

No. 801,386.

PATENTED OCT. 10, 1905.

A. F. LAGERSTROM.

DRILL CHUCK.

APPLICATION FILED DEC. 30, 1904.

Fig. 1.

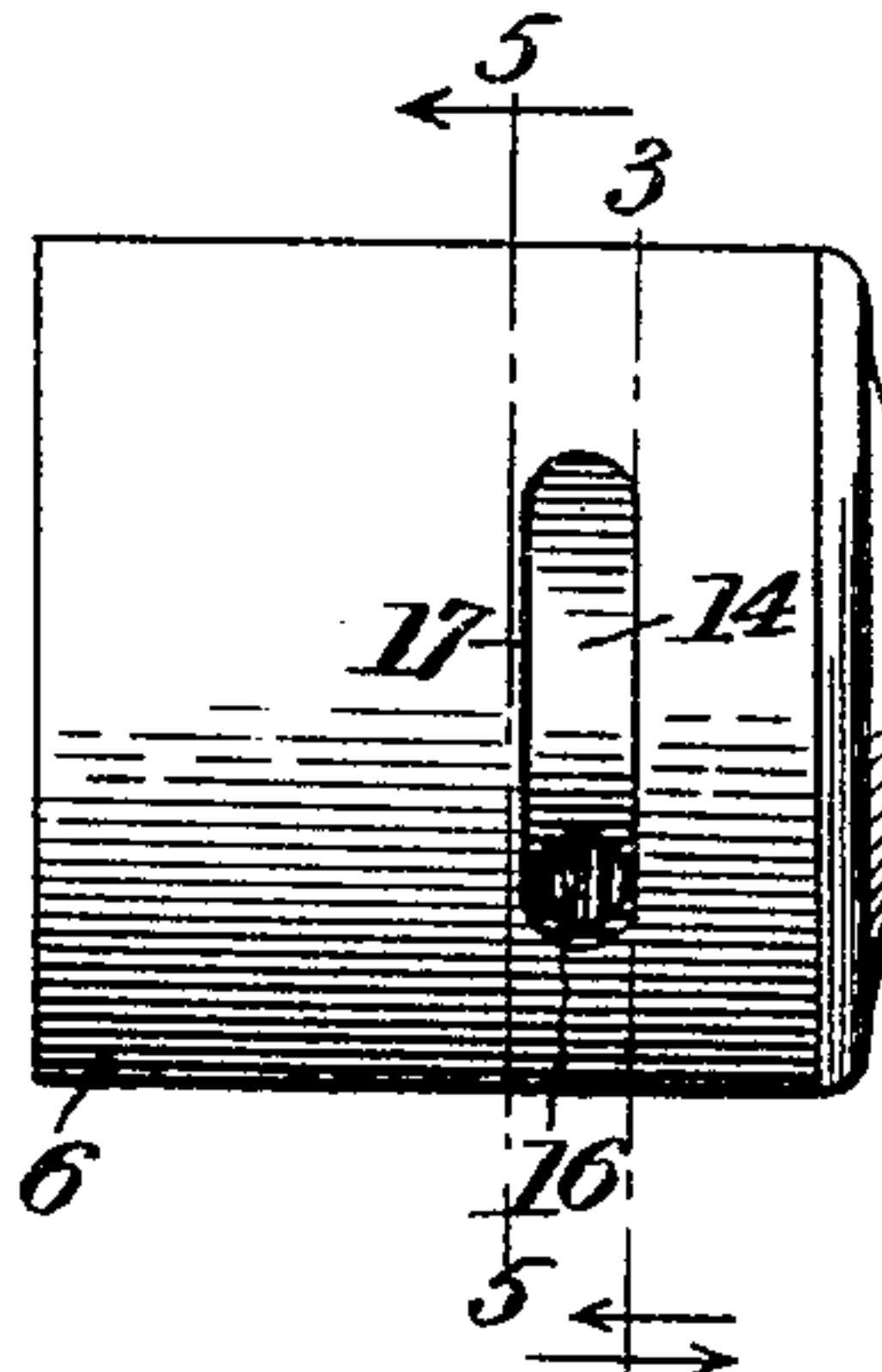


Fig. 2.

