

S. SWARTZ.
STEAM DRYING-PRESS.

No. 173,083.

Patented Feb. 1, 1876.

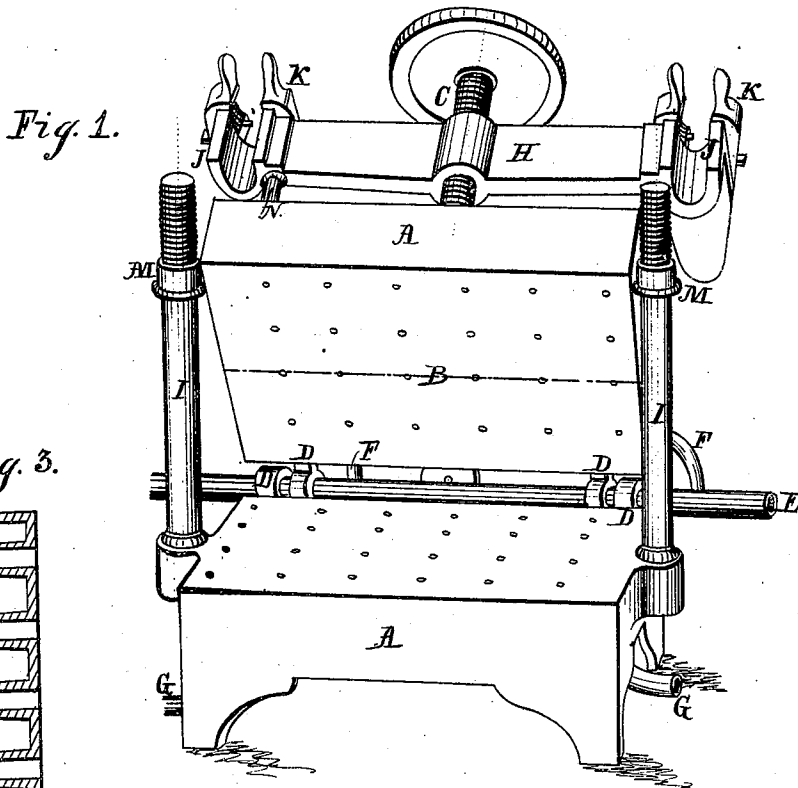
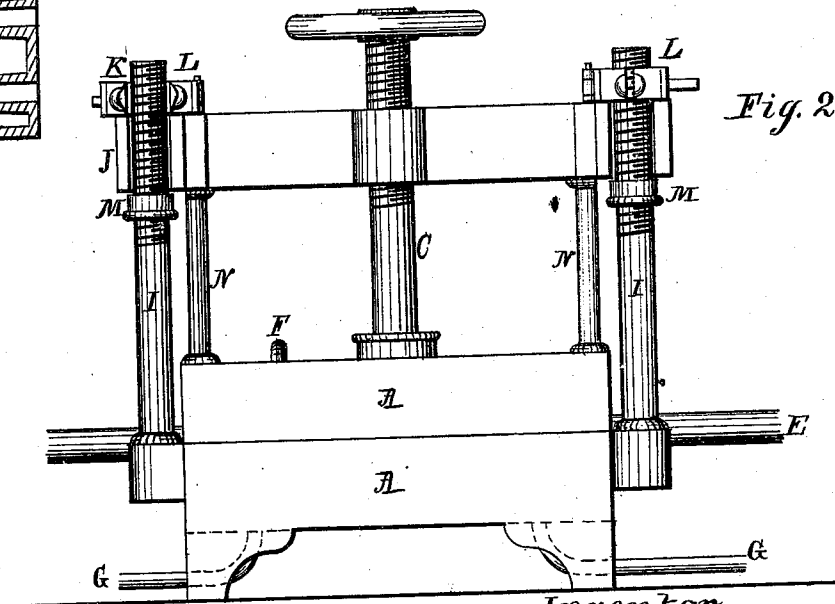
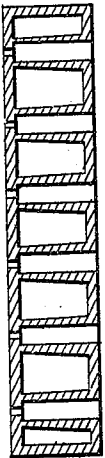


Fig. 3.



Witnesses

Henry H. Little.
Chas. A. Rice

Inventor:

Samuel Swartz.

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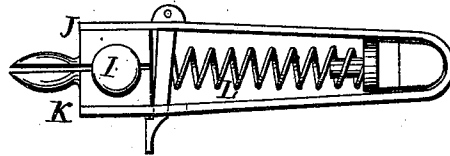
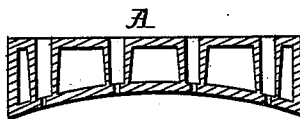
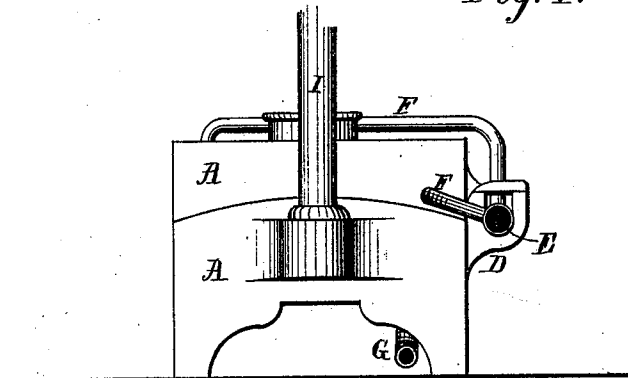


Fig. 4.



