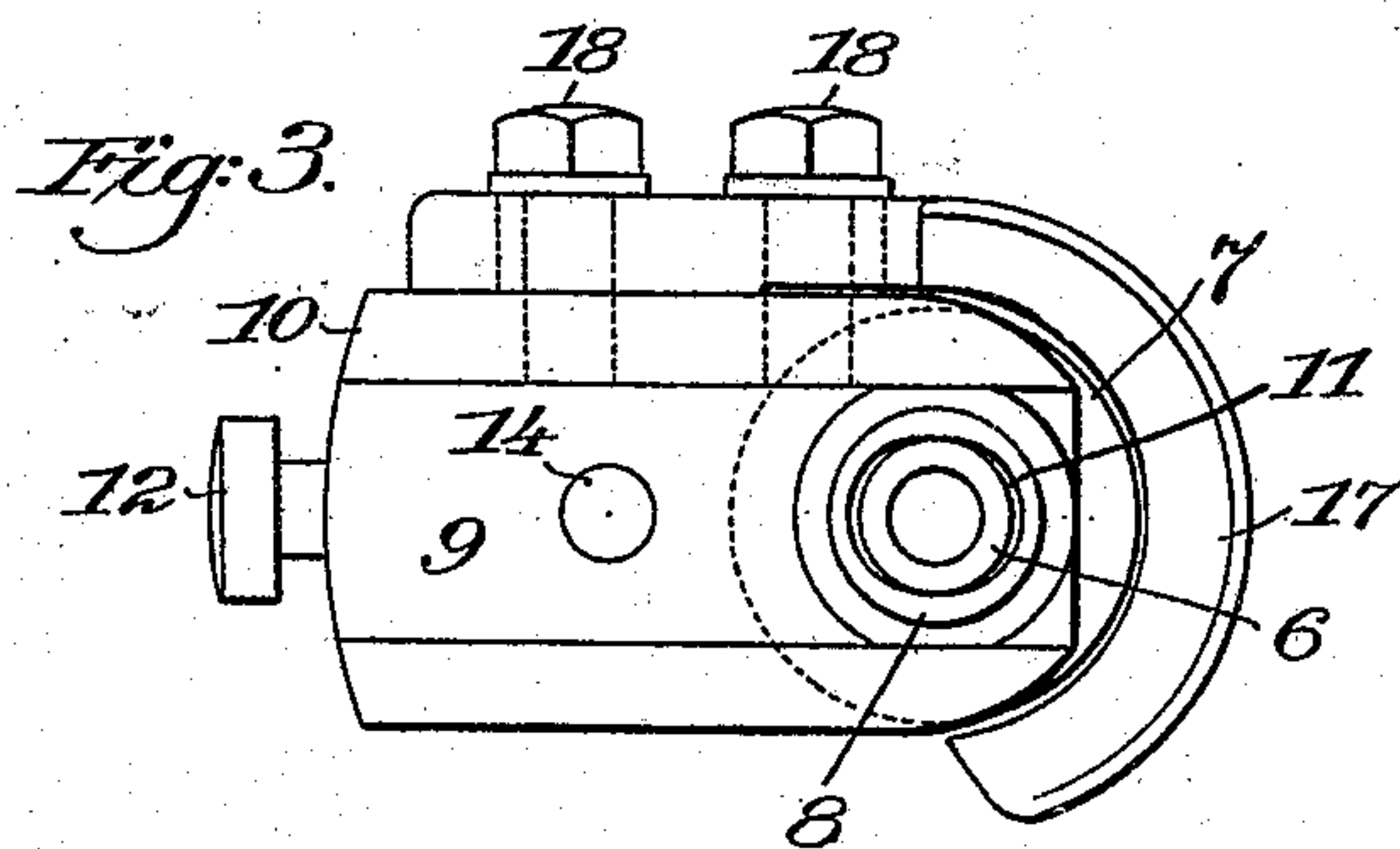
