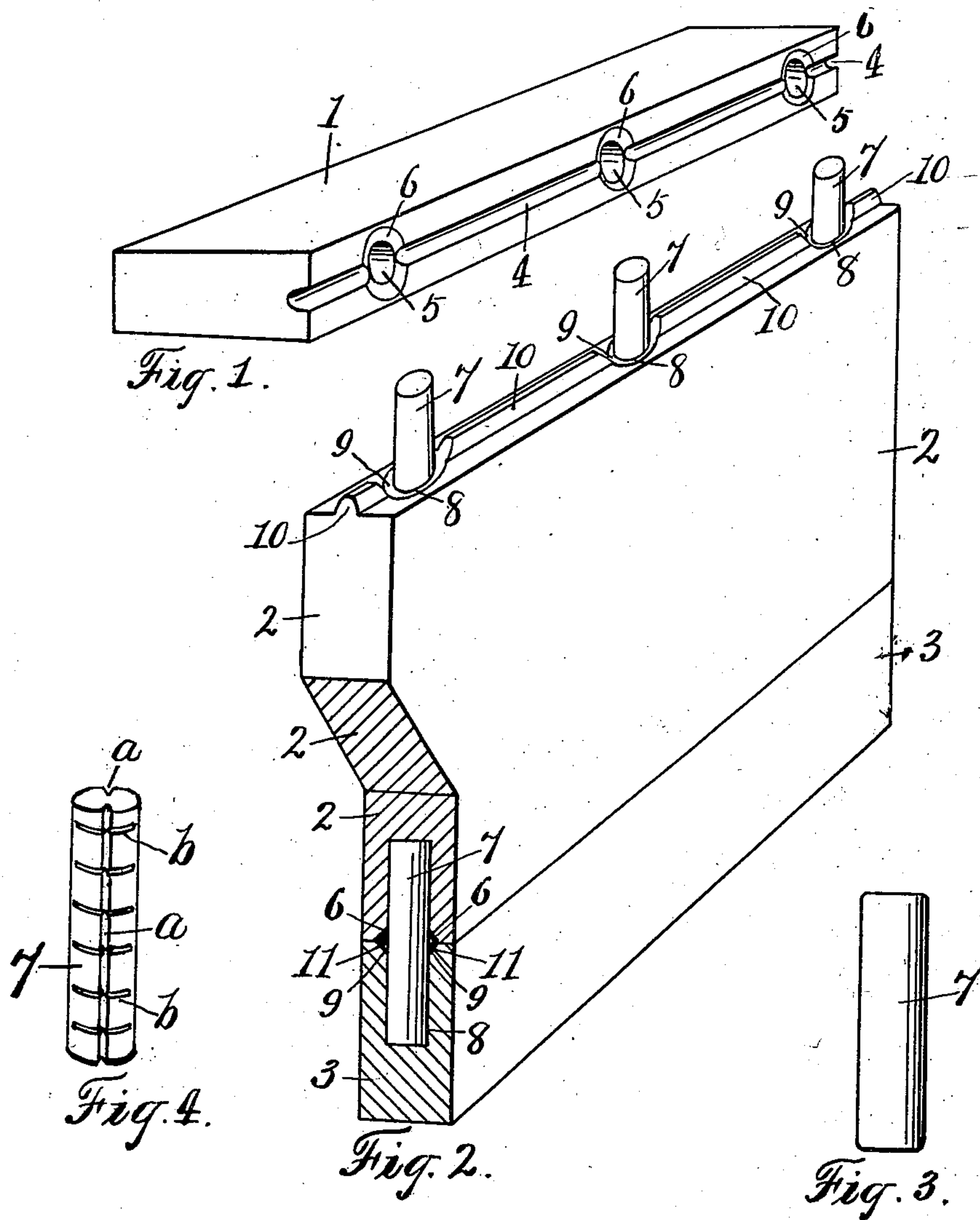


A. E. HOURD.
COMBINATION DOWEL AND TONGUE AND GROOVE JOINT.
APPLICATION FILED JULY 31, 1909.

991,722.

Patented May 9, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR E. HOURD, OF LONDON TOWNSHIP, MIDDLESEX COUNTY, ONTARIO, CANADA.

COMBINATION DOWEL AND TONGUE-AND-GROOVE JOINT.

991,722.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed July 31, 1909. Serial No. 510,676.

To all whom it may concern:

Be it known that I, ARTHUR E. HOURD, a subject of the King of Great Britain, and a resident of the township of London, in the county of Middlesex, in the Province of Ontario, Canada, have invented a new, useful, and Improved Combination Dowel and Tongue-and-Groove Joint, of which the following is a specification.

