

UNITED STATES PATENT OFFICE.

LUDVIG HANSEN AND ANDREW SMITH, OF WILMINGTON, N. C.

PROCESS OF PRESERVING WOOD.

SPECIFICATION forming part of Letters Patent No. 317,129, dated May 5, 1885.

Application filed March 24, 1885. (No specimens.)

To all whom it may concern:

Be it known that we, LUDVIG HANSEN and ANDREW SMITH, citizens of the United States, and residents of Wilmington, in the county of New Hanover and State of North Carolina, have invented a new and useful Improvement in Processes of Preserving Wood, of which the following is a specification.

The object of our invention is to provide an improved process for effecting thorough preservation of timber used for piling and such other constructions in which the wood is especially exposed to decay or destruction by insects.

The invention comprises the treatment, by first charring or carbonizing the surface of the wood or timber, then expelling the moisture from the body thereof by combined heat and suction, and finally impregnating it with wood-creosote oil forced in by hydraulic pressure to thoroughly permeate the substance.

In carrying out our process various kinds of apparatus may be employed; but we refer with preference to that shown in our patent application, Serial No. 154,678, filed February 2, 1885, as by that we have obtained the best results thus far. A log to be treated is first introduced in a fire-heated iron cylinder, its ends projecting through the ends of the said cylinder sufficiently to allow of supporting the wood out of direct contact with the hot iron. The annular end spaces between the cylinder and the log are then closed by suitable plates until the log is properly charred, the gases driven out by the heat passing off through a pipe from the cylinder. The log, thus carbonized

on its surface to the desired depth, is then inclosed in an air-tight steam-heated tank or boiler, where its moisture and gases are further expelled by the heat and removed by a vacuum-pump attached to the tank. The tank is then filled with the preserving-liquid, which is forced into the wood by hydraulic pressure. This completes the process.

For the preserving-liquid we specially manufacture and use wood-creosote oil, which is vastly superior for this purpose owing to the fact that the wood has a greater capacity for retaining it than it has for retaining creosote made from coal-tar.

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

1. The improvement in the art of preserving wood, which consists in first charring the surfaces of the logs or piles and then saturating them with wood-creosote oil.

2. The process herein described for preserving timber, which consists in first charring its surface, then expelling its moisture, and finally impregnating it with wood-creosote oil.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 19th day of March, 1885.

LUDVIG HANSEN.
ANDREW SMITH.

Witnesses:

WILLIAM BARRY,
ALX. S. HEIDE.