J. Newton's Framing Joint.

PATENTED JUL 41871

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Fig: 1.

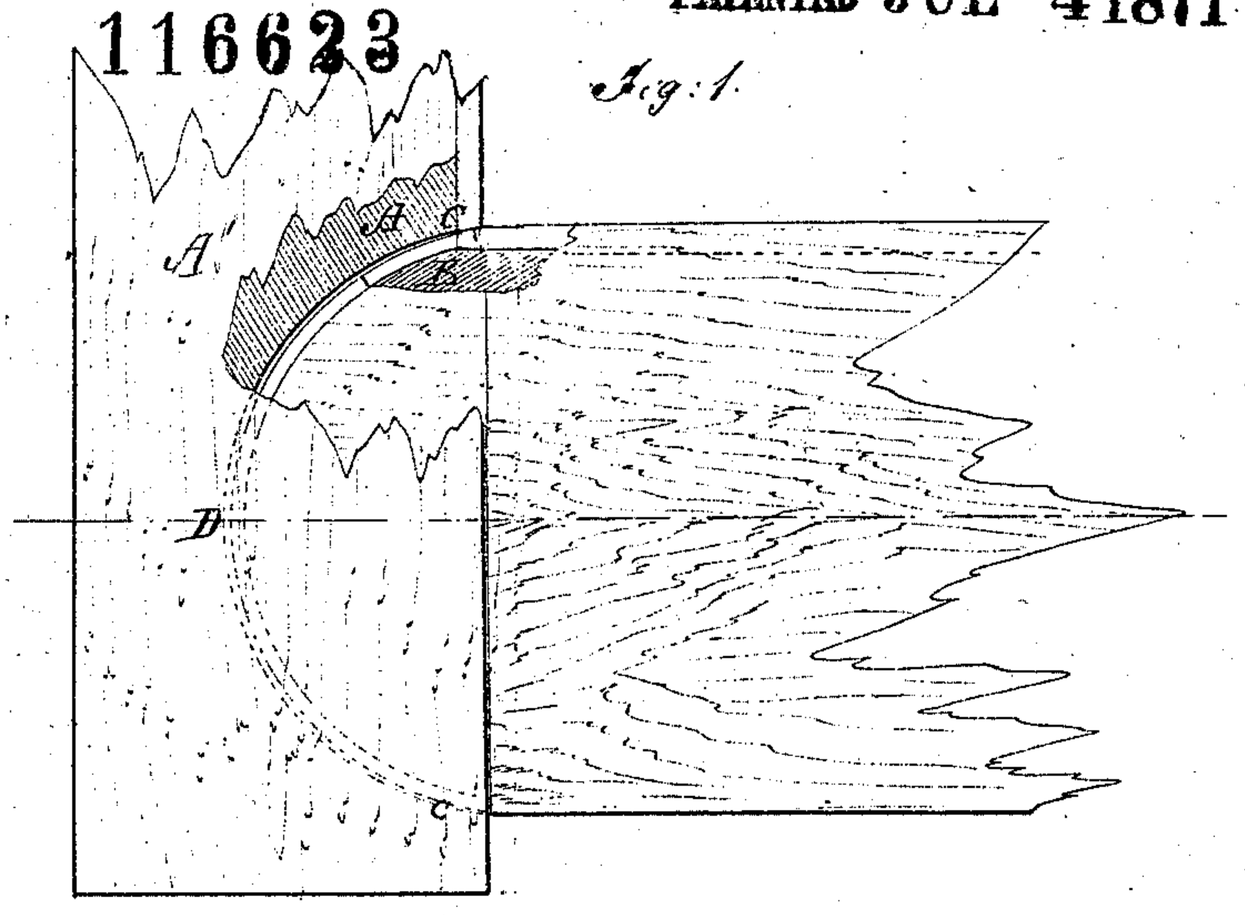


Fig: 2

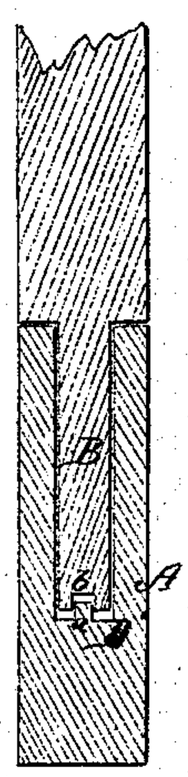


Fig: 3

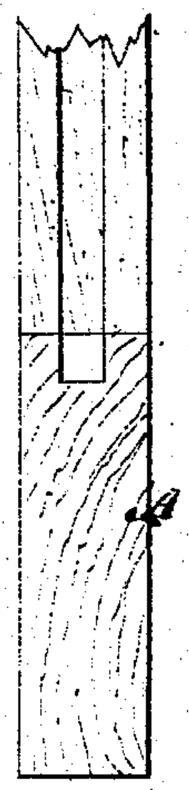


Fig: 4.

