

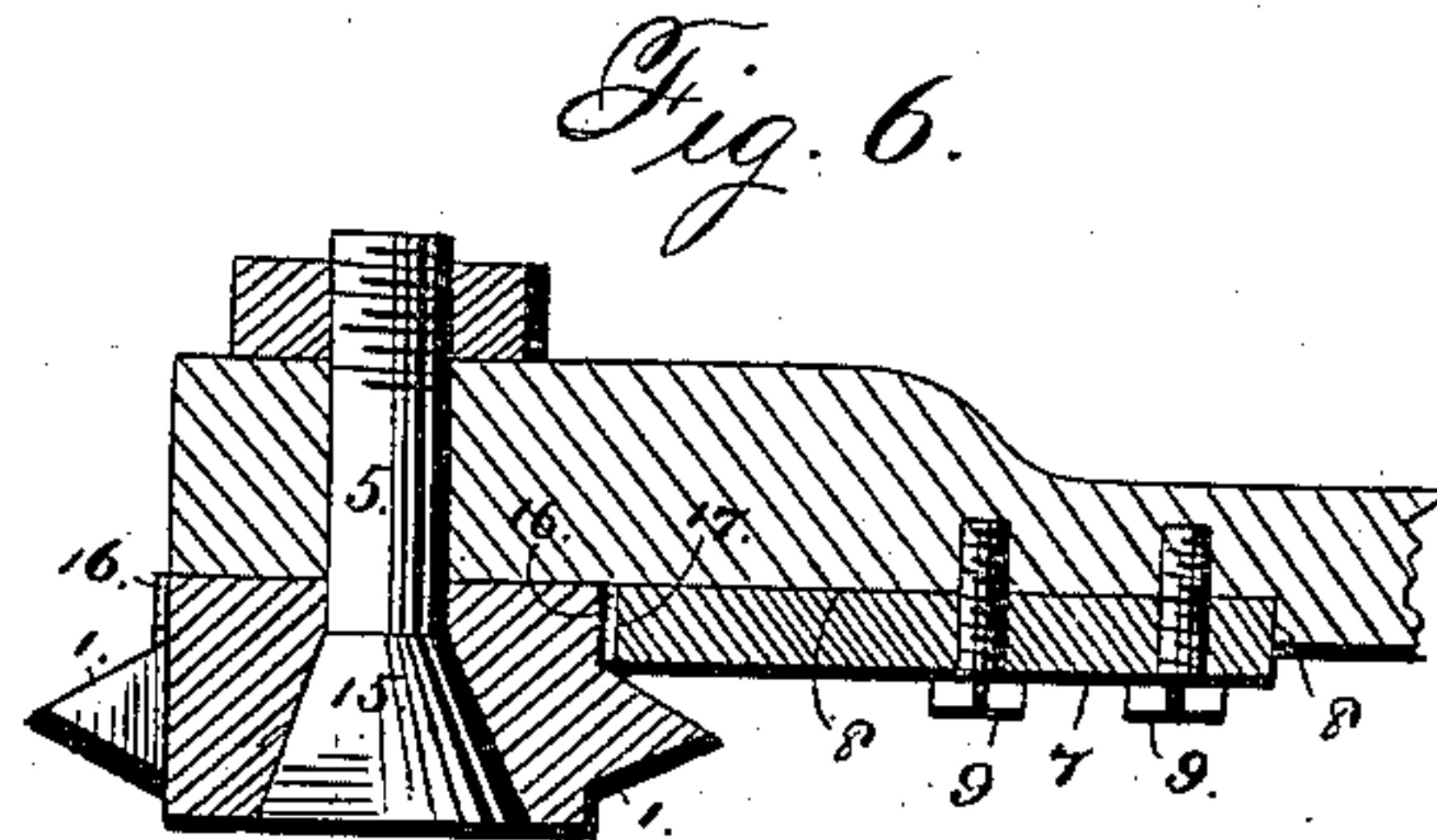
