Jan. 7, 1941. K. C. HAMILTON 2,228,111

SPUTUM CUP AND HOLDER

Filed April 21, 1939

Fig. 1.

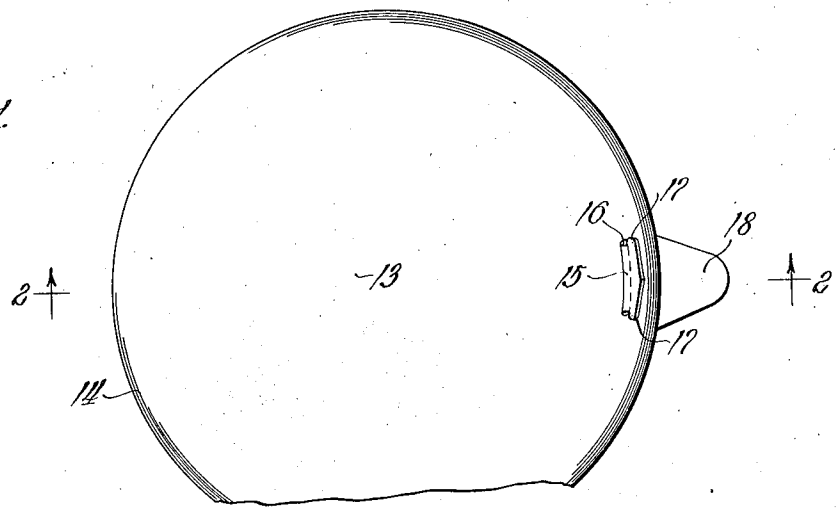


Fig. 2.

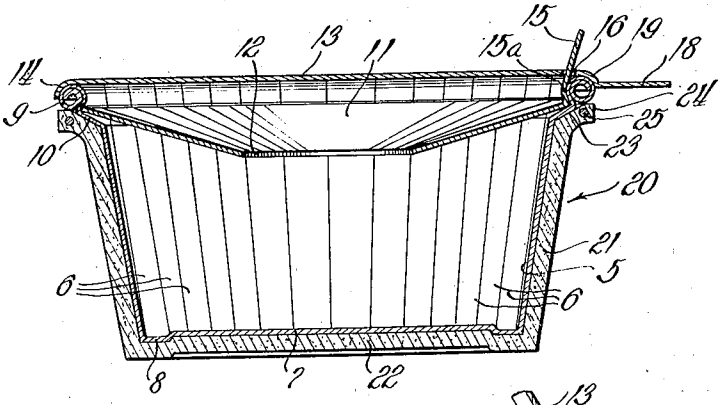
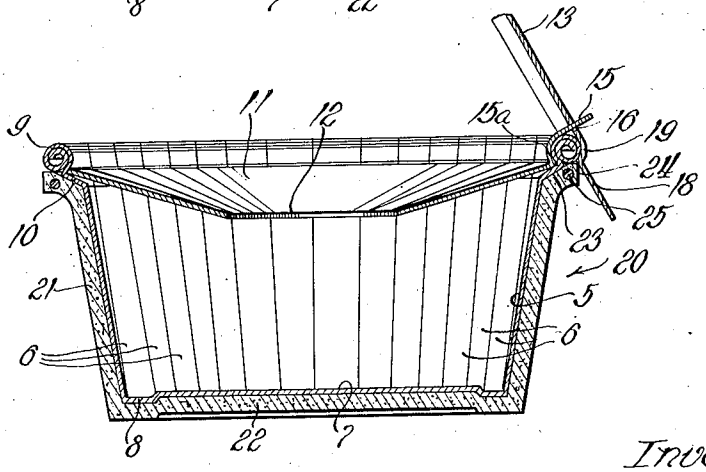


Fig. 3.



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SPUTUM CUP AND HOLDER

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Application April 21, 1939, Serial No. 269,070

1 Claim. (Cl. 4—285)

This invention relates to receptacles, and has to do with sputum cups and analogous devices.

The invention is directed to a sputum cup and a holder therefor so constructed and related that the holder effectively shields and reinforces the cup and the latter, when it is no longer desired to use it, may readily be dislodged from the holder. More specifically, the cup and the holder are of upwardly flaring formation and are provided with cooperating upwardly flaring elements effective for properly positioning the cup within the holder, the latter having a body formed of elastic material sufficiently rigid normally to retain the proper shape of the holder while being distortable by manipulation, for dislodging the cup, the upwardly flaring elements of the cup and the holder cooperating to faciltate dislodgment and discharge of the cup from the holder. Further objects and advantages will appear from the detail description.

In the drawing:

Figure 1 is a plan view, partly broken away, of a sputum cup and holder embodying my invention;

Figure 2 is a sectional view taken substantially on line 2—2 of Figure 1; and

Figure 3 is a sectional view similar to Figure 2 but showing the cover of the cup in raised or open position and partly broken away.

The sputum cup of my invention conveniently is formed of paper, although it may be formed of any other suitable or analogous material. The term "paper," as used herein, is intended to include paper proper or other material suitable for making cups of this character. The cup comprises an upwardly flaring body 5 of substantially inverted frusto-conical shape, formed of paper, as above noted, and provided with lengthwise plaits 6. Bottom wall 7 of the cup is slightly offset upward and is connected to the bottom or lower end of body 5 by an inwardly projecting flange 8. At its upper end or top the cup is provided with an outwardly rolled bead 9 of substantially circular cross section, this bead projecting inward of the cup. Bead 9 is connected to the upper end of body 5 by an element 10 which extends upward and outward from the body being, accordingly, of upwardly flaring formation. An inverted frusto-conical baffle 11 is mounted within the cup, with its upper base seating between bead 9 and element 10 and retained in position thereby. Baffle 11 is provided, through its lower base, with an opening 12 through which spittle is discharged or delivered into the body of the cup. The bead 9, upwardly flaring element 10 and the baffle 11 cooperate to reinforce the upper portion of the cup and resist inward radial distortion thereof, for a purpose which will appear presently.