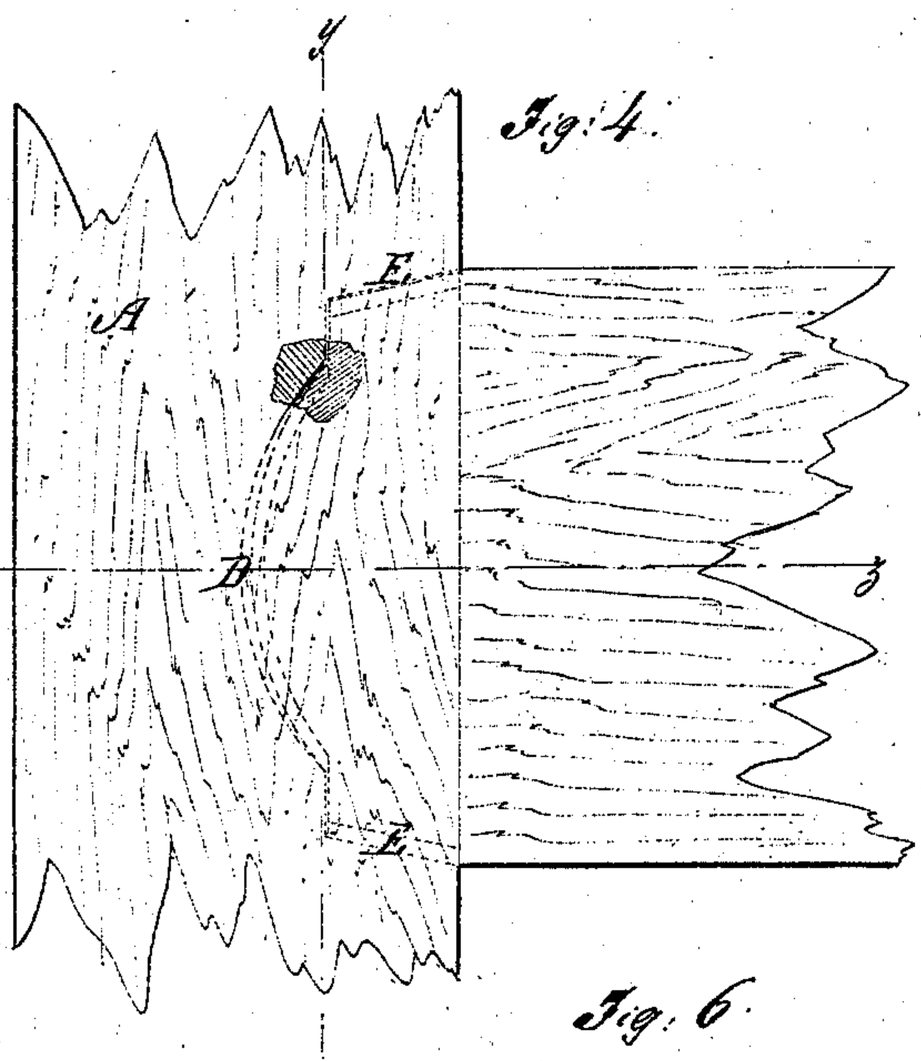


Fig: 5

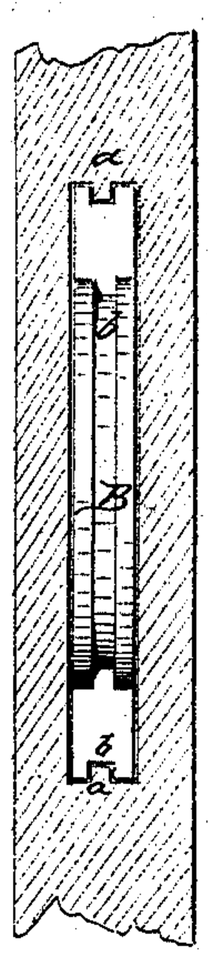
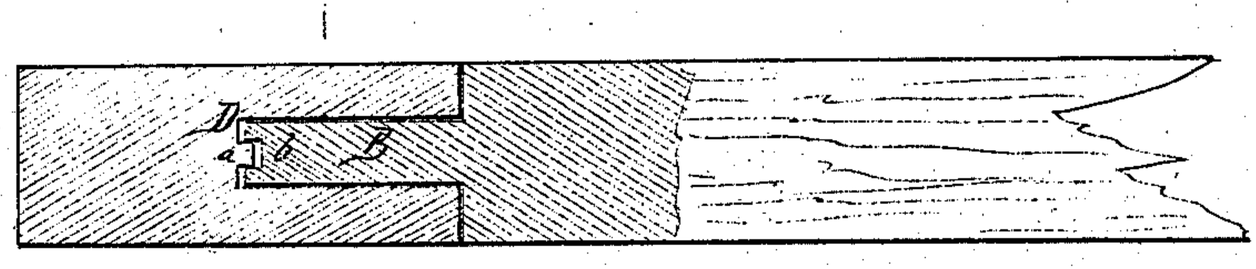


Fig: 6.



