Nov. 15, 1955 F. E. EWIN 2,723,783

CONTAINER AND QUANTITATIVE DISPENSER FOR SOAP POWDER AND THE LIKE

Filed June 11, 1952 2 Sheets-Sheet 1

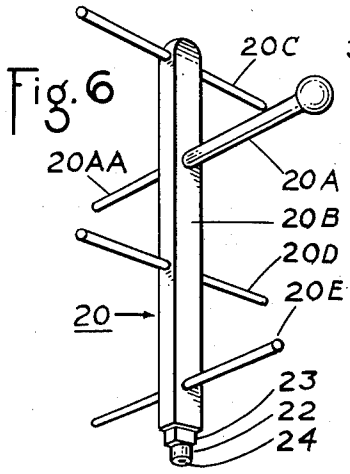



Fig. 6

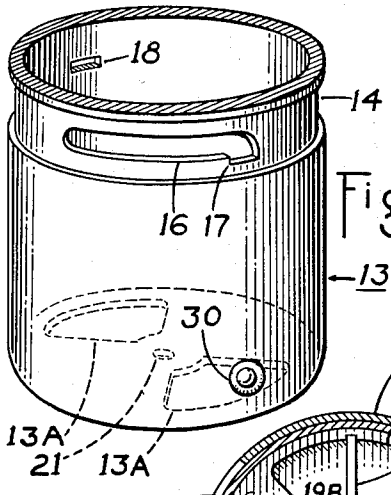



Fig. 4

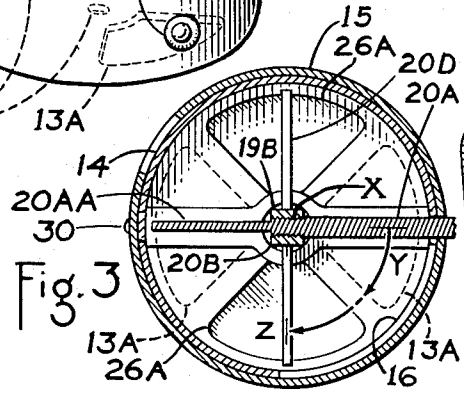



