

C. SMITH.  
BORING TOOL.  
APPLICATION FILED JULY 19, 1905.

Fig. 1.

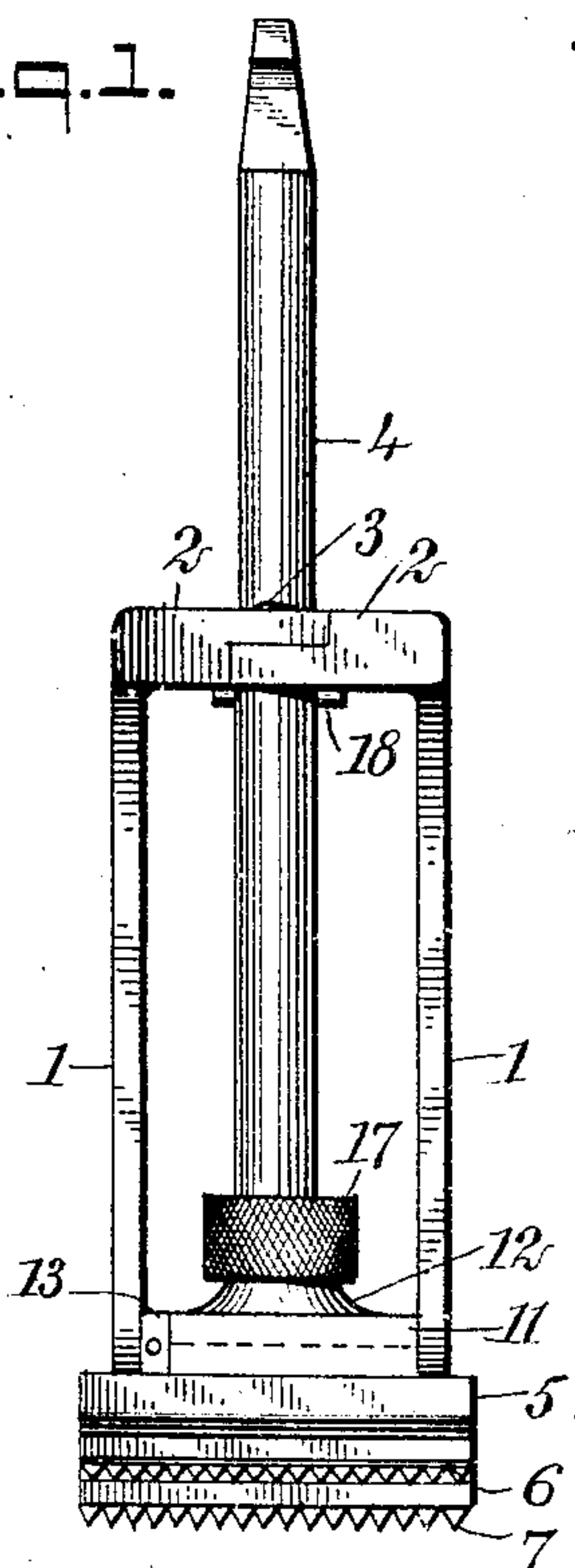


Fig. 2.

