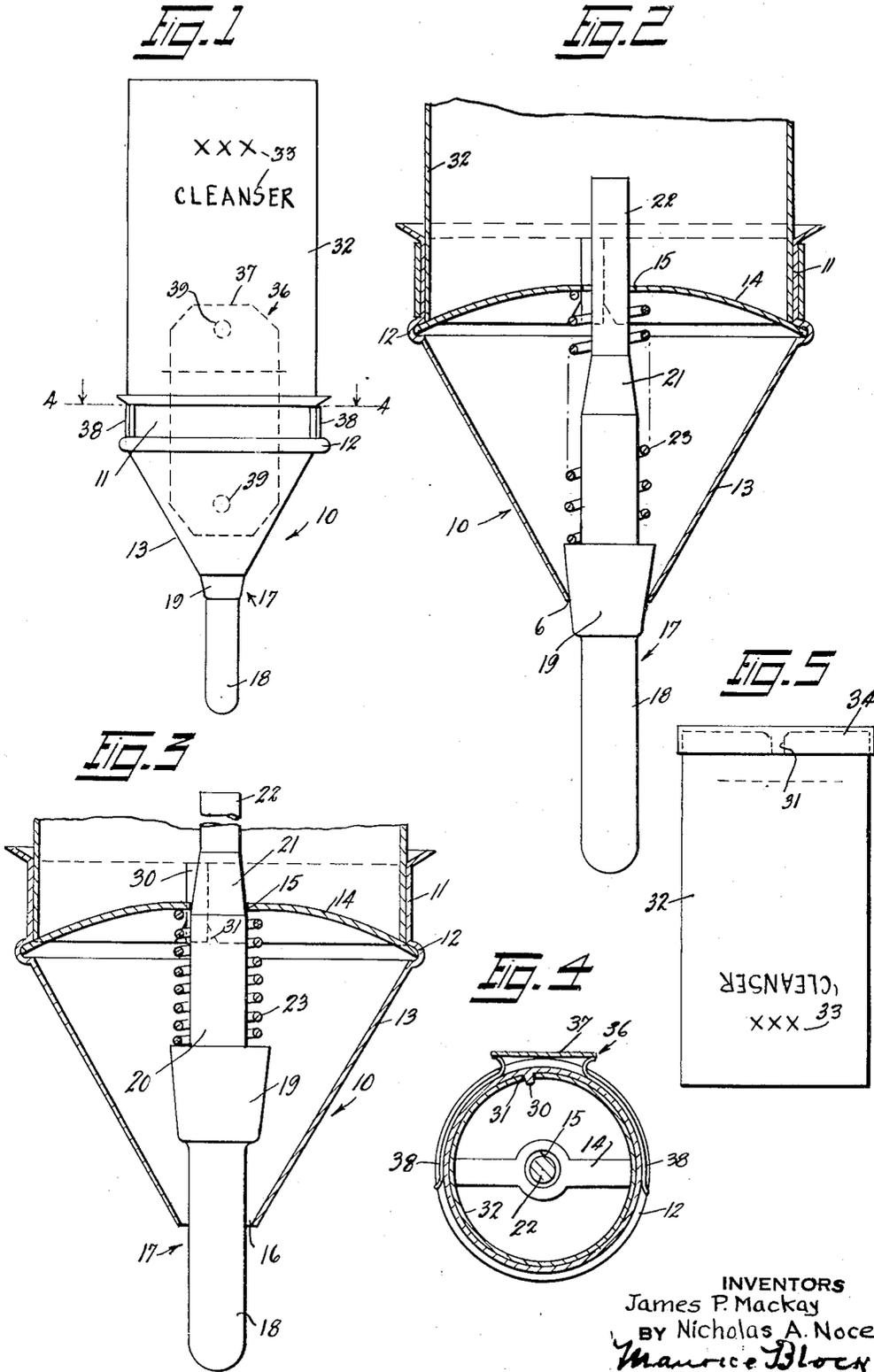


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POWDER DISPENSING DEVICE

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POWDER DISPENSING DEVICE

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This invention relates to powder dispensing devices, and more particularly for devices adapted to dispense powdered soap and the like.

One of the objects of the invention is to provide a device of this character which when operated will permit not only finely powdered particles to be dispensed, but also heavier or caked lumps.

Another object of the invention is to provide a hopper provided with a downwardly tapering or inverted conical portion, and a centrally located plunger yieldably mounted therein and provided with a closure member tapering in the same direction as the hopper but at a lesser degree so as to make only line contact with the said tapered hopper portion when in closed or non-dispensing position.

A further object of the invention is to provide a powder can or receptacle especially adapted for use with the said dispensing device.

Another object is to produce a device of the character described in which the maximum simplicity of construction and operation is secured.

Other objects and advantages will appear as the nature of the improvements is better understood, the invention consisting substantially in the novel arrangement and co-relation of parts herein fully described, and illustrated in the accompanying drawing, wherein similar reference characters are used to describe corresponding parts throughout the several views, and then finally pointed out and specifically defined and indicated in the appended claims.

