

W. E. BROCK.

PROCESS OF MANUFACTURING TONGUED AND GROOVED VENEERS.

No. 195,338.

Patented Sept. 18, 1877.

Fig. 1.

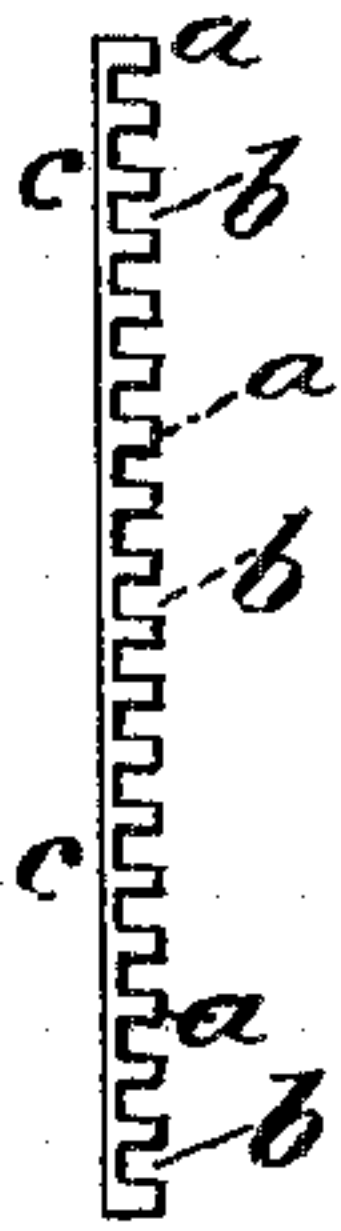


Fig. 2.

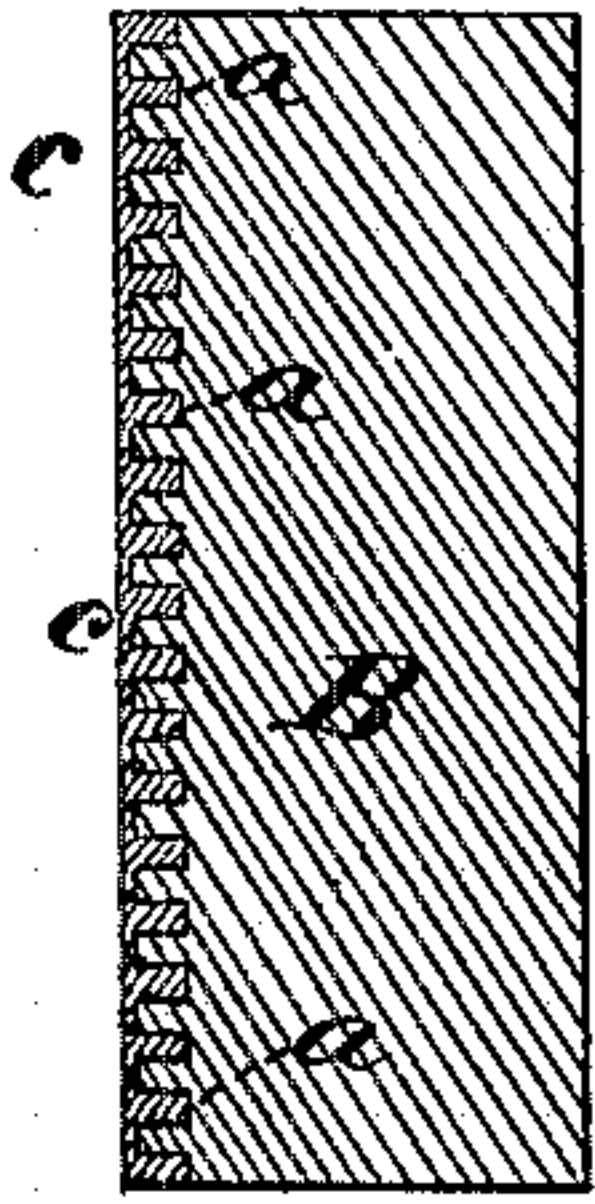


Fig. 3.

