

M. R. KESTER.

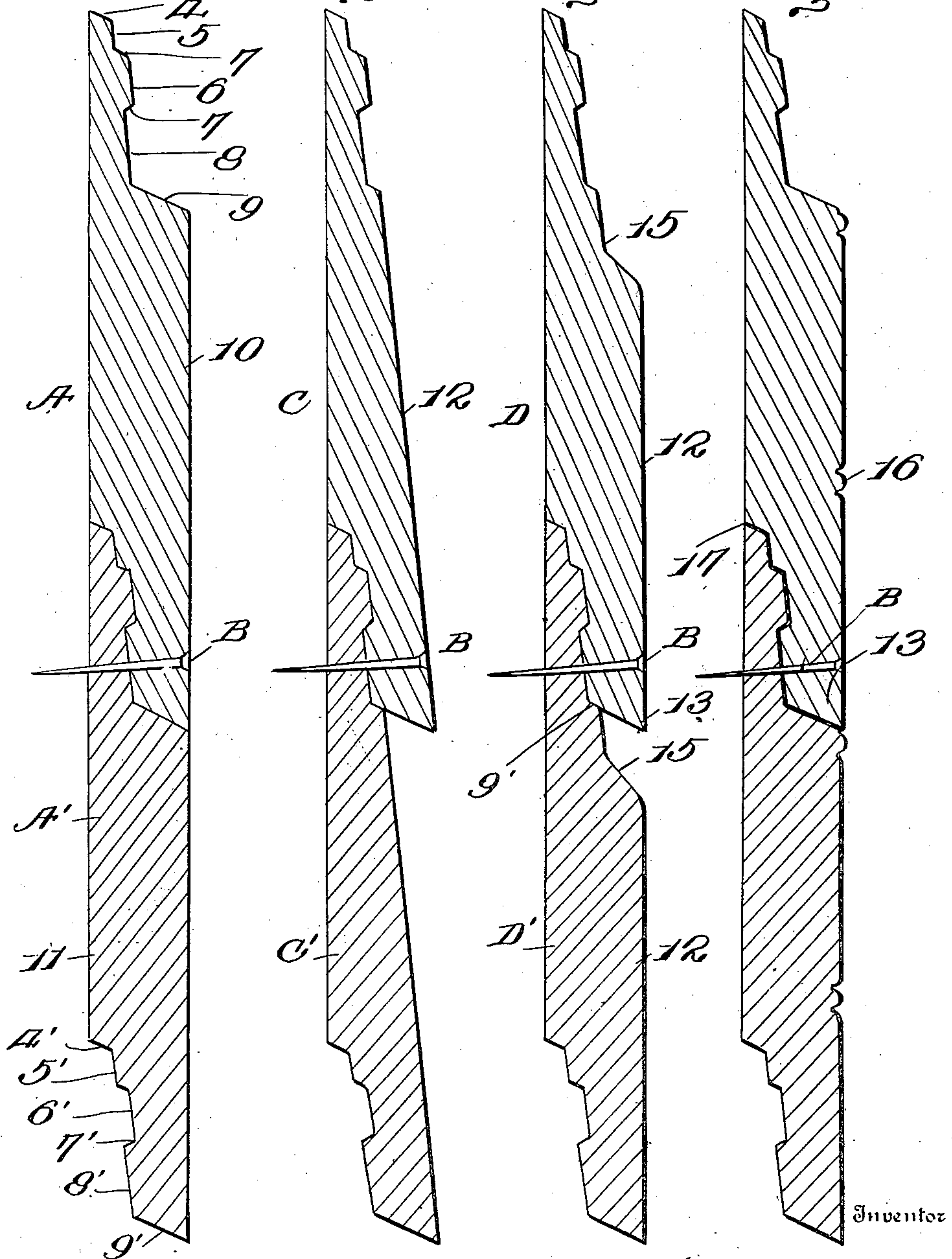
LAP JOINT.

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954,520.

Patented Apr. 12, 1910.

Fig. 1. Fig. 2. Fig. 3. Fig. 4.



Witnesses  
W. S. Woodson.  
J. M. Fallin

Malcom R. Kester

By

*Handwritten signature*

Attorneys.



# UNITED STATES PATENT OFFICE.

MALCOM R. KESTER, OF MINOCQUA, WISCONSIN.

## LAP-JOINT.

954,520.

