Feb. 25, 1941. C. ANDONOV 2,233,120

DISPENSING DEVICE

Filed Dec. 12, 1938

Fig. 1

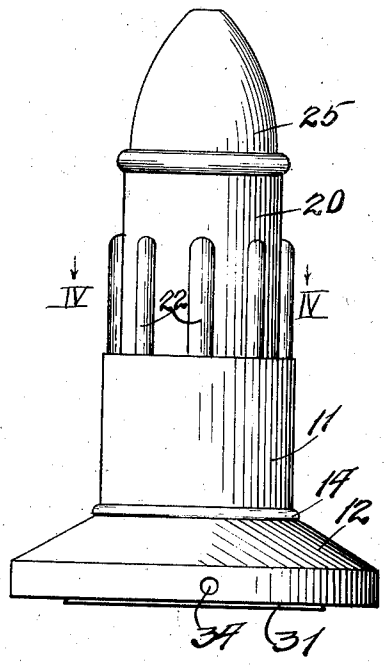


Fig. 3

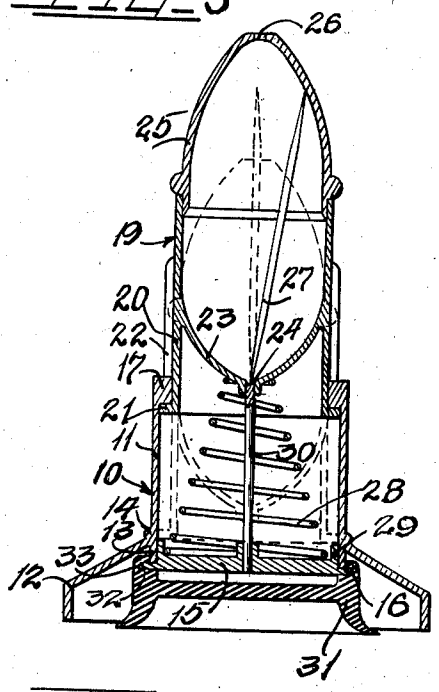


Fig. 4

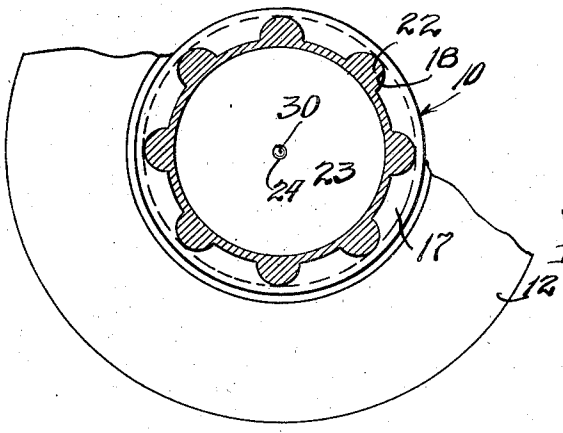
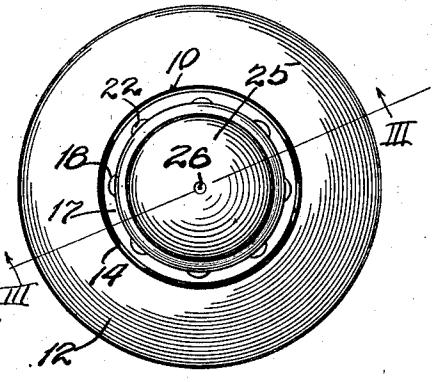


Fig. 2



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2,233,120

DISPENSING DEVICE

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6 Claims. (Cl. 312—77)

The present invention relates in general to dispensing devices and is in particular concerned with improved means for the individual dispensing of articles in a sanitary manner, especially articles which during use would be put in the user's mouth, such as toothpicks, and the like.

It is a primary object of the invention to provide a sanitary dispensing device of an improved and novel construction; which is particularly adapted to be made of a plastic material; which is pleasing in appearance, and may be mounted on any convenient surface and held against accidental or inadvertent displacement while it is being operated.

Another object of the present invention is to provide a device of such character in which certain ornamental parts of the device are additionally utilized to effect a more efficient operation thereof.

A still further object of the invention is to provide in such a device having a spring impelled container, improved means for centering and positioning the container spring at the end thereof associated with the container.

