

UNITED STATES PATENT OFFICE.

WILHELM BOEHM, OF CHARLOTTENBURG, GERMANY.

METHOD OF MANUFACTURING PORCELAIN INSULATORS.

1,128,747.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, WILHELM BOEHM, a subject of the German Emperor, residing at 39 Mommsenstrasse, Charlottenburg, Germany, have invented certain new and useful Improvements in Methods of Manufacturing Porcelain Insulators, of which the following is a specification.

This invention relates to an improved method of manufacturing porcelain electric insulators and has for its object to provide means by which such insulators, which are adapted for use with high tension conductors, may be more cheaply manufactured than has been possible with the methods heretofore followed.

According to the invention, the body of an insulator formed of unglazed porcelain, which is sufficiently porous, is treated with a highly insulating material. For this purpose heavy hydrocarbon, such as paraffin or compounds like india rubber, oils and the like may be employed, and, after the pores of the body have been filled with such insulating material, the latter is treated so that it is rendered stable and caused to constitute a permanent part of the article. To apply such insulating material the body may be suitably heated and then treated with the insulating liquid while in a vacuum, or by means of suitable pressure said liquid may be forced throughout the pores of the body. If desired, powdered material of high insulating character, such as mica, may be incorporated with the liquid, which will serve as a binder.

In case the filling material for the pores comprises an oxidizable oil, the article is preferably treated with ozone which acts to oxidize the oil and render the filling of the pores stable. That is, when an insulator formed as described and saturated with oil is exposed to the action of ozone the oil is readily oxidized so that a solid body of high insulating capacity is provided.

If desired, the initial body may be molded from relatively small pieces of porcelain material, such as crushed porcelain waste, which are held together by a material or substance which, during the subsequent fir-

ing or baking operation, will be evaporated or fritted so that the body will have a maximum amount of porosity.

By the method above described, it is possible to produce insulators adapted for high potential current work from very inexpensive porcelain material and as such material, owing to its melting point being relatively lower than the higher grades of porcelain, does not require an extreme amount of heat for the baking operation, the cost of the necessary kilns and means for heating the same is materially reduced. Further, the high percentage of waste arising from cracking or crazing due to the employment of a high degree of heat is obviated.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. The herein described method of making an electric insulator comprising forming a suitable body of porous, unglazed, porcelain, filling the pores of said body with a fluid insulating compound, and treating the article to render the insulating compound stable.

2. The herein described method of making an electric insulator comprising forming a suitable body of porous, unglazed, porcelain, filling the pores of said body with an oxidizable fluid, and exposing the article to the action of ozone, for the purpose described.

3. The herein described method of making an electric insulator comprising forming a suitable body of porous, unglazed, porcelain, filling the pores of said body with a mixture of an oxidizable fluid and powdered non-electrical conducting material, and treating the article to render the insulating compound stable.

4. The herein described method of making an electric insulator comprising forming a suitable body of porous, unglazed, porcelain, filling the pores of said body with a mixture of an oxidizable oil and powdered non-electrical conducting material, and treating the article with ozone.

5. The herein described method of making an electric insulator comprising molding a

suitable body of relatively small particles of porcelain material and a binding medium adapted to be fritted during the subsequent firing operation to give the body a maximum porosity, firing the article, filling the pores of the body with a fluid insulating compound, and treating the article to render the insulating compound stable.

6. An electric insulator comprising a

porcelain body, the pores of which are filled by a stable insulating compound.

In testimony whereof I have affixed my signature, in presence of two witnesses.

WILHELM BOEHM.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.