

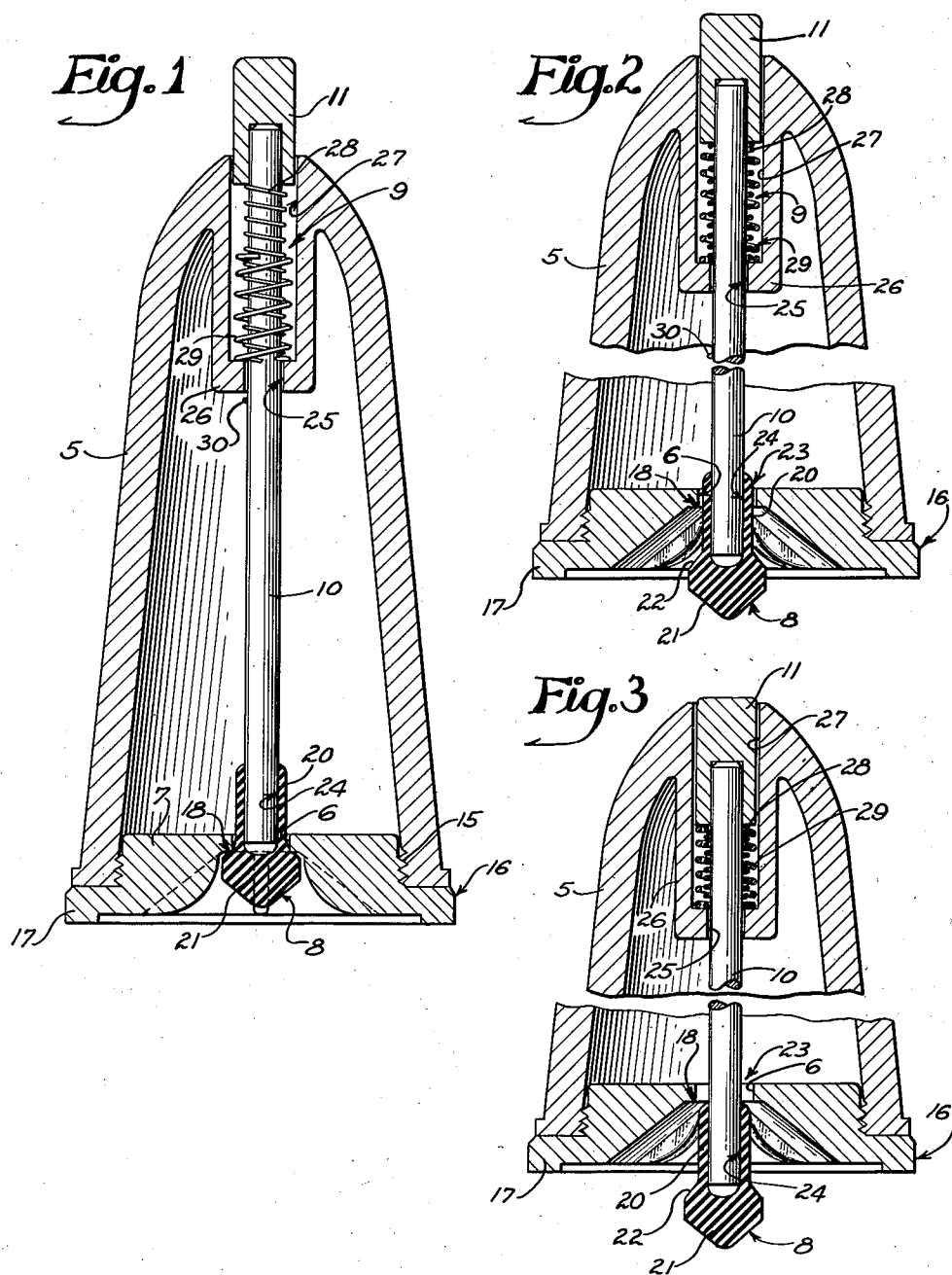
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CONDIMENT DISPENSER HAVING A RESILIENTLY DEPRESSIBLE
PLUNGER FOR CONTROLLING THE RATE OF FLOW

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CONDIMENT DISPENSER HAVING A RESILIENTLY DEPRESSIBLE PLUNGER FOR CONTROLLING THE RATE OF FLOW

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1 Claim. (Cl. 222—512)

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The invention relates to condiment dispensers for table use and more particularly to dispensers of the type in which the condiment is delivered through a bottom opening outlet.

One object of the invention is to provide improved closure means for dispensers of the above general character which, when closed, effectually seals the dispenser both against the leakage of its contents and against the entrance of moisture.

Another object is to provide closure means for a bottom opening condiment dispenser which is manually operable to effect delivery of the condiment at either of two selected flow rates and in which an appreciably greater resistance is offered to the operation of the closure means for a high rate of flow than for a low rate of flow, so that the user is definitely informed of the point at which the flow rate changes.

