

G. F. SHAVER.
SOAP SHAVING DEVICE.
APPLICATION FILED SEPT. 9, 1905.

983,316.

Patented Feb. 7, 1911.

2 SHEETS-SHEET 1.

Fig. 1

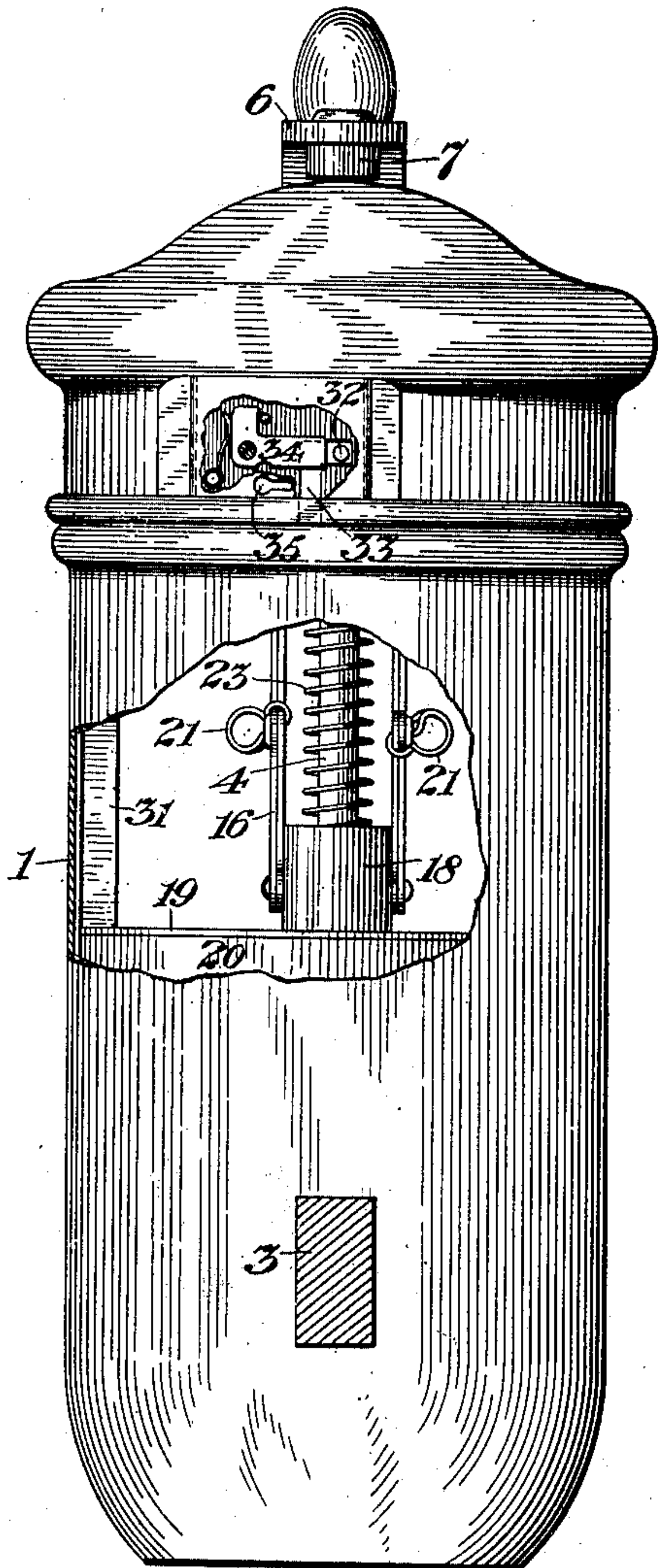
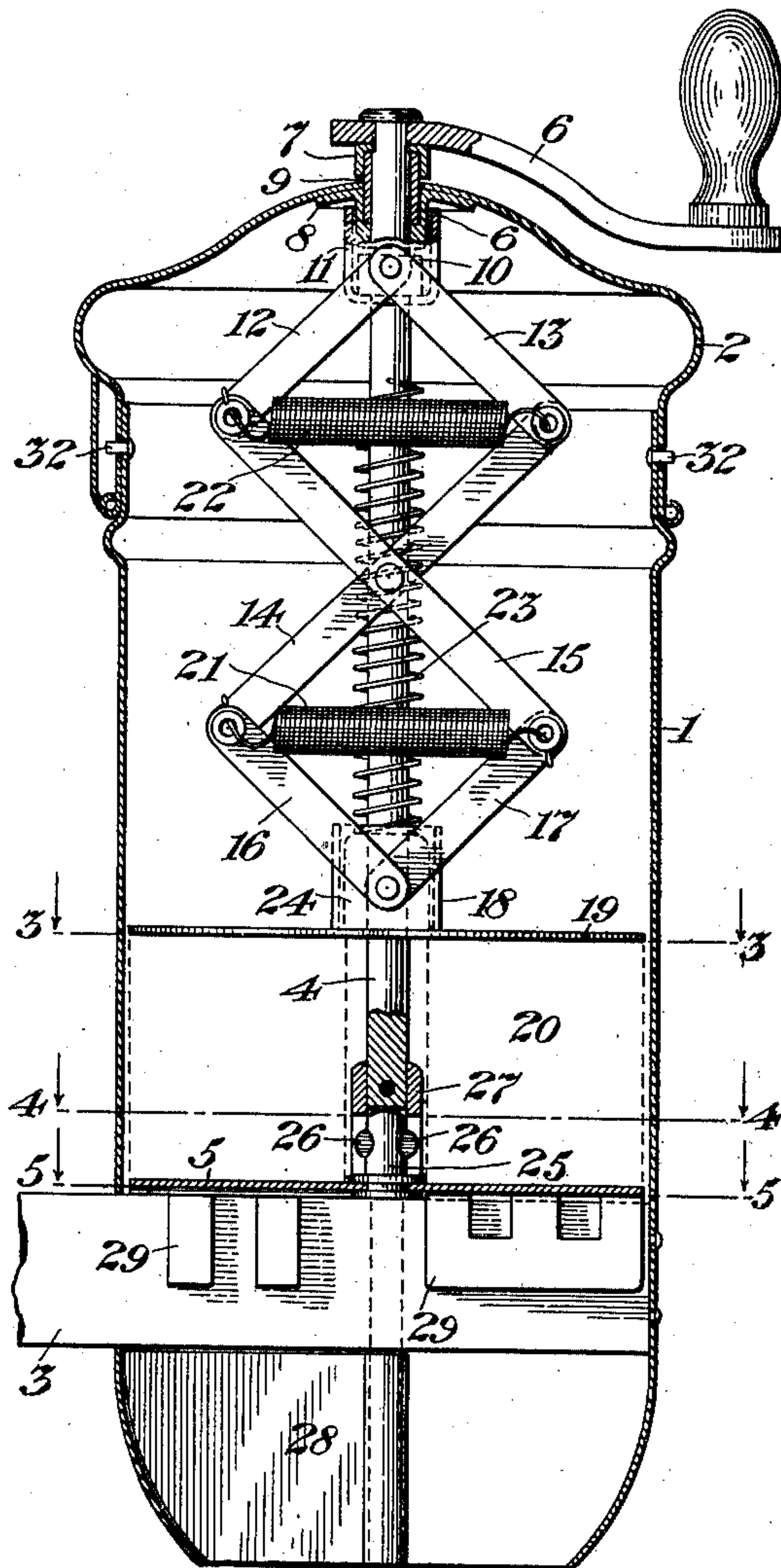


