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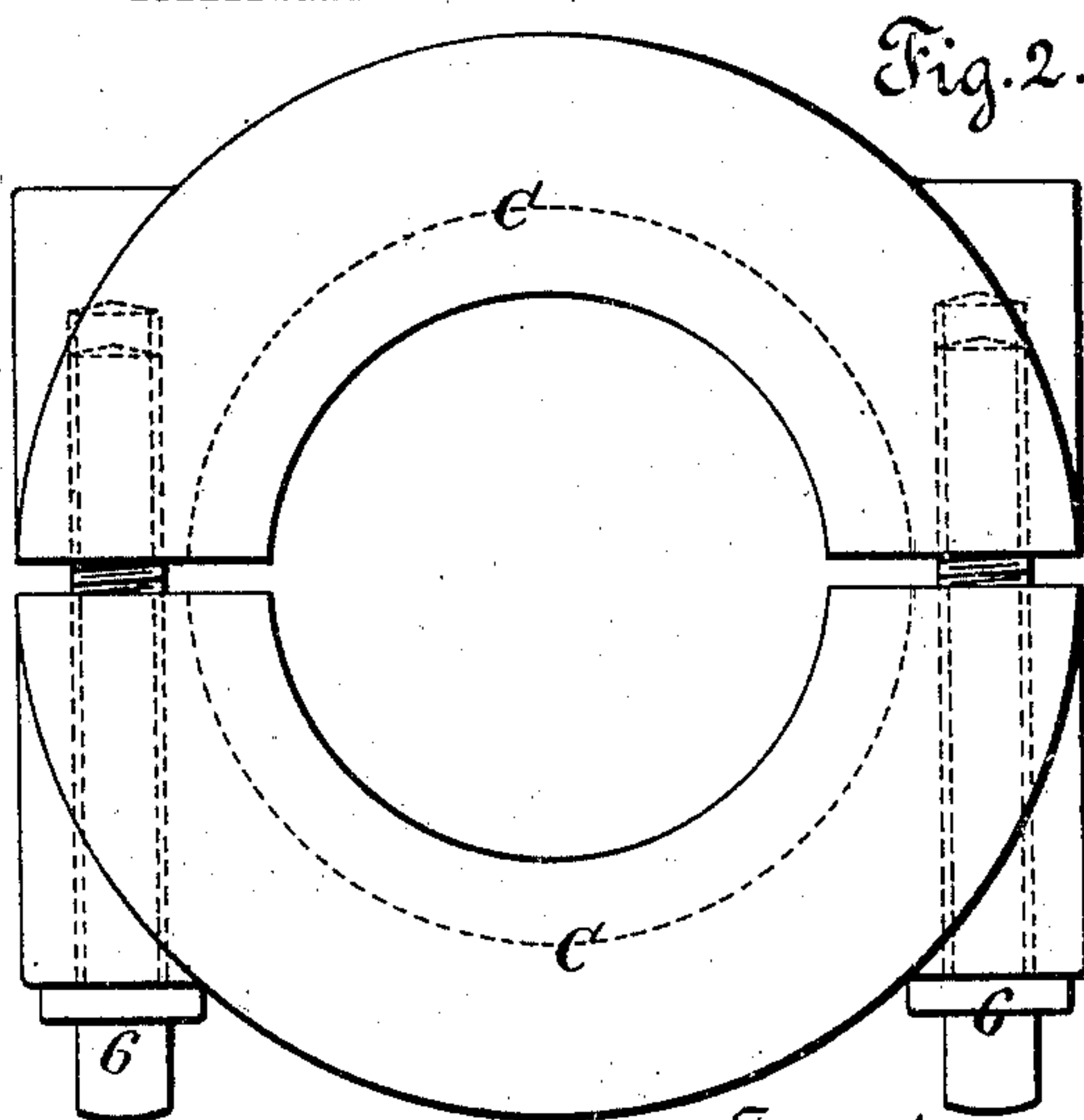
