No. 757,812. PATENTED APR. 19, 1904.

A. B. KEYES.

BOARD FOR BUILDING PURPOSES.

APPLICATION FILED AUG. 13, 1903.

NO MODEL.

Fig. 1.

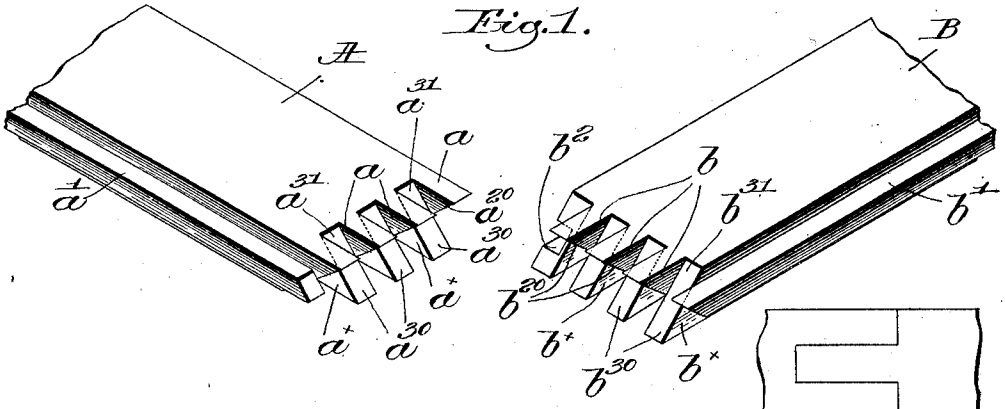


Fig. 2.

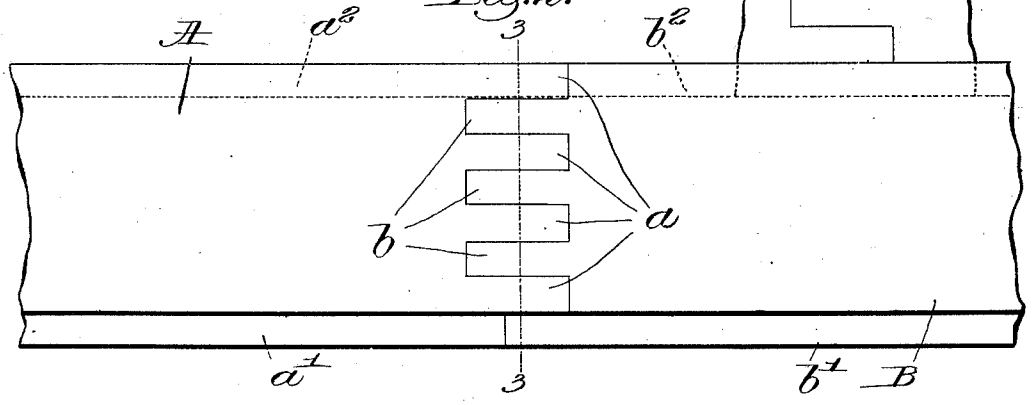


Fig. 3.

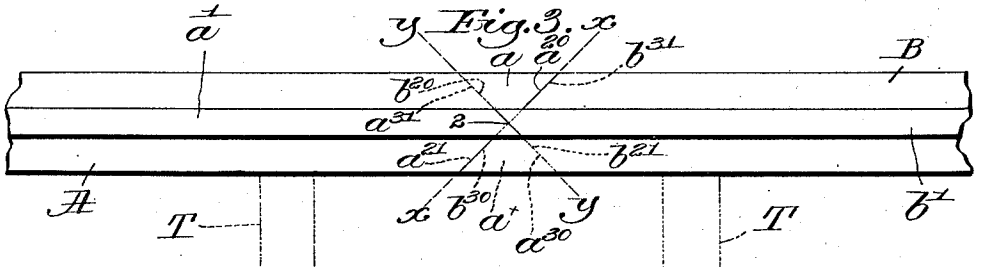
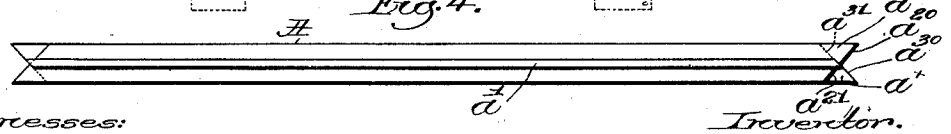


Fig. 4.



Witnesses:
Fred S. Grinnell
Warren D. Owen.

Inventor.
Atwood B. Keyes,
by Darby Gregory Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 757,812. Patented April 19, 1904.

UNITED STATES PATENT OFFICE.

ATWOOD B. KEYES, OF AYER, MASSACHUSETTS.

BOARD FOR BUILDING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 757,812, dated April 19, 1904.

Application filed August 13, 1903. Serial No. 169,314. (No model.)

To all whom it may concern:

Be it known that I, ATWOOD B. KEYES, a citizen of the United States, and a resident of Ayer, county of Middlesex, State of Massachusetts, have invented an Improvement in Boards for Building Purposes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of an efficient board for floors or other building purposes which can be securely and firmly interlocked with the abutting end of the next adjacent board.

Flooring is usually laid with tongue-and-groove boards which thus interlock at their longitudinal edges, the boards being squared at their ends and butted together, and it has been customary to make the joint at the joist, so as to support the free abutted ends of the two meeting boards. Such procedure requires careful matching of the boards in order that they may meet at the joists and necessitates time and labor as well as undue waste of material. In my present invention I provide the board with an end of such shape and construction that it can be firmly and securely interlocked with the abutted end of the next board, my invention being applicable to flooring, clapboards, or in any structure where it is desired to secure or lock together the ends of two meeting boards.

