Oct. 3, 1944. P. C. P. BOOTY 2,359,613

DISPENSER

Filed Sept. 27, 1941

Fig. 1

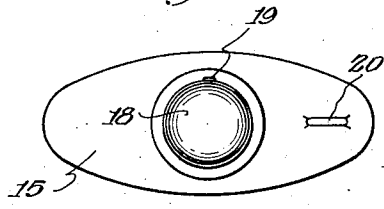


Fig. 5

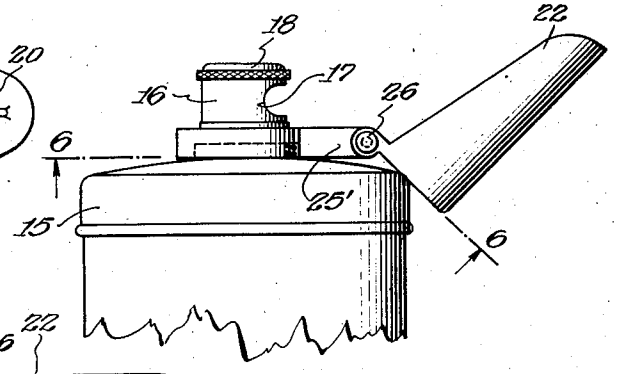


Fig. 2

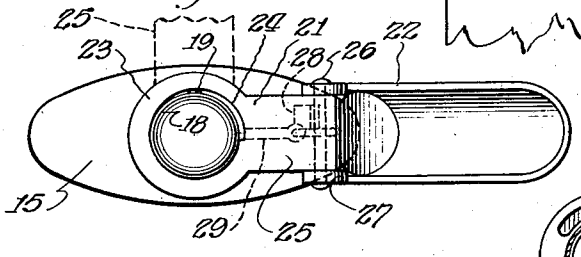


Fig. 6

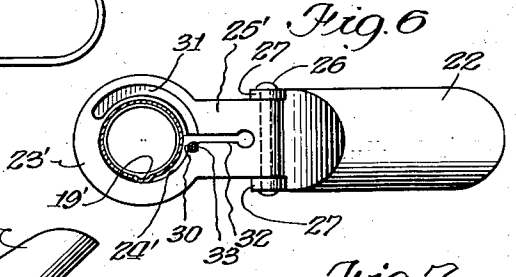


Fig. 3

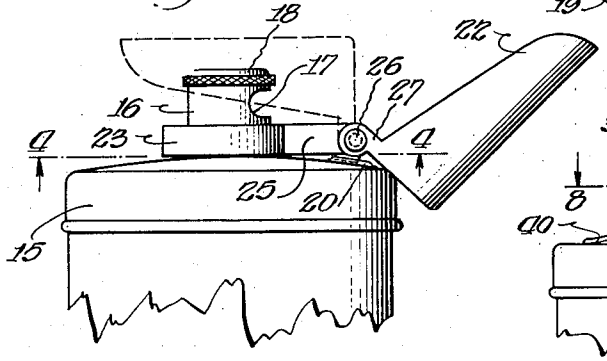


Fig. 7

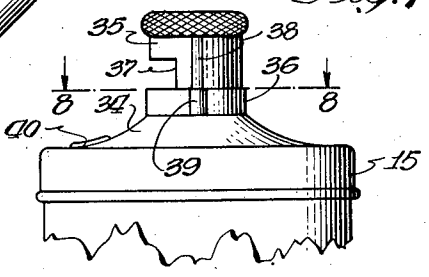


Fig. 4

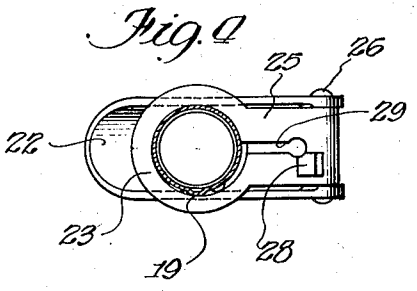
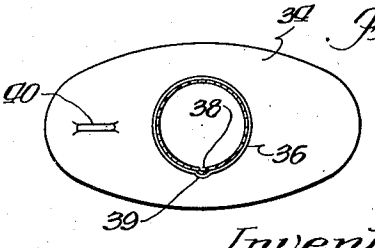


Fig. 8



Inventor:
Philip C. P. Booty

By: Leslie W. Fricke
Attorney

Patented Oct. 3, 1944 2,359,613

UNITED STATES PATENT OFFICE

2,359,613

DISPENSER

Philip C. P. Booty, Chicago, Ill.

