(No Model.)

R. D. MERSHON.

INSULATOR.

No. 605,256. Patented June 7, 1898.

Fig. 1.

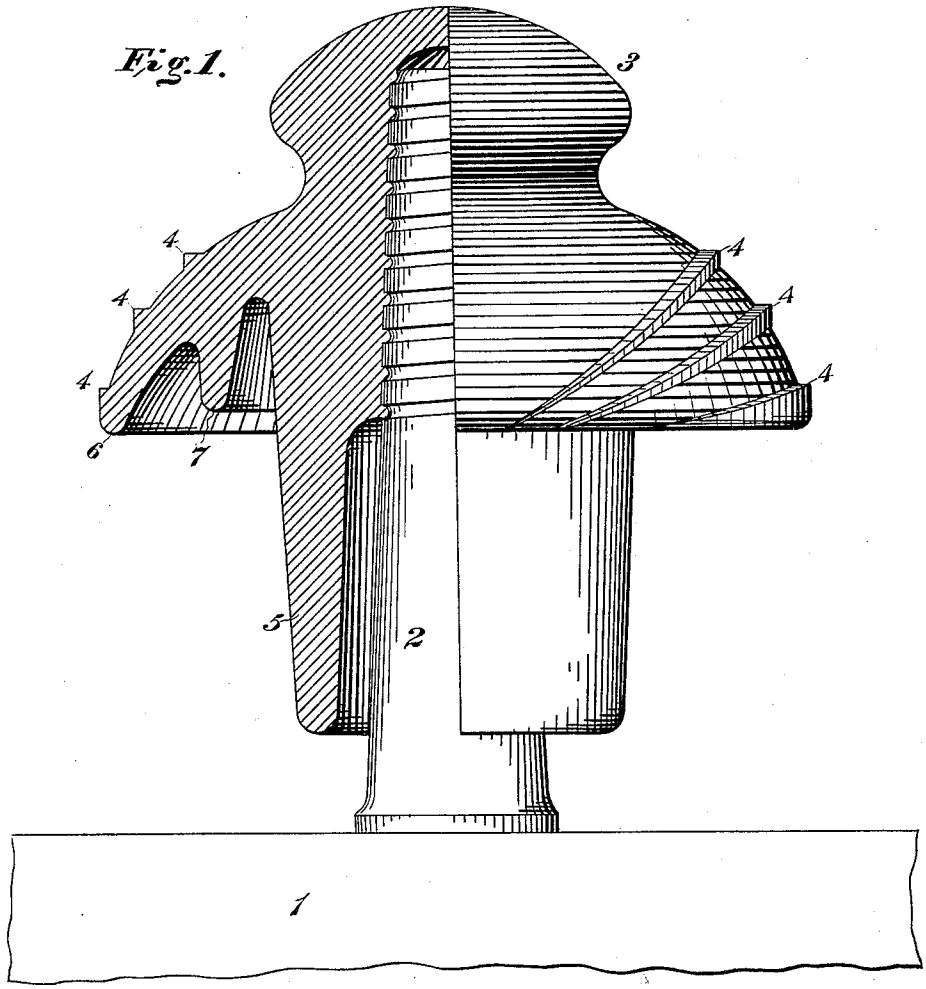
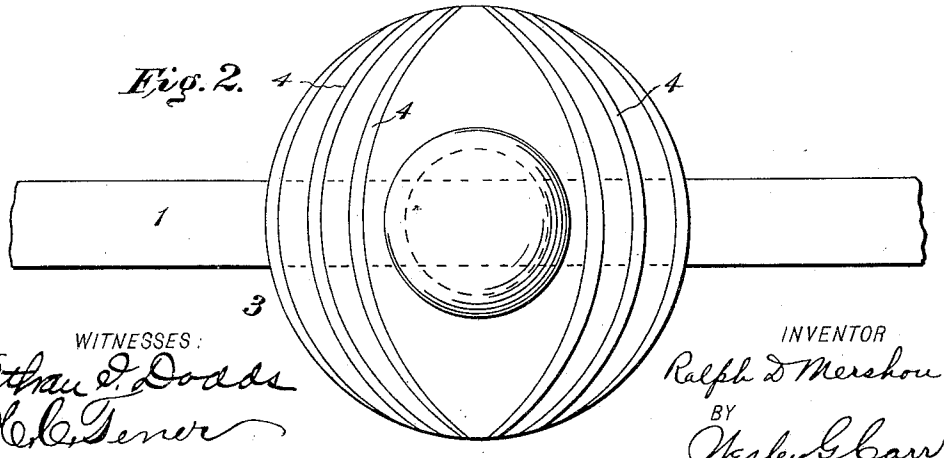


Fig. 2.