A further object is to provide an efficient manually actuated bottom discharging condiment dispenser constructed of simple, inexpensive parts which are easy to assemble, thus enabling the dispenser to be produced cheaply.

Other objects and advantages of the invention will become apparent from the following detailed description of the preferred embodiment illustrated in the accompanying drawing, in which:

Figure 1 is a longitudinal sectional view of a condiment dispenser embodying the features of the invention.

Fig. 2 is a fragmentary sectional view of the dispenser showing the closure means set for a low discharge rate.

Fig. 3 is a fragmentary sectional view similar to Fig. 2, showing the closure means set for a high discharge rate.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative construction falling within the spirit and scope of the invention as expressed in the appended claims.

Referring to the drawing, the improved condiment dispenser comprises generally a hollow container 5 having an outlet opening 6 in its bottom wall 7 for the discharge of condiment or other comminuted material with which the container is filled. The flow of material through the opening 6 is controlled by a closure member or stopper 8 movable from a position in which the opening 6 is closed to successive open positions in which

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the effective area of the opening is regulated to establish two different flow rates.

The closure member 8 is constructed and related to the opening 6 in a novel manner, which enables it to completely and positively shut off the flow of material through the opening and to effectually seal the opening against the entrance of moisture. Resilient means, indicated generally at 9, is provided for yieldably holding the member in the closed position. Actuating means, including an elongated rod 10 having the member 8 mounted at one end and a knob or push button 11 at the other end projecting from the top of the container, is provided for moving the member from the closed to the open positions against the force of the resilient means 9, which is arranged to differentially oppose the movement to the open positions, and thus provide a definite indication of the point at which the change in flow rate occurs.

In the exemplary dispenser, the container 5 comprises a hollow body of generally conical shape, which may be of molded plastic or like material. The open lower end of the container is threaded internally, as at 15, for the reception of a bottom member or cap 16, which forms the bottom wall 7 of the container. As shown in the drawing, the cap is formed with a marginal flange 17 constituting a base upon which the container stands and adapted to underlie and fit flush against the lower edge of the container to form a tight joint therewith.

To accommodate the projecting portion of the closure member 8, the cap 16 is centrally recessed on its underside leaving a relatively thin central section in which the outlet opening 6 is located. As will be seen by reference to Fig. 1 of the drawing, the central section is somewhat larger than the opening 6 and presents a flat bottom surface meeting with the walls of the opening in a square corner 18 for cooperation with the closure member 8, as will appear presently.

In accordance with the invention, the closure member 8 is constructed so as to enable it to effectually seal the outlet opening 6 and to establish either of two selected flow rates therethrough in accordance with its position relative to the opening. To this end the member is made of soft rubber or rubber-like material and is formed with an elongated shank portion 20 somewhat smaller than the opening 6 and a head portion 21 larger than the opening which is joined with the shank portion by a tapered intermediate portion 22. As herein shown, the opening 6 is circular and the coating parts of the closure member are com-

plementally shaped with respect thereto. The arrangement is such that when the member is in the closed position in which it is shown in Fig. 1, the square corner 18 around the opening 6 is pressed into the intermediate portion 22 of the member. Due to the line contact between the member and the bottom portion of the container thus provided, the tendency for grains of the condiment to catch in the opening is minimized and flow of material is positively interrupted by the closure member. The sealing action of the member is further enhanced by its soft resilient character, which enables the member to engage the container bottom with substantially uniform pressure around its entire circumference.

As indicated heretofore, the closure member 8 is carried on the lower end of the rod 10 which extends upwardly through the top of the container and is provided with the knob 11 for manual actuation of the closure. As herein shown, the knob 11 is made of plastic material and is frictionally secured to the rod. Preferably the rod 10 is also made of plastic material, presenting a smooth outer surface and providing slight lateral flexibility sufficient to enable the closure member to center itself accurately in the opening 6 when moved to closed position. For securing the member 8 to the rod, the shank portion 20 is formed with a recess 24 somewhat smaller in diameter than the rod so as to provide a tight fit with the rod. Due to the resilient characteristics of the member, a suction grip on the rod is thus provided whereby assembly of the member and the parts is facilitated and slipping of the member relative to the rod is effectually prevented.

In the first open position of the member 8 (as shown in Fig. 2), the enlarged head portion 21 is shifted downwardly out of sealing engagement with the edge of the opening 6, leaving the shank portion 20 disposed within the opening to define a narrow annular outlet 23 for the discharge of the contents of the container. The effective area of the outlet 23 is determined of course by the relative dimensions of the opening 6 and the shank 20. These dimensions may be varied, as required by the particular condiment for which the dispenser is to be used.

Upon further movement of the closure member 8 to the second open position shown in Fig. 3, the shank 20 of the member is withdrawn from the opening 6, thus substantially increasing the effective area of the outlet to permit the contents of the container 5 to be discharged at a higher rate. In this case, the effective area of the outlet is determined by the relative dimensions of the opening 6 and the rod 10.

