

(No Model.)

2 Sheets—Sheet 1.

L. F. CARSTENSEN.
DIE HEAD FOR THREADING MACHINES.

No. 591,324.

Patented Oct. 5, 1897.

Fig. 1.

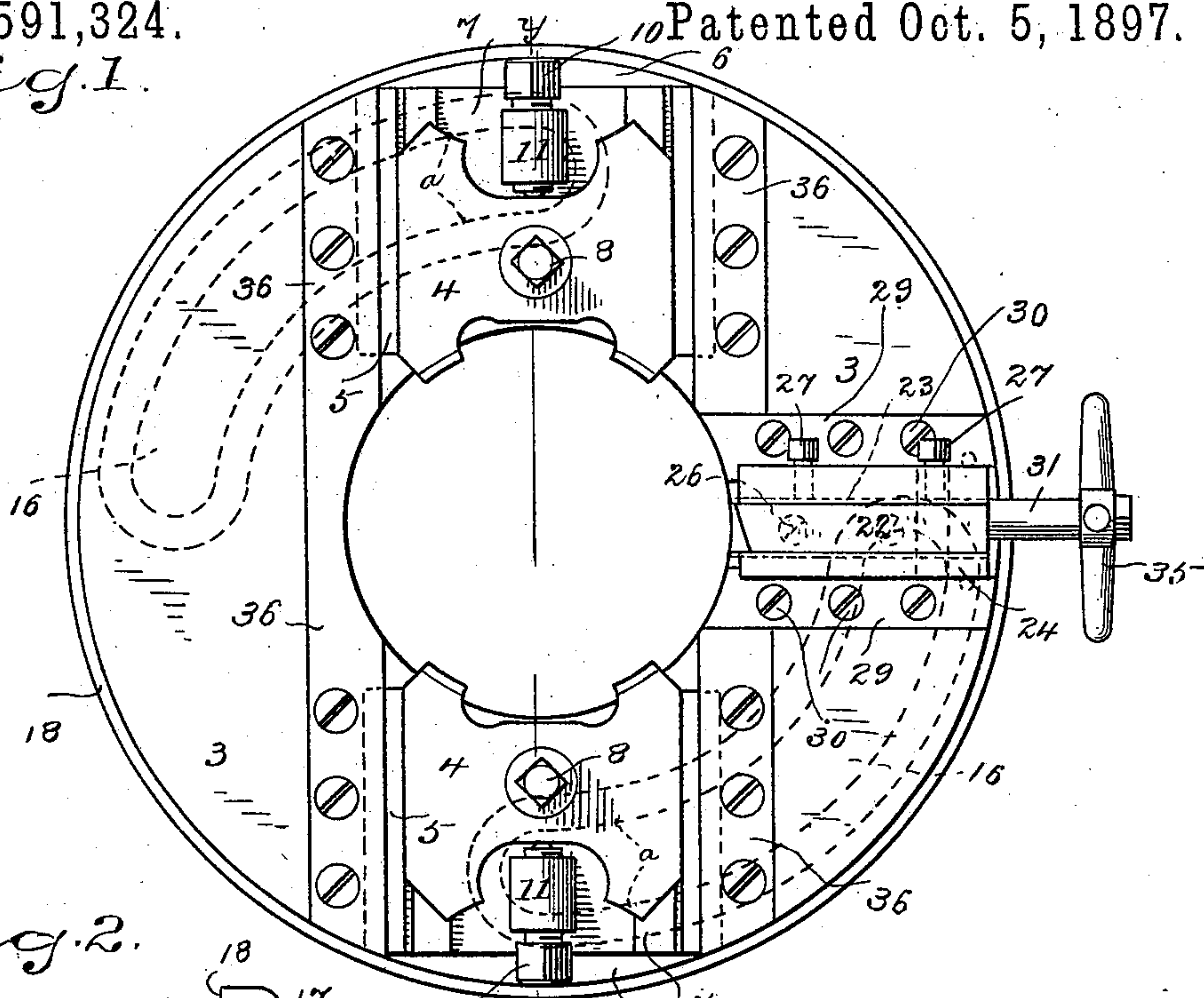


Fig. 2.