Fig. 2



Witnesses
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2 SHEETS—SHEET 2.

Fig. 3

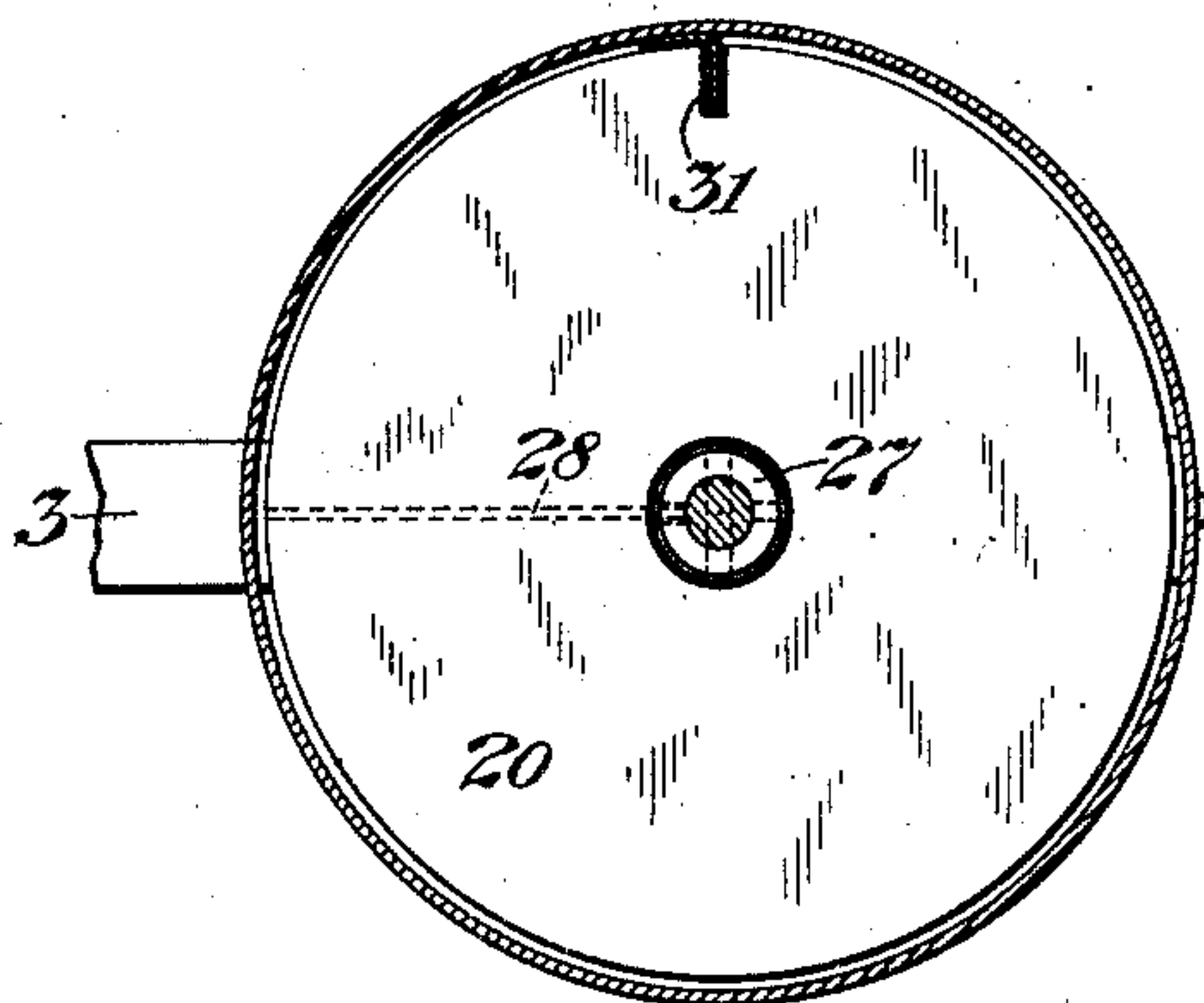


Fig. 4

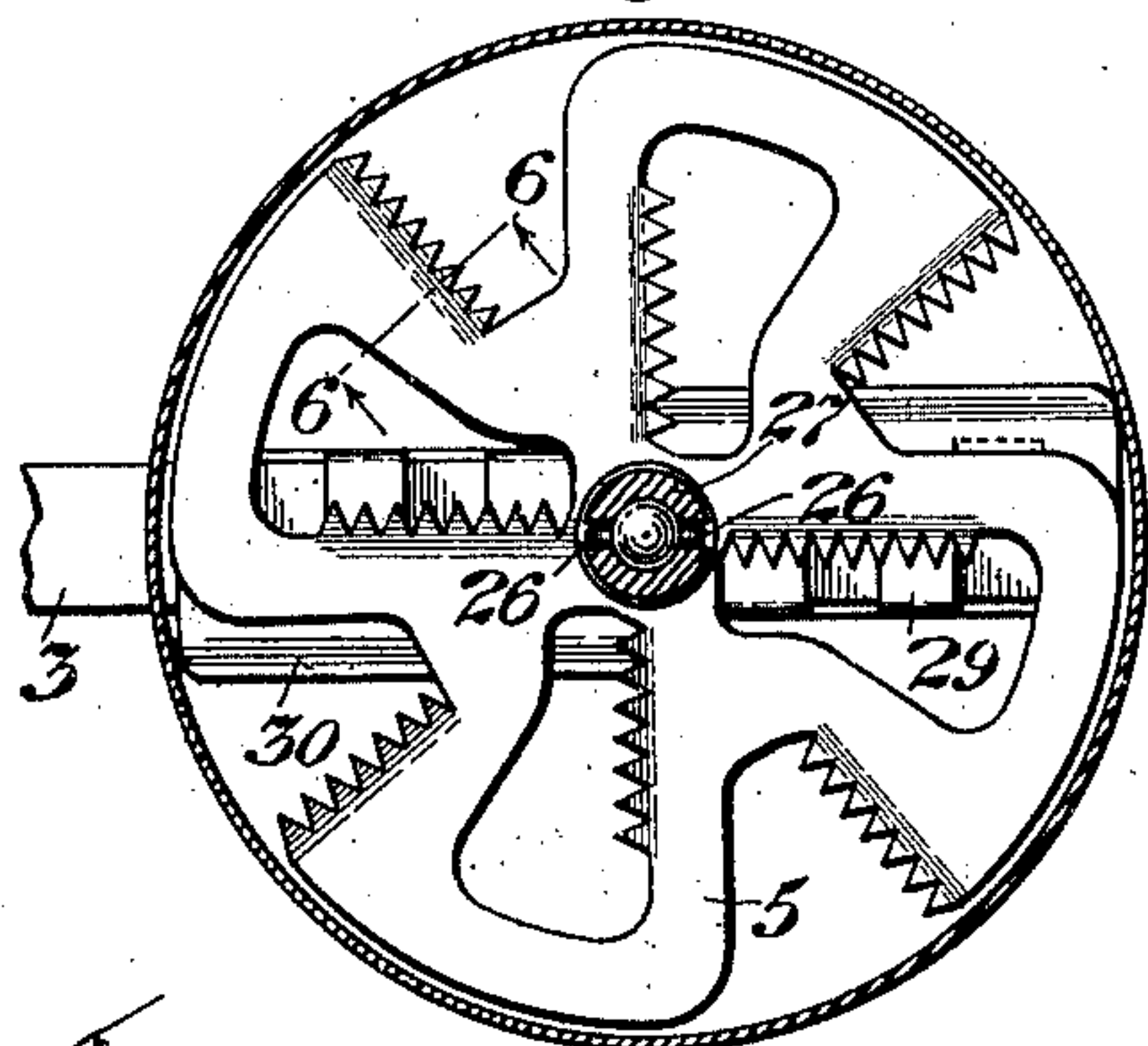


Fig. 6



Fig. 5

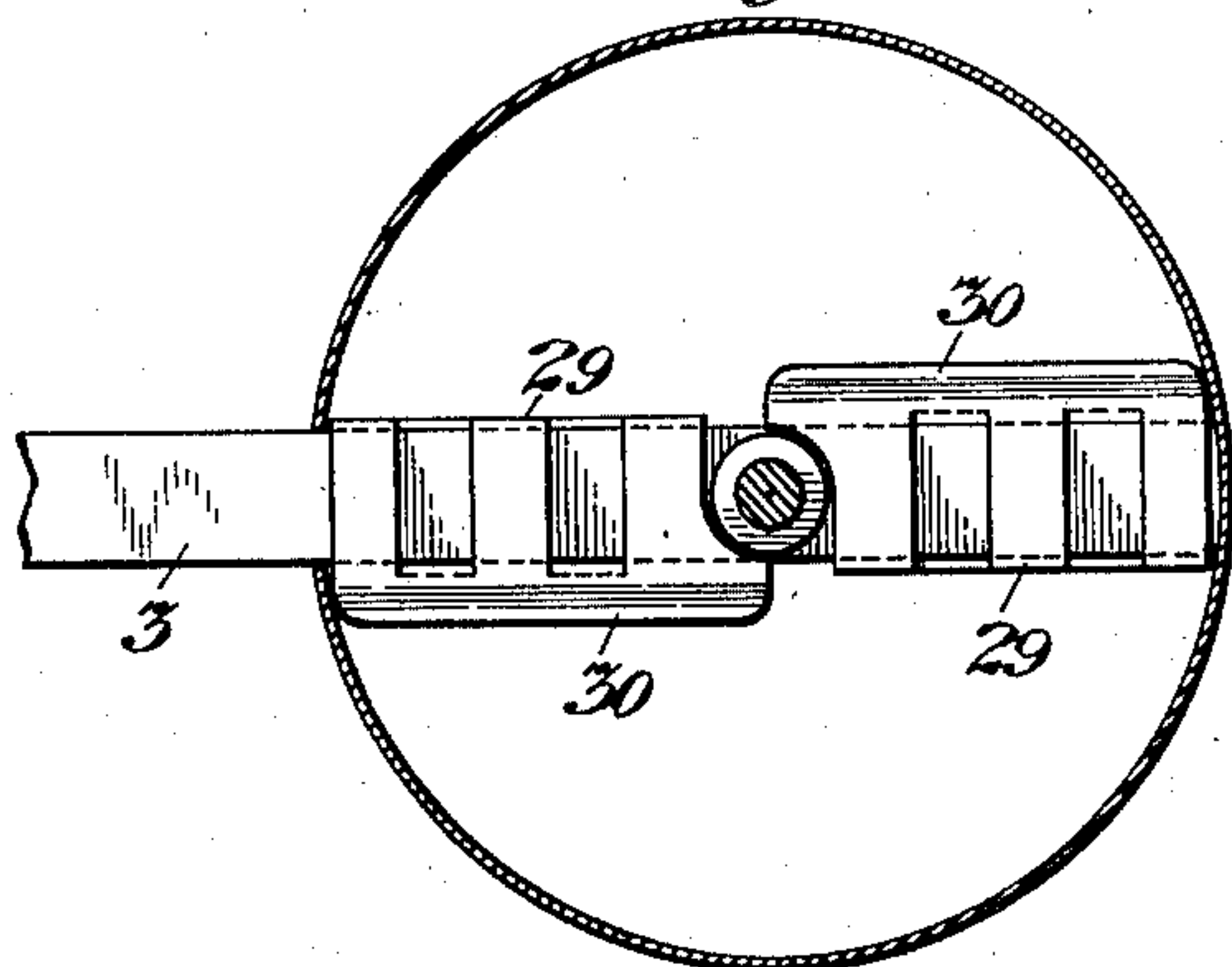
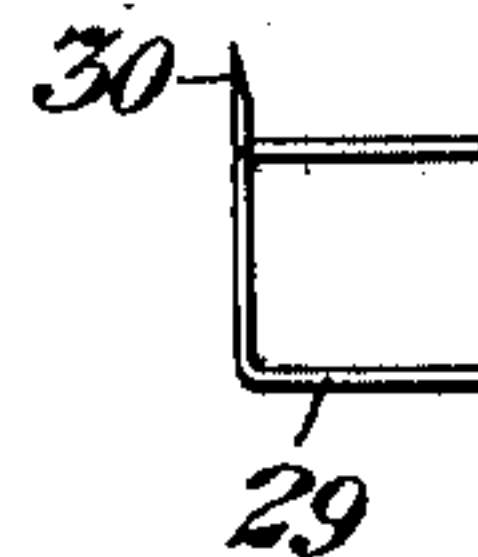


Fig. 7



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UNITED STATES PATENT OFFICE.

GEORGE F. SHAVER, OF NEW YORK, N. Y., ASSIGNOR TO HYGIENIC SOAP GRANULATOR COMPANY, A CORPORATION OF NEW JERSEY.

SOAP-SHAVING DEVICE.

983,316.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed September 9, 1905. Serial No. 277,769.

To all whom it may concern:

Be it known that I, GEORGE F. SHAVER, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Soap-Shaving Devices, of which the following is a specification.

This invention relates to a device which is primarily designed as a toilet fixture adapted for use in connection with wash basins for the purpose of supplying soap in such a form that it may be readily and economically used and is intended to do away with the use of a cake of soap in the ordinary manner in the hand.

It has been found by many experiments with soap in various forms that when the soap is cut or shaved into thin narrow strips or shavings the same dissolve or saponify very readily and consequently a much smaller quantity is necessary in this than in any other form, as the entire amount shaved off is dissolved and used, resulting in a greater economy in the use of the soap.

To produce soap shavings in the form above described I provide a machine having a rotatable cutter and a scraper which is adapted to operate in conjunction with this cutter, as will be more fully described hereinafter.

It has been found that much better results are produced when the cake of soap is held against the cutter with a uniform pressure as the soap shavings will be of uniform thickness and the cutter is much less liable to clog and will operate much more smoothly and efficiently under these conditions.

In order to hold a cake of soap against the cutter with a uniform pressure I provide a device which is in the nature of a lazy tongs actuated by a spring. One end of the series of toggle levers is fixed in position and the opposite or moving end attached to a disk adapted to press against one end of the cake of soap and hold the same against the cutter. The operation of this feature of the device will be more fully explained in the drawings accompanying this specification.