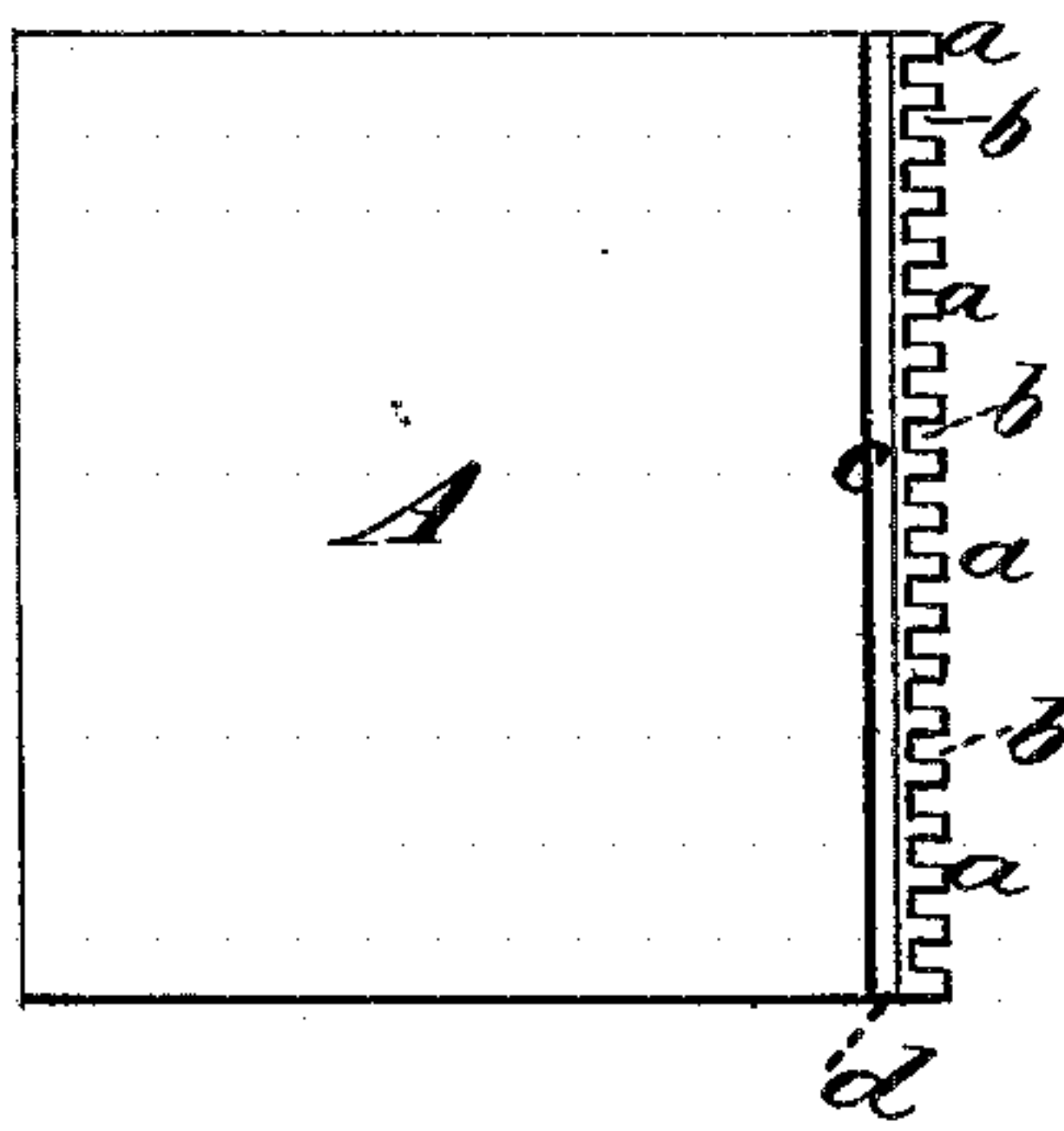


Fig. 4.