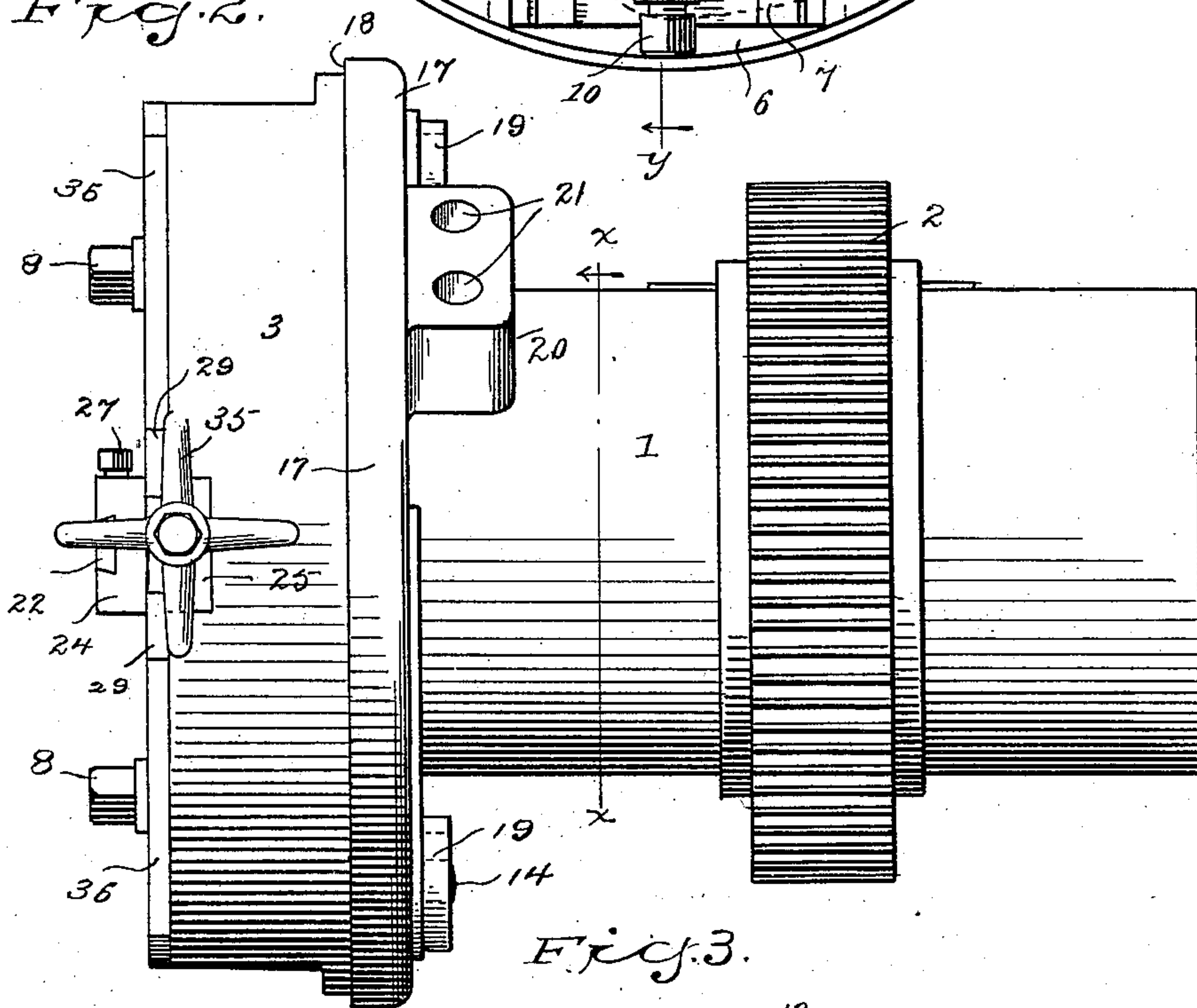