WITNESSES:

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RALPH D. MERSHON, OF COLORADO SPRINGS, COLORADO.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 605,256, dated June 7, 1898.

Application filed February 14, 1898. Serial No. 670,204. (No model.)

To all whom it may concern:

Be it known that I, RALPH D. MERSHON, a citizen of the United States, residing in Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Improvement in Insulators, of which the following is a specification.

My invention relates to insulators for electric line conductors; and it has for its object to provide a device of this general character which shall be particularly adapted for use in connection with high-tension circuits and be at the same time simple and inexpensive in construction.

Considerable difficulty has been heretofore experienced in connection with the overhead transmission of electrical energy over great distances for power and other purposes by reason of the failure to prevent the current from jumping over their surface or through the air to the supporting-pins or cross-arms and thence to the ground and also by reason of the leakage over the surface of the insulators. It is obviously desirable to employ insulators for this class of work which shall afford the greatest striking distance between the conductor and the support for the insulator proper that is consistent with simplicity and with economy in construction and which shall also embody a construction that affords a maximum length and a minimum width of surface between the conductor and the supporting-pin in order to reduce the danger of leakage as much as possible. The insulator that I have devised for this purpose is illustrated in the accompanying drawings, in which—

Figure 1 is a view, partially in side elevation and partially in section, of the insulator proper, the supporting-pin, and a portion of the cross-arm. Fig. 2 is a plan view of the parts shown in Fig. 1.

Referring now to the details of construction illustrated in the drawings, 1 is the cross-arm, and 2 the supporting-pin, the upper end of which is preferably screw-threaded to engage with a corresponding screw-threaded recess in the insulator 3.

The general form of the upper portion of the insulator 3 is not materially different from those heretofore used, except that it is provided with ridges 4 for conducting water away from the portions located directly above the cross-arm. The invention is not limited as regards the number or shape of these ridges. There should, however, be at least two, one at each side, and each of them should preferably extend downward and inward from a point substantially over the middle of the cross-arm to a point beyond the edge of the cross-arm. It will be understood, moreover, that grooves may be employed in lieu of ridges for conducting the water away from the cross-arm, if found feasible or desirable in practice.

I provide the under side of the insulator with an inner long petticoat 5, that is substantially tubular, the inner side being adjacent to the pin 2 and separated therefrom by a comparatively small space. The lower edge of this petticoat 5 is located a comparatively short distance above the cross-arm 1. The edge 6 of the insulator has a materially greater diameter than the petticoat 5 and is located sufficiently above the edge of the latter so that the striking distance between the former and the cross-arm is approximately equal to that between it and the supporting-pin 2. The petticoat 6 also protects to a greater or less extent the petticoat 5 from rainfall.

I have shown the insulator as provided with an intermediate petticoat 7 in order to guard against any possible creeping of the moisture onto the inner petticoat 5; but this part 7 is not essential to the invention. In fact, I desire it to be understood that the invention is not limited as regards the number of petticoats employed beyond the two first described. It will be understood, further, that the invention is useful and operative without the water-conducting ridges 4; but these features are considered as desirable and will preferably be employed in practice.

It will be readily seen that by employing the long inner petticoat 5 in connection with the short outer petticoat 6 a comparatively small, and consequently strong and easily manufactured, insulator is provided which insures the requisite striking distance between the wire or the edge of the petticoat 6,

should the latter be wet, and the pin and cross-arm. Furthermore, since the petticoat 5 is both long and narrow it fulfils the conditions required for insuring a minimum amount of surface leakage.

I claim as my invention—

1. An insulator for high-tension circuits having a long, tubular petticoat adjacent to the supporting-pin and a short outer petticoat of much greater diameter the edge of which is approximately the same striking distance from the cross-arm and the supporting-pin.

2. An insulator for high-tension circuits having two or more ridges on its outer surface which extend transversely to the cross-arm, a long, tubular petticoat adjacent to the supporting-pin and an outer petticoat of much greater diameter the edge of which is approximately the same striking distance from the supporting-pin and the cross-arm.

3. An insulator for high-tension circuits having outer ridges transverse to the cross-arm, a long tubular petticoat adjacent to the supporting-pin and a plurality of short petticoats, the outer one of which has a much greater diameter than the long petticoat and is approximately the same striking distance from the supporting-pin and the cross-arm.

In testimony whereof I have hereunto subscribed my name this 11th day of February, A. D. 1898.

RALPH D. MERSHON.

Witnesses:
WESLEY G. CARR,
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