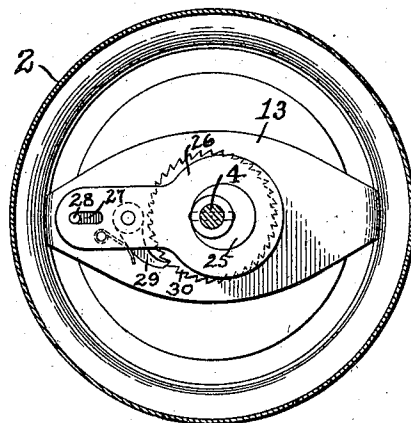


983,779.

Fig.1



George F. Shaver, Inventor
By his Attorneys Lewis J. Doolittle

UNITED STATES PATENT OFFICE.

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

SOAP-DISPENSING MACHINE.

983,779.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed July 2, 1906. Serial No. 324,467.

To all whom it may concern:

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

This invention relates to soap dispensing machines, the object being to provide a device which may be used as a toilet fixture in connection with wash basins for the purpose of supplying soap from a bar or cake in such a form that it may be readily and economically used, thus doing away with the use of a cake of soap in the ordinary manner in the hands.

The object of my invention is to provide a machine of simple and compact construction for the purpose above specified, which shall be certain and positive in its operation and at the same time supply the soap under all conditions in such form that it will dissolve and lather readily and freely in the hands. To accomplish these results I have provided a machine wherein the soap is shaved into thin narrow strips or ribbons by a cutter of suitable design. In order to insure the positive operation of the machine under all conditions I have provided a positive feed device which is operated automatically from the means which operate the cutter and which also insures the feeding of the soap to the cutter at a uniform speed.

This invention is a modification of my invention filed under Ser. 306,243, and embodies several features therein shown and described and which it is consequently not thought necessary to describe in detail in this case.

This invention relates more particularly to the feeding device and the means used to operate the same.

The various features of the device will be more fully described in connection with the drawings accompanying this specification.

Figure 1 is a side elevation in section showing the interior construction of the device. Fig. 2 is a sectional plan view of the feeding device taken on the line 2—2 of Fig. 1, looking in the direction of the arrows. Fig. 3 is a sectional plan view similar to Fig. 2 showing a modification of the feeding

mechanism. Fig. 4 is a sectional plan view, similar to Fig. 2 showing another modification of the feeding mechanism.

In the above described drawings illustrating one embodiment, with modifications, of my invention, I have shown a soap receptacle in the form of a cylindrical container at 1. This container is provided with a suitable cover 2 which may be so constructed as to fit tightly in place and may also be provided with a suitable lock if desired. The handle and lever 3 is attached to an operating shaft 4 which may be journaled in the cover 2. This operating shaft is connected with a comminuting device or cutter 5 so as to rotate the same when the handle 3 is turned. A simple connection may be formed by providing a square end on the lower end of the shaft 4 and a square opening in the cutter 5 through which the square portion in the shaft enters when in position. This provides a separable connection between the shaft 4 and the cutter 5 and permits the removal of the cover and attached parts for replacing the soap, etc.

The cutter 5 may be supported in the container 1 by means of a ring shaped member attached to said container providing a bearing around the periphery of the cutter.

The cutter or comminuting device may be of any desired construction. The form shown in my co-pending application above referred to has been found to give very satisfactory results in machines of this type.

In order to insure a positive feeding of the cake of soap shown in dotted outline at 7, I have provided a mechanism within the container 1 operated from the shaft 4 which operates the cutter 5, and which, consequently, does not require attention on the part of the operator, but operates automatically and positively to feed the soap to the comminuting device or cutter. A cylindrical hollow shaft 8, which I have designated as the feeding shaft, is positioned on the operating shaft 4 and is adapted to rotate concentrically therewith. This feeding shaft is provided at its upper end with a flanged portion 9, having ratchet teeth formed around the periphery thereof.

In the constructions shown in Figs. 1 and 2 the eccentric 10 is attached to the shaft 4 and rotates therewith. An eccentric strap

11 is pivotally attached at 12 to a suitable support 13 which may be attached to the cover 2. This eccentric strap 11 is so formed that one end thereof is adapted to be engaged by the eccentric 10 and as the same is rotated the eccentric strap 11 will be oscillated thereby on the pivot 12. A projection or lever arm is provided from the eccentric strap 11 and to this projection a pawl 14 is pivotally attached. This pawl is held in its operative position, as shown in Fig. 2, by means of a spring 15 and so positioned that the outer end thereof engages the ratchet teeth upon the flange 9. As the eccentric 10 is rotated the eccentric strap 11 will be oscillated and the pawl 14 will successively engage and rotate the ratchet wheel and rotate the feeding shaft 8 at a reduced speed. To prevent the rotation of the feeding shaft in the opposite direction a second pawl 16 may be provided which may be concentrically pivoted at 12 with the eccentric strap 11. This pawl may be held also in engagement with the ratchet teeth on the flange 9 by the spring 15.