Fig. 3

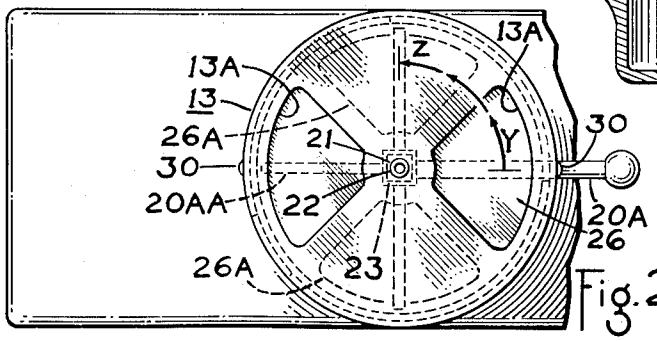



Fig. 2

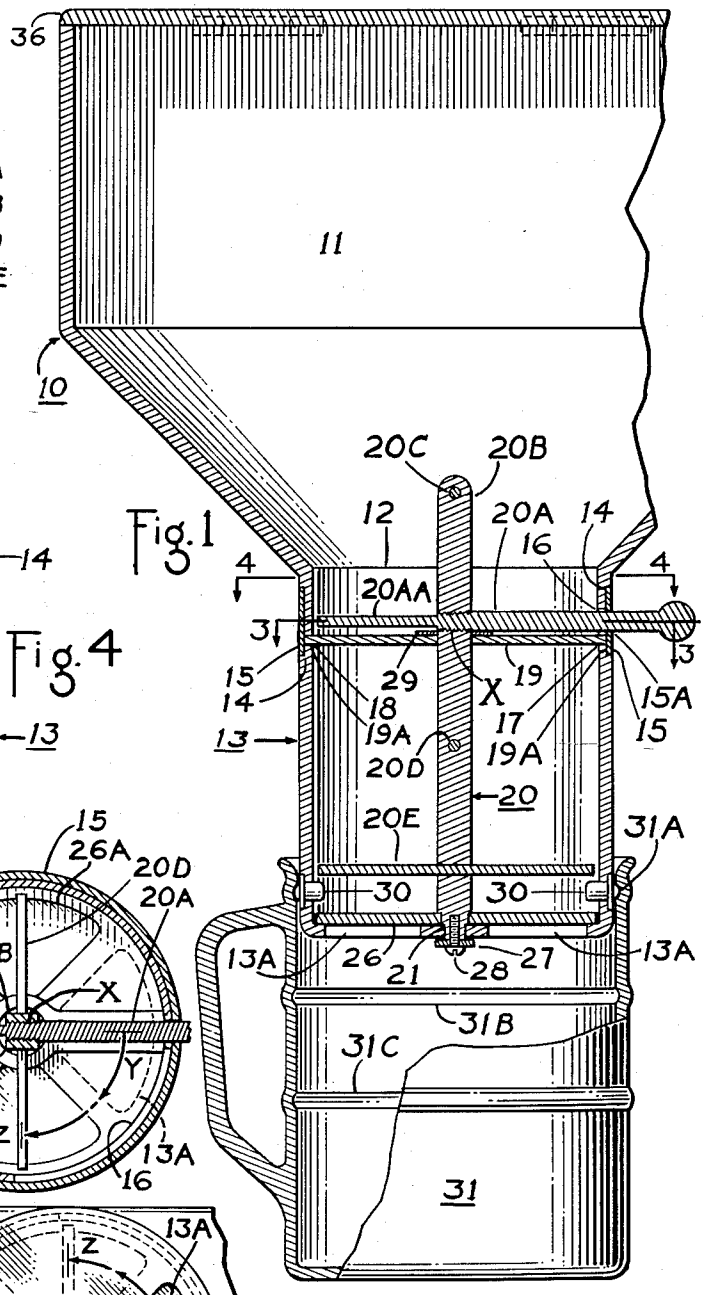



Fig. 1

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Nov. 15, 1955 F. E. EWIN 2,723,783

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Filed June 11, 1952 2 Sheets-Sheet 2

