

(No Model.)

W. H. COGSWELL.
ROTARY CLIPPER.

No. 430,070.

Patented June 10, 1890.

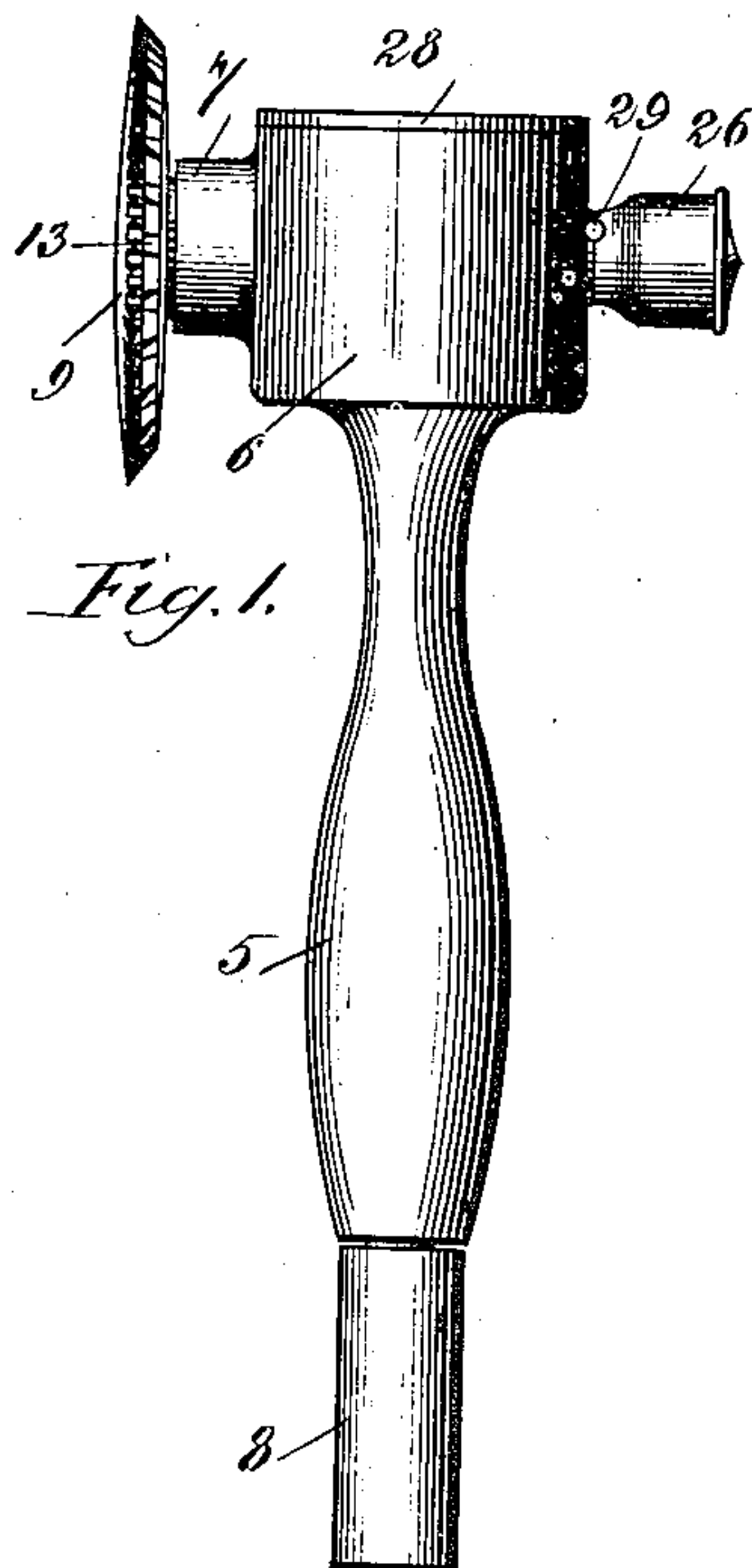


Fig. 1.