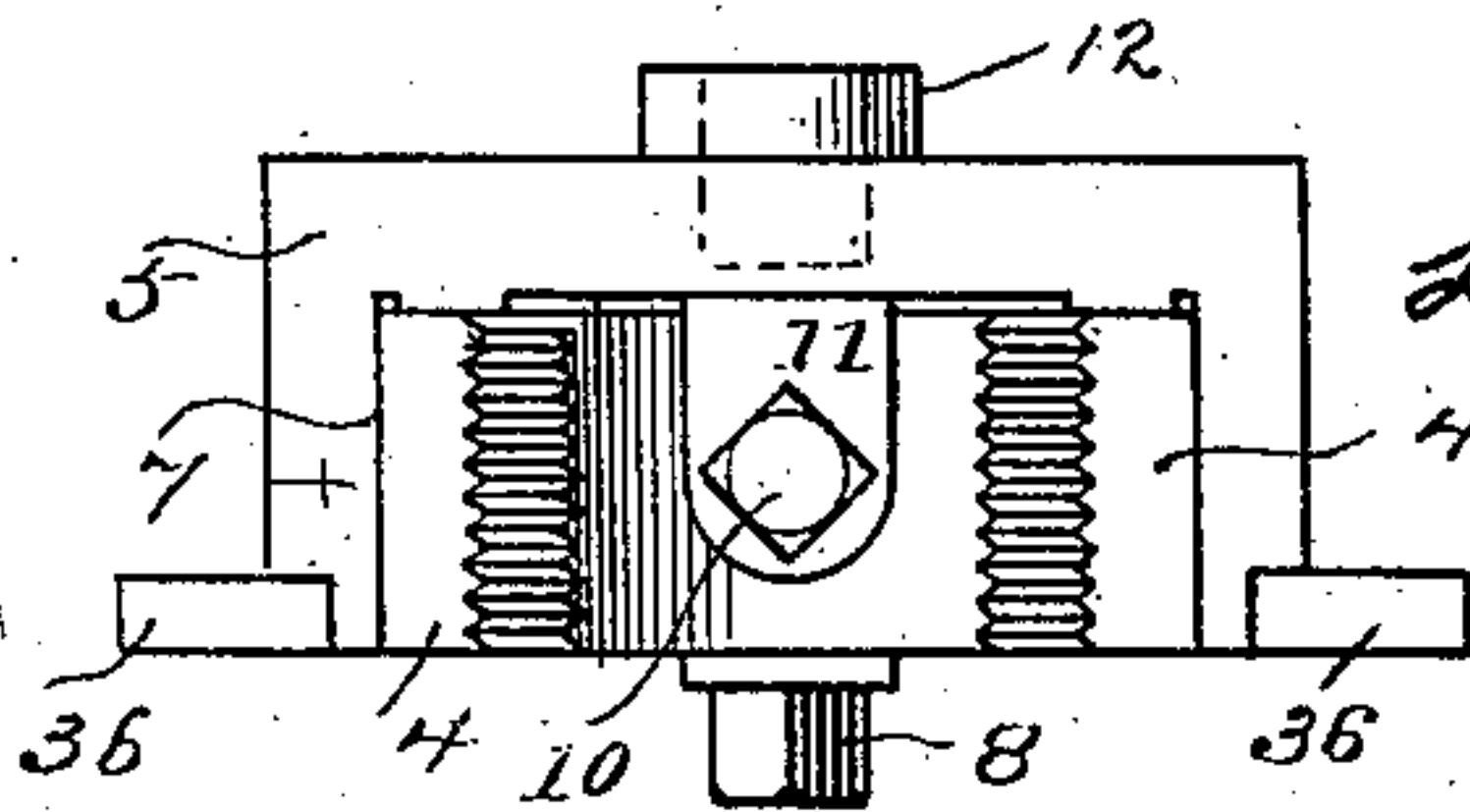


