

No. 726,100.

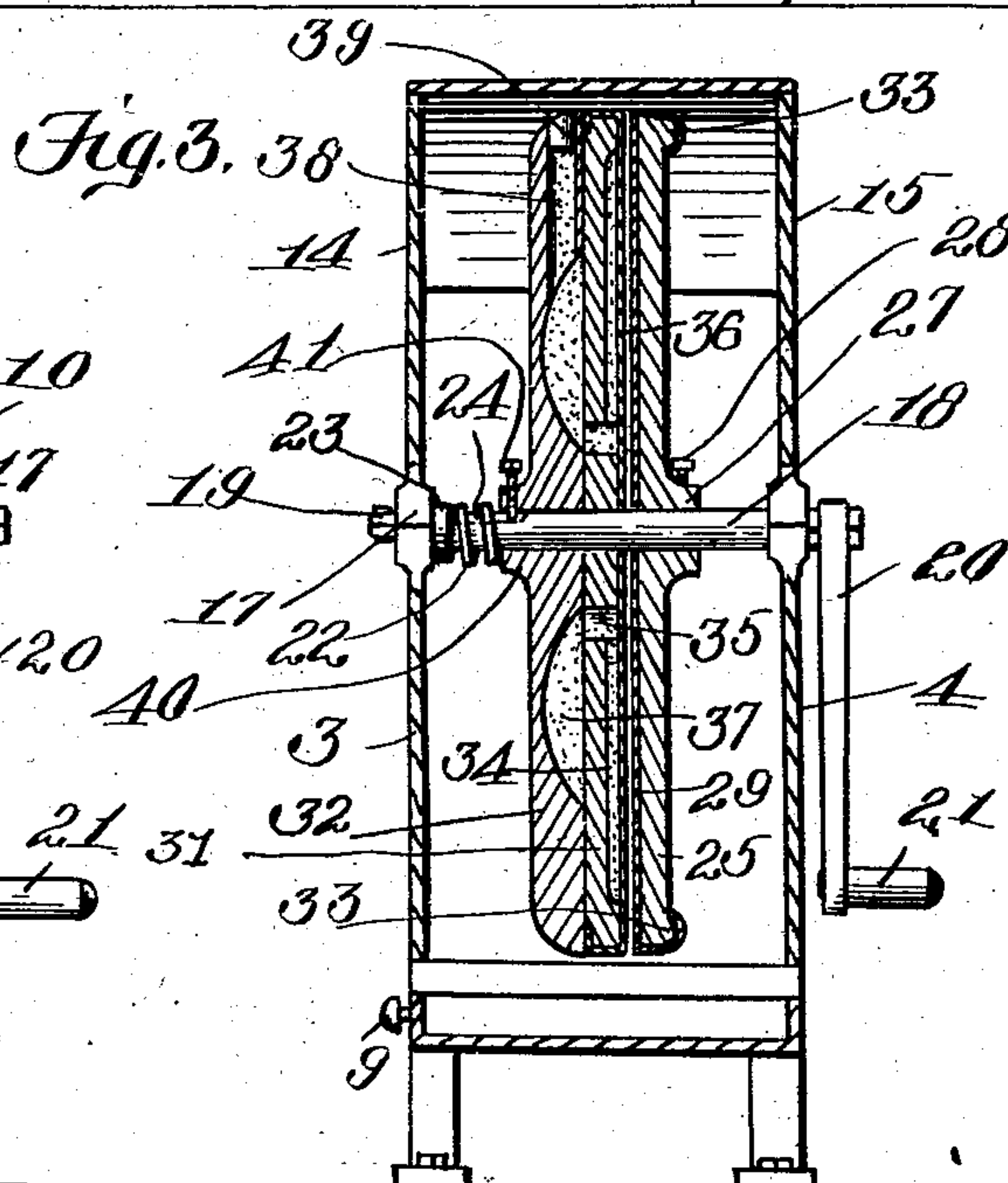
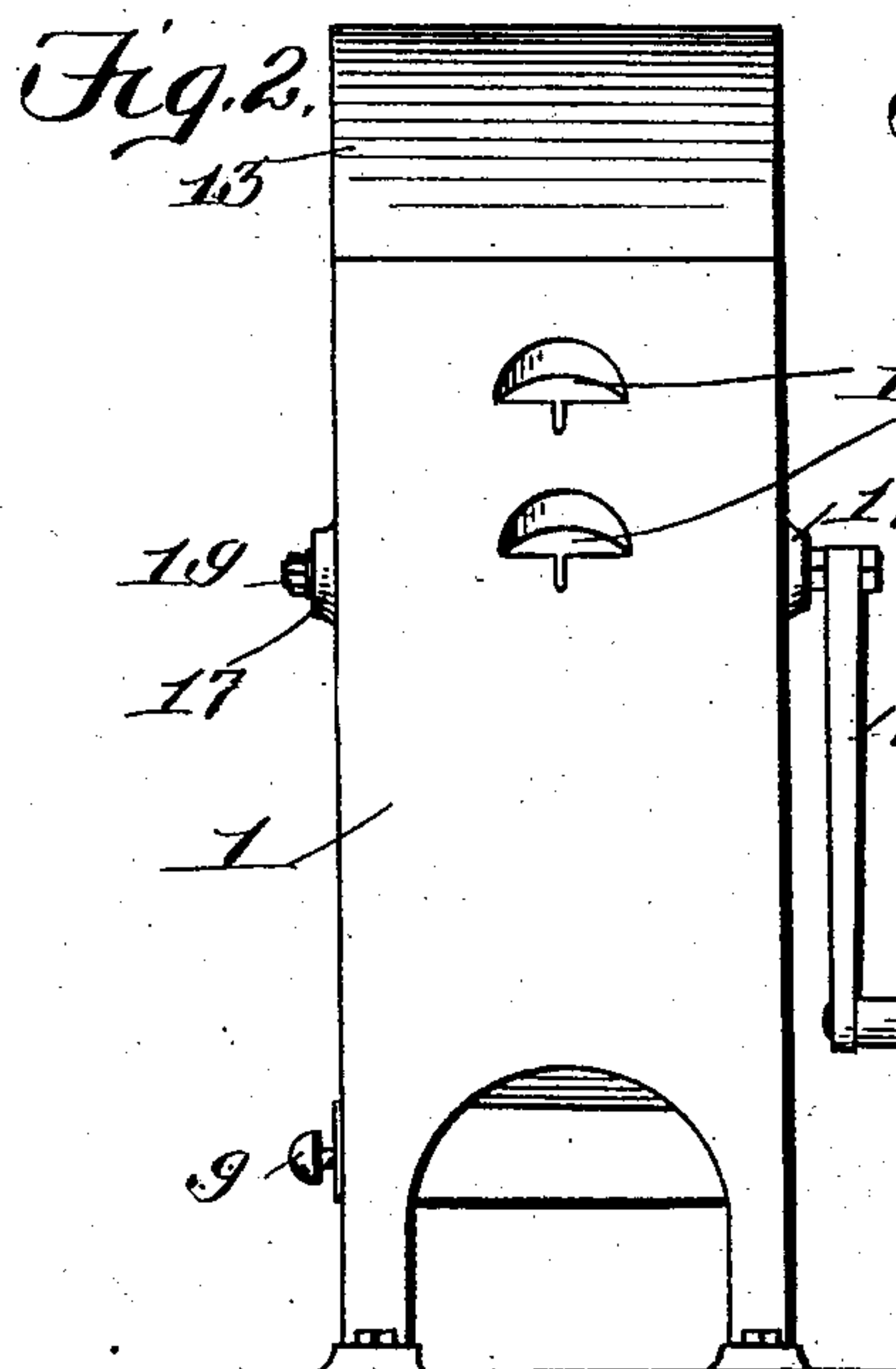
