

No. 355,481.

PATENTED JUNE 4, 1907.

H. ROBINSON.
MACHINE FOR PEELING VEGETABLES.

APPLICATION FILED SEPT. 30, 1905.

4 SHEETS—SHEET 1.

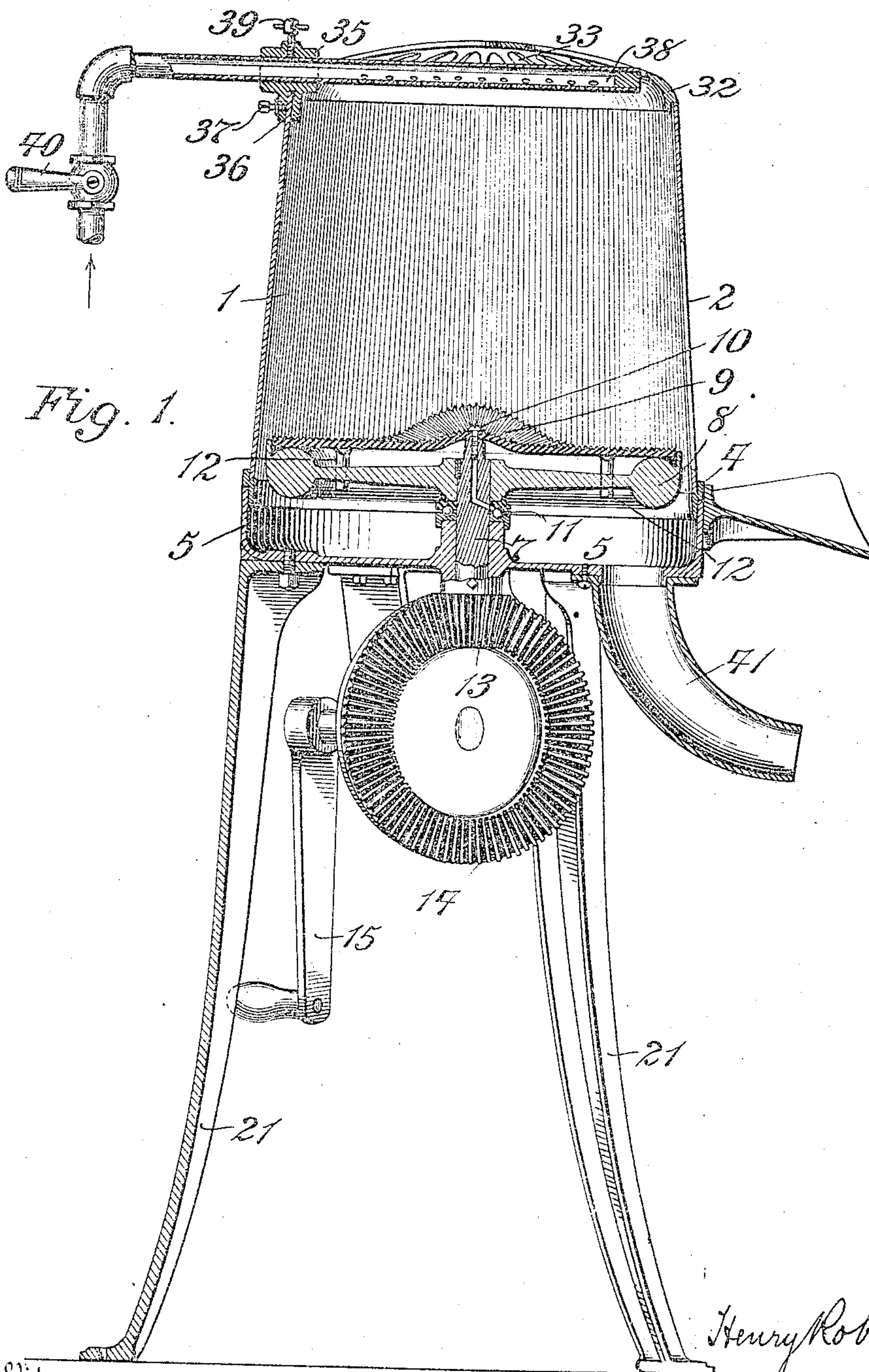


Fig. 1.