Fig. 3.

WITNESSES

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Fig. 4.

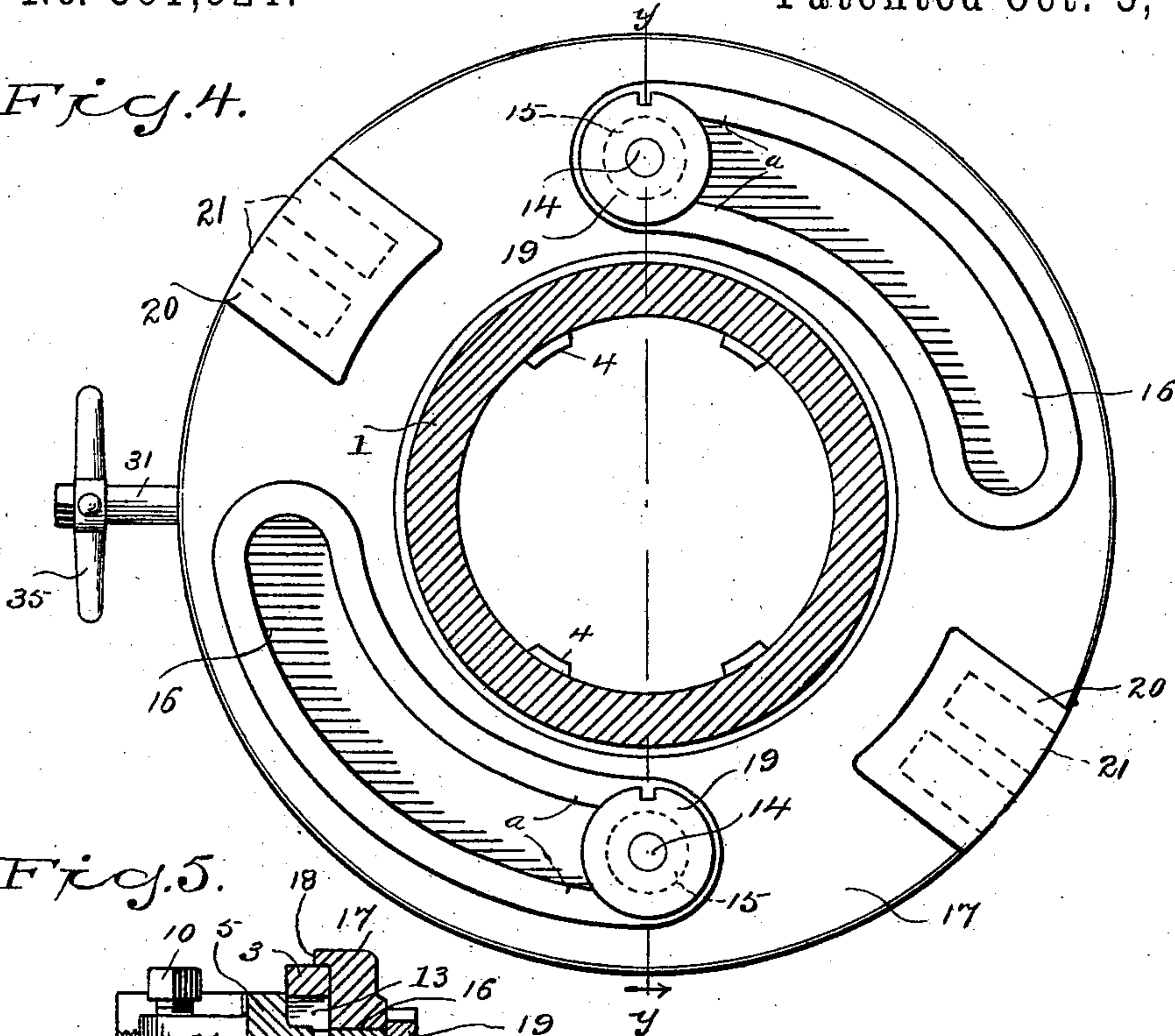
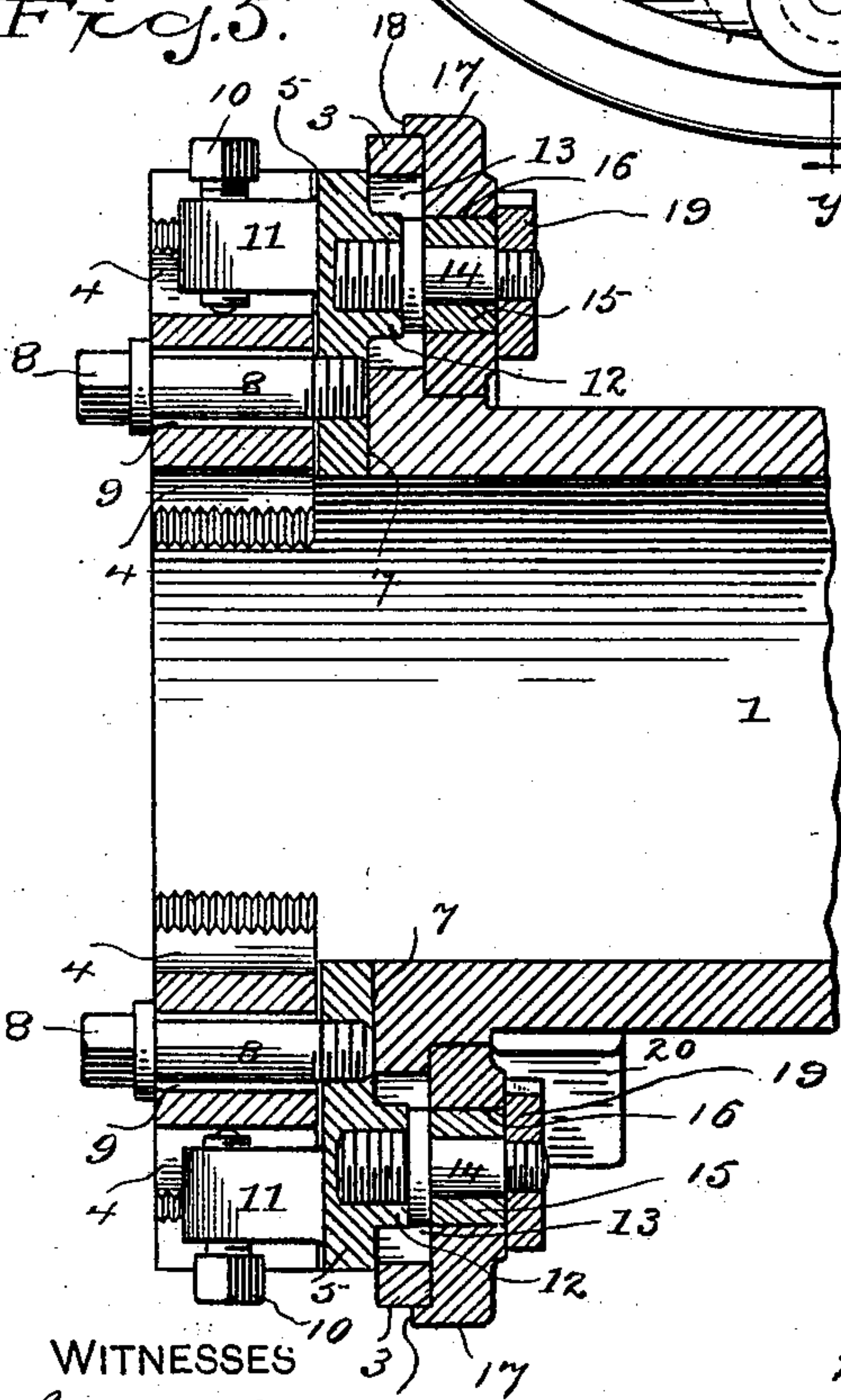


