UNITED STATES PATENT OFFICE.

WEBSTER FLOCKTON, OF BERMONDSEY, ENGLAND.

IMPROVEMENT IN METALLIC SOLUTIONS FOR THE PRESERVATION OF TIMBER.

Specification forming part of Letters Patent No. **130,** dated February 16, 1837.

To all whom it may concern:

Be it known that I, WEBSTER FLOCKTON, of Bermondsey, in the county of Surrey, in the Kingdom of Great Britain, merchant, have invented Improvements in Preserving Timber or Wood for Various Purposes, of which the following is a specification.

My invention consists in impregnating timber or wood for various descriptions with a metallic solution, whereby such timber or wood will be preserved; and in order to produce the necessary solution I saturate the essential oil of vegetable tar with the oxide of iron, which I consider the best and cheapest means of carrying my invention into effect, though I do not confine myself to the precise means hereinafter described, as variations may be made, my object being to impregnate timber or wood for any purpose it may be found applicable with a metallic oxide, as above stated, and as is more fully described hereinafter; but in order that my invention may be fully understood and carried into effect, I will describe the method I pursue of combining such material together and applying them to the purposes aforesaid.

I take a quantity of tar, (either Stockholm, Archangel, or American,) which I submit to the process of distillation, and the apparatus or still which I use for this purpose is similar to what is called a "pitch-still," which is made of copper and well known, and forms no part of my invention, nor does the process of distillation for separating the essential oil from the tar, which is effected in the manner following: The still which I use will contain about four hundred gallons; but I do not put into it more than three-quarters of that quantity of tar, or twelve barrels of the usual size of either of the kinds before mentioned. The first product will be the acid of the tar, bringing with it a light colored essential oil, which separates immediately and floats upon the surface of the acid in the receiver, which I prefer of wood, (a cask with one head furnished with a cock for withdrawing the acid from below being applicable to the purpose.) After some time the acid will cease, and the essential oil will come over in a very considerable stream, which I collect from the receiver to the extent of about four gallons to the barrel, or forty-eight gallons in the whole, including that which came over in the first instance with the acid. The fire is then to be withdrawn and the contents of the still, which, by the extraction of the essential oil has become pitch, allowed to remain in the still until the following morning to cool. Then it may be let off by means of a pipe, fitted with a brass or iron plug, into a large receiver, of cast-iron or other suitable material, and finally put into casks for ale.

I will now proceed to describe the combining of the essential oil with the other materials for the making of my metallic solution. To effect this I place two or more large casks upright, removing the upper head of each, and throw into them well-rusted iron hoops or tin cuttings. I then pump into them one hundred gallons or more of the essential oil of tar, before described, completely covering the metal. This oil I cause to be repeatedly pumped every day from one cask to the other for about six weeks, by which time the oil will have become very black and much increased in gravity, while the iron hoops or tin cuttings will appear quite bright and free from oxide. They are then to be taken out and piled up in an open space of ground and set fire to, for the purpose of burning off the oil, and afterward laid by for reoxidation, which may be much facilitated by pouring over them a weak solution of common salt and water. When they have again become rusted they are fit for use.

I will now proceed to describe the method I pursue in saturating timber and wood with the metallic oxide.

For saturating piles already driven into the sea, forming jetties or piers, I cause an inch auger to be passed down the center of the piles to the bottom end, if possible, or as far down as can conveniently be done, and the liquid oxide poured down the hole until filled. This is to be repeated as often as may be thought necessary; but generally in two or three days it will be found oozing through the pores of the wood, depositing an incrustation of iron, which, in combination with the essential oil of the tar, resists alike the action of the water and the attacks of the worm. A wooden plug or treenail is then to be driven fast into the hole, which may be removed by the auger at any time for the purpose of giving the piles a fresh supply. This method is likewise applicable to the timber used in blocking streets, the wood-work of railways, and in short to all wood subject to damp, or wood-moisture, or the attacks of worms or other vermin. For out-

door buildings liable to dry-rot it may be used cold, in the usual way of varnish or tar, with a brush, for, being perfectly liquid, it penetrates most rapidly, drying completely in eight or ten hours, when a second dose may be given. Paint applied afterward dries quickly; but for most purposes two or three applications of the preparation render any other coating unnecessary, for as soon as the pores of the wood become filled it assumes the appearance of varnish.

Having thus described the nature of my invention and the manner of carrying the same into effect, I would have it understood that I lay no claim to any of the materials separately; and it will be evident that the means of carrying the same into effect may be varied to suit the particular object to which the invention is to be applied; but I would have it understood that

What I claim is—

The impregnating timber or wood of various descriptions with the metallic solution above described, whereby such timber or wood will be preserved.

WEBSTER FLOCKTON.

Witnesses:
JAMES KEARNY,
JOSEPH TODD.