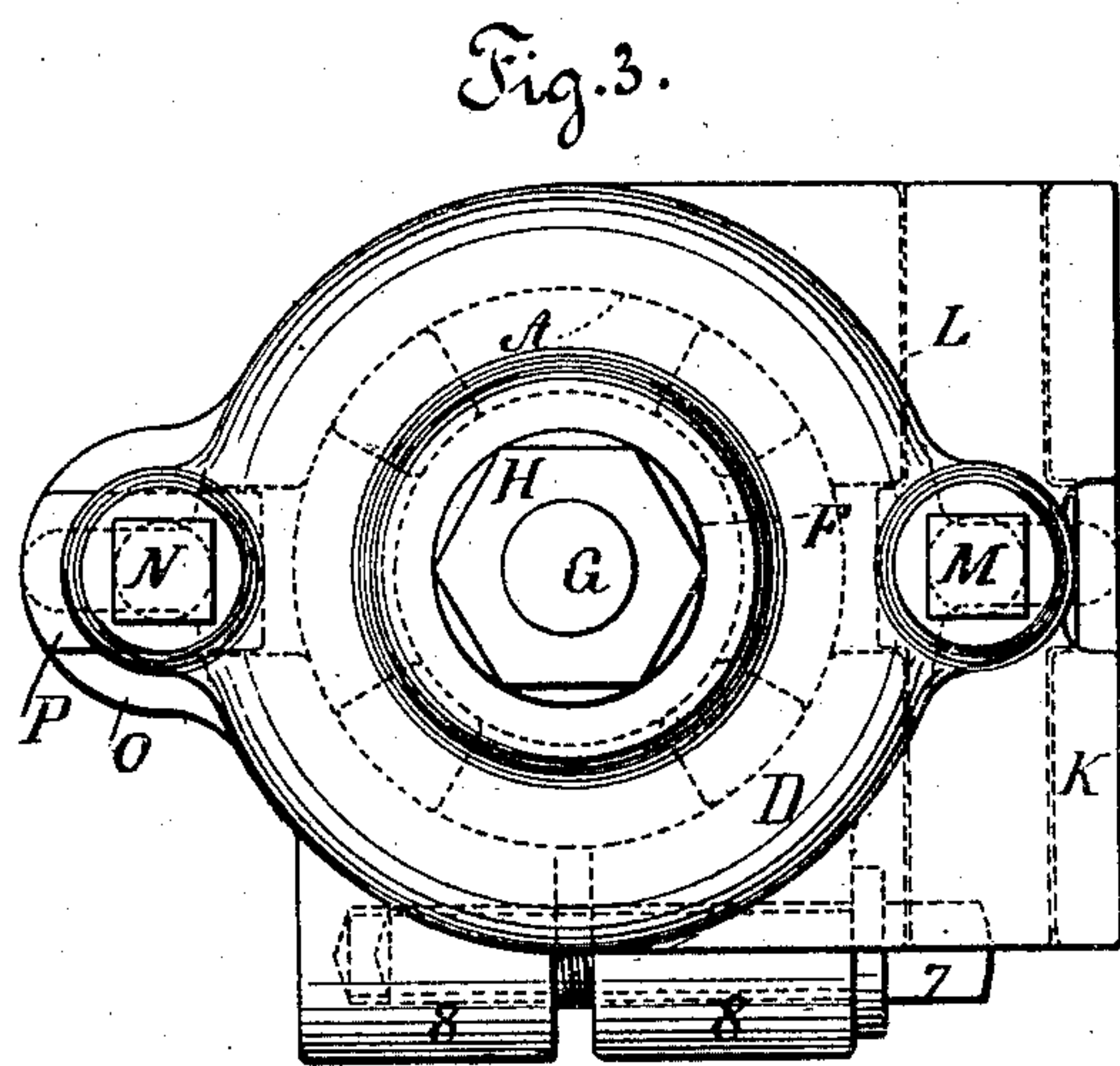
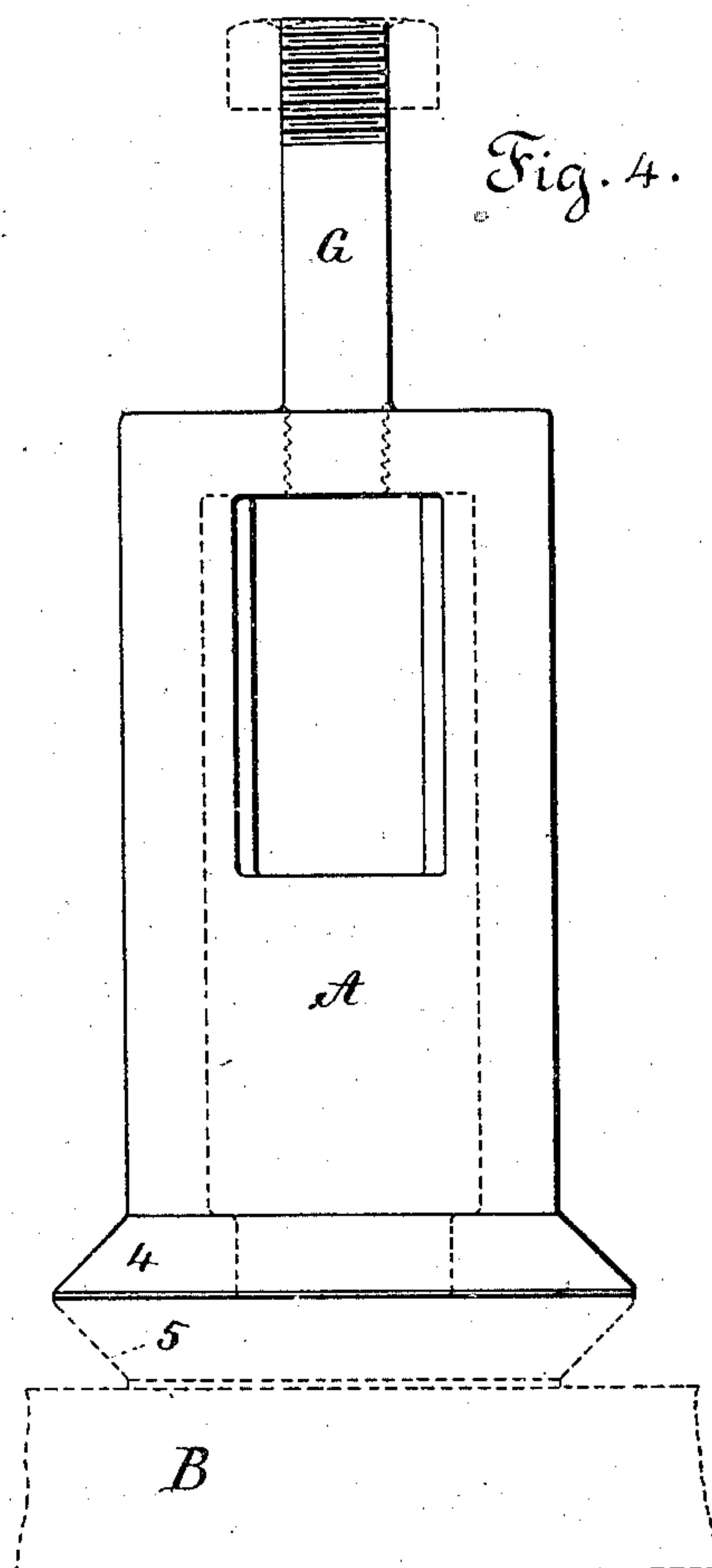
