

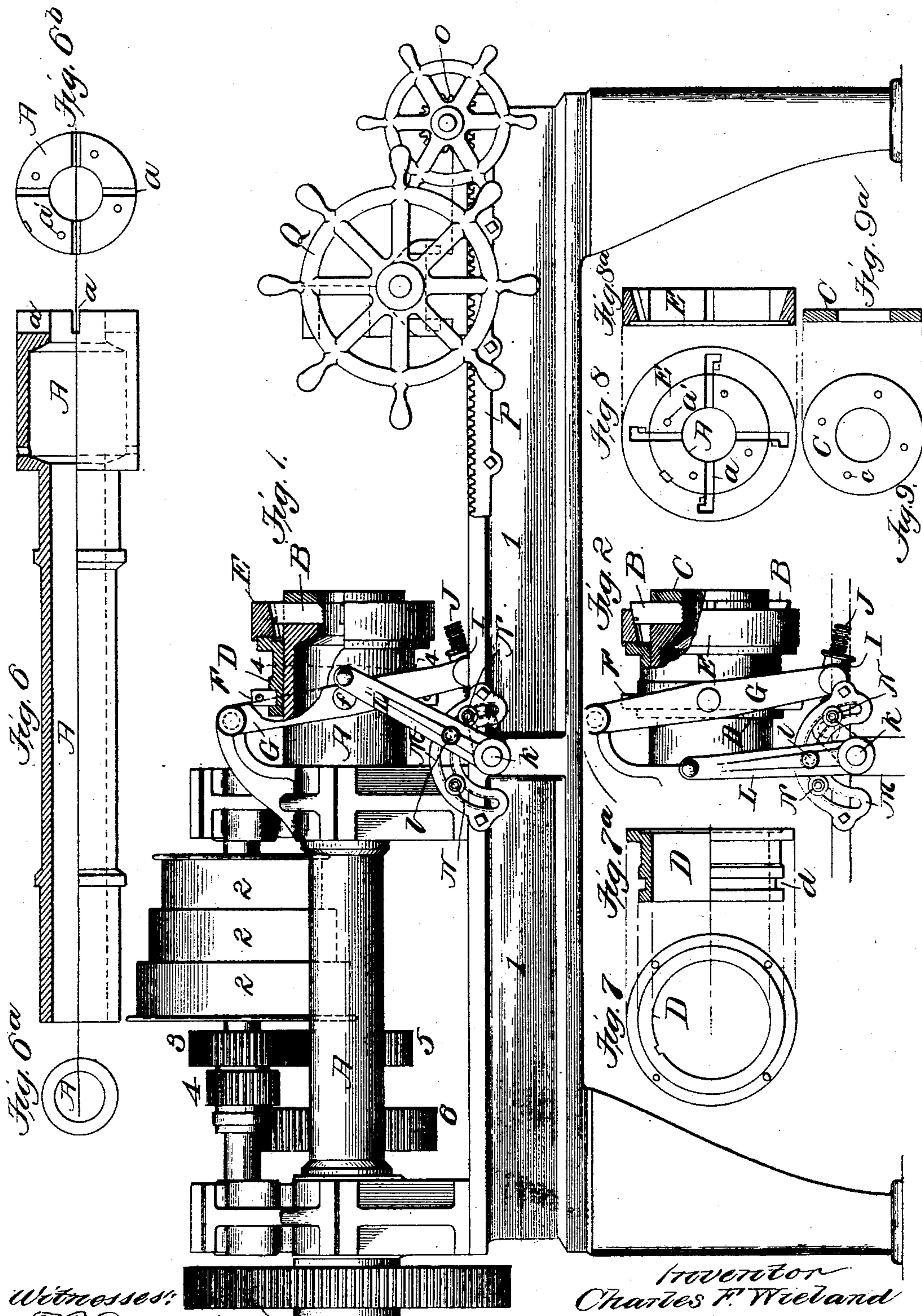
(No Model.)

2 Sheets—Sheet 1.

C. F. WIELAND.  
BOLT THREADING MACHINE.

No. 520,175.

Patented May 22, 1894.



