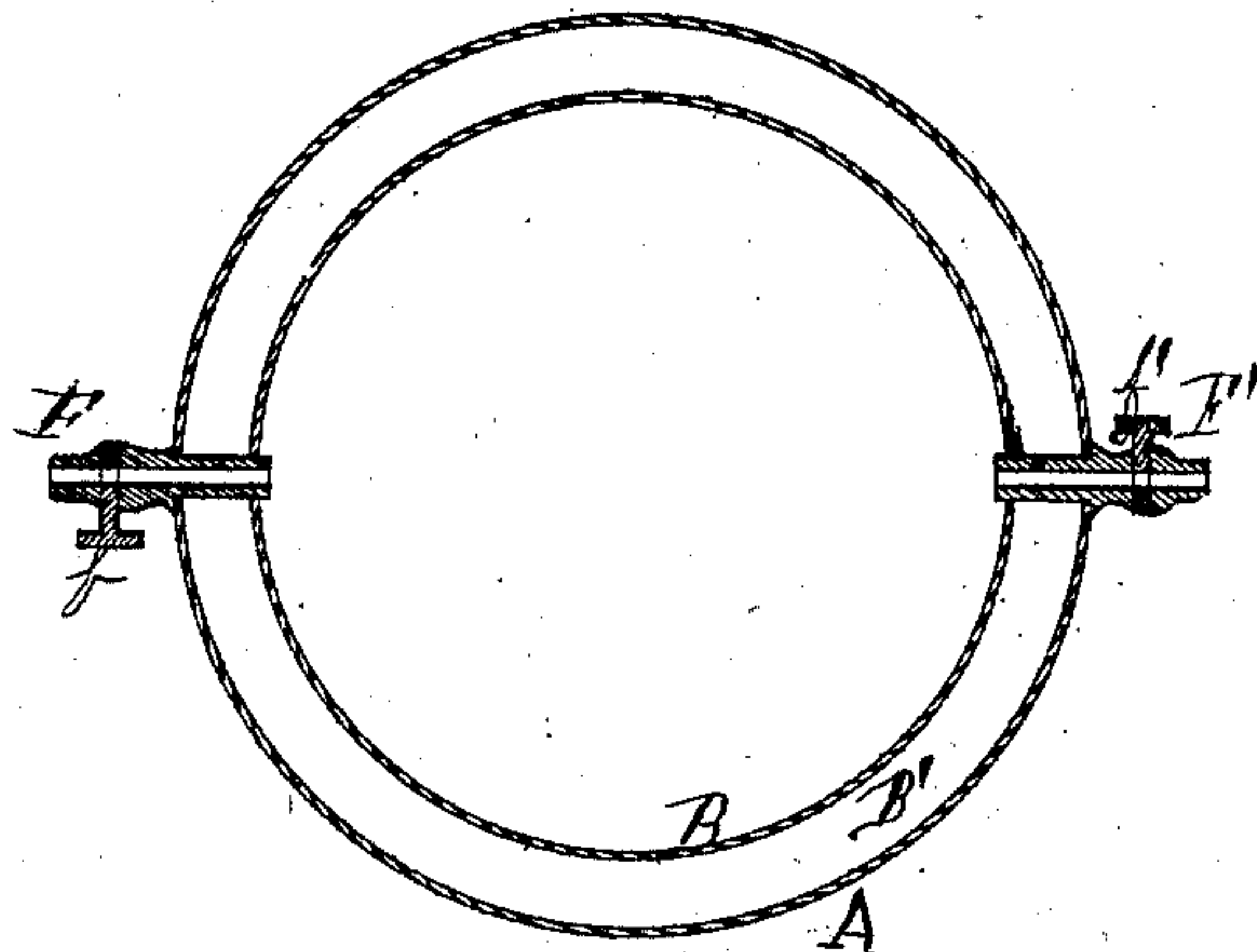


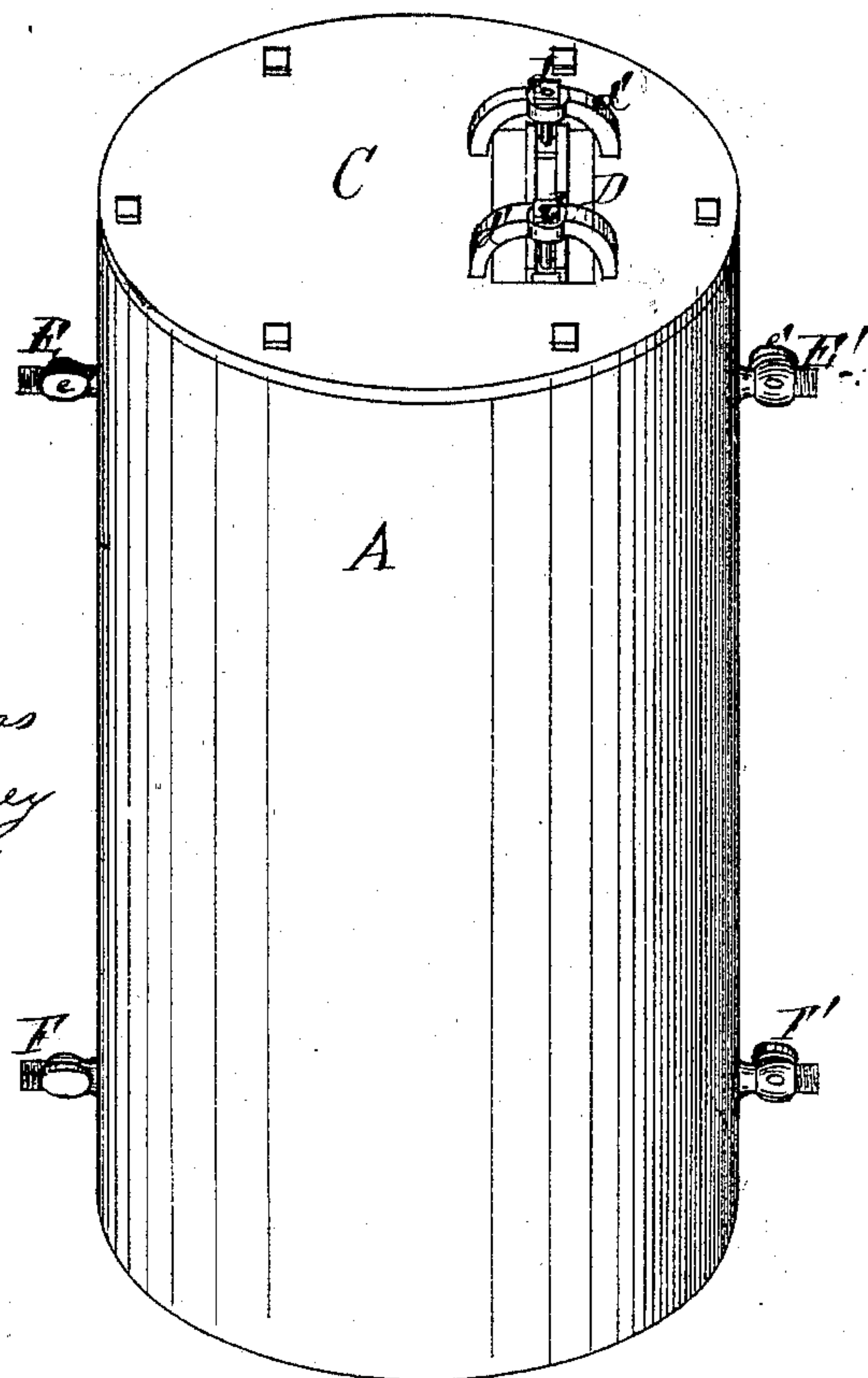
J. ALLONAS.  
LUMBER DRIER.

No. 98,541

Patented Jan. 4. 1870.



*Fig. 1.*



*Inventor*  
*Joseph Allonas*  
*by his Attorney*  
*A. W. Smith*

*Witnesses*  
*Amahou*  
*H. H. Doubleday*



# United States Patent Office.

JOSEPH ALLONAS, OF MANSFIELD, OHIO, ASSIGNOR TO C. AULTMAN AND H. H. TAYLOR, OF SAME PLACE.

