J. L. W. NEBLE.

APPARATUS FOR IMPREGNATING TIMBERS.

APPLICATION FILED FEB. 9, 1914.

1,132,025.

Patented Mar. 16, 1915.

2 SHEETS-SHEET 1.

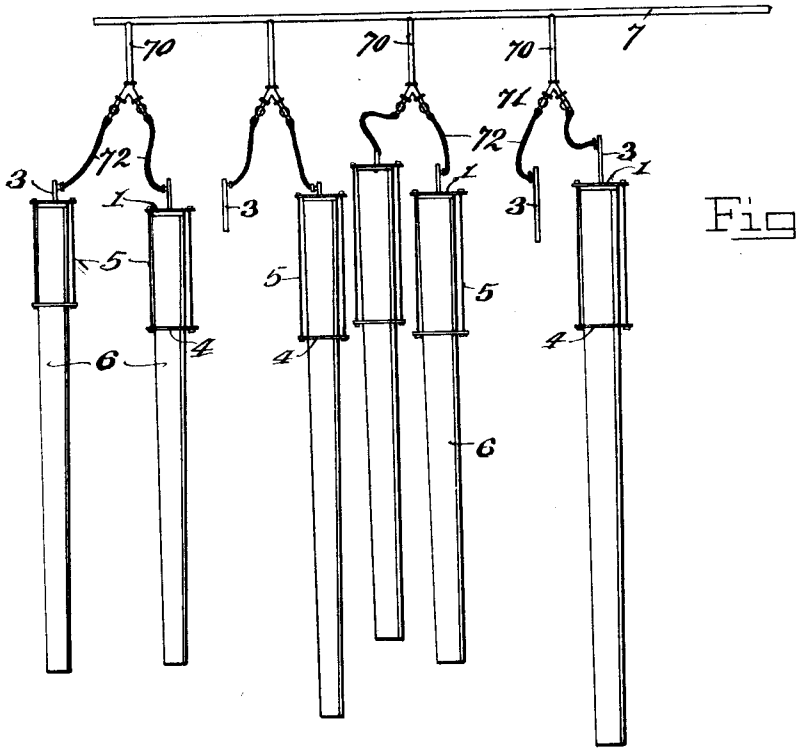
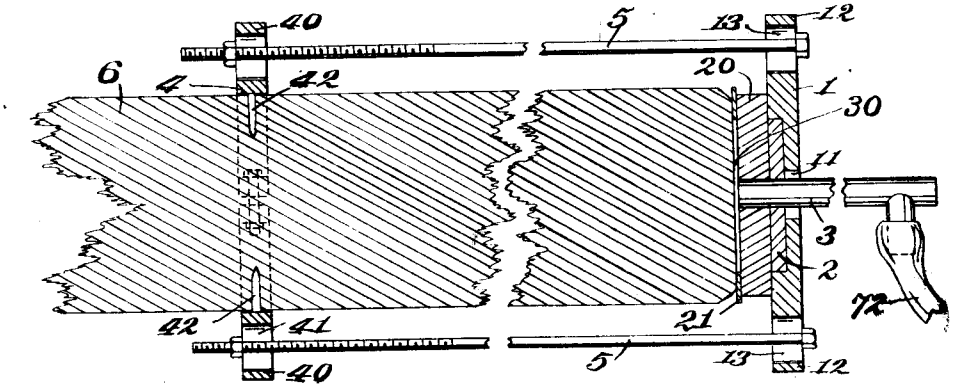


Fig. 1.