In the drawings like parts have been given similar reference numbers in each of the figures.

Figure 1 is a side elevation of a device 55 embodying my invention having portions thereof broken away showing the interior construction. Fig. 2 is a vertical, central cross-section, showing the relative position of the several parts of the device. Fig. 3 60 is a cross-section on the line 3—3 of Fig. 2. Fig. 4 is a cross section on the line 4—4 of Fig. 2. Fig. 5 is a cross-section on the line 5—5 of Fig. 2. Fig. 6 is a cross sectional view of the cutter taken on the line 6—6 of 65 Fig. 4. Fig. 7 is an end view of the scraper, shown in plan view in Fig. 5.

In the soap shaving device which I have chosen to illustrate my invention in the drawings herewith a vertical soap container 70 1, is preferably cylindrical in form constructed of sheet metal and provided with a suitable cover 2. A support or bracket 3 of suitable form may be provided for attaching the same to the wash basin or toilet 75 fixture with which it is to be used. One end of such a bracket is shown at 3 where it projects through the container 1 and is riveted thereto thus forming a support for a vertical shaft which is adapted to rotate 80 the cutter 5. A suitable handle and lever such as 6 is provided at the upper end of said shaft which projects through a suitable bearing in the cover 2. This bearing is of peculiar construction and is so designed as 85 to prevent any water leaking through the cover to the interior of the container. As the hands of the operator are often wet this might readily occur.

The upper end of the shaft is flattened on 90 two sides and adapted to receive the handle 6. An inverted cup shaped member 7 is held in position against the shoulder formed by the aforesaid flattened portion of the shaft 4 by the handle 6, which may be held 95 in place by riveting over the upper end of the shaft. A supporting member 8 is fastened to the inside of the cover 2 and into this member 8 is forced a bushing 9, which is held thus in position so as to preserve the 100 alinement of the shaft 4. This construction provides a substantial bearing which will prevent any water from leaking from the outside of the cover to the interior of the soap container.

A collar 10 is secured to the shaft 4 and provides a shoulder which prevents the shaft 4 from being forced upwardly by the 105

action of the lazy tong levers. An outer sleeve 11 surrounds the aforesaid collar and the lower end of the supporting member 8 and forms a support against which the collar 10 may rest and so retains the shaft 4 in position. Two sets of lazy tong links 12 and 13 are pivotally attached to the aforesaid sleeve 11 on opposite sides thereof and a second pair of crossed levers 14 and 15, pivoted at their intersection, are attached thereto forming a device known as the lazy tong. At the outer ends of these levers a coil spring is attached which is normally under tension and operates to pull the outer pivotal points together and so force the lower end of the levers downward, as will be seen by referring to Fig. 2.

At the lower end the levers 14 and 15 a set of links 16 and 17 are attached and also a spring connecting the outer ends thereof which operates in the same manner and in conjunction with the one already described. The lower ends of the links 16 and 17 are pivotally attached to a sleeve 18, which is in turn attached to a disk 19 which engages the upper surface of the cake of soap 20. It is thus seen that the operation of this lazy tong device is to force the disk 19 downward against the cake of soap thus holding the same against the rotating cutter 5. It will also be seen that when the disk 19 is in its uppermost position the springs 21 and 22 will be extended and will exert the maximum pull on the levers, but in this position the pivotal points of the levers are more nearly in a straight line and consequently the resultant pressure downward at right angles to the line of pull of the spring is at its minimum. As the disk moves downward the relative resultant action increases on account of the increased leverage due to the relative position of the several pivotal points, but the actuating force of the spring at the same time decreases and consequently a uniform downward pressure is produced from the highest to the lowest position of the disk.

When the disk is in its uppermost position the pivotal centers of the levers are so nearly in a line with the pull of the springs 21 and 22 that it has been found desirable to use an auxiliary spring 23 which is carried loosely upon the shaft 4 and rests against a collar 24 which is secured to the disk 19. This auxiliary spring 23 is of such a length that it is not brought into action except over approximately the last third of the travel of the disk to and from its uppermost position. It is thus seen that maximum downward thrust of this auxiliary spring 23 will be at the point where the pivotal points of the levers, which are actuated by the springs 21 and 22, are in nearly a straight line and the object of this auxiliary spring is to insure the positive operation of the whole

mechanism and prevent the levers from becoming locked in position on account of the friction between the parts or other causes.