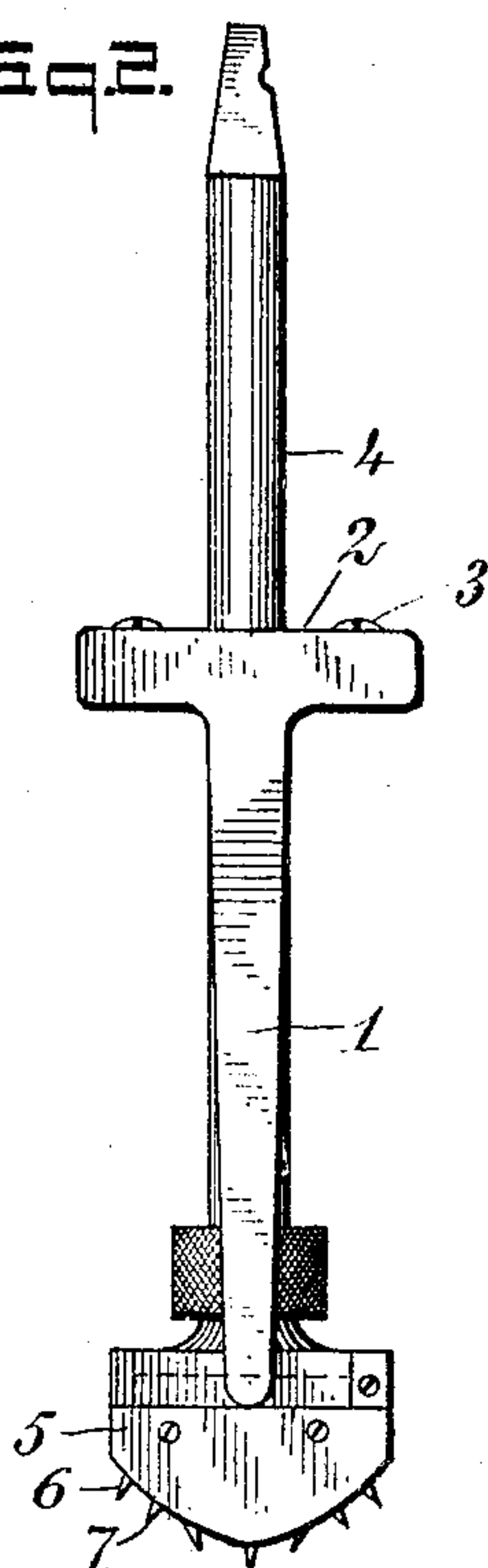


Fig. 3.