Witnesses:  
F. H. Cornwall  
W. W. Syme

Inventor  
Charles F. Wieland  
By Paul Bakewell  
Attorney

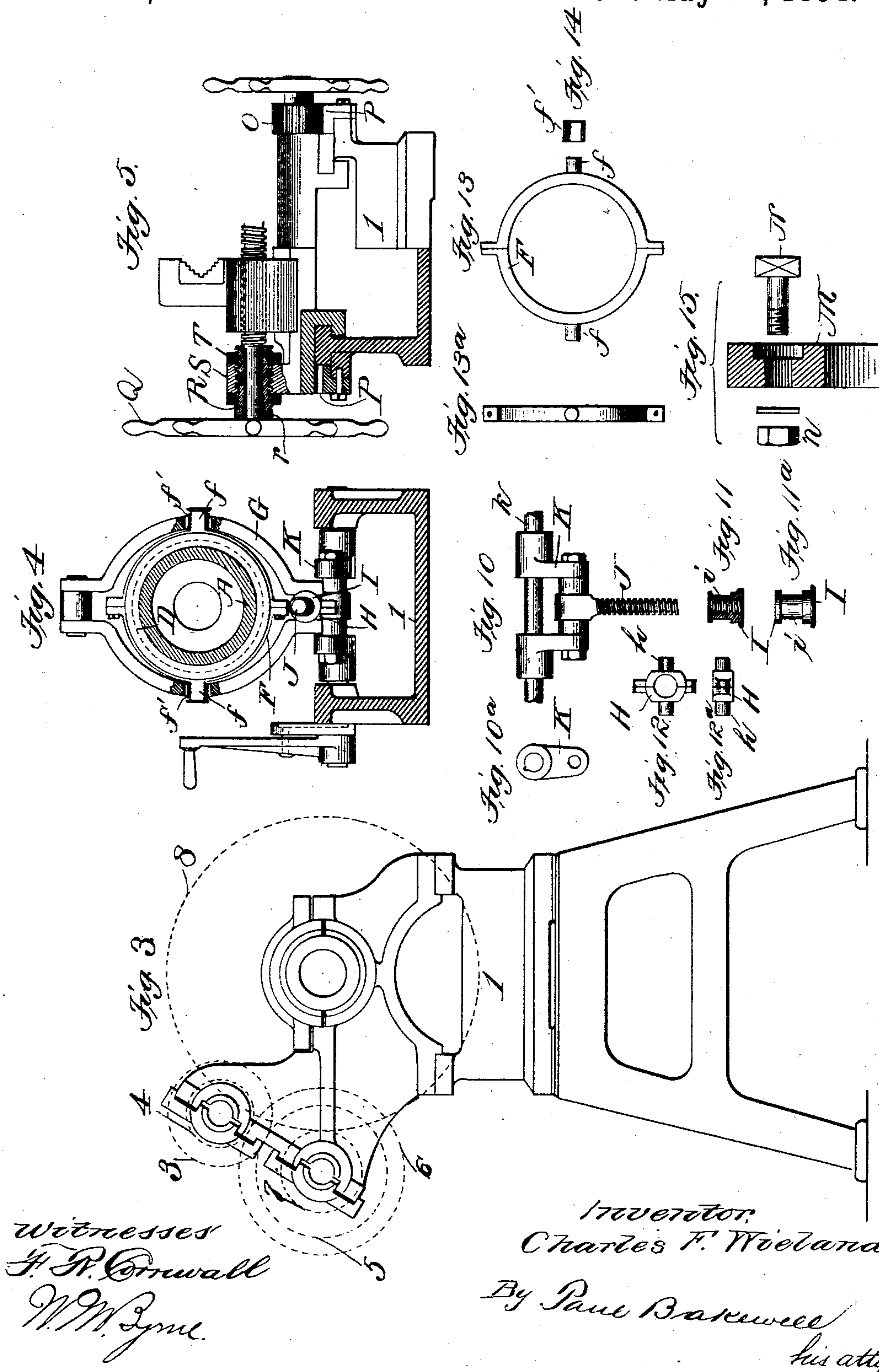
(No Model.)

2 Sheets—Sheet 2.

C. F. WIELAND.  
BOLT THREADING MACHINE.

No. 520,175.

Patented May 22, 1894.





# UNITED STATES PATENT OFFICE.

CHARLES F. WIELAND, OF ST. LOUIS, MISSOURI.

