Sept. 30, 1952 A. L. ELLIS 2,612,295

MEASURING AND DISPENSING TOP WITH DUAL COMPARTMENTS FILLED AND EMPTIED ALTERNATELY

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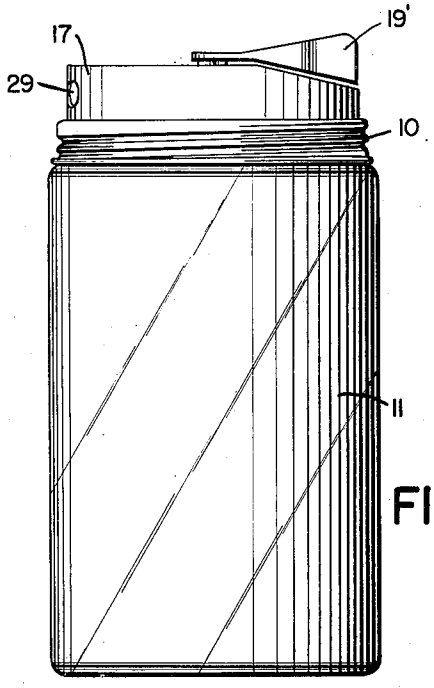



FIG. 1

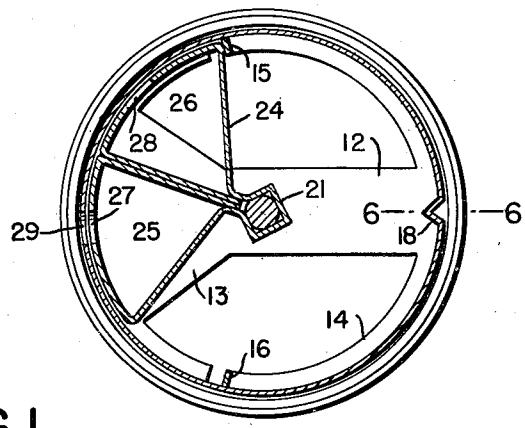



FIG. 3

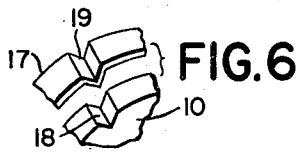



FIG. 6

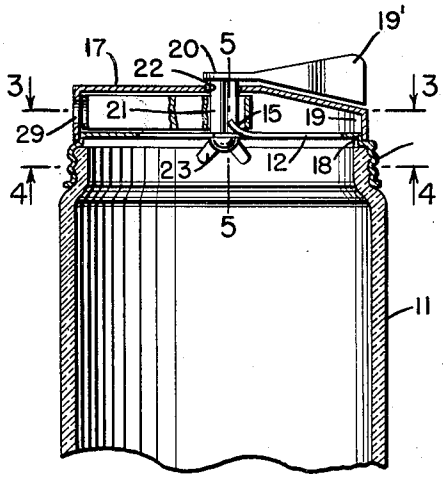



FIG. 2

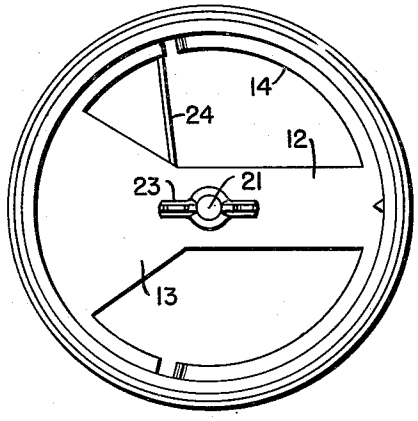



FIG. 4




FIG. 5

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## MEASURING AND DISPENSING TOP WITH DUAL COMPARTMENTS FILLED AND EMPTIED ALTERNATELY

Alfred Leighton Ellis, Atlanta, Ga.

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3 Claims. (Cl. 222—277)

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My invention relates to dispenser mechanisms generally, but more in particular to an improved measuring and dispensing top for a sugar container wherein measured quantities of sugar may be successively dispensed from the container without moving the same from a pouring position.

The invention further pertains to a cap or circular threaded top now known and used in restaurants for the dispensing of sugar and is adapted for use with such container.