Witnesses;

*Henry H. Little.
Chas. A. Rice.*

Inventor:

Samuel Swartz

UNITED STATES PATENT OFFICE

SAMUEL SWARTZ, OF BUFFALO, NEW YORK.

IMPROVEMENT IN STEAM-DRYING PRESSES.

Specification forming part of Letters Patent No. **173,083**, dated February 1, 1876; application filed August 2, 1875.

To all whom it may concern:

Be it known that I, SAMUEL SWARTZ, of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Steam-Drying Press, which improvement is fully set forth in the following specifications, reference being had to the accompanying drawings.

The object of my invention, although applicable to pressing and drying lumber in general, is more especially designed for pressing and drying veneer; and the invention comprises an improved plan for discharging the vapor from the material while drying. The invention further comprises a means to open and counterbalance the press proper.

Figure 1 is a perspective view of the press illustrating the invention, the press being shown open. Fig. 2 is a front elevation of the same closed, and in condition for pressing. Fig. 3 is a sectional view in detail, showing the interior of the steam-chambers with the perforated thimbles.

There are two steam-chambers, A A, made ordinarily of cast-iron, and of sufficient strength to stand the pressure of steam used. In the inside of those chambers is cast a number of rows of thimbles, B, connecting the two sides. Those thimbles are for the purpose of giving strength, and also to admit holes being drilled through the platen of face of the chambers, for the purpose of allowing the vapor to escape from the material while drying. There is a slight corrugation on the face of the chambers, between the holes, and to allow a more rapid discharge of the vapor I press the material between wire sieve. Between those chambers the material is placed when in the process of drying, where it is firmly pressed by means of the screw C, or its equivalent, similar to a letter-press. For the convenience of placing the material in the press the upper chamber opens on a hinge, as shown in Fig. 1, on the back side, and is thrown back like the lid of a chest. The upper chamber is counterbalanced by a weight attached to the back side, so as to be in equal poise in any position in its movement. The hinge is constructed by casting projections D D on the back side of each chamber, extending back in line with each other. Through those projec-

tions the steam-pipe E passes, which forms the hinge-joint. The pipe is firmly fastened to the castings of the upper chamber, and works loose in elongated bearings up and down in those of the lower chamber, to allow the upper chamber to rise and fall to suit the thickness of the material being pressed. There are two branches, F F, leading from the hinge-pipe into the upper chamber—one on the top in front receiving the steam, the other in the end back discharging the steam. The hinge-pipe is closed between the branches, so as to receive the steam, and also discharge it after it has passed through the upper chamber. Suitable flexible joints or connections must be attached to each end of the pipe to allow it to rotate as the upper chamber is thrown back. There are two steam-pipes, G G, attached to the bottom of the lower chamber, at opposite ends, to admit and discharge the steam. The screw C works through the cross-bar H like a letter-press. The bar extends beyond the ends, outside the upper chamber, to allow the columns I I, which are attached to the lower chamber, to pass through. The front side of the cross-bar, where the columns pass through J J, must be open to the column, so as to allow it to move back with the upper chamber. The upper ends of the columns have a screw extending above the cross-bar, to receive nuts K K, which hold the bar from moving upward when in the act of pressing. To change this fixed position for the purpose of removing the material out of the press, the screw-nuts on the columns are in two halves, operating, by springs L L, to open and become detached, allowing the upper chamber to be thrown back. When it is not desirable to throw back the chamber the spring-nuts remain closed, and the screw-nuts M M on the columns below turned up against the under side of the cross-bar. There are two columns, N N, on the top chamber, attached to the center of each end. Those columns extend up into the cross-bar, so as to allow the bar to move up and down in the act of pressing, but to hold it in its relative position with the chamber when it is thrown back.

In operating the press the parts handled should be made of wood or any non-conductor of heat.

To accomplish the same purpose the above device contemplates, instead of using steam-chambers, I attach a succession or coil of steam-pipes to a face-plate, with holes drilled through for the vapor to escape or press between wire sieve, as in the above-described device.

For the purpose of bending and drying curved shapes—such as coffin-sides, piano-forte corners, or any other curves—I form the platen or face of the chambers to suit the curve desired. Fig. 4 shows the chambers curved.

I claim as my invention—

1. In a drying-press, the perforated thim-

bles located within the steam-chamber, as and for the purpose described.

2. In a drying-press, the hinge-joint, in combination with the steam-chambers, for the purpose set forth.

3. In a drying-press, screw-nuts, in combination with the standards, for the purpose set forth.

4. In combination with the standards of a press, divided screw-threaded nuts, substantially as described.

SAMUEL SWARTZ.

Witnesses:

ARTHUR W. HICKMAN,
WILLIAM A. WATSON.