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MASONRY WEATHERPROOFING
COMPOSITION

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This invention relates to a composition and more particularly to a composition adapted to be employed as a waterproofing material and to a novel method of applying the same. In its more specific aspect the invention is directed to a composition of material especially adapted to be employed as a weatherproofing and more particularly as a masonry structure waterproofing material, and also to the method of applying the same.

Masonry structures such as buildings, dams, bridges or the like have long been known. Structures of this character generally consist mainly of concrete, brick, stone, terra cotta, or the like. These structures develop cracks or holes which lessen the weatherproofing and especially the waterproofing properties of the same. In most cases the presence of these cracks and holes has been due to the weather. Because of said cracks and holes, rain or other water sometimes seeps therethrough and deleteriously affects the masonry structure. When this occurs in building walls it sometimes causes the interior of the building to become damp, and in some cases causes the plaster to soften and leave the wall bare and in like manner affects other materials contained therein.

These facts have heretofore been known to others besides myself. Prior to my invention it has been customary to try to render an "old" building waterproof by the employment of a paraffin, wax or similar substance. These substances because of their chemical and physical characteristics are of especial value for this purpose. They are generally chemically permanent so that they are not decomposed to any extent when subjected to the weather of the temperate zone, and they are substantially waterproof and have a good di-electric value.

In practical application, however, it has been found that the employment of these materials has been necessarily limited. One of the main limitations of these materials is that they fail to retain their normal shapes when subjected to temperatures above the normal softening points of the various materials. This characteristic of failing to retain its shape when subjected to a temperature above its softening point is generally known in the art as "slumping". The paraffin was applied in the manner indicated in the U. S. patent to Caffall, #253,505, February 14, 1882. The paraffin was, while in a fluid state, applied by means of a brush to cracks and holes of a heated wall. One of the main drawbacks of the method is that it is expensive and cum-

bersome and sometimes not feasible to heat a wall and apply fluid paraffin thereto.

It has been found that even with paraffin applied in this manner that the same will "slump" in warm weather and flow out of the cracks while some of it will be absorbed by the masonry defining the cracks and holes in which the same was originally contained. Thus, after a wall has attained elevated temperatures because of hot weather or other conditions, it is deprived of the benefits of the filling material in the cracks or pores.

All waxeous substances being in the nature of a "solid liquid" do not have a sharply defined melting point and consequently the melting points are determined by arbitrary methods. My invention is primarily concerned with the slumping and the inherent affinity of masonry structures for waxeous substance. Because of the aforesaid factors I employ a slump test, i. e. retention of shape to define the inherent characteristics of my invention. By slumping as employed throughout the specification and claims, the following tests are employed. First, the waxeous substance per se is cast in the form approximately one half inch high and one quarter inch square and placed in a dry oven whose temperature is raised two degrees per hour. When said casting first definitely loses its shape and shows distinct flow or liquidity, the temperature of the oven is noted and this temperature is termed the normal slumping temperature of said waxeous substance. I have found that by employing my invention as described herein, there is substantially no slumping even if the casting made according to my invention is maintained at the normal slumping temperature as above defined for a period of two hours or more. That is, it will not lose its shape to any substantial extent during this entire period. As a matter of fact even when maintained for two hours at a temperature considerably above said normal slumping temperature no substantial slumping will occur.

As distinguished from the prior art my invention is directed to a weatherproofing material having all of the advantages of that used prior to my invention, but is without the disadvantages thereof. Further, because of my novel product, I am able to apply the same in a more facile and expeditious method which I also believe to be novel.

Briefly, the main aspect of my invention comprises a composition consisting of a weatherproofing and especially a waterproofing material

adapted to be rendered plastic together with a substance intimately admixed therewith to prevent the same from slumping or being to a great extent absorbed by that portion of a masonry structure defining a crack or pore, when the same is employed to fill the cracks or holes therein.

An object of my invention is to provide a novel composition adapted to be employed as a filling material in cracks and holes of a building to render the same weatherproof and especially waterproof, and which composition will not flow upon being subjected to hot weather.

Another object of my invention is to provide a novel composition which will not "slump" or be greatly absorbed by masonry and adapted to be employed as a filling material in cracks and holes of a masonry structure to render the same weatherproof and especially waterproof.

A still further object of my invention is to provide a novel method of adequately filling the cracks and holes of a masonry structure to weatherproof and especially waterproof the same.

Other objects and advantages of my invention will be readily apparent from the following description.

According to my invention I provide a novel masonry structure weatherproofing composition of matter which consists of a substance such as resin or waxes which includes a paraffin and waxes intimately admixed with a filler, such as infusorial or diatomaceous earth, barytes, clays, whiting or the like.

The paraffins, waxes, resins or the like are not substantially decomposed when exposed to the atmosphere and may be injected into small cracks or openings in a building to be weatherproofed when the temperature of the same has been elevated in the vicinity of its softening point.

The infusorial or diatomaceous earth, barytes, clays, whittings or the like that are employed as a filler prevent the paraffins, waxes, resins or the like from slumping when the temperature of an admixture of the filler and weatherproofing material is elevated above the normal softening point of the weatherproofing material employed.