Preferably, although not necessarily, a cover 13 is provided for closing the top of the cup. This cover has a depending circumferential flange 14 shaped conformably to and engaging over bead 9, when the cover is in the closed position shown in Figure 2. A tab 15, conveniently formed integrally with baffle 11, the latter and the tab being formed of paper or other suitable material possessing appreciable rigidity and resilience, projects upward beyond bead 9 at one side of the cup, this tab contacting the inner portion of the bead at 15a. Tab 15 extends through a slot 16 in cover 13 and is provided at each side, and adjacent its upper end, with a top element 17. The cover 13 is provided with an integral tab 18 extending outward therefrom in substantial alignment horizontally with the tab 15. By pressing down upon tab 18, the cover may be swung into the open position shown in Figure 3, flange 14 of the cover bearing upon and pivoting about bead 9 at 19. During the first portion of its opening movement, cover 13 moves without affecting the tab 15. When the cover contacts the top elements 17, tab 15 is bent outward about the bead 9, as shown in Figure 3, the bead then being subjected, at the area 19 thereof, to appreciable, although not great pressure. The mounting of the cover and the operation and advantages thereof are fully disclosed in my copending application for sputum cup, Serial No. 191,933, filed February 23, 1938, and need not be described here in greater detail.

The cup illustrated and above described is intended for use with a holder 20. This holder comprises an upwardly flaring body 21 of substantially inverted frusto-conical shape, this body being provided with a bottom wall 22, the interior of the body and the upper face of the bottom wall conforming in size and shape to the exterior of the body of the cup and the bottom wall thereof, as will be clear from Figures 2 and 3. At its upper portion body 20 of the holder is provided with an upwardly flaring interior shoulder 23 and, at its top, with an outwardly extending circumferential reinforcing flange 24. A stiffening member 25, preferably a steel or other metal wire, is embedded in flange 24 and imparts desirable rigidity thereto for resisting radial distortion of the top of the holder 20, the upwardly flaring shoulder 23 supplementing flange 24 and element 25, to a certain extent,

for resisting radial deformation of the upper portion of the holder.

The holder 20 is formed of a suitable elastic material, preferably a rubber composition, which possesses sufficient rigidity normally to retain the holder 20 in its proper form for reception of the cup, while being capable of distortion by manipulation, for dislodging and discharging the cup from the holder. Element 10 of the cup is so disposed as to seat upon the upper face of shoulder 23 of the holder, when the cup is positioned within the holder, the latter then serving to shield the body of the cup and restrain it against outward distortion. Preferably, the bead 9 is so disposed that, when the cup is properly positioned within the holder, this bead contacts the upper face of flange 24 which, in conjunction with the stiffening element 25, provides an effective reinforcement preventing downward displacement or distortion of bead 9, at the area 19 thereof, when the cover 13 is opened. Within the broader aspects of my invention, however, the bead 9 may be spaced above flange 24 of the holder, when the cup is properly positioned within the holder, or this bead may, in certain instances, be omitted, as may the cover 13 and the baffle 11.

When it is desired to remove the cup from the holder, that may readily be accomplished by inverting both the cup and the holder and manipulating the body 21 and bottom wall 22 of the holder, thus distorting the latter and also distorting the body of the cup and urging the latter downward or outward relative to the holder. Due to the upwardly flaring shape of the cup and the holder, and the upwardly flaring shoulder 23 of the holder and the upwardly flaring element 10 of the cup, the cup is readily dislodged from the holder when the latter is manipulated and distorted in the manner stated. Such dislodgment of the cup is facilitated by having the upper portion of the holder and the upper portion of the cup so constructed that little or no distortion thereof occurs, during the manual manipulation and distortion of the body and the bottom wall of the holder and corresponding distortion of the body and the bottom wall of the cup. Since neither the upper portion of the cup nor the upper portion of the holder is distorted, the cup is readily dislodged from the holder and discharged therefrom. Preferably both the holder and the cup are of circular cross section, as shown and described, whereby sharp corners or creases such as might interfere with ready dislodgment and discharge of the cup from the holder are avoided, that being conductive to discharge of the cup from the holder with expedition and facility in the manner above stated.

I claim:

In combination, a holder comprising a body provided at its top with an interior upwardly flaring shoulder, a cup formed of paper-like material comprising a body fitting snugly within said holder body and constrained thereby against outward distortion, said cup being provided at its top with a peripheral bead seating upon the top of said holder and with an upwardly flaring element connecting said cup body to said bead and seating upon said shoulder, said bead projecting inward of said cup, an upwardly flaring baffle mounted in said cup with its upper end seating between said bead and said flaring element, a cover for said cup having a depending peripheral flange shaped conformably to and seating on said bead, and hinge connections between said cover and said cup providing for pivoting of said cover on said flange about said bead, the body of said holder being formed of elastic material sufficiently rigid normally to retain its shape and distortable for dislodging said cup from said holder.

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