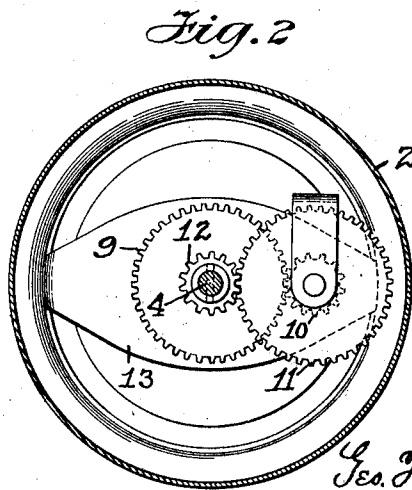
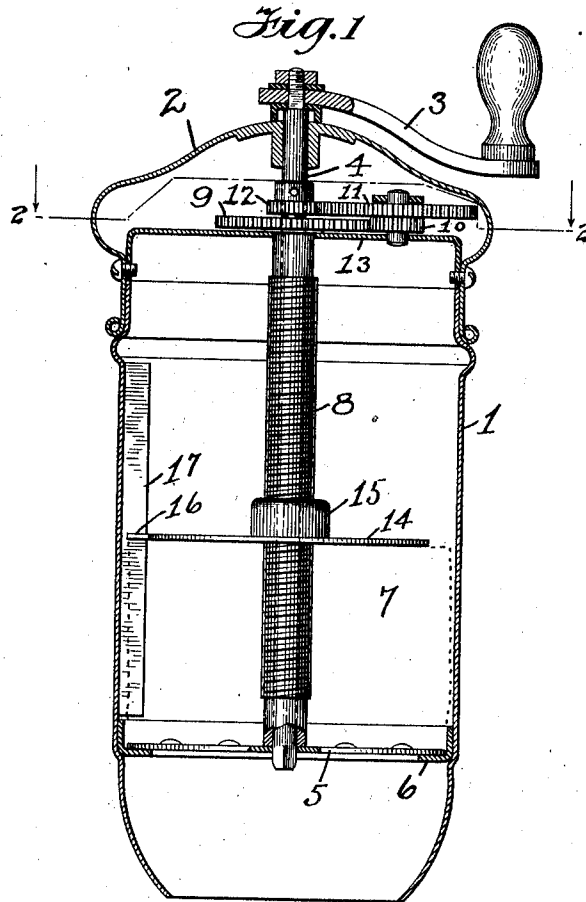


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 SOAP DISPENSING MACHINE.
 APPLICATION FILED JULY 2, 1908.

1,038,214.

Patented Sept. 10, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE F. SHAVER, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
GRANULATOR SOAP COMPANY, OF NEW YORK, N. Y.

SOAP-DISPENSING MACHINE.

1,038,214.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed July 2, 1906. Serial No. 324,469.

To all whom it may concern:

Be it known that I, GEORGE F. SHAVER, 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 a 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 continuous feeding of the soap to the cutter at a uniform speed.

This invention is a modification of my invention filed under Ser. No. 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.

In the above described drawings illustrating one embodiment 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 is 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 is preferably 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 as shown is 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 gear teeth formed around the periphery thereof.

A small intermediate gear 10 is mounted on a shaft and positioned so as to mesh with the larger gear 9. A larger intermediate gear 11 is preferably mounted upon the same shaft with the small gear 10 and suitable bearings provided in a support 13, upon which also rests the flange or large gear 9, thus forming a support for the feeding mechanism. This support 13 as shown is

attached to the cover 2 of the receptacle or container 1. A smaller gear 12 is carried and rotated by the operating shaft 4 and is of such size as to mesh with the larger intermediate gear 11. This forms a train of gears by means of which the rotation of the operating shaft 4 is communicated in a greatly reduced amount to the feeding shaft 8 and a continuous and positive operation of the feeding device is insured.

The construction just described of a train of gears operated by the shaft illustrates one method of rotating the feeding shaft at a reduced speed from the operating shaft, which possess peculiar and distinctive features of construction which adapt the same for use under various circumstances and conditions. The object sought to be obtained in this case is the same as that in my application above referred to, namely, the positive operation of the feeding shaft at a reduced speed as the operating shaft is rotated. In this case a continuous operation of the feeding device is also provided.

The feeding shaft 8 is threaded for a portion of its length and carries a follower 14 which is also threaded to fit the shaft 8. A hub 15 may be provided on the follower 14 in order to provide an increased bearing surface in which the feeding shaft 8 rotates. The follower 14 may be provided with a slot or with a suitable projection, such as 16, at one side which is adapted to engage a fin or projection 17 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 train of gears 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 continuously 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 17 and is also provided with a central opening through which the feeding shaft may pass.

The feeding shaft is preferably necked down to remove the threads at either end thereof in order to prevent the follower from being jammed against the mechanism at 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 com-

ination, 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 train of gears, a train of gears operated by said first named shaft and adapted to operate said feeding shaft continuously, and a follower operated by said feeding shaft to feed soap to said comminuting device.

2. In a device of the class described, the combination with a container adapted to receive a cake of soap, a cutter rotatively mounted in said container, a driving shaft, of means for feeding a cake of soap to the cutter comprising a threaded shaft coaxially mounted with relation to the driving shaft, a follower mounted upon said threaded shaft, and a train of gears positioned between said shafts adapted when the driving shaft is operated to drive the threaded shaft continuously at a speed less than that of the driving shaft.

3. In a device of the class described, the combination of a vertical container adapted to receive a cake of soap, a cutter rotatively mounted in the lower portion of said container, a driving shaft detachably connected with said cutter, of means for continually feeding the soap to the cutter comprising a hollow screw threaded feeding shaft positioned upon the driving shaft, a follower threaded upon the feeding shaft, a gear wheel mounted upon the driving shaft, a gear wheel mounted upon the feeding shaft, and gear wheels forming an operative connection between said aforementioned gear wheels whereby a positive continuously operating driving connection is interposed between the driving shaft and the feeding shaft.

4. In a soap dispensing machine, in combination, a container adapted to receive a cake of soap, a rotatable cutter, an operating shaft for said cutter, a threaded feeding shaft extending from said cutter and having the end adjacent the cutter necked down to remove the threads, a threaded follower positioned upon said feeding shaft and engaging said container to prevent rotation thereof with said feeding shaft, and means for driving said feeding shaft from said operating shaft continuously at a reduced speed, said means comprising a small gear mounted upon said operating shaft and a larger gear mounted upon said feeding shaft operatively connected with said small gear.

5. In a soap dispensing machine, in combination, a container adapted to receive a cake of soap, a rotatable cutter, an operating shaft for said cutter, a threaded feeding shaft extending from said cutter and having the end adjacent the cutter and the opposite

end thereof necked down to remove the
threads, a threaded follower positioned upon
said feeding shaft and engaging said con-
tainer to prevent rotation thereof with said
5 feeding shaft, and means for driving said
feeding shaft from said operating shaft con-
tinuously at a reduced speed, said means
comprising a small gear mounted upon said
operating shaft at the end opposite the cut-
10 ter and a larger gear mounted upon said

feeding shaft operatively connected with
said small gear.

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.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