## BOLT-THREADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 520,175, dated May 22, 1894.

Application filed December 5, 1893. Serial No. 492,866. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. WIELAND, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Bolt-Threading Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

10 Figure 1 is a view in side elevation of the entire machine, part of the die-head being broken away to more clearly show its interior construction. Fig. 2 is a detached view of the die-head and its associate parts, showing the same in a position different from that illustrated in Fig. 1. Fig. 3 is an end elevation of the framing of the machine. Fig. 4 is a sectional view through the die-head and its associate parts, as taken on the line 4—4 in Fig. 1, looking toward the rear. Fig. 5 is a detail view, partly in section, of the pipe clamp or vise, and its means of operation and adjustment. Figs. 6, 6<sup>a</sup> and 6<sup>b</sup> are, respectively, side-elevational (partly in section), rear-end, 15 and front-end views of the arbor. Figs. 7 and 7<sup>a</sup> are, respectively, rear-end and side-elevational views, the latter being partly in section, of the slide-ring to which the die-ring is attached. Figs. 8 and 8<sup>a</sup> are, respectively, 20 front end views of the arbor and die-ring, and cross-sectional view through the die-ring. Figs. 9 and 9<sup>a</sup> are, respectively, end and sectional views of the face-plate, which is attached to the front end of the arbor, to hold the several dies in their respective grooves. 25 Fig. 10 is a plan-view of the rock-arm and threaded link, to which the operating yoke for the die-ring is connected. Fig. 10<sup>a</sup> is a side elevation of one of the rock-arms. Figs. 11, 40 and 11<sup>a</sup>, are, respectively, sectional and side-elevational views of the adjustable sleeve, which has a threaded connection with the link. Figs. 12 and 12<sup>a</sup> are, respectively, plan and end views of the collar which fits on the 45 adjustable link sleeve. Figs. 13 and 13<sup>a</sup> are, respectively, front and side views of the sliding die-ring collar. Fig. 14 is a sectional view of the wear-sleeve, which is placed on the side lugs of the sliding die-ring collar; and Fig. 50 15 is a detail view, in cross-section, of the means for limiting the throw of the operating handle.

My invention relates to a new and useful improvement in machines for cutting threads on bolts, rods, pipes, &c., and is confined, 55 more especially, to the means for operating the several cutting dies to thrust them toward or withdraw them from the center of the die-head, in order to fit different-sized articles to be operated upon, and, also, to throw 60 said cutting dies into or out of engagement with the article which is being operated upon.

Referring to the accompanying drawings by figures and letters of reference, wherein like symbols refer to like parts wherever they occur, 1 indicates the framing of the machine, upon which are mounted suitable risers or standards, in which are journaled the arbor and the shafts of the several power-transmitting gear-wheels. Power being communicated 70 to the pulleys 2, and rotating the pinions 3 and 4, the gear-wheels 5 and 6 will be rotated, depending upon which pinion they mesh for the different speeds, and by the rotation of these wheels and the shaft upon which they 75 are mounted, a pinion 7 will engage with the gear-wheel 8, mounted on the rear end of the arbor, and the arbor will be caused to revolve.

A indicates the arbor, the front end of 80 which is grooved, as at *a*, for the reception of the cutting dies B, said grooves being covered and the cutting dies held in place by a face-plate C, which is held in place by bolts passing through bolt-holes *c* formed therein into 85 the holes *a'* in the ends of the arbor.

Slidably mounted on the forward end of the arbor, is a slide-ring D, which is formed with a groove or annulus *d*, which receives a collar, hereinafter referred to. Secured to 90 the forward end of this slide-ring, is the die-ring E, formed with suitable grooves and inclined ways, which co-operate with suitable lugs on the cutting dies B to force the same into or withdraw said cutting dies from the 95 arbor opening.

F indicates a ring or collar, revolubly mounted in the annulus *d* of the slide-ring D, said collar being formed at its side with lugs or ears *f*, with which the pivoted yoke en- 100 gages.

*f'* represents a wear-sleeve, which is preferably placed upon the side ears or lugs, loosely, so as to revolve by the contact of the



yoke, thus reducing friction, and, at the same time, affording ready means of substitution of larger sleeves, in the instance of wear between these parts, and thus take up lost play.