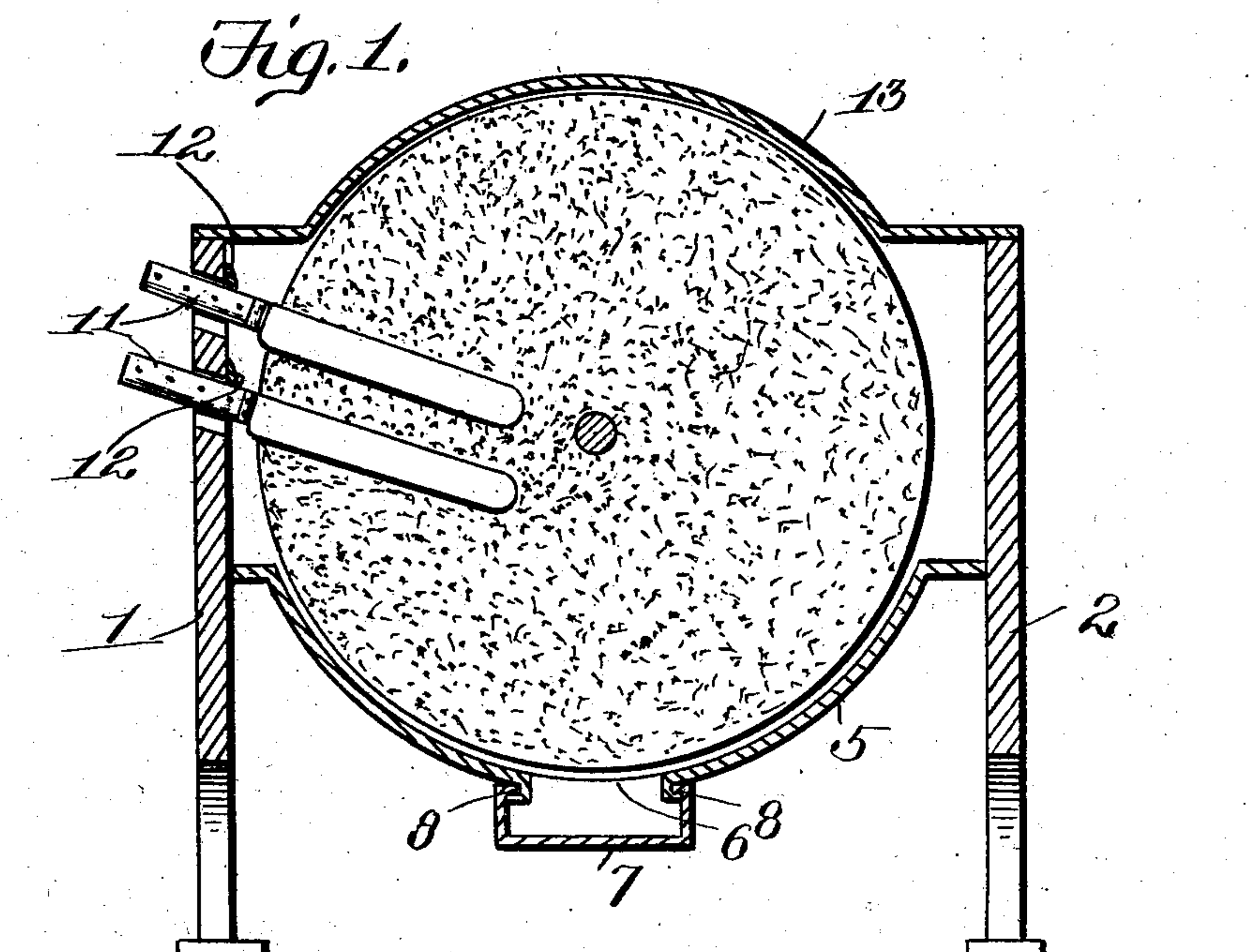
PATENTED APR. 21, 1903.

