

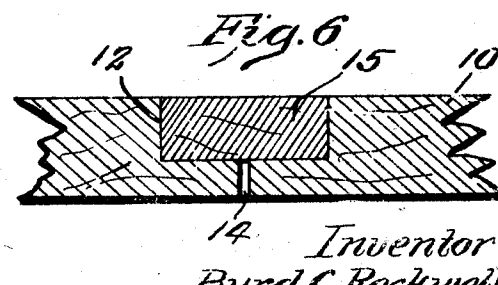
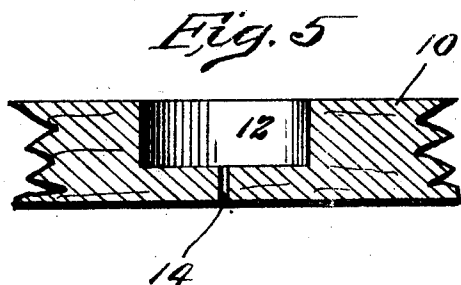
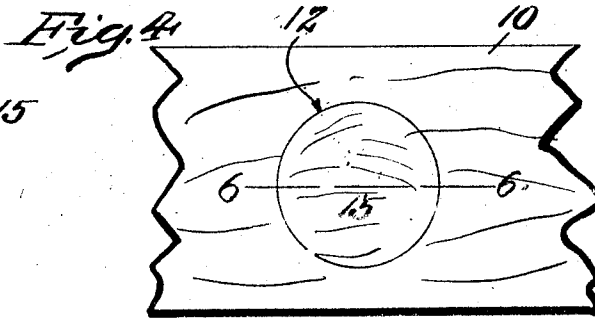
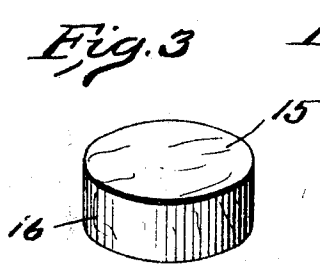
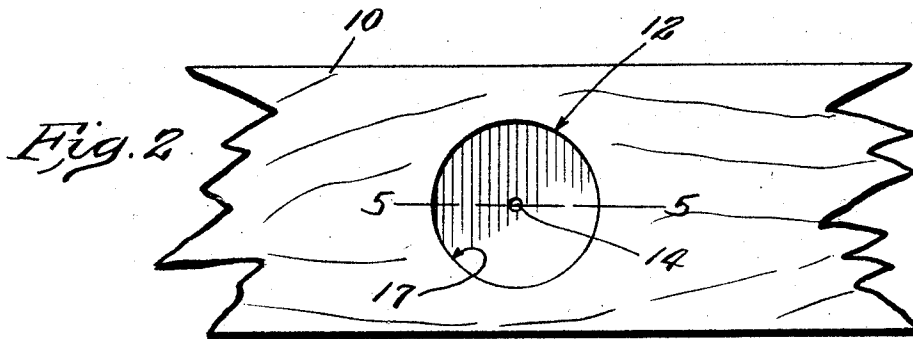
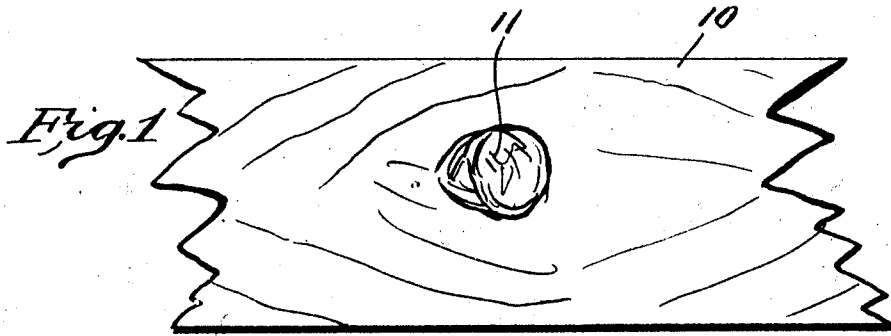
Sept. 8, 1925.

1,552,954

B. C. ROCKWELL

METHOD OF INLAYING WOOD

Filed Sept. 30, 1922



14 Inventor  
Byrd C. Rockwell  
By J. R. Cornwall Attorney

# UNITED STATES PATENT OFFICE.

BYRD C. ROCKWELL, OF CAMDEN, ARKANSAS.

METHOD OF INLAYING WOOD.

Application filed September 30, 1922. Serial No. 591,527.

*To all whom it may concern:*

Be it known that I, BYRD C. ROCKWELL, a citizen of the United States, residing at Camden, county of Ouachita, and State of Arkansas, have invented a certain new and useful Improvement in Methods of Inlaying Wood, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this application.

This invention relates to a new and useful method of inlaying wood, and the objects of the invention are to provide a simple and easily practiced method whereby the defects in wood may be removed by boring or otherwise forming a recess or pocket in the face of the wood and a plug of perfect wood inserted in said recess.

Further objects of my invention are to provide a plug from which the moisture has been completely driven out or having a comparatively small moisture content, while the wood in which the plug is to be inserted is of normal or comparatively large moisture content so that when the plug is placed in position, it will absorb moisture and expand and completely fill the recess, thereby forming a perfect and permanent bond.

