

May 2, 1944.

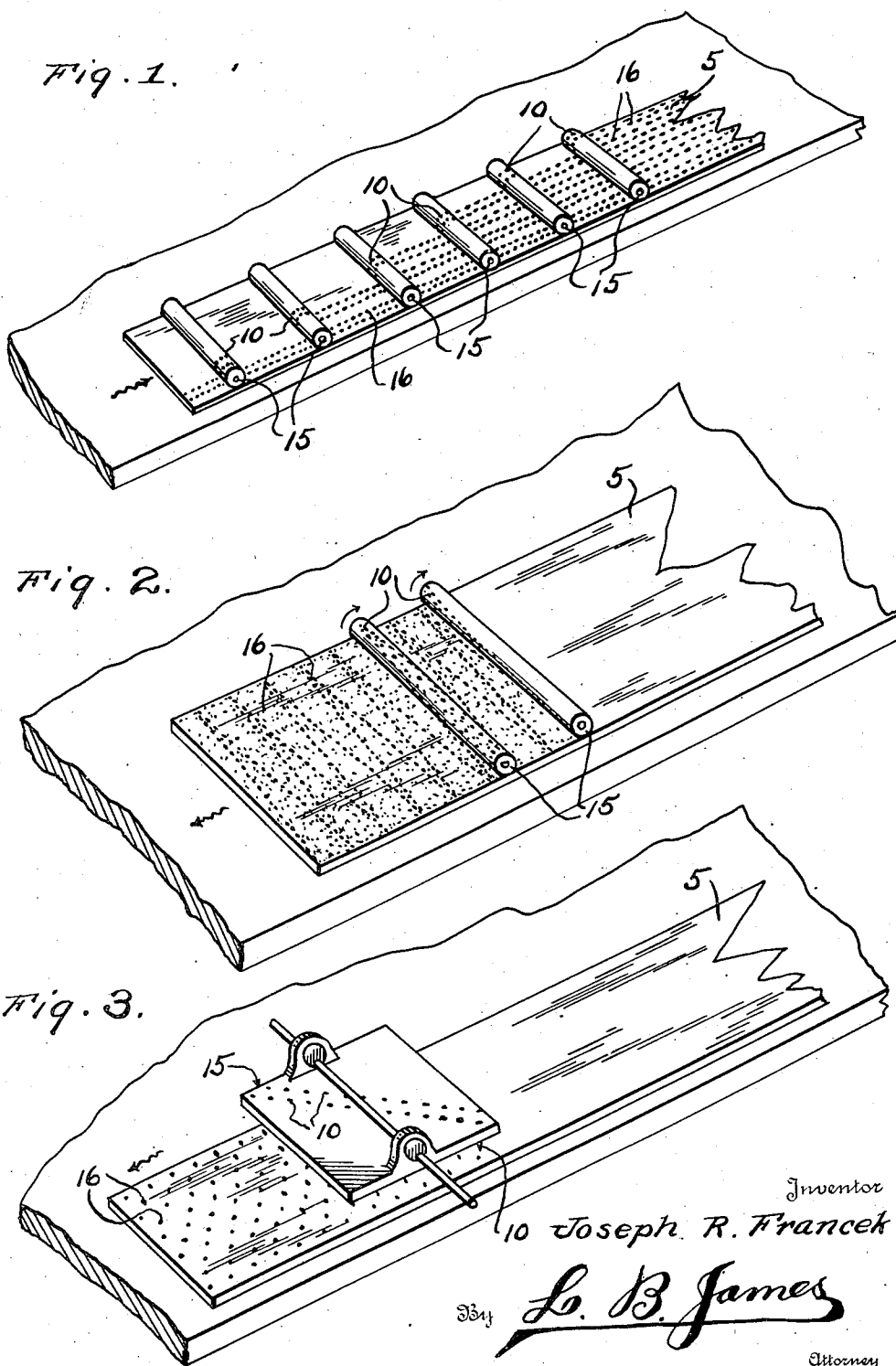
J. R. FRANCEK

2,347,820

DRY EXPANSION OF WOOD VENEER

Filed Dec. 2, 1940

2 Sheets-Sheet 1



May 2, 1944.

J. R. FRANCEK
DRY EXPANSION OF WOOD VENEER

2,347,820

Filed Dec. 2, 1940

2 Sheets-Sheet 2

Fig. 4.