Other objects and features of the invention will more fully appear from the following detailed description, taken in connection with the accompanying drawing, which illustrates a single embodiment thereof, and in which:

Figure 1 is an elevational view of a dispensing device embodying the features of the present invention;

Figure 2 is a plan view of the same;

Figure 3 is a vertical section through the device, showing the cooperative relationship of its parts, taken substantially on line III—III of Figure 2; and

Figure 4 is an enlarged transverse section of the same, showing the manner in which the reciprocable container is circumferentially interlocked with the supporting base, taken substantially on line IV—IV of Figure 1.

As shown on the drawing:

In the illustrated embodiment of my invention, the invention is disclosed as comprising a base structure, generally indicated at **10**, this base having a tubular upright portion **11** which is preferably formed from a plastic material and at its lowermost end has an outwardly extending shell-like skirt **12**.

It will be noted that the tubular portion **11** projects below the jointure with the skirt portion as shown at **13**, and that for purposes of strengthening the joint between the tubular portion and skirt portion an exterior circumferentially extending bead **14** may be provided to increase the strength of the joint and provide additional ornamental effects.

The lowermost end of the tubular portion **11** is closed by a closure member **15** having a peripheral abutment flange **16** which extends outwardly therefrom to form an abutment for the closure member when it is pressed into the open end of the tubular member. This flange is of such width that it will project outwardly past the wall of the tubular member, for a purpose which will later be explained.

At its uppermost end, the tubular member **11** is provided with an inwardly extending annular flange **17** which is provided with circumferentially spaced notches **18** which open in the inner edge of the flange **17**.

Supported for reciprocal movement in the tubular portion of the base is a hopper or container member **19** which is also preferably constructed of moldable plastic material.

The container member comprises a tubular wall portion **20** having an outwardly extending circumferential flange **21** at its lowermost end.

Extending upwardly from this flange and circumferentially spaced around the outer surface of the wall **20** are a plurality of longitudinally extending ornamental ribs **22** which not only strengthen the walls of the container member, but also by virtue of their respective disposal in the notches **18**, serve to guide the container member during its reciprocable movements and retain it against relative rotational movement in the tubular member **11**. It will be noted that the flange **21** is arranged to abut the flange **17**, when the container member is actuated to its uppermost position.

Intermediate the ends of the tubular portion **20** of the container member, there is provided a downwardly dished bottom **23** having a centrally disposed opening **24**. It will be noted that the lowermost portion of the bottom **23** is disposed above the flange **21** so as to form a depressed bottom for the container.

The upper end of the tubular portion **20** is provided with a removable cap **25**, this cap also being preferably constructed of molded plastic. The cap is likewise dished at its upper end and provided with a central opening **26** through which articles in the container, for example toothpicks **27**, may be ejected when the container member is moved downwardly to a position as shown in dotted line in Figure 3.

The container member is normally biased toward its uppermost position with the flanges **17**

and 21 in engagement, by means of a coiled spring 28 of substantially truncate conical shape having its smaller uppermost end in engagement with the bottom 23 of the container member, and its lowermost larger end in engagement with the closure member 15.

The latter end may be laterally retained against movement by means of a peripherally extending flange 29 formed on the closure member 15.

The uppermost end of the spring is centered around the opening 24 by virtue of the dished construction of the bottom 23.

It has been found that the operation of the device, when constructed in the manner described above, is materially improved due to having the contact of the upper end of the spring with the container member at a point above the plane of the abutment flange 27, rather than in the usual construction where the bottom of the container projects below the abutment flange. It will be readily apparent that for a device of this character to operate satisfactorily, the container member must be so supported that it does not materially wobble or get out of alignment during its reciprocable movement. My improved construction is particularly adapted to maintain alignment of the parts during operation.

For ejecting the toothpick or other article from the container, an ejector pin 30 is provided, this pin being supported at its lowermost end in the closure member 15 and extending upwardly centrally of the coiled spring 28 with its uppermost end in the bottom opening 24 of the bottom of the container.

The uppermost end of this pin is slightly recessed for engagement with the lowermost end of a toothpick which is to be elevated. It will be apparent that with a supply of toothpicks within the container, these toothpicks will always gravitate toward the center of the bottom of the container and at least one of the toothpicks will have its lowermost end disposed in the recess portion of the ejector pin. When the container member is pushed downwardly against the action of spring 28, the container by virtue of its being moved downwardly will cause the toothpick on the ejector pin to project its uppermost end through the delivery opening 26, where it may be easily grasped by the operator of the device and removed without coming in contact or contaminating the articles contained in the container.

The container of the present invention may be easily mounted on any suitable surface and retained against accidental or inadvertent displacement during its operation by means of a vacuum cup 31 which is constructed of a suitable material such as rubber and normally concealed within the skirt portion 12 of the base.

