

UNITED STATES PATENT OFFICE.

JOHN JACOB KESSLER, JR., OF ST. LOUIS, MISSOURI.

OIL-PROOF ELECTRICAL INSULATING COMPOUND AND METHOD OF MAKING SAME.

No. 846,477.

Specification of Letters Patent.

Patented March 12, 1907.

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To all whom it may concern:

Be it known that I, JOHN JACOB KESSLER, Jr., a citizen of the United States, residing at St. Louis, and State of Missouri, have invented certain new and useful Improvements in Oil-Proof Electrical Insulating Compounds and Methods of Making Same, of which the following is a specification.

The object of my invention is to produce an oil and water proof compound having a high insulating resistance against electric currents, the compound being especially designed for use in the production of insulated electric coils and of such character as to remain rigid and strong at high temperatures.

My improved compound is produced in the following manner: Linseed-oil or other similar oil or a varnish having such oil as a constituent is intimately mixed with a flaky powdered or fibrous non-conducting mineral—such, for instance, as mica, limestone, soapstone, or asbestos—a sufficient quantity for the oil or oil-varnish being used to make a paste. This mixture is then dried in any suitable manner and the dried mass ground in a mill with a volatile oil, such as naphtha or benzol, which will dissolve, partially dissolve, or soften the dried oil or oil-varnish.

The result is a homogeneous paint or enamel which becomes hard and dry upon evaporation of the solvent, the last traces of which may be expelled by baking in an oven such as is commonly used for drying purposes in the electrical arts. In order to make the dried mass more flexible or tougher, there may be added to this paint or enamel a small amount of fresh varnish or varnish-gum.

The compound described when applied to a coil, either as it is being wound or after it has been wound, hardens as the volatile oil evaporates and forms, with the wire, a solid oil-proof mass where all chemical action has been practically eliminated.

The dried mixture of the non-conducting mineral and oil or oil-varnish may be ground in a mill without the presence of the volatile oil, and such oil mixed therewith at the time of use, if desired; but I prefer to make the complete preparation at the time of grinding, as a more homogeneous compound is obtained.

Where it is desirable that the compound shall possess great hardness and little elasticity, I have found that thirty-four parts of dry linseed-oil varnish and sixty-six parts

of whiting ground together with a sufficient quantity of a mixture of equal parts of wood-alcohol and benzol to produce a paste makes a satisfactory mixture. If less hardness and more elasticity is desired, the proportion of the dry linseed-oil varnish is increased and the proportion of whiting decreased. The desirable proportion for this purpose is sixty-six parts of the dry varnish and thirty-four parts of whiting, again using a sufficient quantity of the solvent composed of equal parts of wood-alcohol and benzol to produce the desired paste.

I claim as my invention—

1. An insulating compound comprising a mixture of a non-conducting mineral and oil, which has been dried and ground.

2. An insulating compound comprising a mixture of a non-conducting mineral and linseed-oil, which has been dried and ground.

3. An insulating compound comprising a mixture of a non-conducting mineral and linseed-oil varnish, which has been dried and ground.

4. An insulating compound comprising a mixture of a non-conducting mineral and oil, which has been dried and ground, and a volatile oil.

5. An insulating compound comprising a mixture of a non-conducting mineral and linseed-oil, which has been dried and ground, and a volatile oil.

6. An insulating compound comprising a mixture of a non-conducting mineral and linseed-oil varnish, which has been dried and ground, and a volatile oil.

7. That improvement in the art of producing insulating compounds which consists in mixing a non-conducting mineral with an oil, hardening the mixture, grinding the mixture, and mixing therewith a volatile oil with the ground mass.

8. That improvement in the art of producing insulating compounds which consists in forming a mixture of a non-conducting mineral and linseed-oil, drying the mixture, and thereafter grinding the dried mixture together with a volatile oil.

9. That improvement in the art of producing insulating compounds which consists in forming a mixture of a non-conducting mineral and oil, drying the mixture, and thereafter grinding the dried mixture together with a volatile oil.

10. That improvement in the art of producing electrical insulating compounds which

consists in forming a mixture of a non-conducting mineral and oil-varnish, drying the mixture, and thereafter grinding the dried mixture with a volatile oil.

- 5 11. That improvement in the art of producing electrical insulating compounds which consists in forming a mixture of an inert non-conducting mineral and linseed-oil varnish,

drying the mixture, and thereafter grinding the dried mixture with a volatile oil. 10

In witness whereof I have hereunto set my hand and seal at St. Louis, Missouri.

JOHN JACOB KESSLER, JR. [L. s.]

Witnesses:

ARTHUR VOGEL,
JOHN W. BURIAN.