In the exemplary dispenser, the rod 10 is supported and guided for endwise sliding movement in an opening 25 formed in a re-entrant cylindrical portion 26 at the top of the container 5. The cylindrical portion 26 is formed with an upwardly opening recess 27 dimensioned to receive the knob 11 with a sliding fit and constituting a chamber or socket for the resilient means 9. Due to the relatively long contact surface between the rod 10 and the walls of the opening 25 and the additional contact between the knob 11 and the walls of the recess 27, entry of moisture through the top of the container is substantially prevented.

To enable the resilient means 9 to differentially oppose the movement of the closure member to the open positions, it preferably comprises two independent resilient elements herein shown as

springs 28 and 29, one of which is effective throughout the entire range of movement of the closure member and the other of which is wholly ineffective in the initial movement of the member and only becomes effective after a predetermined movement of the member. As herein shown, the spring 28 is made sufficiently long so as to bear at opposite ends against the bottom of the recess 27 and the inner end of the knob 11 when the member 8 is in closed position. This spring is preferably made of light material, enabling it to exert just enough force on the closure to hold it in closed position and to oppose a predetermined minimum resistance to the movement of the closure member to the first open position. The particular spring shown is a coiled spring and is arranged to encircle the rod 10.

Arranged in telescoping relation to the spring 28 is a short spring 29 of substantially heavier construction than the spring 28. The spring 29 is dimensioned so that when fully extended its upper end is spaced substantially below the inner end of the knob 11 in the normal closed position of the closure member. Accordingly, initial movement of the knob and closure member 8 to the first open position is opposed only by the tension of the spring 28. Upon further movement of the knob and closure member from the first open position, the spring 29 is engaged by the knob, thus opposing an additional resistance to the movement of the closure member to the second open position. This sharp change in the resistance to the movement of the closure member provides a definite indication to the user of the point at which the flow rate changes. Moreover, the double spring arrangement is advantageous in preventing accidental operation of the closure member to the full position in which the high flow rate takes place.

To prevent separation of the actuating means from the container when the closure member 8 is removed from the rod 10 for any purpose, the rod may be formed with a lateral projection or bump 30 which prevents it from passing upwardly through the opening 25 any farther than is necessary to close the dispenser. Accordingly, in the assembly of the dispenser, the knob 11 is removed from the rod and the latter is inserted through the outlet opening 6 into the opening 25 and through the springs 28 and 29 assembled in the recess 27 until its upper end projects beyond the end of the container. The knob 11 is then applied to the projecting end of the rod and the latter is pushed down to project at the bottom of the container for assembly of the closure member 8 therewith.

The container 5 may be filled very conveniently by inverting it and operating the closure member 8 to the full open position. The condiment is then poured into the conical recess in the bottom of the cap member 16 and passes through the enlarged discharge opening 23. Any material collecting on the flat portion of the cap member 16 may be readily dislodged by shaking the dispenser. Alternatively, the cap member 16 may be unscrewed and then shifted laterally of the container without removing the closure member 8, which is merely shifted to the full open position to provide sufficient clearance for the cap member. With the cap member shifted to one side, the open end of the container is exposed for the reception of the condiment.

It will be apparent from the foregoing that the invention provides a condiment dispenser of novel and advantageous construction. Through

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the provision of novel closure means the dispenser is effectually sealed both against leakage of its contents and against the entrance of moisture. Moreover, the closure is readily operable to provide for the discharge of the contents of the dispenser at either of two selected flow rates and the user is definitely informed of the point at which the flow rate changes. The improved dispenser is adapted to be produced cheaply by reason of the simplicity of the parts of which it is constructed and the ease with which the parts may be assembled.

This application is a continuation in part of my prior application Serial No. 518,602, filed January 17, 1944, which has become abandoned.

I claim as my invention:

A condiment dispenser consisting of a container open at its lower end and at its upper end provided with a depending hollow part having at its lower end a re-entrant portion provided with a recess therethrough, a cap provided in the lower, open end having an opening therethrough providing a discharge passage for the condiment and a flat, shouldered portion on the underside of the cap about the opening, a rod extending through the container and having its upper end projecting through the recess and slidably mounted in the depending part and its lower end aligned with and adapted to project through the discharge passage for the condiment, a resilient closure mounted on the lower end of the rod and provided with a shank of less cross section than the passage and an enlarged head of greater cross section than the passage provided with a tapered sealing surface and when seated against the shouldered portion on the under side of the cap forming a line sealing contact closing the passage against discharge of the condiment, a knob carried on the extreme upper end of the rod and conformably received within the cylindrical

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part, and resilient means spring-biasing the rod and closure to elevated position in which the tapered sealing surface on the enlarged head engages the cap and closes the discharge passage, but permitting the knob to be depressed to lower the enlarged head and allow discharge of a quantity of the condiment through the annular space about the shank and when the knob is further depressed the rod is further lowered and thereupon removes the shank from the discharge passage to thereby increase the annular space for the discharge of the condiment.

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