Witnesses:

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116,623

UNITED STATES PATENT OFFICE.

JONAH NEWTON, OF NEW YORK, N. Y.

IMPROVEMENT IN FRAMING-JOINTS.

Specification forming part of Letters Patent No. 116,623, dated July 4, 1871.

To all whom it may concern:

Be it known that I, JONAH NEWTON, of the city, county, and State of New York, have invented a new and Improved Framing-Joint; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to a new and improved arrangement of mortises and tenons for framing door-sash and other like frames and cabinet-work together; and it consists in a semicircular or nearly semicircular mortise and corresponding tenon, the latter made on a greater circle, so as not to fit the curved wall of the mortise in the bottom closely, the mortise being made by a circular tool, against which the piece to be mortised is moved in a right line, or the tool moved to the piece; or the said mortise, being first made in this form by a circular tool, may be modified by cutting the ends down for about half, more or less, of the depth of the mortise on a straight oblique line and fitting the tenon thereto. The invention also consists in providing the mortise on the curved wall, or the partly-curved and partly-oblique walls, with a tongue, and the tenons with a corresponding groove to receive the tongues. The object of the first part of the invention is to simplify and cheapen the making of the mortise, and to provide an arrangement which will prevent the sagging of the doors when the stiles shrink in width; also, to keep the joints tight at the shoulders of the tenons; and the object of the second part is to provide an arrangement whereby the adhesion of the parts, when locked together, will be greater, and a greater surface and better condition for the adhesion of the glue will be provided in the parts to be glued.

Figure 1 is a plan view, partly broken, of a stile and cross-piece joined together by the circular mortise and tenon. Fig. 2 is a section of the same on the line *x x* of Fig. 1. Fig. 3 is an edge view of the cross-piece and stile. Fig. 4 is a plan, also partly broken out, showing the mortise and tenon partly curved and partly on straight lines. Fig. 5 is a section on the line *y y*, and Fig. 6 is a section on the line *z z*.

Similar letters of reference indicate corresponding parts.

I propose to make the mortise A in the stile A′ as nearly semicircular as it can be made with a revolving cutter, and preferably as long as the width of the piece to be tenoned to fit it, and to make a circular tenon, B, to correspond, except that it is made on a larger circle than the mortise, so that while it fits snugly at the ends of the mortise and thereabout there will be a slight space between it and the circular wall of the mortise, gradually increasing to the point D. Care is taken to so fit the parts that this space will be not greater than the greatest amount the mortised part of the frame will shrink, so that as it shrinks and draws toward the shoulders, which is insured by gluing only a short distance from the shoulders, so as to hold the parts firmly there and allow more free movements of the said mortised parts on the tenon at and near the end, the tenon will bear on the curved wall so as to prevent the stile A from sagging, and the joints will not be separated at the shoulder of the tenoned part, as in the case of the tenons with parallel edges, passing through the stile and being wedged thereat, as in the common way, by which they are so bound at the end of the tenon as to compel the stile to shrink away from the shoulders of the tenoned piece. The same object may be accomplished to a certain extent by making the end walls of the mortise and the edges of the tenons on straight lines, converging toward the axial line of the tenon, as indicated at E, Fig. 4; or this form combined with the circular form may be used, in which case the mortise will first be cut, as in Fig. 1, and the ends afterward cut by mortising-tools on the said oblique lines, the tenons being shaped to correspond. I also propose, as a further means of securing the joints together, to provide the tongue *a* on the end and bottom walls of the mortises, and the groove *b* in the tenons, for locking the parts together and affording more surface for gluing the said end and bottom walls and the edges of the tenons together in the parts where they are to be glued, say about one-half the distance from the shoulders of the tenon and the mouth of the mortise toward the bottom. These parts may be so proportioned that they will wedge together very tightly, thereby wedging the tenon in the mortise.

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

1. The improved framing-joint herein described, consisting of a mortise having the end and bottom walls formed on a circular line and the edges and end of the tenon shaped to correspond, or both partly circular and partly straight, the said straight parts converging toward the axis of the tenon, and the curvature of the tenon being greater than that of the mortise, all substantially as specified.

2. The mortise having the tongue *a* in the curved or partly-curved and partly-straight walls, and the tenon having the groove *b* therefor, all substantially as specified.

JONAH NEWTON.

Witnesses:
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