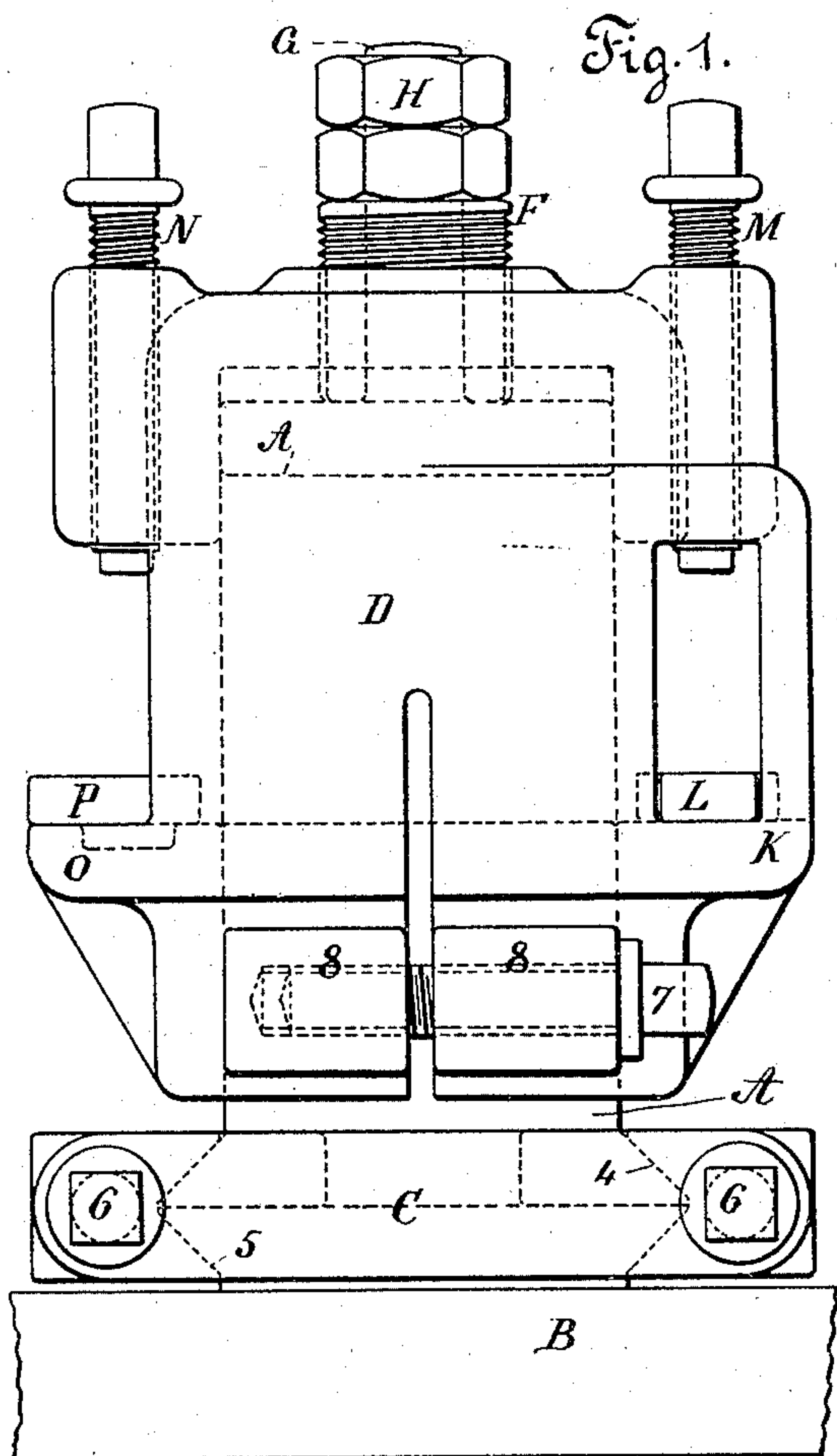
2 Sheets—Sheet 1.