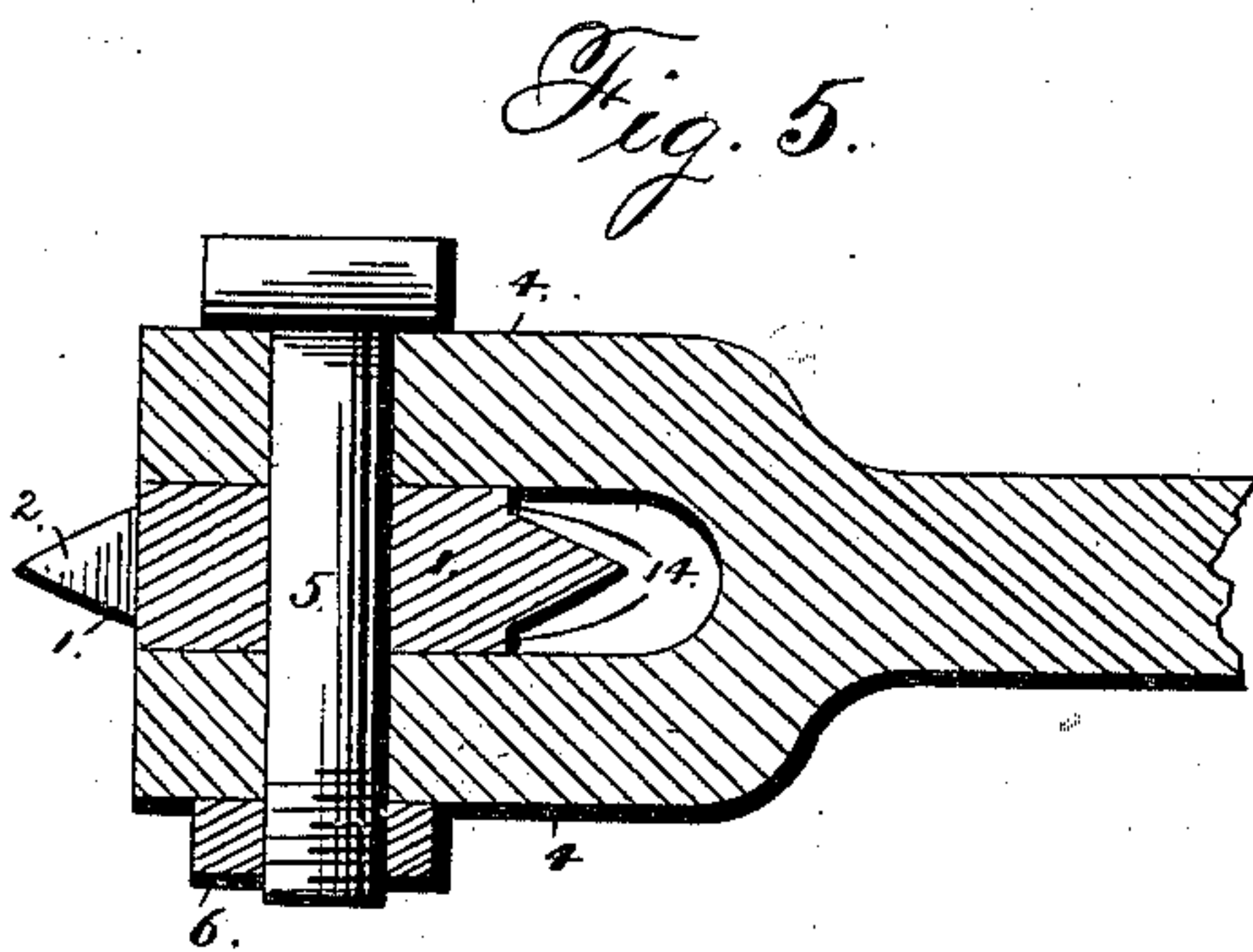