Specification of Letters Patent.

Patented Apr. 12, 1910.

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*To all whom it may concern:*

Be it known that I, MALCOM R. KESTER, citizen of the United States, residing at Minocqua, in the county of Oneida and State of Wisconsin, have invented certain new and useful Improvements in Lap-Joints, of which the following is a specification.

This invention relates to the means of joining clapboards, floor boards, weather boards, or other like plank or timber constructions, and particularly to a lap joint formed upon and between two adjoining boards, the object of the invention being to provide a joint which will lock one board to the next adjacent board, and which will make a water-proof and practically air-proof joint between the contacting faces of the two boards.

The invention as applied to various forms of boards is shown in the accompanying drawings, wherein:

Figures 1, 2, 3 and 4 are transverse sections of two adjacent alining planks or clapboards, showing my improved joint.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring now to Fig. 1, A represents a board or plank having diagonally opposed portions thereof on opposite faces, cut away to form opposite outer and inner contact faces, said faces having each a longitudinally extending tongue and a longitudinally extending groove, the tongue and groove being parallel to each other, and corresponding in position and area to a like tongue and groove formed on the oppositely disposed face of the next adjacent board or timber.

In detail, the board or plank A is cut away, on its outer face as follows: It is provided with a downwardly and outwardly inclined edge portion 4; the inclined face 5; the tongue 6; the groove 8 which is adjacent to the tongue, and the edge or face 9 which defines one side of the groove 8 and forms a connecting surface between the groove and the general face 10 of the plank. It is to be understood that the tongue 6 has its side edges beveled, as at 7, and that the face 9 does not extend in a plane at right angles to the face 10, but is inclined thereto, toward the tongue 6. It will be seen from this that all of the angles bounding the tongue 6 and

the groove 8, are obtuse angles. The diagonally opposite edge of the board A is cut away on its under face in a manner absolutely corresponding to the cut-away portion of the opposed faces of the board A above described. Thus, this face 11, at what may be termed its lower edge, has the inclined face 4' adapted to engage with the inclined edge 4 of the next adjacent board, the face 5' corresponding and contacting with the face 5 of the next adjacent board. The groove 6' corresponds with the tongue 6, and has sides which are inclined as at 7', the face 8' forming a tongue engaging with the groove 8 of the adjacent board and the inclined edge portion 9' which is adapted to contact with the edge or face portion 9 of the adjacent board. The angles of these faces are the same as the angles of the faces before described, and it is obvious that the projecting portion of one board is intended to fit in and engage with the cut-away portion of the next adjacent board, the tongue of one portion to interlock with the groove or recess of the adjacent portion, and the groove of said first named portion to receive the tongue of the next adjacent board. It will be seen that this construction provides an interlock between the two contiguous boards, and that when the two boards are fitted to each other, they will draw together by reason of the beveled faces of the tongues and grooves. The two boards are held together by nails or screws B which are driven in from the outer face of the boards and pass through the contacting faces 8 and 8'.

In Fig. 1, the two boards are shown as having parallel faces 10 and 11, and thus, when the boards are joined together, they will have a uniform thickness along their whole extent. The construction described above is for boards adapted to be used for sheathing, sub-flooring, roofing, plain siding and plain ceiling, and can be applied either horizontally, vertically or diagonally, as may be desired.

Fig. 2 shows a transverse section of two joined boards similar to the boards shown in Fig. 1, but particularly designed to be used for lap jointed siding or as clapboards, in which it is necessary that one board shall project over and beyond the face of the board immediately beneath, the purpose thereof being to provide an overhanging



water shed. Except that the outer face 12 of the boards C, C' is inclined so that the board is thinner at its upper edge than at its lower, the lap-joint construction is precisely similar to that previously described, each of the boards being cut away on their diagonally opposite faces to form the opposed outer and inner contacting faces having a longitudinally extending tongue and groove adjacent thereto. It will be seen that by making the lower portion of the boards thick and the upper portions relatively thin, the boards when joined together will not have the outer faces in alinement, and that the board C will project beyond the board C' so as to form a water shed 13, the end face 9' of which is upwardly and inwardly beveled.