The paraffins, waxes, resins or the like or a combination of two or more of them may be intimately admixed with a suitable quantity of infusorial or diatomaceous earth, a suitable clay, whiting, barytes or the like, or a suitable combination of two or more of the latter. When the desired materials are chosen and consisting of at least one weatherproofing material and one filler material, these two materials are intimately admixed so that the filler is substantially uniformly distributed throughout the weatherproofing material to form a substantially uniform composition.

In the course of my experiments I have found that the presence of a filler, such as those described, and when distributed throughout paraffins, waxes and resins, or the like, render said weatherproofing materials substantially non-slumping when the temperatures of the same are rendered above their softening points. By the term "waxeous substance" as hereinafter employed I mean to include either a wax, a paraffin, a resin or combination of two or more of them.

I have further found that a novel composition of matter as above described will not flow and is not appreciably absorbed by the masonry structure when it is employed as a crack or hole filling material in said masonry structure.

I believe that the adaptability of my novel

composition for the purposes of weatherproofing is due in one aspect to the fact that the filler renders the weatherproofing material substantially non-slumping when the temperature of the weatherproofing material is above its softening point and in another aspect is due to the fact that the filler material has a greater affinity for the weatherproofing material than does the masonry structure that defines the holes and cracks in which my admixture is employed.

One of the preferred embodiments of my invention comprises by weight;

	Parts
Ceresine wax.....	100
Diatomaceous earth.....	40
Cumar resin (P. 50).....	5

In the above example of my invention the waxeous substance without the inert mineral material will first lose its shape and show distinct flow or liquidity when maintained for a period of one hour at about 77° C., and the ratio of said waxeous substance to the mineral material, diatomaceous earth is such that the admixture as disclosed will not lose its shape and show distinct flow or liquidity when maintained at 130° C. for a period of two hours.

Besides having the above advantages this novel composition of mine may be heated above its softening point so that it resembles a soft grease in consistency. Because it does not flow it may be readily applied to a masonry structure by heating the same in a gun. Thereafter while it has the consistency of a grease it is forced through an appropriate nozzle of said gun by means of pressure applied directly thereto and is forced into the small cracks or openings of the wall to be weatherproofed. This operation may be carried out without the necessity of heating the wall or enlarging the original openings.

In addition the novel composite admixture is applied only to the localized areas adapted to be weatherproofed. One other method that I may employ in weatherproofing a building with my novel composition comprises forming "sticks" or pencils of said material. When these pencils are employed the structure defining the crack may be heated and the end of the pencil is also heated and the heated portion of the pencil is pushed into and along the crack to be filled.

Sometimes, I have found that it is essential that the color of the filler be the same as that of the mortar, brick or tile to be filled so that the filling shall not mar the appearance of the building. To overcome this disadvantage I have used a coloring agent, as for example, powdered ochres or other appropriate pigments. These pigments are intimately admixed with the paraffin, wax or resin or other transparent weatherproof material and a colorless filler.

Although my invention has been described with some particularity, it is not to be limited thereby but only by the prior art.

What is claimed:

1. A filler for fissures, cracks and openings or the like in a masonry structure comprising an admixture of a waxeous substance and a solid inert mineral material the quantity by weight of said waxeous substance being greater than the quantity by weight of said mineral material so that said admixture is substantially non-slumping when the temperature of the same is equal to the normal slumping temperature of said waxeous substance, said material having a greater affinity

ity for said waxeous substance than does said masonry structure.

2. A filler for fissures, cracks and openings or the like in a masonry structure comprising an admixture of a porous inert mineral material and a waxeous substance, the ratio of the quantity by weight of said mineral material to the quantity by weight of said waxeous substance being such that said admixture is substantially non-slumping at the normal slumping temperature of said waxeous substance, said admixture having a grease like consistency at a temperature above the normal slumping temperature of said waxeous substance, the quantity by weight of said waxeous substance being greater than the quantity by weight of said mineral material.

3. A filler for fissures, cracks, and openings or the like in a masonry structure comprising an admixture whose major portion is a non-drying waxeous substance and diatomaceous earth, said admixture being substantially non-slumping when the temperature of the same is equal to the normal slumping temperature of said waxeous substance, said admixture having a grease like consistency when heated to a temperature above the normal slumping temperature of said waxeous substance, the quantity by weight of said waxeous substance being greater than the quantity by weight of said porous material.

4. A filler for fissures, cracks, and openings in a masonry structure or the like comprising an admixture of a waxeous substance and a finely di-

vided inert mineral material, said material being porous the quantity by weight of said waxeous substance being greater than the quantity by weight of said mineral material, the ratio of said waxeous substance to said mineral material being such that said admixture is substantially non-slumping at the normal slumping temperature of said waxeous substance.

5. A filler for fissures, cracks and openings in a masonry structure or the like comprising an admixture composed essentially of a waxeous substance and diatomaceous earth, the ratio of said waxeous substance to said diatomaceous earth being approximately two and one-half to one.

6. A filler for fissures, cracks and openings or the like in a masonry structure comprising an admixture of a waxeous substance and a solid inert mineral material, said material being porous, the quantity by weight of said waxeous substance being greater than the quantity by weight of said mineral material, the ratio of said waxeous substance to said mineral material being such that said admixture will not lose its shape and show distinct flow or liquidity when maintained for two hours at a temperature 40° C. above the lowest temperature at which said waxeous substance loses its shape and shows distinct flow or liquidity when maintained at that temperature for one hour.

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