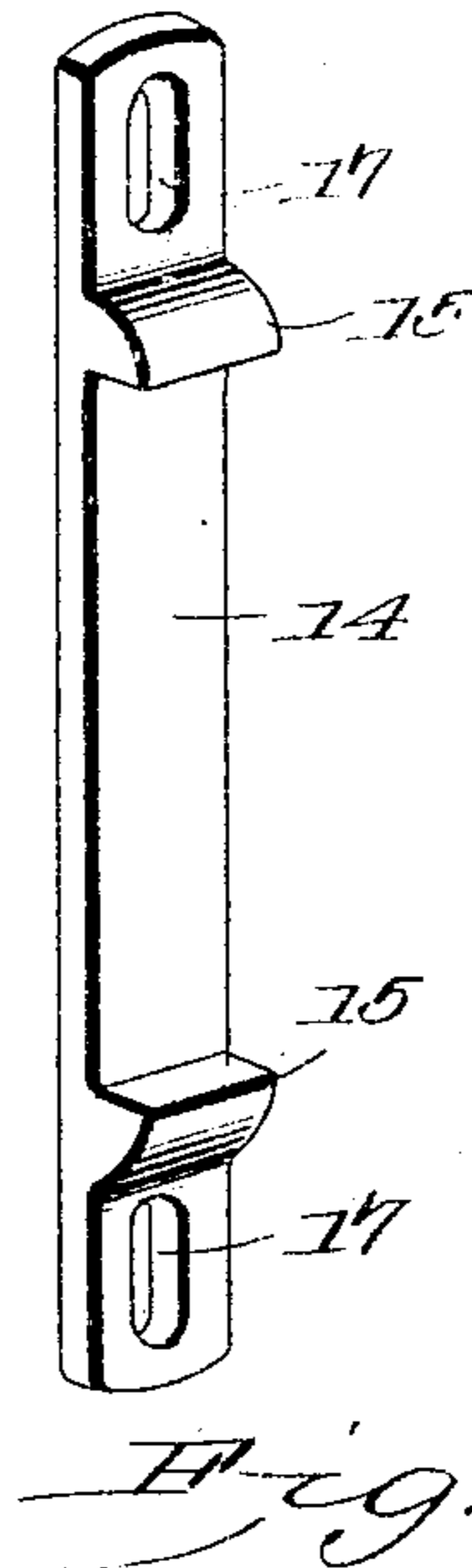