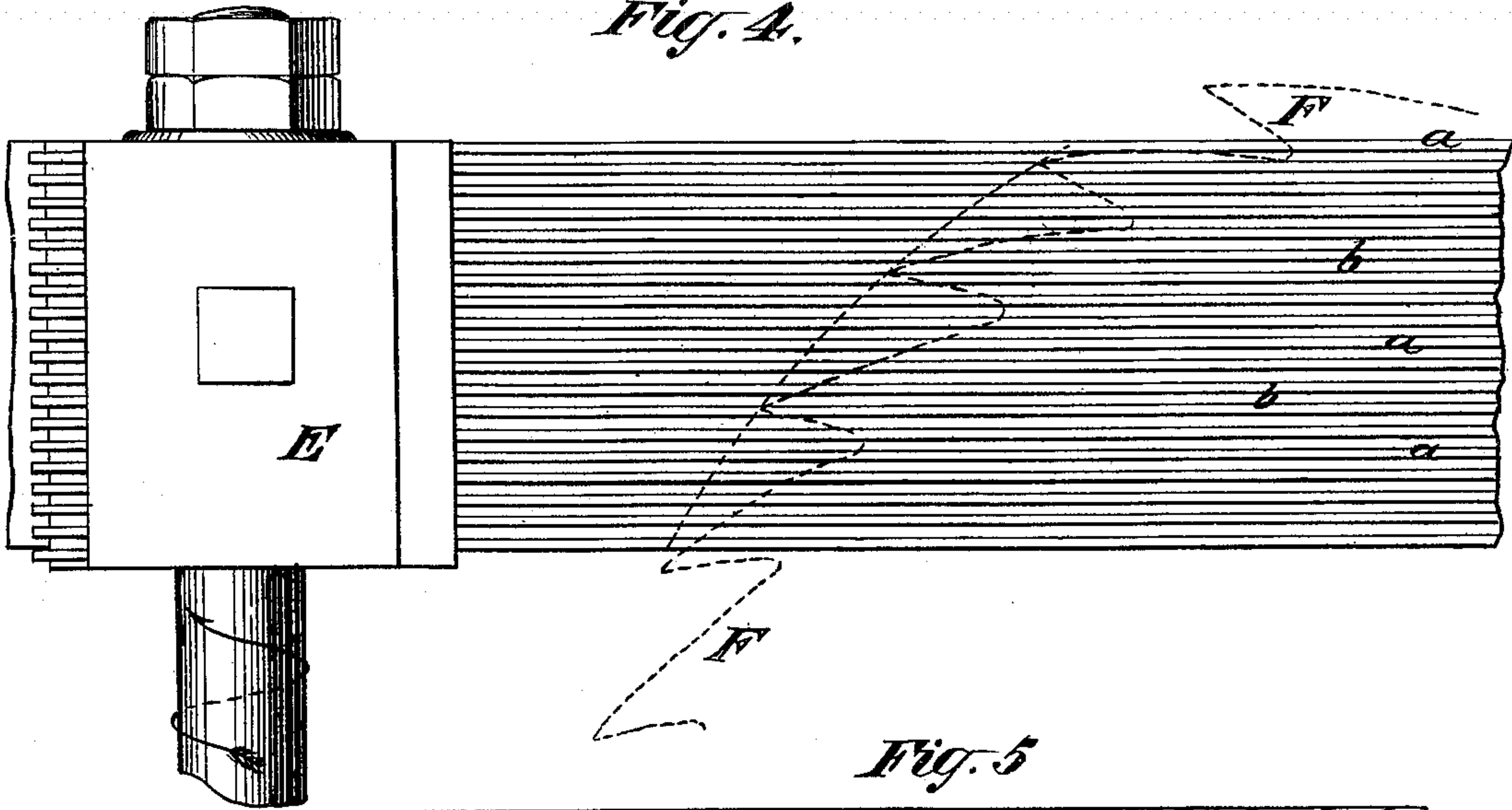
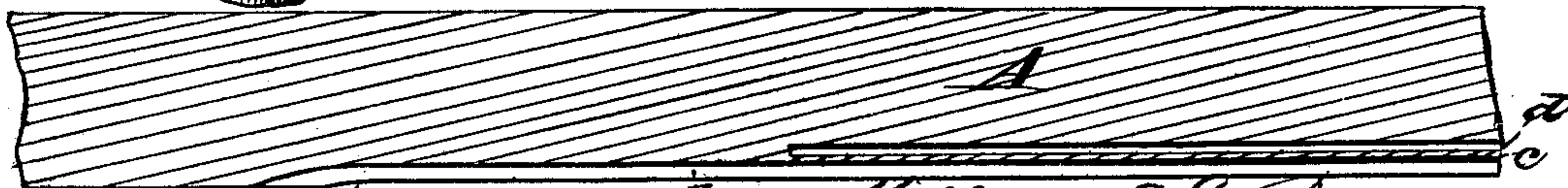


Fig. 5.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM E. BROCK, OF NEW YORK, N. Y.

## IMPROVEMENT IN PROCESSES OF MANUFACTURING TONGUED AND GROOVED VENEERS.

Specification forming part of Letters Patent No. 195,338, dated September 18, 1877; application filed March 29, 1877.

### *To all whom it may concern:*

Be it known that I, WILLIAM E. BROCK, of the city, county, and State of New York, have invented an Improved Process for Manufacturing Veneers for Compound Lumber and Marquetry; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to tongued and grooved veneers, which may be attached to a tongued and grooved board or plank of cheaper material, and held so attached solely by the engagement of the tongues and grooves in the veneer and the board or wood body of cheaper material, to which such veneer is applied in accordance with inventions patents for which were granted to me April 6, 1875, and June 20, 1876, respectively numbered 161,746 and 178,989, for improvements in lumber and in processes of manufacturing marquetry, the first-named patent being, I believe, the first ever granted in the United States for manufacturing compound lumber by the use of tongued and grooved veneers.