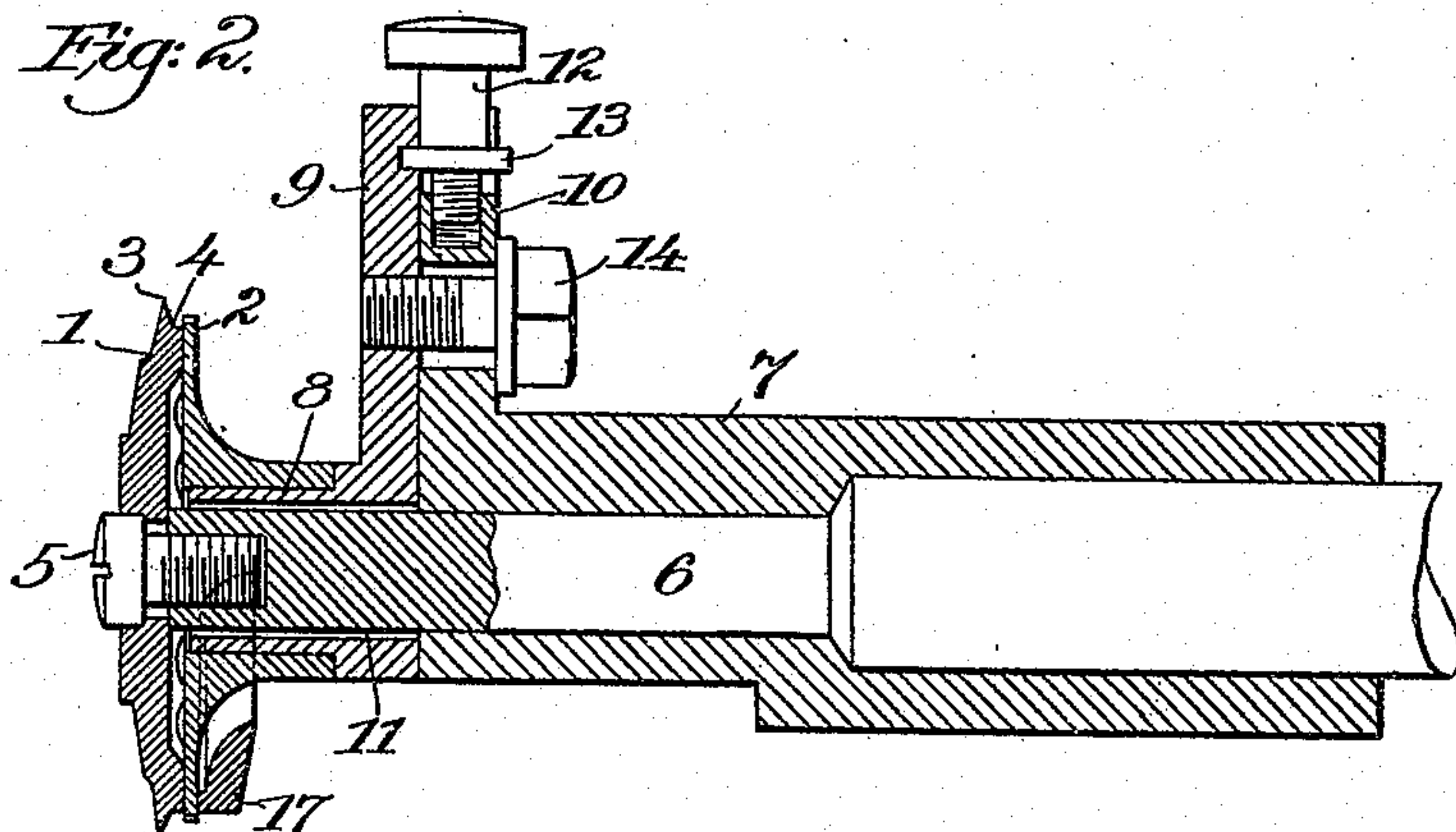
