

No. 882,331.

PATENTED MAR. 17, 1908.

J. M. MASSEY.
GROOVING OR ROUTING TOOL.
APPLICATION FILED JUNE 3, 1907.

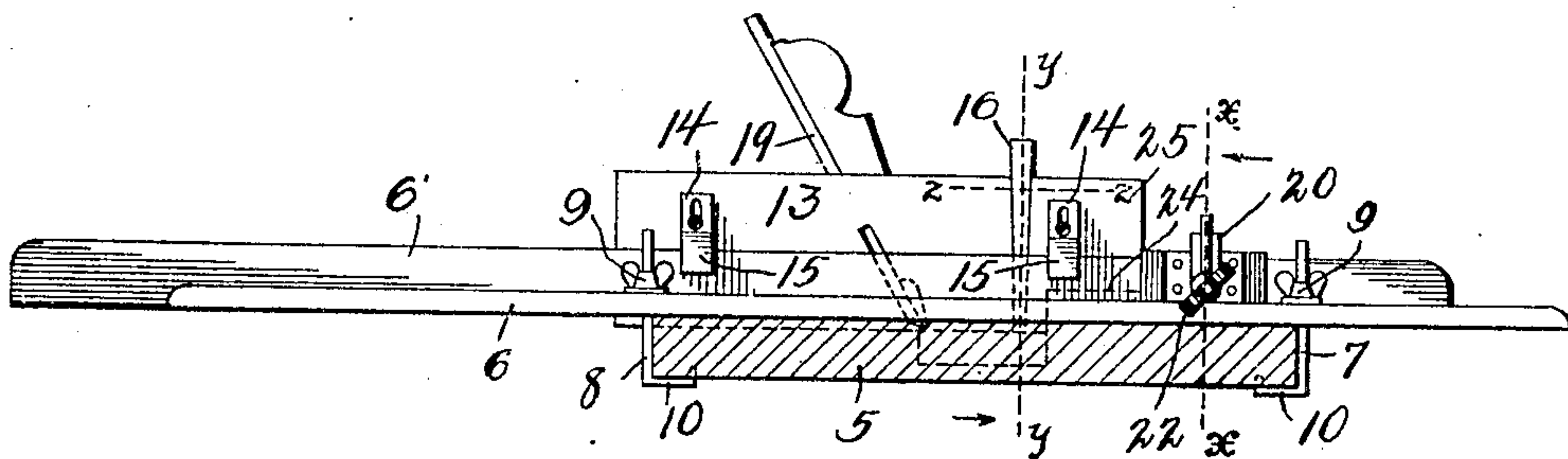


Fig. 1.

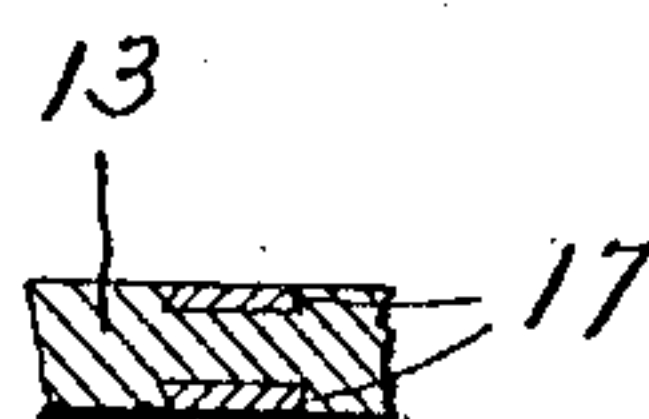


Fig. 6.