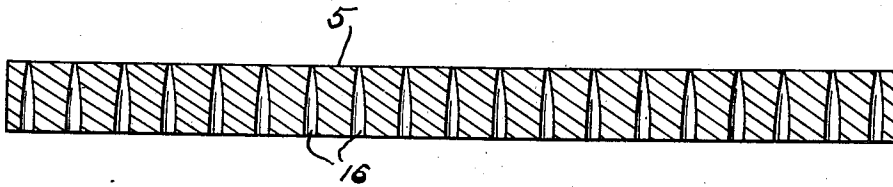


Fig. 5.

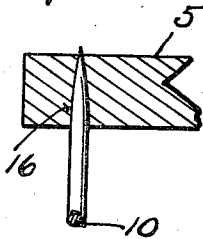


Fig. 6.

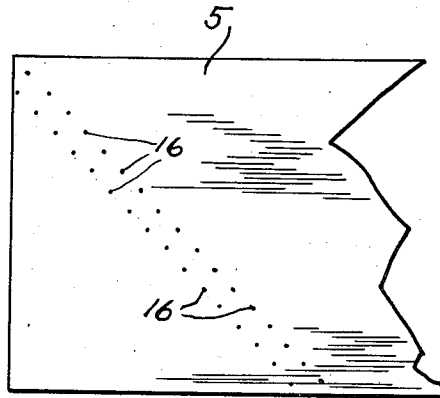


Fig. 7.

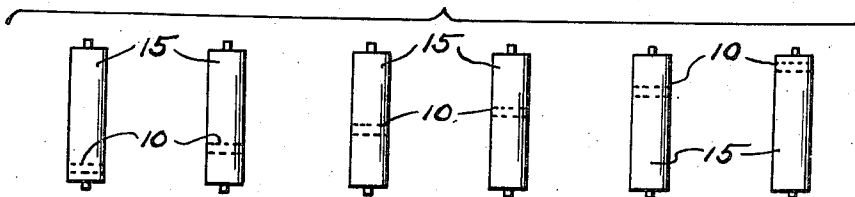
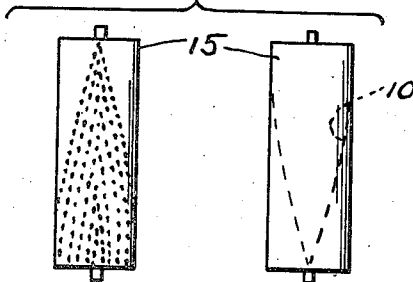


Fig. 8.



Inventor.

Joseph R. Francek

By *L. B. James*

Attorney.

UNITED STATES PATENT OFFICE

2,347,820

DRY EXPANSION OF WOOD VENEER

Joseph R. Francek, Algonquin, Ill., assignor to
Edmund J. Sheehan, Chicago, Ill.

Application December 2, 1940, Serial No. 368,240

6 Claims. (Cl. 144—309)

This invention relates to the official class of wood working and more particularly a process for treating sheets of wood veneer.

The primary object of this invention resides in a process for treating sheets of wood veneer or the like so as to prevent the same from contracting, expanding or warping after being applied to the walls, etc.

Another object of this invention resides in a process adapted to dry expand sheets of wood veneer or the like prior to preparing the same for wall coverings, etc.

A further object of this invention resides in the provision of a process for dry expanding sheets of wood veneer or the like so as to expand the outer surface thereof without destroying the grain of the sheets.

A still further object of this invention resides in the particular manner of spreading the rear surfaces of the veneer sheets by forcing pin points through the entire thickness thereof.

Aside from the aforesaid objects this invention resides in a process for dry treating wood veneer sheets or the like so as to evenly distribute any and all imperfections in the face or outer surfaces thereof.

Among the many objects of this invention is the provision of a process adapted to dry treat sheets of wood veneer and the like so as to increase the flexibility thereof.

One of the salient features of this invention is adoption of a process whereby sheets of wood veneer or the like are dry treated so as to evenly distribute imperfections in the face thereof with the maximum degree of smoothness.

With these and other objects in view this invention resides in certain steps in practicing the process hereinafter set forth in the specification, illustrated in the accompanying drawings and pointed out in the appended claims and, while this disclosure depicts my present method of practicing the invention, the right is reserved to resort to such departures therefrom as come within the scope of the claims.

In the accompanying drawings forming a part of this application:

Fig. 1 is a diagrammatic view of one form of mechanical means for dry treating wood veneer by the present process.

Fig. 2 is a similar view of a modified form thereof.

Fig. 3 is still another form thereof.

Fig. 4 is an enlarged cross sectional view of a sheet of wood veneer showing the same subse-

quent to having been treated by the present process.