2 Witnesses
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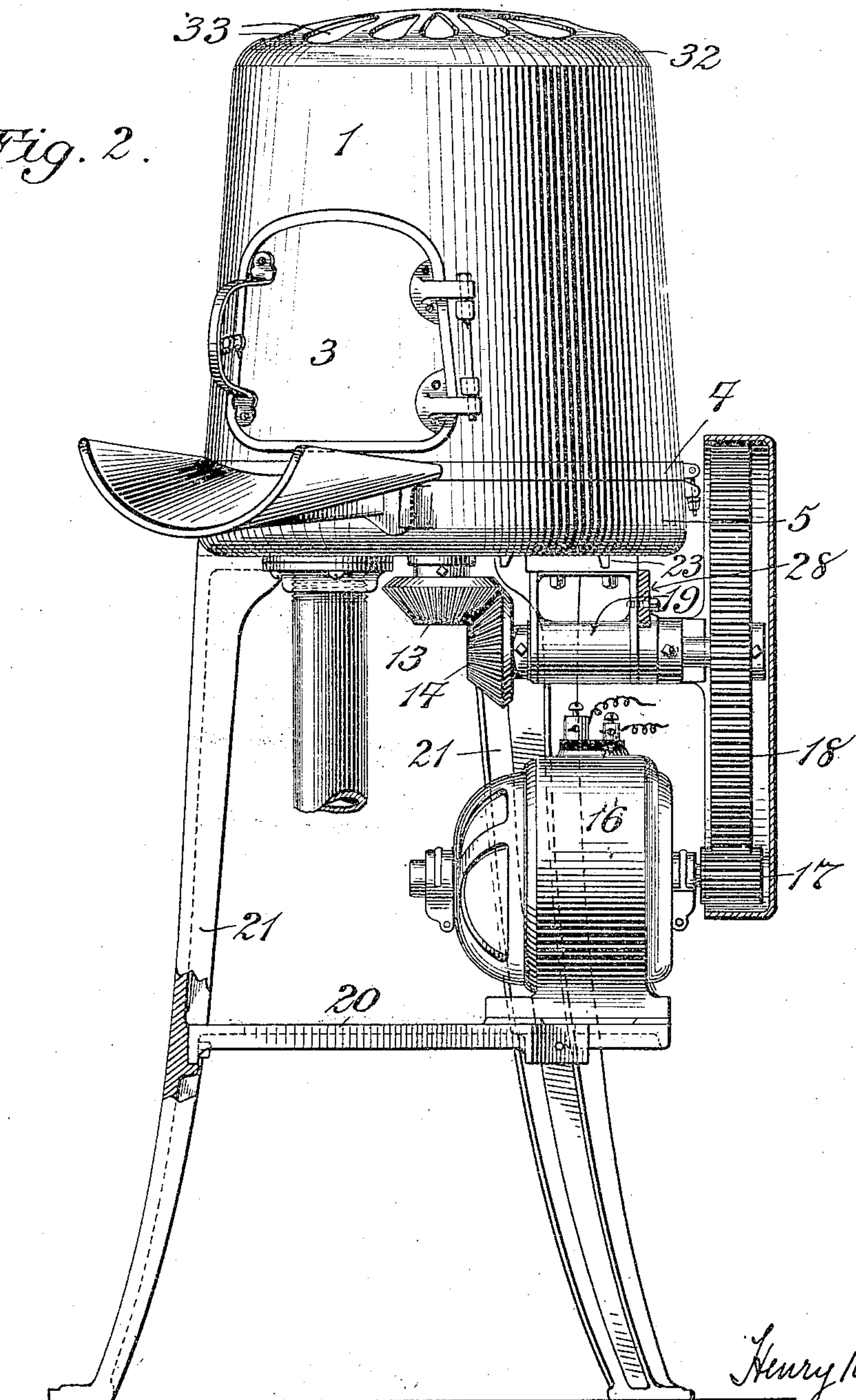
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4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

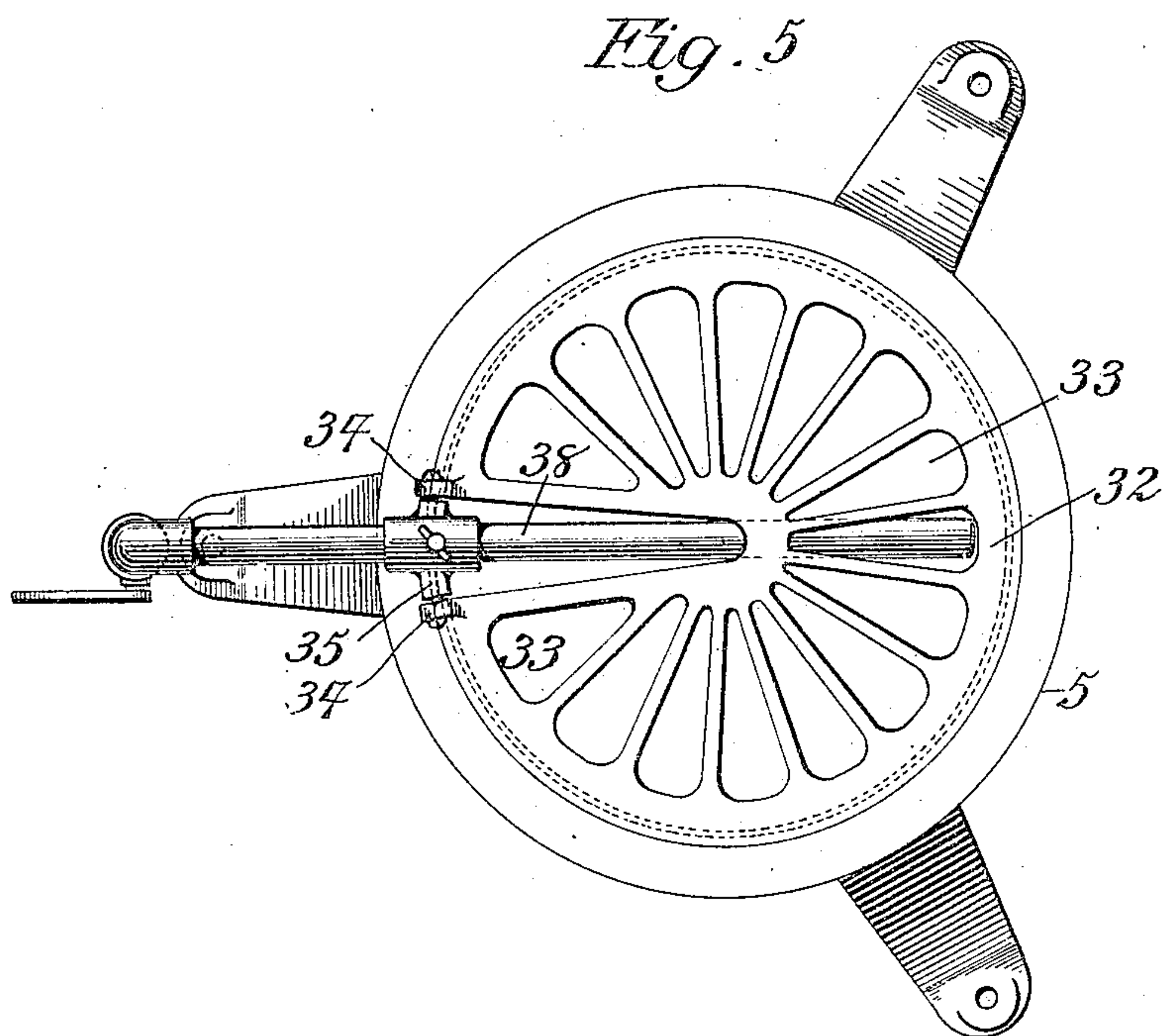


Fig. 3.

