

UNITED STATES PATENT OFFICE.

ALPHEUS HUGH HIPPLE, OF OMAHA, NEBRASKA.

METHOD FOR TREATING ASBESTOS.

No. 828,114.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed November 10, 1905. Serial No. 286,698.

To all whom it may concern:

Be it known that I, ALPHEUS HUGH HIPPLE, a citizen of the United States, and a resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Methods for Treating Asbestos, of which the following is a full, clear, and exact description.

My invention relates to an improved process for treating asbestos so as to vulcanize the same.

Reference is made to my Patent No. 694,859, dated March 4, 1902, which describes a process upon which the present method is an improvement.

The desirability of working up asbestos fiber and permeating the same with a substance to be vulcanized is described in my patent just mentioned. It is essential, however, that asbestos fiber, oil, and sulfur be admixed in suitable proportions and that a gentle heat be applied for a suitable length of time in order to enable vulcanization to take place. It is very difficult to admix asbestos fiber, oil, and sulfur in proper proportions for the purpose stated, for the reason that the fiber has a tendency to form into lumps, so that the composite mass thus formed is not uniform. If, on the other hand, the asbestos be in the form of paper or millboard and treated with oil and sulfur, the oil penetrates readily throughout the mass, while the sulfur is deposited superficially thereupon. In cases where the paper or millboard is very thick the oil within the interior of the paper or the mass does not therefore become sufficiently vulcanized. To overcome these difficulties, I take asbestos fiber, powdered sulfur, and water and work the same into a pulp of the consistency used for making asbestos paper or millboard. The pulp being formed, pressure is applied so as to squeeze out a part of the water, and the mass is next dried. Oil is now added and is readily absorbed, owing to the porous nature of the dried pulp.

It will be understood that the asbestos pulp containing the sulfur may be formed into paper, millboard, blocks, and various other shapes, as is done with ordinary wood or paper pulp.

The oil above mentioned is a drying-oil, linseed-oil being excellent for the purpose. The exposure of the pulp to the oil is such

that the pulp becomes nearly or quite saturated.

The pulp or the articles made therefrom, as the case may be, is next placed in a steam-vulcanizer the temperature of which is about 300° Fahrenheit. This temperature is maintained for a definite period of time, usually two hours or more, the paper, millboard, or other articles being wrapped or inclosed in such manner as to prevent changes in form while the heat is applied. After the vulcanizing process is complete the paper, millboard, or articles are removed and allowed to cool.

The proportions of the ingredients used may be varied within wide limits. The quantity of oil which an article made of asbestos is capable of absorbing depends largely upon the density of the article. The amount of sulfur to be used depends to some extent upon the character of the oil. Oxidized oils or boiled oils require less sulfur than oils in their natural state. Ordinarily if raw linseed-oil be used there will be required for each one hundred parts, by weight, of asbestos fiber from twenty-five to fifty parts of oil and for each one hundred parts of oil from twenty to thirty parts of sulfur.

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

1. The method herein described of treating asbestos, which consists in working asbestos fiber and sulfur into a pulp with water, removing the water, saturating the residual mass with oil, and subjecting the mass thus treated to the action of heat until vulcanization takes place.

2. The method herein described of treating asbestos, which consists in working asbestos fiber and sulfur into a pulp with water, shaping said pulp into the form of paper or articles, causing said paper or articles to absorb oil, and subjecting said paper or articles containing said oil to the action of heat until vulcanization takes place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALPHEUS HUGH HIPPLE.

Witnesses:

HELEN CROWE,
C. AARON HULL.