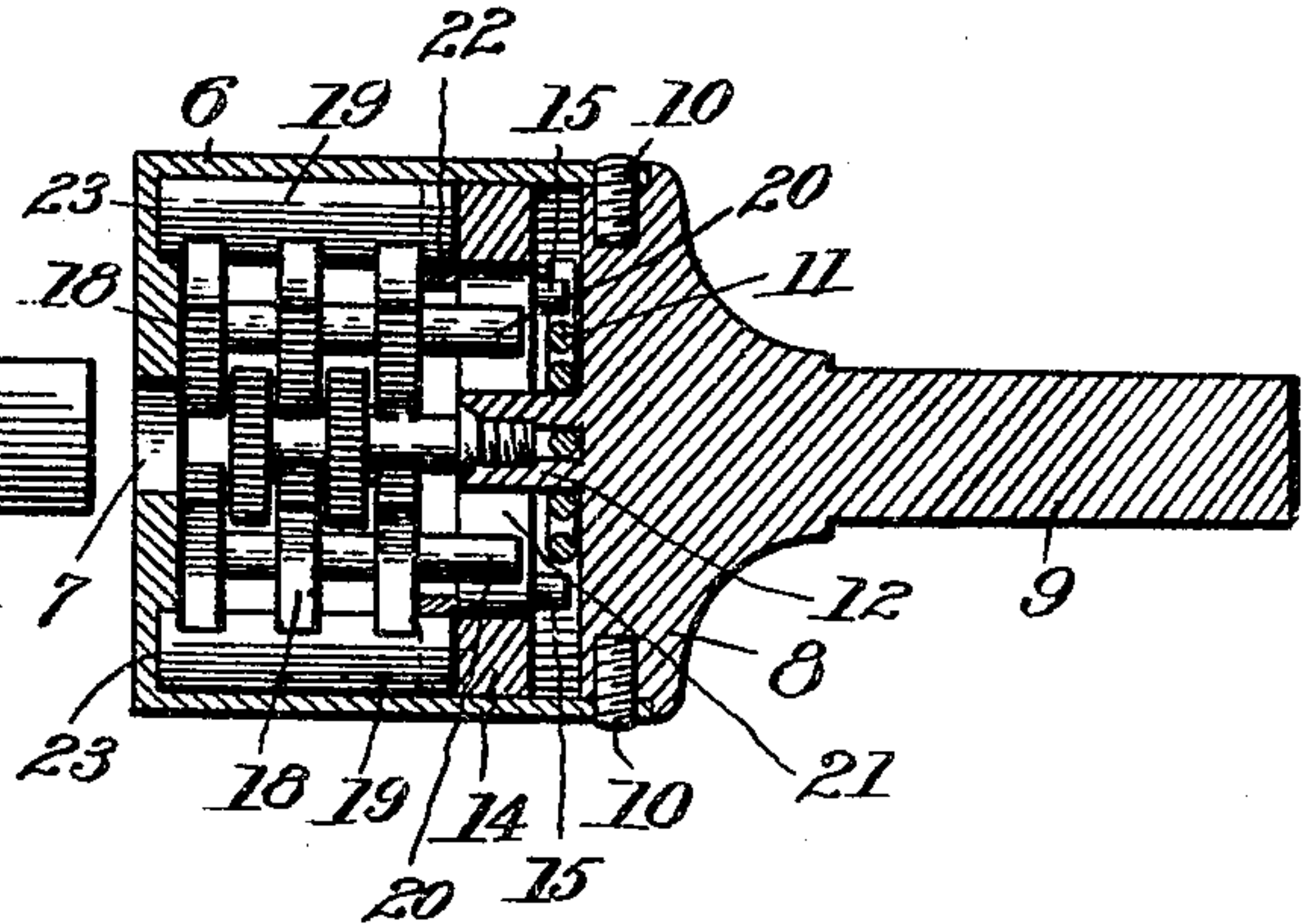


Fig. 3.

