

F. LEAR.  
COLORING AND PRESERVING WOOD.

No. 109,027.

Patented Nov. 8, 1870.

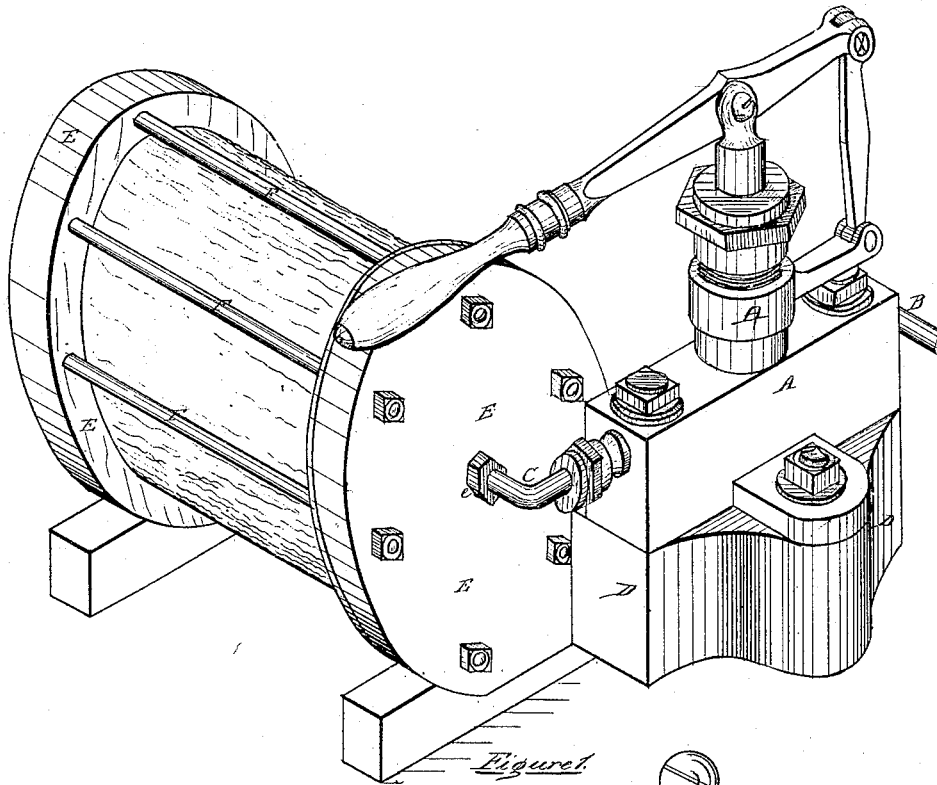


Figure 1.

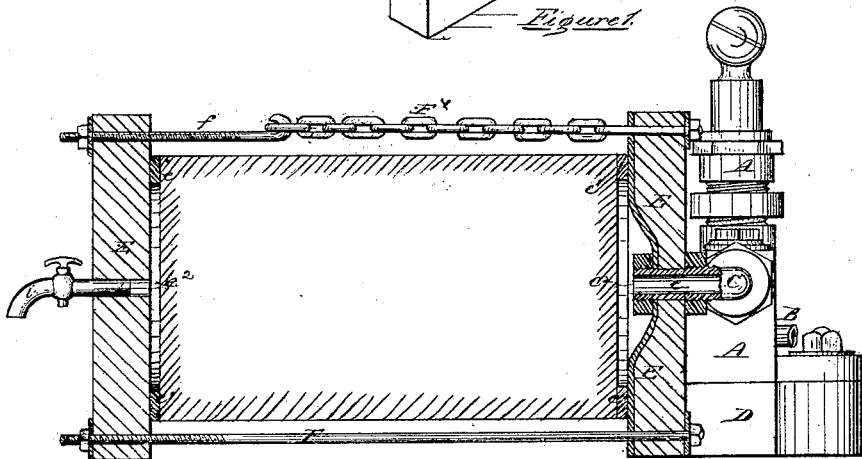


Figure 2.