The disclosure made the basis of exemplifying the present inventive concept suggests a practical embodiment thereof, but the invention is not to be restricted to the exact details of this disclosure, and the latter, therefore, is to be understood from an illustrative, rather than a restrictive standpoint.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which, for the purpose of illustration, is shown in the accompanying drawing, in which

Figure 1 is a view in side elevation of our improved dispensing device.

Figure 2 is a longitudinal cross sectional view of the lower portion thereof, with the parts shown in closed or non-dispensing position.

Figure 3 is a similar view to Figure 2 but with the parts shown in actuated or dispensing position.

Figure 4 is a sectional view taken on line 4-4 of Figure 1 and

Figure 5 is a view in side elevation of the powder receptacle or container.

Referring now to the drawing in detail 10 indicates a hopper provided at the top thereof with a cylindrical portion 11, the lower end of which is provided with a bead 12 from which depends a conical or funnel shaped end portion 13. A cross plate or bar 14 provided with a central opening 15 is snapped into the interior of the bead 12 and together with the lower funnel opening 16 acts as a centralizer for a valve structure 17.

The said valve structure comprises a lower stem 18, a valve head or plug 19 which tapers in the same general direction as the hopper 13 but at a lesser degree, an upper stem 20 which tapers upwardly at 21 and terminates in a cylindrical portion 22 whose diameter is somewhat smaller than the orifice or opening 15 in the plate 14 through which it passes. A coiled spring 23 exerts a pressure between the underside of the plate 14 and the valve head 19 to maintain the device in closed position as illustrated in Figures 1 and 2.

It will be seen by referring to Figure 2 that due to the fact that both the hopper 13 and the valve head 19 are tapered in the same direction, but at different angles only a line contact is formed between the said parts at the opening 16, thus providing clean cut-off means, or in other words no clogging of the valve opening is possible. It will further be seen that due to this arrangement of hopper and valve head, a wide passageway is formed between the hopper wall and valve head for the free passage of the contents of the device when actuated to the Figure 3 position. Inasmuch as the stem portion 22 is of smaller diameter than the opening 15 in the plate 14, it will be seen that when the valve mechanism is pressed upwardly and as soon as the contact between the valve head and opening 16 is broken the entire valve mechanism may be tilted to one side to provide a still wider passageway for any caked or lumped particles of soap.

The interior of the cylindrical portion 11 of the hopper is provided with a projection 30 to fit into a cutout 31 at the mouth end of a powder receptacle or can 32 which is of the same diameter as the interior of the said cylindrical hopper portion 11. This provides means for interlocking the container and dispensing device as well as for always maintaining the advertising matter on the container where it is always visible.

The container 32 is provided with a lid or cover 34 which normally covers the slot or cutout 31 to prevent loss of the contents thereof. The advertising material 33 is printed on the container in inverted position in relation to the mouth or cover end thereof so that it will be right side up when the container is inserted into the dispensing device.

The provision of the slot 31, the projection 30 and the inverted printing of the advertising matter provide means for insuring the use of only the products of the manufacturer for whom the dispensing device is intended.

A bracket 36, comprising a plate 37 and a pair of spring arms 38 which are adapted to engage the cylindrical portion 11 of the hopper forms a support for the device. The plate 37 is provided with a pair of holes 39 for securing the bracket to wall or other support.

From the foregoing, it will be seen that we have provided a simple yet efficient dispensing device which will dispense powdered soap and the like without becoming clogged or otherwise get out of order.

Having described our invention what we claim as new and desire to secure by Letters Patent is:

1. A dispensing device, comprising a hopper, a downwardly tapering conical shaped portion at the bottom thereof provided with a discharge opening, a plate in the hopper having a perforation therein in line with the discharge opening, a conical valve head, normally closing the discharge opening and tapered in the same direction as the conical hopper portion but at a lesser degree, a stem depending from the valve head, a second stem extending upwardly from the valve head and passing loosely through the plate perforation, and spring means between the said head and plate.

2. A dispensing device, comprising a hopper, a

downwardly tapering conical shaped portion at the bottom thereof provided with a discharge opening, a plate in the hopper having a perforation therein in line with the discharge opening, a conical valve head, normally closing the discharge opening and tapered in the same direction as the conical hopper portion but at a lesser degree, and extending below the said discharge opening, a stem depending from the valve head, a second stem extending upwardly from the valve head and passing loosely through the plate perforation, and spring means between the said head and plate.

3. A dispensing device comprising a hopper, provided with a discharge opening at the bottom thereof, a plate in the hopper having a perforation in line with the discharge opening, a valve movably and tiltably mounted in the said discharge opening and plate perforation, the said valve comprising a tapering valve head normally closing the discharge opening and extending outwardly thereof, a stem extending upwardly from the valve head and passing loosely through the plate perforation and a spring for normally maintaining the valve head in closing contact with the discharge opening.

4. A dispensing device, comprising a hopper provided with a discharge opening at the bottom thereof, a plate in the hopper having a perforation in line with the discharge opening, a valve head normally closing the discharge opening and extending outwardly thereof, a stem extending upwardly from the valve head and passing loosely through the plate perforation, a tapering portion on the stem for the purpose specified, and spring means for normally maintaining the valve head in closing contact with the discharge opening.

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