

(No Model.)

2 Sheets—Sheet 1.

W. H. WILSON.  
BOLT CUTTER HEAD.

No. 435,991.

Patented Sept. 9, 1890.

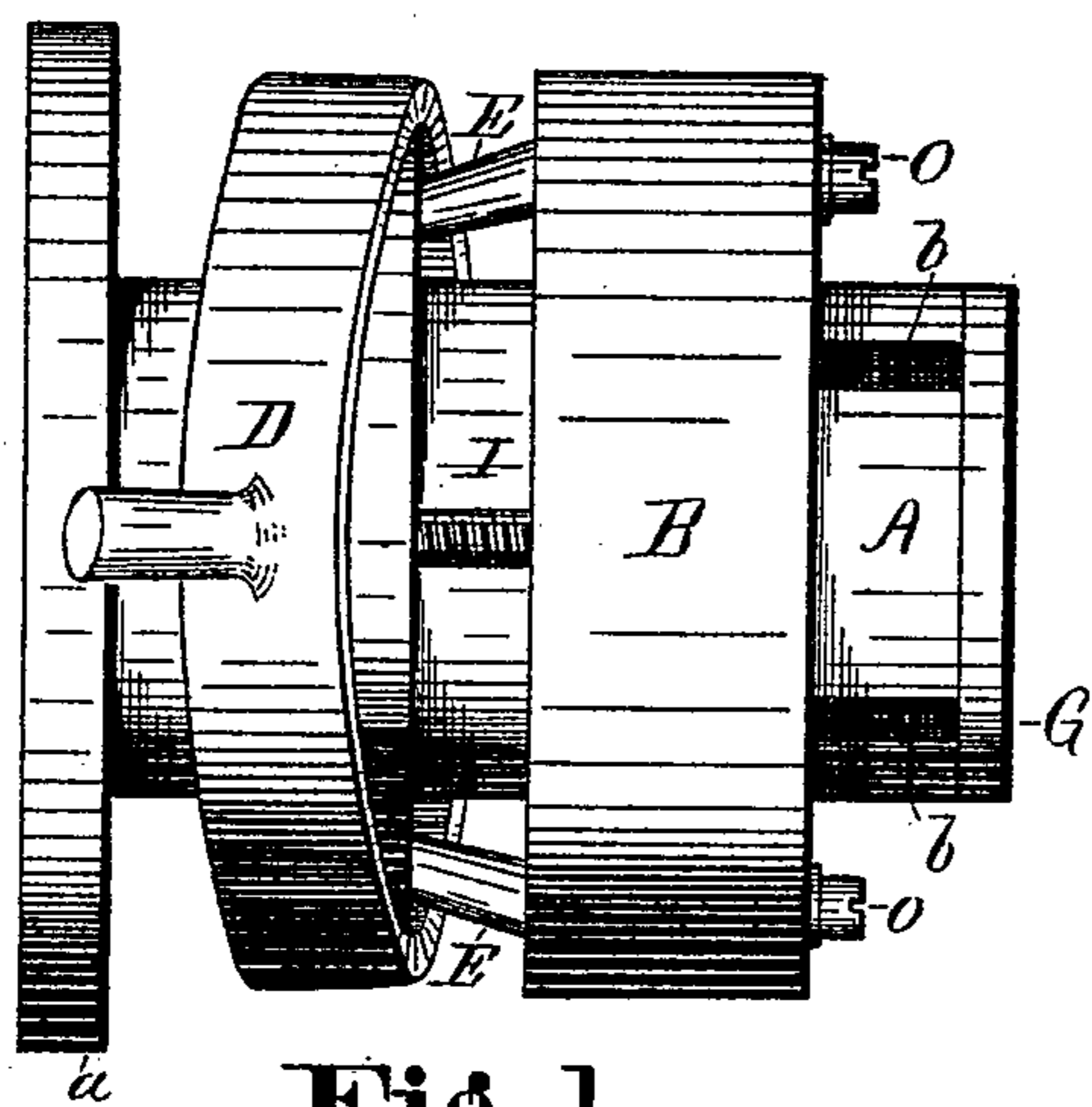