W. T. QUEEN.
MACHINE FOR POLISHING CUTLERY.

APPLICATION FILED FEB. 16, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

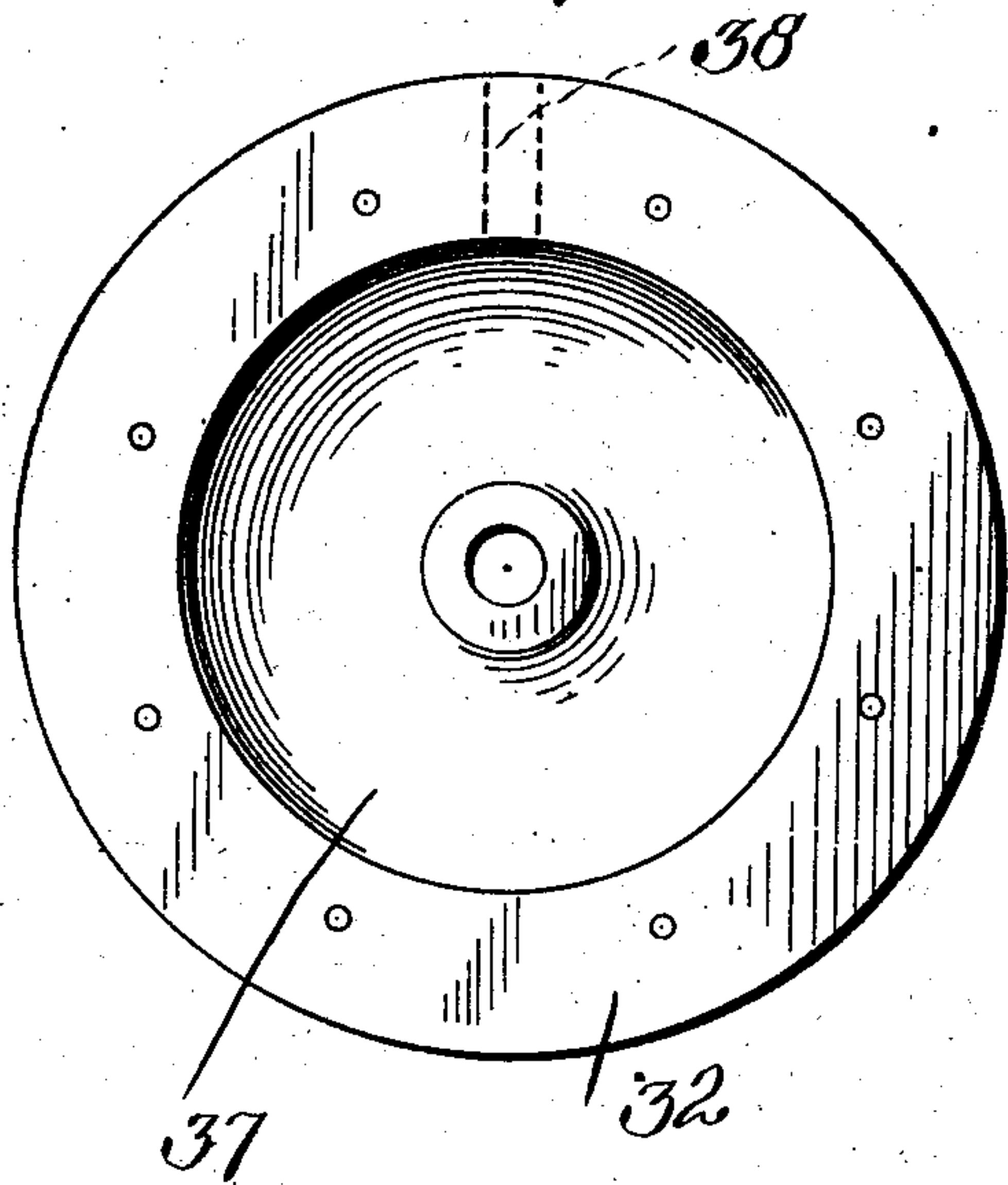


Fig. 5.