It is highly desirable in a sugar dispenser that the component parts be as simple as possible in their design and relatively few in number so that the ultimate cost and weight of the unit be attractive to both the purchaser and user. Moreover, the unit must be simple and positive in its operation, dispensing a given amount each time it is operated and thus prove its advantages to the general public. The dispenser unit must also be easily removed from the container for cleaning without undue loss of time or effort on the part of the owner or restaurant proprietor. The general design of the product should be in keeping with that of other food containers and the materials be of such quality as to resist corrosion and to withstand the same handling and abuse given to related products.

In restaurants or coffee shops, if the customer desired to sweeten his beverage, the amount of sugar, if any at all, will usually vary between one or two teaspoonfuls, a little more or less making no appreciable difference to the taste. It is highly desirable, therefore, that a dispenser be made which will dispense one teaspoonful of sugar at a time, and as many times as desired by the customer, all without returning the sugar container to an upright position. Such a device will not only be pleasing to the customer, but will actually save on the amount of sugar used, since many customers are prone to guess at the amount needed to sweeten their beverage and often use more than necessary. Exact dispensing of the sugar will tend to produce uniformity of taste in the beverage according to the desire of the customer.

It is one of the objects of the invention, therefore, to provide an improved measuring and dispensing top which may be used in connection with the conventional sugar container now known and used for the dispensing of sugar.

Another object of the invention is to provide a measuring and dispensing top which is easy to manufacture and maintain and which may be readily cleaned as any other vessel or kitchen container.

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A further object of the invention is to provide a measuring and dispensing top which has dual compartments for storing a given quantity of material for dispensing, the compartments being selectively movable into the open area of the container for filling.

A further object of the invention is to provide such a measuring and dispensing top wherein the top is provided with a false bottom strip coacting with movable side walls to define a measured enclosure for dispensing a given quantity, one set of the walls being of such dimensions as to coincide with the false bottom strip and a portion of the top to form the enclosure, while another set of side walls is forced into the open area of the container for filling.

Still another object of the invention is to provide a measuring and dispensing top which, when tipped to a pouring or dispensing position, may be made to dispense successively any number of spoonfuls of sugar, for example, without returning the container to an upright position.

Further objects and advantages of my invention will be apparent in the following description when viewed together with the accompanying drawing in which like characters of reference designate corresponding parts throughout the several views, and wherein:

Fig. 1 is an elevational view of an embodiment of my invention in a measuring and dispensing top, the same being shown attached to a container.

Fig. 2 is a cross-sectional detail view of the upper portion of the container and top.

Fig. 3 is a cross-sectional view taken along line 3—3 of Fig. 2.

Fig. 4 is a cross-sectional view taken along line 4—4 of Fig. 2.

Fig. 5 is a broken detail view illustrating the manner of forming a stop for limiting the travel of one of the movable members of the top.

Fig. 6 is a broken exploded view showing, in perspective, a positioning stop for two of the top members.

In the drawing, numeral 10 designates a screw cap which, as shown in both Figs. 1 and 2, is threaded in the same manner as a conventional jar top and is attached to the upper threaded end of a container 11. Instead of the cap being provided with a completely solid top member, it is shown in Figs. 3 and 4 as having only a strip 12, diverging outwardly at one end to form a false bottom 13 for a dispensing compartment which will be described later in the specification.

To insure rigidity, a small rim 14 is left around the blanked out areas of the cap 10. This rim

is clipped and turned up at two points substantially opposite from each other to form two stops 15 and 16. A detail view of the manner of breaking the rim to form the stop is illustrated in Fig. 5.

As shown in the drawing, I have provided a complete cover 17 having an opening in the same of such diameter as to permit it to be fitted snugly over the circumferential edge of the rim 14. To position the cover 17 angularly I have provided an indentation 18 in the edge of the rim 14 and a matching indentation 19 in the side wall of the cover 17.

