

No. 776,420.

PATENTED NOV. 29, 1904.

M. A. PLUECKER.
FOOD CUTTER.

APPLICATION FILED JUNE 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

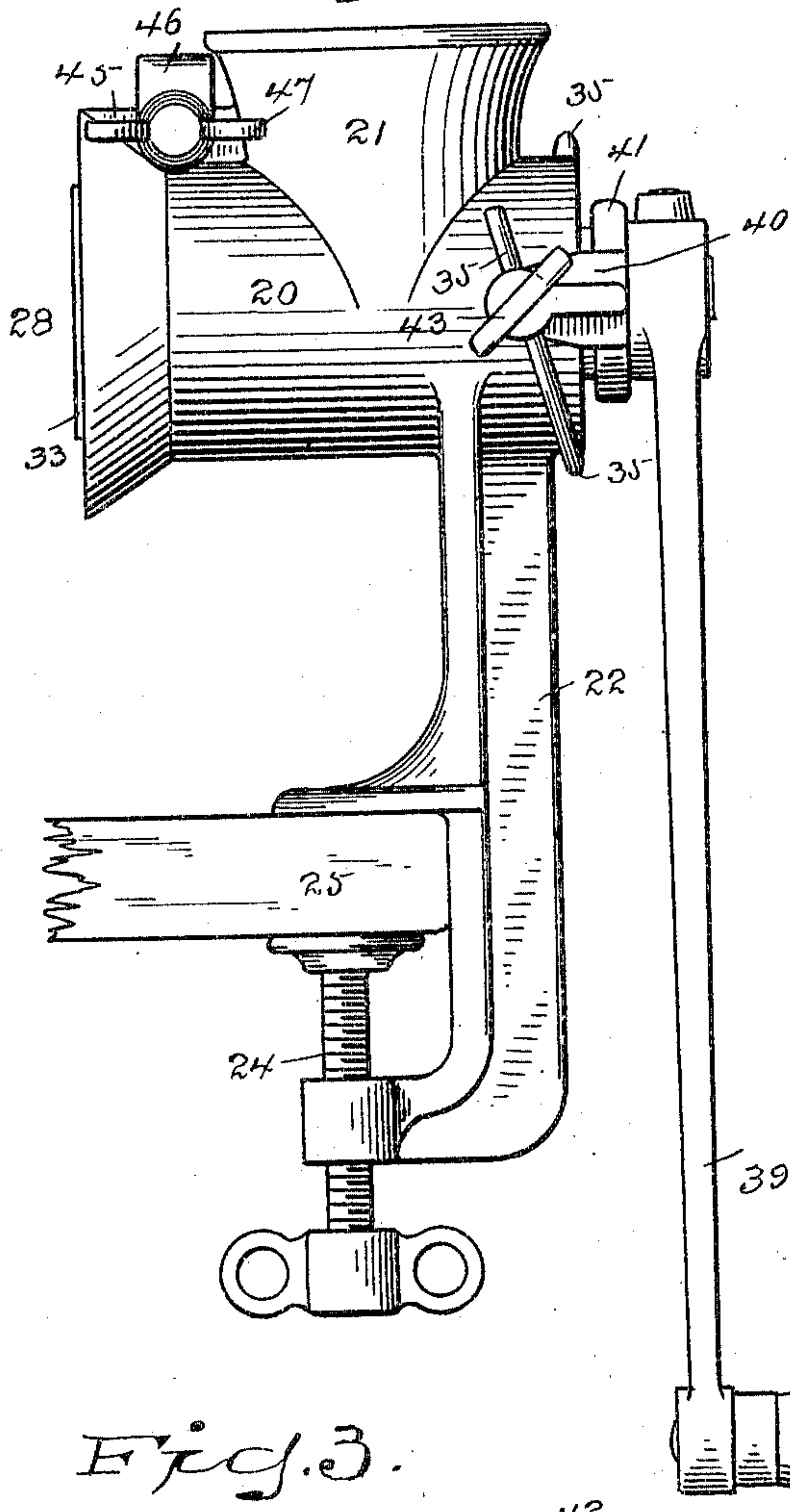


Fig. 2.