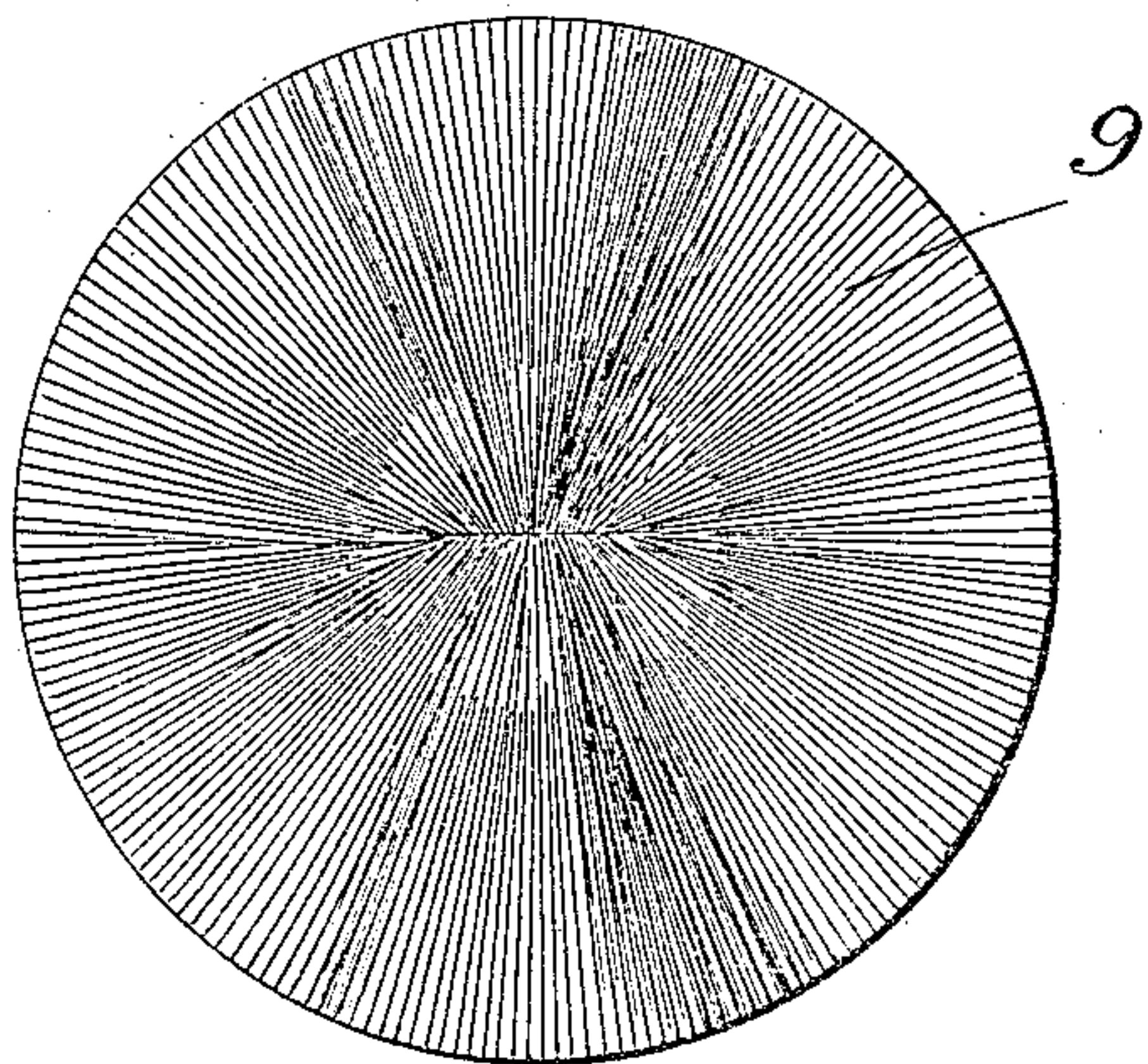
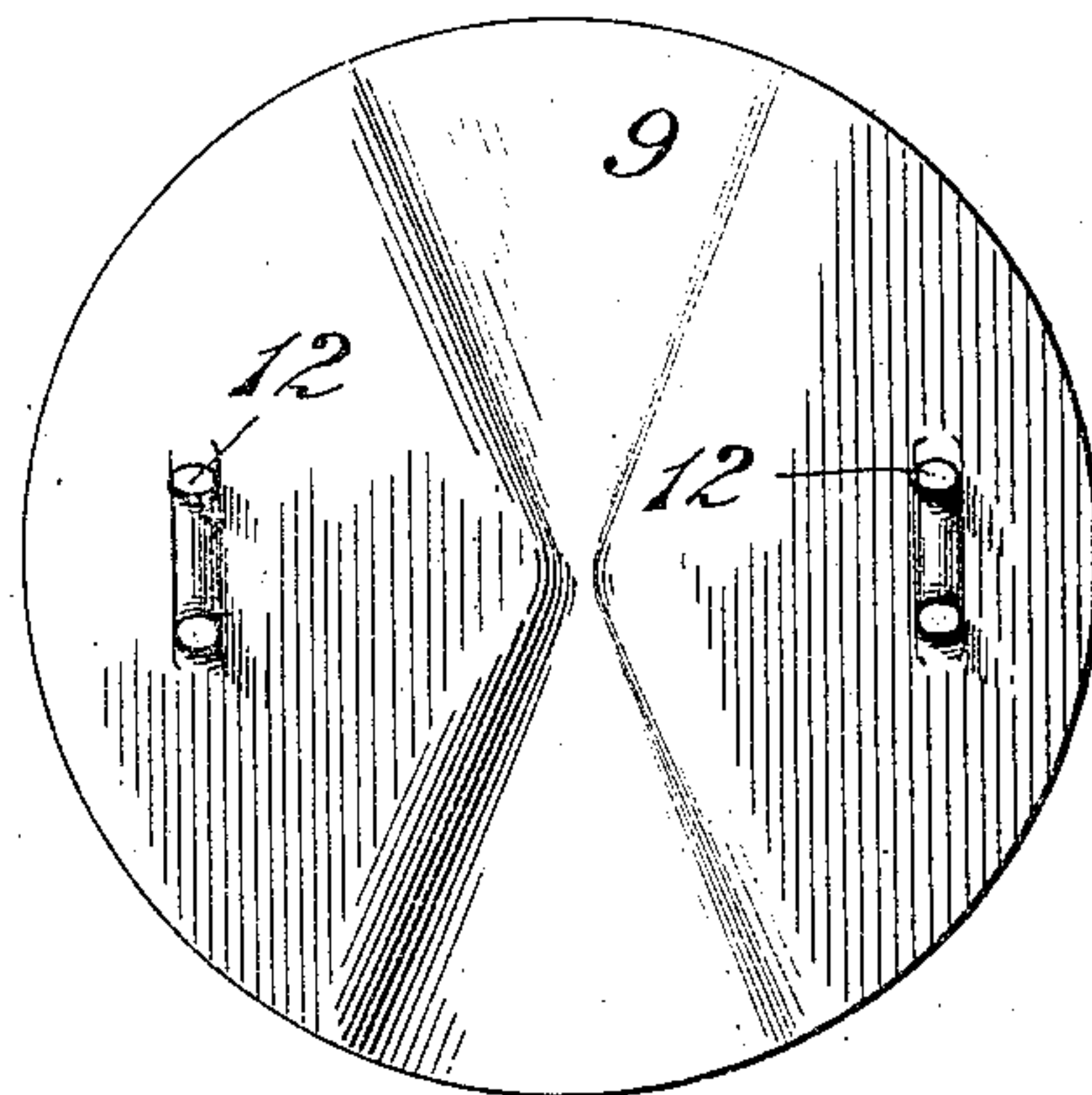