As shown in Figs. 1 and 2, the top of the cover does not lie in a completely flat plane, but a portion thereof is slanted downwardly to provide clearance for the wing end 19' of a dispensing lever designated generally by the numeral 20. The lever 20 is provided with a generally square shaft 21 affixed to the wing 19' and extended through a hole 22 placed in the center of the cover 17. The lower end of the shaft is tapped and threaded to receive a wing nut 23, the shaft, of course, extending through a hole provided in the center of the cross-strip 12 of the screw cap 10, and being round for snug turning fit where it passes through the cover 17 and through the cross-strip 12. The shaft 21 is of such length as to permit the wing stud 23 to be tightened snugly on the shaft to prevent it from working up and still allow sufficient clearance for the entire dispensing lever to be turned by the handle 19' for efficient operation.

Arranged for movement by the shaft 21 of the dispensing lever 20 is a fan-shaped structure denoted generally in the drawing by the numeral 24. This structure is made of a single length of thin metal stripping by starting one end near the axial center of the shaft, extending the strip outwardly and turning the same to a radius slightly less than that of the smallest diameter of the cover 17. As shown in Fig. 3, the strip is returned toward the end of the starting point of the strip and then bent reversely and formed into a square and finally completing a second triangle with the end of the strip finishing at the starting point. The four thicknesses of the strip which meet at one corner of the formed square are then soldered or spot welded together to form the circular segment as shown, which is now divided into two triangular pockets 25 and 26. Positioned in the circumferential wall of each of these pocekts 25 and 26 are holes 27 and 28 placed on a line substantially bisecting the described angle of their respective pockets. In the outer wall of the cover, I have also provided a similar size hole 29 positioned substantially diametrically opposite the matching indentations 18 and 19.

By reference to Fig. 3, it can be seen that when the pocket 25 is moved clockwise, the outer end of the fan shaped structure 24 is made to strike one of the stops 15, placing the hole 27 of the pocket 25 in direct alignment with the hole 29 in the cover 17. By the same token, when the structure 24 is moved or turned counter-clockwise, the opposite end strikes the other stop 16 on the rim 14, bringing the hole 28 of the pocket 26 into direct alignment with the hole 29 of the cover 17. It is now apparent that when the hole of either pocket is brought into alignment with the hole in the cover, that particular pocket is enclosed on all four sides. In Fig. 3, the pocket 25 is shown in such a position, while the pocket 26 is shown extending slightly beyond the false bottom 13 and exposed to the inner area of the container 11. Should the position of the pockets be reversed, the pocket 25 would be exposed to the inner area of the container. Each of the two pockets is arranged to enclose a volume substantially equal to one teaspoonful of sugar and it can be seen that while the volume of one pocket is being dispensed through the hole 29 in the cover 17, the other pocket is being automatically filled from the supply in the container 11. As soon as the volume from one pocket is dispensed, the other measured volume is brought into a dispensing position by turning the outer lever with the thumb or finger without returning the container to an upright position. It is further apparent that as many spoonfuls of sugar as desired can thus be dispensed in exact amounts, all without returning the container to an upright position and re-tipping.

It will be remembered that the inner formed square on the fan-shaped structure 24 only slidably embraces the shaft 21 so that the same may be easily disassembled for cleaning. Moreover, the height of the structure 24 is such that it freely slides between the cover 17 and the false bottom 13, yet the allowed clearance is sufficiently small to prevent the escape of any quantity of sugar back into the supply area of the container 11.

The entire unit is so constructed that it may be readily detached from the container by unscrewing the cap 10 in the conventional manner. By removing the wing stud 23, the cover 17 may be removed from the cap 10 and the pocket forming segment 24 removed by withdrawing the dispensing lever 20.

Re-assembly of the unit is made by replacing the shaft 21 through the square of the segment 24, and placing this assembly between the cover 17 and cap 10, thereby fitting the cover snugly about the rim on the ledge provided, and by finally locking the cover to the cap by means of the wing stud 23. The indentations 18 and 19 on the cap 10 and the cover 17, respectively, align these two pieces in perfect working arrangement and the assembly may then be screwed to the top of the container 10.

Such a simple mechanism permits the components to be easily removed for cleaning and the device is arranged so that it is not encumbered with numerous levers or blind pockets where corrosion might occur or which might otherwise prove unsanitary. The device is made of some corrosion resisting material such as aluminum or stainless steel or plastics and each part is readily adaptable to mass production by modern machinery.