Fig. 3 illustrates, in section, another form of clapboard or weather board very similar to the form shown in Fig. 2, but differing slightly therefrom as now described. In this figure the outer and inner faces of the boards are parallel, and thus the boards, when assembled, have a uniform thickness. In order to provide a water shed, however, as is necessary for clapboards and weather boards, the boards D, D' are cut away, as at 15, that is, at the junction of the inclined faces 9' with the outer face of the board. This forms a suitable water shed to the boards next above, the inclined flat face 9' extending or projecting outwardly and downwardly upon the face of the board beneath, and conducting water and moisture away from the joint toward the extreme lower and outer corner of the upper board. When the siding or clapboards of this character are assembled on the wall of the building they present a straight or vertical rear face and a plain smooth front face, except at the front joints or spaces cut away as at 15 to allow the edge of the superposed board to overhang and form a water shed, as before described.

Fig. 4 is a transverse section of two adjacent boards designed to be used as a beaded or fancy ceiling or siding. For these boards, the interlocking lap joint is precisely as previously described in the description of Fig. 1, and the reference numerals used for Fig. 1 apply to Fig. 4, the only difference between the two sets of boards being that the board shown in Fig. 4 is provided with a bead 16 which is formed adjacent to the angular face 9.

In applying boards as herein described, particularly in the construction of refrigerators, ice boxes or other insulating structures, the boards should be put together with a coating of oil and white lead or other suitable cementing or waterproofing material between the meeting faces, as shown in Fig. 4, said insulating layer or coating being designated by the numeral 17. This interposed

layer will effectually seal the joined edges and faces of the boards and thus form a positive water-proof and equally air-tight joint which will absolutely prevent entrance of wind and moisture.

The advantages secured by my invention are as follows: A uniform and easy alinement of the boards along their whole length as they are assembled and secured, thus doing away with the necessity of carefully adjusting the boards by measurement one upon the other, and obviating the possibility of accidental derangement in nailing; a maximum degree of rigidity and strength secured by the relatively large area of contact between contiguous boards; the fact that the beveled faces or edges of the tongues and grooves draw the boards together, and the interlock existing between the two boards, caused by the engagement of the respective tongues and grooves. My invention provides a joint offering great resistance to the sun, wind, rain, and the elements generally, and as such is particularly applicable to the formation of water-proof and air-tight joints necessary in sheathing, siding and ceiling constructions and in the construction of ice boxes and refrigerating structures.

Having thus described my invention, what is claimed as new is:—

1. The herein-described siding and sheathing plank having diagonally opposed projecting portions on the opposite edges, the faces of said projecting portions being both inclined in the same direction and provided each with a longitudinally extending tongue projecting from the face, and an adjacent longitudinally extending groove parallel with the tongue, one outer edge of the tongue merging into one wall of said groove, and both said groove and tongue being formed with beveled side edges.

2. The herein-described siding or sheathing plank having its upper edge downwardly and outwardly inclined, then having a face extending downwardly and outwardly at an obtuse angle to the edge, then having an outwardly projecting longitudinal tongue with obtusely inclined edges, a face formed below the tongue extending downwardly and outwardly from the base of said tongue and wall, and then extending outwardly to the outer face of the plank at an obtuse angle thereto, the lower edge of said plank extending inward and upward from and at an obtuse angle to the front face for a distance less than the thickness of the plank, the inside face of the plank then being extended upward and inward at an obtuse angle to the lower edge of the plank, said inner face having a groove longitudinally extending parallel to the lower edge of the plank, said groove having outwardly flared edges, the inside face of the plank above the groove then



being extended upward and inward, and then extended to the inner face of the plank at an obtuse angle thereto.

3. The herein-described siding and sheathing plank having an outer and inner face inclined toward each other in the direction of the upper edge of the plank, the outside face of the plank, at its upper edge, being cut away to form an inclined contacting and interlocking face, said interlocking face being formed with a longitudinally extending tongue and a longitudinally extending groove immediately adjacent to the tongue, both the tongue and groove having flat faces and beveled side edges, the lower inside margin of the plank being cut away to form an

inclined contacting and interlocking face having a longitudinally extending groove and a tongue parallel therewith and immediately beneath the groove, the side edges of the tongue and groove being beveled, the lower edge of said plank being formed with a downwardly and outwardly inclined face to form a water shed adapted to project beyond and slightly below the upper margin of the plank below.

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

MALCOM R. KESTER. [L. s.]

Witnesses:

E. C. STURDEVANT,  
BELLA MACQUEEN.