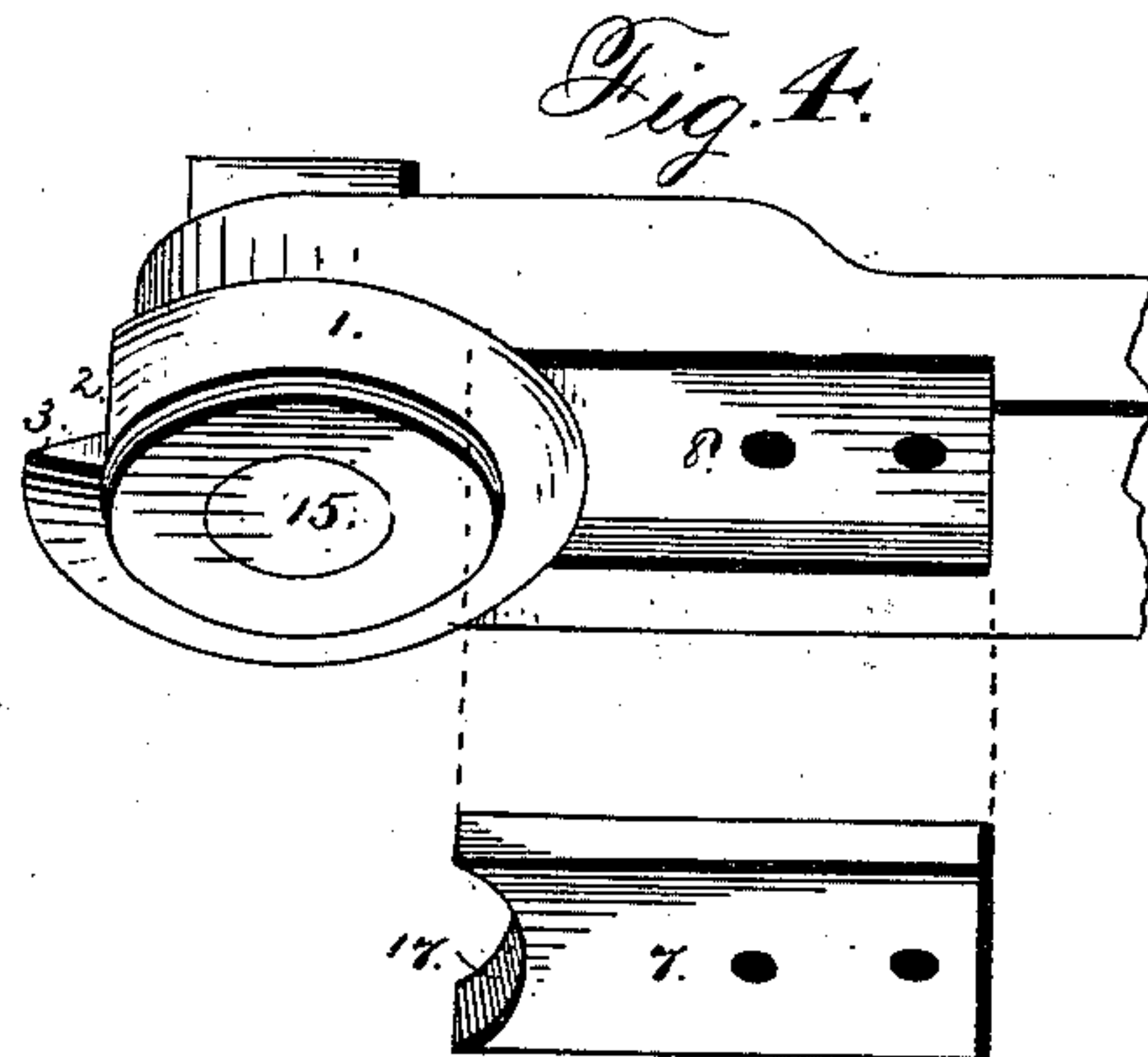
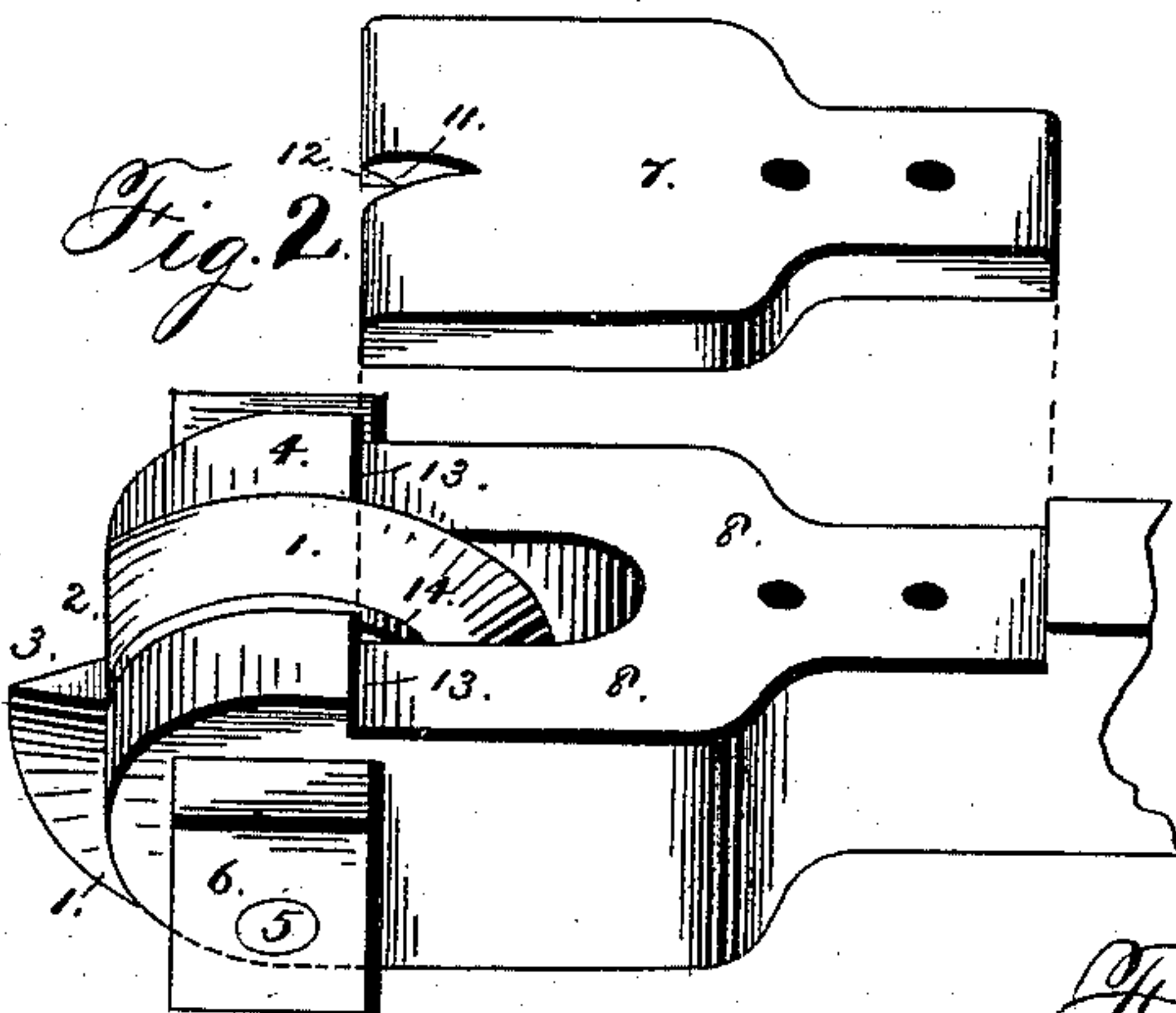
