Sept. 25, 1945. T. BAILEY 2,385,677

MEASURING DEVICE

Filed April 5, 1944

Fig. 1.

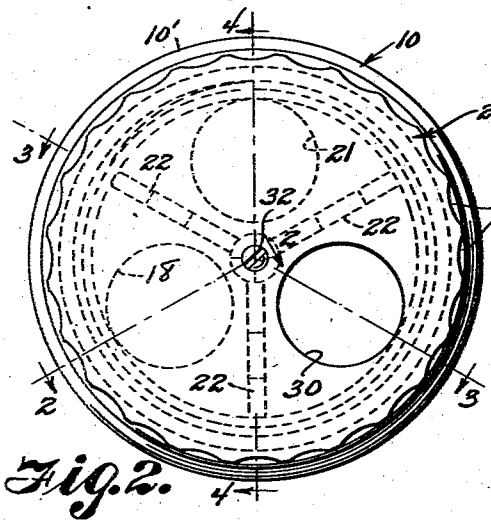


Fig. 5.

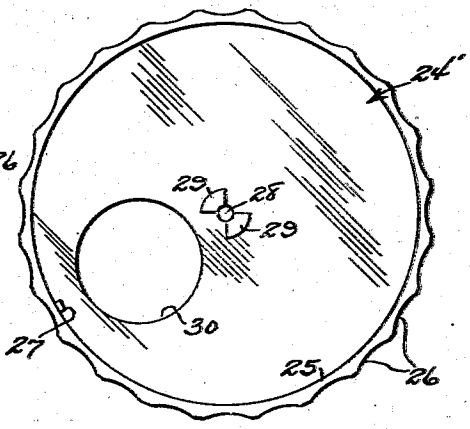


Fig. 2.

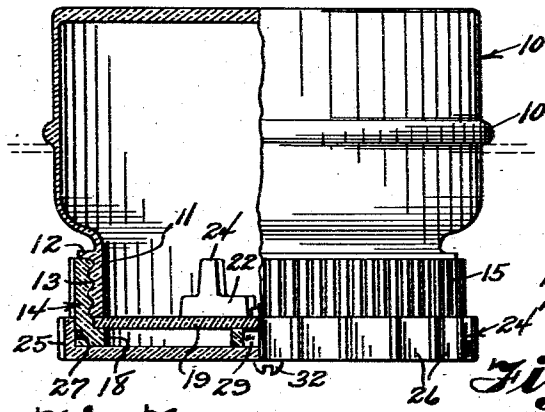


Fig. 6.

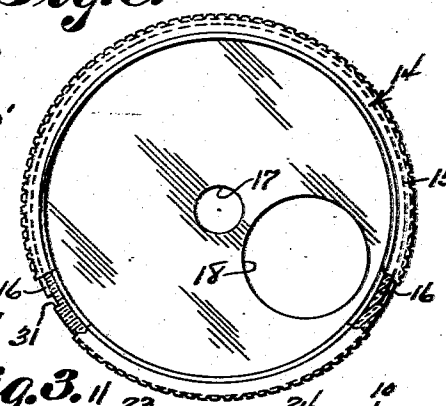


Fig. 7.

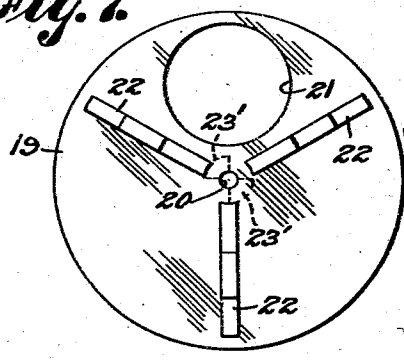


Fig. 3.

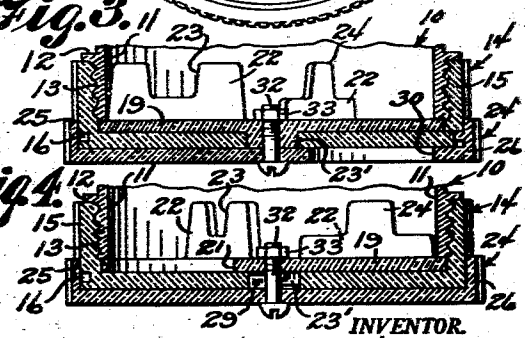


Fig. 4.