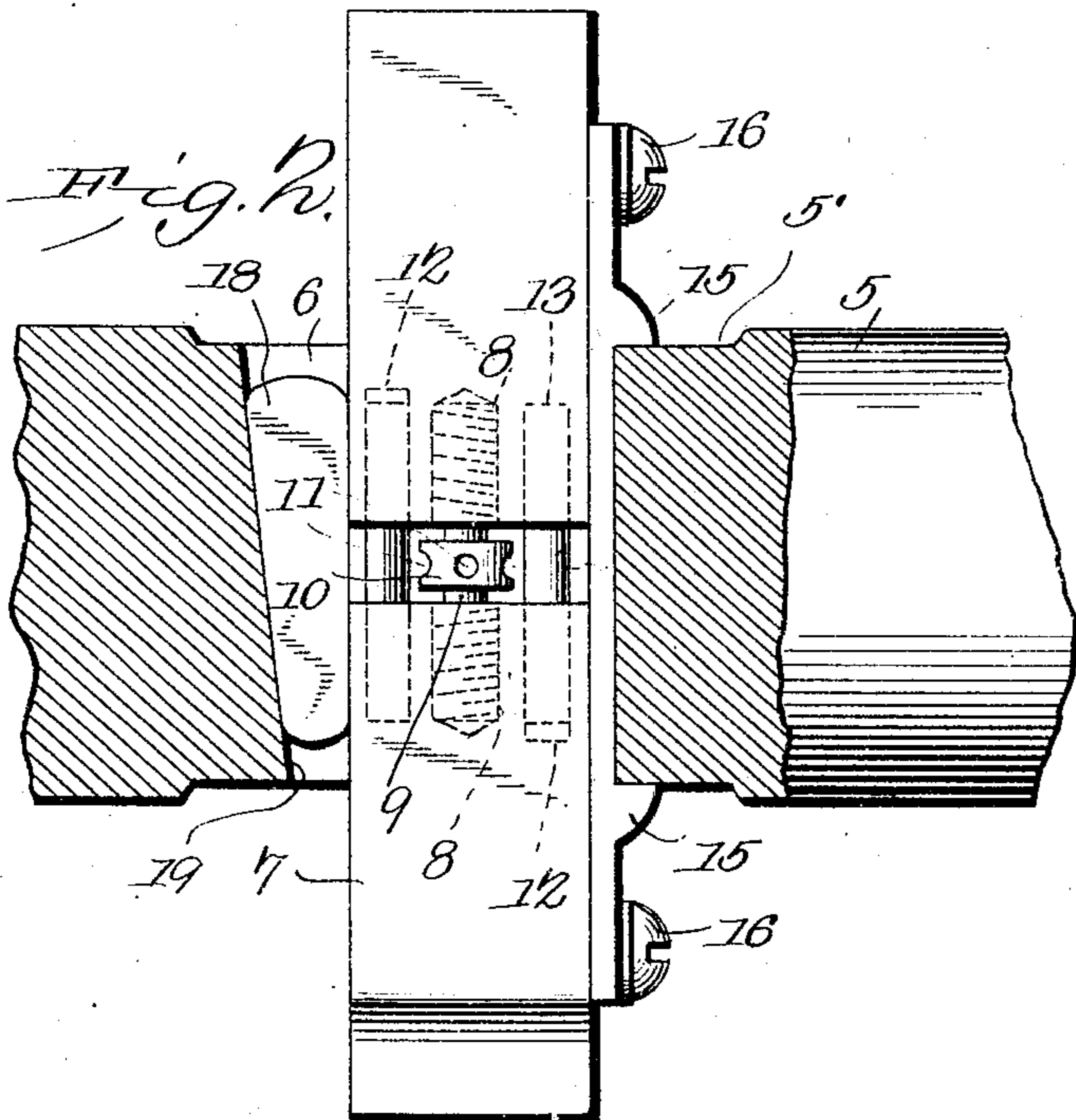
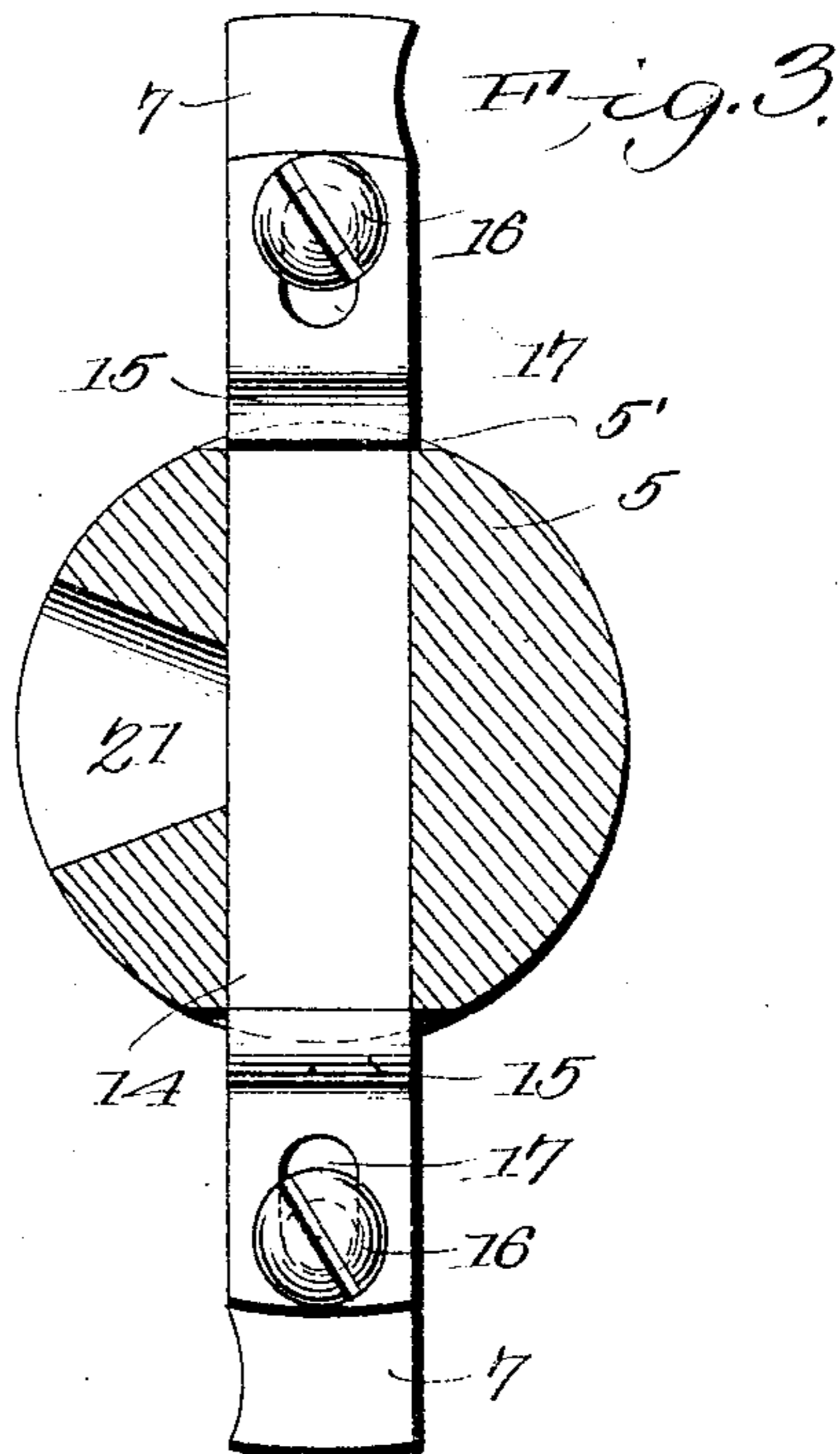
