

UNITED STATES PATENT OFFICE.

SALOMON HEIMANN, OF NEW YORK, N. Y., ASSIGNOR OF ELEVEN-TWENTY-THIRDS TO LEOPOLD KATZENSTEIN, OF SAME PLACE.

INSULATING COMPOUND.

SPECIFICATION forming part of Letters Patent No. 547,120, dated October 1, 1895.

Application filed February 28, 1895. Serial No. 540,047. (No specimens.)

To all whom it may concern:

Be it known that I, SALOMON HEIMANN, a citizen of Germany, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Insulating Compounds, of which the following is a specification.

This invention relates to improvements in compounds to be used for insulating electric conductors of all kinds.

The object of my invention is to provide a new and improved insulating compound which is absolutely waterproof, offers great resistance to fire, is so flexible that it does not break even when the wire or other conductor is bent short or twisted, adheres firmly to the article upon which it has been applied, produces a perfect insulating-covering of slight thickness, is lasting and durable, and is not expensive.

My improved compound is composed of the following ingredients, mixed and compounded in a manner that will now be set forth: pulverized asbestos, pulverized glass, rubber, rosin-oil, mirbane-oil, celluloid or pyroxyline, castor-oil, benzine. About equal quantities of finely and minutely pulverized asbestos and of pulverized glass are thoroughly mixed, and to the same from ten to fifteen per cent. in weight of rubber is added, preferably in scraps, and thoroughly mixed, and this mixture is then rolled between heated rollers to form flexible sheets or plates, which are then dissolved in benzine to about the consistency of sirup. To this are added about five per cent. of castor-oil and about twenty per cent. each of rosin-oil and mirbane-oil. This mixture is thoroughly stirred, and then from ten to fifteen per cent. of celluloid dissolved in amyloxyde-acetic is added, and the entire mixture is again thoroughly stirred and is then ready for use. To render wire proof against overheating by too much electrical tension in the wire, the wire is first provided with a coating composed of a mixture of water-glass and pulverized glass. The compound is applied on wire by drawing the wire through the compound and removing the surplus, or by dipping, and is then dried in the

open air or in heated chambers. On other parts to be insulated it is applied by means of a brush and on sheets of paper or other substances to be used as insulating-layers by dipping them and then drying them.

The coating of water-glass and pulverized glass first applied is a fireproof coating, which, in case the electrical tension is too great, prevents the outer coating from catching fire from overheating the wire. The outer coating composed of the compound is absolutely waterproof and a perfect non-conductor of electricity, and at the same time can resist heat sufficiently to prevent its being melted off.

While the coating formed of the compound is not absolutely fireproof, it can resist heat to such an extent that it does not burn or melt, but only becomes charred; but even then retains its insulating properties and does not break or chip off the wire.

The covering or coating produced by my compound increases the diameter of the wire but very slightly, and does not in any wise interfere with the flexibility of the wire. The pulverized glass and asbestos in the compound renders the coating formed of the same heat-resisting, the castor-oil gives the compound the necessary fluidity, the rosin-oil and rubber the required viscosity, and the mirbane-oil the necessary flexibility, and the mirbane-oil does not dry even when the castor-oil and the rosin-oil have hardened to a certain extent. The mirbane-oil also prevents the rubber and castor-oil and rosin-oil from hardening to such an extent as they would harden if not mixed with the mirbane-oil. The rubber and celluloid form a binding and holding body, and when mixed with the above-named oils and other ingredients form the insulating and waterproof part of the coating.

On account of the above properties the compound can be used in place of varnish or paraffine for insulating parts of electrical appliances, and paper sheets saturated with the compound form perfect insulating-layers for electric coils, &c.

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

1. An insulating compound, composed of pulverized asbestos, pulverized glass, rubber, rosin oil, mirbane oil, castor oil and dissolved celluloid in about the proportions given and
5 mixed and combined, substantially in the manner herein described and set forth.

2. An electrical conducting wire, provided with a coating of water glass and pulverized glass, which is covered by a second coating,
10 composed of a mixture of pulverized asbestos, pulverized glass, rubber, rosin oil, mirbane

oil, castor oil and dissolved celluloid, substantially as herein described and set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 27th day of February, 1895. 15

SALOMON HEIMANN.

Witnesses:

OSCAR F. GUNZ,
N. M. FLANNERY.