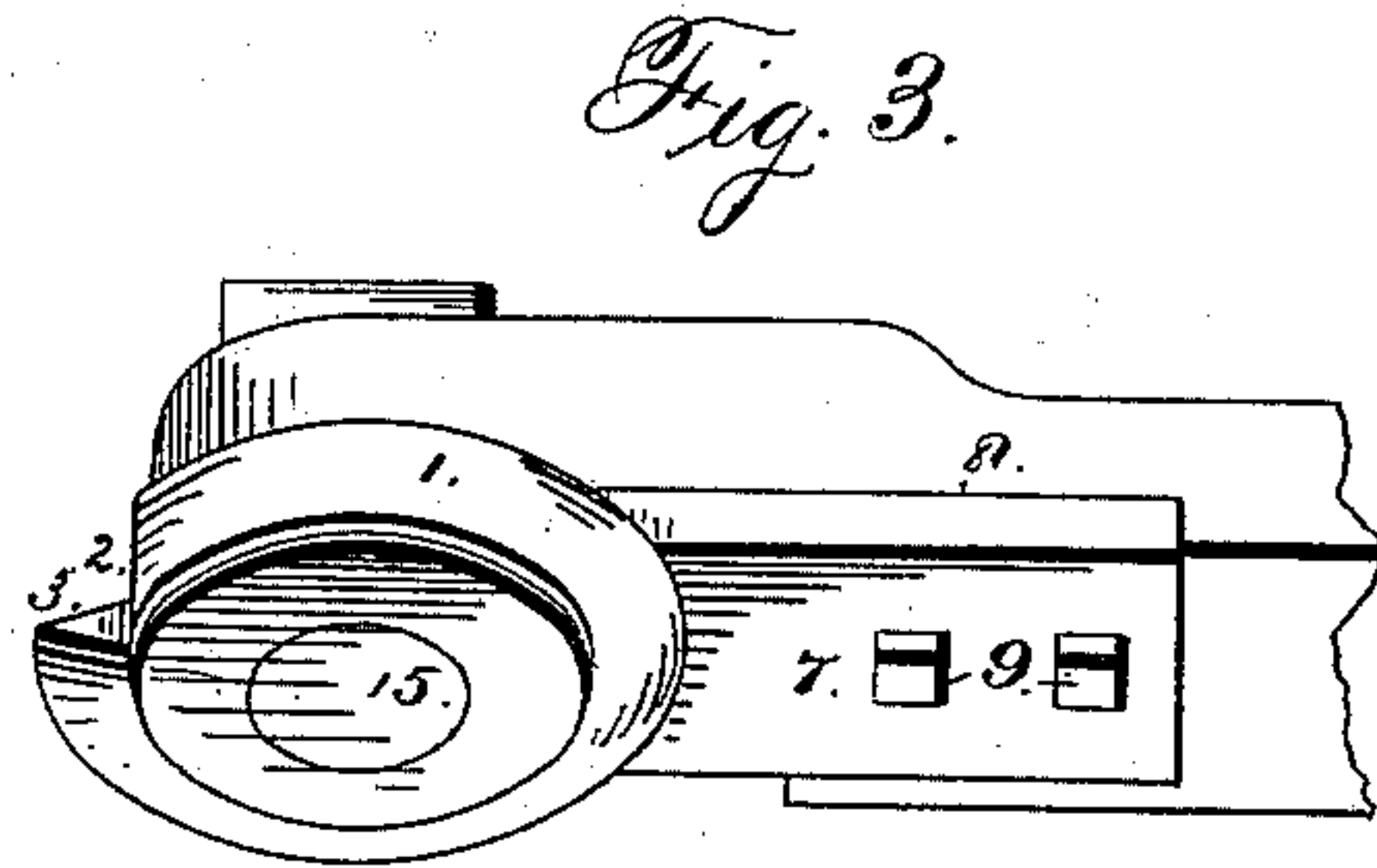