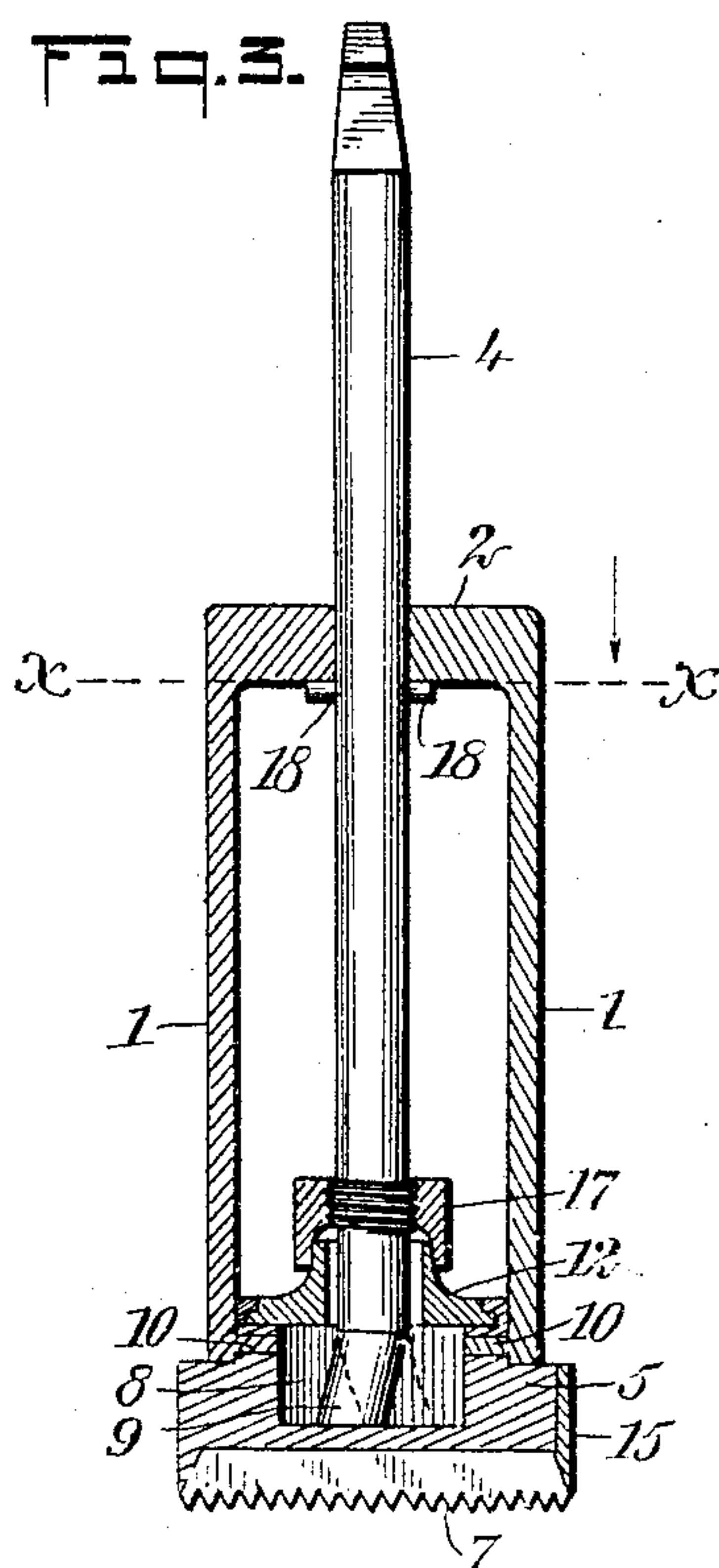


Fig. 4.

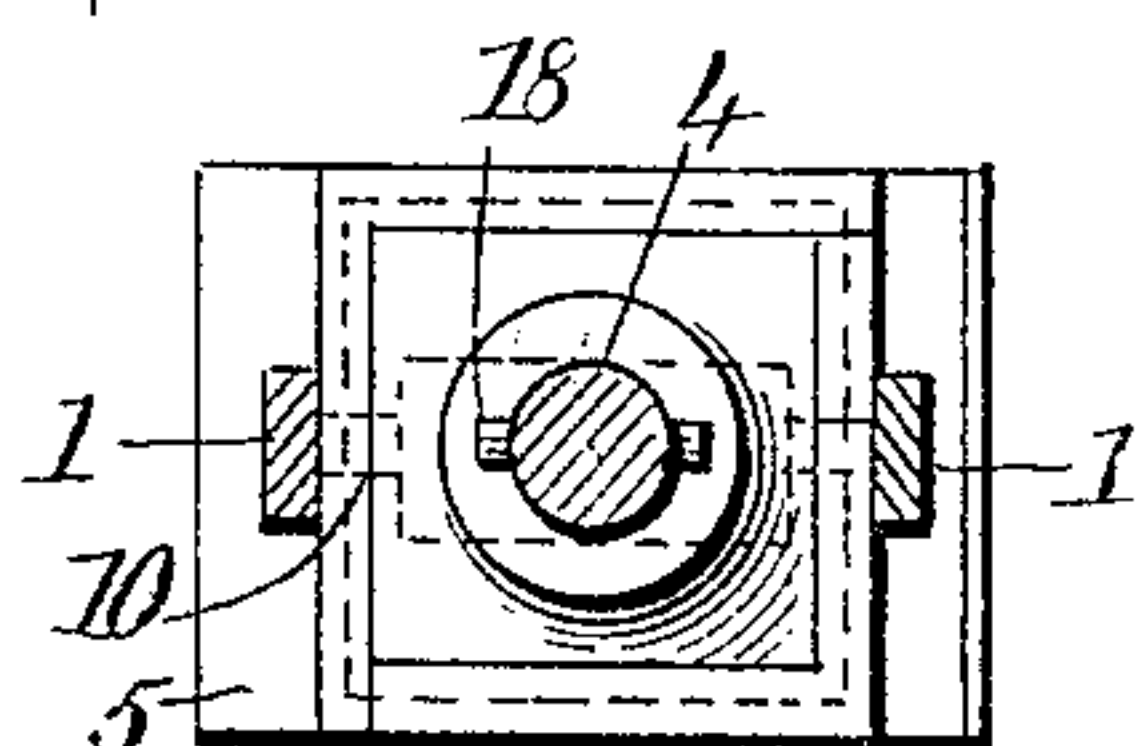


Fig. 5.

