

# United States Patent

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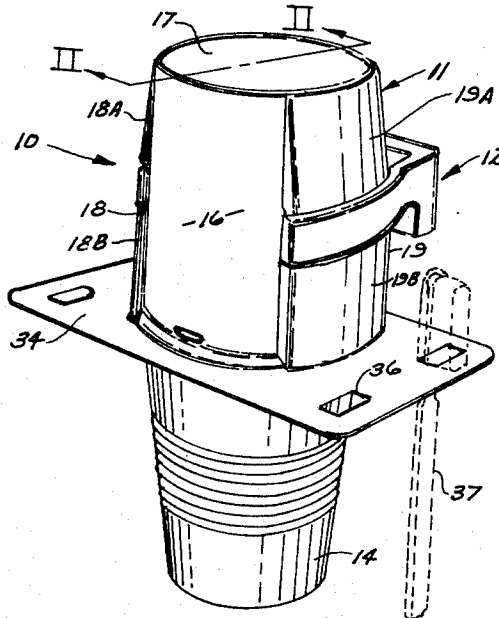
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[54] **CUP DISPENSER**  
**8 Claims, 6 Drawing Figs.**

[52] U.S. Cl. .... **221/63,**  
**206/15.1**  
 [51] Int. Cl. .... **B65h 1/00**  
 [50] Field of Search ..... **221/63,**  
**305, 45; 206/56M, 15.1C**

**ABSTRACT:** An inverted, cup-shaped cup dispenser having recesses in opposite sides of the wall thereof for receiving the spaced legs of a substantially U-shaped bracket for supporting the cup-shaped dispenser upon wall means. The dispenser is made of plastic and has an integral flange near the open, lower edge thereof with a plurality of openings through which the handles of toothbrushes can be received.