The novel features of my invention will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is a perspective view of the ends of two boards embodying my invention and adapted to be interlocked when abutted end to end. Fig. 2 is a plan view showing meeting boards, such as illustrated in Fig. 1, when interlocked, as in flooring or clapboarding. Fig. 3 is a side elevation thereof, showing the interlocked joint; and Fig. 4 is a side or edge view, on a smaller scale, showing the opposite ends of a board embodying my invention.

Referring to Figs. 1 to 3, the meeting ends of two boards A and B are shown, said boards being separated in Fig. 1 and interlocked in Figs. 2 and 3, and, as will appear hereinafter, one end of a board will be the reverse of the other end. I have shown the boards as provided on their opposite sides or edges with the usual tongue and groove, as at a' b' a^2 b^2, such construction being usually employed in flooring. The board A is provided at its end with two series of longitudinal locking-tongues a and $a^\times$, the tongues a of the upper series alternating with the tongues $a^\times$ of the lower series, and the outer ends of the tongues are located in two intersecting planes transverse to the length of the board.

Referring to Fig. 3, the ends a^{20} of the tongues a are located in a plane indicated by the broken line x x, Fig. 3, while the ends a^{30} of the tongues $a^\times$ are located in the plane indicated at y y, said planes intersecting each other at 2, Fig. 3, the line of intersection being herein shown as midway between the upper and lower faces of the board. Herein I have shown the planes intersecting at right angles; but my invention is not restricted thereto.

Viewing Figs. 1 and 2, it will be manifest that the spaces or grooves between the tongues a are opposite the tongues $a^\times$ of the other series, and vice versa, and, furthermore, the bottoms a^{31} of the upper set of grooves are in the plane and form continuations of the ends a^{30} of tongues $a^\times$. So, too, the bottoms a^{21} of the lower set of grooves form plane continuations of the ends a^{20} of tongues a, as shown in Fig. 3. The interlocking end of the board B is formed in a similar manner, except that its tongues b come opposite the spaces between the tongues a, while the tongues $b^\times$ are opposite the spaces or grooves between the tongues $a^\times$, so that when the two ends are abutted the several tongues and grooves interlock. At such time the beveled ends of the tongues of either series of one board contact with the inclined bottoms of the opposite set of grooves in the other board, so that a very strong, smooth, and interlocked joint is effected. The effect is similar to scarfing the meeting ends of two boards, except that in accordance with my invention two series of "cross-scarfs," as they may be termed, are formed at the joint, in-

creasing its strength and preventing any relative lateral movement of the two interlocked boards.

As shown, the edge or side tongues a' and b' are oppositely beveled at their meeting ends, the bevel of the tongue a' lying in the plane of the tongue ends a^{30}, while the bevel of tongue b' is in the plane of the ends b^{20}.

The bottoms b^{21} b^{31} of the two sets of grooves of the board B are indicated in Fig. 3, and obviously the former are in the plane of the tongue ends b^{20} and the latter in the plane of the tongue ends b^{30}.

Preferably the opposite end of the board A will be the counterpart of the end of board B, (shown in Fig. 1,) and similarly for the board B, the opposite ends of a board being the reverse of each other.

In laying flooring or sheathing where the boards when laid form a plane surface the location of the joints at the ends of meeting boards relatively to the joists or other supporting-timbers is immaterial, as the interlocking character of the joints makes them firm and rigid even when between timbers, as shown in Fig. 3, the timbers or joists being indicated by dotted lines at T.

The construction of the locking ends can be readily effected by mounting several saws or cutters of proper width of face on a common spindle and separated a distance equal to the thickness of the tongues to be formed. Several boards are then superposed with their ends advanced or stepped and set up on edge on the table of the machine and moved in a diagonal direction past the saws or cutters. This operation forms one set or series of tongues and grooves on each board, and then by reversing the pile of boards and restepping them they are again fed to the saws, but on a line intersecting the first line of feed to form the second series of tongues and grooves on each board.

As the mode of forming the interlocking ends of the boards forms no part of my present invention and inasmuch as it may be carried out in other ways, I have not herein illustrated any apparatus therefor.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A board for building purposes, having at its end two series of longitudinal locking-tongues the outer ends whereof are located in two intersecting, transverse planes, the tongues of one series being located opposite the spaces between those of the other series.

2. A board for building purposes, having at its end two series of longitudinal locking-tongues the outer ends whereof are located in two intersecting, transverse planes oblique to the upper and lower sides of the board, said outer ends of the tongues of one series forming continuations of the bottoms of the spaces or grooves between the tongues of the other series.

3. A board for building purposes, having at its end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting midway therebetween, the tongues of one series being offset laterally with relation to the tongues of the other series.

4. A board for building purposes, having at its end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting at right angles midway therebetween, the tongues of one series being offset laterally from those of the other series.

5. A board for building purposes, having at each end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting midway therebetween, the tongues of one series being offset laterally with relation to those of the other series.

6. A board for building purposes, having at each end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting, the ends of the upper series of tongues at one end of the board being parallel to the ends of the tongues of the lower series at the other end of the board, and vice versa.

7. A board for building purposes, having at its end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting midway therebetween, the bottoms of the spaces or grooves between the tongues of one series lying in the plane of the ends of the tongues of the other series.

8. A board for building purposes, having at each end two series of longitudinal locking-tongues the outer ends whereof are located in two planes oblique to the upper and lower faces of the board and intersecting at right angles midway therebetween, the ends of the tongues of one series lying in the plane of and opposite the bottoms of the spaces or grooves between the tongues of the other series.

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

ATWOOD B. KEYES.

Witnesses:
WARREN H. ATWOOD,
EDWARD A. RICHARDSON.