

R. McCHESNEY.  
Wood-Joining.

No. 144,626.

Patented Nov. 18, 1873.

Fig. 1

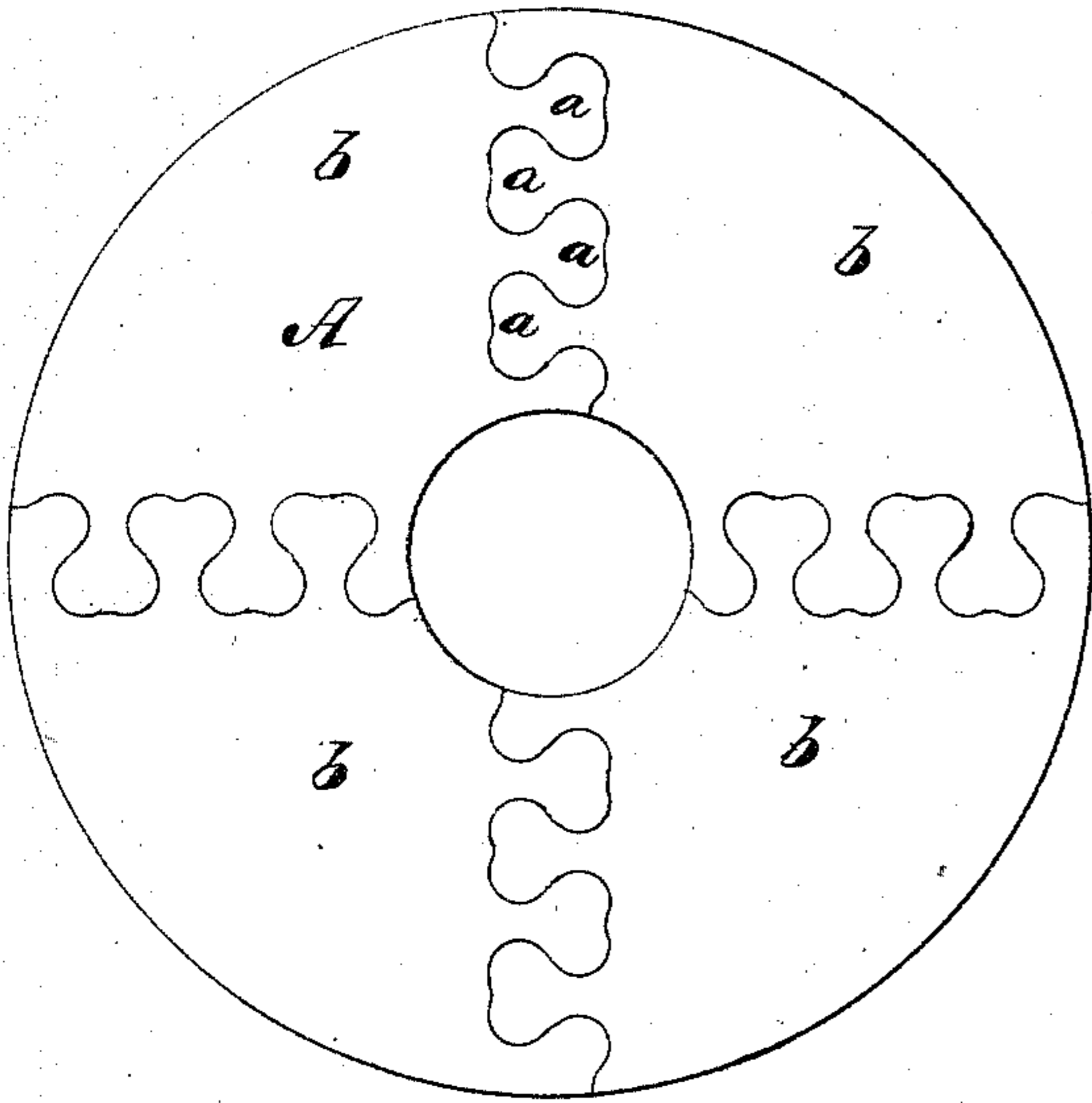


Fig. 2

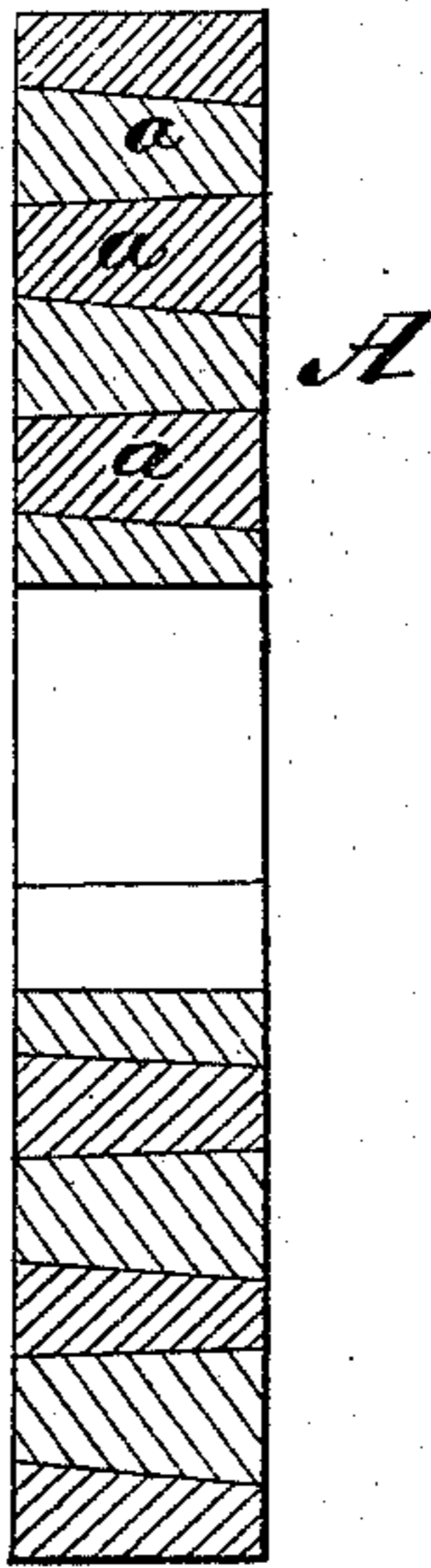