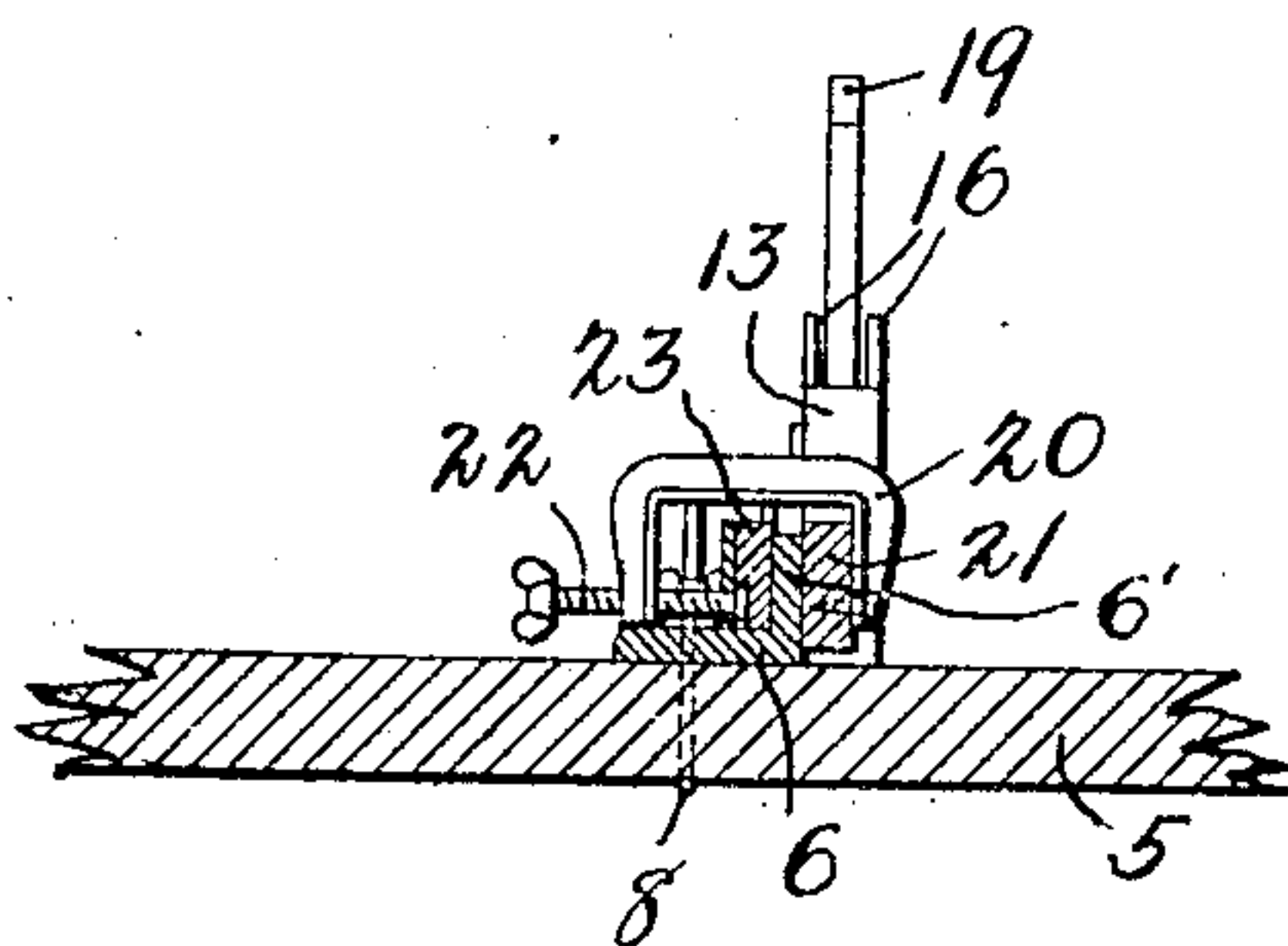


Fig. 2.

