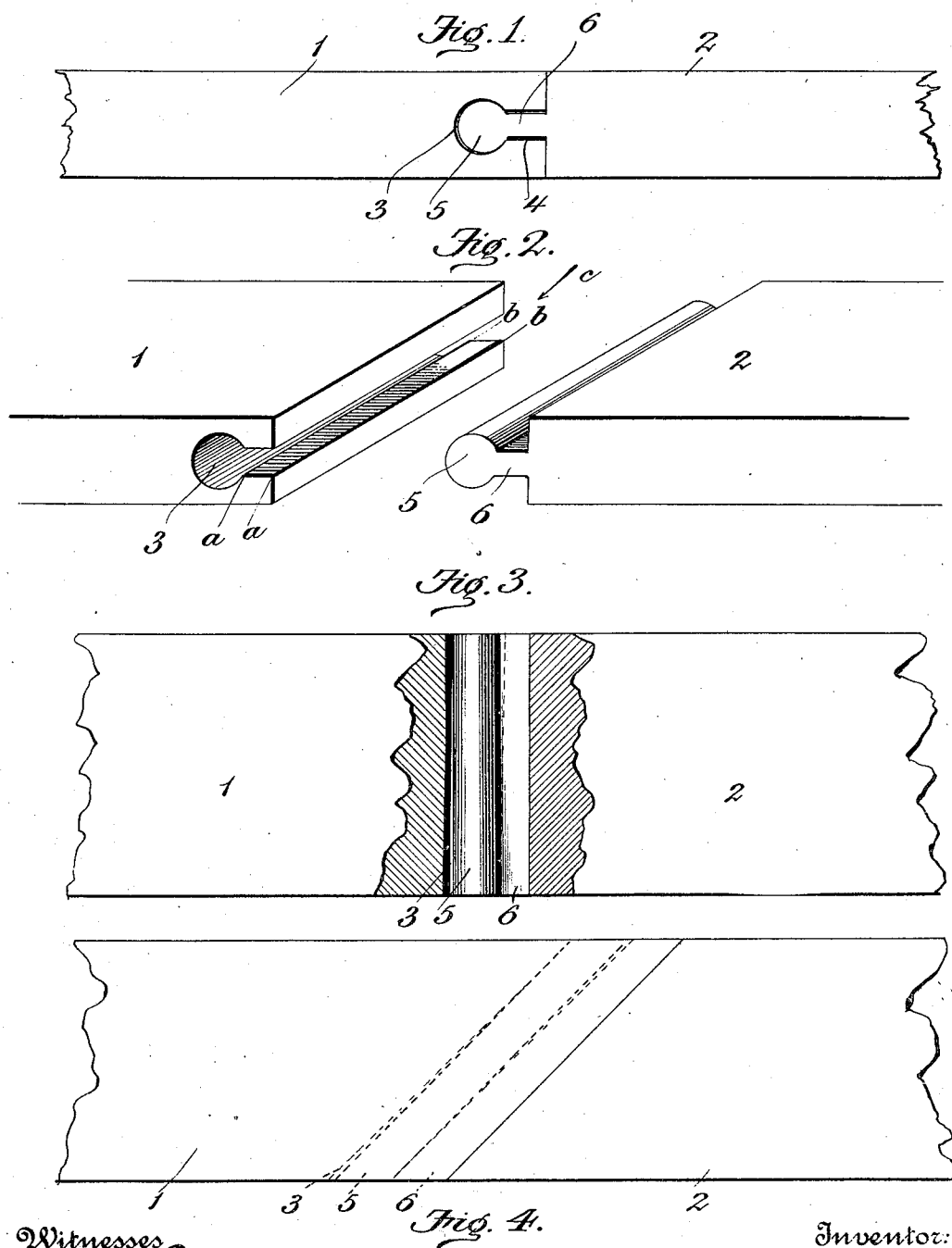


No. 792,979.

PATENTED JUNE 20, 1905.

E. J. FULGHUM.
WOOD FLOORING.
APPLICATION FILED JAN. 19, 1903.



Witnesses
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UNITED STATES PATENT OFFICE.

ELISHA J. FULGHUM, OF TRAVERSE CITY, MICHIGAN.

WOOD FLOORING.

SPECIFICATION forming part of Letters Patent No. 792,979, dated June 20, 1905.

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To all whom it may concern:

Be it known that I, ELISHA J. FULGHUM, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented new and useful Improvements in Wood Floorings, of which the following is a specification.

This invention has relation to improvements in flooring and flooring-boards, especially those formed of hardwood.

The objects in view are to provide means whereby short pieces which would otherwise be wasted may be securely and snugly joined together, thus forming long strips of flooring that may be subsequently edge-matched by the usual tongue-and-groove machine; also, to provide a joint to be formed on the ends of boards other than scrap or waste material whereby said boards may be jointed together at their ends between as well as coincident with the joists, such joists in both instances to be formed without the employment of nails or other extraneous fastening devices.

Heretofore it has been usual in the construction of hardwood flooring to provide floor-boards tongue and grooved together at their ends as well as their sides; but such constructions do not form as tight joints as are necessary in well-finished floors, the result being that when excessive weights are brought to bear at such joints and when they are not supported by the joists immediately thereunder there is a certain amount of give to the floor, the tongues and grooves working together somewhat after the manner of a hinge. By my invention I purpose in fastening these boards or strips together to produce a joint so tight as to obviate any working whatever of the joined sections or boards or pieces and to produce practically a continuous strip.