5 G indicates what I term the yoke, and is pivoted to the stationary pivot-bearing extending forward from the advanced riser. This yoke is formed about midway its length, with vertically-elongated openings through  
10 which pass the lugs *f* on the collar F. The lower end of this yoke is pivoted on lugs *h* of block H, which block is revolubly mounted on an annulus *i* of the adjustable sleeve I, which has a threaded connection with link J  
15 mounted in the ends of the rock-arms K, which are journaled, through the medium of their shaft *k*, in the framing 1. Mounted on the end of this shaft *k*, is an operating handle L, which is provided with a guide-pin *l*,  
20 passing through a curved slot in a gage-plate M located in juxtaposition thereto. This gage-plate M is provided with a curved slot described from the center of the axle *k*, and on the inner side of the plate, said slot is  
25 formed with shoulders upon which is seated the square head of a locking bolt N, which extends through the slot and receives a nut *n* on its outer end. There are preferably two such adjustable bolts in the curved slot, their  
30 function being to limit the throw of the handle L at the end of either extreme position, in such manner, preferably, that when the cutting dies are forced inwardly, as is shown in Fig. 1, the stop at the right hand side will  
35 cause the threaded link J and the rock-arms K to assume the same plane of dead center, or slightly past the same in order to lock the parts in a fixed position. The stop at the left hand side prevents the handle M from  
40 being thrown too far to the rear, which might cause the disengagement of the die-ring and the cutting dies, and, consequently, the displacement of said cutting dies.

The vise or pipe clamp preferably has a  
45 longitudinal movement, as is common, which is accomplished by the engagement of pinions O on the vise frame with rack P on frame 1. The jaws of the vise are opened and closed, through the medium of hand wheels Q, operating a right and left hand screw, as is common.  
50

Very often, in machines of this class, the center of the jaws gets out of alignment with the center of the cutting dies, and, in order to adjust both jaws laterally, I mount the  
55 ends of the right and left hand screw in sleeves R, threaded externally, and into the bearings S. On each side of this bearing, and on this sleeve R, I place jam-nuts T to hold the sleeve and the jaws in their adjusted  
60 position. For convenience in adjusting the sleeve R, I preferably form small openings *r* in its periphery, by which the same may be turned upon the introduction and leverage of any ordinary sharp-pointed instrument.

65 Having thus described my said invention,

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

1. In a bolt threading machine, the combination with a revoluble head carrying the cutting dies, of a pivoted yoke for moving  
70 the cutting dies in and out, a link to which the free end of the yoke is connected, rock arms upon which the free end of the link is mounted and from which the same is actuated, and means for adjusting the point of connection between the yoke and link relative  
75 to the point of connection between the link and rock arms, substantially as described.

2. In a bolt threading machine, the combination with a revoluble head carrying cutting dies, of a yoke pivoted above the head,  
80 a sleeve which is adapted to be operated by the yoke for moving the cutting dies in and out, a link to which the lower end of the yoke is pivotally connected, rock arms upon which  
85 the link is mounted and from which the link is actuated, means for moving said rock arms and for limiting their movement, and means for adjusting the distance between the pivotal point of connection between the yoke and  
90 link, and the point of connection between the link and rock arms, whereby the sleeve which operates the cutting dies may be adjusted longitudinally on the head, relative to the cutting  
95 dies, by the adjustment of the pivotal point of connection between the yoke and link, longitudinally the link, and to or from the point of connection between the link and rock arms, substantially as described.

3. In a bolt-threading machine, the combination with a revoluble arbor and the yoke  
100 for operating the cutting dies in said arbor, of a block upon which the lower end of the yoke is pivotally mounted, a sleeve upon which said block is revolubly mounted, a  
105 threaded link with which the sleeve engages, rock-arms to which the link is connected, the handle for operating said arms, and means for limiting the movement of the handle, substantially as described.  
110

4. In a bolt-threading machine, the combination with the mechanism for operating the cutting dies, and a handle for controlling  
115 said mechanism, of the means for limiting the movement of said handle, comprising a gage-plate formed with a curved slot having squared shoulders on one side, square-headed bolts seated on said shoulders and protruding through the slot, and clamping nuts on said  
120 bolts, through the medium of which the same may be adjusted along the length of the slot, substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 24th day of November, 1893.

CHARLES F. WIELAND.

Witnesses:

F. R. CORNWALL,  
HUGH K. WAGNER.