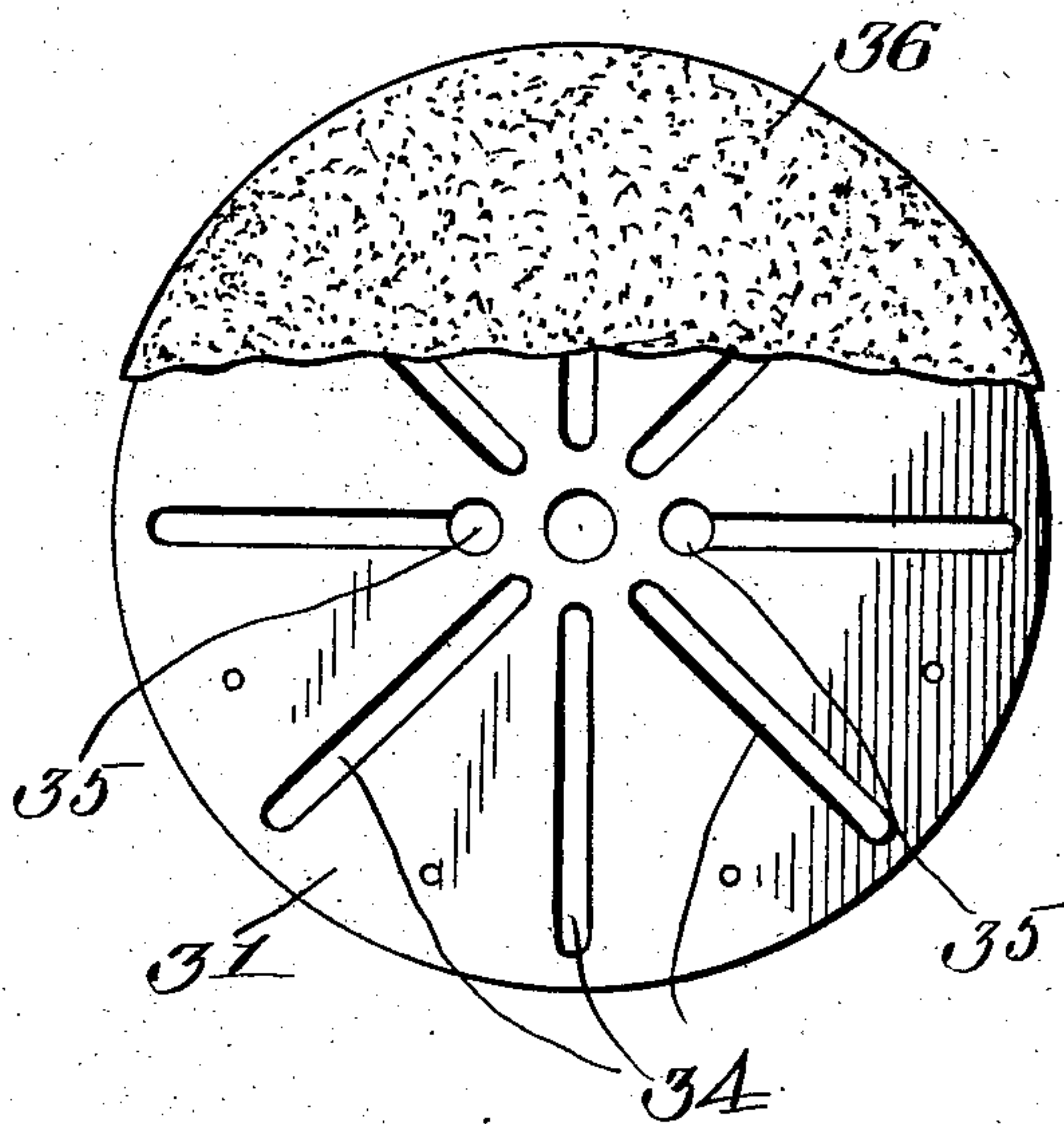
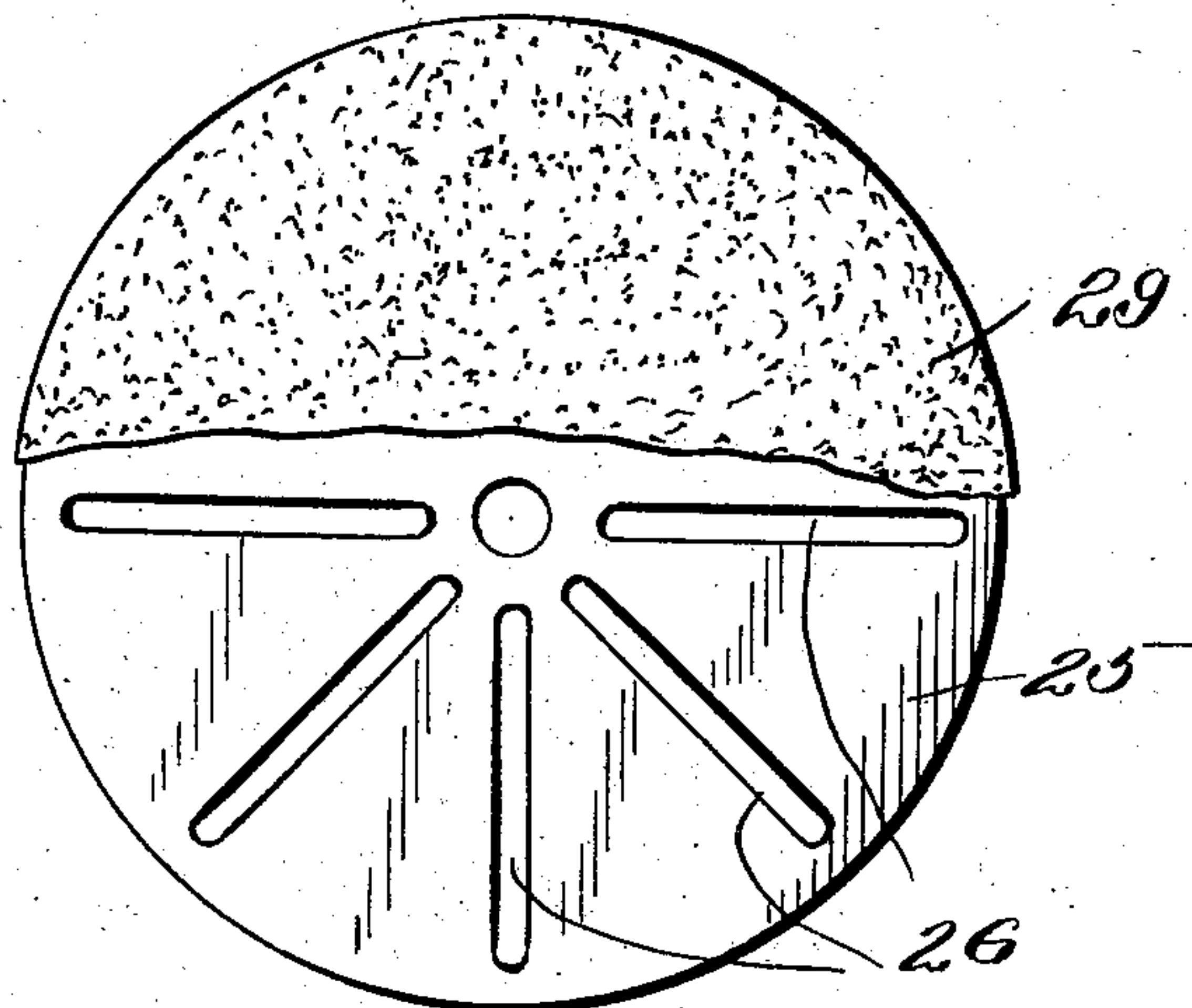


Fig. 6.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR POLISHING CUTLERY.