Fig. 2.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

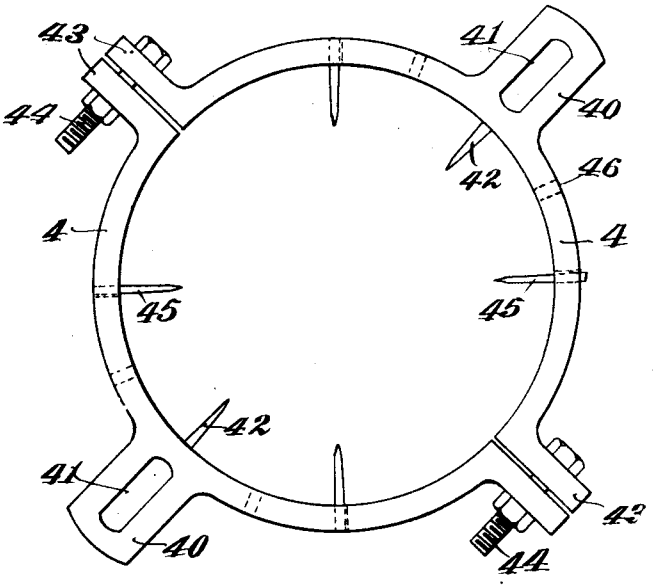
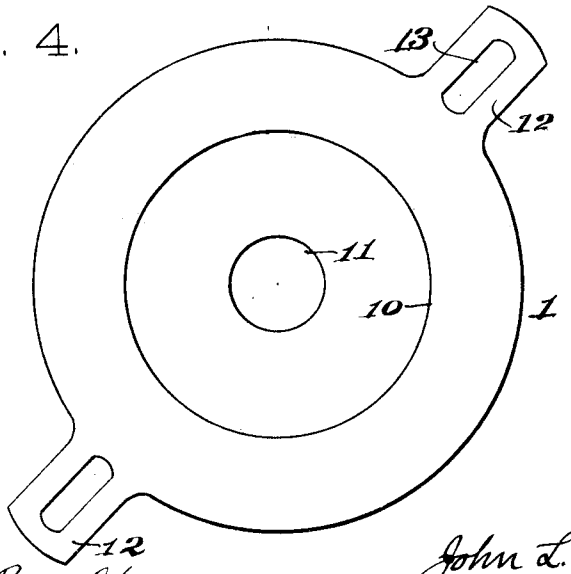


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR IMPREGNATING TIMBERS.

1,132,025. Specification of Letters Patent. Patented Mar. 16, 1915.

Application filed February 9, 1914. Serial No. 817,447.

To all whom it may concern:

Be it known that I, JOHN L. W. NEBLE, a citizen of the United States, residing at Everett, in the county of Snohomish, State of Washington, have invented a new and useful Improvement in Apparatus for Impregnating Timbers, of which the following is a specification.

My invention relates to improvements in apparatus for impregnating timbers, the object of the same being to provide a simple form of apparatus of low first cost which may be conveniently handled and economically operated.

The purpose for which the device is to be used is to impregnate timbers with such chemicals as will serve to better preserve them against decay, and the destructive effects of animal organisms, such for instance, as teredos.

My invention comprises certain parts and combinations of parts which will be hereinafter defined and particularly pointed out in the claims.

In the accompanying drawings I have shown my invention in a simple form of construction which is now preferred by me.

Figure 1 shows, in plan, apparatus used for simultaneous handling of a number of logs. Fig. 2 is a detail of apparatus shown as applied to a log, the end of the log also being shown in section. Fig. 3 is a view of a pair of the anchor yokes employed. Fig. 4 is an inner face view of the cap member.

The process employed by me in impregnating timbers, consists in inclosing the major portion of the end of the log, preferably the butt-end, with a cap which has a tight or sealed contact with the log, and supplying the impregnating liquid under pressure to this end of the log, by which process I have found that the liquid will be driven through the pores of the log lengthwise thereof, until, if the process is sufficiently continued, it will exude at the opposite end. The process may be continued to such a point as to impregnate a portion only of the length of the log, or the entire length if desired.

In Fig. 1, I have shown a main supply pipe or header, 7, from which a series of discharge pipes extends. I have also shown each of these discharge pipes 70, as provided with a Y at its outer end, each branch of which is provided with a valve 71 and with a flexible hose 72 connected therewith. The other end of this hose connects with a discharge pipe 3 which may be connected up to supply the impregnating liquid to the end of the log in the following manner.

For each log or timber to be treated, I provide a cap member 1, which is shown in face view in Fig. 4. This cap member is provided with a recess 10 upon its inner surface, which receives a disk 2 of wood. I also prefer to use another disk 20 of wood, which contacts with the inner face of the disk 2 and also with the inner surface of the cap 1. I prefer that these two disks 2 and 20 be placed with the grain extending at right angles so that there will be less liability of a crack occurring in such a way as to produce a leak. Through both of these disks a hole is bored of such size as to fit tightly against the pipe 3, to thereby prevent back flow of the impregnating fluid. The end of this pipe should terminate before making contact with the end face of the log.