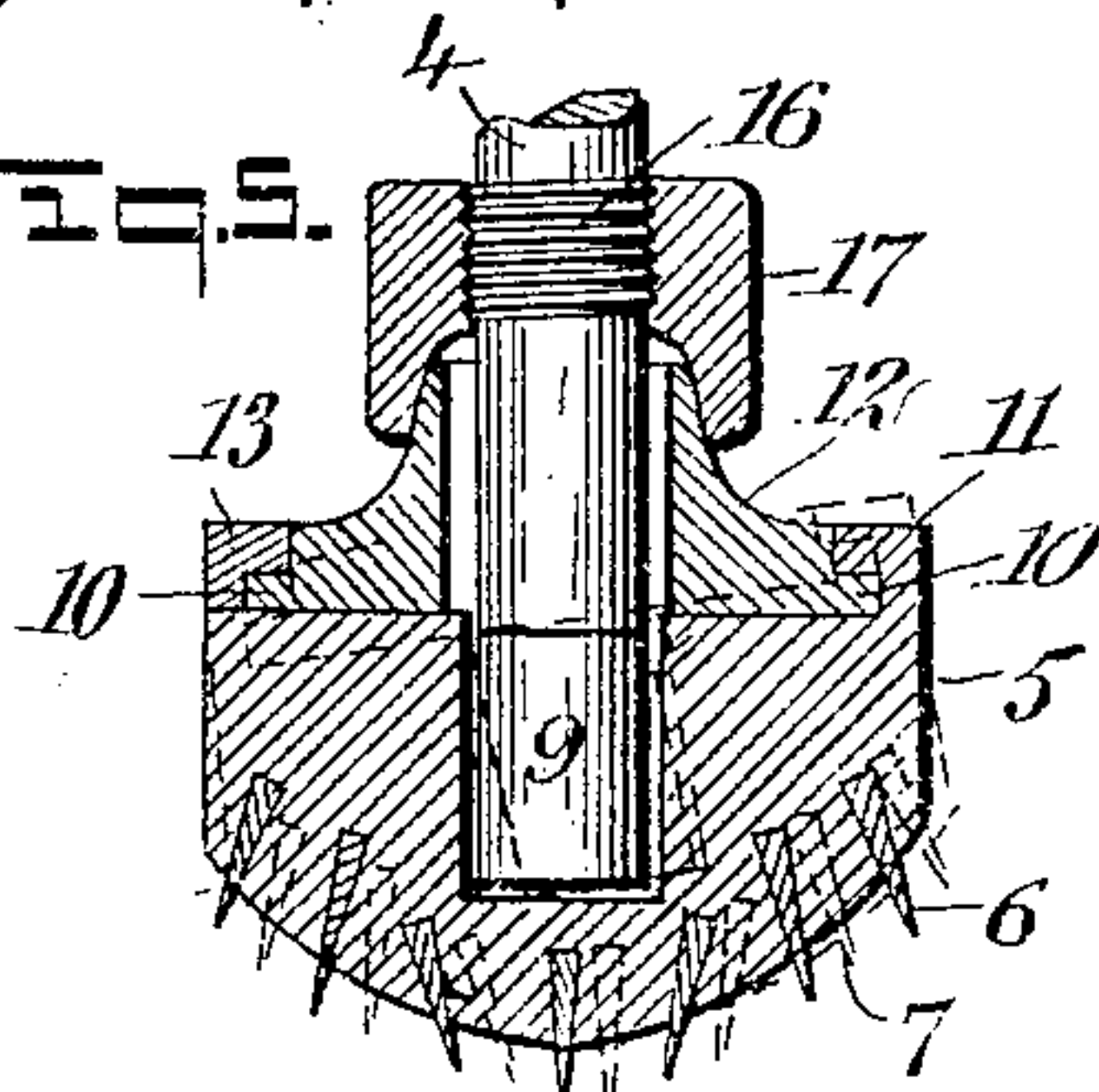


Fig. 6.