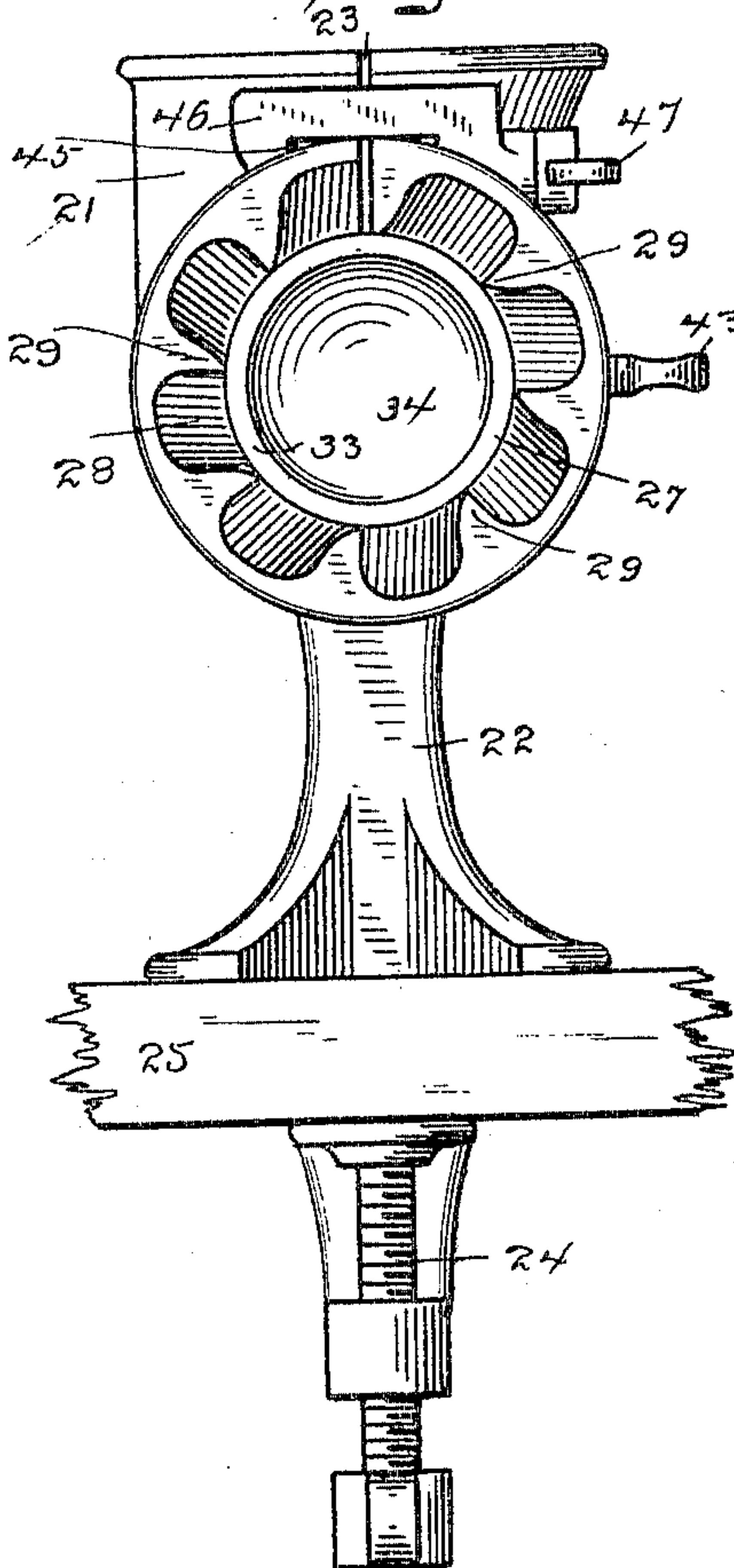
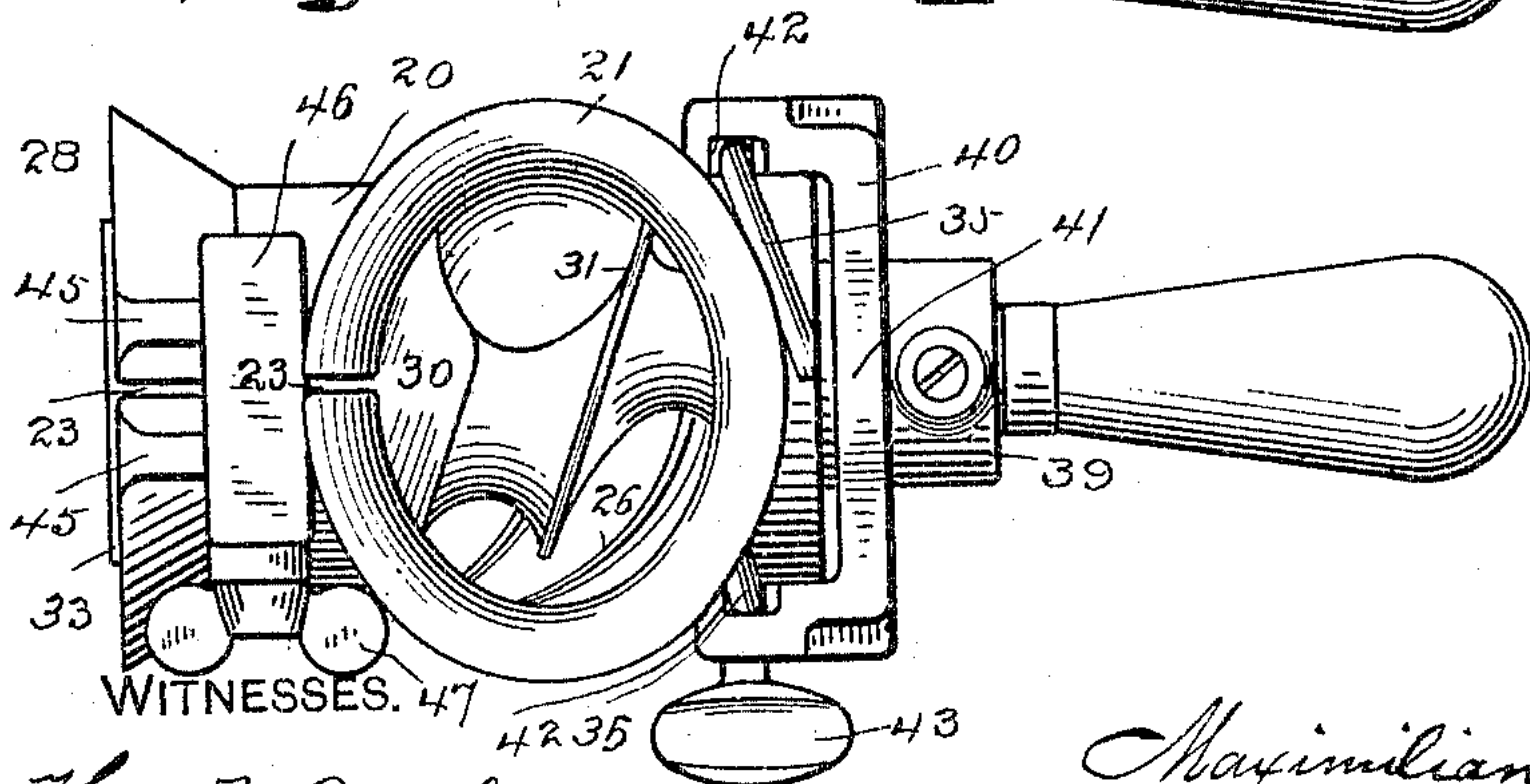