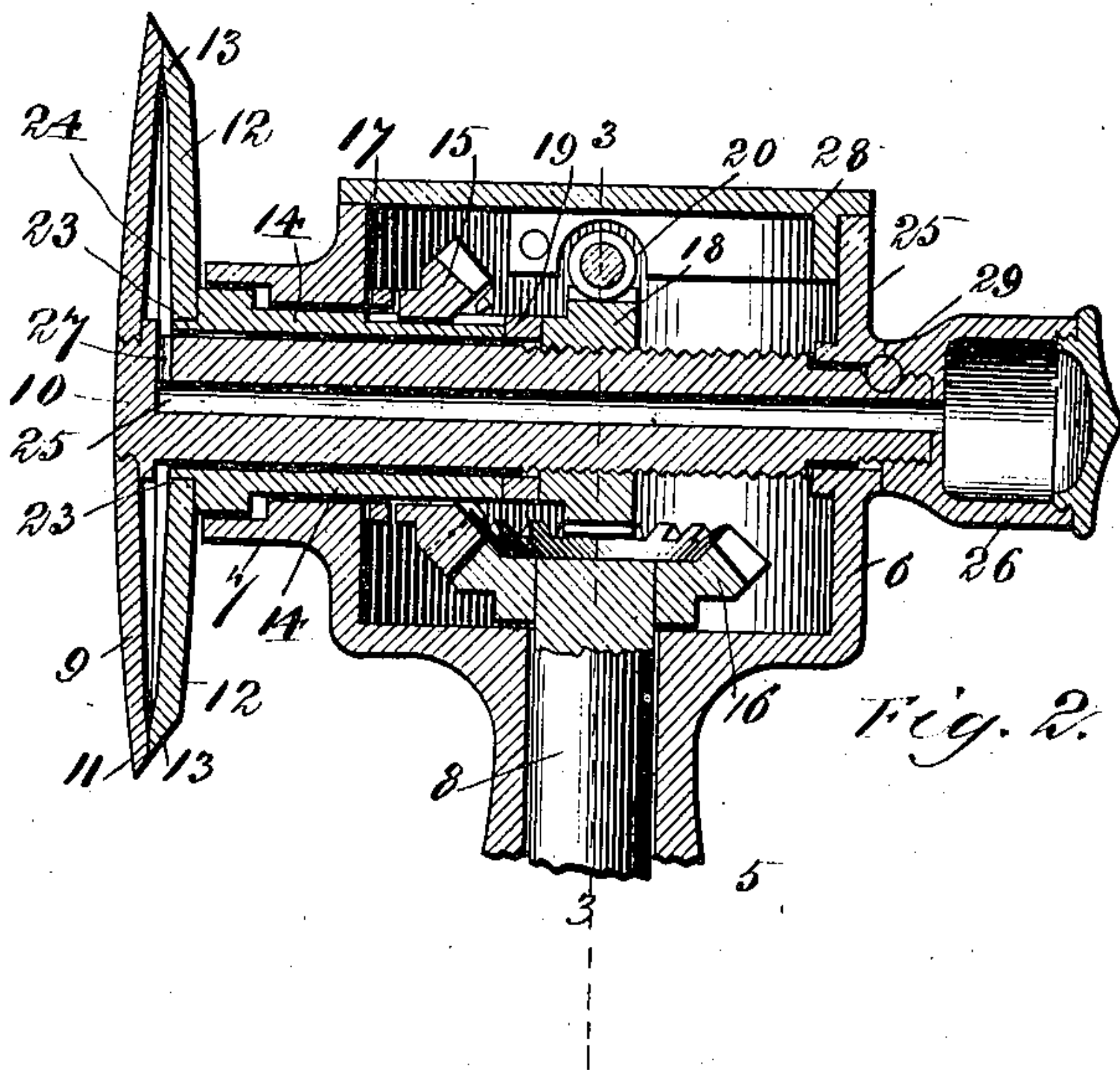


Fig. 2.

