

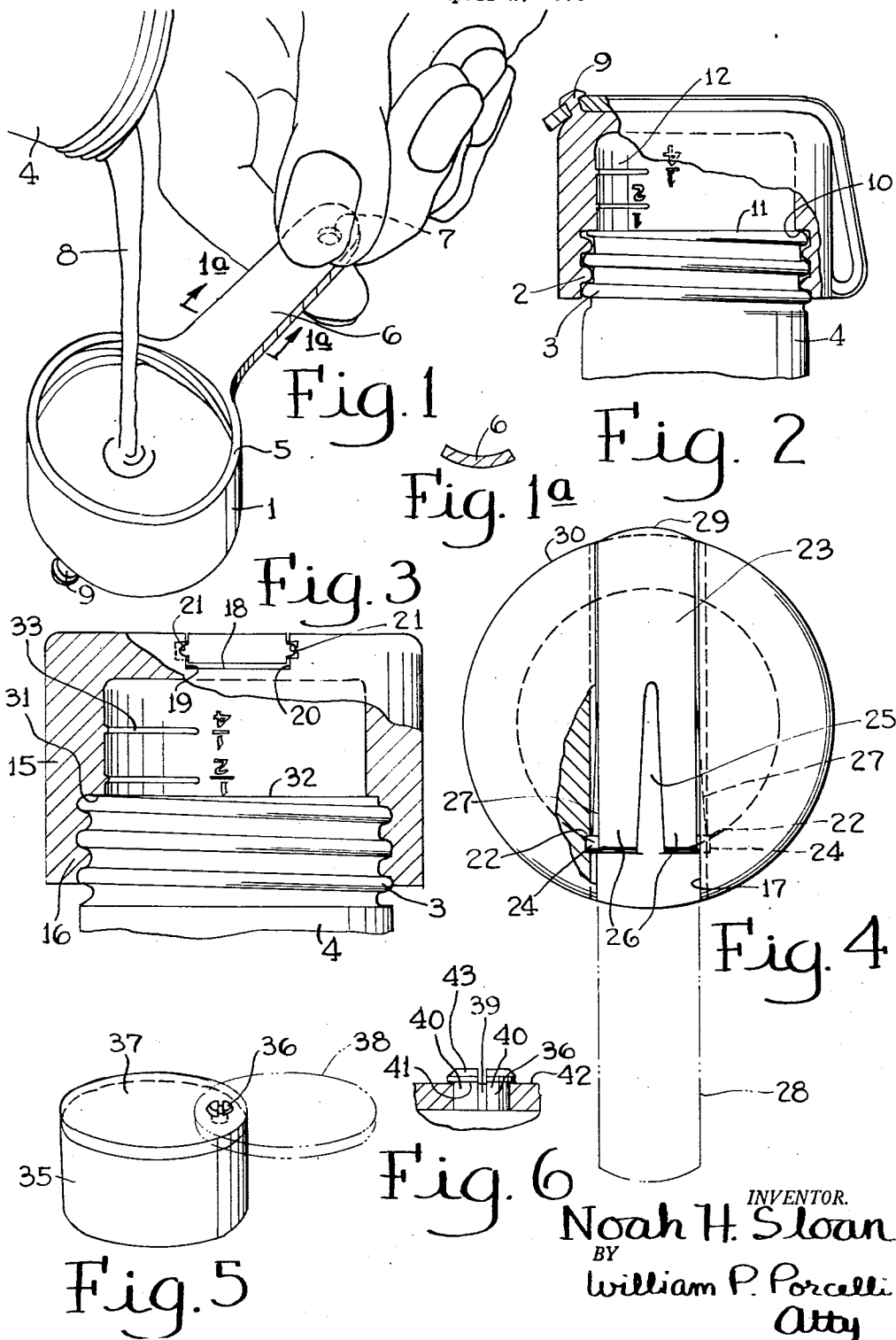
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COMBINATION BOTTLE CAP AND DISPENSER

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COMBINATION BOTTLE CAP AND DISPENSER

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This invention relates to improvements in bottle covers and particularly to an improved bottle cap for providing a fluid tight cover for a bottle integral with a measuring means for permitting fluids to be dispensed in accurate amounts from a bottle without requiring a spoon or other measuring and dispensing device.

