(No Model.)

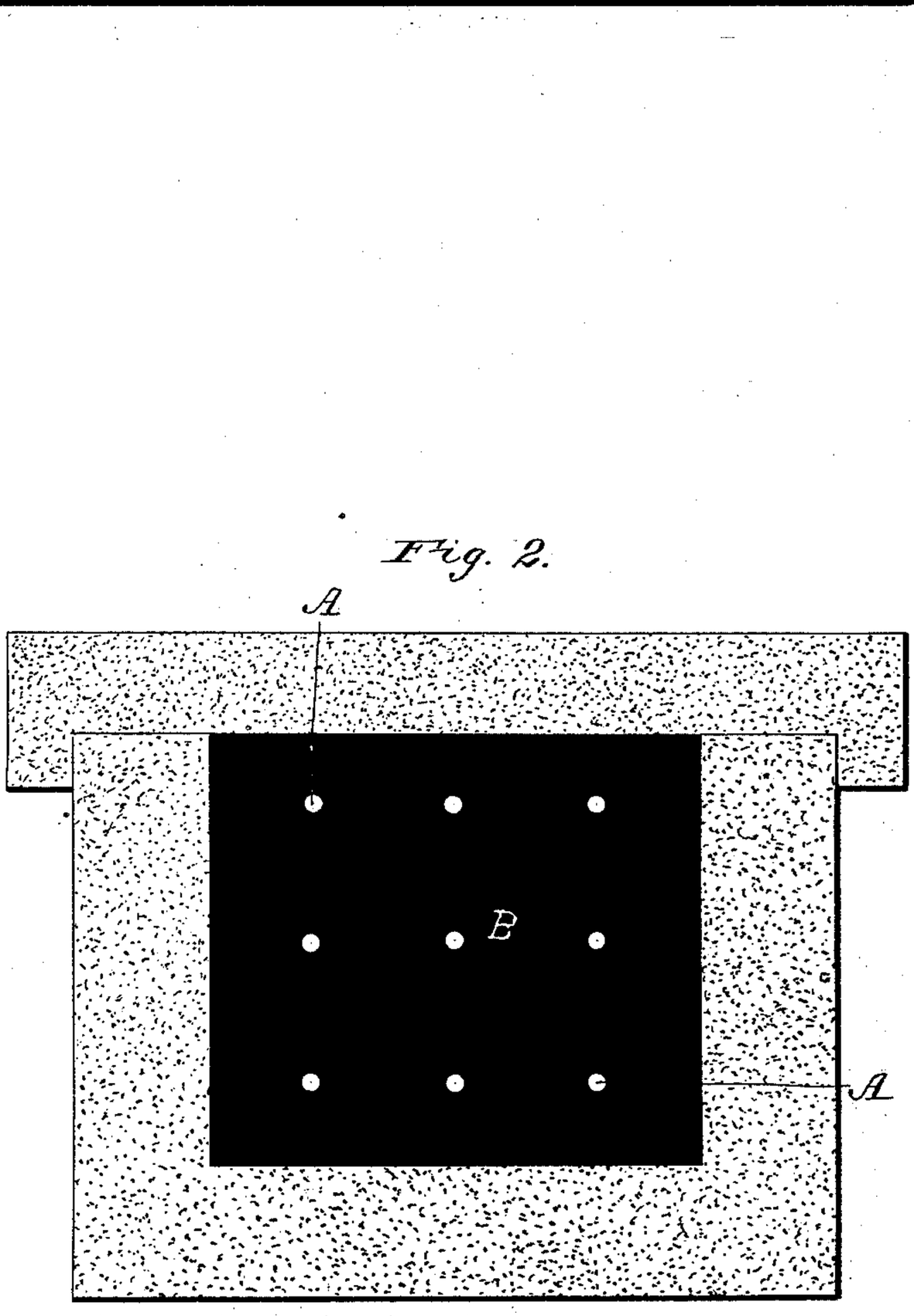
S. H. GILSON.

COMPOSITION FOR INSULATING AND OTHER PURPOSES.

No. 362,076. Patented May 3, 1887.

Fig. 1.

Fig. 2.



Witnesses:
C. L. Taylor
C. E. Doyle.

Inventor:
Samuel H. Gilson,
by J. H. Houghton,
his attorney.

UNITED STATES PATENT OFFICE.

SAMUEL H. GILSON, OF SALT LAKE CITY, UTAH TERRITORY, ASSIGNOR OF ONE-HALF TO GEORGE GOSS, OF SAME PLACE.

COMPOSITION FOR INSULATING AND OTHER PURPOSES.

SPECIFICATION forming part of Letters Patent No. 362,076, dated May 3, 1887.

Application filed January 2, 1886. Serial No. 187,473. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. GILSON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented certain new and useful Improvements in Composition for Insulating and other Purposes; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide an insulating material of new composition, and which is peculiarly advantageous in point of efficiency and cheapness.

The ingredient to which the chief characteristics of the composition are due I term "gilsonite."

Gilsonite is a recently discovered bituminous material, found in Uintah county, Utah, and there only, so far as I am now aware. It is, in its native state, black, very brittle, and easily powdered. It becomes liquid at about 280° Fahrenheit. It gives the following analysis: Carbon, 78.43; hydrogen, 10.20; nitrogen, 2.27; oxygen, 8.70; ash, .40; total, 100.00. It is soluble as follows: Bisulphide of carbon and chloroform dissolve it completely; benzole, 95 per cent.; ether, 86.5 per cent.; absolute alcohol, 95 per cent.; oil of turpentine, a large per cent., not yet determined.

Gilsonite is particularly rich in hydrogen. So far as my experiments have gone I find it practically soluble in benzole, partially soluble in turpentine and in sulphuric ether, but not practically soluble in alcohol.

In various respects the substance differs from the asphalts, grahamite, albertite, or any other bituminous material of which I have knowledge. It has insulating properties of a high degree.

The insulating compound is made as follows: I take ninety parts, by weight, of gilsonite and comminute it more or less finely. It is then subjected in a suitable vessel, with ten parts of oil or fat, to the action of heat until reduced to liquid form. About 220° Fahrenheit we have found sufficient. The oil or fat is added to and mixed with the gilsonite to aid fusion and lessen the brittleness of the compound.

The mixture is applied, preferably when partly cooled, to the electric conductor to be insulated, to form a coat upon the same—as, for instance, by drawing the wire through the semi-liquid mass—and will be found to be a very perfect insulator. It may be applied in other ways for insulating purposes—as, for instance, by constituting it the filling of electric-conductor conduits.

In the accompanying drawings I have shown two methods of applying the insulating composition.

Figure 1 is a perspective view of a single electric conductor coated with the composition. Fig. 2 is transverse section of a conduit for electrical conductors, the conductors being insulated by a filling consisting of my composition.

In said drawings, A represents the electrical conductors, and B the insulating composition. It may be applied in most situations where an insulator is desired, unless a high degree of heat is to be encountered.

To make the compound harder, less oil than the proportions stated above may be used, and, if desired, a silicious component, such as sand, may be added.

India-rubber in some solvent may be added to the mixture. The proportions of the ingredients which I then prefer are gilsonite, eighty-four parts; oil, ten parts, and rubber-gum, six parts. It will be understood that these proportions may be to some extent varied without departing from my invention.

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

1. The herein-described insulating composition, consisting of gilsonite and oil or fat, in substantially the proportions described.

2. The herein-described insulating composition, consisting of gilsonite, oil or fat, and india-rubber, in substantially the proportions described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL H. GILSON.

Witnesses:

CHARLES S. VARIAN,

JOHN KING.