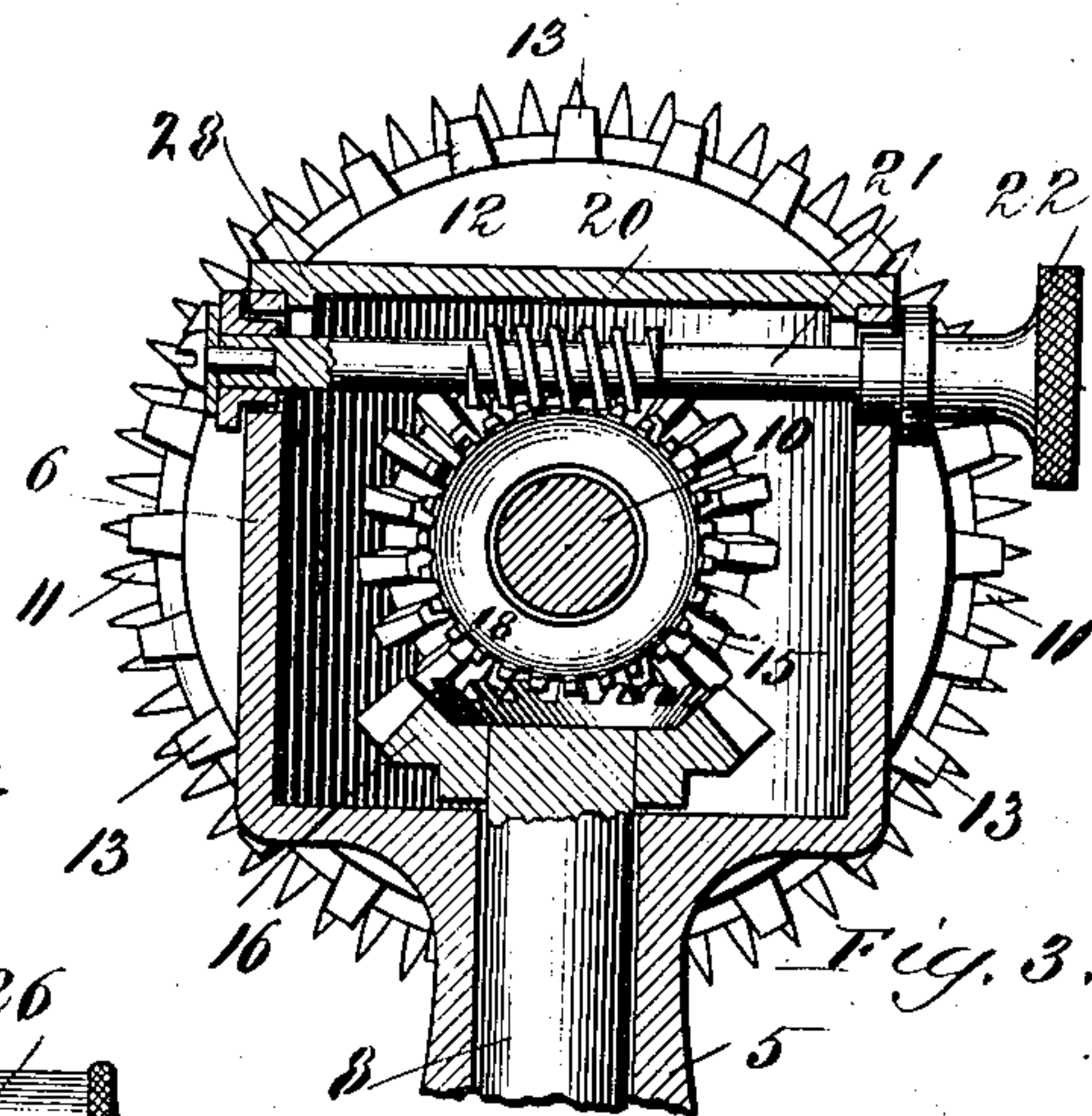


Fig. 3.