Fig. 3

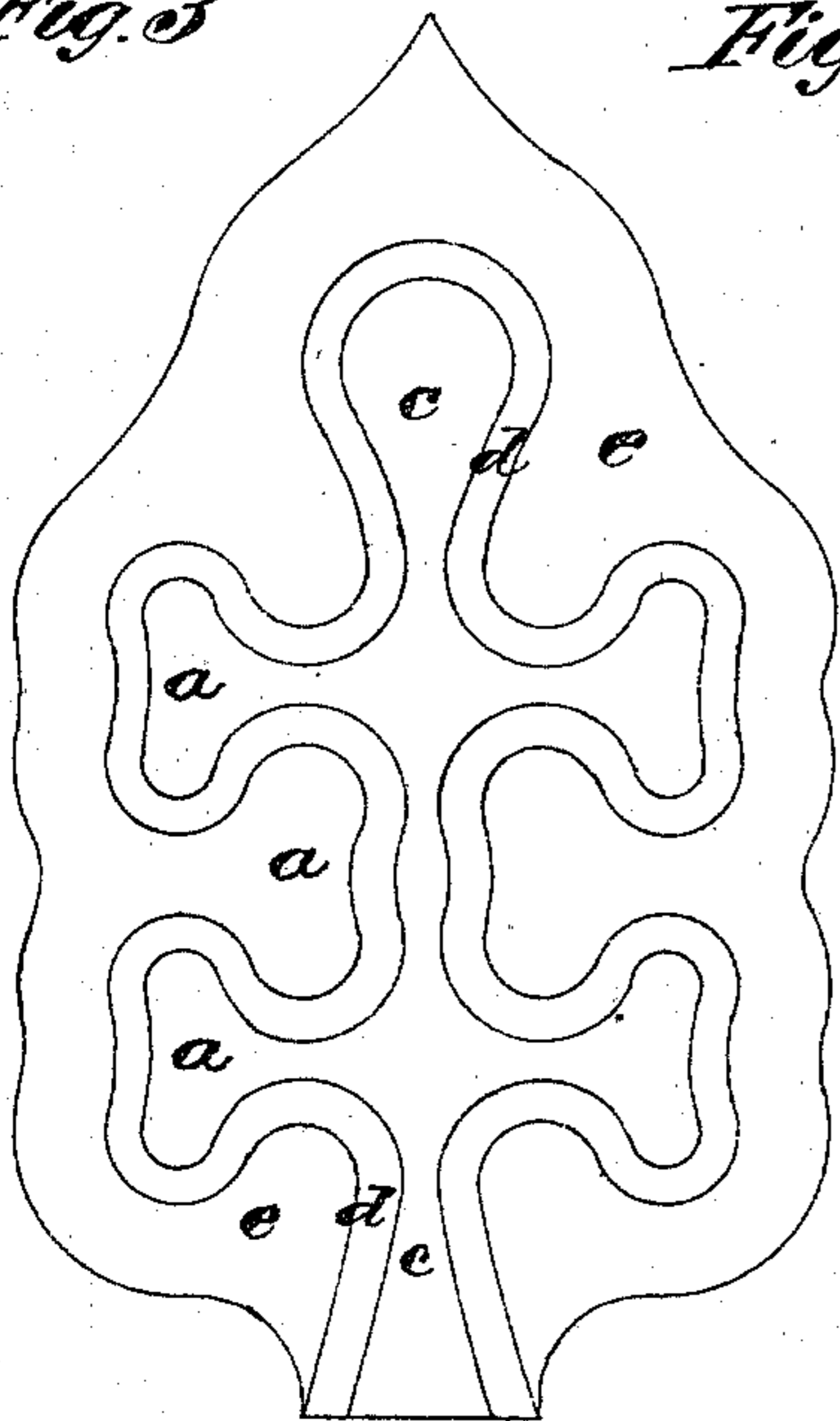
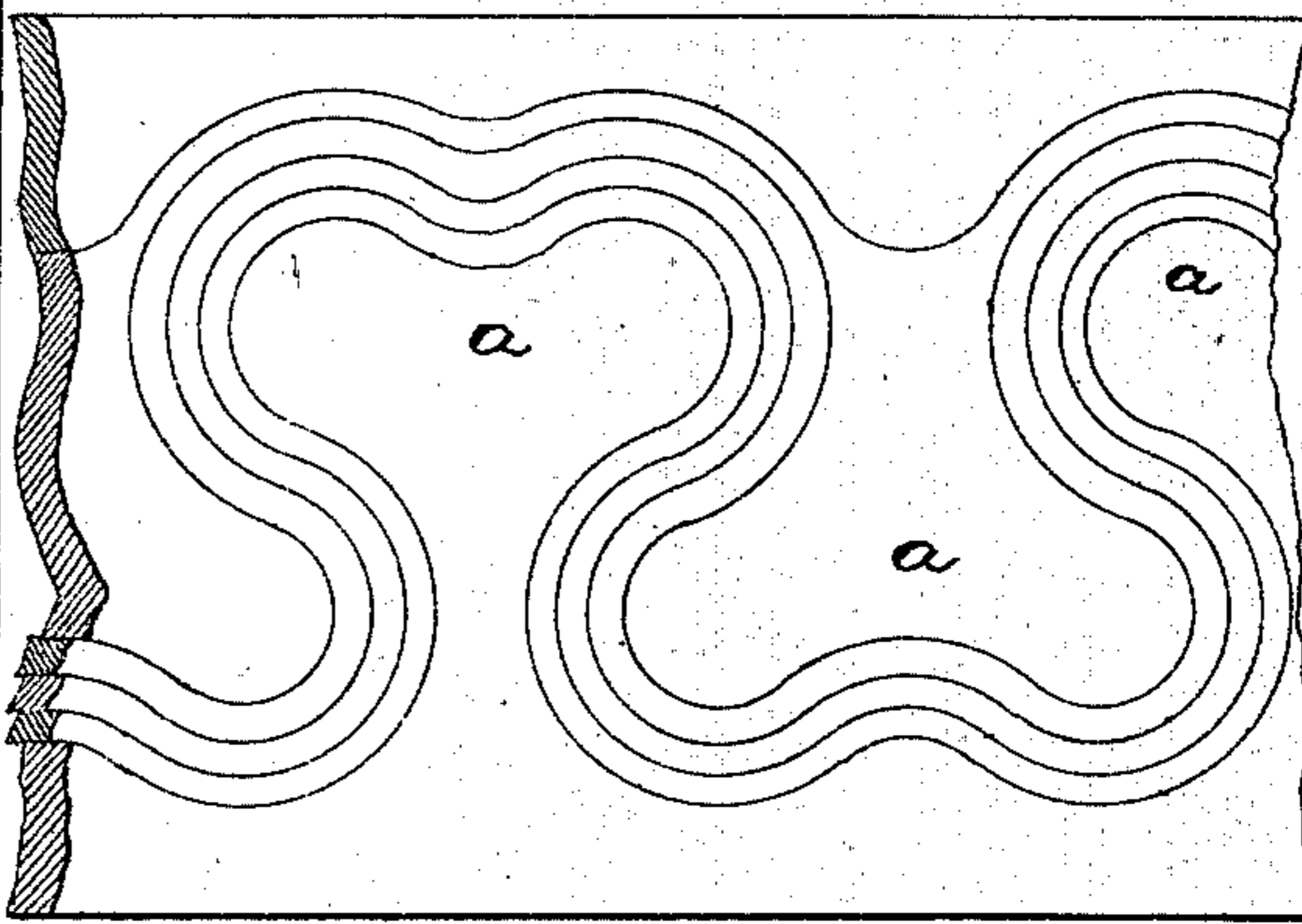