A modification of the pawl and ratchet device is shown in Fig. 3. In this form of construction the eccentric 10 is rotated by the shaft 4 as in the construction just described. The eccentric strap 17 is provided with slots 18 and 19, which engage guides or pins, such as 20 and 21, and is also provided with a transverse opening at the center in which the eccentric 10 operates. One or more pawls, such as 22 and 23 may be pivotally attached to the eccentric strap 17 and adapted to be held in engagement with the ratchet wheel 24 by suitable springs. The ratchet wheel 24 is attached to the feeding shaft 8 and may be carried upon a support 13, as in the previous construction. As the shaft 4 is turned by the handle 3 the eccentric 10 will be rotated and will impart a reciprocating motion to the eccentric strap 17, causing the pawls 22 and 23 to alternately engage and rotate the ratchet wheel 24 and feeding shaft 8 at a reduced speed. The amount of relative movement will be determined by the throw of the eccentric and the size of the ratchet wheel.

In Fig. 4 is shown a modification of the two constructions just described in which a combination of the movements therein produced is provided. The eccentric 25 is attached and operated by the shaft 4 as in the previous constructions. An eccentric strap 26 is operated by the eccentric 25 and is provided with an extension at one side thereof having a slot 27 engaging a guide or pin 28. A pawl 29 may be pivotally attached to the eccentric strap 26 and held in engagement with the ratchet wheel 30 by a suitable spring. As the eccentric 25 is

rotated a combined oscillatory and reciprocating movement will be imparted to the eccentric strap 26 and the pawl 29 will be caused to successively engage the teeth of the ratchet wheel 30 and rotate the same at a reduced speed.

The three constructions just described of a pawl and ratchet device operated by the shaft illustrate different methods of rotating the feeding shaft at a reduced speed from the operating shaft, each of which possesses peculiar and distinctive features of construction which adapt the same for use under various circumstances and conditions. The object sought to be obtained in each case is the same, namely, the positive operation of the feeding shaft at a reduced speed as the operating shaft is rotated.

The feeding shaft 8 is threaded for a portion of its length and carries a follower 31 which is also threaded to fit the shaft 8. A hub 32 may be provided on the follower 31 in order to provide an increased threaded surface in which the feeding shaft 8 operates. The follower 31 may be provided with a slot or with a suitable projection, such as 33, at one side which is adapted to engage a fin or projection 34 attached to the interior of the receptacle or container 1. This retains the follower against rotation with the feeding shaft 8 as the same is rotated by the pawl and ratchet device above described. This causes the follower to be moved slowly down against the cake of soap 7 as the machine is operated and so presses the soap against the cutter 5 with a uniform pressure and feeds the same in a constant amount.

The cake of soap 7 may also be provided with a slot at one side thereof adapted to engage the fin 34 and is also provided with a central opening through which the feeding shaft may pass.

The feeding shaft may be necked down to remove the threads at either end thereof in order to prevent the follower from being jammed against the mechanism of either end.

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

What I claim is:

1. In a soap dispensing machine, in combination, a soap receptacle, a comminuting device, a shaft for operating said device, a hollow feeding shaft positioned on said first named shaft and adapted to be operated therefrom by a pawl and ratchet device, a

pawl and ratchet device operated by said first named shaft and adapted to operate said feeding shaft, and a follower operated by said feeding shaft to feed soap to said comminuting device.

2. In a soap dispensing machine, in combination, a soap receptacle, a comminuting device, a shaft for operating said comminuting device, an eccentric operated by said shaft, feeding means comprising a feeding shaft concentrically mounted on said first named shaft and adapted to be operated by a pawl and ratchet device to feed soap to said comminuting device, and a pawl and ratchet device operated by said eccentric and adapted to operate said feeding shaft.

3. In a soap dispensing machine, in combination, a soap receptacle, a comminuting device, a shaft for operating said comminuting device, an eccentric and strap operated by said shaft, feeding means comprising a feeding shaft concentrically mounted on said first named shaft and adapted to feed soap to said comminuting device, a ratchet wheel attached to said feeding shaft, and a pawl carried by said eccentric strap adapted to engage and operate said ratchet wheel.

4. In a soap dispensing machine, in combination, a soap receptacle, a comminuting device, a shaft for operating said comminuting device, an eccentric and strap operated by said shaft, feeding means comprising a feeding shaft concentrically mounted on said first named shaft and adapted to feed soap to said comminuting device, a ratchet wheel attached to said feeding shaft, and a plurality of pawls carried by said eccentric

strap adapted to engage and operate said ratchet wheel.

5. In a soap dispensing machine, in combination, a container having positioned in its upper portion a support for the feed operating mechanism, a comminuting device, a shaft for operating said comminuting device, an eccentric attached to said shaft, a reciprocating member mounted on said support in operative engagement with said eccentric, a pawl carried by said reciprocating member, a ratchet wheel positioned on said support and arranged to be operated by said pawl, a feed shaft attached to said ratchet wheel, and feeding means operated by said feeding shaft.

6. In a soap dispensing machine, in combination, a soap receptacle, a comminuting device, a shaft adapted to cause a relative rotative movement between said comminuting device and a cake of soap positioned in said receptacle, a hollow feeding shaft positioned on said first named shaft and adapted to be operated therefrom by a pawl and ratchet device, a pawl and ratchet device operated by said first named shaft and adapted to operate said feeding shaft, and a follower operated by said feeding shaft to feed soap to said comminuting device.

Signed at the city of New York in the county of New York and State of New York this 27th day of June A. D. 1906.

GEORGE F. SHAVER.

Witnesses:

LEWIS J. DOOLITTLE,
H. W. FORSYTH.