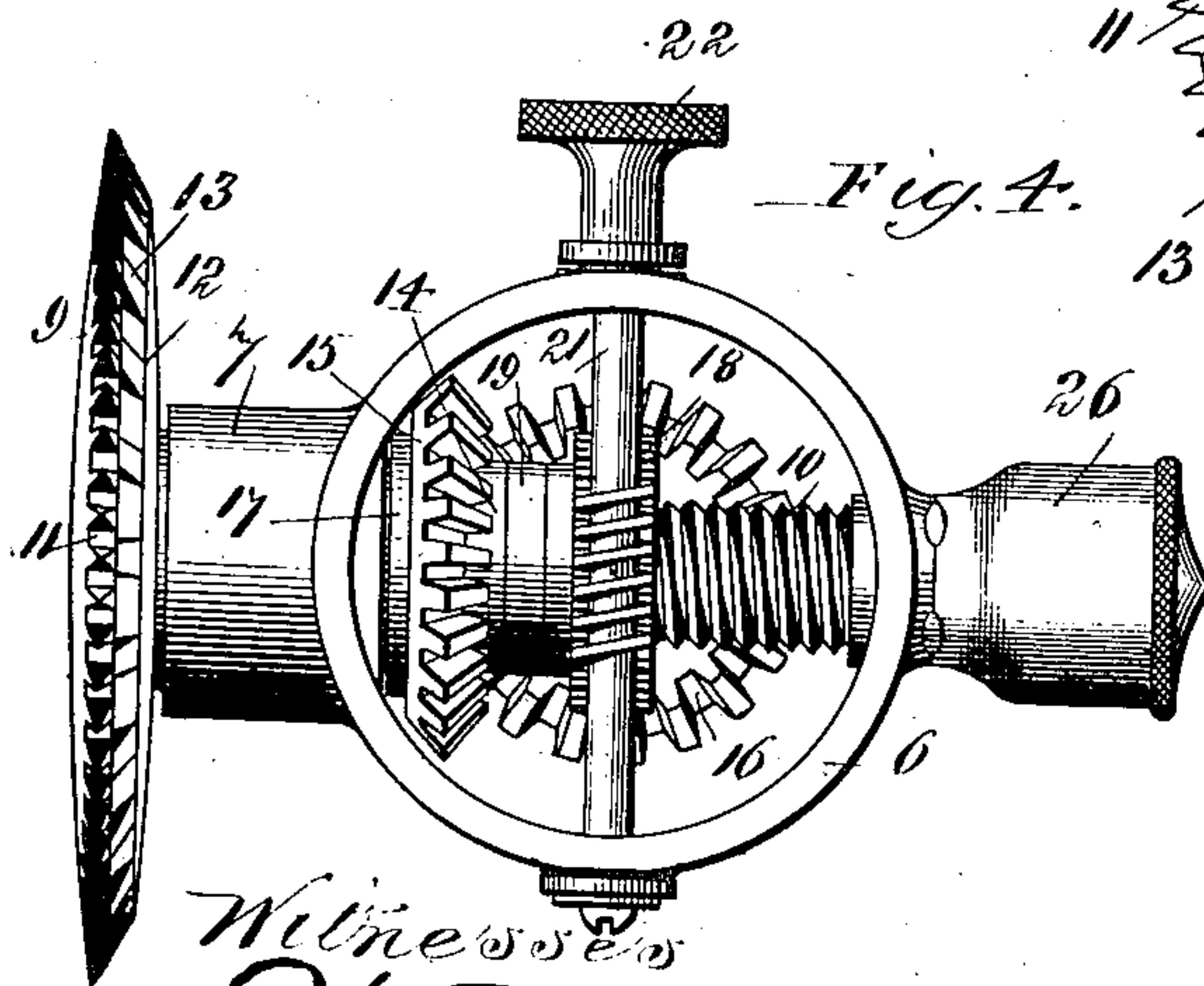


Fig. 4.

Witnesses
J. P. Davis
J. P. Griswold Jr.

Inventor
W. H. Cogswell
by Jno. H. Whipple
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. COGSWELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO ANDREW J. McMAHON.

ROTARY CLIPPER.

SPECIFICATION forming part of Letters Patent No. 430,070, dated June 10, 1890.

Application filed January 14, 1890. Serial No. 336,862. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. COGSWELL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clippers, of which the following is a specification.

My invention relates to a clipper in which a stationary disk provided with radial teeth having shear-edges is used in conjunction with a rotary cutter-head provided with projecting shear-blades, which operate in connection with the shear-edges of the disk-teeth; and the objects of my improvements are to provide means for adjusting the cutter-head on the disk, to provide means for keeping the disk and cutter-head properly oiled, and to compactly arrange and house the operating parts within small compass, whereby the clipper is adapted to be more conveniently handled in operation than heretofore. These objects I have attained in the clipper constructed as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the clipper complete. Fig. 2 is a central vertical longitudinal section. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2, and Fig. 4 is an end view with the end plate of the housing-tube removed.

