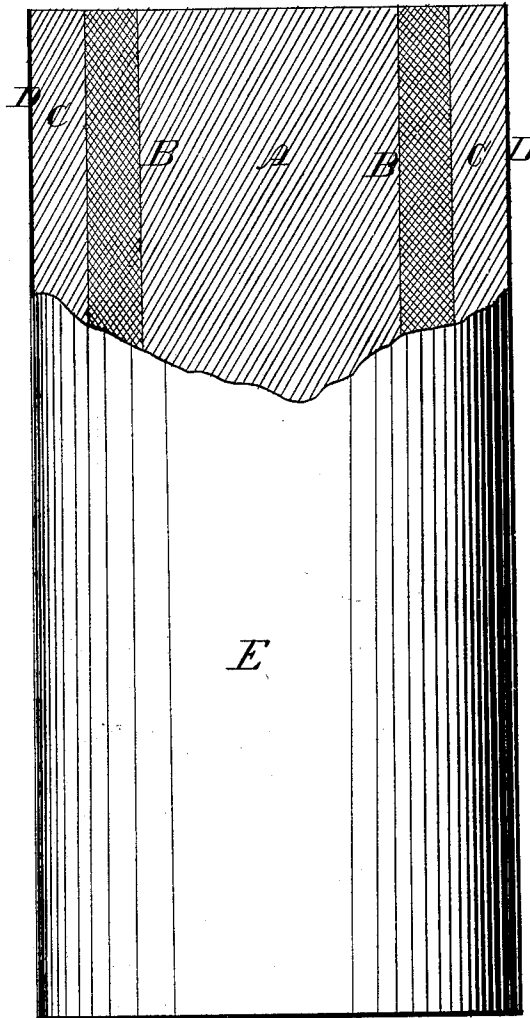


W. H. SMITH.  
Preserving Wooden Piles.

No. 67,366.

Patented July 30, 1867.

*Fig. 1.*



Witnesses;  
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# United States Patent Office.

W. HARROLD SMITH, OF MEMPHIS, TENNESSEE.

*Letters Patent No. 67,366, dated July 30, 1867.*

## IMPROVED METHOD OF PRESERVING WOODEN PILES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. HARROLD SMITH, of Memphis, in the county of Shelby, and State of Tennessee, have invented a new and improved Method of Preserving Wooden Piles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

The drawing represents a vertical elevation of a pile prepared by my improved process, the front side at the top being broken away so as to exhibit a cross-section of the prepared pile.

This invention consists in enveloping the pile with a hard earthen case, similar in composition and manufacture to common earthen or stone potter's ware. The earthen envelope may be glazed on its outer surface, and between it and the wooden pile the space is filled in with sand, concrete, lime, cement, coal tar, gravel, or common earth.

The object of the invention is to preserve piles and timber from decay and from destruction by worms and insects.

In order that others skilled in the art to which my invention appertains may be enabled to make and use the same, I will proceed to describe it in detail.

In the drawings, A represents a wooden pile or timber, surrounded, as shown at C, by the case or envelope, above described. This case is prepared in suitable moulds, in which it is cast either in whole tubes or in sections of a tube, as may be most convenient. It is afterwards thoroughly dried or baked, and the sections are fitted over or around the timber and properly fastened together.

I do not design here to confine myself to any particular mode of jointing these sections together, but desire to be at liberty to use any practicable method of uniting them, so that too much water cannot insinuate itself between the plates or sections, and so that the worm cannot get in between them. Neither do I desire to limit myself solely to baked earthen or stoneware for making the case C, but may use any kind of artificial earthen or stoneware, or building material, which is prepared in a plastic state and afterwards hardened by any process whatever, so as to be impervious to water, and capable of resisting the attack of worms and insects, or I may use wood or metal, covered with a plastic material on the outside, and formed into a pipe, C, with which to enclose the pile or post, as shown in the drawings.

Having properly glazed the outside of the sections and adjusted the case around the pile or timber, so that the space B between it and the timber shall be uniform and symmetrical, I fill this space with common earth, gravel, sand, concrete, lime, mortar, cement, or any other suitable material, which I pack in as closely as may be thought necessary. The top of the pile is then to be suitably covered, when it will be ready for use.

In practice the casing may be applied either before or after driving the piles. I have found it practicable and convenient, in applying it recently to a large bridge, to encase the piles before driving them. It might be supposed that the envelope would break and peel off, but such was not the case. Not more than one in a hundred of the piles were injured from this cause. The sections may be made in any shape. I have made them both in rings and strips or concave plates, and have experienced no difficulty in attaching them together in either form. The whole tube to be applied to a pile may be cast or moulded in one piece, if desired, but it will be found more convenient to make it in sections, as above described.

This process is particularly valuable for preserving piles from destruction by water, worms, and insects, which attack the posts of bridges, wharves, &c., in salt water, and which are so exceedingly destructive to vessels. Against such ravages my process is a perfect protection. The worm is unable to penetrate even the glazing on the surface of the case, where it is properly applied. Many piles protected by me in this manner are now standing in the water at Galveston, Texas, where I have placed them within the last two years, and have remained perfectly safe and intact, while other timber, unprotected, or protected by the old methods, standing in the same water during the same time, has been honey-combed and rendered worthless by the worms. The process is equally as efficacious in preserving timber from decay in water as for protecting it from boring-insects. For this purpose I intend to encase in this manner the sleepers and ties of railroads, telegraph and fence-posts, the sills of buildings, the wooden structures of levees, dams, dikes, and in general timber or wood employed in wet places, where it is liable to become soon decayed by the action of the water.

The materials for thus protecting timber are everywhere present in abundance, and can be prepared and applied at little expense of time or money. In the harbor of Havana, and in other tropical harbors, the destruction of the piles of wharves and bridges by the worm is so great that it has been found advisable even to sheathe them with copper or sheathing metal at a very heavy expense. I have by actual experiment demonstrated the cost of my improved sheathing to be not over one-fourth of the cost of the metallic sheathing thus employed.

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

I claim the wooden pile, timber, or structure A, protected substantially in the manner and for the purposes set forth.

To the above specification of my improvement I have signed my hand this 17th day of July, 1867.

W. HARROLD SMITH.

Witnesses:

CHAS. A. PETTIT,  
SOLON C. KEMON.