Fig. 4



Fig. 5



Witnesses.  
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Fig. 6

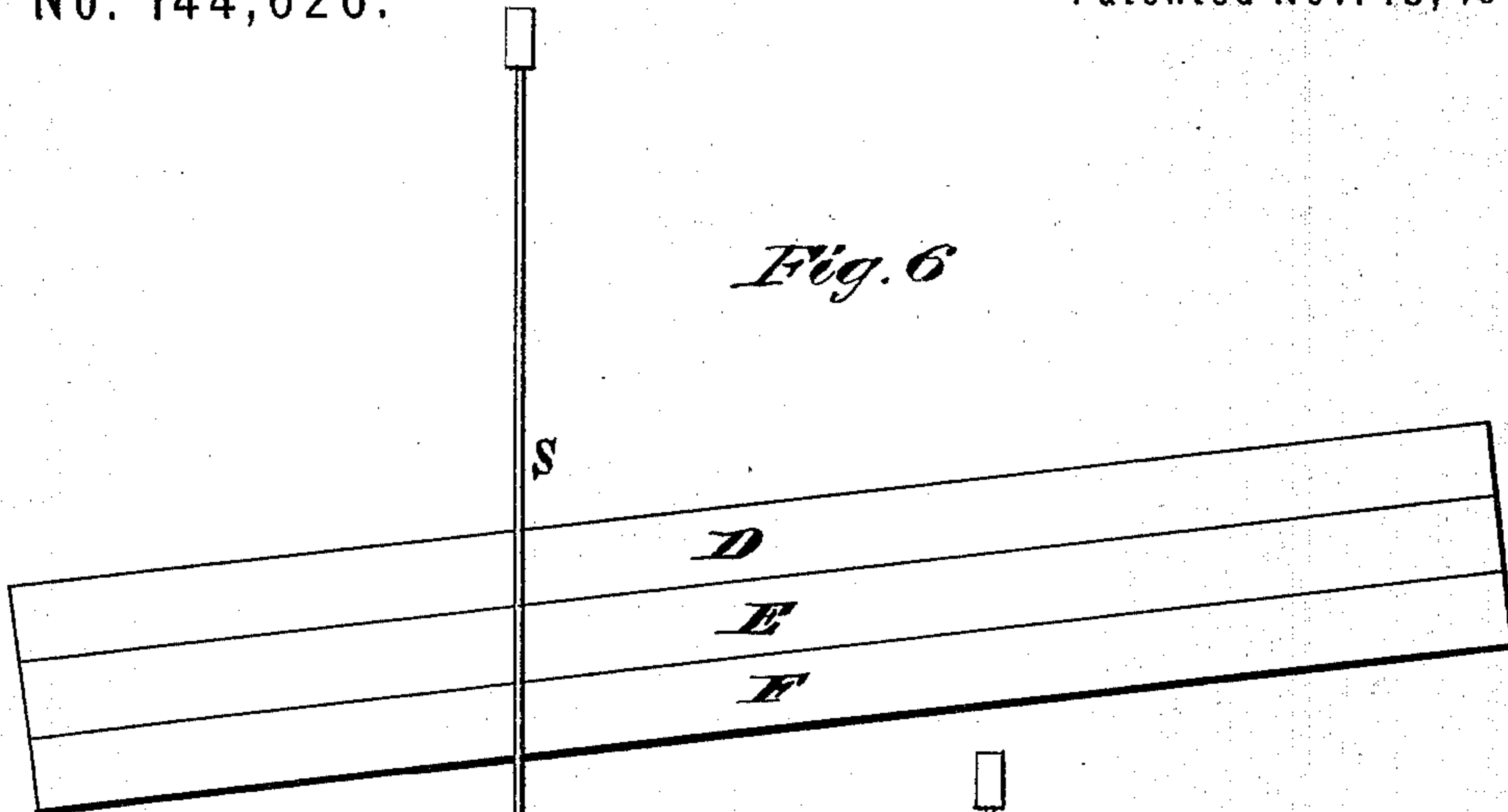


Fig 7

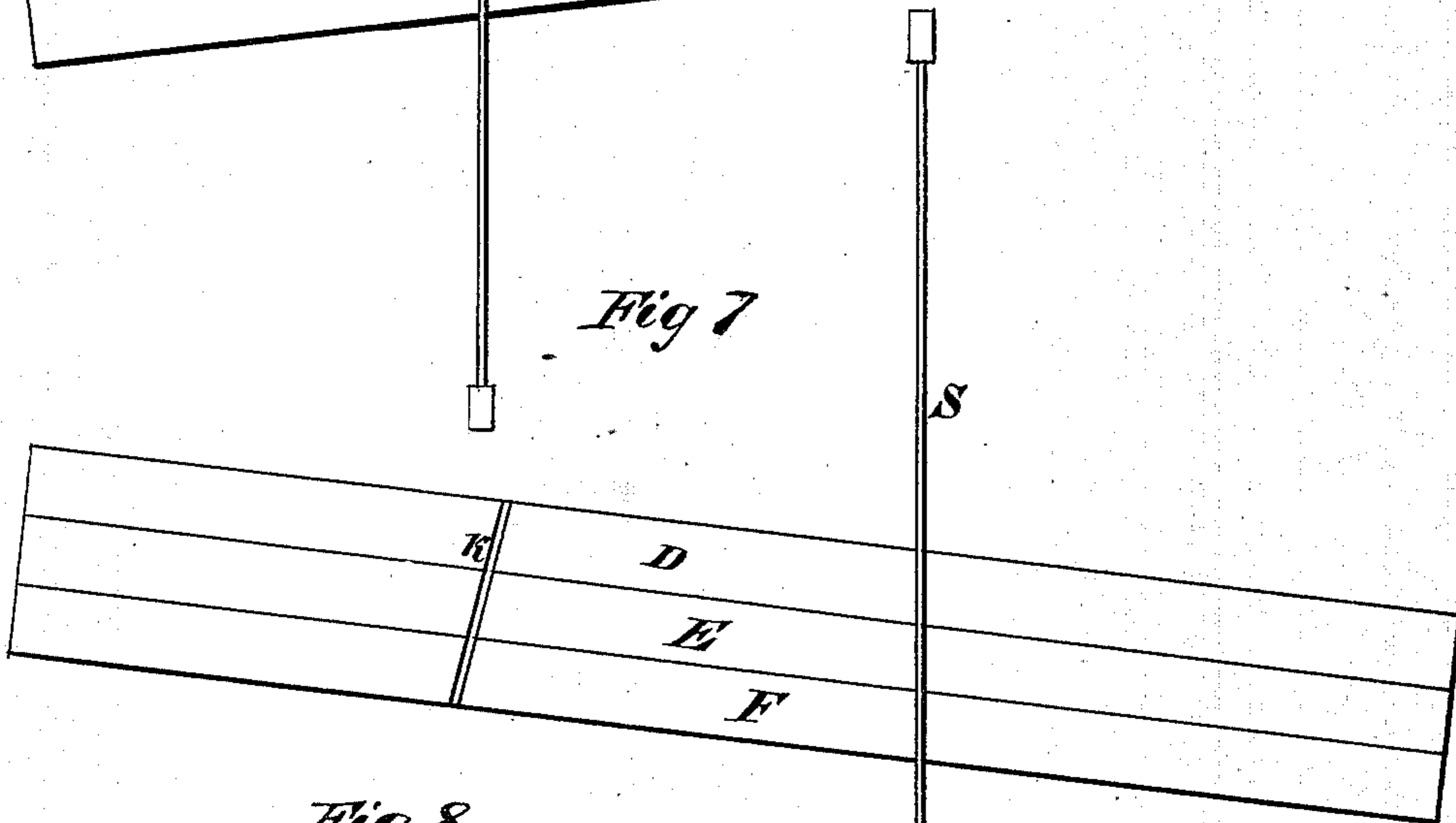
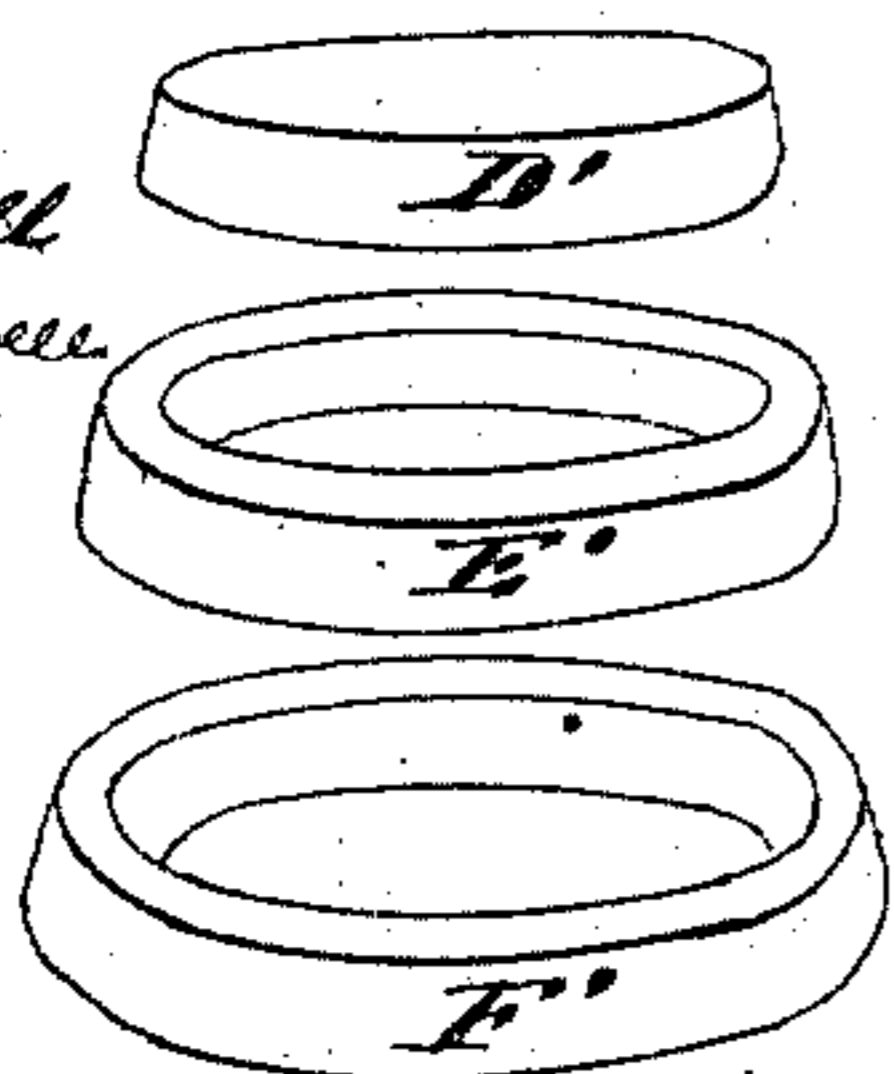