SPECIFICATION forming part of Letters Patent No. 726,100, dated April 21, 1903.

Application filed February 16, 1903. Serial No. 143,568. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS QUEEN, a citizen of the United States of America, residing at Anacostia, District of Columbia, have invented certain new and useful Improvements in Machines for Polishing Cutlery, of which the following is a specification.

This invention relates to certain new and useful improvements in machines for polishing cutlery, more particularly table-knives, although the machine is adapted for use for any purpose for which it is applicable.

The invention aims to construct a machine for polishing cutlery, more particularly table-knives, of the class by which the knife is polished between two revolving disks, these latter being so constructed and covered by a suitable fabric that the polishing-powder carried by one of the disks will be efficiently fed to and distributed to the polishing-surfaces of the two disks, so that in connection with the fabric the knives or other objects will be thoroughly polished.

The invention further aims to construct a machine for polishing cutlery, more particularly table-knives, which shall be extremely simple in its construction, strong, durable, efficient in its use and operation, and comparatively inexpensive to set up.

To this end the invention consists of the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail, reference is had to the accompanying drawings, forming a part of this specification, wherein like reference characters denote corresponding parts throughout the several views, and in which—

Figure 1 is a longitudinal sectional view of the machine, showing two knives in position for polishing. Fig. 2 is a front view thereof. Fig. 3 is a vertical sectional view of the machine through the polishing-disks. Fig. 4 is a front elevation of the outer of the sections forming the feeding and polishing disk. Fig. 5 is a front elevation of the inner of the sec-

tions forming the feeding and polishing disk, and Fig. 6 is a like view of the other polishing-disk.

Referring to the drawings by reference characters, the polishing-disks, to be hereinafter referred, to are suspended and operate within a suitable casing or housing formed of an upper and a lower section. The lower section consists of a front and a rear standard 1 2, respectively, a pair of side walls 3 4, substantially segmental in contour, and a bottom 5, substantially concave in contour and provided with a discharge-opening 6, communicating with a tray or drawer 7, removably connected to the bottom 5 by the joint 8. The tray or drawer 7 is adapted to receive the surplus polishing-powder thrown off during the operation of polishing the cutlery and is provided with a knob 9, so it can be removed and emptied of its contents when desired. Preferably the polishing-powder which has accumulated in the tray or drawer 7 is charged or supplied to the feed-disk, to be hereinafter referred to. The front standard 1 is provided with a plurality of knife-receiving openings substantially in the form of key-hole-slots, and, as shown, a pair of openings is provided, as indicated by the reference character 10, and through which extend the knives 11 to be polished. The openings or slots 10 are so constructed that when the knives are inserted they will extend downwardly at an inclination. One part, or rather the upper portion, of the slots or openings 10 is so constructed as to support the shank of the knife, while the lower portion is in the form of a slit to permit of the passage of the knife-blade. To prevent the knives from slipping upwardly and the wearing off of the inner face of the standard 1 at the slots 10, the standard 1 has secured to its inner face, at or near the slots 10, the keepers 12, which may be of any suitable material, preferably metal. The upper section of the housing or casing is formed of a segmental-shaped top wall 13 and a pair of side walls 14 15, also substantially segmental in contour. The top wall 13 is adapted to rest upon or be secured to the top edge of the standards 1 2, and the side walls 14 15