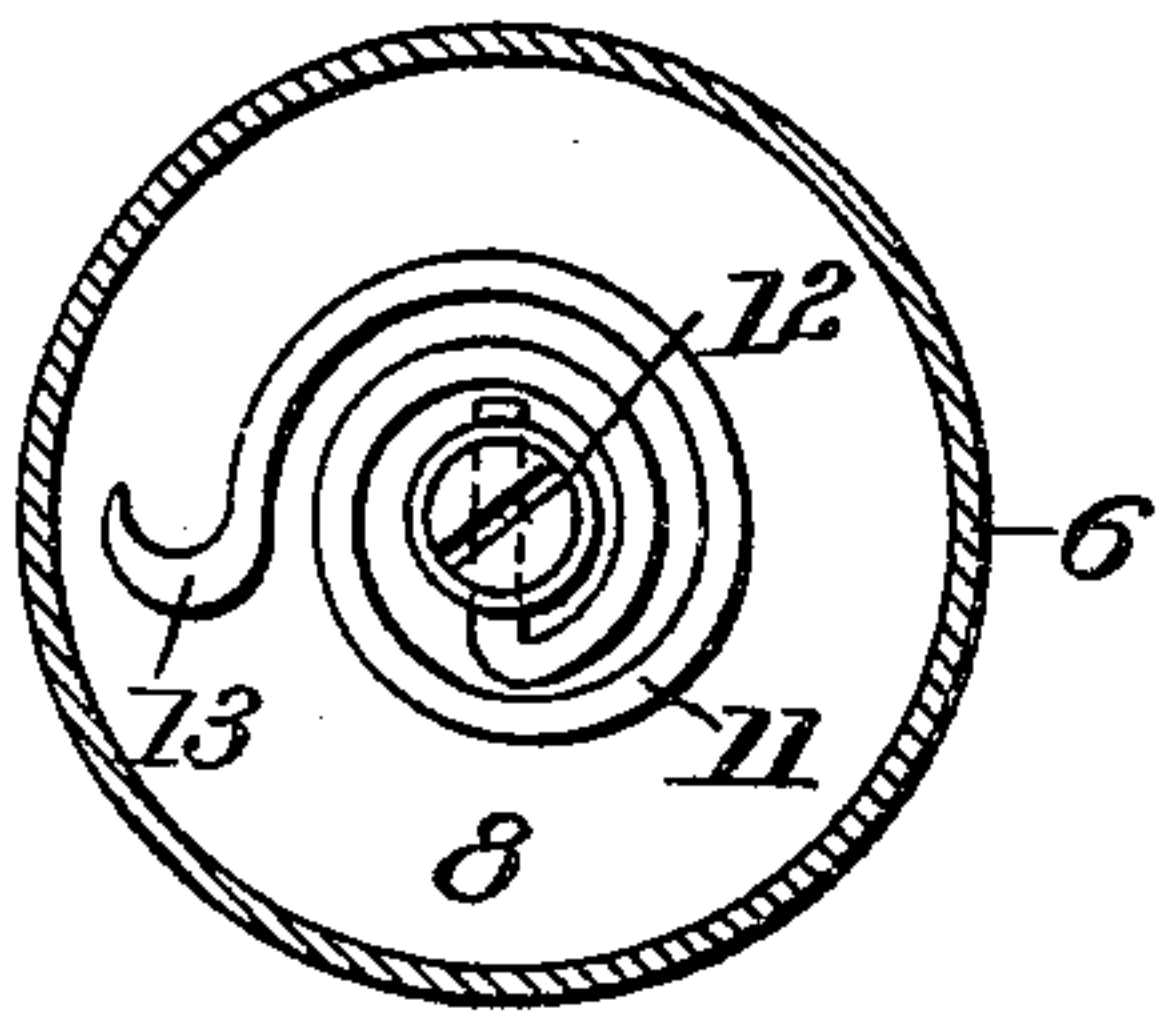


Fig. 4.