Fig. 1

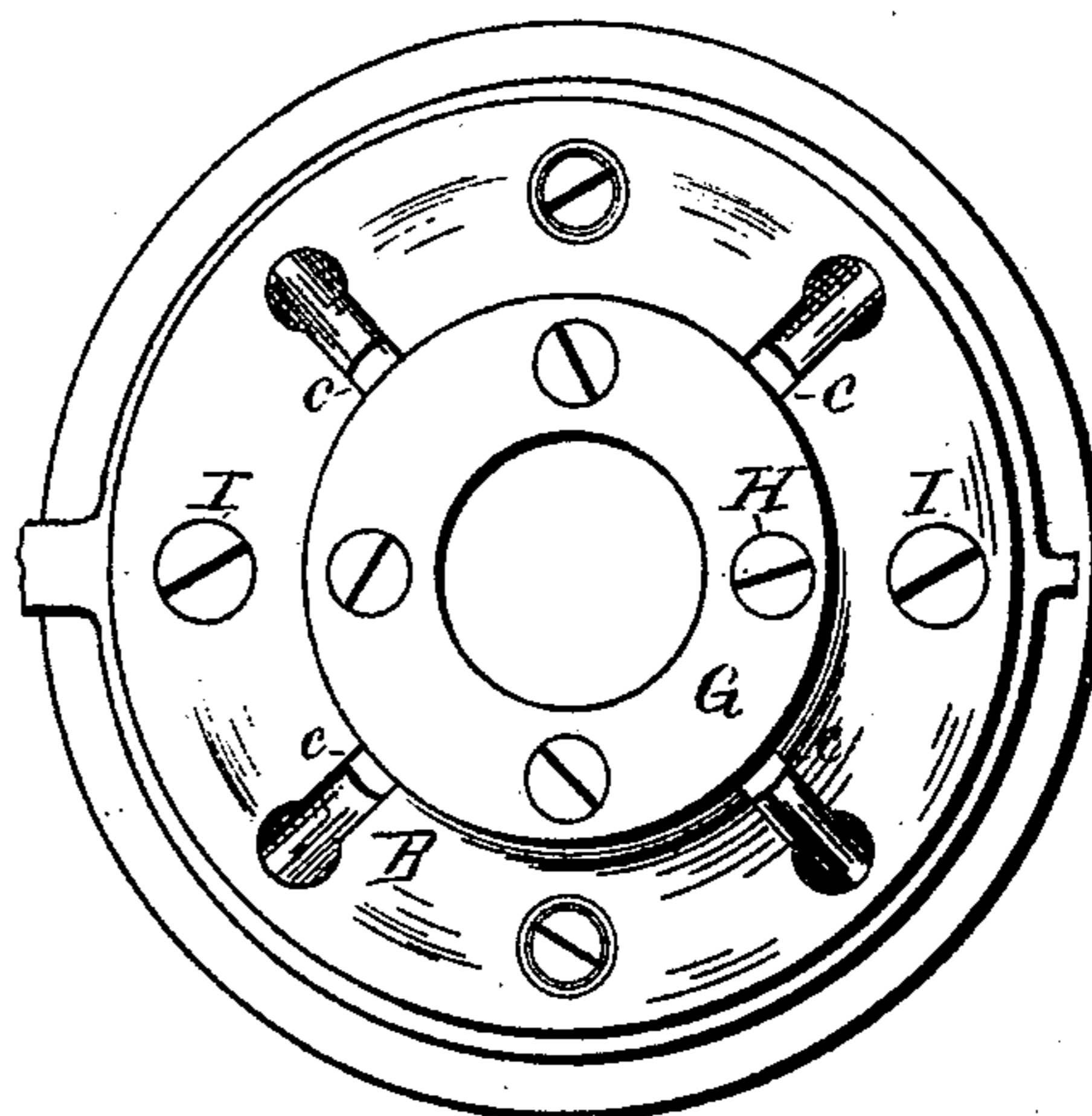


Fig. 2

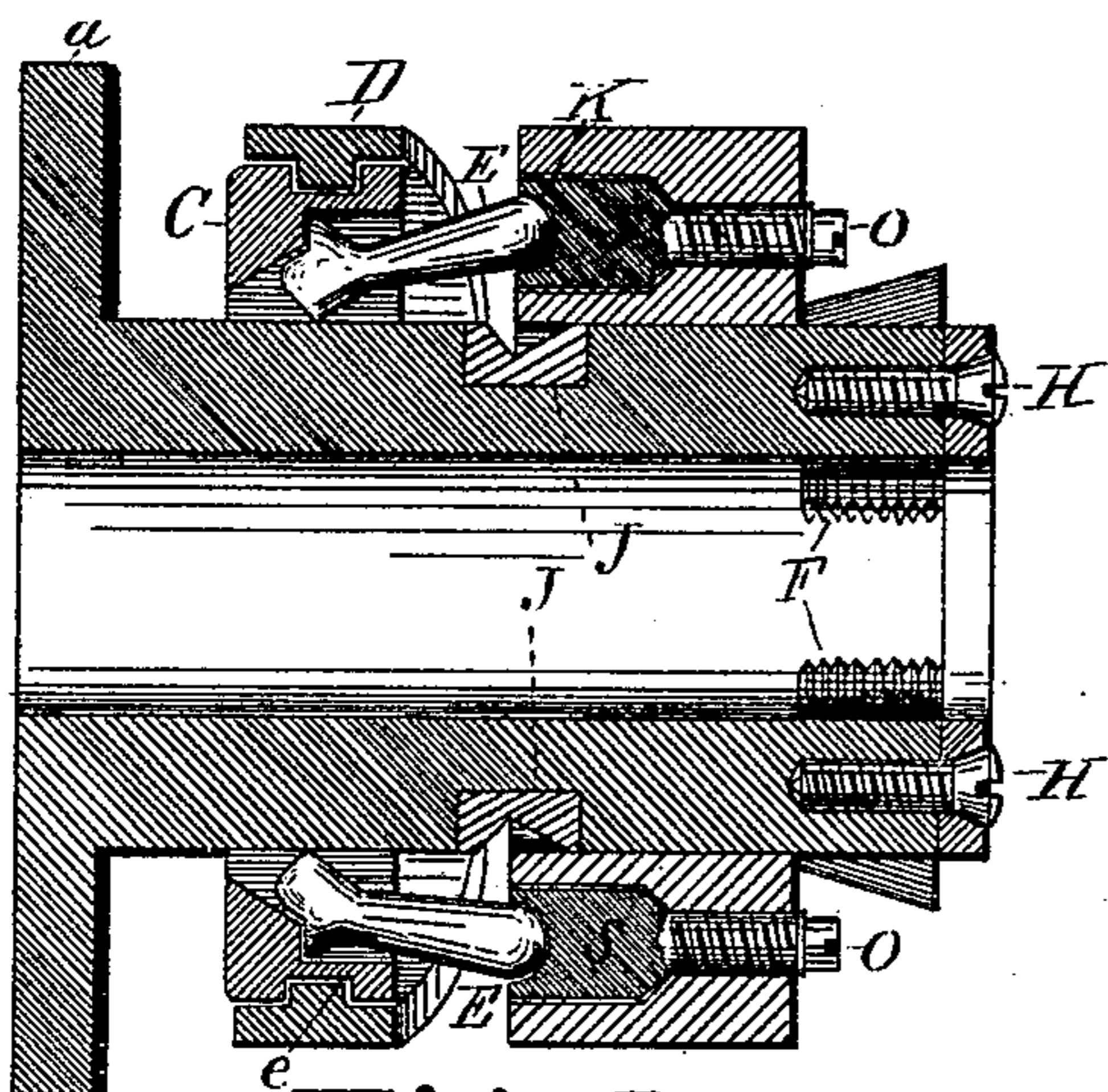


Fig. 3