Fig. 5.



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Fig. 6.

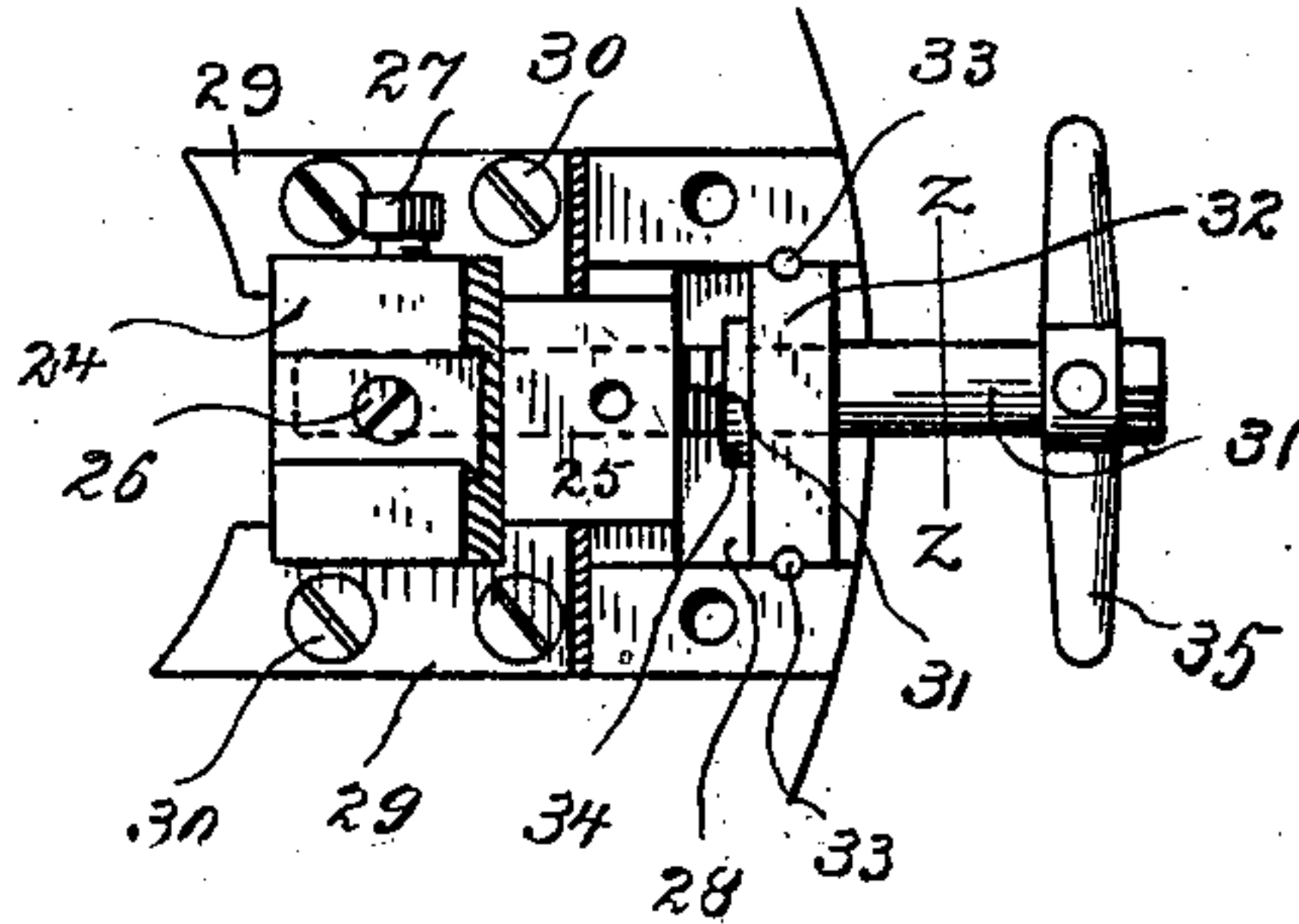
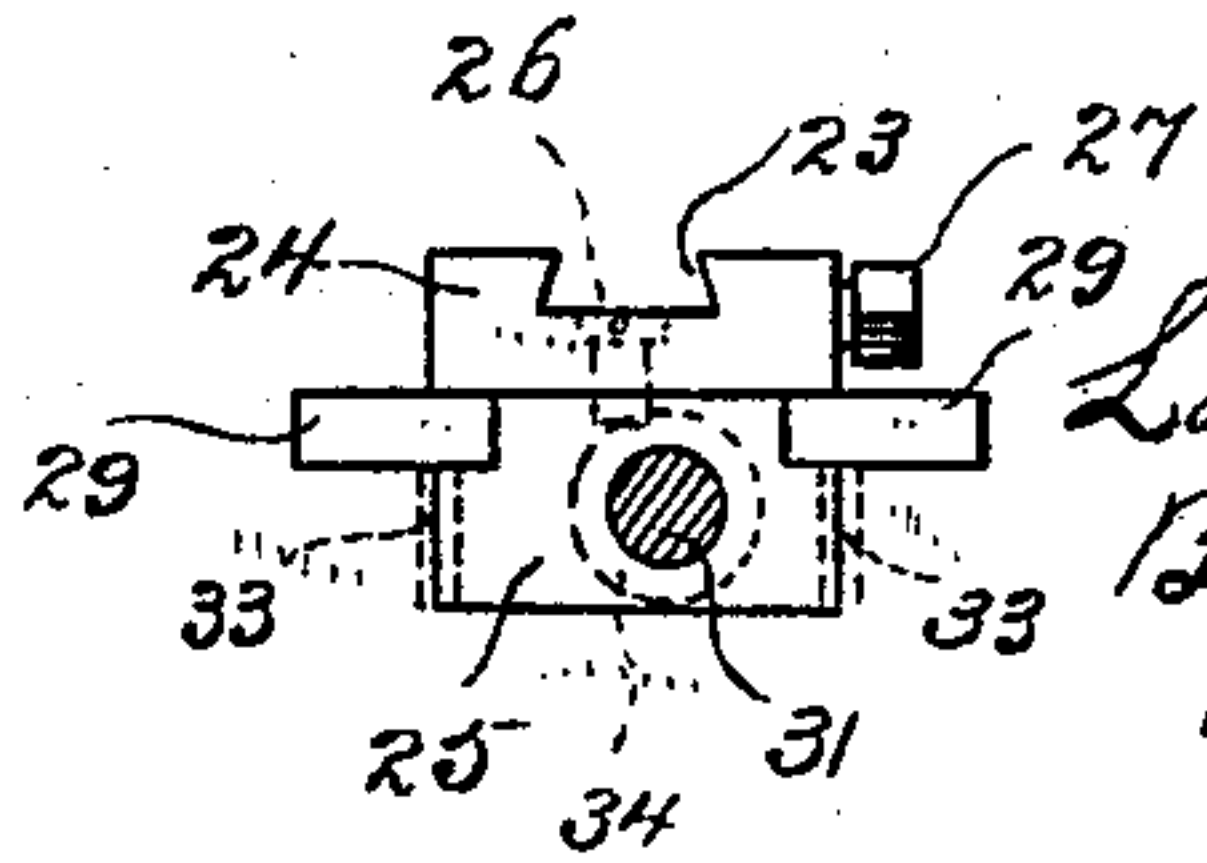