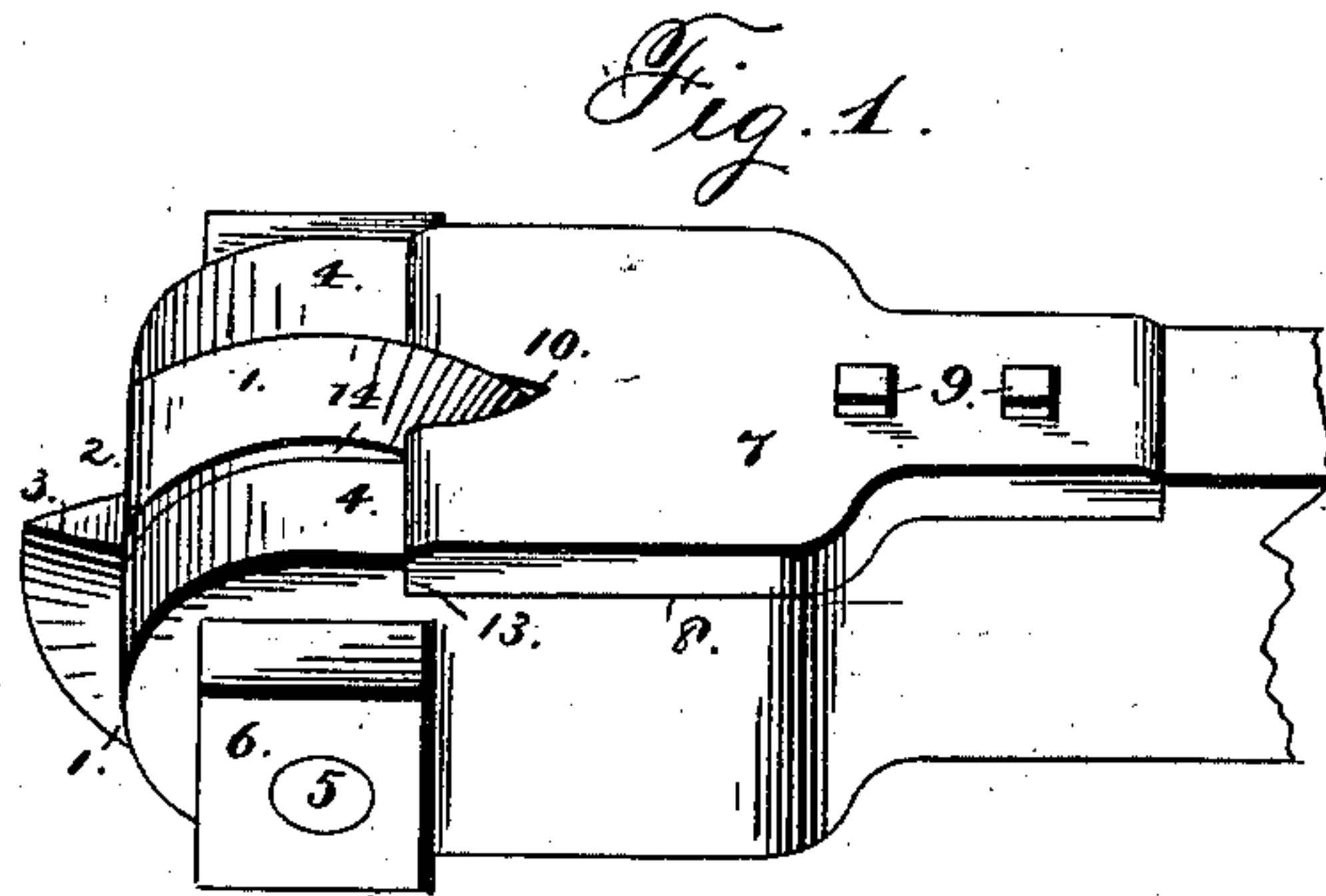
(No Model.)