The cutter 5 is provided with a centrally located hub or shaft 25, which is secured thereto. The upper portion of this hub is provided with two projections or ears 26. A sleeve or extension 27 is attached to the lower end of the shaft 4 and is provided with slots adapted to engage the aforesaid projections 26 on the hub 25 and so form a separable connection between the shaft and cutter for rotating the latter when the handle is turned. This construction permits the removal of the cover of the container together with the shaft and attached parts, leaving the cutter in place in the container.

The lower portion of the hub 25 extends through the support 3 and at the lower end thereof is attached a cleaning plate 28. This plate is preferably formed from a thin sheet of metal having a portion thereof bent into circular form providing an opening adapted to receive the lower end of the hub shaft 25. This opening is of such a size that the plate fits tightly over the shaft and is rotated thereby but in case it meets with any obstruction other than the soap shavings the shaft will slip in the opening and will not be prevented from rotating. The object of this cleaning plate is to prevent the accumulation of the soap shavings which are very thin and light and are very apt to lodge and collect in the lower portion of the container instead of falling freely into the hands of the operator as intended.

The cutter 5 is of such a construction as to shave or cut the cake of soap into thin narrow shavings and to accomplish this result a series of serrated cutting edges, preferably in the form of saw teeth projections, are provided. A simple and cheap design of such a cutter is shown in Fig. 4. This cutter is formed from a disk of metal slightly smaller in diameter than the interior of the container. This disk has portions thereof cut away and on the advancing edge of these openings saw teeth projections are provided having the points thereof bent slightly upward above the surface of the disk and having a sharp cutting edge inclined at about 35 degrees with the plane of the disk. A cross section of one of these cutting teeth is shown in Fig. 6. Openings in the disk are of large size in order that the soap shavings will readily fall through and not collect and clog the cutter.

The several series of cutting edges are preferably arranged so as to extend radially from the center of the disk and in order to provide greater strength and rigidity alternate series extend only a part of the distance from the center to the circumference,

one series extending from the center a part of the way outward and the adjacent series extending from the circumference a part of the way inward. This arrangement provides a cutter which will cut the entire surface of the soap and at the same time allows the disk to be so formed that a much stronger construction is provided than would be the case if each series of cutting edges extended to the center from the circumference.

Mounted upon the support 3 is provided a scraper 29, which is preferably constructed of thin sheet metal and adapted to be slipped over the support 3, as shown, so that the upper surface thereof will be adjacent to the under surface of the cutter. This scraper is provided with a projection 30 at one side thereof having a sharp edge and is intended to cut away or scrape off the soap shavings which hang below the cutter. This has been found to be very effective in preventing the accumulation of soap shavings which would clog the cutting edge and so prevents the most effective operation thereof. The relative position of this scraper and cutter is shown in Figs. 2 and 4 and the scraper is shown in detail in Figs. 5 and 7.

The cake of soap is of a construction especially adapted for use with this machine and is preferably cylindrical in form and of slightly smaller diameter than the interior of the container. A central opening in the cake is provided which is of such a size as to permit the shaft 4 to be operated therethrough. At one side of the container a projection or fin 31 is provided and a corresponding slot or keyway is provided at one side of the cake of soap. This slot engages the fin 31 and the soap is prevented from rotating with the cutter. A similar slot is provided in the disk 19, which preferably corresponds in its outline to the end of the cake of soap, as shown in Fig. 3, which also engages the fin 31 and so prevents the disk and attached lazy tong device from rotating with the shaft.

The construction of the cake of soap and the relative location of the retaining fin is shown clearly in Fig. 3. The cover of the container 1 is adapted to fit over the outside of the upper end thereof. Projecting pins such as 32 from opposite sides of the container 1 enter openings 33 in the cover. This forms an ordinary bayonet joint and as the cover is pressed into place a turn brings the pin into the horizontal portion of the openings 33 thus locking the cover in place.

Referring to Fig. 1, a lever 34 is pivoted to the cover at one side thereof and is held against a stop in such a position that one end thereof closes the horizontal portion of the opening 33 above referred to. As the

cover is forced down upon the top of the container the end of the lever 34 is raised by the pin 32, allowing the same to pass into the horizontal portion of the slot as shown. The spring above referred to forces the lever into the position shown and the cover is locked in position until a key is inserted in the opening 35 provided therefor and turned so as to raise the lever 34 and release the pin in the bayonet joint. This provides a simple and effective lock for preventing the container from being opened.

