

UNITED STATES PATENT OFFICE.

GEORGE H. RUPLEY, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

FILLER FOR COILS AND THE LIKE.

981,798.

Specification of Letters Patent.

Patented Jan. 17, 1911.

No Drawing.

Application filed August 7, 1907. Serial No. 387,508.

To all whom it may concern:

Be it known that I, GEORGE H. RUPLEY, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Fillers for Coils and the Like, of which the following is a specification.

This invention relates to compounds adapted for use in connection with some of the solvent oils, such as "transil oil" or the like.

One of the objects of my invention is to produce a material which has a narrow plastic range and will stay hard approximately until it reaches its melting point, the material being also insoluble in solvent oils.

My invention relates more specifically to materials adapted for fillers for coils.

It is the practice in the construction of transformers to fill the spaces between the turns of the wire with a filler of some sort. The transformer windings are then immersed in insulating oil, preferably "transil oil" which is a petroleum oil of a highly insulating character used for transformers. The materials heretofore used and found to be suitable for transformer fillers have been soluble in the transil oil. I have found that a compound of a wax like material such as carnauba wax with a gum, such as copal or kauri gum is absolutely insoluble in transil oil either hot or cold. I find moreover, that this compound does not have a softening temperature over a wide range. The gums do not combine readily with the transil oil, and the carnauba wax itself is likewise insoluble in the oil. The wax however has a lower melting point than the gum so that the addition of the wax gives the compound a lower melting point than the copal alone

would have. I have found that a compound consisting of substantially 75% of copal or kauri gum and 25% of carnauba wax produces a compound which in addition to being insoluble in transil oil changes its flow point under continuous heat very gradually. In mixing the compound the gum is melted until it becomes limpid and then the wax is added until the combination is effected. A compound is thus produced which is very efficient and is found to soak into the spaces between the windings very thoroughly.

While I have described my compound as being composed of specific materials combined in definite proportions, it should be understood that I do not limit my invention in these particulars except in so far as it is limited by the scope of the claims annexed hereto.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. A compound composed of copal gum and carnauba wax.
2. A compound composed of substantially 25% wax and 75% copal gum.
3. A compound composed of substantially 25% carnauba wax and 75% copal gum.
4. A filler for oil immersed transformer windings composed of substantially 25% wax and 75% copal gum.
5. A filler for oil immersed transformer windings composed of wax and copal gum the latter constituting more than 50% of the compound.

In witness whereof I have hereunto set my hand this 3d day of August, 1907.

GEORGE H. RUPLEY.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.