J. L. BOGERT.

TOOL HOLDER FOR LATHES.

No. 368,749.

Patented Aug. 23, 1887.



Witnesses:
J. Staib
Chas. H. Smith

Inventor:
John L. Bogert
per Lemuel W. Serrell atty.

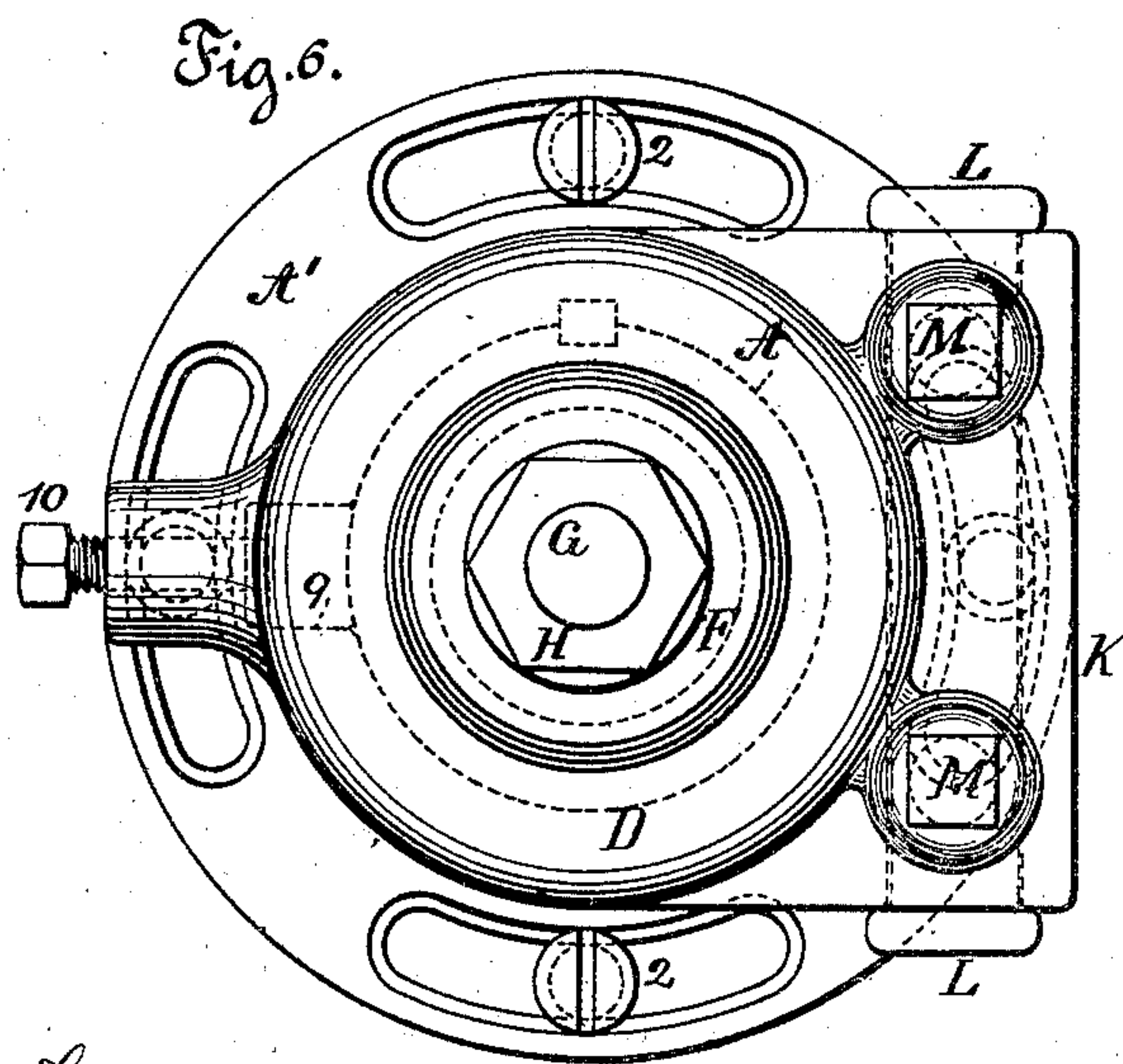
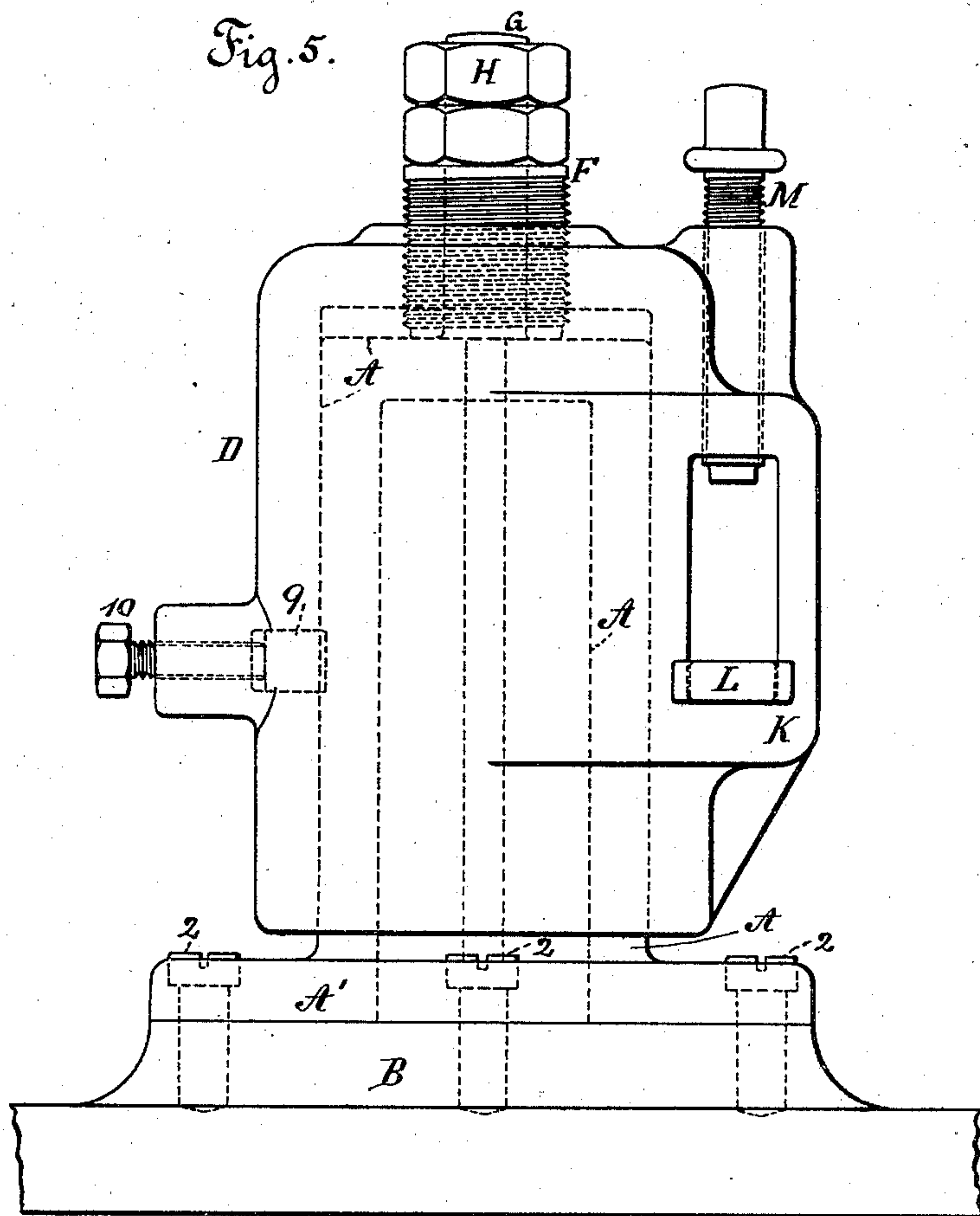
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN L. BOGERT, OF FLUSHING, NEW YORK.