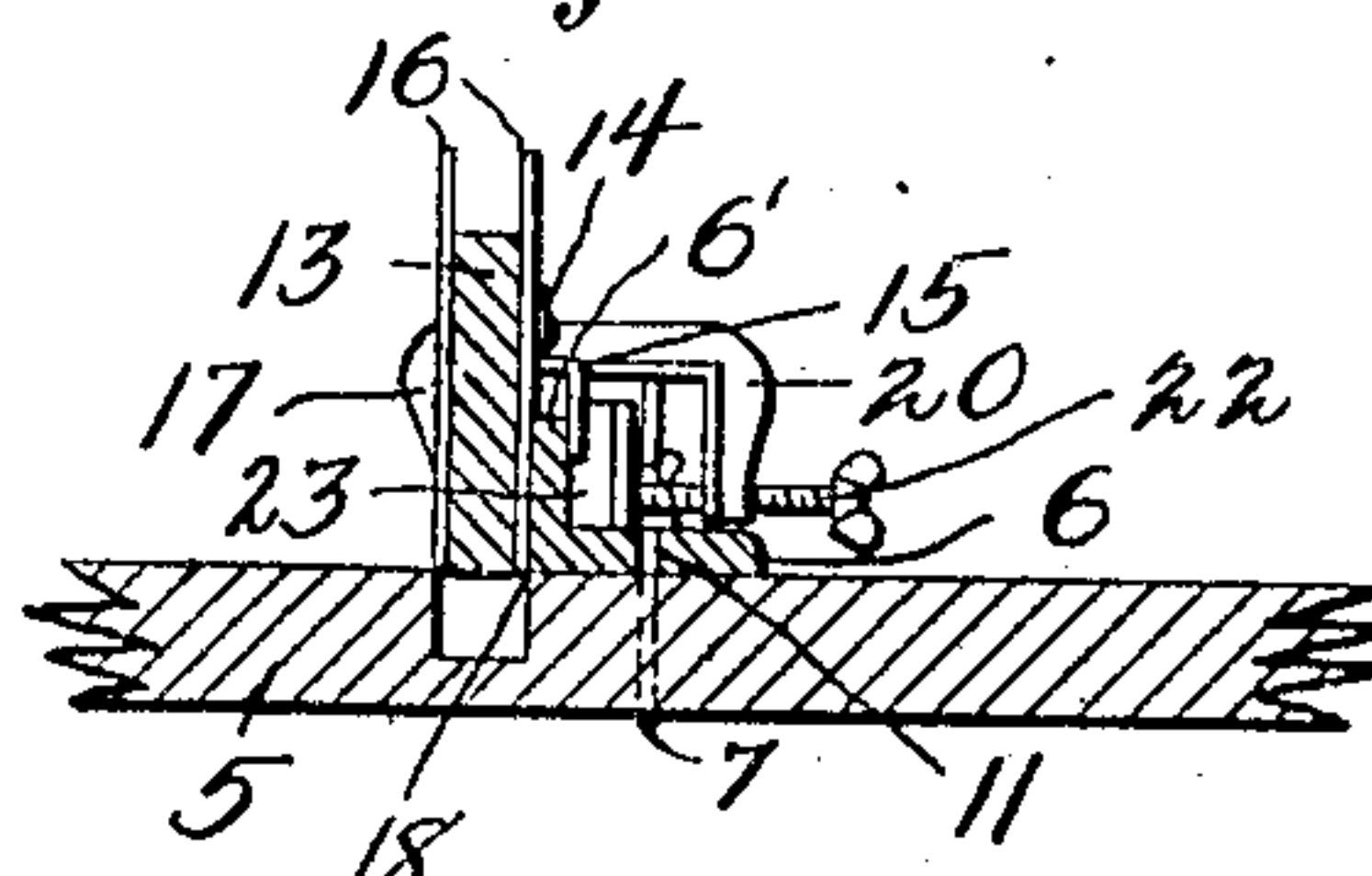


Fig. 3.