Fig. 4.



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4 SHEETS—SHEET 4.

Fig. 6.

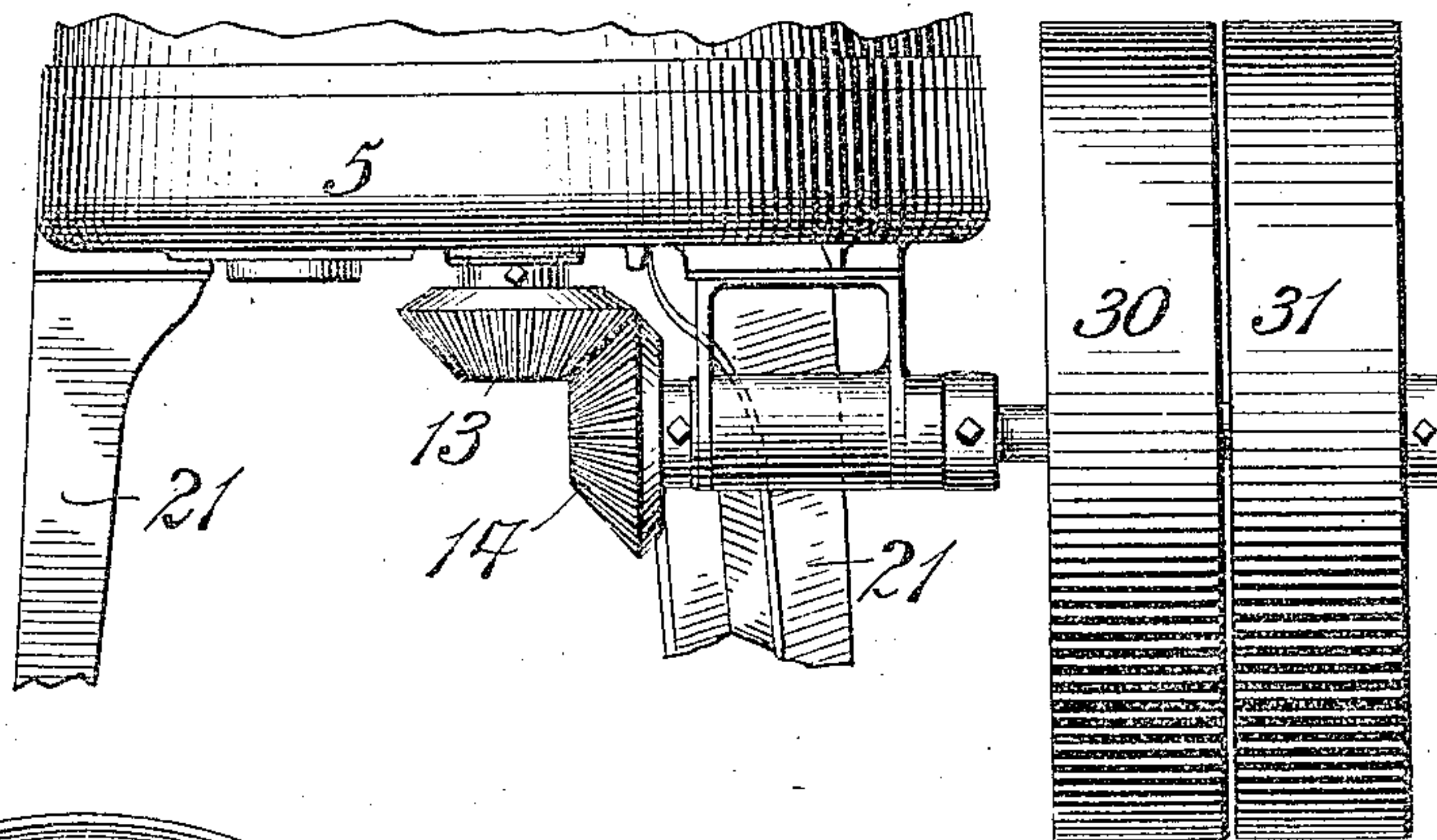


Fig. 7.