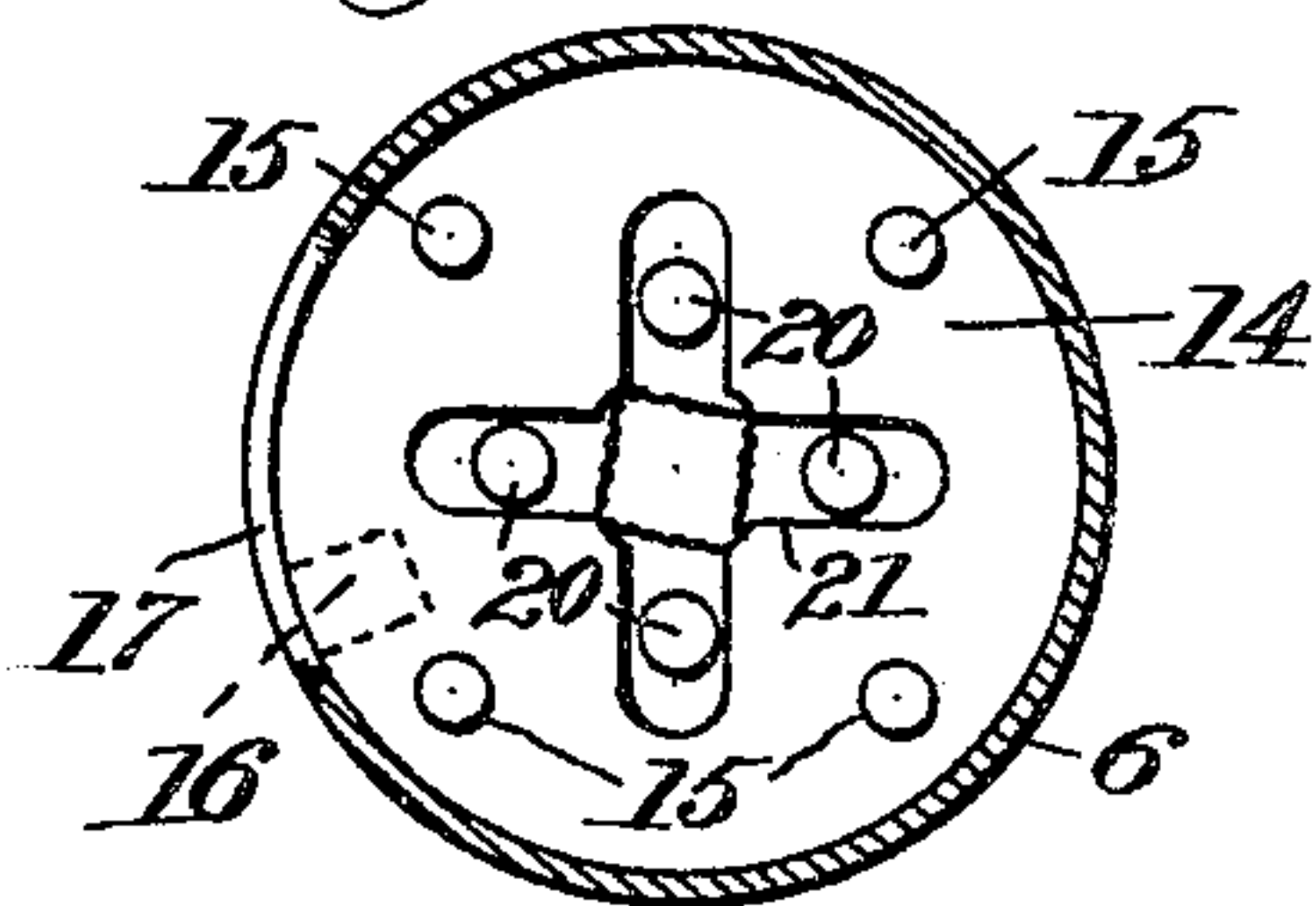


Fig. 5.

