

Oct. 7, 1930.

M. T. ATKINS

1,777,424

PADLOCK

Filed Dec. 26, 1928

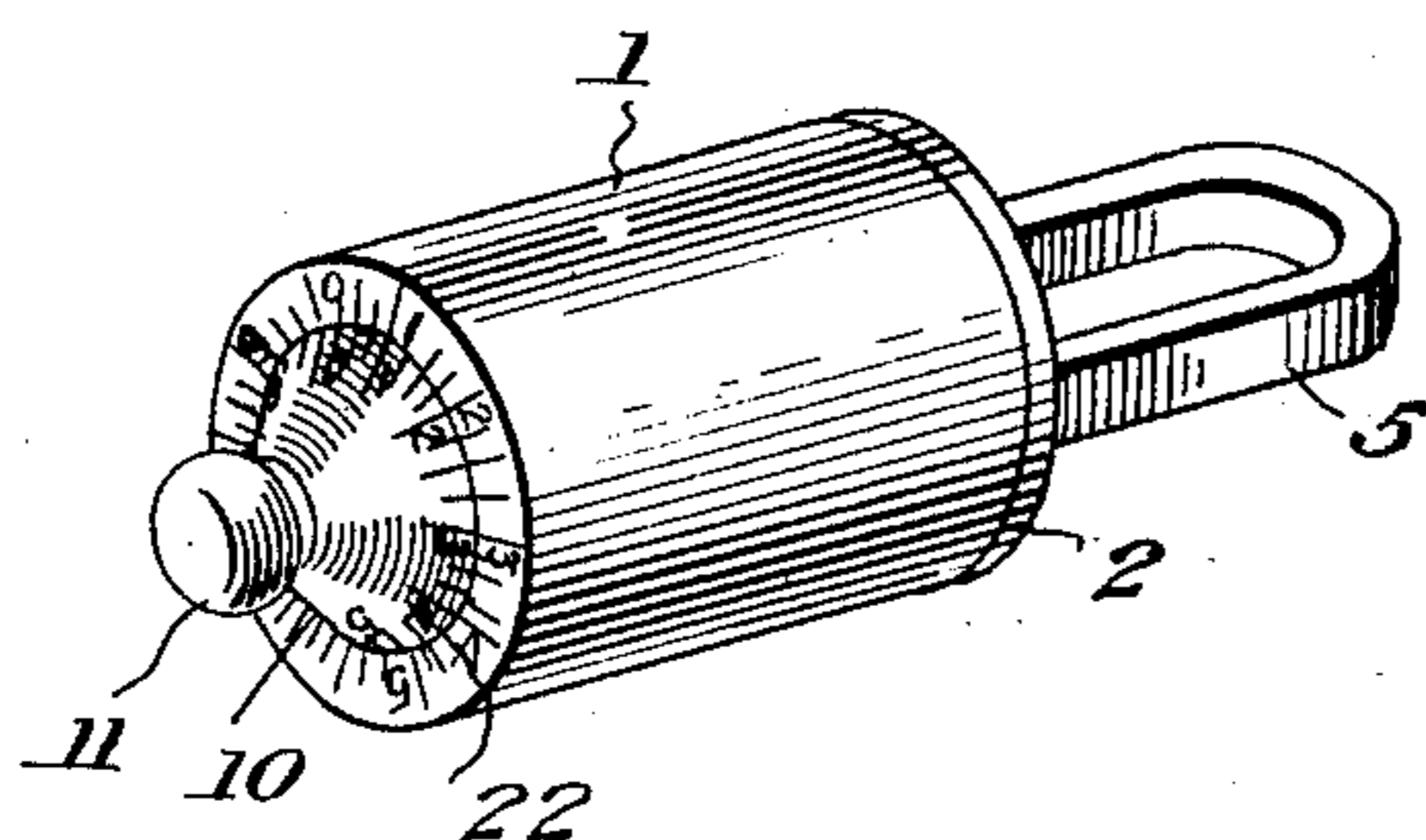


Fig. 1.