With these objects in view my invention consists, primarily, in two abutting boards, one having formed therein a keyhole-slot transverse its end and the other a key-shaped tenon designed to be slid endwise into said slot, and, secondarily, in forming said slot and tenon at slight and opposing angles, whereby when said boards are joined by the endwise interposition of the tenon within the slot or groove the tendency is to draw the boards

longitudinally and snugly together. It will also be understood that by employing strips of different woods I am enabled to get different designs apparently in the same board, the appearance being much the same as inlaid work.

Referring to the drawings, Figure 1 is an edge view of a strip of board comprising in this instance two sections, or it may be the meeting end of two flooring-boards, the same being joined together in accordance with my invention. Fig. 2 shows in perspective the said meeting ends detached. Fig. 3 is a plan view of the meeting ends, as in Fig. 1, with the upper surface of the boards broken away to expose the joint. Fig. 4 is also a plan view and showing the joints formed on a bias in lieu of transversely, as heretofore.

Similar characters of reference indicate similar parts in the several views of the drawings.

In carrying out my invention, 1 and 2 designate either the meeting ends of two boards or two short sections of waste material that are to be connected to produce a single board of desired length, said sections being either similar wood or different, as preferred. The section 1 is provided with a keyhole-shaped groove, the same comprising a preferably circular bore 3 a short distance from the end of the board and a constricted entrance 4, that leads from said circular opening to the end of the board. On the end of the piece or board 2 is formed a key-shaped tenon, the same comprising an enlarged, preferably cylindrical, rib or bead 5 and a neck 6, connecting said rib with the end of the board, the width of the neck and the constricted opening 4 being substantially the same. This will be found to form a joint of an improved nature from the usual tongue-and-groove construction of joint; but it is subject to the same objection—to wit, it is apt to permit of a working or loosening of the joint. To obviate this objection and to draw these parts 1 and 2 snugly together, so as to produce practically a continuous board, I so arrange the keyhole slot or groove and the tenon as when the latter is forced within the former a binding action takes place, or, in other words, the sections 1 and 2 are drawn

snugly together, so that at their meeting ends a tight joint is produced. This binding action of the parts when they are forced together may be produced in various ways; but I prefer to produce the same by forming the groove 3 and the bead 5 at slight opposing angles to each other. For example, as best shown in Fig. 2, by making the distance between the points *a a* of the slot 4 slightly greater than between the points *b b* and reversing these proportions in regard to the neck or web 4 of the tenon it will be obvious that as the sections 1 and 2 are slid together in the direction of the arrow *c* the shoulders *a a* will bind against the adjacent sides of the bead 5 opposite its web 6, and thus snugly draw the strips or sections 1 and 2 endwise together. Of course this same result may be obtained by merely inclining either the slot 3 or the rib 5, and in this particular I do not limit my invention. The manner of forming the tongue and groove is also illustrated by dotted lines, Figs. 3 and 4. In the latter case the disposition of the groove and tongue are the same relatively, although the two are disposed on a bias to the board itself. However this binding action is produced it will be observed that when the parts are thus forced together several sections of what would be ordinarily waste material will result in the formation of a continuous board or strip that may be afterward finished on its faces, side matched throughout its length and rendered ready for use as ordinary flooring. It will also be observed that the joint is self-tightening and wholly does away with the necessity of employing nails, keys, screws, or other extraneous devices for producing the desired rigidity. It will be further noted that by making up a flooring-strip of a series of short pieces, as described, the faces and edges of the completed strip are uniform, continuous, and practically unbroken.

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

1. As an article of manufacture, a floor-board, comprising a plurality of sections jointed together at their transverse ends, each joint comprising a keyhole-shaped slot or groove and a keyhole-shaped tenon fitted therein, such slot and tenon being parallel to the faces of the boards, the faces and edges of said board being uniformly finished.

2. As an article of manufacture, a floor-

board comprising a plurality of sections provided with opposing transversely-disposed abutting ends jointed together, each joint comprising a keyhole-shaped slot or groove and a connecting keyhole-shaped tenon, one of which is disposed at a slight angle to the end of that section on which it is formed, whereby a binding and drawing action results, said board having its edges uniformly finished.

3. The herein-described joint formed in the meeting ends of two boards or sections and comprising in one of said ends a circular bore and a communicating slot, the former being inclined and transverse with relation to the end of the board, and on the other a circular rib and a connecting-web, said rib being also inclined and transverse with relation to the end of the board and inclined oppositely to the direction of inclination of said bore, the said joint being parallel to the opposite faces of the boards and disposed diagonally across the same.

4. As an article of manufacture, a floor-board consisting of a plurality of sections connected at their transverse ends by interlocking joints adapted to resist longitudinal separation and disposed diagonally, said board having its faces and edges uniformly finished.

5. As an article of manufacture, a floor-board consisting of a plurality of sections connected at their transverse ends by interlocking joints adapted to resist vertical play and longitudinal separation and having their faces and edges uniformly finished.

6. As an article of manufacture, a floor-board consisting of a plurality of sections connected at their transverse ends by interlocking binding-joints adapted to resist lateral and longitudinal separation and having their faces and edges uniformly finished.

7. As an article of manufacture, a floor-board consisting of a plurality of sections connected at their transverse ends by interlocking binding-joints adapted to resist lateral and longitudinal separation, said joint being disposed diagonally and said board having its faces and edges uniformly finished.

In testimony whereof I affix my signature in presence of two witnesses.

ELISHA J. FULGHUM.

Witnesses:

S. M. BROWN,
F. E. LAHYM.