In ordinary practice, a bottle containing fluid, such as medicine, is provided with a removable screw type cap covering the pouring aperture of the bottle for retaining fluid within the bottle. When dispensing the fluid, it is necessary to use a spoon or other device to dispense measured quantities of fluid from the bottle. Due to the assorted sizes and shapes of spoons, the amount of fluid dispensed often times is inaccurate, thus leading to under or over dosages. In other cases, a spoon or other measuring device is not readily available, as when a person is traveling; and when medicine is prescribed to be taken at regular periodic intervals, a burden is placed on the person to acquire some sort of measuring device. It is the principal object of this invention to provide a bottle cap which provides a fluid tight seal for the bottle and at the same time can be used as a measuring device for dispensing fluid from the bottle.

It is another object of this invention to provide such a bottle cap having a handle associated therewith which may be used for holding the cap while dispensing fluid and which may be retracted and stored on the cap when the cap is used to cover the bottle opening.

It is another object of this invention to provide a combined bottle cap and dispensing device provided with an interior portion for containing fluid which is marked with graduations to indicate quantity levels of fluid.

It is another object of the invention to provide a combined bottle cap and dispenser which can be manufactured in one piece and has an extending handle which can be folded and locked in storage position.

It is another object of the invention to provide a combined bottle cap and dispenser which has an extending handle flexible enough to be folded into a storage position but which has sufficient rigidity for permitting its use as a handle.

It is another object of this invention to provide a bottle cap and dispenser combination which is provided with a handle hingedly connected to the bottle cap and which can be recessed into the bottle cap in locked position or unfolded and extended and locked in extended position.

The invention can be better understood from the following specification taken with the accompanying drawings in which three embodiments of the invention are illustrated. In the drawings,

Figure 1 shows a perspective view of one embodiment of the invention being used as a fluid dispenser;

Fig. 1a shows a transverse sectional view of the cap handle as viewed along the line 1a—1a of Fig. 1;

Fig. 2 shows a partial sectional view of the embodiment of the invention of Fig. 1, but in storage position on a bottle;

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Fig. 3 shows a partial sectional view of a second embodiment of the invention in its position on a bottle;

Fig. 4 shows a partial sectional top plan view of the second embodiment of the invention as shown in Fig. 3;

Fig. 5 shows a perspective view of still a third embodiment of the invention; and

Fig. 6 is a sectional view showing the manner in which the cap handle is mounted to the cap.

As illustrated in the drawings in Figs. 1 and 2, one embodiment of the invention comprises a cap body 1 provided with internal threads 2 which engage the external threads 3 surrounding the pouring opening of an ordinary fluid dispensing bottle 4. Attached to a portion of the bottom rim 5 of the cap is a laterally extending arm 6 which is provided with a small hole 7 adjacent to its outer end. This arm 6 is used in the manner of a handle of a spoon, as shown in Fig. 1, to permit the cap to be held conveniently while fluid 8 from a bottle 4 is poured into the cap body 1. The arm 6 is made flexible enough that it can be bent around, as shown in Fig. 2, to a position where the hole 7 near the extremity of the arm can be engaged with a pin 9 in order to keep the arm 6 in a stored position as shown in Fig. 2. Because the arm 6 is flexible, in order to impart greater rigidity to it at a time when fluid is being poured into the cap body, the arm may be given a transversely curved shape as shown in Fig. 1a. This gives the arm 6 a rigidity in a direction which would minimize the possibility of bending under the weight of fluid poured into the cap body.

In order to provide a fluid tight connection between the cap body and the bottle top, an inwardly extending shoulder 10 is provided on the internal wall of the cap body and this shoulder contacts the upper rim 11 of the pouring aperture of the bottle when the cap is screwed tightly in place. Depending upon the quantities to be measured and dispensed, sufficient space 12 is provided within the cap body.

A second embodiment of the invention, as shown in Figs. 3 and 4, comprises a cap body 15 provided with internal threads 16 for engaging the threads 3 of a bottle 4. In this case, the upper portion of the cap is provided with a channel shaped groove 17 having a bottom wall 18 and two side walls 19 and 20. This groove 17 extends across the entire width of the cap. Each of the walls 19 and 20 are provided with grooves 21 and, closer to one end of the groove than the other are provided two cylindrical recesses 22. Positioned in the groove 17 is an arm 23 which is provided with laterally extending pins 24 at its one end which engage the cylindrical recesses 22 in the channel walls. These pins 24 engaged with the recesses 22 provide a pivot or hinge for the arm 23. In order to permit the assembling of these pins 24 into the recesses 22, the arm 23 is split for a portion of its length to provide an opening 25 between two arm portions 26. This split permits the arm portions 26 to be deflected toward each other to enable the pins 24 to be assembled into the recesses 22. In addition, each outer edge of the arm portions 26 is provided with a longitudinally tapered tongue 27 which normally engages the grooves 21 in the side walls of the channel 17. These tongues 27 engage the grooves 21 when the arm 23 is in a retracted position as well as when in an extended position as shown by phantom lines 28 in Fig. 4. The taper on these tongues 27 facilitates their removal from the grooves 21 when moving the handle from one position to another. The opening 25, as well as permitting assembly of the pins 24 into the recesses 22, also permits deflection of the arm portions 26 to permit the tongues 27 to be alternately removed and reinserted into the grooves 21 as the arm 23 is alternately moved from its retracted position as shown in bold outline to its extended position as shown in phantom lines in Fig. 4. To enable the arm