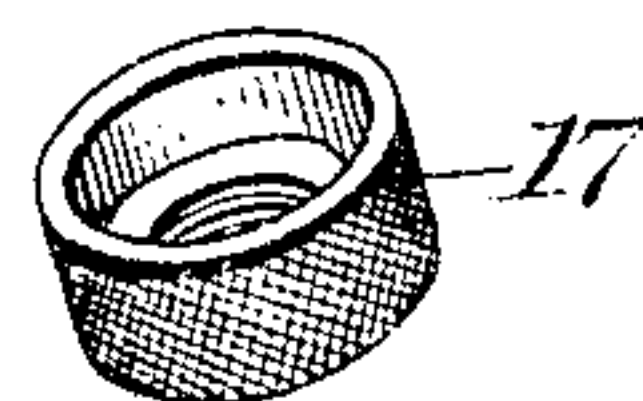


Fig. 8.

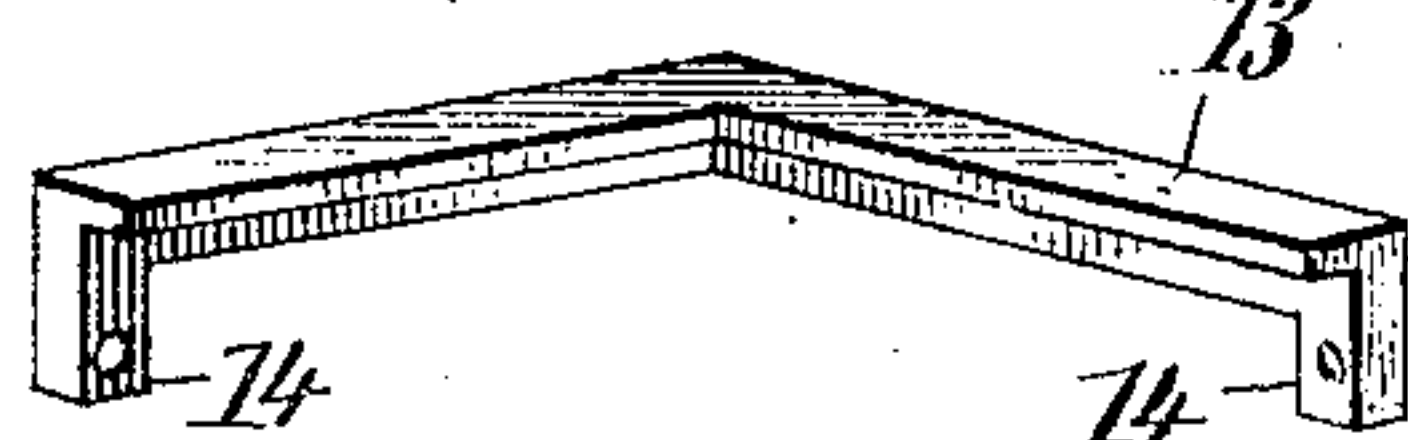


Fig. 7.