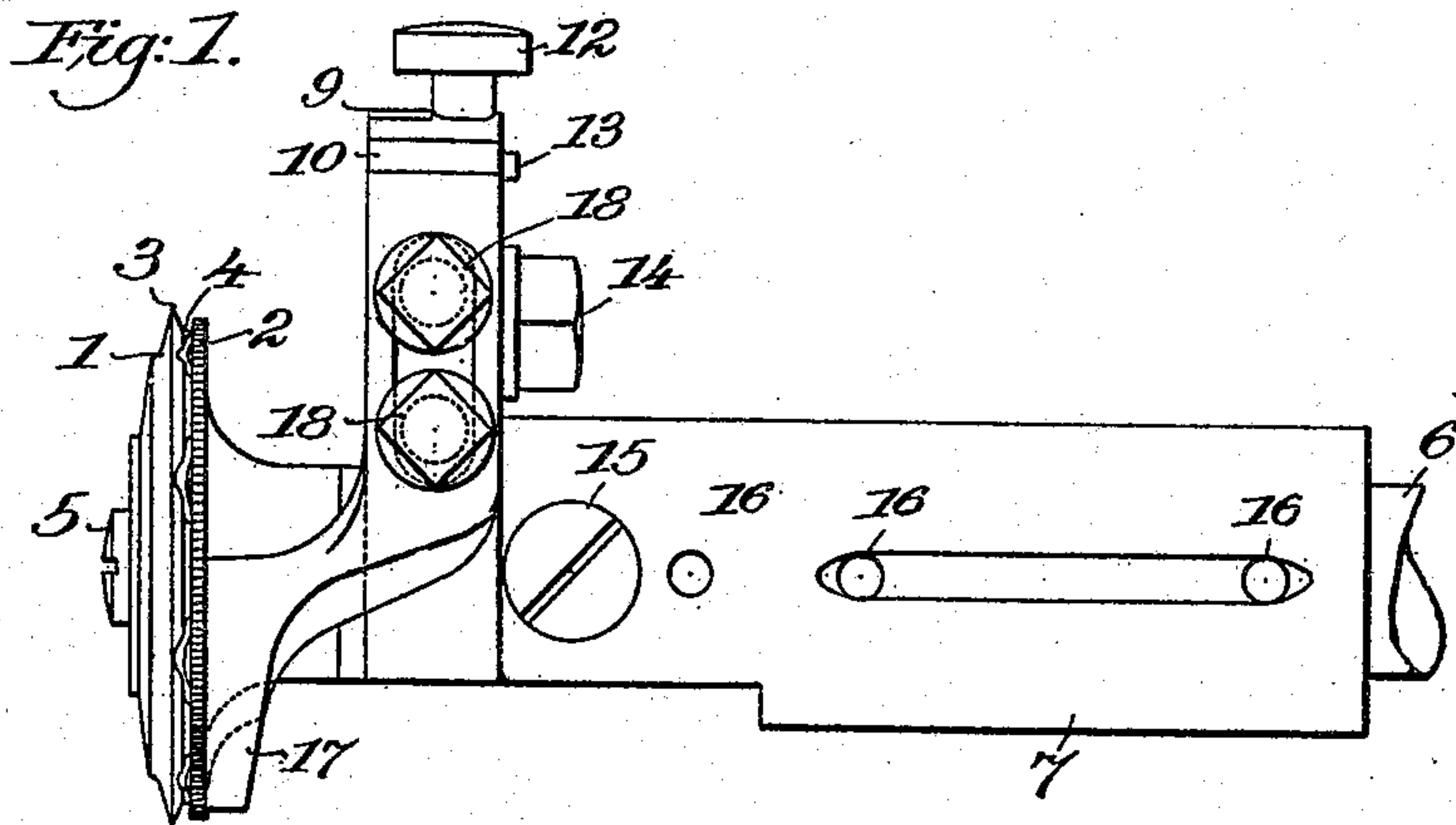