Fig. 7.



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UNITED STATES PATENT OFFICE.

LARNS FRÜS CARSTENSEN, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
THE ARMSTRONG MANUFACTURING COMPANY, OF SAME PLACE.

DIE-HEAD FOR THREADING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 591,324, dated October 5, 1897.

Application filed March 9, 1897. Serial No. 626,590. (No model.)

To all whom it may concern:

Be it known that I, LARNS FRÜS CARSTENSEN, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Die-Heads for Threading-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.

My invention relates more especially to pipe threading and cutting-off machines, and has for its object to provide simple and convenient mechanism for adjusting the threading-dies and the cutting-off tool which shall be durable, easy to operate, and not liable to get out of repair.

With these ends in view I have devised the simple and novel construction which I will now describe, referring by numbers to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of the die-head of a pipe threading and cutting-off machine illustrating my novel improvements; Fig. 2, a side elevation; Fig. 3, an end elevation of a threading-die and the carrier therefor; Fig. 4, a section on the line *xx* in Fig. 2; Fig. 5, a section on the line *yy* in Figs. 1 and 4; Fig. 6, a detail view, partly in section, illustrating the construction and operation of the carrier for the cutting-off tool; and Fig. 7 is a detail elevation corresponding with Fig. 6, the adjusting-screw being in section on the line *zz*.

1 denotes the barrel; 2, a gear-wheel by which motion is communicated thereto, and 3 the head, which is formed as a flange integral with the barrel.

4 denotes the dies, and 5 the carriers therefor, which are movable in recesses 6 in the face of the head, the carriers being retained in the recesses by face-plates 36. The dies lie in recesses 7 in the carriers and are locked in position by bolts 8, which pass through elongated openings 9 in the dies and engage the carriers, said openings being elongated so as to permit adjustment of the dies independently of the carriers. The dies are locked

against outward movement by set-screws 10, which pass through lugs 11 on the carriers and bear against the dies.

12 denotes bosses on the backs of the carriers, which lie in radial slots 13 in the head. 14 denotes studs which engage these bosses and carry rollers 15, which are adapted to travel in curved cam-slots 16 in a ring 17, which is adapted to oscillate on the barrel and is preferably provided with a flange 18, which incloses the outer periphery of the head, as clearly shown in Fig. 5. The outer ends of the studs are threaded and are engaged by nuts 19, which hold the ring in place upon the head, and thus avoid the necessity of threading the barrel or providing other special means for retaining the ring in position.

20 denotes bosses on the back of the ring, which are provided with holes 21 to receive a pin by which the ring may be oscillated upon the barrel.

