

UNITED STATES PATENT OFFICE.

Cross-Reference

235,909

106. COMPOSITIONS,
COATING OR PLASTIC

GEORGE F. SENTER, OF NEW YORK, N. Y.

84 COMPOSITION FROM MINERAL WOOL FOR JOURNAL-BEARINGS.

SPECIFICATION forming part of Letters Patent No. 235,909, dated December 28, 1880.

Application filed May 14, 1880. (No specimen.)

To all whom it may concern:

Be it known that I, GEORGE F. SENTER, of the city, county, and State of New York, have invented a new and useful Improvement in Composition from Mineral Wool for Journal-Bearings, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it most nearly appertains to make and use the same.

My invention consists of a composition hereinafter described, of pressing that composition into a solidified form, and of making journal-bearings, packings, and similar articles by combining it in retaining boxes or shells, and of saturating the articles thus made with unctuous matter.

The composition is made as follows: I take of mineral wool, sometimes called "slag cotton," which is a substance obtained from iron or furnace slag, three parts, by weight, and mix it with one part of plumbago. These two materials are then well mixed or ground together. I then add to this mixture liquid silicate of soda or liquid silicate of potash, sometimes called "water-glass," in sufficient quantity to make of the composition a thick paste. This paste is then pressed in a mold or form sufficiently, by a hydraulic or other press, to compress it into a firm and compact mass, which gives it a sufficient solidity to be successfully used for packings, journal-bearings, or other working-surfaces for any kind of machinery.

The bearing or other article it is desired to make may be pressed from the plastic composition above described. A retaining case or shell is made, of suitable size, into which the composition is pressed by sufficient pressure to form it into a hard compact material, and firmly attach it to the case or shell, into which it is pressed, a mandrel of the form of the journal or other surface which is to work on the surface of the composition being pressed on it at the same time, so that the bearing or other article will have a surface corresponding with the working-surface which is to come against it.

The bearing or other article may be cut from blocks of the above-described material, shaped to correspond with the working-surface and to accurately fit the retaining box or shell. After the composition shall have been pressed and thoroughly dried it should be dipped in hot melted paraffine, ozocerite, wax, or other suitable unctuous matter, or

into a solution of any of these substances, which are used to stop up and fill the pores of the material of which the bearing or packing is made. If desired, the bearing or packing so made may be put in an exhaust or vacuum chamber, and when the air is exhausted therefrom the unctuous filling-matter above described being introduced will fill the material therein.

Instead of the three parts of mineral wool, I may mix two parts of mineral wool, one part of powdered soapstone, and add to this one part of plumbago, adding water-glass, subject to pressure, and treat in the manner above set forth; or I may use one part of powdered mica, two parts of mineral wool, with one part of plumbago, and treat as above set forth. The proportion of the soapstone and mica added to the composition may be varied from those stated, according as the bearing is for fast or slow, light or heavy machinery.

The proportion above stated, in which the different ingredients are to be mixed, may be varied to suit different machinery in which it is to be used.

The material above described will be non-heating, and will not require oil or other lubricant to aid the free working of the working parts.

Blocks of the material may be made and sold, from which the bearings or packings shall be cut.

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

1. A composition consisting of mineral wool, plumbago, and water-glass, substantially as specified and set forth.

2. The substance made by mixing mineral wool, plumbago, and water-glass and subjecting the compound thus made to pressure, substantially as specified and set forth.

3. The bearing made by compressing a mixture of mineral wool, plumbago, and water-glass, and filling the interstices or pores of this material, when dry, with paraffine or other unctuous material, substantially as specified.

4. As an article of manufacture, a containing-case combined with the non-heating and anti-friction compound above described.

G. F. SENTER.

Witnesses:

JOSEPH J. SULLIVAN,
JAMES E. DALTON.