F. H. WARREN.
HEEL INDENTING MACHINE.
APPLICATION FILED SEPT. 6, 1901.

930,510.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.

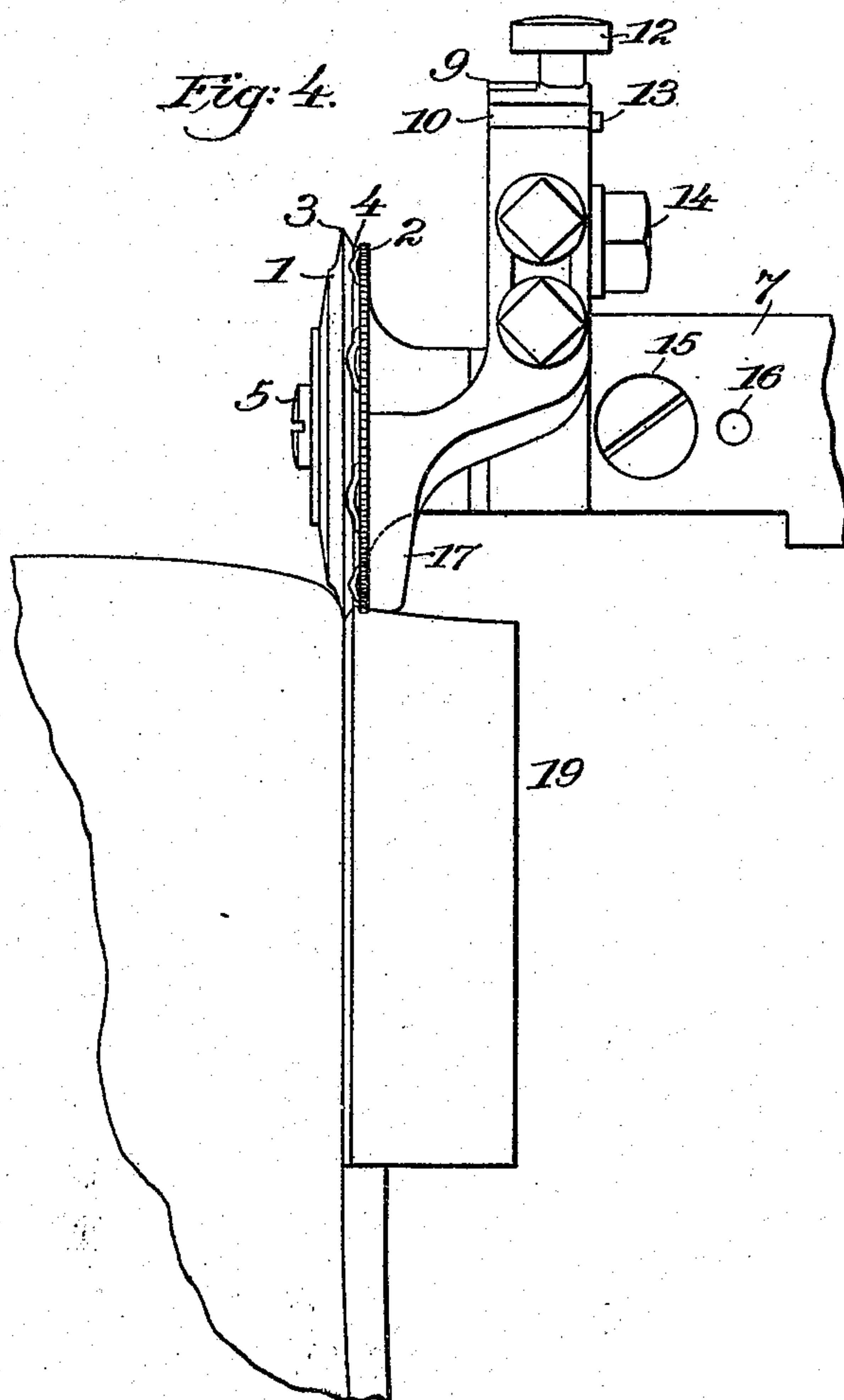


Witnesses:
John F. C. Prinkler
Fred C. Fish

Inventor:
Frank H. Warren
by his Attorney
Benjamin Phillips

930,510.