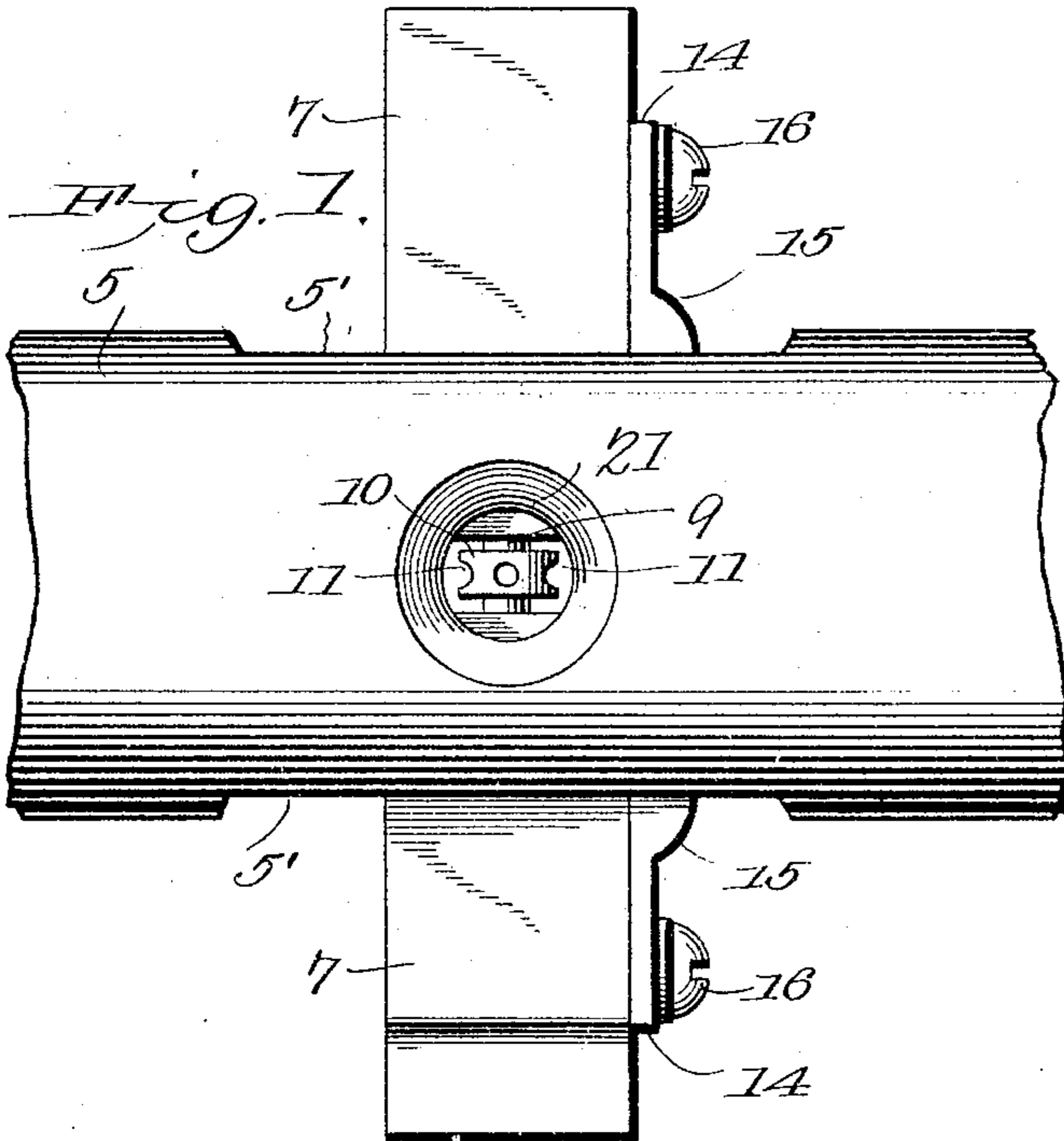