Application September 27, 1941, Serial No. 412,552

9 Claims. (Cl. 222—454)

My invention pertains generally to a dispenser and more particularly to a separable measuring device applicable to the neck of a can or other receptacle for receiving measured amounts of the can contents for use without waste of the contents.

My invention contemplates a measuring device which is frictionally engaged with a can neck and which device includes a scoop hinged to overlie the neck when in inoperative position and to project outwardly from the can when in operative position to receive some of the can contents.

The invention contemplates further the provision of stop means engageable to assure register of the scoop with the discharge opening in the neck when the device is in place on the same.

The invention will be explained and illustrated as used with a tooth powder dispenser although it is not limited to such use.

An object of my invention is to provide a separable measuring device which may be detachably applied to the neck of a dispenser by rotative movement, said device including a scoop into which a portion of the contents of the dispenser may be delivered by tilting the dispenser.

Another object is to provide such an arrangement wherein the measuring device is held in place on the dispenser by wedge action.

A further object is to provide means for limiting rotative movement in applying direction to align the scoop with the discharge opening in the neck.

Another and further object of the invention is to provide such an arrangement in which the measuring device has a part encircling the dispenser neck, which part has an eccentric surface, and a projection on the neck engageable with the eccentric surface with cam action when the device is rotated to align the scoop with the discharge opening in the neck.

A further object of the invention is to provide a measuring device of the character mentioned constructed of plastic material, to be economical to manufacture and to be capable of easy cleansing after every use, thereby assuring subsequent users of its sanitary condition.

A still further object of the invention is to provide scoop means which may be easily maintained in sanitary conditions, and which may be readily applied to a receptacle full of powder or the like and easily removed therefrom for use on another receptacle when the first becomes empty.

Another and further object of the invention is to provide a combination can top and removable scoop member having cooperating means for securing the member in operative position on the can top with the scoop positioned to register with a discharge opening in the top.

Another object of the invention is to provide a combined can top and scoop member arrangement in which the top is provided with a neck having a discharge opening in it, the scoop having a part for encircling the neck, which part and the neck have means operative with cam action to wedge the member in place when given rotative movement in one direction.

Another object of the invention is to provide an arrangement of the type mentioned having lugs on the encircling part and can top engageable for limiting the rotative movement of the scoop member in said one direction.

Another object is the provision of pin and slot means for limiting the rotative movement of the scoop member in said one direction.

The above, other and further objects of my present invention will be apparent from the following description and accompanying drawing.

The views of the accompanying drawing are as follows:

Fig. 1 is a top plan view of a can top embodying the principles of the present invention;

Fig. 2 is a view of the top of Fig. 1 showing in full lines the measuring device thereto applied and with the scoop in operative position; and in dotted lines the position of the device when initially applied to the can;

Fig. 3 is a view in elevation of a fragmental portion of a can supplied with the top of Fig. 1 and with the measuring device thereto applied, showing in full lines the scoop in operative position, and in dotted lines the scoop in inoperative position overlying the neck;

Fig. 4 is a bottom plan view of the measuring device of Fig. 3 taken in the plane indicated by line 4—4 of Fig. 3;

Fig. 5 is a view similar to Fig. 3 utilizing another form of stop means for limiting rotative movement of the measuring device when applied to a can top;

Fig. 6 is a view, partially in section and partially in plan, taken on line 6—6 of Fig. 5;

Fig. 7 is a view in elevation of a fragmental portion of an can supplied with a top having a neck which is upwardly and downwardly movable for exposing or closing the opening in the neck; and

Fig. 8 is a sectional view taken in the plane of line 8—8 of Fig. 7.

Referring to the drawing, Figs. 1 to 3 inclusive illustrate a can top 15 having a neck 16 in which

there is a discharge orifice 17 opening through the side surface of the neck. A barrel having a knurled end 18 is rotated within the neck for opening and closing the opening 17, as is well understood. Formed in the neck is a protuberance or lug 19. Formed in the can top in angular relation to the lug 19 is a detent or stop 20.