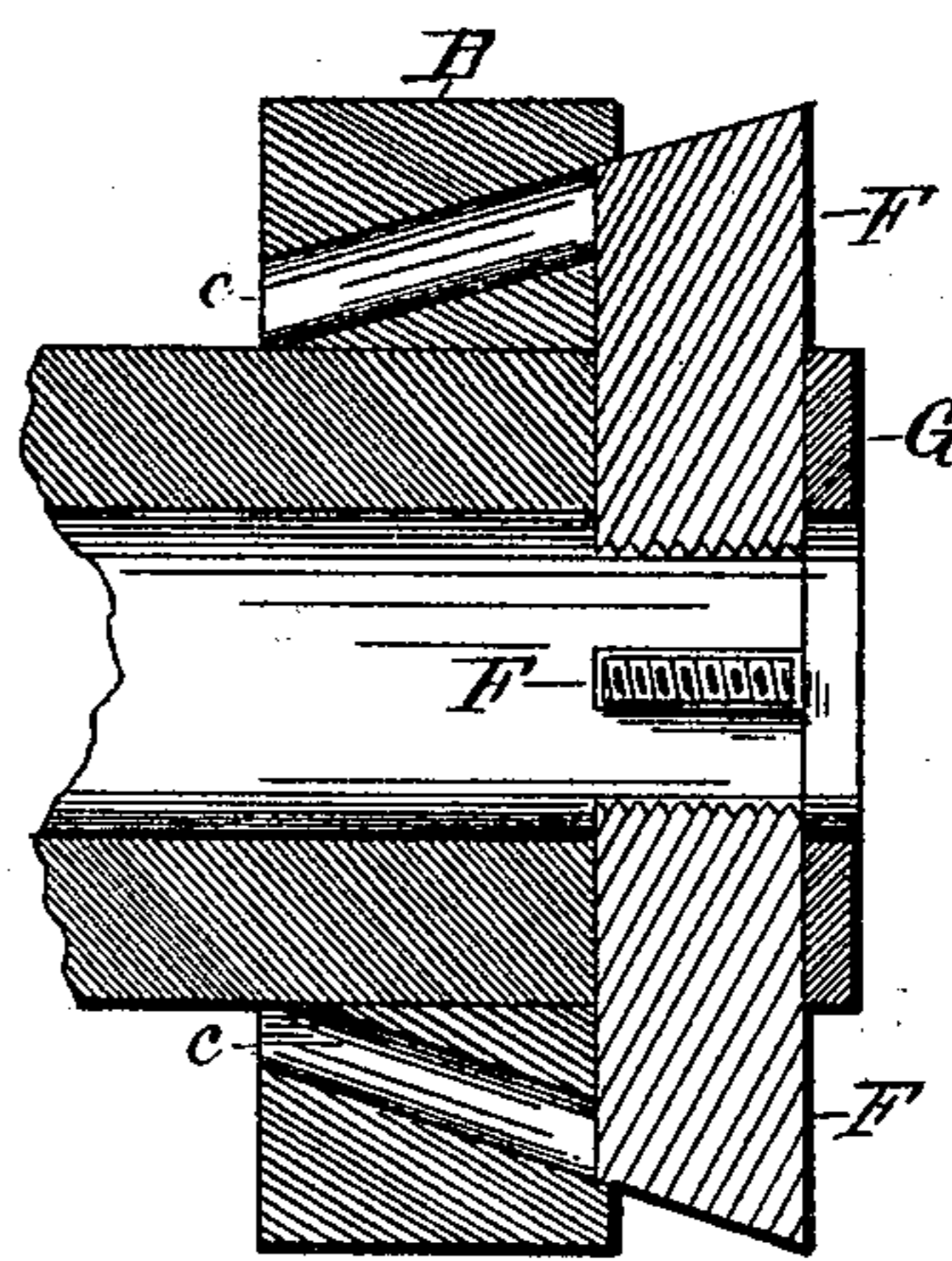


Fig. 4

WITNESSES  
*L. E. Fish*  
*H. A. Biddle*

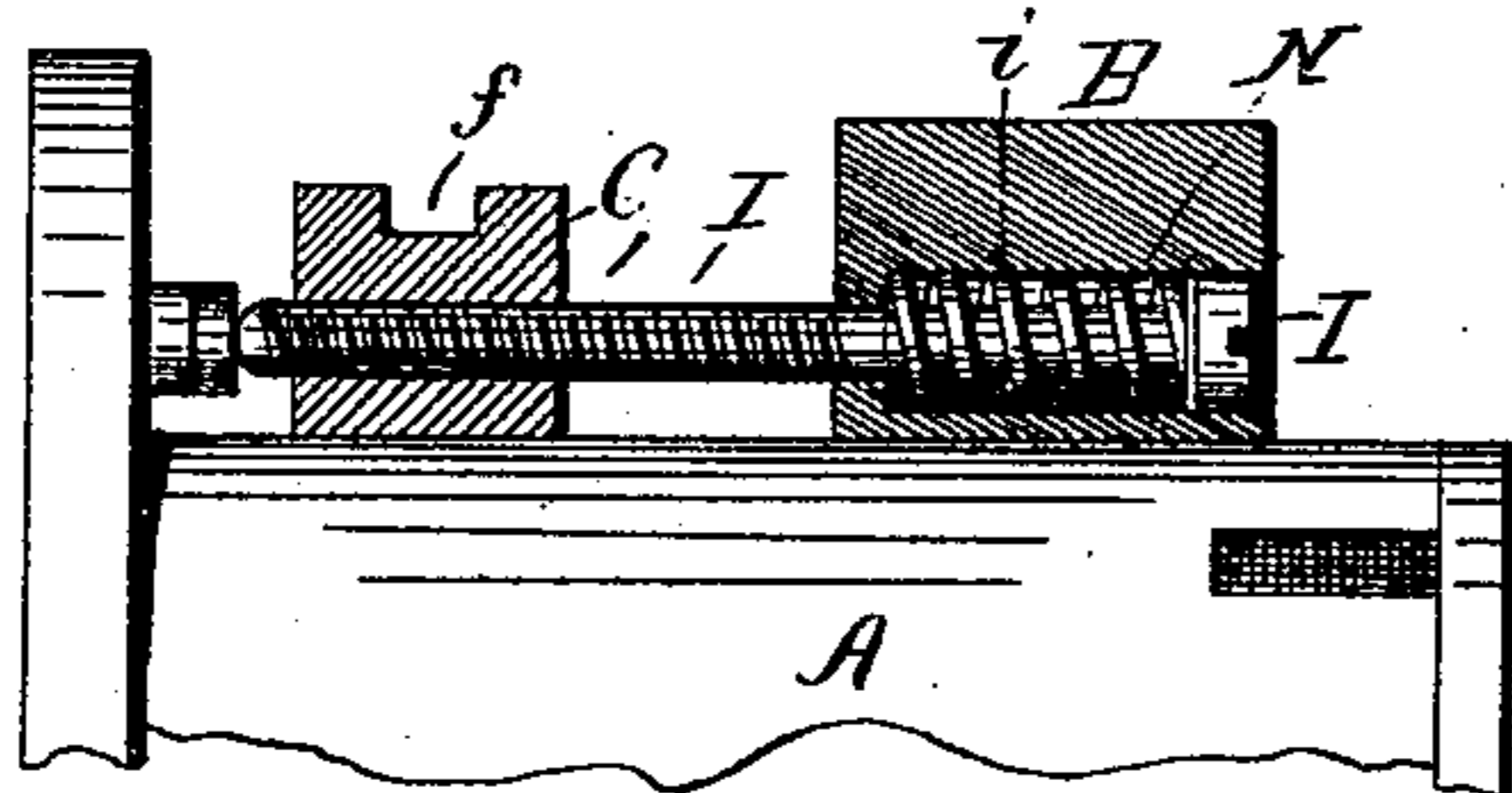


Fig. 5

INVENTOR  
*W. H. Wilson*  
*W. H. Burridge*  
*Atty.*

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2 Sheets—Sheet 2.