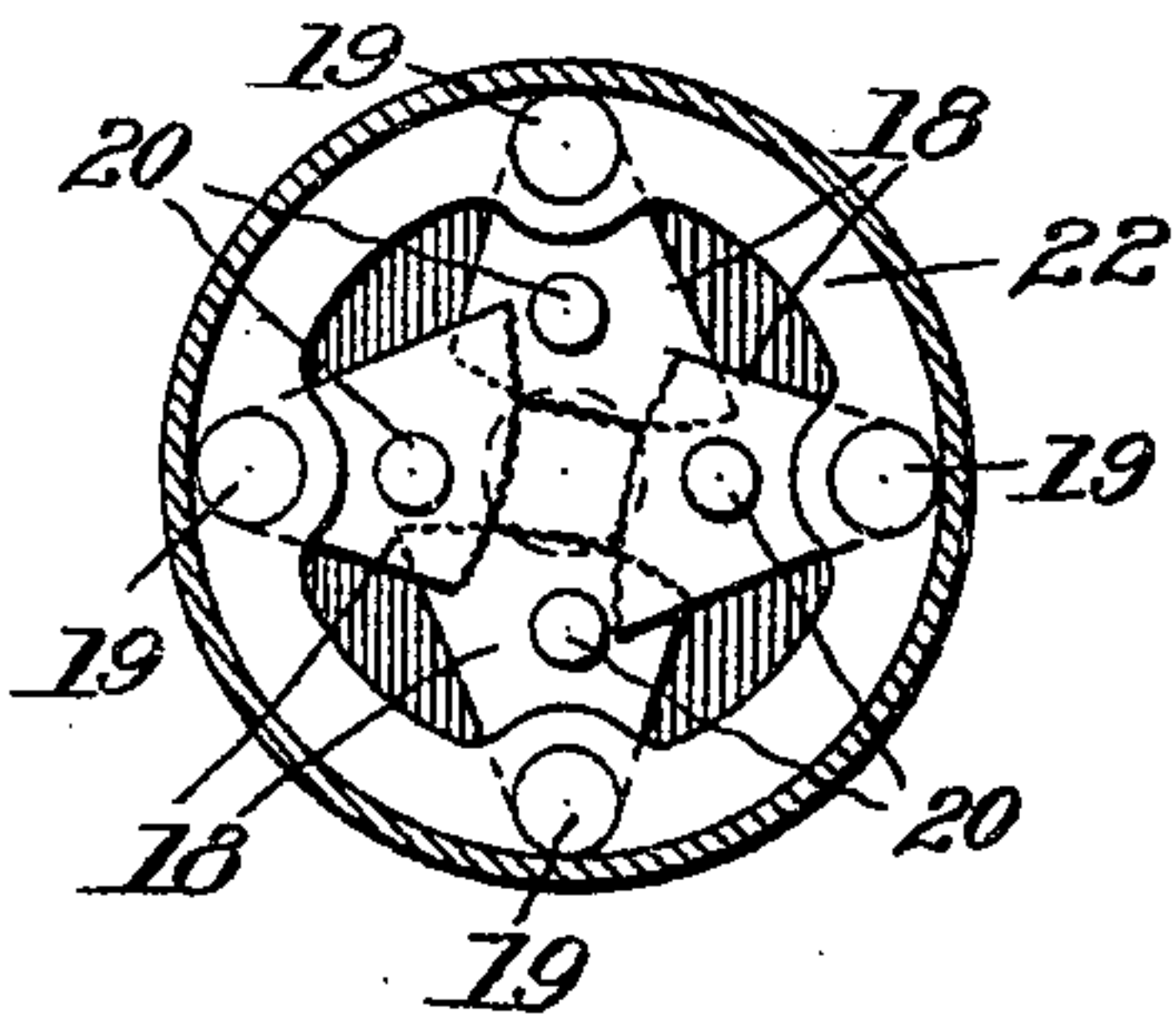
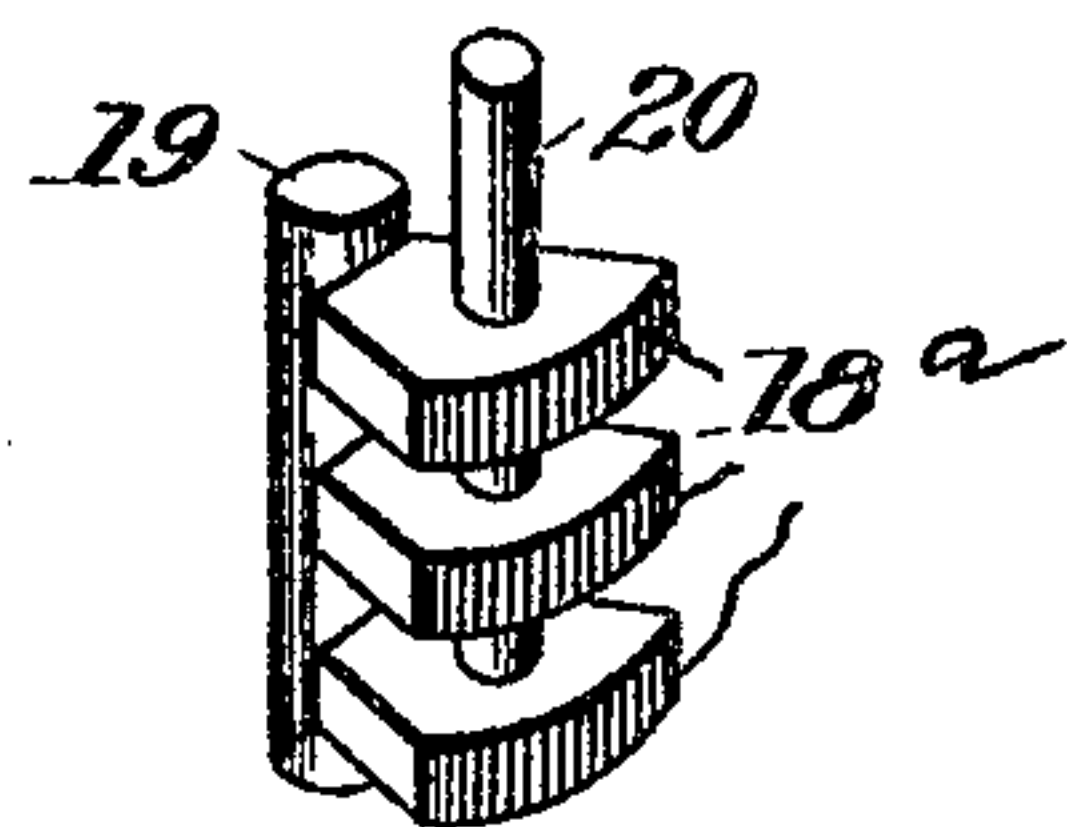