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

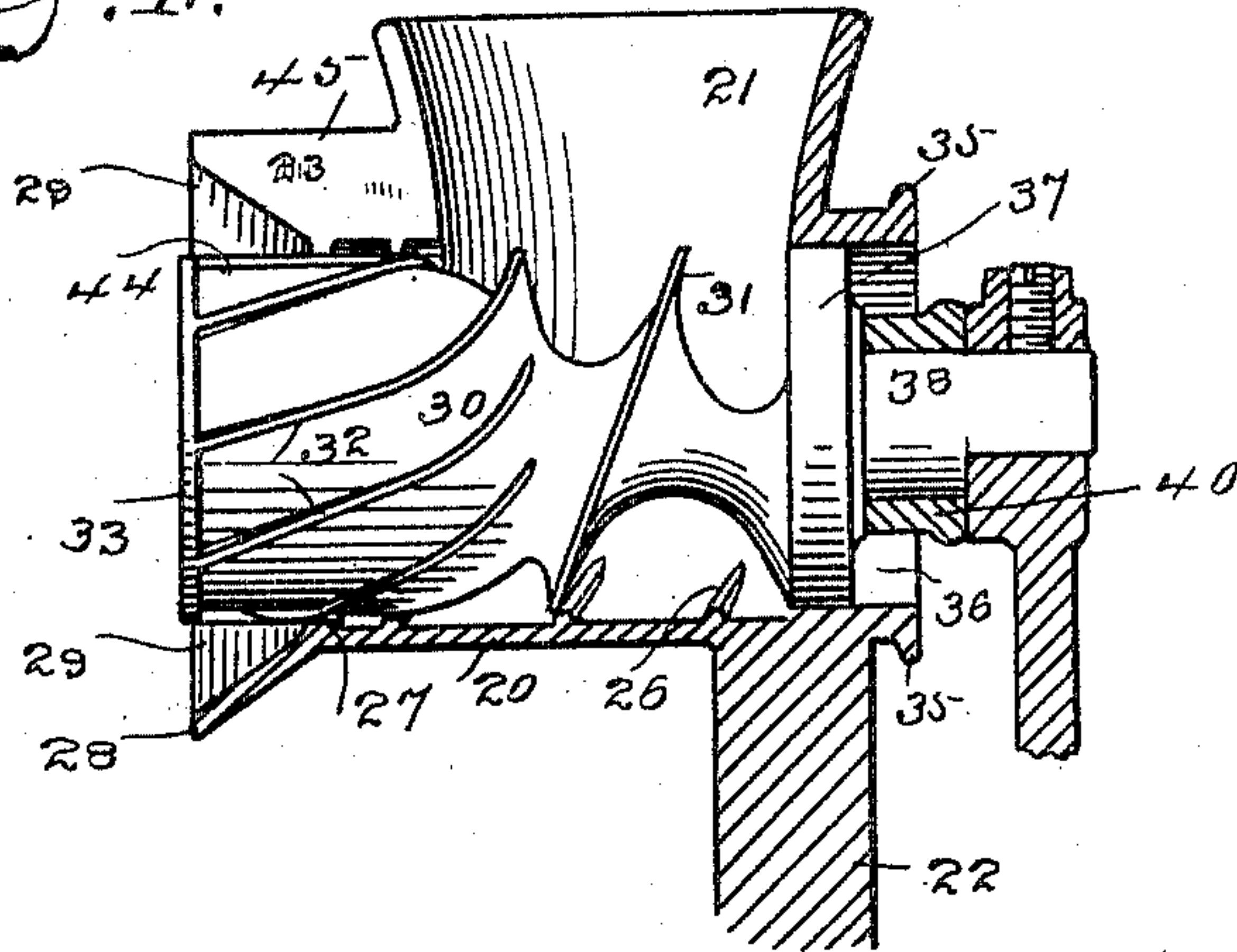


Fig. 5.

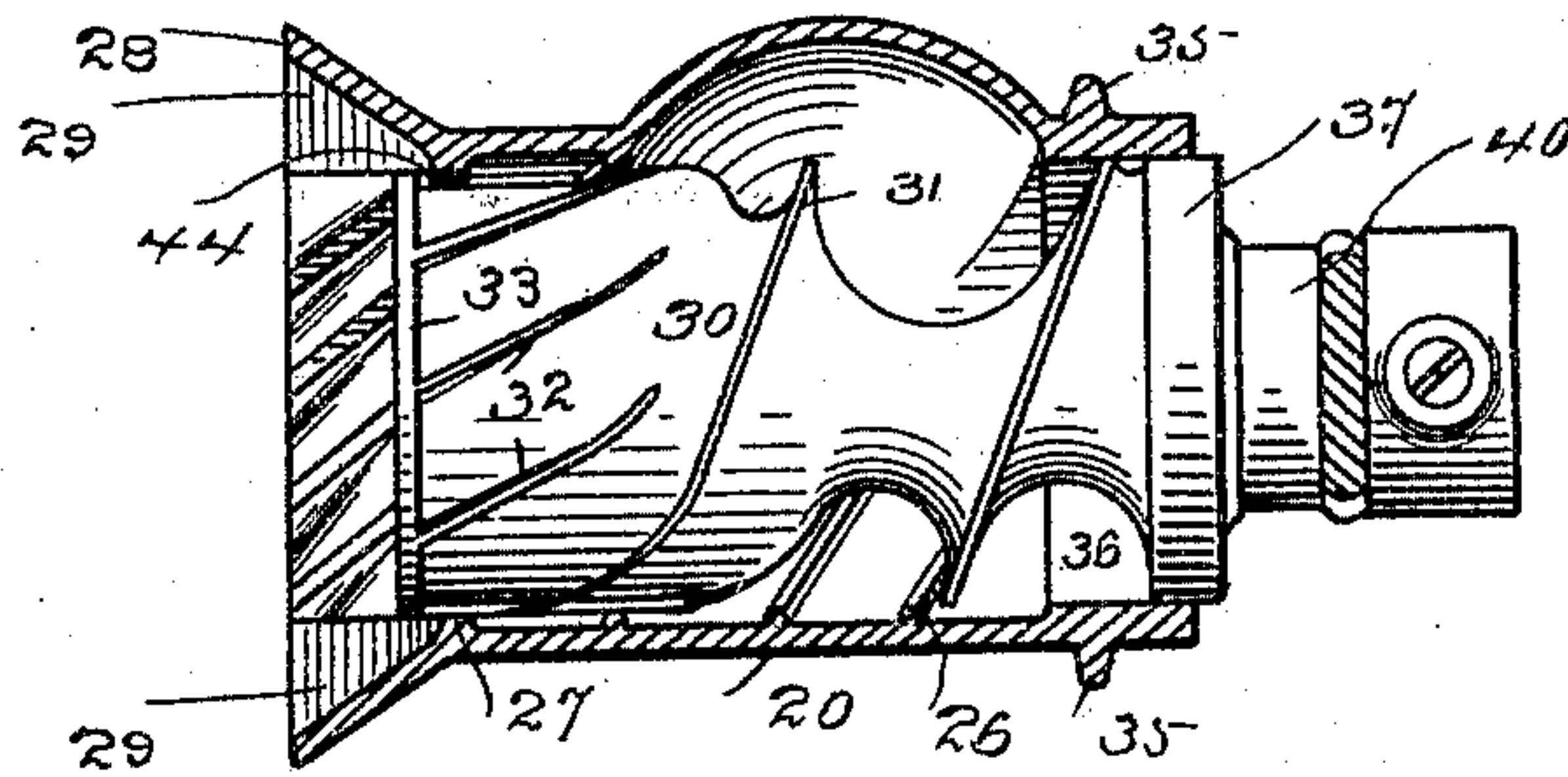


Fig. 6.