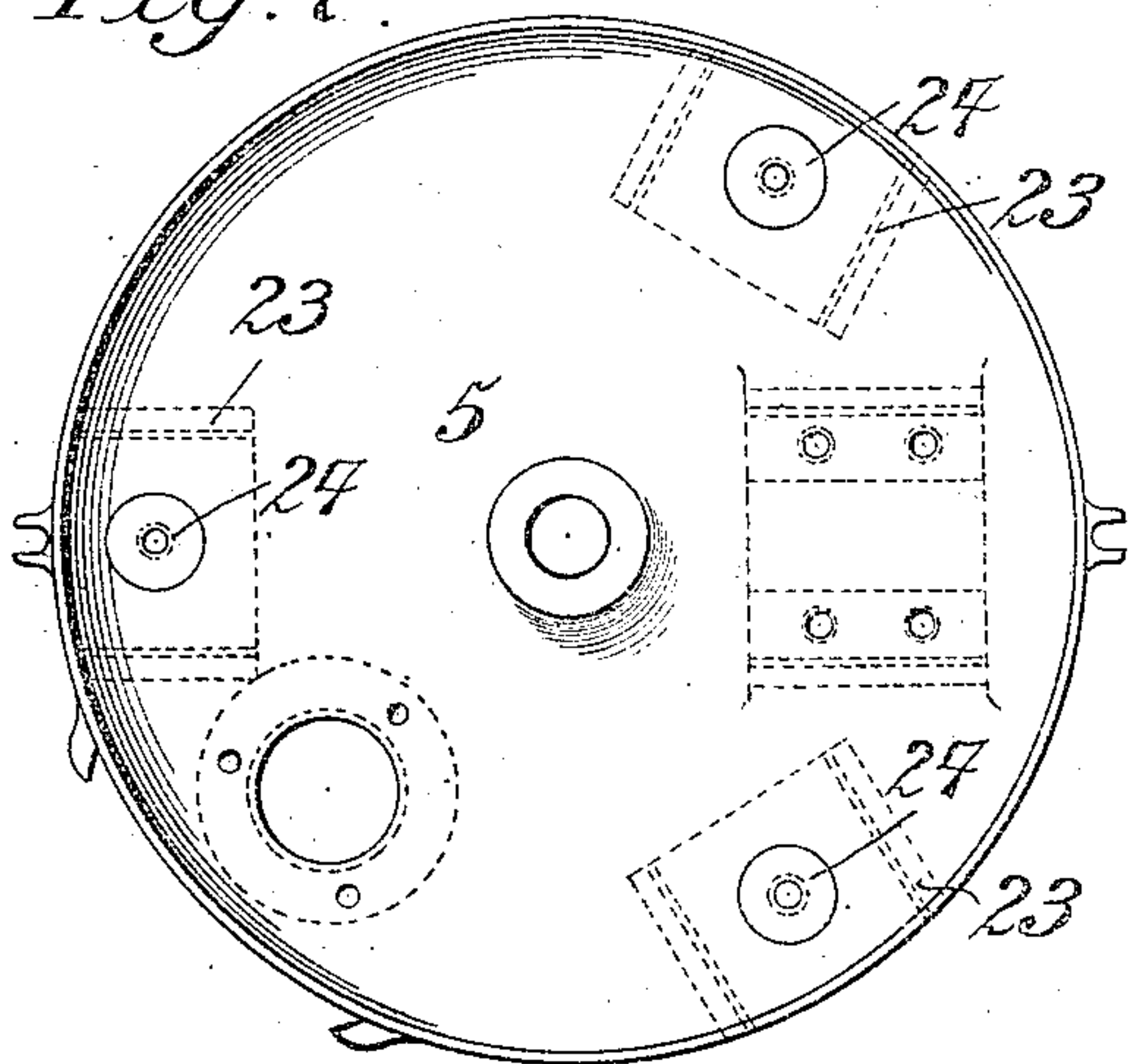


Fig. 8.

