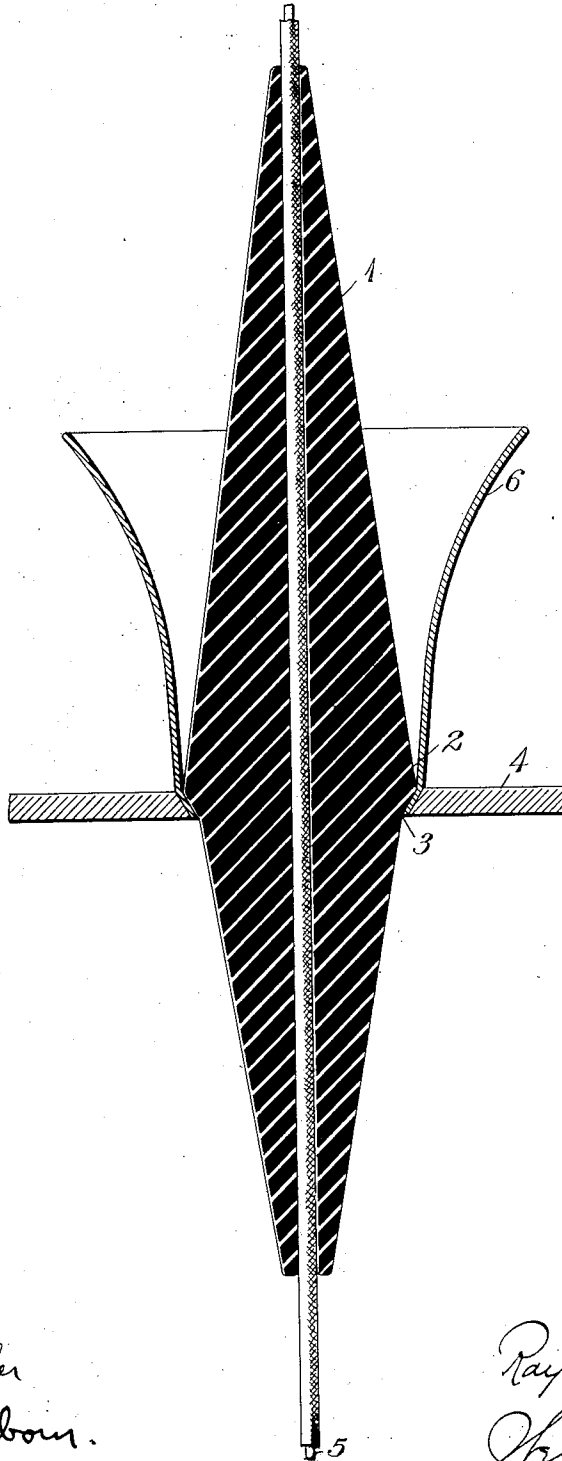


No. 888,901.

PATENTED MAY 26, 1908.

R. P. JACKSON.
ELECTRICAL APPARATUS.
APPLICATION FILED SEPT. 3, 1907.



WITNESSES:

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RAY P. JACKSON, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA:

ELECTRICAL APPARATUS.

No. 888,901.

Specification of Letters Patent.

Patented May 26, 1908.

Application filed September 3, 1907. Serial No. 391,249.

To all whom it may concern:

Be it known that I, RAY P. JACKSON, a citizen of the United States, and a resident of Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electrical Apparatus, of which the following is a specification.

My invention relates to electric insulators and has special reference to insulating sleeves and bushings which are adapted for use in very high voltage electric apparatus, such as alternating current transformers.

The object of my invention is to provide means for effecting a substantially uniform distribution of potential over the surface of an insulating sleeve or bushing that is supported by a plate or frame of conducting material intermediate its ends.

High voltage electrical apparatus, of which transformers, lightning arresters and condensers are examples, are frequently located in fluid-containing tanks of conducting material, such as boiler iron or steel. The conducting leads for apparatus so located are brought out through sleeves or bushings of glass, porcelain or other insulating material, which are usually supported by the cover or a wall of the fluid-containing tank.

When the difference of potential between the conducting lead and the supporting wall of the tank is very great, it is desirable that the distribution of potential over the surface of the bushing shall be substantially uniform in order to avoid the destruction of the insulator, but, under usual conditions, such distribution does not exist.

According to my present invention, I provide a shield of conducting material which is connected to the supporting plate, at its junction with the bushing, and which flares outwardly from the plate and from the bushing. By this means, I am able to effect a substantially equal distribution of potential over the surface of the bushing.

The single figure of the accompanying drawing is a sectional elevation of an insulating sleeve or bushing provided with the shield of my invention, which is given the form of a skirt or bell. The form of the shield may, of course, be varied without departing from the spirit of my invention and it is not essential that the shield form a continuous conductor surrounding the bushing since the same result may be accomplished

by the use of a plurality of conducting strips equally disposed about the bushing and connected to the conducting plate.

Referring to the drawing, an insulating sleeve or bushing 1, having a flange or shoulder 2, is mounted in a suitable opening 3 in a plate 4 of conducting material. A current-conducting lead 5 passes through the bushing and a shield 6 of conducting material is connected with the plate at its junction with the bushing and flares outwardly therefrom. The general form of the shield is that of a bell or skirt, but my invention is not restricted in this regard.

I claim as my invention:

1. The combination with an electric conductor, an insulating sleeve therefor and a support intermediate the ends of the sleeve, of a shield of conducting material for effecting substantially uniform distribution of the potential of the insulator between the support and the conductor.

2. The combination with an electric conductor, an insulating sleeve therefor and a support intermediate the ends of the sleeve, of a bell-shaped shield of conducting material connected to the support for effecting substantially uniform distribution of the potential between the support and the conductor.

3. The combination with an electric conductor, an insulating sleeve therefor and a support intermediate the ends of the sleeve, of a flaring shield of conducting material that surrounds the insulator and is secured to the support and extends outwardly from the insulator.

4. The combination with an electric line or lead conductor, an insulating sleeve or bushing therefor, and a supporting plate of conducting material for the sleeve or bushing, of a bell or skirt of conducting material secured to the supporting plate at its junction with the insulator and flaring outwardly from the insulator and the plate for effecting a substantially uniform distribution of potential on the surface of the insulator between the plate and the line or lead conductor.

5. The combination with an electric conductor, an insulating sleeve or bushing having an intermediate flange or shoulder and ends which taper from the flange or shoulder and a supporting plate of conducting material having an opening into which the sleeve

or bushing is fitted, of a bell or skirt of conducting material secured to the supporting plate at its junction with the insulator and flaring outwardly from the insulator and the
5 plate for effecting an even distribution of potential on the surface of the insulator between the plate and the line or lead conductor.

In testimony whereof, I have hereunto subscribed my name this 29th day of August, 1907.

RAY T. JACKSON.

Witnesses:

R. B. INGRAM,
BIRNEY HINES.