This vacuum cup is provided with an annular flange 32 containing an inwardly circumferentially extending groove 33 adjacent its uppermost end, this groove being adapted to receive the flange 16 of the closure member, when the uppermost end is forced over the peripheral edge of the closure member. Thus the vacuum cup may be either connected or disconnected depending upon whether it is desired to use the same or not.

In some locations, it may not be desired to use the vacuum cup as means for securing the device. In certain installations, it may be preferred to anchor the device by means of a chain or other flexible securing members. In order that such an arrangement might be conveniently provided, the outermost periphery of the skirt portion 12 may be provided with an opening 34 for securing a chain or the like to the base portion.

From the foregoing description, it will be apparent that the present invention provides an improved construction in a sanitary dispensing device, which is particularly adapted to be made of plastic material; which is pleasing in appearance, and may be mounted on any convenient surface and held against accidental or inadvertent upsetting or displacement while it is being operated; a device of such character in which certain of the ornamental parts may be additionally utilized to effect a more efficient operation thereof; and in which approved means are provided for centering and positioning the container actuating spring.

It is of course, to be understood that although I have described in detail a single embodiment of my invention, the invention is not to be thus limited, but only insofar as defined by the scope and spirit of the appended claims.

I claim as my invention:

1. A dispensing device comprising an upright tubular base having an inwardly extending flange at its uppermost end, a plurality of circumferentially spaced notches on the inner edge margin of said flange opening inwardly, a hollow reciprocably mounted container for articles to be dispensed extending from the upper end of the base and having an outwardly extending bottom flange arranged to abut the bottom of said first flange, when the container is at its uppermost position, said container having central end openings respectively at its top and bottom, a spring normally moving said container upwardly, an ejector having its upper end disposed in the bottom end of the container for elevating an article through the top opening, when the container is forced downwardly, and elongate fixed ribs on the outer surface of the container respectively disposed in said notches and extending upwardly from the said bottom flange of the container.

2. In a dispensing device, a base member and container member arranged in telescoping relationship, said container having a delivery opening for articles to be dispensed from the container, means for limiting outward extension of one of said members with respect to the other, means resiliently maintaining said members in relatively extended positions, means responsive to relative movement of said members toward each other for elevating an article in said container through the delivery opening thereof, a plurality of circumferentially spaced longitudinally extending ribs on the outer surface of the container member and integrally formed therewith, and cooperative grooves on the base member for respectively receiving said ribs in sliding relation.

3. In a dispensing device, an upright tubular base having an inwardly extending flange at its uppermost end defining a circular opening with a plurality of circumferentially spaced inwardly opening edge notches, a hollow container for articles to be dispensed having a circular outer surface, said container being disposed for reciprocable vertical movements in said opening with its outer surface slidably engaging the circular edge portions of said opening, means normally acting to move the container to an elevated position relative to the base, means for limiting the elevating movement of said container, integrally formed longitudinally extending ribs projecting

from the outer surface of the container into said notches for guiding the movements of the container and retaining it against rotation, and means responsive to downward movement of the container for elevating and dispensing an article in said container.

4. In a dispensing device, a base member and hollow container member arranged in telescoping relationship, means for limiting outward extension of the container member relative to the base member, a cap having a slip joint connection with the upper end of said container and a central delivery opening, an abutment bead on said cap for engagement with the uppermost end margin of the container, means resiliently maintaining said container member in said relatively extended position, and means responsive to relative movement of said members toward each other for elevating an article in the container through said delivery opening.

5. In a dispensing device, a base member and a hollow container member arranged in telescoping relationship, means for limiting outward extension of the cointainer member relative to the base member, a cap having a delivery opening in its upper end and arranged to have its lower end slidingly inserted within the upper end of the container, means for limiting the extent of said insertion, means resiliently maintaining said container member in said relatively extended position, and means responsive to relative movement of said members toward each other for elevating an article in the container through said delivery opening.

6. A dispensing device comprising an upright tubular base, a container for articles to be dispensed reciprocably mounted in said base and having a dished bottom, means to resiliently urge said container into extended position with respect to the base, said container having side walls projecting below said bottom, a dished cap member for the container having an article delivery opening therein, said cap having a joint connection with the container top substantially intermediate the container bottom and the delivery opening, longitudinal ribs on the container walls extending above and below the position of the container bottom, grooves at the upper end of the base respectively receiving said ribs for guiding reciprocable movements of the container and retaining it against rotation, and means operative in response to the container's being pushed downwardly for delivering an article in the container to said delivery opening.

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