In Figs. 4 and 5 I have shown the dies as at their extreme position inward—that is, in operative position. When it is desired to retract the dies, the operator oscillates the ring, ordinarily by placing a pin in one of the holes 21, the effect of which is to retract the dies far enough so that the threads will not extend into the barrel, thus permitting a threaded pipe or rod to be readily removed. While the dies are retracted, a new pipe or rod may be inserted and the dies may then be moved forward into operative position by a reverse oscillation of the ring, the rollers traveling down the inclines of the curved cam-slots and placing the dies in the position clearly shown in the drawings. It should be noted that the inner ends of the cam-slots to approximately the points indicated by *a* are arcs of circles concentric with the barrel, and that from the points *a* to the outer ends thereof said cam-slots are eccentric or recede from the center to form the curved inclines up which rollers 15 travel in retracting the dies. The inner ends of the cam-slots—*i. e.*, the concentric portions—serve to lock the dies in the operative position, it being impossible to retract the dies until the ring has been os-

cillated sufficiently to carry the rollers past points *a* in the cam-slots and onto the eccentric portions thereof.

In Figs. 1, 6, and 7 I have illustrated the construction and operation of the cutting-off tool which I preferably use in my novel die-head.

22 denotes the cutting-off tool, which lies in a way 23 in a block 24, which is itself secured to a block 25 in any suitable manner, as by screws 26, the cutting-off tool being locked in the way by set-screws 27. Block 25 lies in a recess 28 in the face of the head and is retained in place by face-plates 29, which are fastened to the head by screws 30. Block 25, and with it block 24 and the cutting-off tool, are moved into or out of operative position by means of an operating-screw 31, the shank of which passes through a cross-piece 32 in recess 28, said cross-piece being held in position by locking-pins 33, which engage recesses formed in the ends of the cross-piece and at the sides of recesses 28.

34 denotes a collar on the operating-screw which bears against the cross-piece, and 35 denotes a hand-piece upon the operating-screw for convenience in operation. It will readily be understood from Fig. 6, in connection with Fig. 1, that rotation of the operating-screw will move blocks 24 and 25 and the cutting-off tool into or out of operative position, as may be required.

Having thus described my invention, I claim—

1. A die-head for threading-machines comprising in its construction a head 3 provided with radial slots 13, a plurality of carriers 5 each of which is movable in a recess in the face of the head and has a boss 12 extending into one of the slots 13, dies connected with said carriers, studs 14 projecting from the carriers, and the ring 17 having cam-slots 16 to receive the studs and mounted on the barrel of the die-head and adapted to be oscillated to move the die-carriers and dies radially, the said studs being extended through the slots 16 and provided with nuts 19 bearing on the rear surface of the head 3.

2. The combination with the barrel 1 having the integral flange or head 3 provided with radial slots 13, of the carriers 5 movable

in recesses in the face of the head and having bosses 12 extending into the slot 13, dies adjustably connected with said carriers, studs 14 engaged with the bosses 12, and the ring 17 having cam-slots 16 to receive the studs and mounted on the barrel behind the head and adapted to be operated to move the die-carriers and dies radially, the said studs being extended through the slots 16 and provided with nuts 19 bearing on the rear surface of the head 3.

3. The combination with the barrel 1 having the flange or head 3 provided with radial slots 13, of the carriers 5 movable in recesses in the face of the head and having bosses 12 extending into the slots 13 and having also the lugs 11, the dies 4 having elongated slots 9, bolts 8 extending through said slots into the carriers, screws 10 in the lugs 11 and bearing on the dies, studs 14 projecting from the bosses 12, and the rings 17 having cam-slots 16 to receive the studs and mounted on the barrel behind the head and adapted to be oscillated to move the die-carriers and dies radially, the said studs being extended through the slots 16 and provided with nuts 19 bearing on the rear surface of the head 3.

4. A die-head for threading-machines comprising in its construction a head 3 provided with radial slots 13, a plurality of carriers 5 each of which is movable in a recess in the face of the head and has a boss 12 extending into one of the slots 13, dies connected with said carriers, studs 14 projecting from the carriers, and the rings 17 having slots 16 to receive the studs, the said studs being extended through the slots 16 and provided with nuts 19 bearing on the rear surface of the head 3, each of said slots being at its inner end concentric with the center of the die-head and eccentric at its outer end, the said ring being mounted on the barrel of the die-head and adapted to be oscillated to move the die-carriers and dies radially and to lock them in their inner positions.

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

LARNS FRÜS CARSTENSEN.

Witnesses:

JOHN DENNIS,

CHRISTIAN PETERSON.