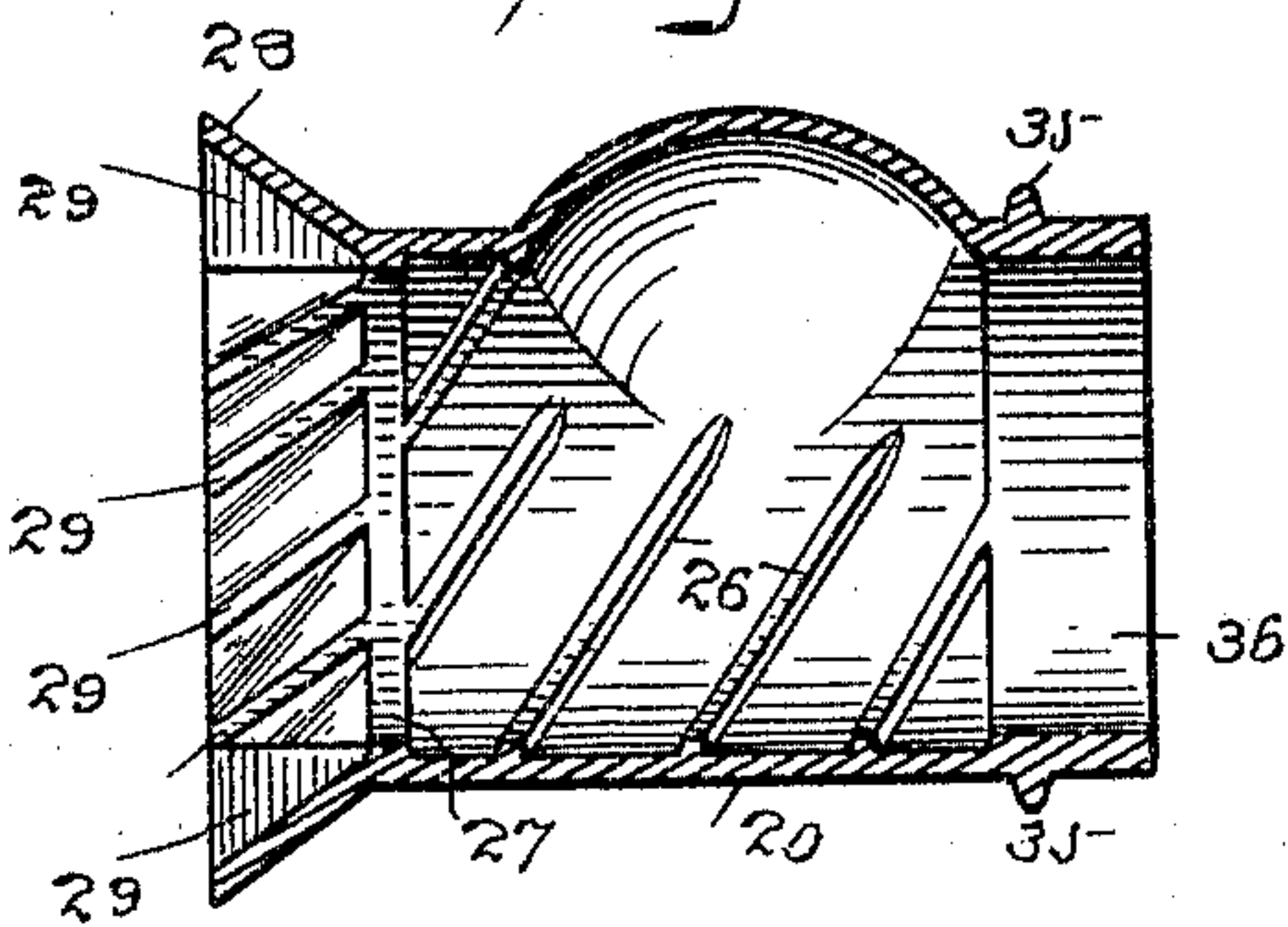