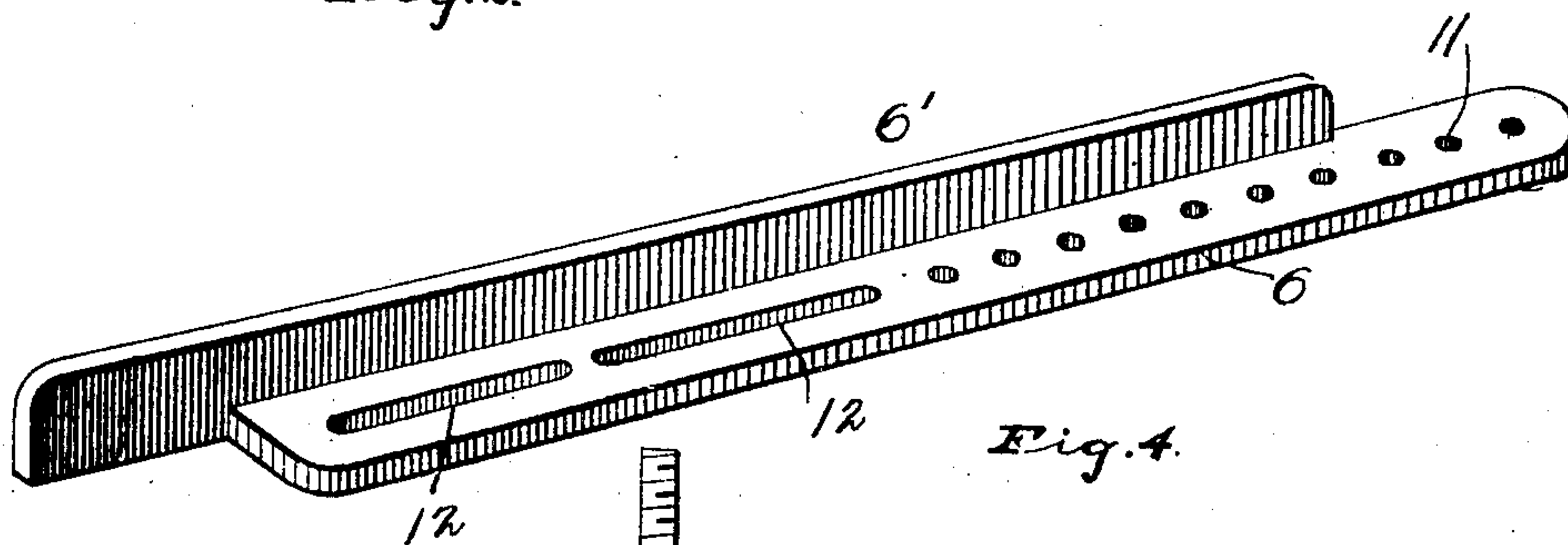


Fig. 4.