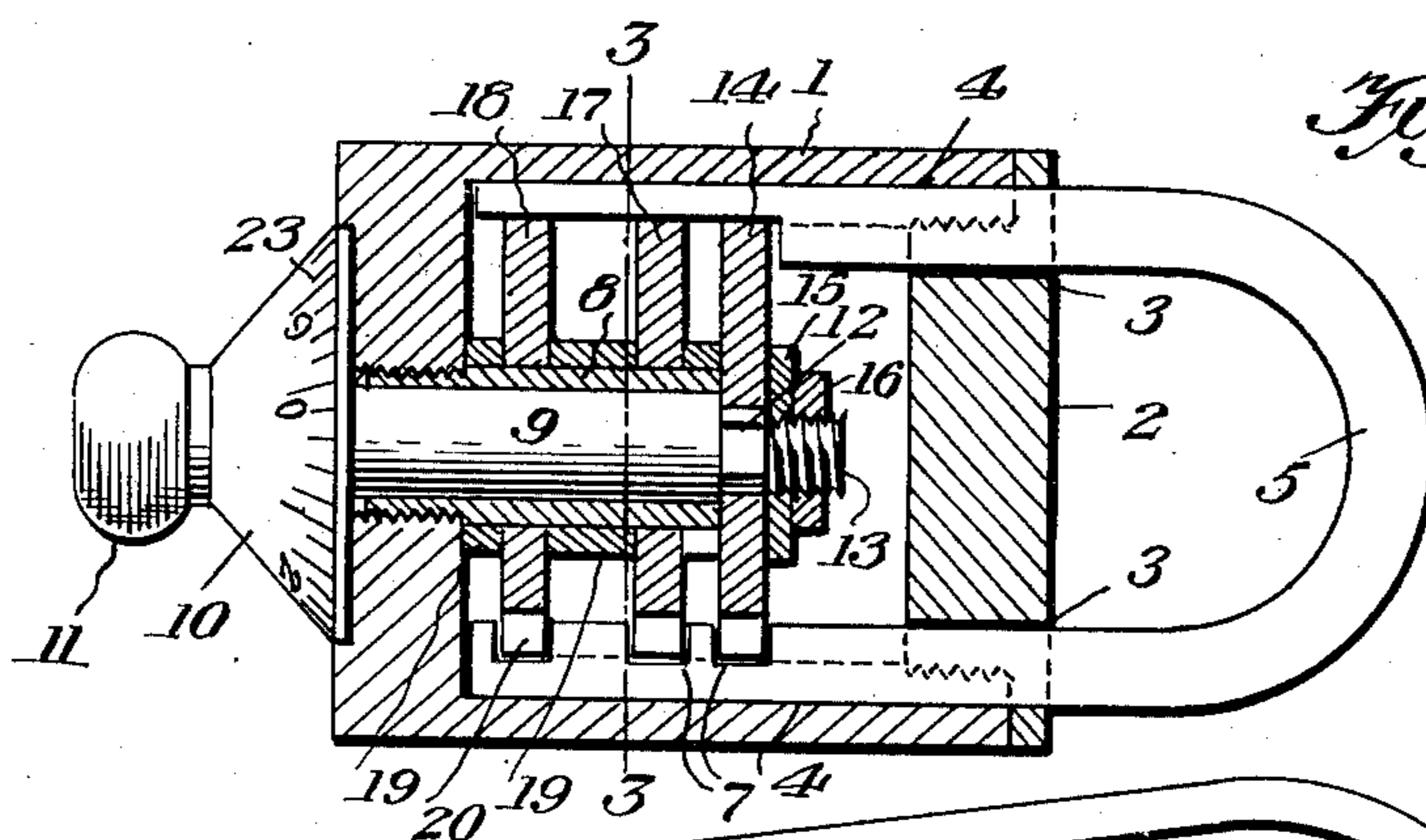


Fig. 2.