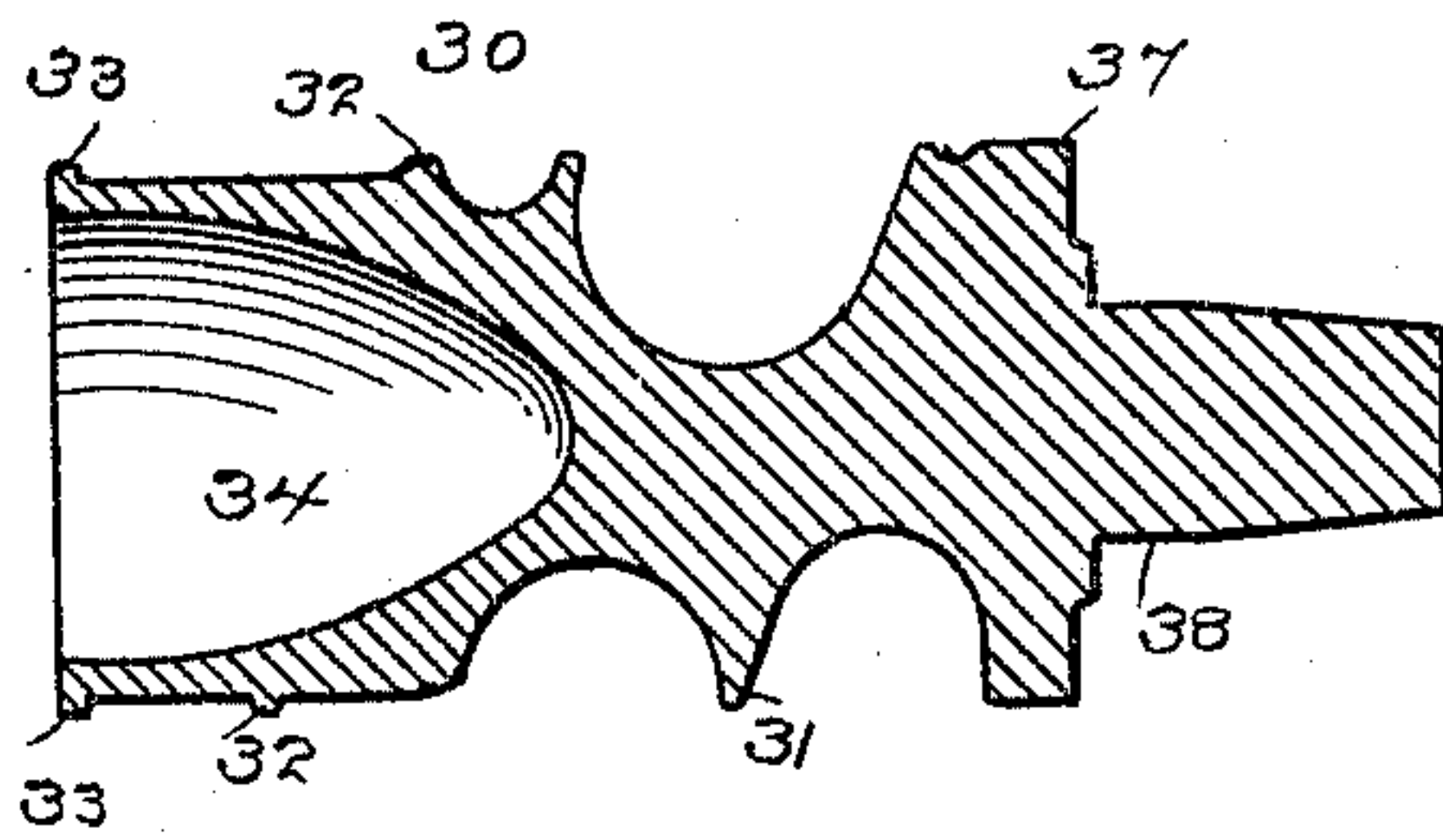