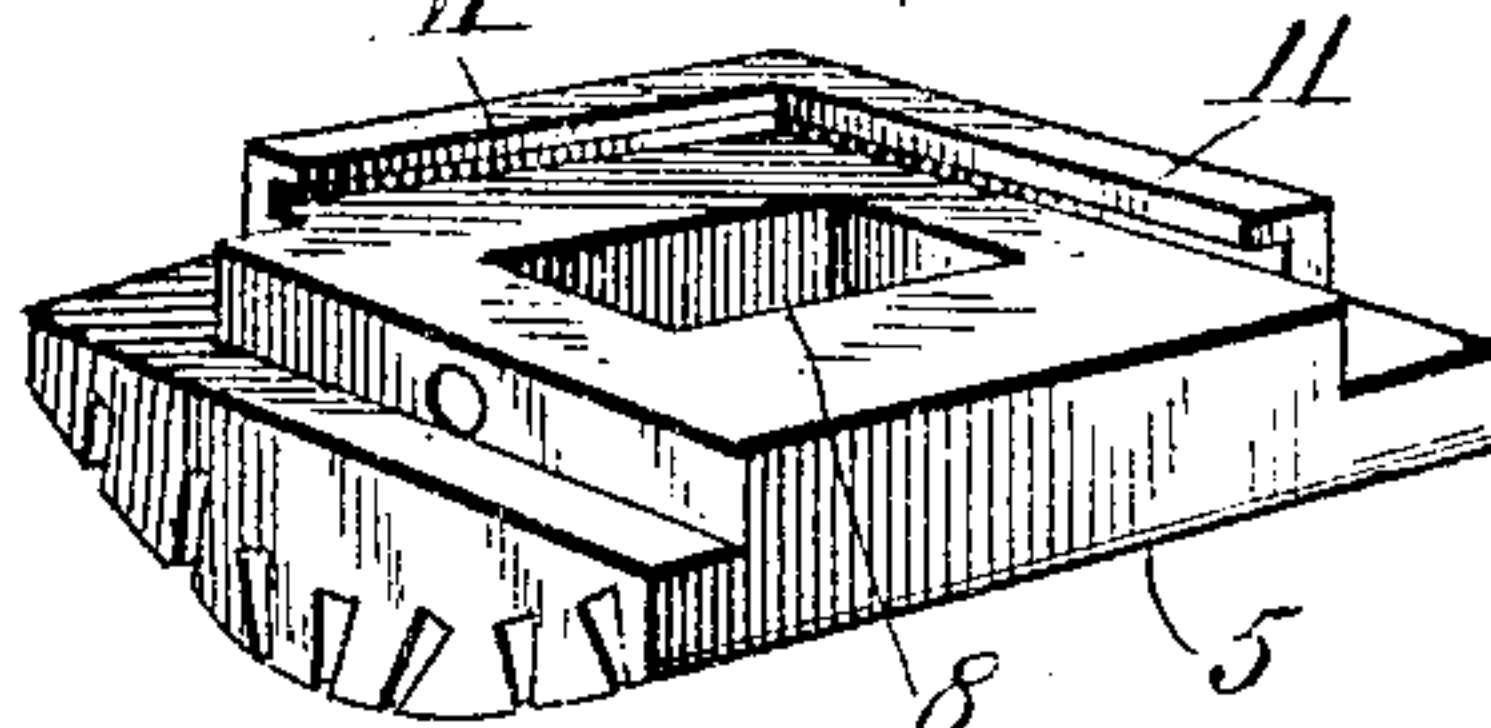


Fig. 9.