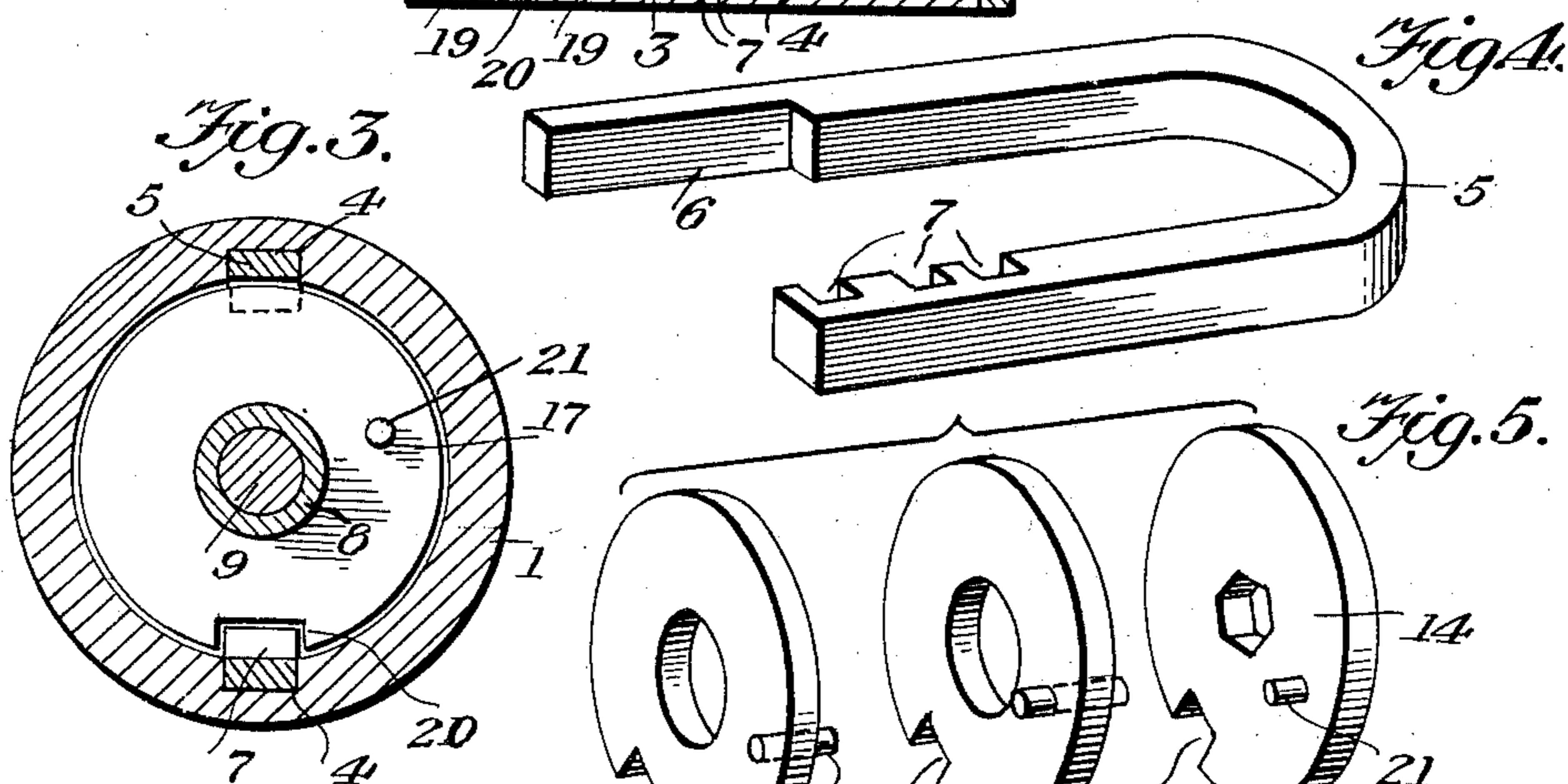


Fig. 4.