J. W. DOUGLAS.

CUTTER AND HOLDER FOR LATHES, &c.

No. 280,147.

Patented June 26, 1883.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH W. DOUGLAS, OF MIDDLETOWN, CONNECTICUT.

CUTTER AND HOLDER FOR LATHES, &c.

SPECIFICATION forming part of Letters Patent No. 280,147, dated June 26, 1883.

Application filed March 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. DOUGLAS, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented new and useful Improvements in Cutters and Holders for Lathes, Planers, and Similar Machines, of which the following is a specification.

This invention relates to improvements in circular notched cutters for planers, lathes, and similar machines, and has for its objects to provide novel and efficient means for retaining the circular cutter in a fixed position on its holding or carrying bar, whereby the cutting-bit formed by the notch in the cutter will be substantially held in the same relative position while acting on the revolving or moving work, and to provide means whereby the peripheral portion of the cutter is supported against lateral movements with reference to its holding-bar.

The objects of my invention I accomplish by attaching the circular cutter to its holding-bar through the medium of a screw-threaded bolt and a nut, combined with a plate secured to the holding-bar, and having one end resting in frictional contact with the peripheral portion of the cutter for the purpose of creating such a frictional contact between the opposing faces of the peripheral portions of the circular cutter and the plate as will effectually prevent rotation or movement of the cutter, unless intentionally adjusted, when such becomes necessary, owing to wear.