2 SHEETS—SHEET 2.



Inventor:
Frank H. Warren
by his attorney
Benjamin Phelps

UNITED STATES PATENT OFFICE.

FRANK H. WARREN, OF LYNN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

HEEL-INDENTING MACHINE.

No. 930,510.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed September 6, 1901. Serial No. 74,483.

To all whom it may concern:

Be it known that I, FRANK H. WARREN, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Heel-Indenting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to heel indenting machines which comprise a rotary indenting tool arranged to form a line of indentations in the edge of the heel a short distance below the upper. In machines of this class it is desirable to provide a heel rest arranged to bear against the edge of the heel below the indenting tool against which the heel can be pressed by the operator and thereby readily maintained in a position to cause the tool to act properly upon the heel. When such a heel rest is not provided difficulty is experienced in manipulating the shoe to bring the surface of the edge of the heel into the proper position with relation to the working surface of the tool and imperfect results are often produced. The heel rest heretofore employed in this class of machines has been made integral with the indenting tool. This construction besides being expensive is objectionable for the reason that the indenting tool can be used to make indentations of one depth only. As the depth of the indentations varies in different styles and sizes of shoes a tool for each depth must be kept on hand as well as a tool for each size or shape of indentation.

The object of the present invention is to produce a machine of the class referred to provided with a heel rest in which a tool of simple inexpensive construction can be employed.

A further object of the invention is to produce such a machine in which the same tool can be used to produce indentations of any desired depth.

With these objects in view my invention consists in providing a heel indenting machine comprising a rotary indenting tool with a separate heel rest arranged to bear against the edge of the heel adjacent to the

indenting tool. By providing such a heel rest I am enabled to do away with the expensive indenting tool with its integral heel rest and substitute therefor a simple toothed disk.

My invention also consists in providing a heel indenting machine comprising a rotary indenting tool with a heel rest arranged to bear against the edge of the heel adjacent to the indenting tool and with means for adjusting the heel rest transversely to the axis of the tool. I am thus enabled to utilize the same tool in producing indentations of different depths and thereby materially reduce the number of indenting tools which must be kept on hand.

A preferred form of my invention is illustrated in the accompanying drawings as embodied in a heel indenting machine of the type disclosed in the patent to Joshua H. Ryder No. 388,790 dated Aug. 28, 1888. Machines of this type are provided with a rotary beading tool in addition to the rotary indenting tool whereby the heel beading and indenting operations can be performed simultaneously. While however my invention is particularly applicable to this type of machine, it is to be understood that it is not limited thereto, but may be embodied in other forms of heel indenting machines.

In the drawings, Figure 1 is a plan view of so much of a heel indenting machine embodying my invention as is necessary to show the construction and mode of operation thereof; Fig. 2 is a sectional plan view of the parts shown in Fig. 1; Fig. 3 is an end view of the parts shown in Fig. 1 with the beading and indenting tools removed, and Fig. 4 is a view similar to Fig. 1 illustrating the manner in which the heel of a shoe is acted upon by the tools and heel rest.

Referring to the drawings in which like characters of reference indicate like parts, 1 indicates the beading tool and 2 the indenting tool. The beading tool consists of a disk provided with a flange 3 which enters the crease between the upper and the heel and with a work engaging surface 4. The inner face of the disk, that is, the face next to the indenting tool is provided with a central recess and with radial grooves which extend

nearly to the edge of the flange 3 and thus interrupt the work engaging surface 4 and inner surface of flange 3. The tool 1 is secured by means of a headed screw 5 to the reduced outer end of a shaft 6 which is positively driven by any suitable means. The shaft 6 is journaled in a cylindrical block 7 which is clamped in the frame of the machine by any suitable means.