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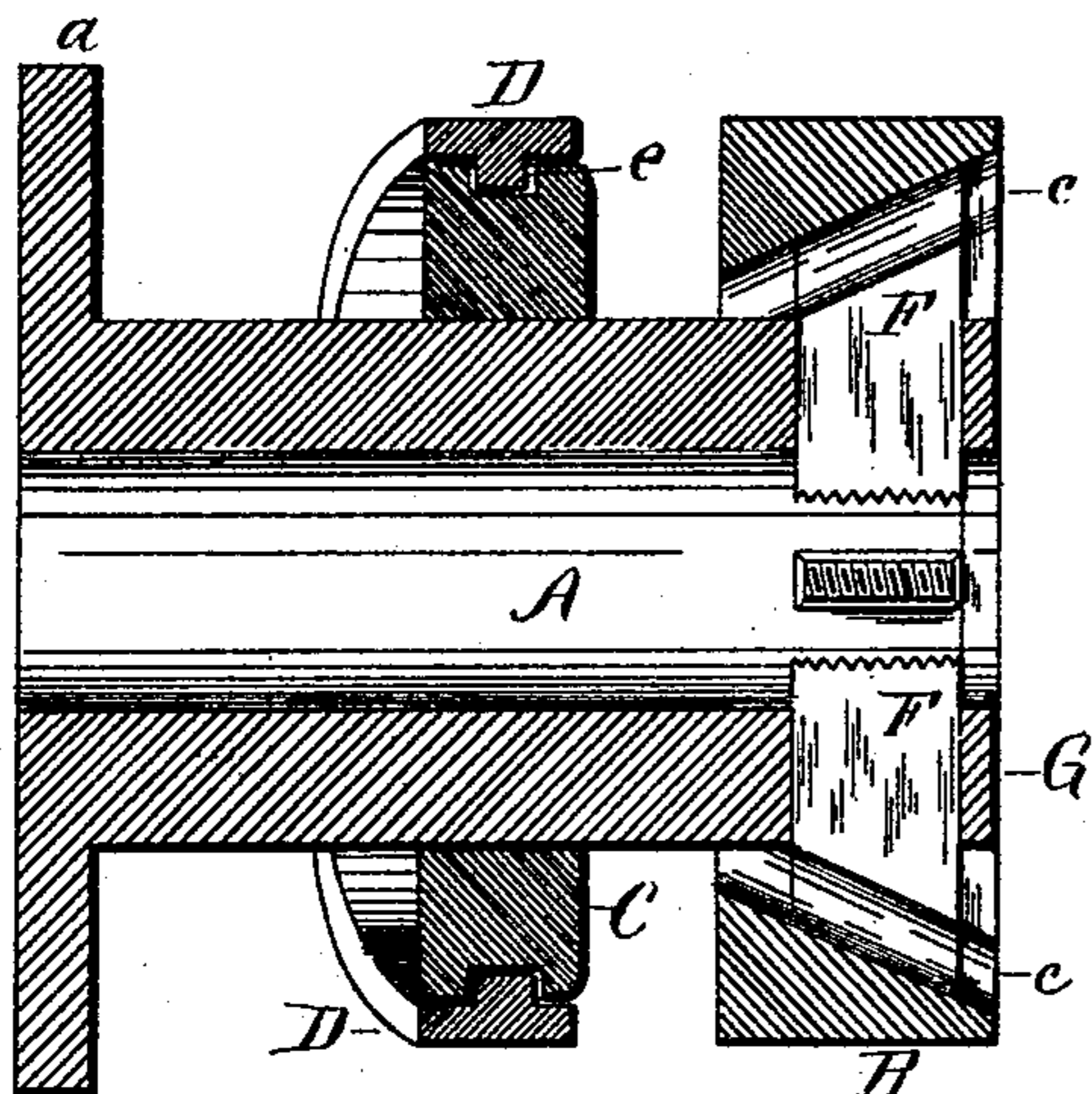