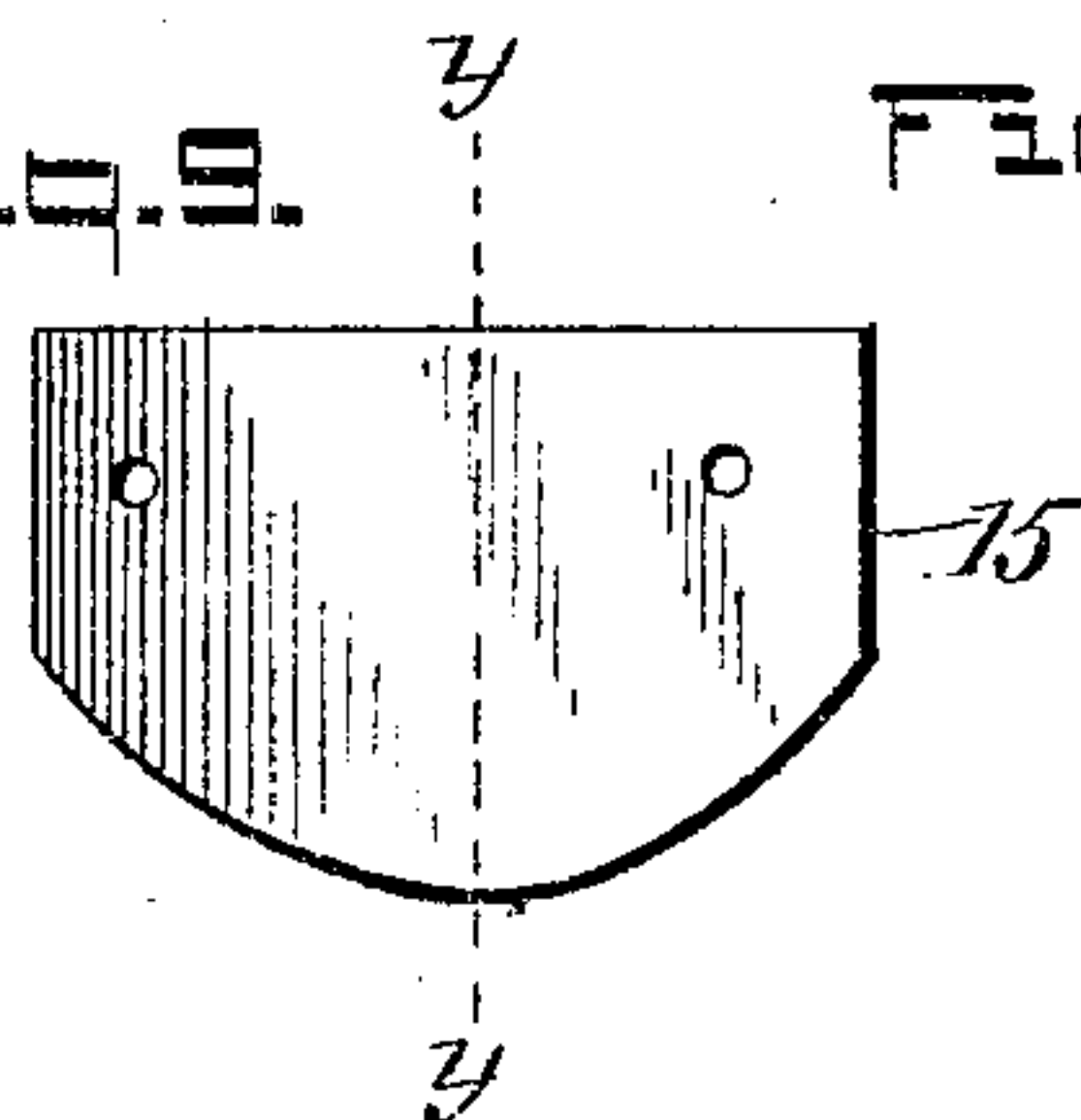
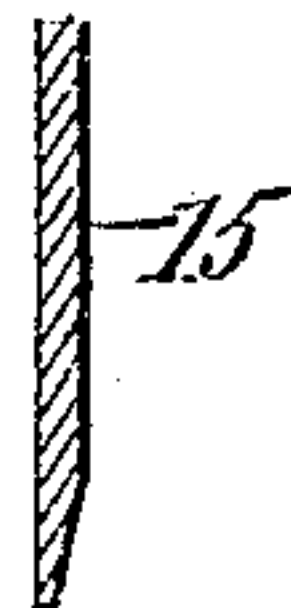


Fig. 10.



WITNESSES:

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INVENTOR

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# UNITED STATES PATENT OFFICE.

CLARA SMITH, OF WATERBURY, CONNECTICUT.

## BORING-TOOL.

No. 803,368.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed July 19, 1905. Serial No. 270,408.

*To all whom it may concern:*

Be it known that I, CLARA SMITH, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and Improved Boring-Tool, of which the following is a full, clear, and exact description.