23 to be conveniently removed from its retracted position, its outer end 29 protrudes a slight distance beyond the peripheral wall 30 of the bottle cap so that it can be conveniently engaged by a finger or fingernail. As in the case of the first embodiment shown in Figs. 1 and 2, the internal wall of the cap is provided with a shoulder 31 which presses against the rim 32 of the pouring opening of the bottle when the cap is screwed tightly into place on the bottle. Also, graduation marks 33 can be provided on the inside wall of the cap to permit accurate measurement of fluids poured therein. These index marks can be indicated as fractional portions of the total volume of the cap or as teaspoon or tablespoon indications or any other convenient measuring quantities.

A third embodiment of the invention is shown in Figs. 5 and 6, and consists of a bottle cap body 35 provided with a pin 36 protruding vertically from its upper surface adjacent one side of the cap. A flat circular disk 37 is pivoted on this pin 36 and the diameter of the disk is the same as that of the cap body 35. When in storage position, the disk 37 is coincident with the top surface of the cap body 35, while when used as a handle for the cap, it is pivoted on the pin 36 to a position as shown in phantom lines 38. Even though the disk is shown as having a circular shape corresponding to the shape of the cap, it can be shaped as a straight arm.

The pin construction associated with this embodiment is shown particularly in Fig. 6. It is provided with a split 39 which divides the pin into two halves 40. The upper portion of the pin is provided with an outwardly extending flange 41 which is used to engage the upper surface 42 of the disk 37 to retain it in position. The upper portion of the pin is provided with a tapered slope 43 which facilitates assembling of the disk 37 onto the pin as a camming action between the walls of the hole in the disk and this slope causes the pin halves 40 to be deflected toward each other as the disk is forced onto the pin.

The internal structure of the body cap 35 is preferably identical to that as shown for the other two embodiments already mentioned.

As seen for all three embodiments shown, a bottle cap has been provided which can be used for sealing the bottle as well as for a dispensing means in place of a spoon or other measuring device for dispensing accurate amounts of fluid without requiring additional dispensing means.

I claim:

1. A fluid dispensing cap for use on a bottle comprising a cup shaped body for covering the bottle opening and there providing a fluid tight seal and adapted to be removed from the bottle and filled with a measure of fluid from the bottle, said body having a channel extending across the top of it comprising a bottom wall connected between two sides walls, a handle pivoted at one end between said side walls and adapted to be

angularly pivoted between a retracted position substantially recessed within said channel for storage and an extended position extending substantially beyond said channel to adapt the cap as a fluid measuring spoon, said handle being provided with marginal tongues for engaging grooves in said walls for thereby locking the handle in a fixed position relative to the body when the tongues engage the grooves, said grooves extending longitudinally beyond both sides of the pivot region of the handle to enable the handle to be locked in its retracted position when its marginal tongues engage the grooves on one side of the pivot region and to be locked in its extended position when its marginal tongues engage the grooves on the opposite side of the pivot region.

2. A fluid dispensing cap for use on a bottle comprising a cup shaped body for covering the bottle opening and there providing a fluid tight seal and adapted to be removed from the bottle and filled with a measure of fluid from the bottle, said body having a channel extending across the top of it comprising a bottom wall connected between two side walls, a handle pivoted at one end between said side walls and adapted to be angularly pivoted between a retracted position substantially recessed within said channel for storage and an extended position extending substantially beyond said channel to adapt the cap as a fluid measuring spoon, said handle being provided with marginal tongues for engaging grooves in said walls for thereby locking the handle in a fixed position relative to the body when the tongues engage the grooves, said grooves extending longitudinally beyond both sides of the pivot region of the handle to enable the handle to be locked in its retracted position when its marginal tongues engage the grooves on one side of the pivot region and to be locked in its extended position when its marginal tongues engage the grooves on the opposite side of the pivot region, said tongues being wide enough in said pivot region to engage said grooves and tapered away from said pivot region to a width too narrow to engage said grooves, said tapering of the tongues facilitating the engagement and disengagement of the tongues with the grooves when the handle is pivoted between the retracted and extended positions.

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