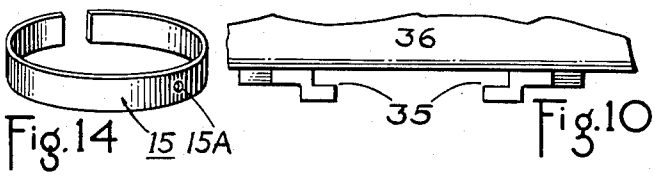



Fig. 14 Fig. 10

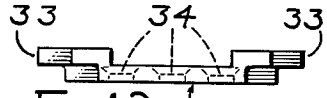



Fig. 12

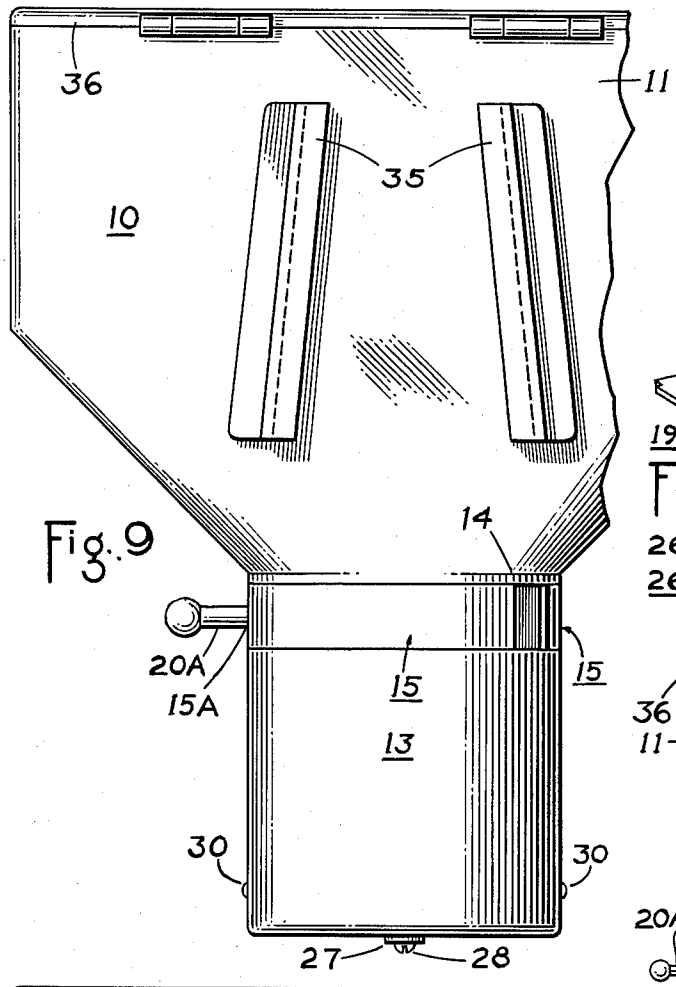



Fig. 9

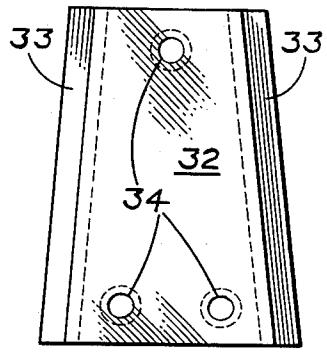



Fig. 11

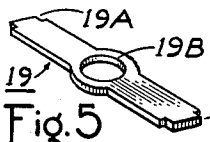



Fig. 5

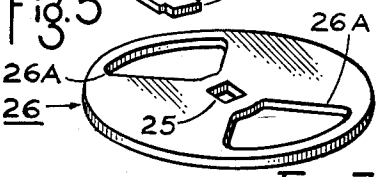



Fig. 7

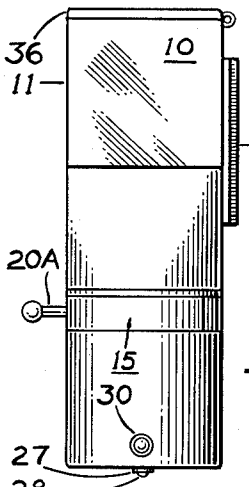



Fig. 13

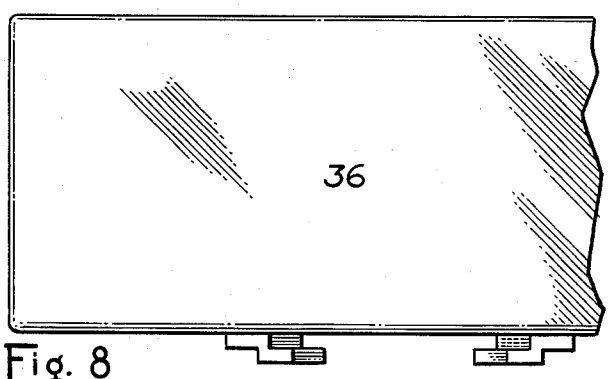



Fig. 8

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2,723,783

# CONTAINER AND QUANTITATIVE DISPENSER FOR SOAP POWDER AND THE LIKE

Frank Ervin Ewin, Villa Grove, Ill.

Application June 11, 1952, Serial No. 292,810

2 Claims. (Cl. 222—248)

This invention relates to a container and quantitative dispenser for soap powder and the like, and more particularly to one that is securely mountable on a wall and yet readily detachable therefrom as may be desired.

One object of the invention is to produce an efficient and practical device of this type that not only embodies simple construction and effectively operating arrangement and assembly of parts, but is also of such structure as facilitates its manufacture at a cost rendering it economically available for sale.

Another object is to construct and arrange the device as a unitary assembly capable of containing either a standard package or the contents of a standard package of soap powder or the like and of dispensing its contents in pre-determined quantitative amounts at the will of the operator.