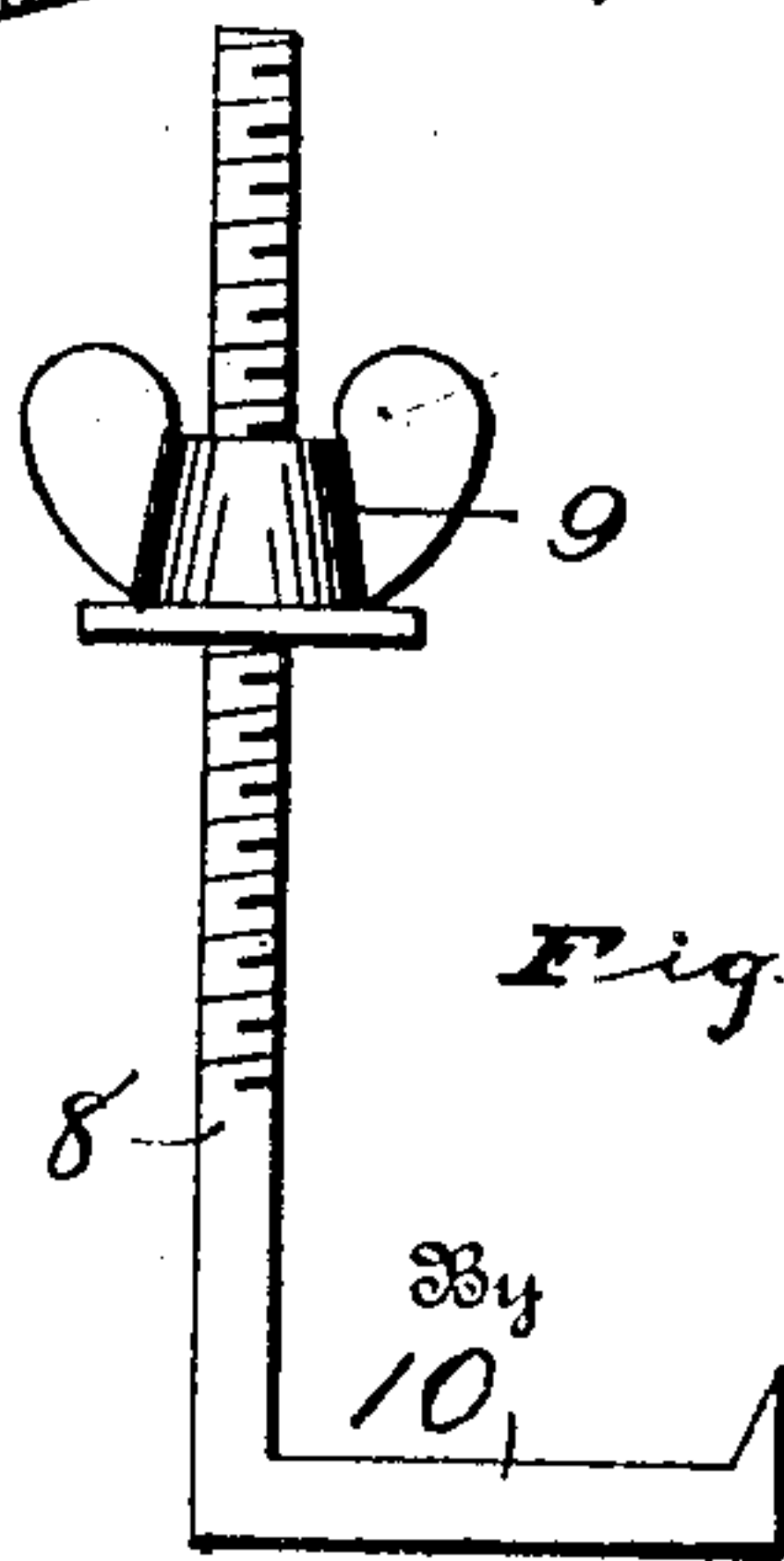


Fig. 5.

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GROOVING OR ROUTING TOOL.

No. 882,331.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN M. MASSEY, citizen of the United States, residing at Gahanna, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Grooving or Routing Tools, of which the following is a specification.

My invention relates to a grooving or routing tool and has for its object the provision of a device of this character which is provided with a guide adapted to be set at any angle with relation to the work to be grooved, said tool being provided with members adapted to engage and hold said tool into engagement with said guide.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing: Figure 1 is a sectional view of a board to be grooved illustrating the routing tool and guide therefor in side elevation, Fig. 2 is a transverse vertical view upon line $x-x$ of Fig. 1 looking in the direction indicated by the arrow, Fig. 3 is a like view upon line $y-y$ of Fig. 1 looking in the direction of the arrow, Fig. 4 is a detail perspective view of a guide hereinafter described, Fig. 5 is a detail view of the clamp hereinafter described, and, Fig. 6 is a horizontal sectional view upon line $z-z$ of Fig. 1, upon an enlarged scale.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing, the numeral 5 designates the board to be grooved. A guide 6 which is L-shaped in cross section is adapted to be held at any angle with relation to the board 5, by clamps 7 and 8. These clamps comprise vertical body portions upon which thumb screws 9 are adapted to be screwed and horizontal spurred portions 10 which are adapted to engage the underside of the board 5. The clamp 7 is adapted to pass through any one of the openings 11 of the guide 6, while the shank of the clamp 8 is adapted to pass through either of the slotted openings 12 of the guide 6. A routing or grooving plane or tool 13 carries clips 14, these clips being provided with offset portions 15 which are adapted to engage over the upstanding rib 6' of the guide 6, whereby said tool or plane will be guided by said rib to groove the board 5 at any angle at which the guide 6 may be set.

