

UNITED STATES PATENT OFFICE.

CUTHBERT B. LOWRY, OF LEXINGTON, KENTUCKY.

WOOD IMPREGNATION.

No. 831,450.

Specification of Letters Patent.

Patented Sept. 18, 1906.

Application filed October 23, 1905. Serial No. 284,122.

To all whom it may concern:

Be it known that I, CUTHBERT B. LOWRY, of Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Wood Impregnation; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to enable timber, especially railroad-ties, to be thoroughly impregnated with creosote-oil or other creosoting compounds and at the same time greatly reduce the cost of such treatment.

The invention will be hereinafter fully set forth, and particularly pointed out in the claim.

In describing my process I shall especially refer to the treatment of railroad-ties; but it will be understood that seasoned or partly-seasoned or dried timber generally may be treated in a similar manner. The ties are run into a retort or cylinder, preferably on cars, and thereupon the doors of the retort are closed, so as to make the latter perfectly air-tight. The retort is then filled with oil of the kind with which the ties are to be treated, and pressure is applied by forcing more oil into the retort by the aid of pumps. This is continued until the ties are thoroughly and completely saturated, the oil entering the pores and cells and thoroughly impregnating the wood. This requires about four and one-half gallons of oil for each tie if the latter be of oak or other hard wood and about seven gallons if of pine. The quantity of oil required for each board or piece of timber may be readily determined with a little practice; but that stated is found to produce the best results in the treatment of timber having

the proportions of the ordinary railroad-ties. After the stated quantity of oil has been forced into the retort the pumps are stopped and all free oil is quickly withdrawn through suitable valves. The latter are then closed, and a quick and high vacuum is produced, representing from about twenty-five to twenty-seven inches of mercury. This vacuum is maintained for from one and one-half to two hours, by which time most of the oil in the cells and pores of the timber is withdrawn. The quantity of oil then remaining in each tie after this step is completed is about two and one-half gallons, all of which is thoroughly absorbed and taken up by the fibers. This saving is made possible by the quick production of the vacuum, thereby enabling the oil to be withdrawn from the cells or pores of the wood before the air can escape through the oil forced thereinto.

By means of my invention I am enabled to effect a complete saturation of the fiber with the use of a comparatively small quantity of oil, thus greatly reducing the cost of wood impregnation.

I claim as my invention—

The herein-described process of preserving wood, consisting in saturating the wood with creosote-oil under pressure while entirely submerged, then removing all free oil, and then immediately subjecting the wood to the action of a vacuum to withdraw most of the oil from the pores and cells thereof.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CUTHBERT B. LOWRY.

Witnesses:

JAMES CRAVEN,
J. G. EDWARDS.