Fig. 8

Witnesses:  
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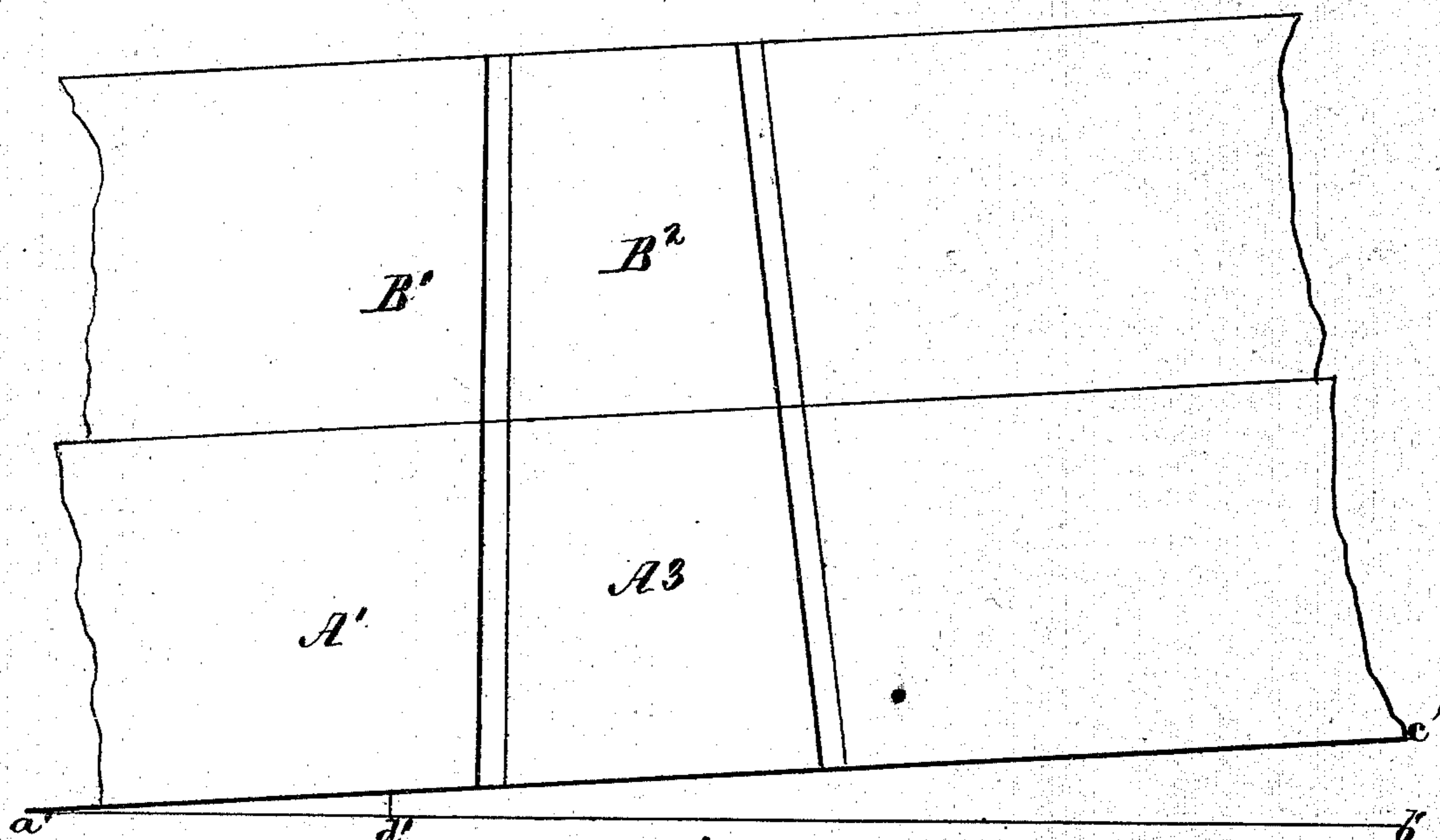
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R. MCCHESNEY.  
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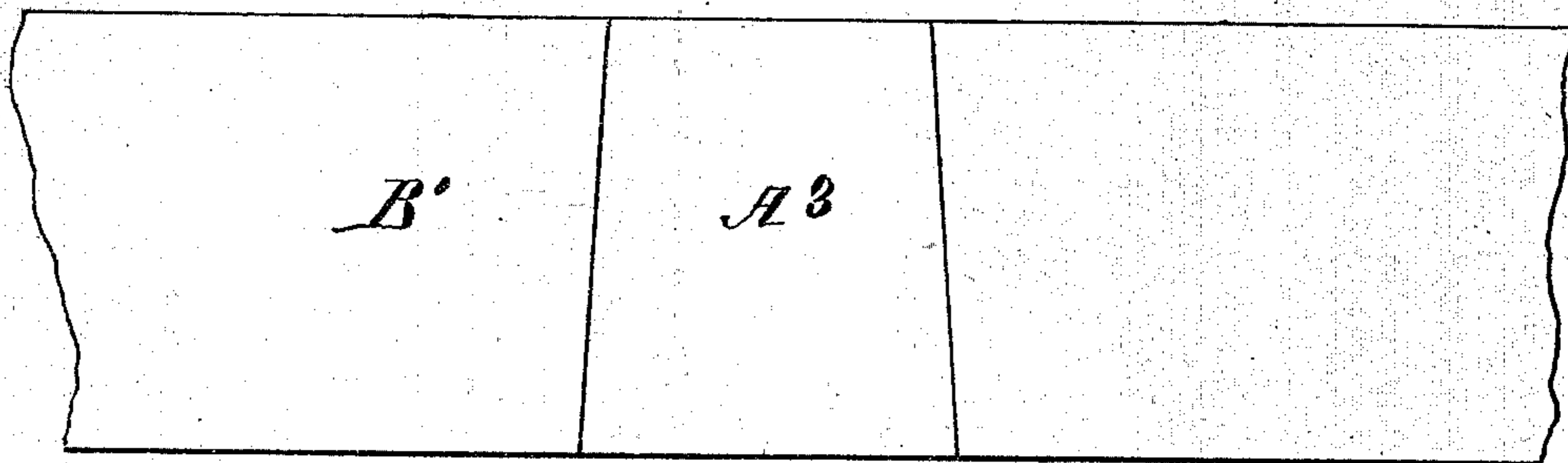
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*Fig. 9*



*Fig. 10*



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# UNITED STATES PATENT OFFICE.

REUBEN McCHESENEY, OF ILION, NEW YORK.

## IMPROVEMENT IN WOOD-JOINING.

Specification forming part of Letters Patent No. **144,626**, dated November 18, 1873; application filed September 4, 1871.