Fig. 6

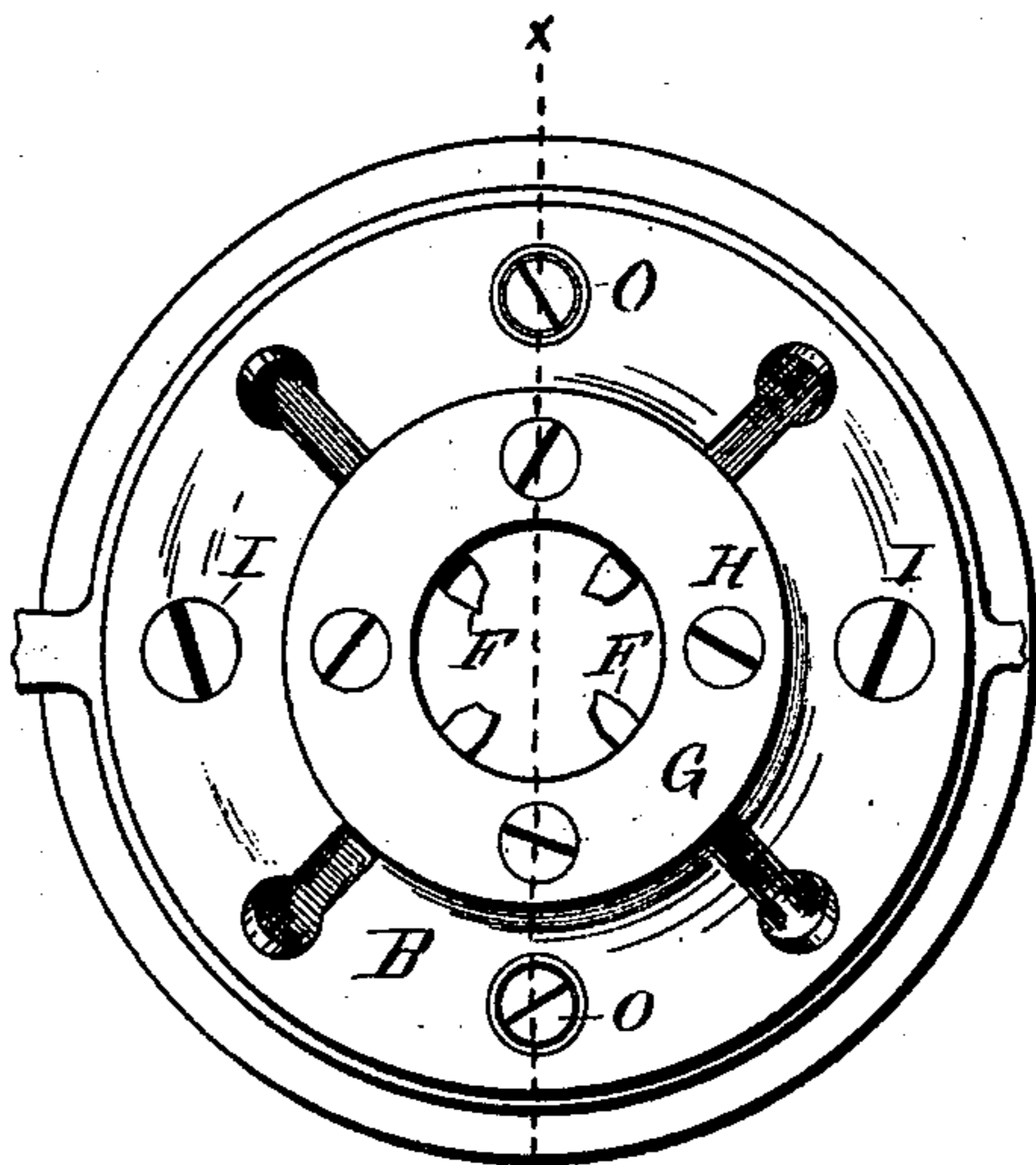


Fig. 7

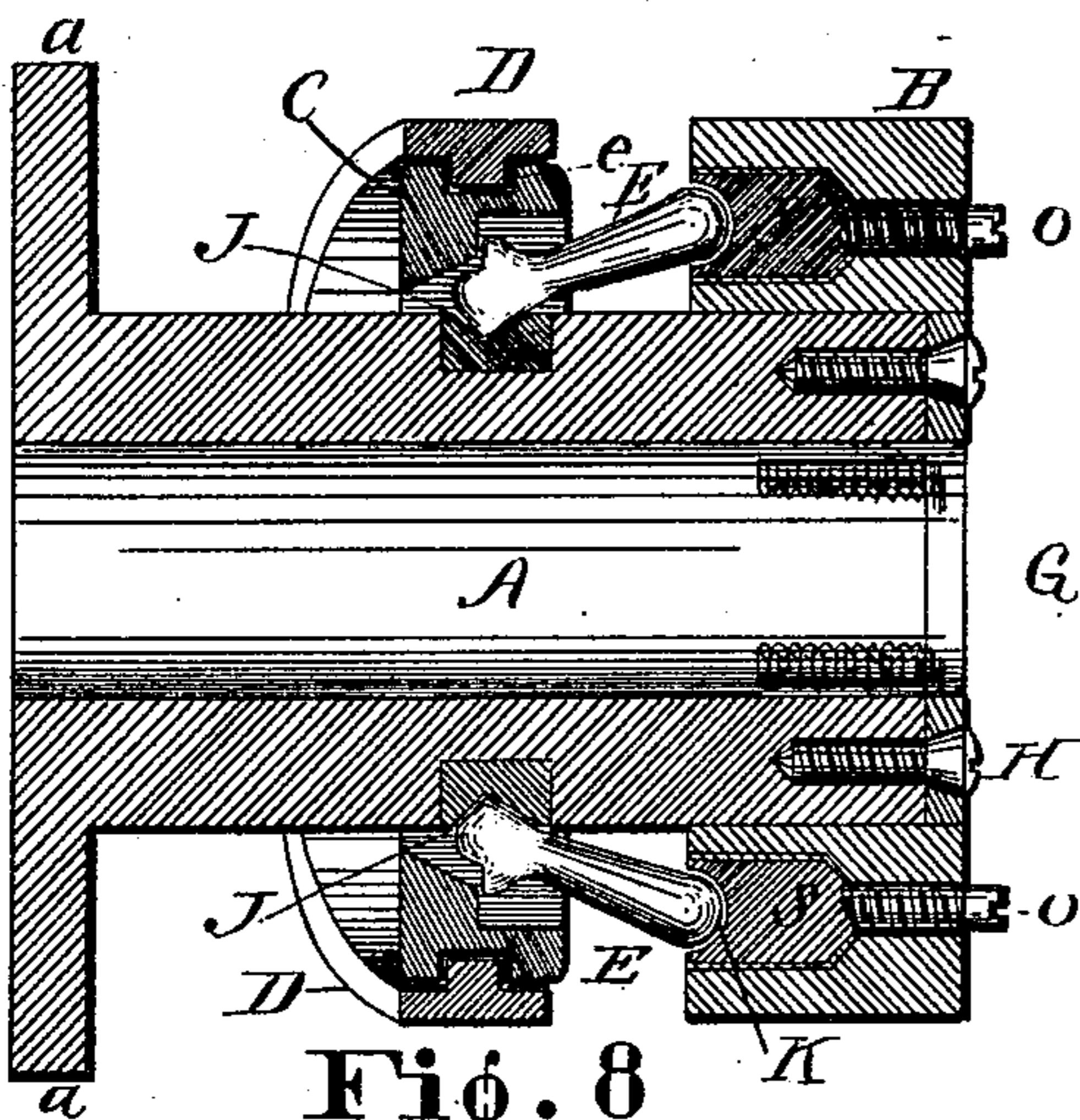


Fig. 8

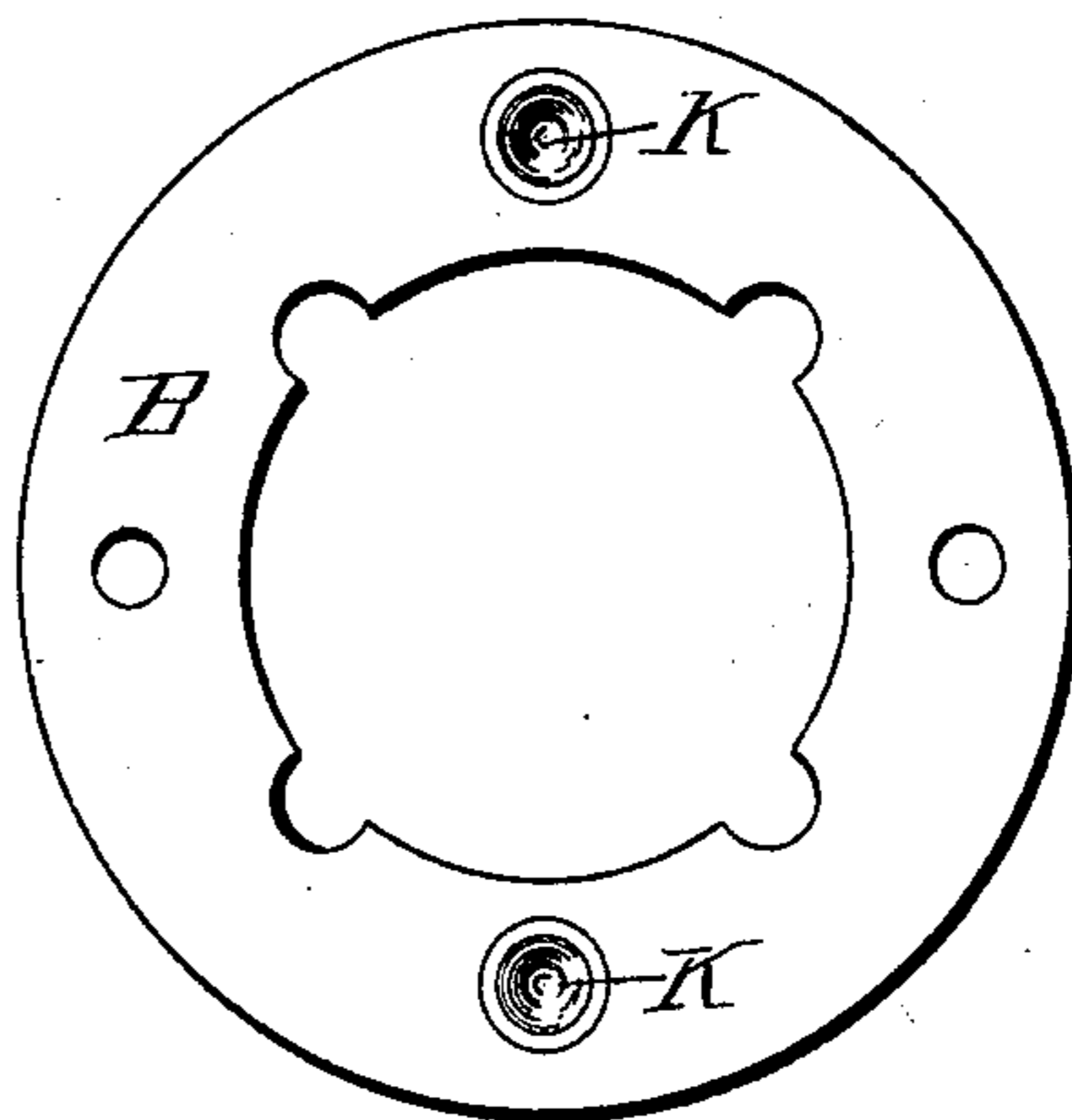


Fig. 9

WITNESSES  
*L. P. Fish*  
*H. A. Biddle*

INVENTOR  
*W. H. Wilson*  
*W. H. Burridge*  
*Atty.*

# UNITED STATES PATENT OFFICE.

WILLIAM H. WILSON, OF FREMONT, OHIO.

## BOLT-CUTTER HEAD.

SPECIFICATION forming part of Letters Patent No. 435,991, dated September 9, 1890.

Application filed April 25, 1890. Serial No. 349,541. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. WILSON, a resident of Fremont, in the county of Sandusky, State of Ohio, a citizen of the United States, have invented a new and useful Improvement in Bolt-Cutter Heads, of which the following is a specification.

My invention relates to a locking device used in an adjustable bolt-cutter head for the purpose of holding the die-sleeve and locking-sleeve in a relative position to each other and to prevent the slipping back of the die-sleeve and displacement of the threading-dies.

That my invention may be seen and fully understood, reference is had to the following specification and annexed drawings, in which—

Figure 1 is an exterior side view of the head before referred to. Fig. 2 is a face view of Fig. 1. Fig. 3 is a longitudinal section of the said head with the cutters or dies inserted and open, showing the position of the locking device when the dies are open. Fig. 4 is a partial central section of the head, the dies, and the means for guiding them. Fig. 5 is a partial exterior view of the die or cutter head and sectional view of parts connected therewith. Fig. 6 represents a longitudinal central section of the head with the dies closed. Fig. 7 is a face view of Fig. 6. Fig. 8 is a central longitudinal section on line *xx* of Fig. 7, showing the position of the locking device when the dies are closed. Fig. 9 is a detail view of the inner side of the die-sleeve into which the dies slide.