This invention relates to improvements in boring-tools, the object being to provide a tool of simple construction by means of which a hole may be bored having a square or rectangular wall.

I will describe a boring-tool embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a boring-tool embodying my invention. Fig. 2 is an end elevation thereof. Fig. 3 is a longitudinal section. Fig. 4 is a section on the line  $x x$  of Fig. 3. Fig. 5 is a section through the tool-head. Fig. 6 is a perspective view showing a guide-cap employed. Fig. 7 shows the tool-head in perspective. Fig. 8 shows a locking frame member. Fig. 9 indicates a locking-plate, and Fig. 10 is a section on the line  $y y$  of Fig. 9.

The frame of the tool designed to be rigidly held in a lathe or the like comprises side members 1, which are connected by cross-bars 2, the said cross-bars being overlapped and secured by means of rivets 3, and thus practically a single cross-bar is formed, in which is an opening for the rotary spindle 4. The head 5 of the tool is transversely curved and provided with longitudinal recesses to receive wedge-shaped cutting-blades 6 and toothed clearing-blades 7, the said cutting-blades and clearing-blades alternating. The head 5 is provided with a rectangular recess 8, in which the end 9 of the spindle 4 engages. This end 9, as is clearly shown in the drawings, is arranged at an obtuse angle with relation to the body of the spindle, so that by engaging with opposite walls of the recess 8 rocking motion will be imparted to the head, the said head having connection with the frame members 1 by means of trunnions 10 on said frame members which engage in perforations in opposite sides of the head. The head at its upper side is provided with flanges 11, which are arranged at right angles to each other and are designed to receive two edges

of a block 12, having an enlarged opening through which the spindle 4 freely passes. When this block 12 is in position, it is secured by means of an angular flanged locking device 13, which is attached to the head by means of screws passing through openings in lugs 14 on said locking device and engaging in tapped holes in the head.

The cutting and clearing blades are inserted in the channels in the head from one end, and they are secured by a locking-plate 15, attached to the head by means of screws. By this arrangement different forms of cutting devices may be placed in the head, and by making the head removable from the block 12 different forms or sizes of heads may be attached thereto.

Engaging with the threaded portion 16 of the spindle is a collar 17, which at its lower end is recessed to receive the conical portion of the block 12, as clearly indicated in Fig. 5, thus permitting a free movement of the block in said recessed portion.

In the operation the spindle 4 is to be engaged with the chuck of a lathe or other turning device and the frame 1 held stationary. As the spindle is rotated a rocking motion will be imparted to the head, so that a square or rectangular hole may be formed in the wood or the like. The spindle is prevented from longitudinal movement with relation to the frame by means of lugs 18 on said spindle which engage with the inner side of the cross-bar 2.

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

1. A boring-tool comprising a frame, a head having rocking connection therewith, said head being provided with a rectangular recess, a spindle having a bearing in the frame and also having its end arranged at an obtuse angle for engaging in said recess, and cutters carried by the head.

2. A boring-tool comprising a frame, a head having rocking connection therewith, channels formed longitudinally in the head, cutting-blades engaging in certain of the channels, toothed blades engaging in the other channels, and a rotary spindle for imparting rocking movement to the head.

3. A boring-tool comprising a frame, a transversely-curved head having rocking connection with the frame, the said head having a rectangular recess, a spindle having a bearing in the head and provided with an

obtuse-angle end engaging in said recess, a block having an opening through which the spindle freely passes, and means for removably engaging said block with the head.

- 5 4. A boring-tool comprising a frame, a head having rocking connection therewith, means for rocking the head the said head having inwardly-extended flanges at right angles to each other and on two sides of the head, a  
10 locking-flange for removably engaging with the head, a block with which the several flanges engage, said block having an opening,

a spindle passing through the opening of said block and into the head, a cap having screw-thread engagement with the spindle and engaging over said block, and cutting devices  
15 carried by the head.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARA SMITH.

Witnesses:

LOREN R. CARTER,  
ADA M. FROST.