*To all whom it may concern:*

Be it known that I, REUBEN McCHESENEY, of Ilion, in the county of Herkimer and State of New York, have invented a new and useful Improvement in Wood-Joining; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1, Plate 1, is a view of a wheel made up of four sections joined together. Fig. 2, Plate 1, is a diametrical section through the wheel. Figs. 3, 4, and 5, Plate 1, are ornamental designs in wood, produced by joining together curved strips. Figs. 6 and 7, Plate 2, are views, showing the manner of sawing out the stuff. Fig. 8, Plate 2, shows several separated pieces prepared ready to be joined together. Figs. 9 and 10, Plate 3, are views, illustrating my rule for determining the bevel on which to saw different thicknesses of stuff.

The nature of my invention consists in the production of various objects in wood—such, for instance, as emery-wheels, counters, floors, frames, boxes, drafting-boards; and various ornamental designs, such as moldings, fancy table tops, &c.—by sawing the wood in a peculiar manner with a band-saw, muley, or gig saw, and uniting the pieces, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawings, Figs. 1 and 2, I have represented four pieces, *b b b b*, of wood, united so as to form a wheel, which, while it possesses all the strength and solidity of a wheel made of one piece, will not warp, owing to the grain of the different pieces of which it is composed running in different directions. This will make an excellent emery-wheel, or base upon which to apply emery.

In Figs. 3, 4, 5, and 8, I have represented ornamental work, consisting of curved ornamental designs of the same or of different kinds of colors of wood secured together so as to represent inlaid work.

In Figs. 6 and 7, I have illustrated the mode of sawing out the stuff, where three pieces are sawed through at the same time, for the purpose of making ornamental or other work com-

posed of three pieces each. These pieces *D*, *E*, and *F* are secured together, so that they will not slip upon themselves, and after the figure or design to be sawed out is drawn upon the top piece as a guide to the workman, the pieces are adjusted upon the saw-table of a scroll-cutting saw, *S*, which table should be inclined sufficiently to compensate for the sawkerfs, and in order to cause the saw to cut the stuff on a bevel.

If it is not convenient to incline the saw-table, an inclined bed may be applied upon a horizontal saw-table, which will produce the same result—viz., hold the stuff so that it will be sawed on a bevel, as shown at *k*, Fig. 7.

The edges of the stuff, when sawed out, present the general outline shown in Figs. 1, 3, and 5, and leave interlocking portions *a*, which nicely fit one within another, and thus unite the pieces together. Take, for instance, the design represented by Fig. 3. This is composed of three pieces, which, if made of different kinds of woods, will present a beautiful appearance. To produce this design, three pieces of wood, of proper thickness, are suitably fastened together, and the design marked upon the top piece. The pieces are then adjusted upon an inclined saw-bed and the saw made to follow the marks upon the top piece.

If flat inlaid work is required, the piece *c* of the top piece is fitted into the skeleton piece *d* of the middle piece, which latter will be fitted into the bottom piece; or if alto-relievo, or basso-relievo, or panel-work is desired, this is made by simply forcing the pieces into each other as far as their bevel will allow them to go.

It will thus be seen that by sawing out two or more pieces at the same time, and sawing them on a bevel, they can be fitted together so as to make close glue-joints.

For the purpose of determining the exact bevel at which the stuff should be sawed for producing flush work, I first find the thickness of the stuff, and then measure, from a point where one end of the table on which the stuff is sawed is placed intersects a horizontal plane, a distance exactly equal to such thickness. I then raise the table at this point a distance exactly equal to the thickness of the saw used. For example, say the thickness of the two pieces of stuff *A<sup>1</sup> B<sup>1</sup>* (see Plate 3) is, respect-

ively, two inches, and these pieces are adjusted one on the other, as in Fig. 9, upon a saw-table,  $a'c'e$ . The saw-blade is, say, one-eighth of an inch thick. I measure from the point  $a'$  along the line  $a'b'$  two inches to  $d'$ , and raise the table  $a'c'$  at this point one-eighth of an inch. This gives the required angle for the table  $a'c'$ . Now, when the circular pieces or bungs  $A^3$  and  $B^2$  are sawed out, the bung  $A^3$  will fit flush into the piece of stuff  $B$ , as shown by Fig. 10. For raised or sunken work, called panel-work, I only measure the amount of lap required and proceed as before.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method of joining various woods or pieces of wood together, in representation of "marquetry" or inlaid work, by means of dovetails cut, by appropriate mechanism, through the pieces to be joined at one operation, and in bevel form, so as to form tight joints when united, substantially in the manner herein described and shown, for the purpose set forth.

REUBEN McCHESNEY.

Witnesses:

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