Fig. 5 is a cross sectional view of a part of the wood veneer showing one of the pins penetrating the same.

Fig. 6 is a plan view of a portion of the wood veneer showing the diagonally disposed pin holes therein.

Fig. 7 is a plan view of the series of rollers shown in Fig. 1 and showing the pins on the several rollers offset along a diagonal line.

Fig. 8 is a similar view of the rollers shown in Fig. 2.

In practicing this invention a dry sheet of wood veneer 5 or the like is conveyed into contact with a series of pins 10 arranged on mechanically operated rollers 150 or a supporting plate 150 so as to force the pins into the inner portion of the wood veneer a distance such as that shown preferably in Fig. 4 wherein the ends of the perforations formed by the pins terminate proximate to the opposite surface of the wood veneer.

Each pin is preferably provided with a tapering point, as shown in Fig. 5, so that during the time the pins are piercing the veneer the fibers at the sides of each pin are merely spread laterally, the fibers being separated or split by the pins and forced laterally into the adjacent body portion of the wood veneer.

Although the pins may be arranged in those several relationships one to another, shown diagrammatically in the drawings, to accomplish the stated objects of the invention, it is preferred that the pins be arranged on lines disposed diagonally to the grain of the wood as shown in Fig. 3. With this arrangement of the pins, the wood veneer is spread laterally by each pin, along the diagonal line, unopposed by the spreading action of adjacent pins. Thereby the fibers are spread by each pin and are free to move into the adjacent body portion to impart an expansion to the wood veneer without the wood veneer being crushed between adjacent pins. Then, with successive piercings made by the pins progressively along the grain of the wood veneer, the veneer is gradually expanded while the wood veneer fibers and grain thereof are otherwise kept uniform and in their original relative positions.

The progressive and successive piercings of the wood veneer with the pins, as described, provides a myriad of piercings throughout the expanse of the wood veneer, and as a result of the process described the flexibility of the veneer is materially increased and the cumulative spreading of all the piercings provides an expanded wood veneer

for covering a wall or the like, such that when the veneer is applied to a wall any tendency for the wood veneer to expand is absorbed at the piercings, and any tendency of the wood veneer to contract is taken care of at the piercings.

With this invention fully set forth it is manifest that a process is introduced whereby wood veneer or the like is dry expanded so as to prevent expansion and contraction thereof when disposed on walls and the like in the usual manner and, as a result of this process, a product superior to the present commercial veneer sheets is produced.

Having thus described my invention what I claim and desire to protect by Letters Patent is:

1. That process of treating thin veneer sheets prior to mounting the same on a wall or the like which comprises perforating the veneer from its rear face to its front face with a series of perforations made simultaneously along lines disposed diagonally to the grain of the veneer sheet whereby the fibers of the veneer are separated and the sheet is thereby expanded transversely of the grain.

2. That process of treating thin veneer sheets prior to mounting the same on a wall or the like which comprises forming a series of tapered perforations simultaneously in the veneer from its rear face until the perforations open minutely through its front face along a line extending diagonally across the grain whereby the fibers of the veneer are separated and the sheet is thereby expanded, and repeating the operation progressively throughout the length of the grain.

3. The process of treating thin wood veneer

sheets comprising piercing the veneer at a plurality of points spaced longitudinally of the grain, in repeating cycles of piercings with the perforations made during one cycle spaced longitudinally of the grain, and starting said repeating cycles of piercings at one corner of the veneer sheet and ending the repeating cycles at the diagonally opposite corner of the veneer sheet.

4. That process of preparing a thin wood veneer sheet for covering a wall or the like comprising the step of simultaneously forming in the sheet a series of perforations disposed diagonally across the grain of the wood and progressively repeating said step at longitudinally spaced points upon the sheet to expand and make the sheet of veneer flexible beyond its natural state.

5. The process of treating a thin wood veneer sheet comprising supporting the body of the sheet, simultaneously forming in the sheet a series of perforations spaced from one another in the direction of the grain of the wood and repeating same progressively at points spaced transversely to the grain of the wood to expand and make the sheet of veneer flexible beyond its natural state.

6. The process of treating a thin wood veneer sheet comprising supporting the body of the sheet, piercing the veneer at a plurality of points in a cycle to provide a series of perforations spaced from one another in the direction of the grain of the wood and repeating said cycle progressively at points spaced transversely to the grain of the wood to expand and make the sheet of veneer flexible beyond its natural state.

JOSEPH R. FRANCEK.