are adapted to rest upon and be removably secured to the side walls 3 4 of the lower section. In the bottom of the side walls 14 15, approximately centrally thereof, are provided
 5 semicylindrical cut-away portions, and also in the top of the side walls 3 4, the cut-away portions of the walls 3 14 registering with each other as well as the cut-away portions of the walls 4 15. By this construction a pair
 10 of cylindrical openings are provided in which are mounted a pair of journal-boxes 17 for the operating-shaft 18. Other forms of casings or housings may be employed for the polishing-disks than that as shown; but the
 15 construction as set forth is the preferred one. The casing or housing may be provided with any suitable means for clamping or fixing it stationary, if desired. As this clamping or fixing means can be of any ordinary construction, it is thought unnecessary to illustrate it.
 20 The operating-shaft 18 extends entirely through the casing or housing and carries on one end a nut or other device 19 to prevent the shaft from slipping through and on its
 25 other end is provided with a crank 20 and handle 21 to operate the shaft. Instead of operating the shaft through the medium of the crank 20 and handle 21 other means can be employed—for example, a suitable motor
 30 connected to the shaft 18 in any well-known manner. The shaft 18 carries a coiled compression-spring 22, bearing at one end against a nut or sleeve 23 upon the shaft 18 and its
 35 other end against one of the polishing-disks, to be hereinafter described. The shaft 18 is further provided with a groove 24, the function of which, as well as the function of the spring 22, will be hereinafter described.
 40 Mounted upon the shaft 18 in a manner hereinafter described are the two polishing-disks, between which the knife-blade or other object is inserted to be polished. One of these disks is termed the "feeding-disk" for the
 45 polishing material, and will be hereinafter referred to as a "feeding and polishing disk," while the other disk will be termed a "polishing-disk." The latter consists of a concentric piece of suitable material 25, preferably wood, although it may be constructed
 50 of any other material, if desired. The inner face of the disk 25 is flat and provided with a concentrically-arranged series of radially-extending grooves 26. These latter start at their inner ends at a point adjacent to the
 55 center of the disk and terminate at a point adjacent to the edge thereof. The grooves 26 are spaced an equidistance apart. The disk 25 is further provided with a centrally-arranged opening to permit of the mounting
 60 thereof upon the shaft 18, and on the outer face of the disk, surrounding the centrally-arranged opening, is a boss 27, through which extends a set-screw 28, which is adapted to impinge against the shaft 18 for fixing the
 65 disk 25 thereon, so it will revolve with the shaft. The disk 25 has its flat inner face completely covered with a piece of fabric 29—for

example, carpet, although any loosely-woven fabric of a stiff nature would be satisfactory. This fabric 29 forms the polishing-surface of
 70 the disk. The fabric 29 is fixed to the disk 25 in any suitable manner and, as shown, has the end thereof drawn over the periphery of the disk 25 around a bead 33 on the outer face thereof and secured in any known manner to
 75 the underneath face of the bead. In fact, any other suitable manner of fastening the fabric 29 to the disk 25 than that as shown can be employed. The inner corner of the disk 25 is slightly rounded off, as shown, for a pur-
 80 pose as hereinafter set forth.

The feeding and polishing disk consists of two sections 31 and 32, which when set up are connected together in any suitable manner. The section 31 is termed the "inner" section
 85 and the section 32 the "outer" section. The inner section 31 consists of a concentric piece of suitable material, preferably wood, although it may be constructed of any other material, if desired. The inner face of the sec-
 90 tion 31 is flat and provided with a concentrically-arranged series of radially-extending grooves 34. These latter start at their inner ends at a point adjacent to the center of the section 31 and terminate at a point adjacent
 95 to the edge of the section. Two of the grooves 34 terminate at their inner ends in the feed-openings 35, the function of which will be hereinafter referred to. Only two of the grooves 34 are shown terminating in the feed-
 100 openings 35, but additional feed-openings can be employed, if desired. The section 31 is further provided with a centrally-arranged opening to permit of the mounting thereof upon the shaft 18 and has its flat inner face
 105 completely covered with a piece of fabric 36—for example, carpet, although any loosely-woven fabric of a stiff nature would be satisfactory. The fabric 36 forms the polishing-surface of the feeding and polishing disk.
 110 The fabric 36 is fixed to the section 31 in any suitable manner, but, as shown, extends over the periphery of the section 31 and is secured in a peripheral groove in any known manner. Any other suitable manner of fastening the
 115 fabric 36 to the section 31 than that as shown may be employed. The inner corner of the section 31 is slightly rounded off, as shown, for a purpose as hereinafter set forth.

The outer section 32 of the feeding and pol-
 120 ishing disk is formed of a concentric piece of suitable material, preferably wood, although any other material may be employed, if desired. The inner face of the section 32 is constructed with an annular recess concave in
 125 contour, as at 37, which forms a reservoir for the polishing material. The section 32 is also provided with a port or passage 38, which extends from the periphery of the section 32 and terminates in the recess 37. The port or pas-
 130 sage 38 is termed a "supply-port" for replenishing the reservoir with additional charges of polishing material. The outer end of the port or passage 38 is closed by means of a re-

movable stopper or plug 39. The section 32 is further provided with a centrally-arranged opening to permit of the mounting thereof upon the shaft 18, and surrounding this centrally-arranged opening on the outer face of the section 32 is a boss 40, through which passes a set-screw 41, extending in the groove 24 in the shaft 18. As before stated, the sections 31 and 32 are secured together by the fastening means 33, the outer face of the section 31 against the inner face of the section 32, the section 31 then forming one wall of the reservoir for the polishing material. When the sections 31 32 are secured together, their centrally-arranged openings register with one another and the feed-openings 35 communicate with the polishing-material reservoir. When the feeding and polishing disk is mounted upon the shaft 18, the set-screw 41 extends in the groove 24 of the shaft, so that the feeding and polishing disk will be longitudinally adjustable upon the shaft 18, as well as rotating therewith. The coiled compression-spring 22 bears against the section 32, so as to force the feeding and polishing disk against the polishing-disk 25, or, in other words, the spring 22 keeps the polishing-surfaces of the disks in contact with each other, and when a knife-blade is inserted between the two disks the spring 22 keeps the polishing-surfaces (the fabric) in close contact with the knife. When the disks are mounted upon the shaft 18, they are arranged in such relation to the entrance-slots in the casings for the knives that the blade of the knife will immediately enter between the two disks.