Letters Patent No. 98,541, dated January 4, 1870

## LUMBER-DRIER.

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, JOSEPH ALLONAS, of Mansfield, in the county of Richland, and State of Ohio, have invented certain new and useful Improvements in Lumber-Driers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view, and

Figure 2 is a transverse sectional view through the line *xy*, fig. 1.

The invention relates to that class of driers, in which steam is employed to furnish the heat used for evaporating the moisture contained in the lumber; and

It consists in, first, a novel arrangement of the drying-chamber within a shell or cylinder, in such manner as to form an annular space between the two, in combination with a system of steam-pipes, so connected with both the drying-chamber and the surrounding space or heating-chamber, as to place the steam perfectly under the control of the operator, thus facilitating the process of drying lumber, and making it easy for one to adapt his management to the requirement of the various kinds and condition of lumber which he is treating.

The invention further consists in certain improvements in the method of closing the entrance to the drying-chamber, as will be clearly understood from the following description of the construction and operation of my improved apparatus.

In the drawing—

A represents a shell or cylinder, which, for convenience, I prefer to make of light boiler-iron.

B is a smaller cylinder, constructed similarly to the larger one, A, and placed within it, in such manner as to leave an annular space, B', between the two. B may be supported in proper position within A upon feet, if thought best.

Cylinders A and B are united at their ends by heads C, made preferably in such form as to serve, not merely to connect the two cylinders, thereby completing the steam-chamber B', but also to serve as a head for cylinder B, care being taken that all joints between heads C and said cylinders, as well as all joints in the cylinders, shall be made steam-tight.

In each head C is an aperture, of suitable size, through which to introduce the lumber to be dried, this aperture being closed, when required, by means of man-hole plate D, held in place by bolt *d*, passing through bridge *d'*.

Should convenience make it necessary, head C may be cut out the full size of cylinder B, and the open end be closed by a cap, properly secured.

E is a feed-pipe, leading from the boiler to the outer shell A.

E' is a waste-pipe, leading from shell A. (See fig. 1.)

F is a feed-pipe, leading from the boiler to shell B.

F' is a waste-pipe from shell B.

*e e'* and *f f'* are stop-cocks, used in controlling the currents of steam, as hereinafter described.

The operation of the drier is as follows:

The lumber is placed in cylinder B, which is then closed tightly by means of man-hole plate D, said plate being packed with spun-yarn, or its equivalent, when necessary.

Steam is then let into this cylinder, through stop-cock *f*, cock *f'* being closed. The steam is kept on the lumber such time as shall suffice to dissolve the sap, tar, and other substances, with which the pores of the wood may be filled, and hold them in solution, so that they shall be readily expelled during the next stage of the process.

The next step is to close cock *f* and open cock *f'*, thus allowing the contents of cylinder B to flow out, or, if it is preferred, I may, before opening cock *f'*, fill the annular chamber B' with cold water, thus creating a vacuum about the lumber, and more effectually freeing its pores of sap.

Then draw off the cold water through cock *e'*, after which close said cock, and fill steam-chamber B' through cock *e*, thereby bringing the temperature in cylinder B up to such point as may be desired, and the lumber will be rapidly dried, the vapor produced by evaporation being driven out through cock *f'*, which must be left open for that purpose.

It will be readily seen, from the above description, that the drying-chamber enclosed by cylinder B and the steam-chamber B' are entirely independent of, and may be disconnected from each other at will, and, in fact, can be only connected with each other, through the medium of the boiler, except by connecting feed-pipes E and F.

What is claimed as new, and sought to be secured by Letters Patent, is—

In a lumber-drier, having independent lumber and heating-chambers, the arrangement, substantially as described, of two independent sets of induction and eduction-pipes, one set connecting with the inner chamber, and the other set connecting with the outer chamber.

JOSEPH ALLONAS.

Witnesses:

R. C. SMITH,

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