Fig. 7.



WITNESSES.

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UNITED STATES PATENT OFFICE.

MAXIMILIAN A. PLUECKER, OF MILFORD, CONNECTICUT.

FOOD-CUTTER.

SPECIFICATION forming part of Letters Patent No. 776,420, dated November 29, 1904.

Application filed June 29, 1903. Serial No. 163,450. (No model.)

To all whom it may concern:

Be it known that I, MAXIMILIAN A. PLUECKER, a citizen of the United States, residing at Milford, county of New Haven, State of Connecticut, have invented a new and useful Food-Cutter, of which the following is a specification.

This invention relates to the class of food-cutters in which meat, fruit, vegetables, or any solid food is chopped or cut up into small pieces; and the general object of the invention is to produce a food-cutter that shall be superior in construction and mode of operation and cheaper to produce than other cutters now in use, as the two operative parts are each made complete in a single piece that will be easy to operate, will not clog, and at the same time will insure that no large pieces pass through, the larger pieces being more uniform in size than it has heretofore been possible to make them.

It is one of the objects of the invention to produce a food-cutter whose body may be cast complete and shall be provided internally, in addition to the usual spiral feeding and cutting ribs, with a circumferential cutting-rib which shall coact with a retaining-rib at the outer end of the forcer and the usual spiral feeding and cutting ribs thereon in forming what I term for convenience "adjustable" cutting-pockets, whereby the size of the pieces that can pass through is limited and can be changed at the convenience of the user.

A further object of the invention is to provide a food-cutter having an endwise adjustment of the forcer to make the machine cut finer or coarser while the machine is in use and without removing any of the parts or the contents.

A further object of the invention is to produce a food-cutter which shall be cast with a straight opening through it, so that the tops of the ribs which form cutting edges may be finished and ground by passing a tool through from end to end and which, furthermore, permits the tops of the ribs—that is, the cutting edges—to be chilled.

A further object of the invention is to produce a food-cutter having a body or shell

partially divided, so as to make the cutter self-sharpening by closing the sides together.