INVENTOR.

Theodore Bailey

BY

Victor J. Evans & Co.

ATTORNEYS

Patented Sept. 25, 1945 2,385,677

UNITED STATES PATENT OFFICE

2,385,677

MEASURING DEVICE

Theodore Bailey, Habana, Cuba

Application April 5, 1944, Serial No. 529,644

2 Claims. (Cl. 222—452)

The present invention relates to new and useful improvements in dispensing devices.

An object of the invention is to provide a device for dispensing accurately measured quantities of material such as powdered spices, baking powder and the like.

Another object of the invention is the provision of a dispensing device of the aforesaid character which is quickly and easily operable to effect dispensing action.

A further object of the invention is to provide a dispensing device of the above character which is relatively simple and inexpensive in construction and efficient in use.

Other objects and advantages of the invention will become apparent as the description progresses.

In the accompany drawing forming a part of this specification and in which like numerals are employed to designate corresponding parts throughout:

Figure 1 is a bottom end view of the assembled device,

Figure 2 is a side elevational view of the same partly in section,

Figure 3 is a transverse sectional view through the lower portion of the device with the dispensing members in one position,

Figure 4 is a similar view showing the dispensing members in another position,

Figure 5 is an interior plan view of one of the dispensing members,

Figure 6 is a similar view of a second dispensing member, and

Figure 7 is a similar view of a third dispensing member.

Referring to the drawing, wherein for the purpose of illustration is shown a preferred example of the invention, 10 designates a container advantageously in the form of an essentially cylindrical receptacle having its normally lower end reduced in diameter to provide a restricted neck portion 11. Intermediate the neck and the closed top, the receptacle has formed on its exterior an annular rib 10' providing a circumferential shoulder adapted for seating on the margin of an opening in a support shelf or the like. The lower neck portion of the receptacle is exteriorly screw threaded from the lower end to a circumferential flange 12, as indicated at 13.

To the bottom end of the receptacle 10 is threadedly connected a cap shaped member 14 having a flat disk shaped wall and an integral cylindrical peripheral flange 15 interiorly screw threaded to engage the threads 13 of the receptacle. In the lower exterior portion of the cap member 14 is formed a circumferential groove 16 interrupted for a minor arc of the periphery as shown at Figure 6. Inwardly of the groove the exterior of the flange 15 is grooved transversely to provide a roughened surface thereon. The disk shaped wall 14 is provided with a center circular opening 17 and with an opening 18 of substantially increased diameter eccentrically thereof between the center opening and the peripheral edge.

Formed for disposal between the bottom end of the receptacle and the inner face of the disk 14 is an inner member 19 embodying a flat circular disk of a diameter to be rotatably fitted within the member 14 having a relatively small center opening 20. This member is also provided with a relatively large circular opening 21 eccentrically thereof and having a diameter corresponding to that of the opening 18. On the inner or top face of the disk 19 are provided a plurality of, in the present example three, radial ribs 22, two of which may advantageously be provided with recesses 23 intermediate their ends and the third with an upstanding lip 24 so related as to agitate matter in the bottom portion of the receptacle. On the bottom or upper face of the disk 19 are formed a pair of sector shaped projections 23 disposed in diametrically opposed relation at the center portion thereof and constituting substantially quadrantal elements disposed radially of the center axis and having their inner portions reduced in conformity with the diameter of the center opening 20.

At the bottom of the device is mounted a member 24 consisting of a flat circular disk formed with a relatively narrow cylindrical flange 25 at its periphery. The exterior of the flange 25 has a multiplicity of concave recesses 26 providing a roughened surface while the cylindrical interior is of a diameter suitable to slidably and rotatably fit about the bottom portion of the member 14. A pin 27 extends radially inward of the flange 25 so as to engage the groove 16. At its center the disk wall 24 is provided with a relatively small opening 28 corresponding in diameter to that of the opening 20 while the inner face of the disk 24 is formed with a pair of quadrantal diametrically opposed projections 29 corresponding to the projections 23. An eccentrically disposed circular opening 30 is also formed in the disk 24 between the center opening 28 and the periphery thereof.