10 This invention consists of the new, novel and improved construction and combination of a dowel and tongue and groove joint, and of the new, useful and improved construction and novel combination of parts of the same as will be hereinafter first fully set forth and described and then pointed out in the claim, reference being had to the accompanying drawings forming part of this specification, wherein;—

20 Figure 1 is a perspective view of a piece of block or board. In this view an elongated groove formed in one edge of said block or board, is shown, a hole is shown in the same edge extending beyond said elongated groove and a chamfer is shown around said hole. 25 Fig. 2 is a perspective view of other pieces of a block or board. In this view a tongue or fin is formed on one edge, a hole is formed through said tongue or fin and into said block or board, and a chamfer is formed around said hole; and in the lower portion of this figure two boards are shown cut back to show the dowel pin. Fig. 3 is the side view of the dowel pin. Fig. 4 is a perspective view of a modification in the construction of same showing elongated and lateral grooves thereon.

35 In the accompanying drawings:—the numerals 1, 2 and 3 indicate blocks or boards, usually formed of wood but they may be formed of any suitable material preferred.

40 4 indicates an elongated groove, 5 a hole and 6 a chamfer or countersink around said hole, and all are formed in one edge of a board or block as shown in Fig. 1.

45 7 indicates a dowel pin, which may be plain as shown in Fig. 3, or it may be formed with the oppositely arranged longitudinal grooves *a*, and short lateral grooves, *b*, leading therefrom and at right angles thereto as shown in Fig. 4, and said grooves *a*, and, *b*, in said dowel pin 7 are intended to be formed therein by compression, so that when said grooves are compressed in said dowel pin and the latter comes in contact with the hot glue, the wood in these grooves *a*, and, *b*,

will more or less expand and more or less fill the hole into which the dowel pins are driven.

8 is a hole formed in the block or board as shown in Fig. 2, in which hole 8 a portion of the dowel pin 7 is inserted and secured; 9 is a chamfer or countersink formed around said hole, and 10 is a tongue or fin formed on the same edge of the block or board as that in which the hole 8 is formed, and through which tongue or fin 10 the hole 8 extends into the board 2. In regard to said chamfers or countersinks 6 and 9, they may or may not be used as required, and when used they are for the purpose of taking off the roughness formed around the holes 5 and 8.

11 indicates hot glue, cement or other adhesive preparation inserted in the holes 5 and 8, which when the dowel pin 7 is inserted oozes out into the chamfers or countersinks 6 and 9, when the latter are used, and when said chamfers or countersinks are not used, said glue or other preparation oozes out onto said material of which the joint is formed.

85 In the lower cut away part of Fig. 2 the two edges of the blocks 2 and 3 are shown secured together by the dowel pin 7 and by the glue, cement or other adhesive preparation used.

90 In ordinary practice tongue and groove joints and glue are employed to secure together the blocks or boards of seats and tanks of water closets, in which case the seats and tanks split or open at this tongue and groove joint, but in my invention a tongue or fin is formed, and a hole is bored through this tongue or fin and into this block or board; and in the other block or board an elongated groove is formed on one edge and a hole is formed in the same edge of said block or board beyond said elongated groove, and hot glue, cement or other adhesive preparation and a dowel pin are inserted in said holes to make the seat and tank of the water closet firm and tight and to avoid and to completely prevent the joint opening at this point, and when said hot glue, cement or other adhesive preparation is inserted in said holes, and when said dowel pin is inserted therein, and driven in or home it becomes coated with glue, this together with the tongue and groove joint as described, makes a firm, secure and tight joint that moisture of any kind will have

very little if any effect upon, one which will be simple, strong, durable and inexpensive to manufacture, it will be inexpensive to manufacture because there will be little if
5 any repairs required at this joint, in fact making the joint described in my invention stronger and tougher than the original wood.

10 In the foregoing description this invention has been described in connection with the seats and tanks of water closets, but it may be used to join together blocks or pieces of any material used for any purpose.

15 Having thus described my invention, I claim:—

A dowel pin provided with oppositely

arranged longitudinal grooves and short circumferentially extending grooves leading at right angles therefrom, the ends of said latter grooves lying in spaced relation with
20 respect to the oppositely arranged grooves, the material forming all of said grooves being compressed, and an adhesive coating; said compressed material adapted to expand upon receiving said coating. 25

In testimony whereof, I have signed in the presence of the two undersigned witnesses.

ARTHUR E. HOURD.

Witnesses:

P. J. EDMUNDS,

P. PREBBLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