Like letters of reference denote like parts in the drawings and specification.

The head consists of a barrel A, die-sleeve B, locking-sleeve C, shifter D, studs E E, and various other parts of less importance, hereinafter referred to in their arrangement with the mechanism of the head. The barrel A is provided at one end with a flange *a*, by means of which said barrel is attached to the revolving spindle of the machine with which the screw-cutting head is to be used, and in the free end thereof is arranged a series of slots *b*, Figs. 1 and 5, for the reception of the cutters F F F F, and shown therein in Figs. 2, 4, 6, and 7. As shown in the drawings, said slots *b* are made up by means of grooves in

the barrel A and the following-ring G, which is held securely to the barrel by the screws H, Figs. 2 and 3.

Fitted to the exterior of the barrel A is the die-sleeve B, having inclined grooves *c* in open relation with the bore thereof, and circular enlargements at the inner side of said grooves which correspond with the head of the dies or cutters F to allow of a sliding movement. The inclination of the circular terminals of the grooves *c* renders the cutters adjustable within the slots *b*—that is, the cutters or dies will open or close according to the direction in which the sleeve B is moved.

In Fig. 4 the sleeve B is shown moved backward, which draws the cutters F outwardly. In Fig. 6 said sleeve has carried the cutters inwardly while being moved forward to a point even, or nearly so, with the free end of the barrel. The die-sleeve B is connected with the sleeve C by means of the screws I, (shown in Figs. 1 and 5,) which sleeve is actuated by the shifter D, Figs. 1 and 3. The shifter D is pivoted to a fixed point of the apparatus, while the pins *e* engage in the annular recess *f* of the sleeve C, and thus carry the latter with it when the position of the shifter is changed. Simultaneously while moving the die-sleeve B said sleeve C actuates a locking device consisting of the studs E E and the notches J J in combination with the sleeve C and die-sleeve B. One end of the studs E E is oval in form and is seated in a depression K, Fig. 9, said depression being in the ends of the blocks S, which are integral parts of the screws O O, Figs. 3 and 8, which pass through the die-sleeve B. The other end is seated in the sleeve C, and is of the shape or form shown in Figs. 3 and 8—that is, the inner side or side which is in contact with the barrel A is of a shape conforming with the shape of the notch J, so that when the end slips into the notch J, as it does when the sleeve C is carried forward in the manner hereinbefore mentioned, the studs E E will have a direct bearing upon the side of the notches J J. The other end of the studs being seated in the depressions K K in the blocks S S, the sleeve B is held firmly in the position shown in Fig. 8 until the sleeve C is thrown back by the shifter D being actuated by the handle R. The studs E E are then car-

ried back with the sleeve C, the die-sleeve B following the locking-sleeve C by means of the screws I, Fig. 5, passing through the sleeve B and screwed into the sleeve C, thereby connecting the two sleeves C and B. The connection, however, is rendered adjustable, resultant from the resiliency of two springs, one of which is shown at N, Fig. 5. The adjusting-screws O O, forming an integral part of the blocks S S, in which are the depressions K K, the seats of the studs E E are threaded into the die-sleeve B and adjusted according to the size of the bolt or article to be threaded or cut. The farther the die-sleeve B is moved toward the free end of the barrel A the closer the cutters will be moved to each other, and vice versa. The studs E E, being in constant contact with the blocks S S of the set-screws O O when brought to bear on the notches J J, hold the die-sleeve B in a locked condition so long as the sleeve C is left to hold the studs E E in the notches J J. The contact of the blocks S S and the studs E E is induced by two springs, one being shown at N, on the screw I, Fig. 5, acting within their respective countersinks i in the sleeve B, Fig. 5.

I am aware that a screw-cutter die-head has been invented embracing features analogous to those herein set forth.

The distinguishing feature in my invention, and a very essential feature, is the locking device consisting of the studs E E, in combination with the notches J J, locking-sleeve C, and die-sleeve B, in connection with the die-cutter.

I do not claim, broadly, the invention of a screw-cutting die-head, but an improved attachment thereto.

What I claim, and desire to secure by Letters Patent, is—

1. In a screw-cutting die-head, a locking device consisting of the combination of the studs E E, the blocks S S, and the angular notches J J, said blocks S S being integral parts of the adjusting-screws O O in the die-sleeve B and having depressions K in the face thereof, said studs E E having one end seated in the depressions K, the other end conforming in shape with angular notches J J in the barrel A and seated in the sleeve C, operating conjointly with the die-sleeve B, and the locking-sleeve C, substantially in the manner and for the purpose set forth.

2. In a locking device connected with a screw-cutting die-head, the combination, with the die-sleeve and locking-sleeve, of studs E E, having one end seated in depressions in blocks which form integral parts of the adjusting-screws, the other end being of a shape conforming with angular notches in the barrel and seated in the locking-sleeve, and the notches in the barrel, arranged and operating substantially in the manner and for the purpose set forth.

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

WILLIAM H. WILSON.

Witnesses:

L. S. MCGONNLEY,  
F. O. ARNETT.