W. H. RIHL.

PROCESS OF DRYING LEATHER AND OTHER COMPOSITION BOARDS.

APPLICATION FILED DEC. 9, 1914.

1,206,594. Patented Nov. 28, 1916.

Fig. 1.

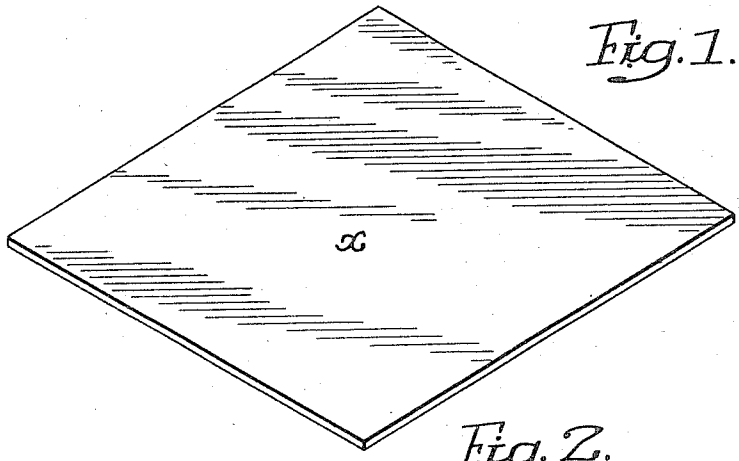


Fig. 2.

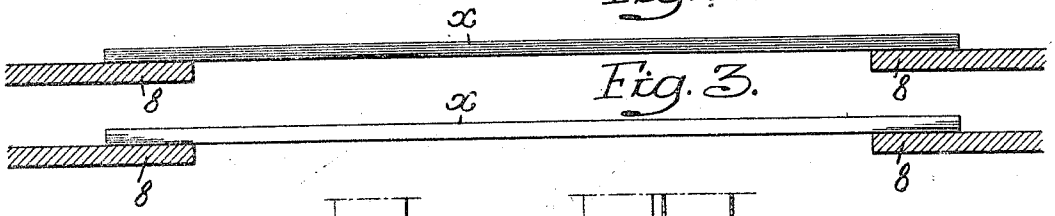


Fig. 3.

Fig. 4.

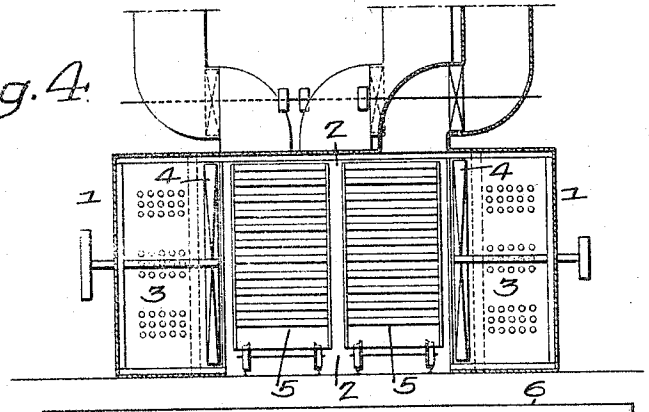


Fig. 5.

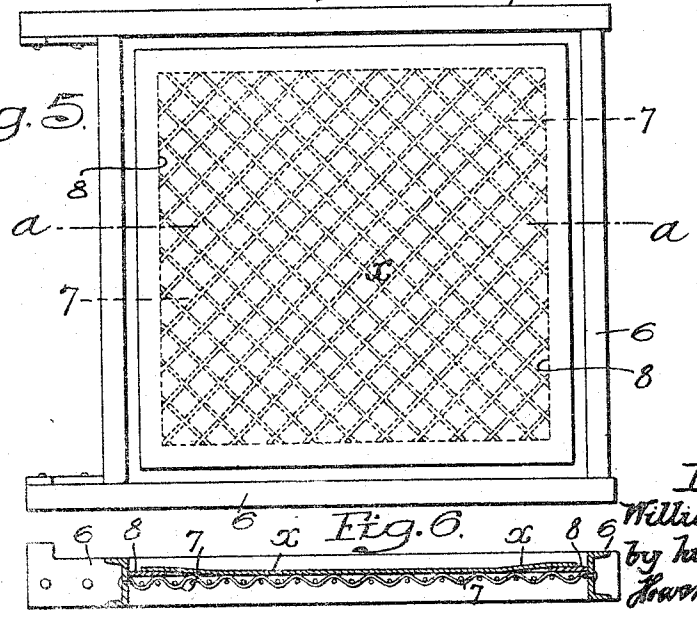


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM H. RIHL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE PHILADELPHIA TEXTILE MACHINERY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

PROCESS OF DRYING LEATHER AND OTHER COMPOSITION BOARDS.