It will be evident that the several features of my invention may be used individually and apart from one another if desired as well as combined in one device, as shown in the drawings.

As many changes may be made in the details of construction and many apparently different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim is:

1. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, and means for feeding a cake of soap to said cutter comprising a plurality of levers connected to form a lazy tong or toggle, and resilient means for operating said toggle to produce a substantially uniform pressure.

2. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a plurality of levers forming a lazy tong or toggle device, and a spring connecting two of said levers for operating said device to hold the cake of soap in position against the cutter with a substantially uniform pressure.

3. In a soap dispensing device, the combination with a container, of a cutter located within said container, a follower mounted in said container, a lazy tongs device located between said follower and the upper end of the container, a resilient means for actuating said lazy tongs to normally tend to force said follower toward the cutter, and means for actuating the cutter, said means comprising a shaft and a handle mounted upon said shaft upon the exterior of the container.

4. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a plurality of levers forming a lazy tong or toggle device, resilient means connecting two of said levers, and an auxiliary resilient means cooperating therewith to operate said device to hold the cake of soap in position against the cutter.

5. In a soap shaving machine, the combi-

nation of a container, a cutter, means for operating said cutter, a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to said levers and each other and resilient means operatively connected to said levers to hold a cake of soap in position against said cutter.

6. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a pair of crossed levers pivotally connected at their intersection, a pair of pivotally connected links pivotally attached to said levers, and resilient means operatively connected to said levers to hold a cake of soap in position against the cutter.

7. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a pair of crossed levers pivotally connected at their intersection a pair of links pivotally attached to said levers and to each other, a spring connecting said levers adapted to be put under tension as the levers are separated, and an independent auxiliary spring cooperating therewith to close the same when released to hold the cake of soap in position against said cutter.

8. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to said levers and to each other, a spring connecting said levers adapted to be put under tension as the levers are separated, and an auxiliary spring cooperating therewith through a portion only of the travel of said levers to close the same when released to hold the cake of soap in position against the cutter.

9. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to each end of said levers, a fixed support and a movable follower plate to which said links are respectively attached, and resilient means operatively connected to said levers to hold the cake of soap in position against the cutter.

10. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, and a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to each end of said levers, a fixed support and movable support to which said links are respectively attached, and a spring operatively connected to said levers, and an independent auxiliary spring adapted to be compressed between said supports cooperating with the aforesaid spring to extend the device to hold the cake of soap in position against said cutter.

11. In a soap shaving machine, the combi-

nation of a container, a cutter, means for operating said cutter, a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to each end of said levers, a fixed and movable support to which said links are respectively attached, a spring operatively connected to said levers adapted to close the same, and an auxiliary spring adapted to be compressed between said supports through a portion of the travel thereof cooperating with the aforesaid spring to extend the device to hold the cake of soap in position against the cutter.

12. In a soap shaving machine, the combination of a container, a cutter, a shaft for operating said cutter, means for operating said shaft, a plurality of levers forming a lazy tong or toggle device, resilient means connecting two of said levers, and an auxiliary spring cooperating therewith and surrounding said shaft to operate said device to hold the cake of soap in position against the cutter.

13. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter a pair of crossed levers pivotally connected at their intersection, a pair of links pivotally attached to each end of said levers, a fixed support forming a part of the cover of said machine and a movable support to which said links are respectively attached, and resilient means operatively connected to said levers to hold a cake of soap in position against said cutter.

14. In a soap shaving machine, the combination of a container, a cutter, means for operating said cutter, a lazy tong device consisting of a pair of crossed levers, a pair of links pivotally attached to each end of said levers a fixed support forming part of said machine and a movable support adapted to hold the cake of soap in position against said cutter to which said links are respectively attached, and resilient means operatively connected to said levers to press said movable support against the cake of soap and hold said cake in position against said cutter.

15. In a soap dispensing machine, in combination, a container for a cake of soap, a cutter mounted therein, a follower adapted to force said cake against the cutter, a fixed support, lazy tongs interposed between said fixed support and said follower and connected with each of said parts, and means engaging said lazy tongs tending constantly to extend the same.

Signed at New York in the county of New York and State of New York this eighth day of September A. D. 1905.

GEORGE F. SHAVER.

Witnesses:

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LEWIS J. DOOLITTLE.