A further object is to provide a special cup device which is easily operated on the invention to receive and remove therefrom such quantities of its contents as are dispensed by the user.

A still further object is to provide means in the device for agitating its contents, thereby providing against any possibility of clogging at the outlet because of formation of lumps due to adhesion, and it is here noted that soap powders and certain other powdered substances common to kitchen use will congeal under humid conditions existing at times, particularly in kitchens where steam cooking is being done, thus rendering such powder difficult to dispense and unsuitable for use in hopper type dispensers. This entails the expense as well as the attending annoyance in removing, breaking up and replacing the powder to make it again suitable for use. The present invention, therefore, is designed to eliminate all necessity for rehandling the powder once it is placed in the invention, by provision in its structure and assembly for agitating as well as dispensing its powder contents.

Other objects and advantages to be attained will appear in the following description and from reference to the accompanying drawings, in which a practical but non-limiting disclosure of the invention is set forth.

Figure 1 is a sectional view taken centrally and vertically through the invention, showing the powder receiving cup in position to receive soap powder from the dispensing portion, but with the dispensing disc in closed position over the outlet portion of the device.

Figure 2 is a bottom plan view without the powder receiving cup portion and less the wall mountable means, one end of the view being broken away to conserve space in the drawing.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1 and looking down into the dispensing and agitating mechanism of the device.

Figure 4 is a perspective view showing the dispensing portion as cut off on the line 4—4 of Figure 1 and showing in particular the annularly disposed open slot for engagement of the dispensing trigger, this slot having the notch which, together with diametrically oppositely disposed relatively narrow slot, engages the cross strap shown in Figure 5.



Figure 5 is a perspective view of the cross strap that supports and rotatably engages the center stem portion of the dispensing and agitating assembly shown in Figure 6.

Figure 6 is a perspective view of the dispensing and agitating assembly, which engages at its lower end the dispensing disc shown in Figure 7.

Figure 7 is a perspective view of the dispensing disc adapted for fixed engagement on the lower end of the assembly shown in Figure 6, and having the two oppositely disposed dispensing openings arranged for registration with like openings in the lower face of the dispensing portion shown in Figure 4.

Figure 8 is a top plan view of the device, a part being broken away to conserve space, and less the hinges, to enable a clear showing of the wall mountable means on the hopper portion.

Figure 9 is a rear elevational view showing that part of the wall mountable means which is integral with the device.

Figure 10 is a fragmentary top view taken at the rear edge of the device, showing the wall mountable means indicated in Figure 9.

Figure 11 is an elevational view of the wall plate attachment adapted to releasably engage the wall mountable means shown in Figures 8, 9, 10 and 13.

Figure 12 is a top plan view of the wall plate attachment shown in Figure 11.

Figure 13 is a side elevational view in reduced scale, showing in particular the dispensing trigger turned to the front center of the dispensing portion of the invention, as in position to effect the dispensing of powder.

Figure 14 is a perspective view in reduced scale, of the annularly operable constricting band member, showing the aperture adapted for engagement with the dispensing trigger.

In the drawings the numeral **10** designates generally the hopper, its upper portion **11** being substantially rectangular, terminating in the lower round shaped outlet **12** into the cylindrically shaped dispensing element **13** which is adapted to engage the quantitative powder receiving cup **31** as herein later to be explained.

The dispensing element **13**, being cylindrical, has the flat annular groove **14** adapted to receive the correspondingly formed and annularly constricting and rotatable band member **15**.

In the groove **14** is the annular slot **16** covered and concealed by the band member **15** which is provided with an aperture **15A** to engage the trigger member **20A** of the dispensing and agitating element **20**. It will be noted from reference to Figure 4 that adjacent one end of the slot **16** is the notch **17**, and that diametrically opposite said notch **17** in the wall of the dispensing element **13** is the annularly disposed slot **18**, the notch **17** and slot **18** being adapted to engage opposite ends **19A** of the cross strap member **19** as shown in Figures 1, 3 and 4.

