

UNITED STATES PATENT OFFICE.

WILLIAM GEO. BREMER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE UNITED ELECTRIC IMPROVEMENT COMPANY, OF GLOUCESTER CITY, NEW JERSEY.

HIGH-RESISTANCE-SHUNT COMPOUND.

SPECIFICATION forming part of Letters Patent No. 435,030, dated August 26, 1890.

Application filed June 6, 1890. Serial No. 354,515. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM GEORGE BREMER, a subject of the Emperor of Germany, but now residing at the city of St. Louis, in the State of Missouri, have invented a certain new Compound or Composition for Use in Electrical Cut-Outs and Safety and other Devices of Electric-Lighting Systems, of which the following is a specification.

10 The principal object of my invention is to provide a homogeneous high-resisting compound or composition melting, softening, or fusing at different temperatures, according to the composition of the materials used, for
15 the formation of disks, rods, bars, pellets, plugs, or other forms, shapes, or configurations for use in cut-outs and safety and other devices in electric-lighting systems.

20 My invention consists of a homogeneous compound or composition capable of withstanding or measuring a high resistance and at the same time melting, softening, or fusing at comparatively low temperatures.

25 In order that my invention may be understood by those skilled in the art to which it appertains, I will now proceed to describe one of the ways in which it may be carried into effect.

30 A certain quantity or percentage of rubber is dissolved in bisulphide of carbon or chloroform, and a similar quantity or percentage of graphite added thereto. The composition, in preferably a thick solution, is then worked in a mortar or other suitable appliance until
35 the solvent employed in the compounding of the mass has been evaporated. After undergoing the above operation the thick mass is then rolled into sheets or drawn out into rods or bars, or caused to assume such other
40 form, shape, or condition as may be required for the special requirements of the electrical appliance or device to which it is to be applied. After undergoing the above operation the sheets, bars, or rods, &c., are exposed to
45 heat in a vulcanizing apparatus for several hours, according to requirements of the product for the particular use. It will be found, when removed from the vulcanizer, that it

has assumed a hard or rigid state or condition, ready for use, or, in other words, it
50 will have assumed such a condition as that it will melt or soften to a greater or less degree under the influence of a comparatively mild heat, or a heat such as is produced by an electric current brought in contact therewith.
55 The mass after being rolled or drawn out into sheets in the aforesaid manner may, if preferred, undergo the heating or vulcanizing stage of the process of manufacture before being cut up into the desired form, shape, or
60 configuration for use, and in many instances it will be preferable to make the product in such manner.

In some cases it is desirable to have the finished product, compound, or composition
65 in such a state or condition as that it will not too readily melt, soften, or fuse. In such instance the addition thereto of a certain quantity or percentage of sulphate of baryta to the composition of graphite and rubber will give
70 to said product this characteristic quality or condition; but in every instance it is very necessary for securing the best results in practice that the constituent or component
75 parts of the compound or composition should consist of such materials or substances as will produce a homogeneous finished product and withstand and measure a high resistance in use—for example, in electrical appliances of
80 such character as to be capable of being brought into action when the filaments or pencils from any cause fail to operate in shunt of cut-out devices of electric lamps to cause the lamp to establish a short circuit or
85 the current to be shunted through the particular lamp without affecting the others arranged in series of the system. There are many other uses to which such compound or composition may be advantageously employed in electric-lighting apparatus or systems.
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Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hard high-resisting compound or composition formed of rubber, graphite, and
95 sulphate of baryta dissolved by a solvent and

rendered hard, but melting or softening at a moderate temperature, substantially as and for the purposes set forth.

5 2. A homogeneous resisting material composed of rubber, graphite, and sulphate of baryta rendered hard and formed into disks, pellets, rods, or other articles, substantially in the manner and for the purposes described.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WM. GEO. BREMER.

Witnesses:

WM. MURDOCK,
JOHN W. ACHARD.