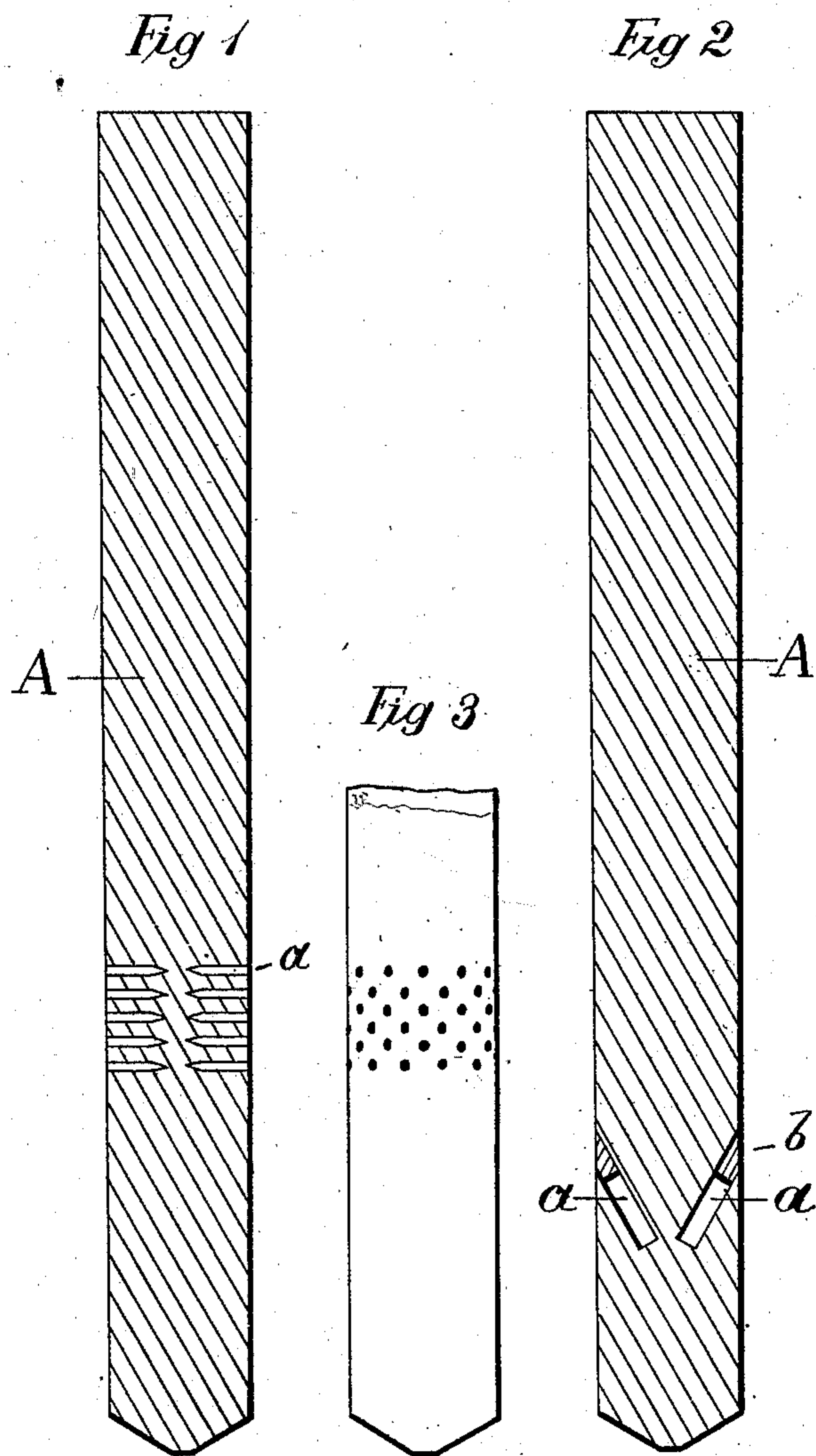


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Protecting Wooden Piles.

No. 215,600.

Patented May 20, 1879.



*Witnesses*

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# UNITED STATES PATENT OFFICE

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## IMPROVEMENT IN PROTECTING WOODEN PILES.

Specification forming part of Letters Patent No. **215,600**, dated May 20, 1879; application filed  
August 22, 1878.

*To all whom it may concern:*

Be it known that we, WILLIAM T. GARRATT, of the city and county of San Francisco, State of California, and SEDGWICK J. LYNCH, of Santa Cruz, county of Santa Cruz, State of California, have invented certain Improvements in Protecting Piles; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

Our invention has reference to a novel method of rendering wooden piles proof against the ravages of the teredo or boring-worm, which infests the salt-waters of harbors and destroys the wooden piling of wharves by honeycombing them with holes until they are ready to fall to pieces.

Our invention consists, first, in applying the remedy at the lower end of the pile, or rather at the point where the pile projects from the mud or other bottom into which it is driven; and, secondly, in a peculiar method of applying the preservative compound, substance, or material, by which it is uniformly and thoroughly distributed and infused into and through the pores of the wood around the entire pile.

In carrying out our invention we can either use oxidizable metallic substances or chemical compounds as the saturating or preserving agent, but in either case the manner of applying them is the same.

Referring to the accompanying drawings, Figure 1 is a cross-section. Fig. 2 is a cross-section, and Fig. 3 is an elevation.

A represents a wooden pile. If we employ a metallic substance for supplying the preservative agent, we prefer to make the metal into the form of nails, and drive the nails into the pile close together, so as to form a wide belt of nails entirely encircling the pile at the point where the pile projects from the mud or bottom.

These nails may be two, three, or four inches long, and they are driven directly toward the center of the pile, the nails in one

row alternately with those in the row above and below them. This belt of nails should be wide enough to insure the lower end of the belt being below the surface of the mud or bottom when the pile is driven, while a portion projects above it.

The water which is absorbed by the pile will soon oxidize the metal or nails, and the capillary attraction will raise the metallic solution which is thus formed directly upward along the pores of the wood toward the top of the pile.

The pressure of the water at the lower end of the pile, as well as the evaporation of the water from the upper end of the pile, will assist in forcing this metallic solution upward, so that a permanent saturation of the outer portion of the pile is obtained, into which the teredo will not bore.

Iron, copper, zinc, or any other oxidizable metal can be used for this purpose, either separately or combined, and they can be applied in a variety of ways at the lower end of the pile; but the above-described method is simple, cheap, and effective.

If we use a chemical solution for saturating the outer portion of the pile, we bore a number of inclined holes, *a*, toward the center of the pile and fill them with the solution, and then plug up the outer ends of the holes to prevent the solution from escaping. The solution will then be raised by capillary attraction, as above described for the metallic solution, and the outer part of the pile will become impregnated with it.

It will be seen that the gist of our invention is in the manner of applying the preservative agent—that is, by bringing it in contact with the capillary cells or tubes of the wood at the lower end of the driven pile, so that the solution will be carried or forced upward in the outer part of the pile.

We are aware that the preservation of wood used for piles and other purposes by saturation with various materials is well known, and that it is not new to introduce the mate-



rial in liquid form into the wood by perforating the wood and pouring the material into the hole.

The essential point of our invention lies in the application of the preserving material to the pile, when it is in place, at a point near the bottom of the water.

What we claim as our invention is—

The improvement in preserving wooden piles, consisting in applying the preservative agent at the lower end of the driven pile, near the bottom, by introducing it into the body of the pile, substantially as above specified.

In witness whereof we have hereunto set our hands and seals.

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