No. 638,477. Patented Dec. 5, 1899.

H. J. SCHEID.

DIE FOR COMPRESSING WOOD.

(Application filed June 29, 1899.)

(No Model.)

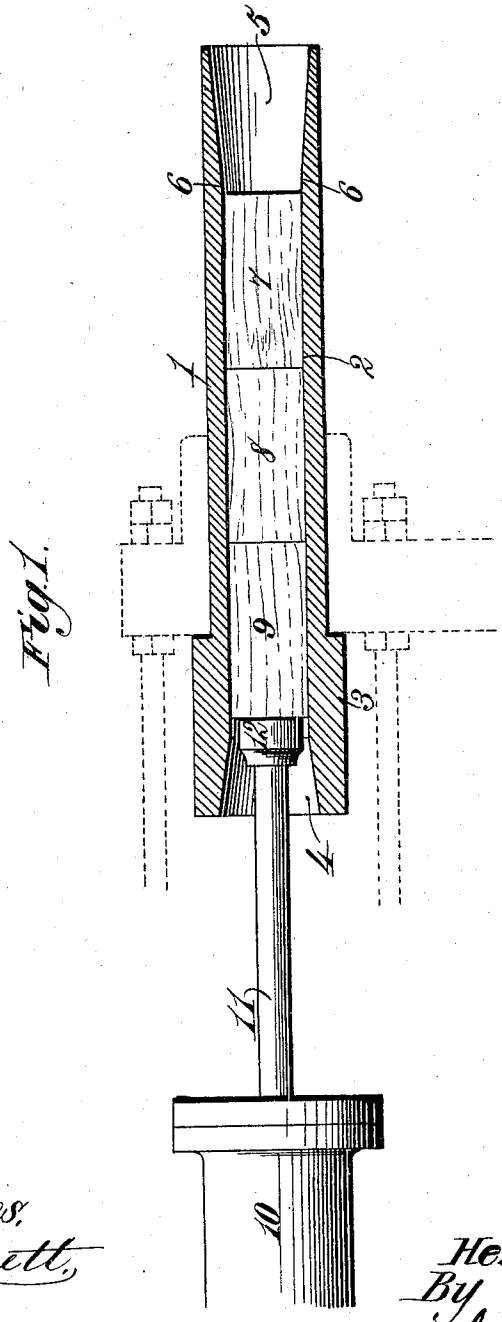
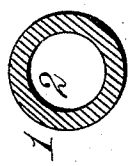


Fig. 1.

Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY J. SCHEID, OF MARION, INDIANA, ASSIGNOR OF ONE-HALF TO WILLIAM A. BEASLEY, OF FAIRMOUNT, INDIANA.

DIE FOR COMPRESSING WOOD.

SPECIFICATION forming part of Letters Patent No. 638,477, dated December 5, 1899.

Application filed June 29, 1899. Serial No. 722,323. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. SCHEID, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented new and useful Improvements in Dies for Compressing Wood, of which the following is a specification.

My invention relates to an improved die for compressing wood.

It is the object of my invention to provide a die by means of which the sap can be thoroughly and expeditiously removed from the wood without checking, cracking, or otherwise injuring the latter.

Heretofore in compressing wood to remove the sap a die having an inclined or flaring inlet end and a straight exit or discharge end has been employed, such form of die being shown, for instance, in the patent granted to H. L. Du Bois February 13, 1894, No. 514,847. In the use of such form of apparatus it is found that as the wood leaves the die it will suddenly expand about the opening. This not only produces checking, but frequently the wood will crack, due to this sudden expansion, and be rendered useless. According to my invention the discharge end of the die is also made flaring or inclined, but at a less angle to the axial line than the inlet end, so that the wood as it leaves the die is allowed to expand gradually. By this means I overcome the objectionable features above enumerated. I find also that by my construction the sap is more thoroughly removed or forced out of the wood both at the ends and center by preventing the wood from expanding suddenly than is the case with dies as now used.

I have illustrated my invention in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view through a die constructed according to my invention, and Fig. 2 is a transverse sectional view of the same.

The die 1 is made as an integral structure and is circular in cross-section and provided with a circular bore 2. At the inlet end of the die the wall is thickened, as indicated at 3, to strengthen the same, and such end is provided with a tapered entrance-opening 4, leading to the bore 2. At the opposite or discharge end of the die I also provide a tapered opening 5, the incline of which, however, is much less than that of the opening 4. The angle formed at the point where the wall of the opening 5 diverges from the wall of the bore 2 is rounded, as shown at 6, to further insure the gradual expansion of the wood and so that no sharp edge may be presented about which the wood would expand. I thereby avoid checking the wood.

The numbers 7 8 9 indicate, respectively, blocks of wood undergoing the compressing operation. The die is preferably of such a length that it will hold two blocks of wood, the first block 7 inserted being gradually discharged from the die as the third block 9 is forced therein. Thus the blocks remain under compression in the die a sufficient length of time to insure the discharge from the wood of practically all the sap. As the wood leaves the bore 2 at 6 it expands gradually outward against the inclined sides of the opening 5, being thereby constantly held under compression until it has reached a point where expansion ceases. When discharged from the die, the wood will be found to have been freed from all sap and its surface will be smooth and even. After the wood has been freed from sap, as described, I subject it to a hot-air blast, which removes all remaining moisture.

The wood may be forced through the die by any preferred means; but I prefer hydraulic pressure, and have indicated in the drawings a cylinder 10, having a piston or plunger 11 provided with a plunger-head 12. The die may be supported in any preferred manner, and I have indicated such support conventionally by the dotted part 13.

Having thus fully described my invention, what I claim as new is—

1. A die for compressing wood having a bore provided at one end with a tapered inlet and at its opposite end with a reversely-tapered or flared outlet, substantially as described.

2. A die for compressing wood having a bore provided at one end with a tapered inlet and at its opposite end with a reversely-tapered or flared outlet the incline of the wall of which is less than that of the inlet, substantially as described.

3. A die for compressing wood having a straight bore communicating at one end with a tapered inlet-opening and at its opposite end with a reversely-tapered or flared outlet-opening the wall of said bore and of said outlet-opening being continuous and free from angles, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY J. SCHEID.

Witnesses:
ANNA MACY,
P. O. DICKEY.