1,206,594. Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed December 9, 1914. Serial No. 876,303.

To all whom it may concern:

Be it known that I, WILLIAM H. RIHL, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in the Process of Drying Leather and other Composition Boards, of which the following is a specification.

This invention relates to certain improvements in the process of drying leather board and other boards made of pulp.

The object of the invention is to improve the process of drying so as to prevent the edges of the board from drying more rapidly than the body thereof, which usually causes the board to buckle at the edges. By my invention, buckling is prevented and the board is substantially flat when dry. This object I attain in the following manner, reference being had to the accompanying drawing, in which:—

Figure 1, is a perspective view of a sheet of leather board; Fig. 2, is a sectional view showing the edges of the board protected and the board moist throughout; Fig. 3, is a similar view, showing the board partially dried; Fig. 4, is a transverse sectional view through a drier which may be employed in carrying out my improved process; Fig. 5, is a plan view of a tray, showing a board mounted thereon; and Fig. 6, is a sectional view of the tray on the line *a*—*a*, Fig. 5.

Referring to the drawing, *x* is the board to be dried. This board is made in the ordinary manner and in leather board, particularly, the shrinkage is exceedingly great, consequently, it cannot be held, but must be dried in such a way that it has freedom to shrink as it is being dried and care must be exercised to properly dry it and to prevent the edges from drying more rapidly than the body of the board, as this causes buckling and warping to such an extent that it will not lie flat when dried, which is objectionable.

I have found that by protecting the board, preferably at one side near the edge, I can prevent buckling and warping to a considerable extent, so that the body of the board will dry simultaneously with the edges thereof and, in some instances, in advance of the edges.

My invention is carried out preferably in connection with a drier of the type illustrated in Fig. 4, in which 1 is the casing and 2 is the drying chamber.

3, 3 are the heating chambers, one located on each side of the drying chamber, and 4, 4 are the circulating fans, which are driven in any suitable manner so that a current of air will circulate across the drying chamber, first in one direction and then in a reverse direction, as the carriers 5, on which the boards are mounted, are traversed through the drier, so that both sides of the boards are subjected to transverse currents of air.

Each board is mounted on a tray, similar to that illustrated in Figs. 5 and 6, and these trays are located in carriers and are spaced a certain distance apart so as to allow the air to pass through the spaces between the trays. The trays, in the present instance consist of a frame 6 having a wire screen 7 which extends across the frame as shown in full lines, Fig. 6, and in dotted lines, Fig. 5.

Mounted within the tray is a frame 8, preferably made of thin sheet metal and without any obstructions or elevated parts on its upper side. The tray may be of such a size that the edges of the board, which are of standard dimensions, extend over the frame 8, as clearly shown in Figs. 2, 3, 5 and 6, and fit snugly on the upper surface of the frame so that the air will not pass between the frame and the underside of the board at its edges.

When the carrier, with the tray therein, is traversed through the drier the circulating fans cause the air to circulate between the trays and, consequently, both sides of the boards are subjected to the dry, warm air and in time the boards are thoroughly dried, but the drying of the edges is protracted owing to the fact that the lower surfaces of the boards at the edges rest on the frame 8 and the air can only gain access to one side of the boards near the edges. In the ordinary methods of drying, the edges of the boards dry first, as both sides of the boards are subjected to the air currents.

I claim:—

1. The process herein described of drying leather and other composition boards, said process consisting in mounting the board loosely on a frame so as to prevent access of air to one side of the board at the edges thereof and subjecting the board to

a current of air whereby the body of the board will dry more rapidly than the edges.

2. The process herein described of drying leather and other composition boards, said process consisting in protecting one side of the board near the edges thereof, subjecting the balance of the board to the action of currents of air so as to cause the body of the board to dry simultaneously with the edges or slightly in advance of the edges, to prevent buckling and warping of the board.

3. The process herein described of drying leather and other composition boards, said process consisting in mounting the board on a frame so as to prevent the access of air to one side of the board at the edges thereof; spacing the boards apart and directing a current of warm air through the spaces between the boards so that both sides of each board will be subjected to the currents of heated air with the exception of the underside near the edges thereof in order to dry the entire upper surface of each board and the lower surface of the body portion and to protract the drying of the lower portion of the board, near the edge thereof, so as to prevent buckling and warping of the board.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM H. RIHL.

Witnesses:
JOS. H. KLEIN,
WM. A. BARR.