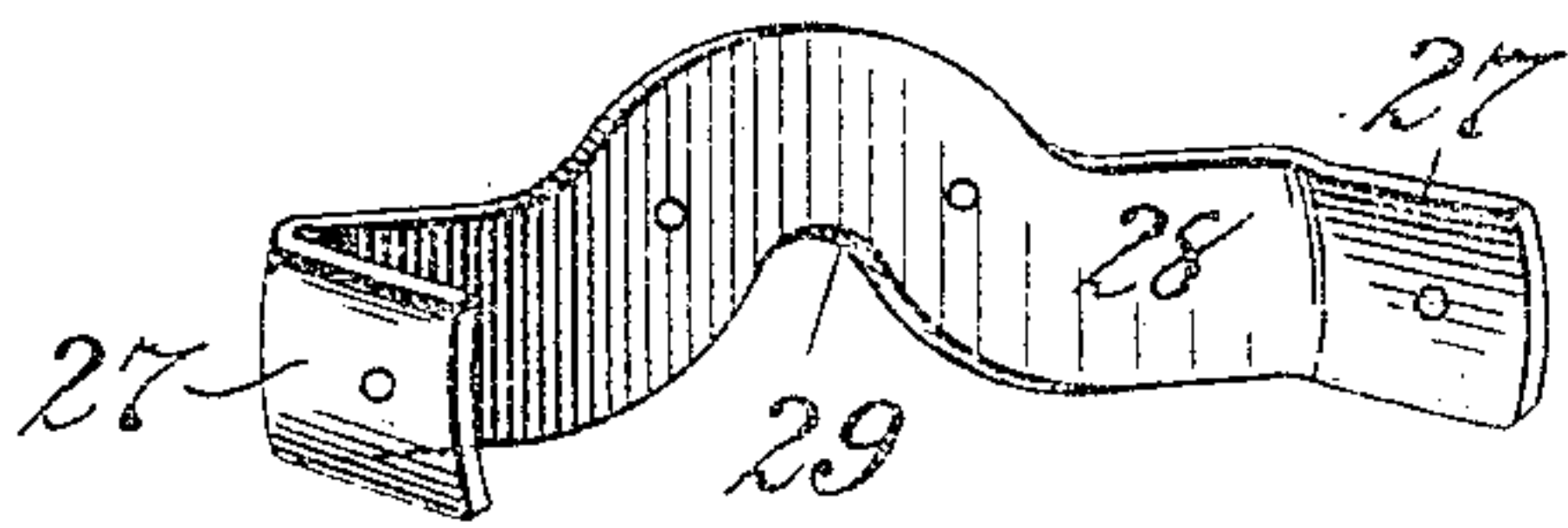
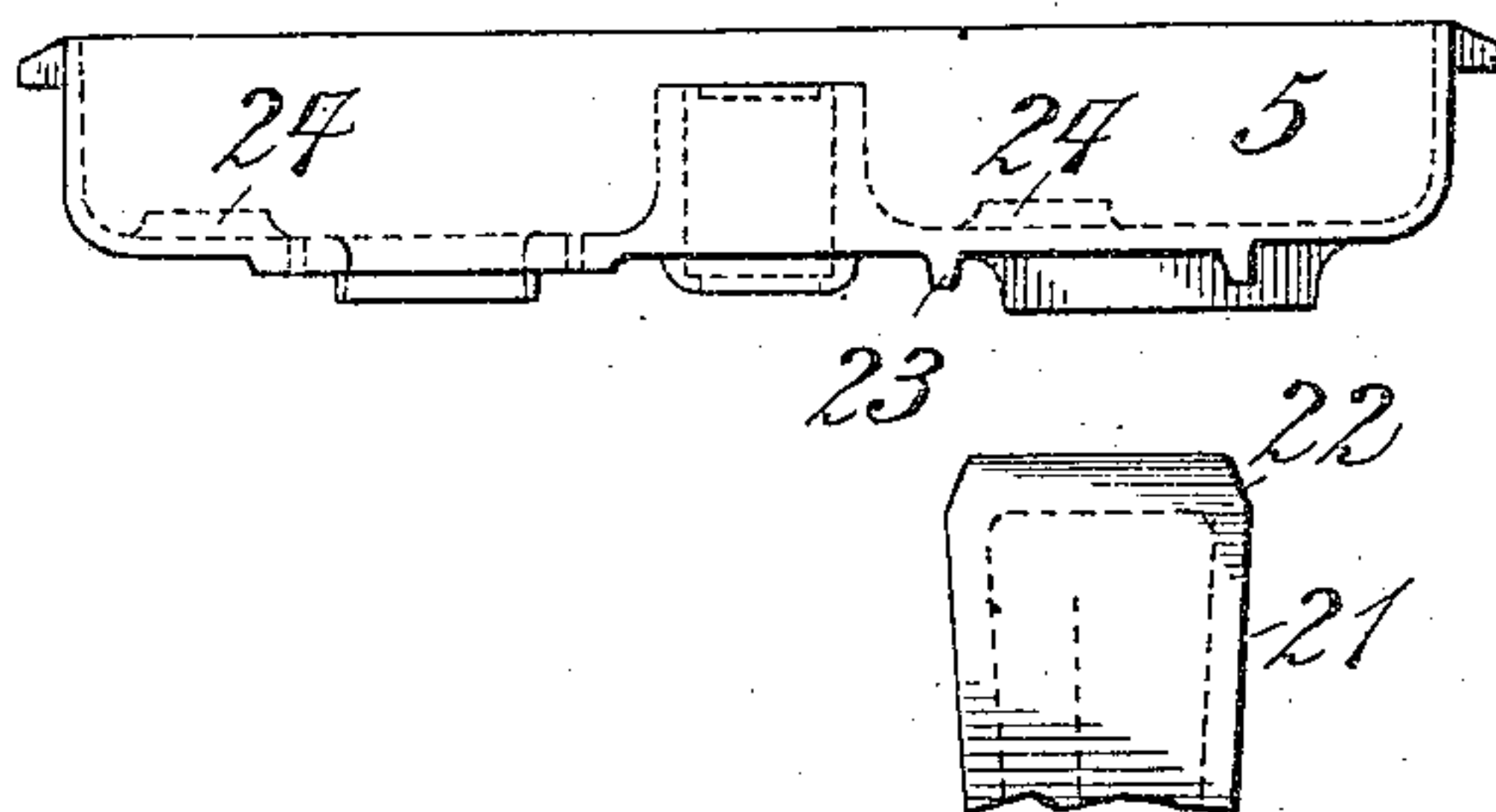


Fig. 9.