To accommodate the pipe 3, the cap 1, which is made of iron or other suitable metal, is provided with a central hole 11, which is considerably larger than the pipe. The cap is also provided with two opposite ears 12, each provided with a radially extending slot 13, for the reception of the tension bolts 5. Between the inner disk 20 and the end of the log and extending closely about the outer edge of the end face thereof, is a ring 21 of packing material, so that when pressure is applied to draw the cap 1 against the log, a tight joint will be formed and at the same time a shallow chamber is formed which covers substantially the end of the log, and which receives the impregnating liquid from the pipe 3, under pressure.

At some distance in from the end of the log, is secured means by which the tension bolts 5 may be anchored or held. This means, as herein shown, consists of a couple of yokes, the construction of which is shown in Fig. 3. These yokes each consist of a half ring 4, provided with lugs or ears 43, through which clamping bolts 44 may be passed to draw them closely together. They are also provided with ears 40, preferably located at 90° from the lugs 43, and provided with radial slots 41, through which the ends of the bolts 5 may be passed. These yokes are also provided with spurs or teeth, which are intended to pierce the log and more thoroughly secure the yokes in place

thereon. One or more of these spurs, as the spurs 42, which extend substantially parallel with the direction of the bolts 44, may be made integral with the yokes. The other spurs 45 may, however, be made separate and be made to pass through holes 46 in the yokes and be driven into place.

With the anchor yokes secured in place, by means of the threaded bolts 5 the cap 1 may be held against the end face of the log with great force. With the pipe 3 in place and pressure from the header applied by opening the valve 71, the fluid will be discharged into the chamber 30 whence it will slowly enter the fibers of the wood. As the cap seals one end of the log, the fluid will tend to be driven toward the other end of the log, as it will flow lengthwise the grain much more readily than transversely thereof. It will also penetrate the sap wood which lies next the bark much more readily than the inner hard wood, which results in the impregnation of an inclosing layer which forms a protective sheath for the heart wood. By this means the log may be impregnated for any length desired.

The apparatus is of a simple character, requiring but little expense in first cost, and is very simple to handle.

I claim as my invention—

1. An apparatus for impregnating timbers consisting of a plate or cap having two opposite ears each provided with a radially extending slot, said plate having a central pipe-receiving opening and a recessed chamber surrounding said opening on the inner face of the plate, a wood disk filling said recess, a second wood disk covering substantially the inner face of the plate, both said disks being centrally bored for the passage of the supply pipe, a ring of packing material extending closely about the edge of the end of the log to form a sealing contact and provide a shallow chamber to hold impregnating liquid; semicircular yokes provided with inwardly projecting spurs integral therewith for anchoring engagement with the log, clamping bolts connecting the ends of said yokes so as to draw them together and to fixedly secure the yokes about the timber back from its end, said yokes also having slotted outwardly projecting ears corresponding to those upon the cap or plate, and tension bolts fitting said slotted ears of yokes and cap whereby the cap may be firmly held against the end of the log while latter is being impregnated.

2. An apparatus for impregnating timbers consisting of a plate or cap having two opposite ears each provided with a radially extending slot, said plate having a central pipe-receiving opening and a recessed chamber surrounding said opening on the inner face of the plate, a wood disk filling said recess, a second wood disk covering substantially the inner face of the plate with its grain at right angles to grain of other disk, both said disks being centrally bored for the passage of the supply pipe, a ring of packing material extending closely about the edge of the end of the log to form a sealing contact and provide a shallow chamber to hold impregnating fluid; semicircular yokes provided with inwardly projecting spurs integral therewith for anchoring engagement with the log, clamping bolts connecting the ends of said yokes so as to draw them together and fixedly secure the yokes about the timber back from its end, said yokes also having slotted outwardly projecting ears corresponding to those on the cap or plate, tension bolts fitting said slotted ears of yokes and cap whereby the cap may be firmly held against the end of the log while latter is being impregnated, and a supply pipe passing through the holes in the wood disks to discharge the impregnating fluid under pressure into the chamber between the cap and the end of the log.

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Witnesses:
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