leaking of the current around the insulator.

4. An insulator made of porcelain, or other suitable insulating material, constructed of two or more shells, fitted one into the other, and fused together with glaze, the inner shell extending down to a point adjacent to the cross-arm, or resting upon the cross-arm forming a sleeve for the purpose of protecting the pin from static discharge, or arcing, or leaking of the current around or through the insulator.

In witness whereof I have hereunto set my hand this 15th day of April, 1898.

FRED M. LOCKE.

In presence of—

W. A. HIGINBOTHAM,

Z. C. CURTICE.