The measuring device illustrated in Figs. 1 to 4 inclusive includes a base 21 and a scoop 22. The base 21 has an annular part 23 for encircling the neck of the can. A portion of the inner surface of the part 23 is provided with an eccentric surface 24 which in the form illustrated is slightly more than 90° in extent. The eccentricity of the surface 24 is maximum near the position of application of the device to a can neck, as may be observed in Fig. 2, and minimum when the device has been rotated to align the scoop with the discharge opening in the neck, to secure maximum wedge action between the device and neck. The base 21 has a lateral extension 25 to which is pivoted the scoop 22 by means of a suitable pin 26. The scoop is formed with ears 27 to engage opposite side margins of the extension and to receive the pin 26. The hinged connection of the scoop to the base is a tight one so that the scoop will be retained in any angular position to which it is moved, as for example, operative position shown in full lines in Fig. 3 or inoperative position shown in dotted lines in the same figure.

The under side of the extension 25 is provided with a lug 28 so positioned that when the base member is rotated clockwise, as viewed in Fig. 2, the lug 28 will engage the detent 20 on the can top, thus limiting rotative movement of the measuring device. The relationship of these parts 20 and 28 is such that they engage when the scoop 22 is in alignment with the discharge orifice 17 in the can neck so that thereafter any of the can contents discharged through the orifice, by tilting the can, will fall into the scoop.

The relationship of the lug 19 on the neck and the eccentric surface 24 in the base is such that by the time the base is rotated to the position shown in Fig. 2, the parts are in tight frictional engagement, thus securing the measuring device in place on the can.

Fig. 4 shows a slot 29 which extends partially through the thickness of the extension 25, for the purpose of slightly weakening the extension so that the encircling part 23 of the base member may give slightly as it is rotated to operative position and thus increases the frictional holding engagement with the neck.

In the form of the invention illustrated in Figs. 5 and 6, a pin 30 is suitably secured to the can top adjacent the neck while the under side of the base 25' is provided with an arcuate slot 31 to receive the pin 30 when the measuring device is applied to a can. The undersurface of the base is provided with a slot 32 for slightly weakening it. As illustrated in Fig. 6, a notch 33 is formed in the under surface of the extension opening into one side of the slot 32 opposite to the adjacent end of the arcuate slot 31. The pin 30 and the notch 33 are so positioned as to engage to align the scoop 22 with the discharge opening 17 in the neck 16 of the can. A portion 23' of the base which encircles the neck of the can has an eccentric surface 24' for operating with a lug 19' formed on the neck, to frictionally hold the measuring device in place when the scoop is in register with the discharge orifice in the neck.

In this form of the invention the base and the scoop are constructed as heretofore described and operate and function in the same manner.

The slot 32 in the base 25' is utilized to weaken the base slightly, so that when the device is rotated to applied position the encircling part 23' will give slightly and firmly engage the lug 19' to hold the parts in frictional engagement.

Fig. 7 illustrates a can top 34 having a neck 35 arranged to slide vertically in a collar 36, to expose or conceal the discharge orifice 37 in the neck. To prevent the neck from turning in the collar 36 the neck and collar may be provided with a tongue 38 and groove 39 arrangement, as illustrated in Fig. 8, the groove 39 constituting the lug for cooperating with the eccentric surface 24' of the measuring device. The can top is provided with a detent or stop member 40 engageable by a stop lug on the under surface of the measuring device, as for example the lug 28 illustrated in Figs. 1 to 4 inclusive, when applied to this can.

It will be observed that the thickness of the base is such that it may be applied to the can of Fig. 7 without interfering with the telescoping movement of the neck into the can when it is desired to conceal the discharge orifice 37, which is done by pushing the neck down into the can.

It will be observed that the measuring device of my invention is simple in construction and readily applicable to can tops for receiving measured quantities of the can contents.

When my measuring device is used with a tooth powder can, some of the powder is spilled into the scoop, with the scoop in operative position as shown in Figs. 2, 3 and 5, by tilting the can; the used then may apply his tooth brush to the powder within the scoop without spilling any powder or otherwise wasting it. When he has finished, the scoop may be held under running water and thoroughly cleaned. By reason of the fact the scoop is made of plastic material and shaped, in the main, on curves, such rinsing by running water will thoroughly clean it so that a subsequent user may be assured of its sanitary condition.