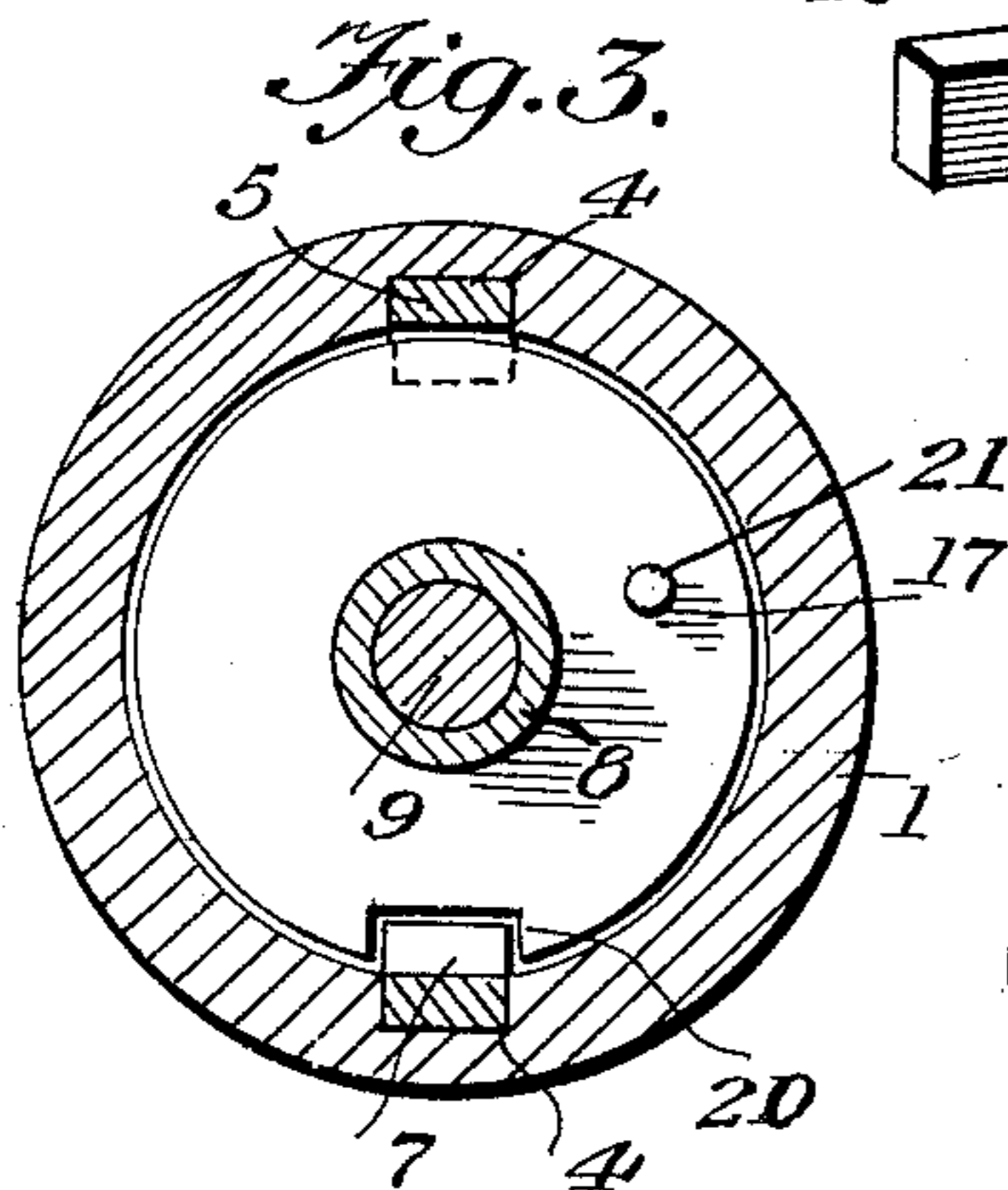


Fig. 3.