Still further objects of my invention are to provide an air opening in the bottom of the recess to prevent the formation of an air cushion therein when the plug is placed in position, thereby insuring a true and accurate setting of the plug.

With these and other objects in view, my invention consists in certain novel features of construction and arrangements of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawing, in which,—

Figure 1 is a front elevational view of a piece of wood having a defective portion.

Figure 2 is a similar view with the defective portion removed.

Figure 3 is a detail view of a plug utilized for filling out the recess in the face of the wood.

Figure 4 is a front elevation of the piece of wood with the plug in position.

Figure 5 is a vertical cross section taken on line 5—5 of Figure 2.

Figure 6 is a vertical cross section taken on line 6—6 of Figure 4.

Referring by numerals to the accompanying drawings, 10 indicates a piece of wood the face of which has a defective part 11. This defective portion is removed, by boring or in other suitable manner, thus forming a recess or pocket 12, as shown in Figure 2. The bottom of this recess is drilled or bored through to provide a small opening 14 which serves as an air vent and prevents the formation of air cushions when a plug 15 is placed in position. Plug 15 is in the shape of a disk having a straight edge 16 so that said plug is of uniform diameter throughout its length. The wall 17 of recess 12 is also of the same diameter throughout its height, and of substantially the same diameter as the plug 15 so that when the latter is placed in position in said recess, it forms a tight fit.

In manufacturing the plugs, the same are cut from lumber which has been completely or nearly completely dried, so that the lumber contains very little if any moisture, and the plugs are retained in this moisture free condition until ready for use. Thus, the plugs are shrunk to their smallest dimensions and while in this stage are inserted in the recesses formed in wood which contains the usual or normal amount of moisture. The moistureless plug when placed in position will quickly absorb moisture from the wood in which it is seated and from the atmosphere, and, consequently, will expand and completely fill the recess and form a perfect joint. Furthermore, the expansion of the plug will cause it to be firmly seated in the recess and as the plug when seated will always contain the same percentage of moisture as the wood in which the recess is formed, the plug will not under any conditions become loose.

Preferably, a suitable adhesive is applied to the recess or the plug before the latter is placed in position in order to more securely hold said plug in place. The small aperture 14 formed in the bottom of recess 12 permits the air to escape when the plug 15 is being placed in said recess, thereby eliminating the formation of an air cushion and insuring an accurate setting of the plug.

The method of inlaying wood according to my invention provides an efficient and inexpensive method of curing knots and similar defects in lumber, and enables me to utilize lumber which heretofore has not been

suitable for architectural lumber and for which there has been no profitable market under the present practice. Some lumber, particularly, gum, is more susceptible to atmospheric conditions and moisture and if kiln dried, after leaving the kiln, quickly absorbs moisture to the extent of the prevailing atmospheric moisture, and if air dried contains moisture which varies from five to fifteen per cent.

In my improved process, the plugs are cut from lumber from which all moisture has been extracted and the plugs are maintained moisture proof until they are seated in boards. These plugs when seated will quickly absorb moisture equivalent to the moisture contained by the board in which they are to be seated, and will swell and form a perfect joint or bond between the wall of the bore and edges of the plug and regardless of future moisture conditions will always retain said joint and form a perfect surface. Glue or other adhesive is applied to the bottom and walls of the bores before the plugs are seated. Large diameter plugs may be clamped until dried and the lumber is preferably plugged before being passed through the molder, matcher, planer, etc. Plugs are preferably seated with the grain of the wood and plugs are alined or run in the same directions.

In using this inlay process with certain kinds of woods such as Douglas fir and white pine, it is necessary to inlay lumber while green or partly dry, as the knots become loose and fall out when the lumber is dry.

Lumber partly dry, as mentioned above, will contain from 50 to 100 per cent moisture and green lumber 200 to 250 per cent

moisture; consequently, the lumber from which the plug is made should contain a predetermined amount of moisture in proportion to the moisture content of the lumber in which the plug is to be placed, so that the swelling of the plug will not cause the board to split. From this it will be apparent that the moisture content of the plug must vary in accordance with the lumber in which it is to be used, in some cases the plug having very little or practically no moisture and in other cases containing comparatively more moisture but in all cases the moisture content of the plug is less than the moisture content of the board in which said plug is to be used.

I claim:

1. A method of inlaying wood consisting in forming a recess in a piece of wood, and a vent hole extending from the bottom of said recess through the remaining portion of the wood, and placing in said recess a plug the size and shape of which are the same as those of the recess, said plug having all or nearly all of the moisture extracted therefrom before being inserted in said recess.

2. The method of inlaying wood consisting in boring a recess in the face of a piece of wood and boring a reduced aperture in the remaining portion of the wood, said aperture extending from the bottom of the recess and opening to atmosphere and forming a plug of the same size and shape, said plug containing comparatively no moisture, and then securing said plug in said recess by means of an adhesive.

In testimony whereof I hereunto affix my signature this 22 day of September, 1922.

BYRD C. ROCKWELL.