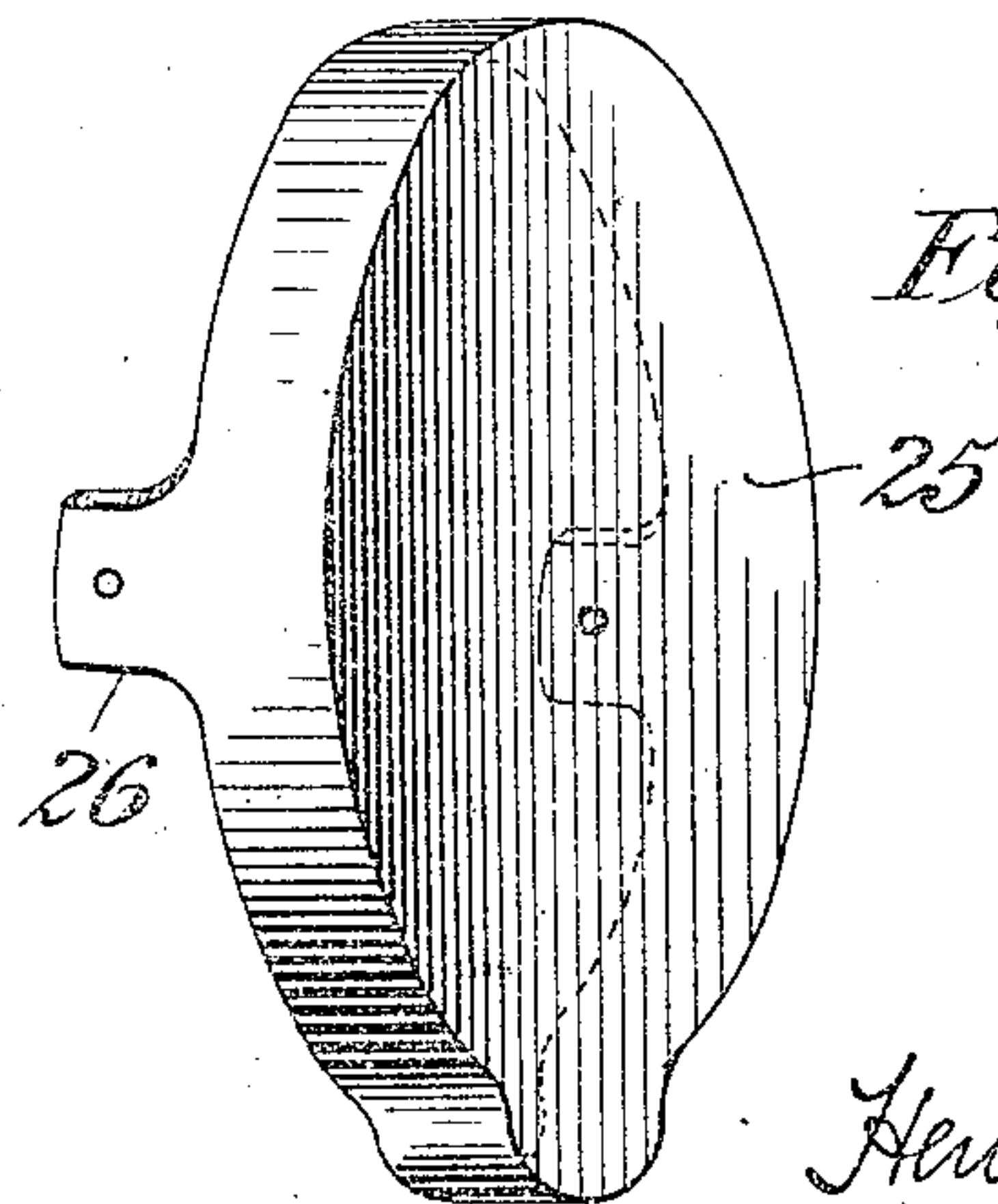


Fig. 10.

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UNITED STATES PATENT OFFICE.

HENRY ROBINSON, OF BROOKLYN, NEW YORK.

MACHINE FOR PEELING VEGETABLES.

No. 355,481.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed September 20, 1905. Serial No. 280,326.

To all whom it may concern:

Be it known that I, HENRY ROBINSON, a citizen of the United States, residing in Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement in Machines for Peeling Vegetables, of which the following is a specification.

This invention has relation to an improved form of apparatus for peeling potatoes and like vegetables and the principal object of my invention is the production of a cheap, reliable and efficient machine of this character suitable for use where insufficient room or any other reason makes it desirable to employ a self-contained apparatus of relatively small dimensions.

My present invention relates more particularly to means whereby the vegetables are prevented from jumping out of the machine, without obstructing easy access at all times to the interior of the apparatus and while permitting examination of the mass at any moment during treatment; also to means for insuring the solid and convenient arrangement of the whole machine with relation to its surroundings; also to an improved containing vessel designed for maximum cheapness and lightness; also to an improved revolving abrader-disk; also, in its preferred form, to an improved motor mounting and gearing and in general to certain further details set forth in the claims hereto attached.

My invention is illustrated in certain preferred forms in the accompanying drawings, wherein

Figure 1 is a vertical section through my machine as driven by hand, Fig. 2 is a side elevation of the same with one of its three legs removed and as preferably arranged for electrical propulsion; Fig. 3 is a top plan view of the preferred form of abrader-disk; Fig. 4 is a bottom plan view of the same; Fig. 5 is a top plan view of the machine shown in Fig. 1; Fig. 6 is an elevation of the arrangement of gearing used when the machine is belt driven; Fig. 7 is a top plan view of the bowl; Fig. 8 is a side elevation of the same showing the top of one leg about to be applied to its socket and Figs. 9 and 10 are perspective views of the two parts of the gear casing shown in Fig. 2.

The preferred embodiments of my invention shown in the accompanying illustrative drawings are constructed as follows: The body of the apparatus comprises a thin cy-

lindrical container 1 preferably of iron cast in one piece the inner surface of which is striated as shown, and in which is an opening 2 closed by any desired form of door, such as shown for instance at 3. This container is completed by a strong cast iron ring 4 which is attached permanently to the shell 1. A bowl 5 is provided which supports the container as shown, the ring 4 having a deep inner flange or lip fitting snugly within the edge of said bowl to prevent exit of water under the influence of centrifugal force: A hub or boss 6 is provided at the center of the bowl 5 in which is placed a short vertical shaft 7 which supports the spider-armed wheel 8 keyed thereto as shown. The top of the shaft 7 is continued upward and carries the abrading disk 9 which is preferably fastened to said shaft by a central screw 10 as shown and is surrounded by an upturned lip or ledge on the edge of the spider wheel. The hole which receives the screw 10 is preferably continued downward to the bearing 11 (preferably a ball bearing) on which the spider wheel 8 turns and is supported. This passage can thus be used for lubricating purposes.

The disk 9 may be an abrading agent of any appropriate form but is preferably shaped as shown in Figs. 1, 3 and 4 so that it arches upward at intervals, the elevations so formed sloping upward away from the center. When a mass of potatoes is placed upon this disk within the container and the disk is revolved, the striations of the latter cooperate with those within the shell 1 to scrape away the outer skin of the vegetables and at the same time the elevated arches aid in imparting a rotary movement to the mass whereby it is impelled by centrifugal force against the shell 1 while made to move circularly across the striations in the latter. In order to insure revolution of the disk with the spider wheel (which acts as a flywheel) one or more pairs of projections 12 are fixed to the under surface of the disk in such a position that, when said disk is in position on the end of the shaft 7, these projections straddle one or more of the arms of the spider wheel 8, as shown in Fig. 1. The lower end of the shaft 7 is provided with a gear wheel 13 which, in the hand power machine shown in Fig. 1, takes the form of a small bevel wheel. This wheel is driven, in the form shown in Fig. 1, by a larger bevel wheel 14 which may be turned by the crank 15. This arrange-

ment of gears is adopted where the slow movement of the hand is to be converted into the swift movement necessary in operating the disk 9.