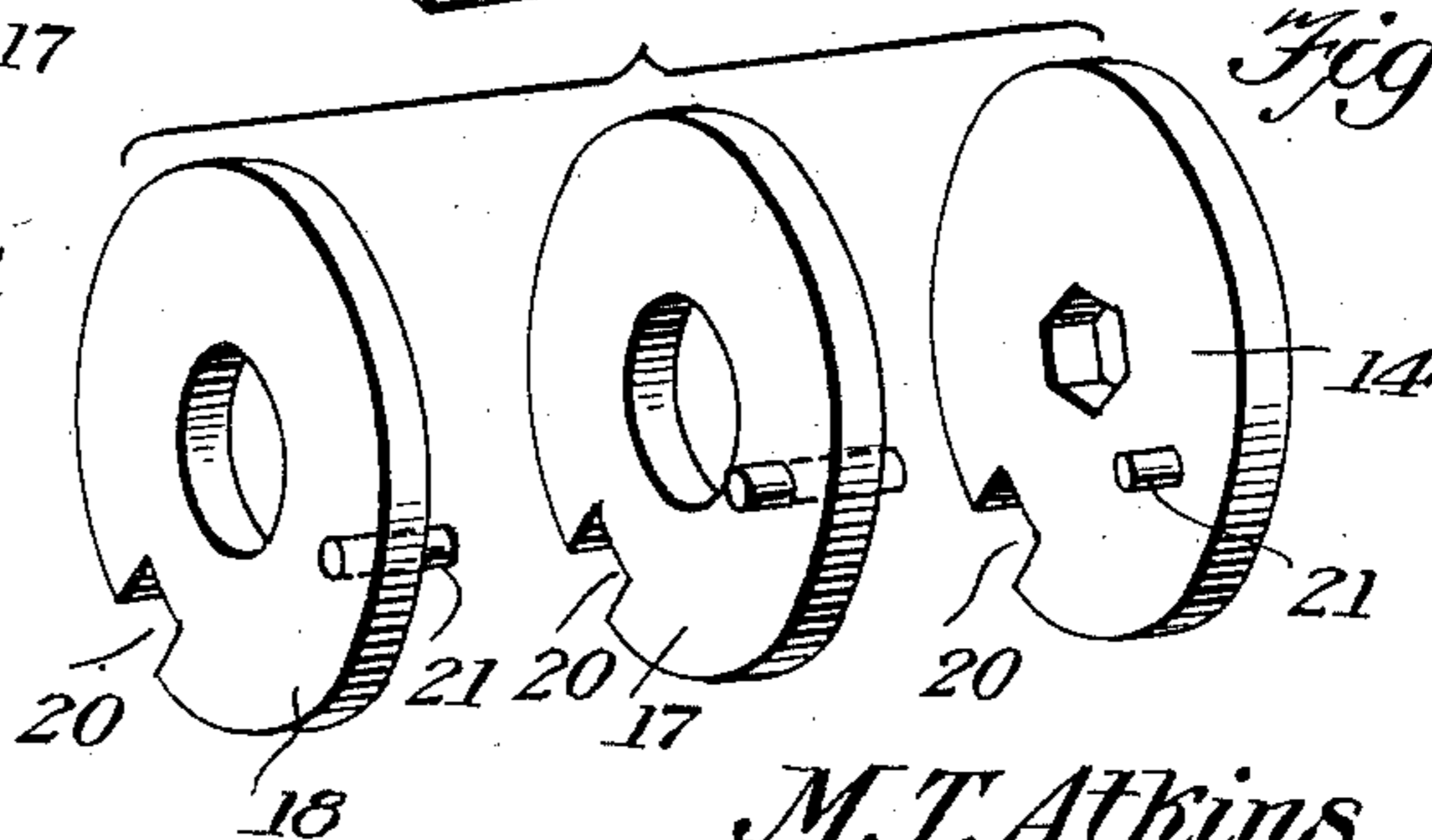


Fig. 5.

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PADLOCK

Application filed December 26, 1928. Serial No. 328,424.

This invention relates to a combination padlock, the general object of the invention being to so construct the parts that the device can be manufactured to sell at low cost and the device will be simple in operation, yet one which is practically burglar-proof.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claim.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a perspective view of the lock.

Figure 2 is a longitudinal sectional view.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a view of the shackle.