Fig. 6.



Witnesses
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ANTHONY F. LAGERSTROM, OF CHICAGO, ILLINOIS.

DRILL-CHUCK.

No. 801,386.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed December 30, 1904. Serial No. 239,031.

To all whom it may concern:

Be it known that I, ANTHONY F. LAGERSTROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Drill-Chucks, of which the following is a specification.

This invention is a drill-chuck of that kind in which a group of swinging jaws close upon the tang of the drill or other article to be held, said jaws having a cam-face, which tightens the grip as the drill is operated.

The object of the invention is to produce an improved device of the kind, characterized particularly by improved means for allowing the insertion of the drill in the chuck and for holding the same therein.

In the accompanying drawings, Figure 1 is a side view of the chuck. Fig. 2 is a central longitudinal section. Figs. 3 and 4 are cross-sections on the line 3 3 of Fig. 1 looking in opposite directions. Fig. 5 is a cross-section on the line 5 5 of Fig. 1. Fig. 6 is a detail in perspective of one of the jaws.

Referring specifically to the drawings, 6 indicates the cylindrical casing of the chuck, having an opening 7 at the front to receive the tang of the drill and having at the rear a removable cap 8, which terminates in the shank 9. The cap is reduced to fit within the end of the casing, and it is held there by screws 10. The cap carries on its inner face a coiled spring 11, fixed at its inner end to a central stud 12 and terminating at its outer end in a hook 13.

Adjacent the cap within the casing is a turning-plate 14, having on the side next to the cap projecting studs 15, with any one of which the hook 13 will engage when the parts are assembled. This turning-plate 14 has in its periphery a hole 16, which registers with a slot 17 in the casing. This hole and slot may be duplicated on opposite sides of the casing, so that it can be operated from either side, the purpose and effect being to permit the plate 14 to be turned to open the jaws. By reason of the engagement of the hook 13 of the spring with one of the pins 15 the turning action is resisted by the spring. In other words, the spring tends to close the jaws.

The jaws are indicated at 18, and each jaw has a pin 20, which projects into one of the

branches of a cross-shaped slot or recess 21, formed in the plate 14. The jaw-pivots 19 are set at one end into a ring 22, which fits in the casing, and at the other end in depressions 23, formed in the front wall of the casing. The jaws swing on their respective pivots and have the usual cam-faces to open and close and grip the drill-shank accordingly.

When the plate 14 is turned, the contact of the pins 20 against the sides of the cross-slot 21 causes the jaws to swing and open or close, according to the direction of movement of the plate 14. As said before, the arrangement of the spring 11 is such as to cause the plate 14 to turn in the direction to close the jaws. When it is desired to insert or remove a tool, an ordinary pin is put through the slot 17 into the hole 16 and the plate 14 turned thereby. This swings the jaws open and allows the tool to be inserted therebetween. The plate is then let go, and the spring turns the same back with sufficient force to hold the tool between the jaws. When the drill begins to operate, the jaws tighten themselves in a manner common to that class of cam-jaws.

To give a larger gripping-surface and still allow the swing of the jaws without increasing unduly the length of the chuck-head, each jaw has several sections, as indicated at 18^a, with spaces therebetween, and the sections of the respective jaws are staggered, so that the sections of one jaw work between the spaces of the other.

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

A drill-chuck comprising a cylindrical casing, a turning-plate therein having crossed slots and projecting studs, a spring connected to the casing and having a hook at one end engageable with one of the studs on the plate, and jaws pivotally supported in the casing and having pins which project into the slots in the said plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANTHONY F. LAGERSTROM.

Witnesses:

CLARA PROSCHE,
H. G. BATCHELOR.