The dispenser forming members of the device are assembled on the normally depending lower

open end of the receptacle 10 by fitting the member 19 within the cap member 14 so that the disk 19 lies upon the disk 14 with the projections 29 extending through the center opening 17. The member 24 is then assembled on the cap member 14 by disposing the pin 27 in registration with a slot 31 of the latter member so as to bring the pin into registry with the groove 16 with the flange 25 fitted about the bottom portion of the flange 15. The projections 29 are disposed to extend through the opening 17 intermediate and in complementary relation with the projections 23 of the upper member following which a bolt 32 is inserted through the aligned openings 20 and 28 with the head thereof disposed lowermost and the upper threaded end of the bolt receiving a nut 33 to bring the disks 14, 19 and 24 into parallel face to face relation. The flange 15 is then threaded upon the lower threaded portion of the receptacle. Upon turning the lower or uppermost member to the limit of its angular movement in a clockwise direction, as shown at Figures 1 and 2, the uppermost disk 19 locked to turn therewith through the interlocking association of the projections 23 and 29, is brought to such position that the opening 21 assumes registry with the opening 18 so that a predetermined measured quantity or charge of the material in the receptacle, as for instance ground spice, drops into the cavity formed by the opening 18 of the fixed disk 14 upon the imperforate portion of the bottom disk 24. By turning the oscillatory interconnected disks through engagement with the flange 25 in the reverse direction, to its opposite extreme position, that is when the pin 27 reaches the end of the groove 16 at the slot 31, the opening 30 of disk 24 is brought into registry with the charge containing opening 18 to dispense the charge of spice from the device. In this manner accurately measured quantities of spice or other powdered material may be quickly and easily dispensed from the receptacle and the contents maintained in proper sanitary condition since the disks co-operate to effectively close the device and exclude air to a great extent. The container is refilled by unscrewing the flange 15 of the cap member 14 so as to remove the closure disks.

The construction of the device lends itself to convenient manufacture of transparent material such as plastic or glass so that the quantity of the material in the receptacle is apparent at all times.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A measuring and dispensing device for use with an inverted open mouth container, comprising inner, outer, and intermediate contacting discs, an annular flange formed with said intermediate disc to engage about the mouth of said container, each of said discs having an eccentrically disposed opening and said intermediate disc also having a centrally disposed opening, clutch elements carried by said inner and outer discs and projecting into said central opening to cooperatively engage one another to transmit turning movements of the outer disc to said inner disc, said elements acting to position the inner and outer discs relatively to each other so that the openings therein are angularly displaced one from the other in a manner to be successively registered with the eccentrically disposed opening in the intermediate disc during reversed turning movements of the inner and outer discs relatively to the intermediate disc, means carried by said outer disc to facilitate its manipulation, and a pivot bolt passed centrally through said discs to support said outer disc in place.

2. In a device of the class described, the combination of an inverted open mouth container and a measuring and dispensing attachment therefor, said attachment comprising a cap-like member having a screw threaded flange for engagement with the mouth of said container and a flat end wall, said end wall having an eccentrically disposed opening and a centrally disposed opening, a disc supported on the upper side of said end wall and between the same and the mouth of said container, said disc having an eccentrically disposed opening normally displaced from registry with the like opening in said end wall, a second disc in contact with the lower side of said end wall and having an eccentrically disposed opening normally displaced from registry with the like openings of the first named disc and the end wall, pairs of oppositely disposed sector shaped lugs formed on said discs and projecting into said central opening for interengagement and to thereby transmit turning movements imparted to said outer disc to said inner disc, a pivot bolt passed centrally through said discs to support said second disc in place, the outer side of said flange and the periphery of said second disc being serrated to facilitate the manipulation of the same, and cooperative stop means on said member and said second disc to limit the turning movements of the latter and the first named disc in opposite directions relatively to said end wall as required to successively register the openings in both of said discs with the like opening in said end wall.

THEODORE BAILEY.