The indenting tool consists of a thin disk provided with a hub extending laterally from the face of the disk opposite the beading tool. The indenting tool is provided upon its periphery or work engaging surface with a series of teeth which are adapted to form a line of indentations in the surface of the edge of the heel below the portion acted upon by the beading tool and is journaled by means of its laterally extending hub so as to rotate freely upon a bearing sleeve 8 through which the shaft 6 passes. The bearing sleeve 8 projects from a slide 9 mounted in suitable guideways formed in the end of the block 7 and in a projection 10 extending laterally therefrom. The shaft 6 also extends through the slide 9 and the opening in the sleeve 8 and the slide 9 is in the form of an oblong slot 11 to allow the slide 9 and sleeve 8 to be adjusted transversely of the shaft.

The slide 9 is adjusted by means of a screw 12 screwing into the end of the projection 10 and provided with a flange 13 which engages a slot or groove in the outer end of the slide 9. A headed screw 14 passing through a slot in the projection 10 and screwing into the slide 9 serves as a means for locking the slide in its adjusted position. By adjusting the slide 9 and the bearing sleeve 8 by the mechanism above described the work engaging surface of the indenting tool can be caused to extend more or less beyond the work engaging surface of the beading tool and thereby the depth of the indentations with relation to the surface acted upon by the beading tool may be varied as desired, and also the wearing away of the work engaging surfaces of the beading tool can be compensated for.

15 designates a screw passing through the block 7 and bearing against the shaft 6 or upon a friction pad interposed between the shaft and the screw, the adjustment of the screw being such that the screw or the interposed pad presses against the shaft with sufficient friction to heat the shaft and the beading and indenting tools. 16 designates oil holes through which the shaft 6 is lubricated.

The indenting tool shown in the drawings consists simply of a thin disk provided with a laterally extended hub. The working surface of this disk affords no substantial support for the surface of the heel when brought into contact therewith and when it is at-

tempted to use such a tool difficulty is experienced in maintaining the surface of the edge of the heel in the proper position to be acted upon by the tool. To enable this form of tool to be used satisfactorily, I provide a heel rest which is arranged to bear against the edge of the heel below the indenting tool and substantially in alignment with the indenting wheel transversely of the direction in which the surface of the heel is fed. This heel rest is separate from the indenting tool and is provided with means of adjustment whereby it can be adjusted transversely to the axis of the indenting tool to cause the teeth of the indenting tool to project more or less beyond the heel rest and produce indentations of any desired depth. Preferably the work engaging surface of the heel rest is curved substantially concentric with the axis of the indenting tool and is arranged to bear against the edge of the heel in close proximity to the indenting tool. In the drawings this heel rest is indicated at 17 and consists of a curved portion surrounding the hub of the indenting tool and in close proximity or in contact with the face of the tool. The curved portion is connected by a laterally extending portion to a shank which is adjustably mounted upon the upper surface of the projection 10 of the block 7 by means of headed screws 18 passing through a slot in the shank and screwing into the projection 10.

The manner in which the heel rest acts to support and guide the heel of a shoe will be obvious from an inspection of Fig. 4 in which it will be seen that the heel rest bears against the edge of the heel 19 below and in close proximity to the indenting tool and forms a substantial support for maintaining the surface of the heel in proper position with relation to the working surfaces of the tools.

Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States:—

1. A heel indenting machine, having, in combination, a rotary indenting tool, a heel rest arranged to bear against the edge of the heel adjacent to and in substantial alignment with the indenting tool transversely of the direction of feed and means for adjusting the heel rest transversely to the axis of the tool, substantially as described.
2. A heel indenting machine, having, in combination, a rotary indenting tool, a separate heel rest secured to a stationary part of the machine provided with a curved surface substantially concentric with the axis of the indenting tool arranged to bear against the edge of the heel below and in close proximity to the indenting tool and means for adjusting the heel rest transversely to the axis of the tool, substantially as described.
3. A heel indenting machine, having, in

combination, a rotary indenting tool and a
separate rest secured to a stationary part of
the machine and arranged to bear against
the edge of the heel adjacent to and in sub-
stantial alinement with the indenting tool
5 transversely of the direction of feed, sub-
stantially as described.

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

FRANK H. WARREN.

Witnesses:

FRED O. FISH,

ALFRED H. HILDRETH.