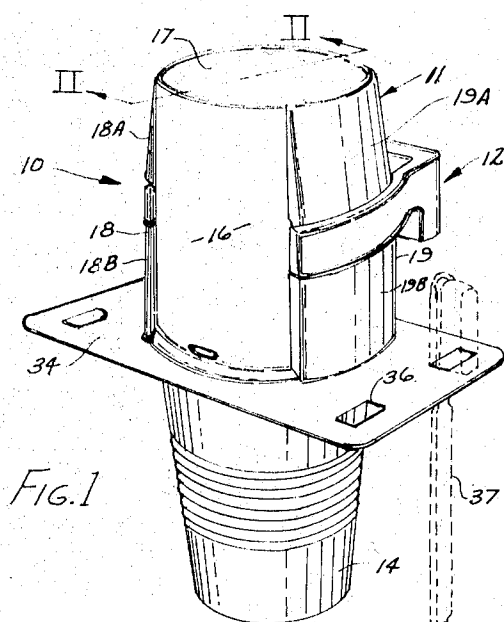


FIG. 1

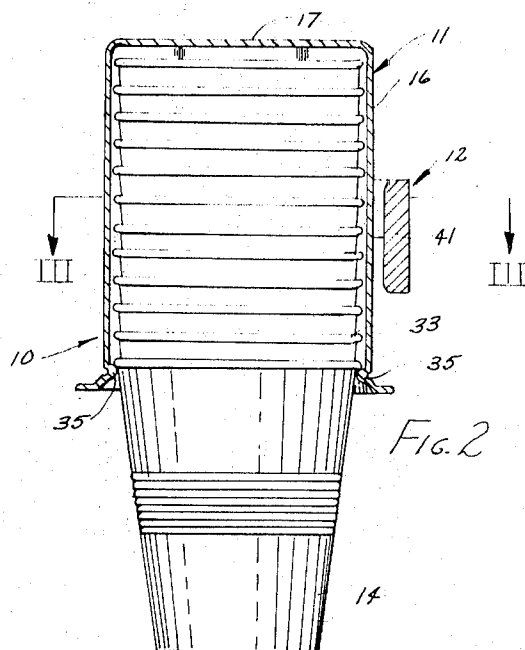


FIG. 2

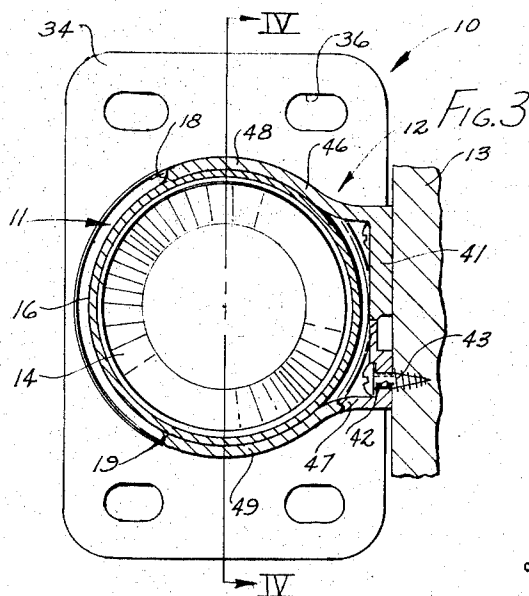


FIG. 3

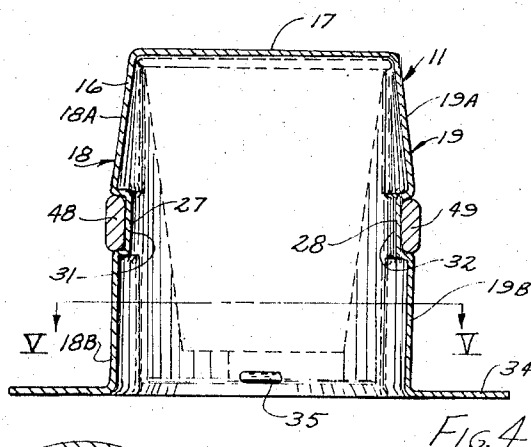


FIG. 4

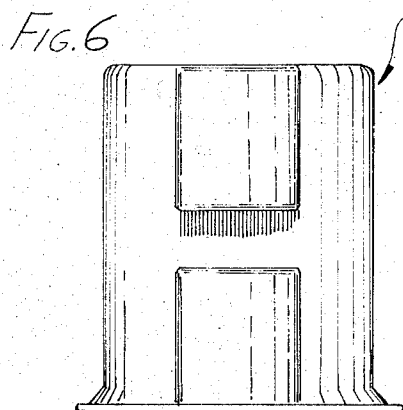


FIG. 6

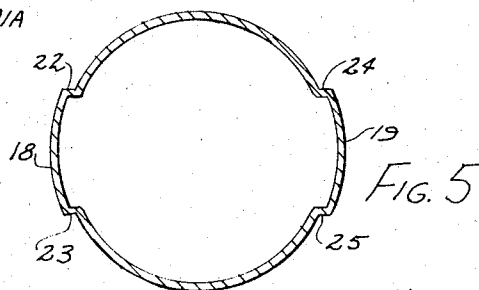


FIG. 5

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## CUP DISPENSER

## FIELD OF THE INVENTION

This invention relates in general to a device for dispensing containers, such as nested disposable cups and, more particularly, to an expendable cup dispenser having an integral flange with a plurality of openings therein through which the handles of toothbrushes can be inserted.

## BACKGROUND OF THE INVENTION

It is well known that the owners of restaurants and accommodations available for public patronage are constantly confronted with the problem of losses due to breakage and theft. In particular, the losses of drinking glasses becomes substantial. Proprietors of such establishments are reluctant to charge their patrons for such losses because it would destroy goodwill, particularly of innocent parties. In order to avoid this problem, efforts have been made to use disposable cups, such as those made from plastic or moistureproof paper. However, patrons would prefer to use such cups as single use containers and, accordingly, the use of such cups is often, if not usually, wasteful. Moreover, the question always arises as to whether a loose, expendable container, such as a plastic cup, has been previously used by persons unknown.

It is also well known that the provision of sanitary means for holding the toothbrushes of guests in overnight accommodations can be a serious problem in public housing or other facilities. A stranger is apprehensive about placing his toothbrush in a permanent holder because such holder may have been contaminated by a prior user, in spite of the best intentions of all persons involved.

In considering these two problems, it occurred to me that both could be solved by a combined, disposable and inexpensive dispenser adapted to hold drinking cups and having an integral flange for supporting toothbrushes. Moreover, the guest, particularly at motels and the like, could be invited to take the dispenser and the remaining cups upon departure, which would create goodwill. Furthermore, the dispenser could carry advertising media, which would accompany the guest, and the prospect of ownership would tend to conserve the use of the cups. That is, since the guest would realize that the cups and dispenser would be his, he would be more likely to use the cups sparingly so that he would have the maximum amount to take away. This result would also reduce the amount of waste material to be disposed of by the proprietor.

