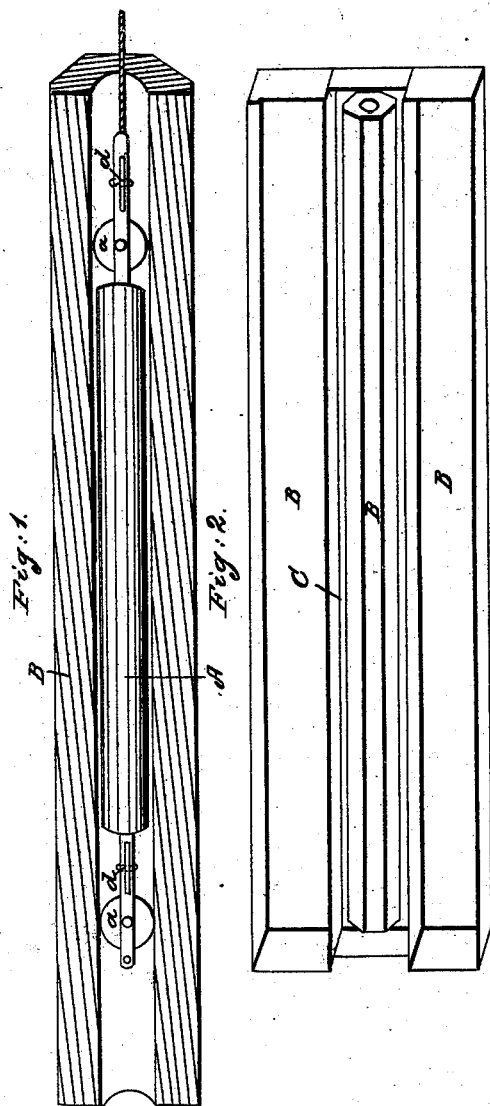


G. PALMER.
Preserving Wood.

No. 49,146.

Patented Aug. 1, 1865.



Witnesses,
J. N. Woodruff.
C. R. Morrison.

Fig. 4.

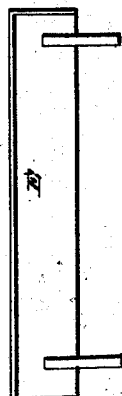


Fig. 3.

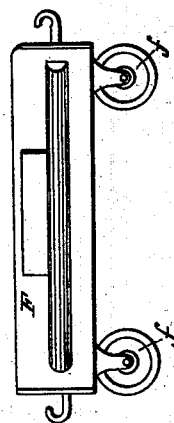


Fig. 5.



Inventor,
George Palmer.

UNITED STATES PATENT OFFICE.

GEORGE PALMER, OF LITTLESTOWN, PENNSYLVANIA.

IMPROVEMENT IN PRESERVING WOOD, &c.

Specification forming part of Letters Patent No. 49,146, dated August 1, 1865.

To all whom it may concern:

Be it known that I, GEORGE PALMER, of Littlestown, in the county of Adams, in the State of Pennsylvania, have invented a certain new and useful mode of opening the pores, extracting the gas, and saturating timber for preserving it; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 shows a section (bored through) of a pump-log cut in half longitudinally, with the apparatus for heating, opening the pores, and extracting the damp and gas from the timber in the bore or cavity preparatory to saturating. Fig. 2 represents a top view of a double fire-box and trough for preparing the outer surface of pump-logs or other timber—the same process of saturating. Fig. 3 shows a side view of a fire-box on wheels for passing over or under any surface of timber to prepare it for the process. Fig. 4 shows a side elevation of a trough for saturating timber. Fig. 5 is a top view of a long trough for the same purpose.

The object of my invention is to preserve the timber used in exposed places from decay and to prevent the pernicious effects and the bad taste of water from decayed wood in log pumps and curbs in wells, &c.

My invention consists in the apparatus and manner of heating the inner surface of pump-logs and the outer surface of timber, of any form and dimensions, sufficiently to open the pores and draw out the gaseous substance, dry the sap or moisture to such a degree that resinous, oily, or bituminous substances can be applied hot to the heated wood and penetrate it to its fullest capacity without being repelled by the gas or steam generated within.

To enable others skilled in the art to make and use my apparatus and to produce such results, I will describe it and the process of using more fully, referring to the drawings and to the letters marked thereon.

For the purpose of preparing timber bored through longitudinally for pumps or for water-pipes, I have a sheet-iron cylinder or pipe (A) furnace, supported at both ends on rollers *a a a a*, two of them being placed at right angles with the other two, they and the pipe-furnace A being

of such dimensions as to pass freely into the cavity made by boring the timber, the pipe-furnace A being heated quite hot by having a fire of coals in it. It is placed in the bore of the timber, where it can be moved from end to end any required length of time, the rollers *a a* keeping it just off the surface so that it will not char the wood; but the heat, being intensified by the draft of air passing through the pipe-furnace longitudinally as it is being moved laterally, will open the pores and generate the steam and gas from the timber, which will pass out of both ends. When this process of heating the inside is going on the outer surface may also be undergoing the same process by having the timber B placed in the trough C of the double fire-box D D, as seen in Fig. 2, where it can be turned over so as to get a uniform heat entirely through the timber, and all of the gas and dampness dried out of it. When the timber is thus thoroughly heated the pores of the wood may be saturated and entirely filled with any oily, resinous, or bituminous substance applied hot to the heated timber by immersing it in a trough, E, made of boiler-iron, under which a fire can be built, as seen in Figs. 4 and 5, or the saturating substance may be applied with swabs with very good success, as there is no steam or gas to repel its entrance into every pore.

If desirable to saturate any considerable sized fixed surface, like the roof of a building, the deck of a vessel, or the sides of the hull, a fire-box, F, placed on wheels *f f*, so that it may be passed over very near and heat the surface without charring or burning it, and then immediately applying a substance which is impervious to water. A most excellent roof may be made of tongued and grooved plank, and one that will be tight and durable without any other covering; and so for the outside of farm-buildings generally, as well as fence posts and rails or paling. This process may be applied to timber for all of the various purposes, such as railroad cross-ties and string-pieces, bridge-timbers, flumes, aqueducts, cisterns, and reservoirs, water-tanks, telegraph-poles, and posts for all purposes.

Thus it will be seen that, with the use of such apparatus as above described, at a small outlay timber for various purposes can be made

to last five times as long as it will when used in the common way, and all of the bad taste in water and the pernicious effects of decayed wood in and about wells and cisterns may be entirely remedied.

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

1. The apparatus and mode of applying the same for heating the inner and outer surface of timber sufficiently to open the pores of the

wood and extract the sap and gaseous matter, as herein described, for the purposes specified.

2. Opening the pores of timber by applying heat, in the manner herein described, so that oily, resinous, or bituminous substances will penetrate the wood to its fullest capacity.

GEORGE PALMER.

Witnesses:

J. B. WOODRUFF,
E. R. MORRISON.