5 In Fig. 2 is shown a preferred form for use with electric power. Here the high velocity of the electric motor 16 must be somewhat lessened in transmission to the disk 9, and for this purpose, a small driving pinion 17 on
10 the armature shaft propels a larger gear wheel 18 which is fixed on the same shaft with the pinion 14. Said shaft is carried in a proper socket 19 fastened under the bowl 5. The motor 16 is supported upon a horizontal
15 iron or steel framing 20 which is bolted within the three legs 21 which support the bowl and container. The means for attaching these legs under the bowl are best shown in Fig. 8. Each leg 21 is beveled at the top, as
20 shown at 22, and a similarly beveled socket 23 is provided for each leg at proper intervals underneath the bowl 5. A boss 24 above each socket 23 admits a fastening bolt for each leg. The object of this construction is
25 to obviate the necessity for machine work in fitting the legs in place. By providing a beveled socket to receive a similarly beveled leg top, inequalities and irregularities become immaterial and a fit is secured by simply
30 drawing the leg up to its place by tension on the fastening bolt.

One of the principal objects of this invention is the provision of an apparatus suitable for use in crowded places where space is valuable. In these localities it is important to
35 provide means for preventing accidental contact with the gear wheels, and these means are also useful in protecting the gears from falling water or vegetables. As shown in
40 Figs. 2, 9 and 10 these means take the form of a two-part casing supported conveniently by a single bolt on the hanger 19. (See Fig. 2.) One part of the casing is dish-shaped as at 25, and surrounds the gears 17 and 18 peripherally and on their outer faces. This part is
45 supplied with two lugs 26 whereby the whole is supported, said lugs 26 being bolted to the lugs 27 on the ends of the second part 28 of the casing. This second part is a simple flat
50 plate, curved in its own plane as at 29 to fit over the hanger 19 where it is bolted in place; thus securing the entire casing.

In the form of machine shown in Fig. 1 the gear case is unnecessary as the gears are both
55 located beneath the bowl and container. This is also true of the modification shown in Fig. 6, wherein the gear 14 is turned by a pulley 30 driven by appropriate belting. The pulley 31 is loose and carries the belt when the machine is idle.

As before stated, the saving of room is one important object of this invention. For this purpose the diameter of the machine is restricted so far as possible. A diminished diameter implies an increased centrifugal force

for a given peripheral velocity and the potatoes or other vegetables will therefore have an increased tendency to ride up and fly out of the top of the container. In large machines this tendency can be successfully
60 counteracted by giving the walls of the container an inward inclination toward the top. In smaller machines, however, this taper would have to be excessive and would involve too great a diminution of the already
75 restricted space.

In order to prevent the potatoes from flying out I have devised the following means which permit constant inspection of the treated material and are adapted to producing the utmost convenience in the placing of
80 the entire device with regard to its surroundings. A metal cover 32 fits upon the top of the cylindrical casing 1, said cover being provided with radially placed slits 33 of such a
85 shape and size as to admit ample light for easy inspection of the interior, while preventing escape of any of the vegetables treated. Machines of this character are very often required to be placed in kitchens or like apartments which are already
90 crowded and wherein the arrangement of the peeling apparatus with respect to the surrounding fixtures is often productive of inconvenience. In order to reduce this inconvenience, it is desirable to provide a form of
95 cover which can be opened in any direction at will, so that an operative may have access to the machine from above on any side. For this purpose the cover 32 is provided with
100 hinge-lugs 34 (see Fig. 5) whereby said cover is hinged to the two sides of the movable seat 35. This seat is provided with a downward extension 36, slotted to embrace the top of the casing 1 at any point in its circumference,
105 and a set screw 37 passing through said extension holds the seat firmly in place when adjusted. By the use of this device, the hinge of the cover 32 may be given any desired position relative to the door 3. It is
110 furthermore very desirable to so construct this device that there may be no obstruction to free and convenient access to the interior. For this purpose the necessary water supply is provided as follows: A water pipe 38
115 extends across the top of the container, which pipe is plugged at its end and perforated below to allow escape of water upon the vegetables. This pipe is carried by a freely adjustable seat which can be placed on or taken
120 from the machine at will. I prefer the construction shown wherein the same removable seat 35 carries both the cover 32 and the pipe 38. I also prefer to make the pipe 38 a simple straight tube passing through a corresponding bore in the seat 35 and held in place
125 by the set screw 39. By use of this construction the pipe can be removed together with its valve 40 without disturbing the cover 32. On placing the vegetables within the con-
130

tainer and starting the disk 9, the water being turned on at 40, the striated metal surfaces of the disk and container rub off the skins in the form of small particles, which are carried away by the falling water into the bowl 5, whence they are discharged through the pipe 41.

What I claim is—

1. In a peeling machine for vegetables the combination of a container, a movable seat adjustably secured to the top edge of said container, a cover for said container hinged to said seat and a sprinkling pipe carried by said seat and projecting under said cover, substantially as described.

2. In a peeling machine for vegetables the combination of a container, a movable seat adjustably secured to the top edge of said container, a cover for said container hinged to said seat a sprinkling pipe passing through a cavity in said seat and means for securing said pipe in different positions in said cavity, substantially as described.

3. In a peeling machine for vegetables the combination of a container, a movable seat adjustably secured to the upper edge of said container a cover for said container hinged to said seat and having an opening extending

from near the center of the cover to a point between the cover hinges, and a sprinkling pipe carried by said seat and extending through said opening in said cover, substantially as described.

4. In a peeling machine for vegetables, the combination of a container, a seat having a slot fitting the edge of said container, and a sprinkling pipe carried by said seat, substantially as described.

5. In a peeling machine for vegetables, the combination of a container, a seat adjustably secured to said container, a cover for said container hinged to said seat and a sprinkling pipe carried by said container and extending under said cover, substantially as described.

6. In a peeling machine for vegetables, the combination of a container, a seat adjustably secured to said container, a cover having radial openings and hinged to said seat and a sprinkling pipe carried by said seat and passing through an appropriate opening in said cover, substantially as described.

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Witnesses:

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