TOOL-HOLDER FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 368,749, dated August 23, 1887.

Application filed December 22, 1886. Serial No. 222,261. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. BOGERT, of Flushing, in the county of Queens and State of New York, have invented an Improvement in Means for Holding and Adjusting Tools in Lathes, &c., of which the following is a specification.

The object of this invention is to adjust the holder and cutting-tool so that its edge may operate to the best advantage on the material.

In turning-lathes, especially, it is necessary to hold the turning-tool rigidly in the proper position in relation to the axis of rotation, so that the tool may not tremble, but will cut smoothly. After sharpening or grinding the cutting-edges of the tool, the position of the tool requires elevating, in order that the material operated upon may be cut or sheared off with the least amount of resistance. The ver-

ically-adjustable tool-holders heretofore made do not support the tool with sufficient rigidity, and their range of adjustment is very limited. In my present improvements the tool is held upon a rigid bearing, and the parts are constructed so that the tool-holder can be raised or lowered with great accuracy and facility, and the tool can also be turned around into any desired position in relation to the slide-rest of the lathe upon which the tool-holder is supported.

In the elevating tool-posts heretofore devised the elevating and clamping mechanism has operated below the tool. Consequently the bearing-surfaces are limited and the tool is not held rigidly. By my improvements the bearing-surfaces are prolonged upwardly as far as desired and great rigidity is obtained.

In the drawings, Figure 1 is an elevation of the tool-holder complete. Fig. 2 is a plan of the base and split clamp. Fig. 3 is a plan of the tool-holding shell. Fig. 4 is an elevation of the central post. Fig. 5 is an elevation, and Fig. 6 a plan, of a simplified form of my improvement.

The central post, A, is preferably hollow, and it is supported at the bottom upon the slide-rest B, or other portion of the lathe or machine, in any suitable manner, and said central post, A, may have a flange, A', Figs. 5 and 6, with segmental slots, through which the bolts 2 pass for connecting the parts to the slide-rest B and for allowing the post to be

partially turned around, as may become necessary from time to time, in placing the tool in the proper position to the article to be turned; but I prefer to form the bottom of the post A with the conical base 4, and to provide a similar conical head, 5, upon the slide-rest B, and to surround these parts with the divided clamping-ring C, having its inner surface grooved to fit the double cones 4 and 5, and the clamping-screws 6 connect the divided ring C and firmly hold the post A in the position to which it may be turned, and by loosening one of these screws 6 the parts can be easily adjusted from time to time.

