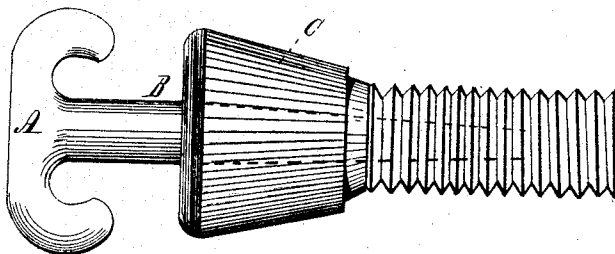


I. SMITH.

Insulating Compounds.

No. 158,868.

Patented Jan. 19, 1875.



WITNESSES.

W. D. Newman,

Wm. H. Brinton Jr.

INVENTOR

Irae Smith

By

Legg & Legg,

Attorneys.

UNITED STATES PATENT OFFICE.

ISAAC SMITH, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO
GEORGE A. CHAPMAN, OF SAME PLACE.

IMPROVEMENT IN INSULATING COMPOUNDS.

Specification forming part of Letters Patent No. **158,868**, dated January 19, 1875; application filed
January 16, 1874.

To all whom it may concern:

Be it known that I, ISAAC SMITH, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Insulators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved telegraphic insulator, and more particularly to the insulating material itself that is employed.

In the drawings, Figure 1, is represented an insulator of well-known form, in which the tang of the supporting-hook is insulated by the material that is the subject-matter of my invention.

A is any suitable metallic hook, provided with a tang, B, that projects up into and is insulated by the insulating material C, which material is prepared as follows:

I take the following ingredients, in proportions as follows: Asbestos, five pounds; shellac, two and one-half pounds; coal-tar, one-quarter pound; oak-black, one pound; paraffine, one-quarter pound; which proportions may be varied within reasonable limits, accordingly as the ingredients themselves vary in quality, and, by heat, work them together into a homogeneous mass, and I find the result to be a tough, hard insulating material, that is not acted on by water or frost, and to which water will not adhere. Then, to construct such an insulator as is shown in the drawing, a suitable piece of the material is softened by warming, is placed in a die with the tang B, and then, under the influence of strong pressure, the insulating material C is pressed and shaped as may be required around the tang B. The shape shown in the drawing is that of a screw, by which it may be fastened to a suitable support.

I do not limit myself to such forms of insulators as are shown in the drawing, nor to the combination of the material with a metallic

hook, as other forms may be employed without departing in any degree from the principle of my invention, which refers to the insulating material wherever employed in cool localities to insulate a conductor of electricity.

It is obvious that asphaltum may be employed as a substitute for the coal-tar, and some other gum than shellac may also be employed instead of that ingredient, without departing from my invention, and so, instead of paraffine, spermaceti might be substituted, because each of these ingredients might be regarded, when used as above, as equivalents of those that I prefer to employ.

The ingredient "oak-black," hereinbefore mentioned, is the result of the distillation of oak-wood. The first substance drawn off is termed wood-alcohol, the second is a species of tar, and that which is left in the bottom of the still is oak-black. It is new to commerce, is black, bright, easily fractured, has a bright fracture, and resembles Nova Scotia coal, with a strong smell similar to tar.

I prefer generally to incorporate the foregoing ingredients by first mixing them, then passing them between rolls heated to about 150° Fahrenheit. After being thus incorporated the mass may be molded into suitable or desirable shapes in steel dies that have been heated, and after removal, while still hot, I coat them with hot paraffine, after which they are ready for use.

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

The insulating material herein described, the same being a homogeneous mixture of shellac, asbestos, coal-tar, oak-black, and paraffine, in the proportions substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of October, 1873.

ISAAC SMITH.

Witnesses:

WELLS W. LEGGETT,
EDM. F. BROWN.