The strap **19** has the central aperture **19B** that provides bearing for and holds the position of the stem member **20B** of the dispensing and agitating element **20** in use.

Centrally in the bottom face of the dispensing element **13** is the round aperture **21** to rotatably engage the lower and rounded end **22** of said stem member **20B**, while the square shoulder portion **23** of the stem **20B** is adapted to engage the correspondingly sized square aperture **25** in the dispensing disc **26** to rotate the same in the element **13**.

It is obvious that the washer **27** and the threaded bolt **28** which engages the correspondingly threaded opening **24** in the lower end of the stem **20B** are adapted to

suitably engage and retain the operable position of the stem 20B in the unitary assembly of the device.

Also in the bottom face of the element 13 are two oppositely disposed powder dispensing openings 13A. These two openings are of the same size and shape as a like pair of openings 26A in said disc 26, and both pairs of openings 13A and 26A are arranged in exact register with each other when the stem 20B of the element 20 is turned by its trigger member 20A as in dispensing powder from the invention.

It is here noted that the trigger member 20A of said element 20 threadably engages the stem member 20B as at X in Figures 1 and 3 and extends therethrough to form the agitator member 20AA, the relatively thin washer 29 interposed between the trigger member 20A and the cross strap member 19 on the stem 20B facilitating the easy operation of the dispensing and agitating element 20 in operation by eliminating any drag of the trigger member 20A against the upper face of the cross strap 19. The laterally disposed fixed agitator members 20C, 20AA, 20D and 20E normally serve as follows: the member 20C prevents clogging of powder above and at the outlet 12, the member 20AA prevents clogging above the cross strap member 19, the member 20D prevents clogging within the dispensing portion 13 wherein the powder content of the device is subject to load pressure from powder in the hopper above, and the member 20E prevents clogging adjacent the dispensing disc 26, and thus the powder contents of the invention are maintained in free loose pack condition. It is obvious that whenever the trigger member is caused to activate the element 20, the agitator members too, are thereby activated.

Mounted adjacent the bottom of the dispensing portion 13 and protruding outwardly from diametrically opposite wall faces thereof are the ball and spring elements 30 in position as shown particularly in Figure 1, whereby the spring-cushioned ball portions of said elements 30 yieldably engage—at the will of the user—any one of the annular grooves 31A, 31B and 31C of the powder receiving cup 31 as shown especially in Figure 1.

Now, in the practical application of the invention, the back plate element 32—see Figures 11 and 12—having the tongue portions 33 arranged longitudinally on opposite edges thereof is secured to a wall or other suitable surface by suitable screws engaging the apertures 34. Then the device is mounted by means of its groove members 35 engaging the tongue members 33 on said plate element 32, thereby retaining the device in secure yet removable position where mounted. As said plate element 32 and groove members 35 are of known and familiar means for accomplishing such mounting purpose, these details are not therefore claimed as part of the invention, but are illustrated and explained nevertheless, to render evident the practicability of the mounting provision so made.

The hinged cover 36 of the top of the hopper 11 provides, of course, coverage for the point at which the hopper is filled, and protection for its contents from entry of dust and foreign substances.

When the hopper is filled with soap powder, for example, and it is desired to dispense quantitative amounts of the same, it is necessary only to take hold of the trigger member 20A and draw it forewardly, which effects its movement arcuately from the position shown in Figure 1 and also at "Y" in Figures 2 and 3 to a stopped position as at "Z" in Figures 2 and 3 which brings said trigger member 20A to a straight foreward position as shown in Figure 13, the trigger having been moved arcuately an angle of 90°, thus causing the element 20 to make one-quarter turn clock-wise as indicated especially in Figure 3, the trigger member 20A engaging the aperture 15A in the annularly operable constricting band member 15, so that said band 15 slidably engages the annular groove 14 in the dispensing element 13 in order to keep the annular slot 16 therein covered at all times against leakage of powder material from said annular slot 16 of the device.