The shape of the said tongues and grooves in their cross-section is immaterial to my present invention, which, however, will be sufficiently illustrated by a description of the process as applied to manufacturing the veneers with tongues and grooves of rectangular cross-section.

My improvement consists in the manufacture of tongued and grooved veneers, consisting in the simultaneous tonguing, grooving, and planing the outer faces of the tongues of the veneer in advance of the saw while sawing such veneer from the log, board, or plank, whereby I am enabled to cut the veneer, or such portions of the same as form the bottoms of the grooves, as thin as any other veneer can be cut, and to successfully apply the same to the manufacture of compound lumber with much greater economy of material and labor than has been heretofore attained in the manufacture of veneers to be joined to other wood by tonguing and grooving.

The invention consists, further, in the simultaneous tonguing and grooving of the veneer, and planing the outer faces of the tongues

thereof in advance of the saw while sawing the same from the log, board, or plank, as hereinafter described.

Figure 1 in the accompanying drawing is a cross-section of a tongued and grooved veneer, as manufactured by my improved process. Fig. 2 is a cross-section of a piece of compound lumber formed by the attachment of such a tongued and grooved veneer to a board of inferior quality. Fig. 3 is a cross-section of a plank and a veneer partly cut from said plank. Fig. 4 is a side view of a portion of a veneer and a plank from which a veneer is partly cut, a side view of a cutter-head with tonguing and grooving cutter and plane cutter attached, and a side view of a portion of a saw, said cutter-head, cutters, and saw being arranged, in due relation with each other and with the said plank and veneer, to simultaneously perform the tonguing and grooving and the planing of the tongues in advance of the saw while sawing the veneer from the log, board, or plank, as hereinafter described. Fig. 5 is a horizontal longitudinal section of a plank from which such veneer is partly cut, and which is formed by simultaneous grooving and planing in advance of the saw which cuts the same from the said plank, as hereinafter described.

In the drawing, *a* represents the tongues; *b*, the grooves of the veneer, and *c* that part of said veneer from which the tongues project, and which forms the surface-covering for the compound lumber, as shown in Fig. 2. *A* represents a plank, from which said veneer is partly cut.

The tongues *a* and grooves *b* are longitudinal and parallel in their relation to the part *c*, or surface-covering of the compound lumber; and the said tongues and grooves are preferably made of uniform size and similar cross-section, to tightly fit similar grooves and tongues cut in the piece of inferior timber, board, or plank *B*, Fig. 2, which said veneer is designed to cover. Said tongues and grooves in the said veneer and said inferior piece *B* are forced into mutual engagement, as shown in Fig. 2, by which means the veneer may be firmly and permanently attached to said inferior piece *B* without glue or other cement.

After elaborate and expensive experiments



I have found that the only way to make tongued and grooved veneers with the part *c* sufficiently thin, yet as continuous and perfect as though it had not the tongues *a* formed upon it, is to tongue and groove the veneer previous to sawing it from the log, board, or plank, or in advance of the saw while sawing the same.

In one way of carrying out my invention said veneer is first tongued and grooved, then sawed or cut from the log, board, or plank, and then planed on the outer faces of the tongues; or it may be grooved and the outer faces of the tongues planed in one operation by cutters attached to a single cutter-head, or to separate cutter-heads, and then sawed from the log, board, or plank; but I prefer to cut the tongues and grooves, and to plane the outer surfaces of the tongues, while sawing the veneer from the log, board, or plank in a single operation, the grooving-cutter and plane-cutter being attached to a single cutter-head, *F*, Fig. 4, placed on an arbor in advance of the saw *F*, which cuts the veneer from such log, board, or plank, the relation of the said cutters, saw, and plank with each

other being shown in Fig. 4, and their effect being shown in Fig. 5, in which *d* represents the saw-cut, also shown in Fig. 3; *e*, the planer-cut, and *b* a groove; but the cutters, cutter-head, and saw herein referred to form no part of my present invention. They are parts of a machine which is the subject of another application for Letters Patent.

By my improved process I am enabled to produce thinner and more perfect tongued and grooved veneers than have yet been made, and with greater economy of material and labor.

I claim—

The improvement in the manufacture of tongued and grooved veneers, consisting in the simultaneous tonguing, grooving, and planing the outer faces of the tongues of the veneer in advance of the saw while sawing such veneer from the log, board, or plank, substantially as and for the purpose herein set forth.

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Witnesses:

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