A further object of the invention is to produce a forcer which may be cast complete and is provided with the usual spiral feeding and cutting ribs and also with a circumferential retaining-rib at its forward end, the diameter of the operative parts of said forcer being uniform from end to end, so as to permit machine-grinding of said operative parts.

With these and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, which will be hereinafter described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my novel food-cutter in position as in use; Fig. 2, a front elevation corresponding therewith; Fig. 3, a plan view; Fig. 4, a vertical section of the body or shell with the forcer in elevation and at an extreme forward position; Fig. 5, a horizontal section of the body or shell, the forcer appearing in plan and at an extreme retracted position; Fig. 6, a horizontal section of the body with the forcer removed, and Fig. 7 is a section of the forcer detached.

20 denotes the body or shell as a whole, and 21 the hopper, and 22 the standard, which are cast integral therewith, the forward end of the upper side of the body and the forward end of the hopper being provided with a slot 23 through said parts, whereby the body is made flexible for a purpose presently to be fully explained. At the lower end of the standard is a clamp 24, by which the cutter may be rigidly secured to a table or other fixture, (indicated by 25.) The body is provided with a straight opening 36 through it from end to end of uniform diameter at the high portions—that is, the operative surfaces lie in a cylindrical plane. The inner side of the body is provided with spiral ribs 26, whose surfaces may be machined or ground by passing a tool through the body and which in practice are chilled. These ribs serve both as feeding and cutting ribs, what I term the "preliminary" cutting being done within the body.

Near the outer end of the body is a circumferential cutting-rib 27, and outside the circumferential cutting-rib, in what may be termed the "mouth" of the body and which I have indicated specifically by 28, are outer spiral cutting-ribs 29.

30 denotes the forcer as a whole, which is provided with a spiral feeding-rib 31, which may also be a cutting-rib, and with spiral cutting-ribs 32. At the outer end of the forcer is a circumferential retaining-rib 33, which coacts with circular cutting-rib 27 and with the spiral cutting-ribs on the forcer and the outer spiral cutting-ribs in the mouth of the body in forming what I term for convenience "cutting-pockets," which are made adjustable in a manner presently to be explained and which I have indicated by 44. The outer end of the forcer is shown as made hollow, as at 34, for the sake of lightness, said hollow having no function, however, so far as the cutting operation is concerned. As already stated, the diameter of opening 36 through the body at the high portions is of uniform diameter—that is, the operative surfaces of the internal ribs of the body are of uniform height, so that said operative surfaces may be machined or ground by passing a straight tool through the body from end to end. The rear end of opening 36 is closed in use by a disk 37, which with a hub 38 are part of the forcer and are cast integral therewith. The crank 39 is attached to the outer end of the hub in the ordinary or any preferred manner. At the rear end of the body are external spiral ribs 35. Between the crank and disk 37 is a clip 40, having a collar 41, through which the hub passes freely, so that the clip may oscillate on the hub. The ends of the clip extend inward and are provided with grooves 42, which receive spiral ribs 35, one end of the clip being provided with a set-screw 43, which engages the face of the corresponding rib to lock the clip at any desired position. It will be obvious from the drawings (see more especially Figs. 1 and 2) that by oscillating the clip while spiral ribs 35 are in engagement with the grooves the forcer may be moved in or out, as may be required, relatively to circular cutting-rib 37, Fig. 4 showing a position of the parts in which the forcer is at the extreme of its outward or forward adjustment, making large cutting-pockets, and Fig. 5 showing a position of the parts in which the forcer is at the extreme of its inward or backward adjustment, thereby making extremely small cutting-pockets. These cutting-pockets 44 are a vitally important feature of my present invention.

In use the food to be cut is placed in the hopper as usual and is fed forward by ribs 31 and 32 on the forcer in connection with ribs 26 on the body, ribs 26 and 32 coacting in what may be termed "preliminary cutting"—that is, reducing the size of the pieces put into