This foreward movement of the trigger member 20A, of course, turns the dispensing disc 26 to a position to bring its powder dispensing openings 26A in exact register with the like openings 13A in the bottom face of the powder dispensing element 13. It is evident that such operation enables the powder to run down through said registered openings and into the powder receiving cup 31 which may be easily placed by the hand of the user, to cause the ball and spring elements 30 to engage the upper groove 31A to enable the device to dispense a nearly filled cup of powder, or, by moving the cup upwardly so that the elements 30 engage the intermediate groove 31B to dispense approximately one-half cup of powder, or, by still further upward movement of the cup effecting the engagement of the ball and spring elements 30 with the lower groove 30C to dispense approximately one-third cup of powder.

It will naturally be understood that the shorter the distance foreward the trigger 20A is moved, the less powder will be dispensed, because of the correspondingly smaller openings so produced, and that varying amounts of powder less than the above mentioned one-third cup may be dispensed accordingly, as desired.

In the present structure and arrangement of parts in the dispensing mechanism of the device it is required that the trigger 20A be moved back to its original position after each foreward movement when dispensing powder, but it is desired to be understood that the improved soap container and dispenser is not limited to this particular structure and arrangement, as alteration and change is contemplated therein to effect the return of the dispensing disc 26 to its original position when the trigger member 20A is released by the hand of the operator after powder is dispensed.

It will appear obvious that with each movement of the trigger member 20A the element 20 is rotated within the body of the soap powder, and so effecting the arcuate movement therein of the agitating members herein mentioned and explained, for the purpose of keeping the powder in readily dispensable condition for convenience and economy.

Obviously, modification and change may be made in the construction and arrangement of parts of the unitary soap container and dispenser assembly, and in the powder receiving cup device without departing from the spirit of the invention. The invention is not, therefore, limited to the specific construction and arrangement shown in the accompanying drawings.

What is claimed is:

1. In a dispensing device, a hopper terminating in a lower rounded outlet, a cylindrical shaped dispensing element extending below the rounded outlet opening of the hopper, said dispensing element comprising a vertical shaft rotatably mounted therein and extending upwardly into the hopper, said shaft having agitating means projecting therefrom to adjacent the wall of the dispensing element and others within the hopper, a groove on the upper portion of the cylindrical shaped dispensing element, a slot within said groove extending through the wall of the dispensing element, said slot having an enlarged portion forming a shoulder, a handle for rotating the shaft and the agitators carried thereby extending from the shaft through the slot in the wall of the dispensing element, an open ended band lying within the groove the ends of the bands engaging the handle, the lower end of the dispensing element having apertures therein, a disc mounted on the lower end of the shaft above the apertures in the end of the dispensing element, with means for locking the handle so that the openings in the bottom of the dispensing element and the disc do not register, said means comprising the shoulder in the slot formed in the wall of the dispensing element.

2. In a dispensing device, a hopper terminating in a

lower rounded outlet, a cylindrical shaped dispensing element extending below the rounded outlet opening of the hopper, said dispensing element comprising a vertical shaft rotatably mounted therein and extending upwardly into the hopper, said shaft having agitating means projecting therefrom to adjacent the wall of the dispensing element and others within the hopper, a groove on the outer upper portion of the cylindrical shaped dispensing element, a slot within said groove extending through the wall of the dispensing element, said slot having an enlarged portion forming a shoulder, a handle for rotating the shaft and the agitators carried thereby extending from the shaft through the slot in the wall of the dispensing element, an open ended band lying within the groove the ends of the bands engaging the handle, the lower end of the dispensing element having apertures therein, a disc mounted on the lower end of the shaft above the apertures in the end of the dispensing element, with means for locking the handle so that the openings in the bottom of the dispensing element and the disc do not register, said means comprising the shoulder in the slot formed in the wall of the dispensing element, with means for holding a measuring cup so that the measuring cup telescopes the lower end of the cylindrical shaped dispensing element, said means comprising spring cushioned ball elements projecting through the walls of the lower end of the cylindrical shaped dispensing element and thereby engaging an annular groove in the inner wall of said cup.



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