After a can has been emptied of its contents, the measuring device may be removed therefrom and applied to another, and the use of the device continued for a long period of time.

My invention is advantageous to manufacturers of goods packaged in cans and the like, as the cans may be arranged to take my measuring device, thus assuring that as long as the user owns the device he will continue to use the product of the manufacturer whose can the device fits.

I do not intend to limit my invention to the details of construction shown and described except only in so far as certain of the claims may be so limited, as it will be apparent to those skilled in the art that changes may be made, and equivalents may be substituted, without departing from the principles of the invention.

I claim:

1. In an arrangement of the type described, the combination of a can having a neck with a discharge orifice in it opening through the side surface of the neck, a separable measuring device including a scoop applicable to said neck and rotative thereon to bring the scoop into register with said orifice, and wedge means on said device

and neck tightenable by rotation of said device to frictionally secure the device in place when the scoop and orifice are in register, and stop means for positively limiting said rotative movement to effect register of the scoop and orifice.

2. In an arrangement of the type described, the combination of a can having a neck with a discharge opening in it, a separable scoop member having a part for encircling said neck and rotative thereon to bring the scoop into register with said opening, said neck having a lug on it and the encircling part of said member having an eccentric surface engageable with said lug with cam action when said member is rotated to align the scoop and opening to thereby frictionally hold the member in place.

3. In a powder dispenser, in combination, a powder can top having a neck with a discharge opening in it, a separable measuring device comprising a base member adapted to encircle said neck, said neck and base member having cooperating cam means whereby said base member may be rotated on said neck to tight engagement therewith, said device also having a spout hinged to said base member adapted in inoperative position to overlie the neck and in operative position to project outwardly from said top, said top and base member having cooperating means to limit rotative movement of the base member in a direction necessary to move it to engaged relation with said neck, said limiting means being so disposed as to effect maximum holding engagement of the base and neck when said spout has been brought into register with the discharge opening in the neck.

4. In a dispensing container, the combination of a container top and a separable measuring device, said top having a neck with a discharge opening in it, said measuring device comprising a base and a spout hinged together, said base having an aperture to encircle the neck, said neck and the engaging surface of said base aperture having cooperating cam means to cause said base to frictionally engage said neck with holding action when said base is rotated in one direction on the neck to a position to bring the spout into register with the neck opening, said base and top having engageable means so disposed as to prevent rotative movement of the base beyond the position thereof when the spout is in register with said opening.

5. In an arrangement of the type described, the combination of a can having a neck with a discharge opening in it, a measuring device including a scoop and a base, said base being apertured to encircle said neck and rotative thereon to a position to align said scoop with said opening, said neck and base having means cooperating with wedge action to frictionally hold said scoop in alignment with said opening, said last means including a lug on one and an eccentric surface on the other, and means limiting rotative movement of said device to maintain alignment of the scoop and the discharge opening.

6. A structure as described in claim 5 in which the limiting means comprise an arcuate slot in the under surface of the base and a pin on the can top.

7. A structure as recited in claim 5 in which the limiting means include a lug on the can top and a lug on the under surface of the base.

8. The combination with a powder can having a neck provided with a discharge opening in it, and a separable measuring device, said device including a base adapted to encircle said neck and a scoop hinged to said base, the hinged connection of said scoop and base being tight to hold the scoop in any selected position, said base and neck having means including a lug on one and an eccentric surface on the other engageable with wedge action to frictionally hold said device in place on said neck when said device is rotated thereon in one direction to align said scoop with said opening, said base and the can top having lugs thereon positioned to be in contact when said scoop is aligned with said opening to prevent further rotative rotation of said device in said one direction, said scoop being swingable to overlie said neck when the can is not in use and swingable to project outwardly from the can to receive the can contents from said opening.

9. The combination with a powder can having a neck with a discharge opening in it, of a separable measuring device adapted to be connected to said neck by rotative movement in one direction and disconnected therefrom from rotative movement in counter direction, said device comprising a base and a scoop hinged together, said base having an annular part for encircling the neck and a lateral extension to which said scoop is hinged, said neck having a lug engageable with the inner surface of the annular part of said base to effect wedging engagement of said part and said neck when said device is rotated in said one direction, a portion of the said base extension being weakened to allow the annular part of the base to yield as said device is rotated in said one direction.

PHILIP C. P. BOOTY.