Referring to the drawings, the housing-tube is composed of the handle part 5 and the enlarged part 6, which has a hollow projection 7. The hollow of the handle part furnishes the bearing for the operating-shaft 8, and that of the enlarged part furnishes a housing for the operating and adjusting mechanism.

The stationary disk 9 is attached by screw-thread to the bottom of a rod 10, which is secured at its opposite end to the side of the enlarged part of the housing-tube in such manner as to prevent its rotation. Said disk is provided with radial teeth 11, whose upper surfaces all lie in the same plane and each of them has a shear-edge on the upper side.

The rotary cutter-head 12 is provided with shear-blades 13, whose cutting-edges stand opposite to those of the radial teeth of the stationary disk. Said cutter-head is attached to a sleeve or hollow shaft 14, which fits over the rod 10 and within the bore of the projec-

tion 7, and has a bevel-gear 15 fixed to its inner end by a spline and groove, so as to slide thereon, but revolve therewith, which gear engages with a bevel-gear 16 on the operating-shaft. The bottom side of said gear 15 rests on a washer 17, which holds it from dropping out of engagement with said gear 16. That portion of the rod 10 which projects inwardly through the sleeve 14 is screw-threaded and provided with a toothed nut 18, which is adapted to bear on the inner end of said sleeve or a washer 19, interposed between the sleeve and nut, for pressing the rotary cutter-head upon the stationary disk, and a worm-gear 20 on a shaft 21, journaled in the enlarged part of the tube and having the head 22, is provided for operating said nut for adjusting the cutter-head upon the disk.

The connection of the cutter-head with the sleeve at 23, Fig. 2, is made by setting the square or polygonal end of the sleeve loosely into a corresponding opening in the cutter-head or the equivalent connection, which will compel the head and sleeve to revolve together, but will permit the angle of the head relatively to the sleeve to be varied slightly, so that the pressure of the nut upon the inner end of the sleeve will be thrown on all points alike at the periphery of the stationary disk, and will not be at all affected by any rigidity of connection between the sleeve and head at the point mentioned.

The upper side of the stationary disk and the under side of the cutter-head are slightly concave, but adapted to fit closely together and form a tight joint all around the periphery, as shown in Fig. 2. By means of the concavity of the said disk and head at the center and the close-fitting joint at the periphery an oil-chamber 24 is formed, to which oil is admitted through a hollow 25 in the rod 10, which communicates with an oil-cup 26, and has an opening 27 into the oil-chamber for admitting oil from the cup.

The end of the enlarged part of the housing-tube is tightly closed by a plate 28, which is attached by screws, so as to be removable for inspecting the interior.

The oil-cup is screw-threaded on the top of the rod 10, and a pin 29 is run through a hole

in the shell and a notch in said rod to lock the parts together.

By means of a flexible shaft coupled to the operating-shaft 8 the clipper is intended to be operated by machine or hand power.

What I claim is—

1. In a clipper, and in combination, the housing-tube having the parts 5 and 6, the shaft 8, having gear 16, the rod 10, secured rigidly to the housing-tube and provided with the toothed disk 9 on its lower end, the sleeve 14, fitted over the lower portion of the rod 10 and within the part 6 of the housing-tube, and having the gear 15 on its inner end and the cutter-head 12 on its outer end, substantially as and for the purpose specified.

2. In a clipper of the class described, and in combination, the stationary disk provided with radial teeth having shear-edges and a

concavity in its upper side near the center, the rotary cutter-head provided with shear-blades and a concavity in its under side, and the supporting-rod 10, provided with an oil-duct communicating with the oil-chamber formed between said disk and the cutter-head, as specified.

3. In a clipper of the class described, and in combination, a stationary toothed disk, a threaded rod 10, a sleeve on said rod, a cutter-head provided with shear-blades having the described connection with said sleeve, a nut 18 on said rod, and a worm-gear for operating said nut, as and for the purpose specified.

WM. H. COGSWELL.

Witnesses:

WM. R. GRISWOLD, Jr.,
J. W. MERRIAM.