The grooves 26 and 34 are termed "polishing-material-holding" grooves, and when the two disks are set up in operative positions the grooves 26 are arranged in alternate relation to the grooves 34—that is to say, the grooves 26 are not arranged directly opposite the grooves 34, but alternately in respect thereto. This arrangement of the disks, so the grooves will be placed as stated, obtains a more satisfactory result in taking up the polishing material than if the grooves correspond to each other.

When it is desired to polish a knife, the reservoir is filled with polishing material and the knife inserted through the slot in the standard 1 so that the blade will lie between the two disks, the rounding off slightly of the inner corner of the section 31 and disk 25 permitting of the passage of the blade between the disks to the shank of the knife, at the same time prevents the separation of the disks to such an extent, so that the knife-blade will be at all times in contact with the polishing-surfaces of the disks. The disks are revolved through the medium of the crank and handle, which cause the polishing material to feed through the openings 35 into the grooves 34, and the continual operation of the feeding and polishing disk will cause the polishing material to force its way through the fabric 36 against the knife-blade and as-

sist in polishing it. The material will also be taken up by the fabric 29, and the material will force its way through the fabric 29 into the grooves 26 and be retained in the grooves 26. Such polishing material that is not taken up by the fabrics 29 and 36 and grooves 26 and 34 will fall to the bottom of the casing and through the opening in the bottom thereof to the tray or drawer. The grooves 26, taking up the polishing material, will also act as a sort of reservoir, and the polishing material from the grooves 26 will be fed through the fabric 29 in the same manner as the material is fed through the fabric 36, or, in other words, after the disks have been operated a certain length of time the disk 25 becomes a self-feeder in the same manner as the feeding and polishing disk.

It is thought the many advantages of a machine for polishing cutlery, more particularly table-knives, can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and, furthermore, it will be evident that changes, variations, and modifications can be resorted to without departing from the spirit of the invention or sacrificing any of its advantages, and I therefore do not wish to restrict myself to the details of construction hereinbefore described and as shown in the accompanying drawings, but reserve the right to make such changes, variations, and modifications as come properly within the scope of the protection prayed.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine of the character described comprising a pair of polishing-disks, each provided on one face with a series of polishing-material-holding grooves, and one of which is provided with a reservoir communicating with a pair of the polishing-material-holding grooves, and a fabric completely covering said grooved face of each disk.

2. A machine for polishing cutlery comprising a casing having a discharge-opening and a pair of entrance-slots for the cutlery to be cleaned, a shaft extending through said casing, a polishing-disk fixed on said shaft and having one face provided with radially-extending grooves and a strip of fabric completely covering said grooved face, a longitudinally adjustable and rotatable feeding and polishing disk mounted on said shaft and having one face provided with radially-extending grooves and a strip of fabric completely covering said grooved face, said feeding and polishing disk further provided with a polishing-material reservoir communicating with one of its grooves.

3. A machine for polishing cutlery comprising a casing having entrance-slots for the cutlery to be cleaned, a shaft extending through said casing, a polishing-disk fixed on said shaft and having one face provided with radially-extending grooves and a strip

of fabric completely covering said grooved face, a longitudinally adjustable and rotatable feeding and polishing disk mounted on said shaft and having one face provided with
5 radially-extending grooves and a strip of fabric completely covering said grooved face, said feeding and polishing disk further provided with a polishing-material reservoir communicating with one of its grooves, the
10 grooves upon said feeding and polishing disk arranged in alternate relation to the grooves upon the said polishing-disk when the disks are in operative position.

4. A machine of the character described
15 comprising a casing having a discharge-opening and a plurality of entrance-slots for the cutlery to be cleaned, a polishing-disk having one face provided with radially-extending

grooves and a strip of fabric completely covering said grooved face, a feeding and polishing disk having one face provided with radially-extending grooves and a strip of fabric completely covering said grooved face, said feeding and polishing disk further provided with a polishing-material reservoir communicating with one of its grooves, and means for
20 suspending and operating said disks within the casing. 25

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 30

WILLIAM THOMAS QUEEN.

Witnesses:

N. L. BOGAN,

GEO. E. PHILLIPS.