Witnesses:  
*J. H. Herthel*  
*Robert Burns.*

Inventor:  
*Frederick Lear*  
*By Geo. Carter*  
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# United States Patent Office.

FREDERICK LEAR, OF ST. LOUIS, MISSOURI.

Letters Patent No. 109,027, dated November 8, 1870.

## IMPROVEMENT IN COLORING AND PRESERVING WOOD.

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, FREDERICK LEAR, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Apparatus for Preserving and Coloring Timber, &c.; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention has for its object to improve upon that patented by D. W. Hunt, dated June 29, 1869, designed for burnetizing wood; and

The improvement consists in providing screw hook-rods and chains for connecting one side of the disks, which are applied to the log, whereby the log may be easily and quickly inserted or removed by simply loosening the nuts of the hook-rods and releasing the chains therefrom; also, whereby a crooked log may be as conveniently held between the disks as one that is straight, the chains conforming to the curve of the same.

The invention likewise consists in the provision of a discharge-tube and stop-cock, in connection with one of the disks, so that the liquid forced through a log may be allowed to escape at once into a suitable receptacle, or if the log be unsound at the center, the cock may be turned, and the liquid retained to allow increased pressure to be applied, and the sound portions of the log to be thoroughly permeated, all as hereinafter set forth.

To enable those herein skilled to make and use my said invention, I will now more fully describe the same, reference being had to the accompanying—

Figure 1 as a perspective view.

Figure 2 as a section.

A represents an ordinary force-pump, of usual construction, having the influent-pipe B and discharge-pipe C.

Said pump is properly secured to a platform or firm basis, D.

The log or wood to be treated is placed between cylinder-heads E on both ends, the heads being drawn tightly against the log ends by means of connecting-rods F and chains F', said chains F' being furthermore arranged with an extension eye-bolt or rod, f, having proper nut, by which the variations of the log's length may be accommodated.

The chains are used on one side of the disks, to permit ready removal of the log.

The cylinder-heads E have proper holes, e, into which the discharge-pipe C is fitted.

In order, however, that the fluid may be equally distributed and forced to permeate the entire body of the timber, as stated to be in the nature of this invention, I have arranged between said log and the

heads respectively the annular packing e', which can be either of rubber or lead, as may be deemed best.

A distributing-chamber, e'', is then formed, bringing the fluid in contact with all points of the end face of the log.

The operation of these parts is, therefore, as follows:

The influent-pipe B of the force-pump is connected with the tank containing the ordinary liquid or coloring fluid.

The log is then securely braced between the cylinder-heads, having the packing e' between, as clearly shown in fig. 2.

The pump being put in operation, the fluid entering the pipe B is discharged through the pipe C, and caused to fill the chamber e'', and then forced to permeate the log.

In connection with the force-pump A an ordinary air-pump may be connected to the opposite cylinder head.

The air then being first all removed from the pores of the wood, the operation of the force-pump and process of permeation are thus easily and most effectively augmented.

I have found by experience that logs which are unsound at the core cannot be permeated by the liquid by ordinary machines of this class, since the liquid will pass through the center under slight pressure.

To obviate this difficulty, the cock of the discharge is properly adjusted to prevent the liquid escaping, and hence a pressure may be applied sufficient to force the liquid into the sound portions of the log. When this has been effected, the cock is turned and the liquid allowed to escape.

The provision of screw hook-rods and chains permits a crooked log to be burnetized, since the chains may be readily lengthened to allow for the curve of the same.

Having thus fully described my said invention, What I claim, and desire to secure by Letters Patent, is—

The improved machine herein described, consisting of the concave disks or heads E E, provided with the packing e', to form chambers e'', the screw hook-rods f, chains F', and screw-rods F, and the discharge-tube i, provided with stop-cock, all constructed and arranged as specified, and connected with the force-pump A B C D, as shown.

In testimony of said invention, I have hereunto set my hand in presence of—

FREDK. LEAR.

Witnesses:

WILLIAM W. HERTHEL,  
ROBERT BURNS.