The invention also consists of certain other features of construction and combination, which are hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of a cutter embodying my invention; Fig. 2, a similar view with the plate detached; Fig. 3, a perspective view of the cutter, showing a modification of my invention; Fig. 4, a view similar to Fig. 3, with the plate detached; Fig. 5, a transverse sectional view through the center of the cutter shown in Figs. 1 and 2; Fig. 6, a transverse sectional view through the center of the cutter as shown in Figs. 3 and 4; and Fig. 7, a detached view of the cutter shown in Figs. 3, 4, and 6.

The circular cutter No. 1 is provided with

a transverse notch or recess, 2, to form the cutting-bit 3, and the periphery of the cutter is constructed to produce any form of cut that may be desired—such, for example, as the threads to form screw-threads, or with a single annularly-projecting cutter to form a groove or slot, or with a cutting-face to shave, plane, or turn.

Referring to Figs. 1 and 2, the holding-bar is bifurcated at one end to form two arms, 4 4, between which the circular cutter is arranged, being supported by a bolt, 5, passing through the arms and cutter, and provided with a screw-threaded end to receive a nut, 6. By these means the circular cutter is supported in position; but it has been found necessary to provide simple and efficient means for effectually holding the cutter against rotation or movement, and this I accomplish through the medium of a flat plate, 7, one end of which is secured in a seat, 8, in the holding-bar by screws 9 or otherwise, the other or free end of the plate having a central notch, 10, at the side edges of which are the inclined bearings 11 and vertical shoulders 12. The free end of the plate rests against the abutments 13 of the holding-bar, which are formed by cutting the latter away to create the seat 8, while the inclined bearings 11 rest upon annular shoulders 14, formed, respectively, at opposite sides of the cutter, and the vertical shoulders 12 overlap and bear against the sides of the said annular shoulders. When the plate is tightly seated and held by its attaching-screws, the bearings 11 are firmly clamped upon the peripheral portions of the cutter—that is, upon the annular shoulders 14—and therefore create such a frictional contact between the opposing faces as to effectually prevent the cutter from rotation, so that the cutting-bit is held in a fixed relative position when acting on the revolving or moving work. The vertical shoulders 12 of the plate, resting directly against the opposite sides of the cutter, serve to prevent lateral movements thereof with respect to the holding-arm.

In the modification shown in Figs. 3, 4, and 6 the holding-bar is not bifurcated; but the circular cutter is supported at one side thereof by means of a bolt, 5, having a conical head, 15, which fits a conical aperture, 16, formed through the center of the cutter, the threaded

end of the bolt passing through a perforation in the holding-bar to receive a nut, 6, by which the bolt is caused to secure the cutter in place. In this construction the conical portions 15 and 16, to a certain extent, prevent the rotation of the cutter on the bolt; but to effectually prevent any movement of the cutter and bolt the plate 7 is secured in a seat, 8, in one side of the holding-bar by means of screws 9 or otherwise, and the free end of the plate is semicircular, and roughened, as at 17, and bears against an extended peripheral portion of the side of the cutter, which extended portion is also roughened, as at 16.

15 It will of course be understood that the free end of the plate shown in Figs. 1, 2, and 5 will be made to conform to the form imparted to the periphery of the cutter for producing various styles of cutting-edges, it only being essential for the end of the plate to bear on some peripheral part of the cutter, and to be held in frictional contact therewith to resist the tendency of the cutter to rotate when acting on the revolving work.

25 Having thus described my invention, what I claim is—

1. The combination, with a circular notched cutter and its holding-bar, of an attached friction-plate having one end arranged to rest in frictional contact with a peripheral portion of the cutter, substantially as described. 30

2. The combination, with a circular notched cutter and its holding-bar, of a plate having one end resting in frictional contact with a peripheral portion of the cutter, and means for clamping the plate to the holding-bar, substantially as described. 35

3. The combination, with a circular notched cutter, a holding-bar, and a bolt for connecting the cutter and bar, of a plate secured to the bar, and having one edge resting in frictional contact with a part of the cutter, substantially as described. 40

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 45

JOSEPH W. DOUGLAS.

Witnesses:

JOHN N. CAMP,

E. G. CAMP.