

J. ROWE & M. McCARTY.
PILE PROTECTING.
APPLICATION FILED FEB. 23, 1910.

967,442.

Patented Aug. 16, 1910.

Fig. 1.

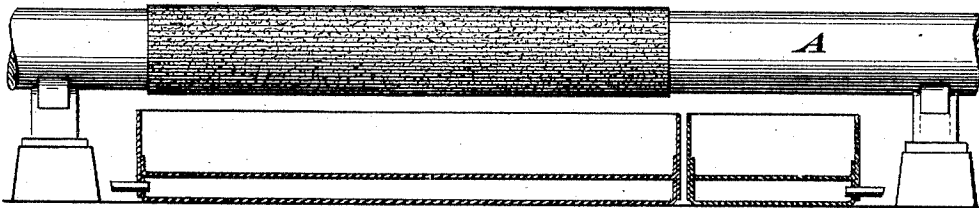
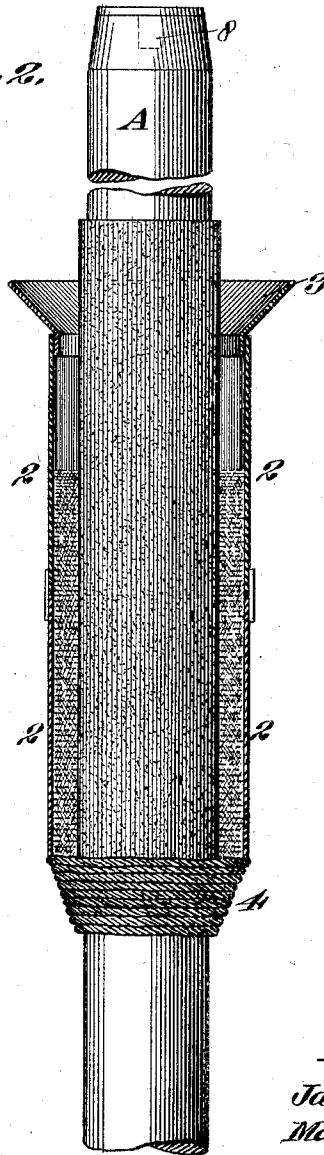


Fig. 2.



Witnesses,
Charles Pickles
Thos. Castberg

Inventors,
James Rowe
Matthew McCarty
G. H. Strong atty

UNITED STATES PATENT OFFICE.

JAMES ROWE AND MATTHEW McCARTY, OF SAN FRANCISCO, CALIFORNIA.

PILE-PROTECTING.

967,442.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed February 23, 1910. Serial No. 545,524.

To all whom it may concern:

Be it known that we, JAMES ROWE and MATTHEW McCARTY, citizens of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Pile-Protecting, of which the following is a specification.

Our invention relates to improvements in protecting piles from the ravages of marine insects, and from decay.

It consists of a novel compound, and its application to those portions of the pile which it is desired to protect, and in details which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 shows the first stage of the application. Fig. 2 shows the second stage.

In order to properly protect piles from decay, and the ravages of marine insects, it is necessary to coat such portions of the pile as are exposed to the action of the water above the mud, and below the higher point at which the water touches them. Such piles may be of any suitable length, as 60 or 70 feet, to allow a sufficient portion to be driven into the mud for an appropriate support, and a sufficient portion extending above the water, with an intervening portion of such length as will be normally submerged in the water. In order to protect such piles we apply a coating which is preferably put on in two stages. The composition may consist of coal tar, asphalt, bitumen, asbestos, fine sand, gravel and cement. We have found that the following proportions are well adapted for the purpose: one barrel of coal tar, known as No. 1; five barrels of asphalt; six barrels of bitumen; 200 lbs. of gravel; 100 lbs. of sand; 100 lbs. cement.

The application may be made as follows: The bark and irregularities of the pile are removed, and it is made fair and smooth to receive the covering. Then it is covered with the first layer, consisting of the ingredients mentioned. The coal tar, asphalt and bitumen being first melted in a properly constructed tank, the piles are so mounted that they may be revolved horizontally upon their axis over this tank, and the compound applied in any suitable or desired manner. After the first coat is put on, the pile is laid out to dry.

A second kettle is charged as follows: 10

barrels of bitumen, 4 barrels of asbestos. The kettles are brought to boiling point, and may be side by side. To apply the second coating, the pile A is raised to a vertical position, as shown in Fig. 2, and a casing 2 of either black or galvanized iron is attached in such a manner as to leave a space between pile and casing equal to the thickness of covering desired. These jackets or casings may be of such length that three or more of them will extend the length of the portion to be coated, and of sufficient diameter to receive the amount of material required to finish the coating of the pile. One of these jackets being let down to the proper level, a gasket or packing of rope or other material 4, is fitted into the lower end of the casing, and the casing is afterward filled with the compound. When the first cylinder or casing has been filled, a second casing is let down upon the top of it, and this again also filled, and so on until the proper length of coating has been applied to the pile. Successive additions are made within such a length of time that the lower ones will not have set, and the successive additions will be intimately connected therewith so as to form a complete covering for the pile for the distance desired. The gasket or packing 4 may be nailed to the pile to form a tapered protection to prevent disturbing the coating when the pile is driven.

The second kettle is heated by steam. The mixture is brought to the proper consistency by adding portions from the first kettle. The second coat may be called a filling; it is put on in the following manner: A funnel 3 is provided, adjustable to fit inside the casing, outside of the first coat. The filling coat must be of the proper consistency to fill the space between the first coat and the casing, yet not be too thin. It is worked into place as the material is added through the funnel, and packed as it goes in. This is done by a long iron tamper. After the covering has become firm and solid, the casing may be removed, or left in place as desired.

In order to protect the top of the pile from damage by the elements by water falling thereon and soaking in, we prefer to bore a hole of sufficient size into the top of the pile, as shown at 8, and upon this pile after it has been driven, is placed a cap of the protective material which fills the opening

8, and is then allowed to spread out over the top of the pile. If desired an inclosing cylinder may be fitted thereon to retain the material until it is properly set and hardened. Piles thus protected will last without decay or deterioration for very long periods.

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

10 1. A protecting coating for piles and submerged structures, said coating consisting of coal tar, asphalt, bitumen, asbestos, sand and cement mixed and applied hot.

15 2. The method of applying a protective coating to piles, said method consisting in melting and intimately mixing the components of the covering, revolving the pile above the tank containing the mixture, and bringing the melted material into contact therewith so that it will adhere, allowing the coating to harden, and subsequently applying a second coating thereover.

20 3. The method of coating piles, said method consisting in melting a body of coal

tar, asphalt, bitumen, and mixing therewith sand and cement, revolving the pile above a tank containing the melted material, and bringing said material into adherent contact with the pile, then allowing the coating to set and harden, then raising the pile into a vertical position and closing it with sectional casings of larger diameter, and filling said casings successively with the coating material superposed upon the first named coating.

35 4. As an article of manufacture, a pile having the bark removed and made smooth, and a protective coating on the pile and composed of coal tar, asphalt, bitumen, asbestos, sand, gravel and cement.

40 In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JAMES ROWE.

MATTHEW McCARTY.

Witnesses:

G. H. STRONG,

CHARLES EDELMAN.