the machine, but not cutting the food to the required fineness, the final cutting of the food being performed in what I have termed the "cutting-pockets," into which the food is passed by ribs 26 and 32. These "cutting-pockets," so called, lie between circular rib 27 on the body, outer cutting-ribs 29, and the circular retaining-rib 33 at the end of the forcer. This rib 33 I term the "retaining-rib," as it retains the food—that is, prevents it from passing forward until it has been reduced to the required fineness by the conjoint action of the forward ends of the spiral cutting-ribs 32 on the forcer and outer spiral cutting-ribs 29 in the mouth of the body. The construction of this essential feature of the invention is such that the intervals between the ribs of the forcing member terminate short of the end of said forcing member owing to the presence of the circumferential rib, and the intervals between the ribs of the stationary member die into the cylindrical surface back of the discharge end. In other words, the intervals or spaces between the ribs of the stationary member run into and terminate at the circumferential rib or cylindrical surface 27. It will be noted (see Fig. 2) that these pockets in the mouth of the body flare outward, the size of the particles of food which pass through the machine being determined by the amount of space between the periphery of the retaining-rib and the base of the pockets—that is, the wall of the mouth of the body between outer cutting-ribs 29—as will be clearly understood from Figs. 4 and 5. When, therefore, it is desired to cut food into relatively coarse pieces, the operator loosens set-screw 43 and turns the clip forward on ribs 35, thereby moving the forcer forward and increasing the distance between the periphery of the retaining-rib and the base of the pockets, as well as between the retaining-rib and circular rib 27 on the body. By tightening the set-screw the operator locks the forcer at the required adjustment. Should it be required to change the adjustment at any time while the machine is in use, it is not necessary to move the machine or to remove the partially-cut food therefrom. The operator simply loosens the set-screw and turns the clip forward or backward, as may be required, on ribs 35. By turning the clip backward the forcer is moved backward—that is, from the position shown in Fig. 4 toward the position in Fig. 5, thereby reducing the size of the cutting-pockets, and consequently causing the food to leave the machine in smaller pieces.

Another important feature of the invention is that the machine is made self-sharpening by contracting the body slightly after long continued use. This result is accomplished by dividing the entire forward end of the body and the hopper by means of slot 23, whereby the body is made flexible, and providing the opposite sides of the forward end

of the body with lugs 45, which are engaged by a clamp 46, having a tightening-screw 47. As the body or shell is made flexible by the slot at the forward end thereof, it is obvious that a slight turn of the set-screw will contract the operative portion thereof circumferentially and will bring the cutting-ribs upon the body closer to the cutting-ribs upon the forcer, thereby making the machine, in fact, self-sharpening.

Having thus described my invention, I claim—

1. A food-cutter comprising a stationary member and a forcing member, each formed with cutting-ribs having edges in a substantially cylindrical form, the intervals between the ribs of one of said members terminating short of the end thereof and the intervals between the ribs of the other member dying into a cylindrical surface back of the discharge end, and the two members being relatively adjustable longitudinally to vary the size of the cut pieces without substantially varying the distance between the cutting edges of the two members, substantially as set forth.

2. A food-cutter comprising a body having internal spiral feeding and cutting-ribs, a circumferential cutting-rib and forward of said circumferential rib outer spiral cutting-ribs, a forcer having spiral feeding and cutting ribs and a circumferential retaining-rib at its forward end, the body and the forcer each having the cutting edges of its ribs in a substantially cylindrical form, and means for adjusting the forcer longitudinally relatively to the body to vary the size of the pieces delivered from the cutter.

3. A food-cutter comprising a body having internal spiral feeding and cutting ribs, a circumferential cutting-rib and forward of the circumferential rib outer spiral cutting-ribs, a forcer having spiral feeding and cutting ribs and a circumferential rib at its forward end, cutting-pockets being formed between the circumferential rib and the outer spiral cutting-ribs, the body and the forcer each having the cutting edges of its ribs in a substantially cylindrical form, and means for adjusting the forcer longitudinally to regulate the size of the cutting-pockets and consequently the size of the pieces discharged from the machine.

4. A food-cutter comprising a body having internal spiral feeding and cutting ribs, a circumferential cutting-rib and forward of said

circumferential rib outer spiral cutting-ribs 55 and at its rear end external spiral ribs, a forcer having spiral feeding and cutting ribs, a circumferential retaining-rib at its forward end and at its rear end a hub, a clip adapted to oscillate on the hub and having grooves which receive the external spiral ribs, and means as a set-screw for locking the clip in place to determine the longitudinal adjustment of the forcer.

5. A food-cutter comprising a body member 65 and a forcing member having coacting cutting-ribs, the cutting edges of which are in a substantially cylindrical form, the body member having external inclined ribs, and a clip engaging the ribs and the forcing member and rotatively mounted relatively to the latter, and having means for positively securing it against movement in either direction, said clip retaining the members in relative longitudinal positions, the adjustment of the clip relatively to the inclined lugs varying the size of the pieces cut by and delivered from the cutter.

6. A food-cutter comprising a body member cylindrically bored and having internal ribs, a forcing member having ribs for coacting with the internal ribs of the body member, the diameter of the ribs of the forcing member being uniform throughout the length of said forcing member whereby the forcing member may be adjusted longitudinally relatively to the body member without affecting the coöperation of the cutting-ribs, the body member having external inclined ribs, a clip operatively engaged with a portion of the forcing member and having its ends embracing said ribs, and a screw passing through one end of the clip and bearing against one of said ribs.

7. A food-cutter comprising a body member and a forcing member, said members having coacting cutting and forcing ribs, the forward end of the body member being divided by a single slot, the rest of the said body member being continuous whereby said body is rendered elastic, and means whereby the body, each side of the slot, may be drawn together.

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

MAXIMILIAN A. PLUECKER.

Witnesses:

A. M. WOOSTER,
S. W. ATHERTON.