No. 612,839. Patented Oct. 25, 1898.

H. GALLINOWSKY.

MEANS FOR PROTECTING PILES FROM AQUEOUS INSECTS.

(Application filed Mar. 9, 1898.)

(No Model.)

Fig. 1.

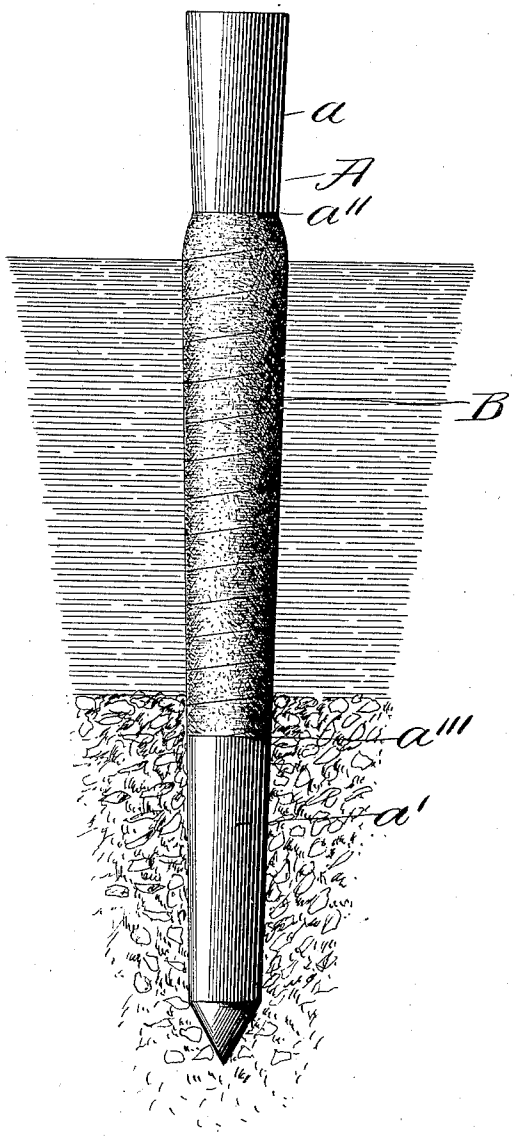
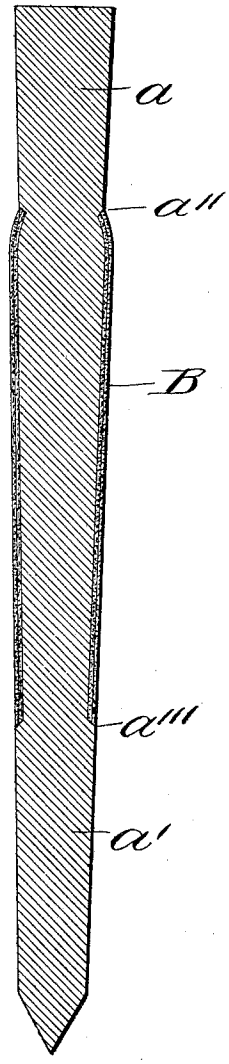


Fig. 2



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UNITED STATES PATENT OFFICE.

HUGO GALLINOWSKY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE LITHOSITE MANUFACTURING COMPANY, OF SAME PLACE.

MEANS FOR PROTECTING PILES FROM AQUEOUS INSECTS.

SPECIFICATION forming part of Letters Patent No. 612,839, dated October 25, 1898.

Application filed March 9, 1898. Serial No. 673,188. (No specimens.)

To all whom it may concern:

Be it known that I, HUGO GALLINOWSKY, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Means for Protecting Piles from Aqueous Insects, of which the following is a full, clear, and exact description, 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, forming part of this specification, in which—

Figure 1 represents my improved protected pile in side elevation, and Fig. 2 represents a central longitudinal sectional view of the same.

This invention relates to a new and useful improvement in means for protecting piles from aqueous insects, and has for its object the preservation of all forms of woods which enter into the construction of partially or wholly submerged structures, such as wharves, bulkheads, &c.

While the invention is particularly applicable to submerged structures, it is also useful as a protective covering for floors, timbers, &c.

The invention consists in the novel means of coating timbers, &c., as will hereinafter be fully described, and afterward pointed out in the claim.

In the drawings I have shown a pile in which *a* indicates the head, said pile A tapering toward the end *a'*. The pile is diminished in diameter between the shoulders *a''* and *a'''*, upon which diminished part a protective covering B is wound flush with the surface of the pile. The object of this is to countersink the protective covering, so that when the pile is being driven no protruding shoulders will be presented to resist the driving action or cause the protective covering to be displaced. This protective covering B consists of any suitable fibrous material, preferably burlap, treated and applied to the pile in the following manner.

I first make a bath of any suitable quantity of liquid chlorid of magnesium of the consistency of about thirty degrees (30°) Baumé. If there is any calcium chlorid therein, I ascertain the percentage thereof and add an equal amount of oxalic acid to neutralize said calcium chlorid, this being done to prevent sweating by the slaking of the lime. Then to every pint of chlorid of magnesium I add one and one-half pounds of oxid of magnesium, (calcined magnesite,) and in order to quicken the process of drying I may add a quantity of sal-ammoniac with the oxid of magnesium, equal to about five per cent. (5%) thereof. I may also introduce boracic acid into the mixture, if desired. The fibrous material is then saturated with this composition, after which it is placed in position, if on piles being wound thereon. When the protective covering is used for roofs, it is preferably introduced under the shingles, and when used for floors or walls spread in position, the composition firmly adhering to the timber to be protected.

In United States Letters Patent No. 571,654, granted to me November 17, 1896, I described a process in which five steps are necessary to protect timbers, &c.—that is, first, subjecting the fibrous material to a bath of boracic acid; second, removing the surplus acid by pressure; third, subjecting the fibrous material to a saturated solution of magnesium chlorid; fourth, subjecting the fibrous material to a bath of hydrated magnesium oxid containing about five per cent. (5%) of sal-ammoniac, and, fifth, again pressing the fibrous material to remove the surplus. This process is peculiarly adapted for practice in climates where the atmosphere is dry and where the process is usually carried on in the open air and the temperature is high. By separating the different ingredients they are more easily worked and will not of themselves become hard and set, whereas if they were combined under the above-mentioned conditions a stony mass would be formed in a short time, rendering the process practically impossible in execution.

In my present invention where the magnesium oxid is used as an ingredient in the single bath I use calcined magnesium oxid (in which there is no carbonic acid, or, if any, a very small percentage) instead of the hydrated magnesium acid called for in my said patent. It will also be noted that in the pres-

ent instance the ingredients are all mixed and but one operation relative to the saturation of the fibrous material is all that is necessary to place said material in the proper condition to be wound on a pile or used as a protective covering for timbers wherever desired.

While I have mentioned boracic acid in connection with my present composition, still I do not wish to be understood as being limited thereto, as the same may be omitted from the composition, if desired, as well as the sal-ammoniac, which is employed merely as a drier.

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

A protective covering for piles, &c., the same comprising a fibrous material combined with magnesium chlorid and calcined magnesite, substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 1st day of March, 1898.

HUGO GALLINOWSKY.

Witnesses:
F. R. CORNWALL,
HUGH K. WAGNER.