No. 774,756.

PATENTED NOV. 15, 1904.

J. JOHNSON.
ADJUSTABLE BORING BAR TOOL.
APPLICATION FILED JAN. 11, 1904.

NO MODEL.



Witnesses
E. J. Stewart
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Attorneys

UNITED STATES PATENT OFFICE.

JONAS JOHNSON, OF CHICAGO, ILLINOIS.

ADJUSTABLE BORING-BAR TOOL.

SPECIFICATION forming part of Letters Patent No. 774,756, dated November 15, 1904.

Application filed January 11, 1904. Serial No. 188,552. (No model.)

To all whom it may concern:

Be it known that I, JONAS JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Adjustable Boring-Bar Tool, of which the following is a specification.

This invention relates to an improved boring-bar tool for lathes, horizontal and vertical boring-machines, drilling-machines, and the like, and has for its object to provide an inexpensive, durable, and efficient device of this character in which the blades or cutters are adjustable laterally with respect to the boring-bar to thereby adapt the tool for different kinds of work.

A further object of the invention is to provide means for preventing longitudinal displacement of the cutters and means whereby said cutters may be accurately centered within the boring-bar after the same have been adjusted.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts in all the figures, Figure 1 is a side elevation of a boring-tool constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a transverse section. Fig. 4 is a detail perspective view of the centering-plate detached.

5 designates a boring-bar of the ordinary form and construction, having flat side faces 5' and provided with a transversely-disposed tapering slot or opening 6 for the reception of the blades or cutters 7. The inner ends of the cutters 7 are provided with centrally-disposed threaded openings 8, adapted to receive an adjusting-bolt 9, the opposite ends of which

are provided with right and left hand threads, as shown. The enlarged central portion 10 of the bolt 9 is provided with one or more openings or sockets 11, by means of which the bolt may be adjusted longitudinally to expand or contract the cutters, as will be more fully explained hereinafter. The adjacent ends of the cutters are also provided with aligned recesses 12, formed one on each side of the threaded openings 8, as shown, and in which are fitted guide-pins 13. Mounted on the cutters 7 is a centering-plate 14, provided with projecting lugs or shoulders 15, which engage the sides of the boring-bar and prevent lateral displacement of the cutters. The plate 14 is secured to the cutters 7 by means of screws or similar fastening devices 16, passing through slots 17, formed in the opposite ends of the plate, said slots permitting the cutters to be moved laterally and centered with respect to the bar after they have been adjusted by means of the bolt 9.

The slot 6 in the boring-bar is of a diameter greater than that of the cutters, so as to permit the latter to be readily introduced therein, said cutters being locked within the slot in any suitable manner, as by a key or wedge 18 engaging the inclined wall 19 of said slot and the lower edge of the cutters, as shown. A suitable opening 20 is formed in one side of the bar 5, through which a tool may be inserted for engaging the sockets 11 of the bolt 9 and turning the latter to adjust the cutters.

In practice the screws 16 are loosened and the cutters expanded or contracted, according to the diameter of the hole to be bored, as above stated. The cutters are then adjusted longitudinally and centered within the slot 6, after which the screws 16 are tightened and the shoulders forced into engagement with the flat side faces 5' of the bar by driving home the key or wedge 18, thereby securely locking the cutters within the slot and effectually preventing longitudinal movement of the same.

While I have shown, by way of illustration, a locking-key for securing the tool within the boring-bar, it is obvious that any well-known

fastening device may be employed, and the cutters may be adjusted either before or after inserting the same within the slot of said bar.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a pair of longitudinally-adjustable cutters, and a centering-plate adjustably secured to said cutters and provided with projecting ears or shoulders for engagement with a support.

2. In a device of the class described, a pair of cutters, a bolt threaded in the adjacent ends of the cutters for adjusting said cutters longitudinally, guiding-pins mounted in the cutters on opposite sides of the bolt, and a centering-plate adjustably secured to the cutters and provided with projecting ears or shoulders for engagement with a support.

3. In a device of the class described, the combination with a boring-bar provided with a transverse opening, a plurality of cutters movably seated in said opening, means for adjusting said cutters longitudinally, a centering-plate provided with slots or openings and having ears or shoulders for engagement

with the boring-bar, and fastening devices passing through the slots in the centering-plate and engaging the cutters.

4. In a device of the class described, the combination with a boring-bar provided with a transverse opening, a plurality of cutters movably seated therein, a bolt provided with right and left threads engaging the adjacent ends of the cutters for adjusting the cutters longitudinally, said bolt being provided with an intermediate enlargement having a series of sockets formed therein, guiding-pins carried by the cutters, a centering-plate having slots or openings formed therein and provided with projecting ears or shoulders adapted to engage the boring-bar, and screws passing through said slots or openings and engaging the cutters.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JONAS JOHNSON.

Witnesses:

R. HARVEY,

W. H. SHEPLER.