Tapering blades 16 are adapted to engage dove-tailed ways 17 of the plane body 13 and the lower edges of these blades are formed with cutting edges 18. The usual cutting blade 19 is provided for the plane 13 and it is this cutting blade that does the majority of the grooving or routing of the board 5.

When it is desired to groove the board 5 through but a portion of its width, a clamp comprising a body portion 20, a block 21 carried by said body portion, a set screw 22 and a block 23, is adapted to be clamped upon the upstanding rib 6' of the guide 6, the screw 22 being adapted to force the block 23 toward the block 21 as is usual in devices of this character and to clamp the rib 6' between these blocks. The block 21 at this time acts as a stop for the plane 13 and limits its movement to prevent said plane from passing the point to which it is desired to groove the board 5. The cutting edges 18 of the blades 16 smooth and finish the sides of the groove formed by the blade 19, as well as tending to hold said plane in the proper channel. The forward portion or end of the body of the plane is cut out as indicated in dotted lines at 24 in Fig. 1. If the plane body were not cut out in this manner, its forward edge would strike the front wall of the groove that is being formed and prevent the blade 19 from traveling up to the desired point. By cutting out the front portion of the plane in this manner an overhanging portion 25 is provided which travels over the front wall of the groove and abuts against the stop 21 as has been hereinbefore set forth.

In grooving wood for various purposes and particularly in stair routing, it is necessary to groove the boards at an angle. Heretofore it has been customary to mark off the desired angle and then drill a number of holes with a brace and bit along the marked off line and to then groove out the boards with a chisel, the routing tool being employed merely for finishing the grooves after the major portion of the wood had been removed with the chisel. With the present structure, which is adapted by engaging the clamp 7 with the board 10 and then swinging the guide to any desired position and then moving the clamp 8 up into engagement with the board by sliding it through one of the slots 12, to be set at any desired angle, all of the routing or grooving may be done with the grooving plane, for a positive guide is provided for the

plane, which from the beginning of the work will keep the plane moving in a given and fixed path.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the details of construction, but includes within its purview such changes as may be made within the scope of the appended claims.

What I claim, is:

1. The combination with a guide adapted to guide a routing plane or tool, of a clamp adapted to clamp said guide at one edge of the board, and a second clamp movable longitudinally of the guide and adapted to clamp said guide to the board at the opposite edge of said board.

2. The combination with a guide adapted to guide a routing plane or tool, of a clamp adapted to clamp said guide pivotally at one edge of the board to be routed, a second clamp movable longitudinally of the guide and adapted to clamp said guide to the board at the opposite edge thereof, a routing plane or tool, and members secured to the sides of said routing plane or tool, said members having offset portions adapted to engage over a portion of the guide.

3. The combination with a guide adapted to guide a routing plane or tool, of a clamp adapted to clamp said guide pivotally at one edge of the board to be routed, a second clamp movable longitudinally of the guide and adapted to clamp said guide to the board at the opposite edge thereof, a routing plane or

tool, members secured to the sides of said routing plane or tool, said members having offset portions adapted to engage over a portion of the guide, and a member adapted to be clamped to said guide in the path of said tool to form a stop for said tool.

4. The combination with a guide comprising a body portion and a longitudinally extending upstanding rib, of a clamping member adapted to pivotally clamp said guide at one edge of a board to be routed, a second clamp longitudinally movable with relation to the body portion of said guide and adapted to clamp said guide at the opposite edge of the board to be routed, a grooving or routing tool, and members carried by said tool and adapted to engage over the longitudinally extending upstanding rib.

5. The combination with a guide comprising a body portion and a longitudinally extending upstanding rib, of a clamping member adapted to pivotally clamp said guide at one edge of a board to be routed, a second clamp longitudinally movable with relation to the body portion of said guide and adapted to clamp said guide at the opposite edge of the board to be routed, a grooving or routing tool, members carried by said tool and adapted to engage over the longitudinally extending upstanding rib, and a clamping member adapted to be clamped to said upstanding rib in the path of movement of the tool and to form a stop for said tool.

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

JOHN M. MASSEY.

Witnesses:

FRANK G. CAMPBELL,
L. CARL STOUGHTON.