While I have described my invention in detail, it is apparent that minor constructional details could be made without departing from the invention as defined by the following claims.

I claim:

1. In a device of the class described, a hollow cap, the top of said cap being partially cut away to leave a strip thereacross diverging outwardly at one end to form a false bottom, a cover fitted snugly over said cap, a rotatably mounted shaft having one end extending downwardly through said strip and another end extending upwardly through said cover to secure said cover in place on said cap, a handle fixed on the end of said shaft extending through said cover, fastening means on the end of said shaft extending through said strip, complementary means on said cap and said cover mutually engaged to prevent ro-

tation of said cover on said cap, said cover forming an arcuate pocket above said false bottom, a measuring element positioned in said pocket and secured to said shaft for movement therewith, said measuring element being provided with a plurality of measuring compartments, said cover being provided with a dispensing opening, said measuring element being provided with dispensing openings communicating respectively with said measuring compartments, said measuring element being movable by said handle to bring the dispensing openings communicating with said measuring compartments selectively into registry with the dispensing opening in said cover, upturned portions on said cap to limit movement of said measuring element, said false bottom being constructed and arranged selectively to cover the measuring compartment in communication with the dispensing opening in registry with the dispensing opening in said cover and to uncover the other of said measuring compartments.

2. In a device of the class described, a hollow threaded cap, the top of said cap being partially cut away to leave a strip thereacross diverging outwardly at one end to form a false bottom, a cover fitted snugly over said cap, a rotatably mounted shaft having one end extending downwardly through said strip and another end extending upwardly through said cover to secure said cover in place on said cap, a handle fixed on the end of said shaft extending through said cover, fastening means on the end of said shaft extending through said strip, complementary means on said cap and said cover mutually engaged to prevent rotation of said cover on said cap, said cover forming an arcuate pocket above said false bottom, a measuring element positioned in said pocket and secured to said shaft for movement therewith, said measuring element comprising a single strip of material bent centrally upon itself and about said shaft, the end portions of said measuring element extending outwardly for a distance approximating the radius of said arcuate pocket and then being curved toward each other and inwardly to form two substantially triangular-shaped measuring compartments, said cover being provided with a dispensing opening, said measuring element being provided with dispensing openings communicating respectively with said measuring compartments, said measuring element being movable by said handle to bring the dispensing openings communicating with said measuring compartments selectively into registry with the dispensing opening in said cover, stop means on said cap to limit movement of said measuring element, said false bottom being constructed and arranged selectively to cover the measuring compartment in communication with the dispensing opening in registry with the dispensing opening in said cover and to uncover the other of said measuring compartments.



3. In a device of the class described, a screw threaded cap having a peripheral ledge adjacent the top thereof, the top of said cap being partially cut away to leave a strip thereacross diverging outwardly at one end to form a false bottom for a dispensing compartment, a cover fitted snugly over said cap and resting upon said ledge, a rotatably mounted shaft having one end extending downwardly through said strip and another end extending upwardly through said cover to secure said cover in place on said cap, a handle fixed on the end of said shaft extending through said cover, a wing nut on the end of said shaft extending through said strip, complementary indentations on said cap and said cover mutually engaged to prevent rotation of said cover on said cap, said cover forming an arcuate pocket above said false bottom, a measuring element positioned in said pocket and secured to said shaft for movement therewith, said measuring element comprising a single strip of material bent centrally upon itself and about said shaft, the end portions of said measuring element extending outwardly for a distance approximating the radius of said arcuate pocket and then being curved toward each other and inwardly to form two substantially triangular-shaped measuring compartments, said cover being provided with a dispensing opening, said measuring element being provided with dispensing openings communicating respectively with said measuring compartments, said measuring element being movable by said handle to bring the dispensing openings communicating with said measuring compartments selectively into registry with the dispensing opening in said cover, upturned portions on said cap to limit movement of said measuring element, said false bottom being constructed and arranged selectively to cover the measuring compartment in communication with the dispensing opening in registry with the dispensing opening in said cover and to uncover the other of said measuring compartments.

ALFRED LEIGHTON ELLIS.

No references cited.