The tool-holding shell D is cylindrical, to fit upon the central post, A, and it is firmly clamped thereon by the screw 7, passing through lugs 8, the shell being split between the said lugs, so as to furnish the necessary elasticity; or any other suitable device may be made use of—such, for instance, as a clamping-block, 9, and screw 10, (shown in Figs. 5 and 6,)—and when it is desired to prevent the shell D turning upon the central post, A, a key or feather may be inserted in grooves in the respective parts, so that the shell D can be raised or lowered upon the central post, A, without being revolved thereon. This tool-holding shell D is to be raised or lowered upon the central post, A, by means of a screw, F, which passes down through the top of the shell D and rests upon the top of the post A. By this arrangement the screw which elevates the tool-holder is very easy of access, and can be sufficiently large for obtaining the requisite strength. I prefer to make this screw F tubular, so as to surround the central bolt, G, upon which such nut F turns freely, and at the upper end of this bolt G is a lock-nut, H. It is now to be understood that when this lock-nut H is loosened the screw F can be rotated freely; but after the screw F has been revolved to raise or lower the tool-holding shell D, the nut H, when tightened, holds down both the screw F and the tool-holding shell D, at the same time preventing the screw F becoming loose. The same effect will be produced if the part H is made as a head to the bolt G, and the lower end of this bolt G is made as a screw, going into the top end of the central post, A, as indicated by dotted lines, Fig. 4.

The tool-holding shell D is provided with any suitable support for the tool. I have shown in Figs. 1 and 3 rests or supports in two directions, the support K being at one side of the central post and having the washer or plate L, upon which the tool is supported, and the vertical binding-screw M, for holding the tool down upon the washer L, and the support O, at the opposite side, is provided with the washer or plate P and the binding-screw N, and there is a mortise passing through the tool-holding shell and also through the central post, so that the tool can pass across under both binding-screws M and N and rest upon both washers L and P. In this case the mortise through the central post, A, is to be made flaring in both directions, so as to allow for partially turning the tool-holding shell upon the central stud, and, if desired, there may be two such mortises through the hollow central post, as indicated by the dotted lines in Fig. 3.

The tool-holding devices shown in Figs. 5 and 6 are the same as before described; but there is but one place for receiving the tool—at one side of the central post—the support O, washer P, and binding-screw N being dispensed with.

In place of a feather to prevent the shell turning, the central post may have a prismatic convex surface and the shell fit upon the same.

I do not limit myself to the washer and screws for holding the tool upon the shell, as any suitable mechanism may be used.

A key or wrench may be provided that is adapted to act upon the nut H to loosen the same, and then to be moved down to turn the adjusting-screw F.

I claim as my invention—

1. The combination, with a tool-holding shell and the tool supporting and clamping mechanism upon the same, of a central post over which the tool-holding shell fits accu-

ately, clamping mechanism for clamping the shell around the post, and an adjusting-screw passing through the top of the shell and resting upon the upper end of the post, substantially as set forth.

2. The combination, with the central post, of the tool-holding shell surrounding the same, the tool supporting and clamping devices upon such shell, a tubular screw passing through the shell and resting upon the upper end of the post, and a locking-bolt passing through the screw, substantially as set forth.

3. The central post having a conical base and the conical head on the slide-rest, in combination with the divided ring and clamping-screws and the tool-holding shell and clamping and adjusting screws, substantially as set forth.

4. The tool-holding shell having two bearings for the tool at right angles to each other and the clamping devices connected therewith, in combination with the central post having mortises through the same and the mechanism for clamping and adjusting the tool-holding shell, substantially as set forth.

5. The combination, with a central post, of a tool-holding shell surrounding the same, the clamping device for holding the shell in position upon the central post, and an adjusting-screw at the top of the post acting to raise or lower the tool-holding shell, substantially as specified.

6. The combination of a central post, a tool-holding shell, and mechanism, substantially as set forth, for clamping the parts and adjusting the shell vertically on the posts.

Signed by me this 20th day of December, A. D. 1886.

JOHN L. BOGERT.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.