Figure 5 is a view of the tumblers.

In these views, the numeral 1 indicates the cylindrical body of the lock which has one end closed and its other end open, this open end being closed by a plug-like member 2 which has its reduced inner part threaded to engage internal threads in the open end of the body. This member 2 is formed with the oppositely arranged openings 3 which register with the oppositely arranged internal grooves 4 in the walls of the body. These openings and grooves are designed to receive the limbs of the U-shaped shackle 5. One of these limbs is formed with the reduced end part 6 and the other limb has the notches 7 therein.

The closed end of the body has a centrally arranged opening therein, the inner portion of which is enlarged and threaded to receive the threaded end of a tubular member 8 and a shaft 9 passes through the opening and the sleeve. A frusto-conical part 10, having a knob 11 at its outer end, is attached to the outer end of the sleeve and the other end of the shaft which projects from the member 8 is reduced in diameter and has a hexagonal inner part 12 and a threaded part

13. A tumbler 14, of disk shape, has a hexagonal opening in its center which receives the hexagonal part 12 of the shaft and this tumbler is held on the shaft by the washer 15 and the nut 16, the nut engaging the threaded part 13. Other tumblers 17 and 18 are rotatably arranged on the member 8 and are held in position by the spacers 19. Each tumbler is provided with a notch 20 in its periphery through which passes the notched limb of the shackle and each tumbler carries a pin 21, the pin of the tumbler 17 projecting from both faces of the tumbler. A dial 22 is placed on the closed end of the body and surrounds the part 10, the inner end of this part 10 being countersunk in the body and said part is also formed with the graduations 23.

From the foregoing it will be seen that when the notches 20 of the tumblers are in alignment, the limbs of the shackle 5 can be pushed into the body through the openings 3 in the plug 2 and then by turning the shaft 9 through means of the knob 11, the pin of the tumbler 14, which is attached to the shaft, will strike the pin of the middle tumbler so as to move the same and the pin of this middle tumbler, striking the pin of the tumbler 18, will move said tumbler 18. During this movement of the tumblers, the notched portions thereof will pass beyond the notched limb of the shackle, bringing the solid portions of the tumblers in the notches 7 and thus the shackle will be locked in the body. Attention is called to the fact that when the shackle is so locked, it will be impossible to gain access to the interior of the lock, as the plug 2 cannot be removed while the shackle is in place. In order to open the lock, the shaft 9 must be turned to a position where the tumblers will be positioned with their notches 20 registering with each other and also registering with the notched limb of the shackle. Then the shackle can be removed from the body. It will be understood that the graduations on the member 10 and those on the body will facilitate the proper positioning of the parts, it being necessary to bring a certain graduation on the member 10 opposite a certain graduation on the

body before the shackle can be withdrawn. The combination can be changed by adjusting the tumblers relative to each other. The reduced end 6 of the shackle enables this limb of the shackle to clear the tumblers when the shackle is being placed in the body.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A combination padlock comprising a hollow body having one end closed with an integral wall provided with a centrally arranged screw threaded opening and having the opposite end closed by a removable end wall having spaced shackle receiving openings, said body having shackle grooves in the wall thereof aligning with the shackle openings, a U-shaped shackle having the limbs thereof extending through the shackle openings and grooves and abutting the integral end wall of the body, one of the limbs of the shackle cut away to provide a reduced portion confined within their respective groove and the other limb having spaced notches, a sleeve in the body and having one end threaded in the threaded opening, a shaft journaled in the sleeve and extending beyond each end thereof and having the end confined in the body reduced and squared, an operating handle secured to the other end of the shaft, a plurality of tumbler disks having notches to receive the notched limb of the shackle and one of the disks fixed to the squared end of the shaft and the other disks journaled on the sleeve and relatively spaced from each other, and pins carried by the disks to impart rotation to the disks by the rotation of the disk fixed to the shaft during the manual manipulation of the latter to lock and unlock the shackle in the body.

In testimony whereof I affix my signature.

MACK THOMAS ATKINS.