Accordingly, a primary object of this invention is the provision of a combined disposable cup dispenser and toothbrush holder capable of holding a plurality of nested cups in position for individual release and for holding a plurality of toothbrushes, such dispenser being arranged so that it can be easily detached from its supporting bracket and replaced with a new, full dispenser.

A further object of this invention is the provision of a dispenser, as aforesaid, which is fabricated from thin, plastic material which is inexpensive, lightweight and durable.

Other objects and purposes of this invention will become apparent to persons familiar with this type of device upon reading the following descriptive material and examining the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an expendable cup-dispensing and toothbrush-holding device embodying the invention.

FIG. 2 is a sectional view taken along the line II-II in FIG. 1.

FIG. 3 is a sectional view taken along the line III-III in FIG. 2.

FIG. 4 is a sectional view taken along the line IV-IV in FIG. 3.

FIG. 5 is a sectional view taken along the line V-V in FIG. 4.

FIG. 6 is a side elevational view of a modified dispenser.

For convenience in description, the terms "upper," "lower," "front," "rear" and words of similar import will have reference to the dispenser and parts thereof as appearing in FIG. 2 in which the front is on the left side of the FIG. The terms "inner," "outer" and derivatives thereof will have reference to the geometric center of the dispensing device.

## SUMMARY OF THE INVENTION

The objects and purposes of the invention, including those set forth above, have been met by providing a dispensing device having a cup-shaped member releasably held in the inverted position by bracket means which can be secured to a wall or other supporting surface. The cup-shaped member has recesses in the sidewalls thereof into which the gripping legs of the bracket means are received. The cup-shaped member also has an integral, radially extending flange means with openings therethrough for receiving the handles of toothbrushes.

## DETAILED DESCRIPTION

The dispensing device 10, a preferred embodiment of which is illustrated in FIG. 1, is comprised of a cup-shaped receptacle 11 which is releasably held in the inverted position by means of the bracket 12 on a supporting surface, such as a wall 13, for the purpose of releasably holding a plurality of containers, such as plastic cups 14. The receptacle 11 is preferably fabricated from thin, inexpensive material, such as polyethylene, and it may be formed in any one of the well-known ways for producing cup-shaped articles from plastic.

The receptacle 11 (FIG. 1) preferably has a substantially cylindrical sidewall 16 and an end wall 17. The sidewall 16 has a pair of diametrically opposed and radially outwardly offset wall portions 18 and 19, which extend lengthwise of the central axis of the sidewall 16. The offset wall portions 18 and 19 (FIG. 5) are connected to the remainder of the sidewall 16 by substantially vertical, parallel and integral flanges 22, 23 and 24, 25, respectively, which are of relatively short dimension transversely of their lengthwise extent. Parallel flanges 22, 23 and 24, 25 may be somewhat narrower at their upper ends than at their lower ends to facilitate forming of the receptacle 11.

The two offset portions have radially inward recesses 27 and 28 (FIG. 4), respectively, preferably about midway between the lengthwise or vertical ends of said portions and extending completely across said portions. The walls 31 and 32 defining the recesses 27 and 28, respectively, preferably and approximately define extensions of the cylindrical sidewall 16 between the upper and lower parts 18A and 18B of the portion 18 and the upper and lower parts 19A and 19B of the portion 19.

The inside diameter of the sidewall 16, at least near the lower open end of the receptacle 11 (FIG. 2), is preferably slightly smaller than the outside diameter of the rim 33 of a cup 14 for the purpose of holding the cups against accidental dislodgment from within the receptacle 11 during normal use and operation. This reduction may be effected by providing the receptacle 11 with inwardly directed, integral projections 35 adjacent the lower open end of the receptacle 11, which projections 35 extend under the rim 33 of the lowermost cup 14 for holding the plurality of cups within the receptacle. The side flanges 22, 23, 24 and 25 of the offset portions 18 and 19 provide radial flexibility in the sidewall 16 to accommodate slight variations or irregularities in the rim diameters of the cups held thereby.

In a preferred embodiment of the invention, a flange 34 is integral with and extends radially from the lower edge of the receptacle 11 and has a plurality of openings 36 therethrough for receiving the handles of toothbrushes 37.

The bracket 12 is substantially U-shaped and has a mounting bar 41 with a pair of openings 42 near the opposite ends thereof for reception of screws 43 for securing the bar 41, and hence the bracket 12, to a supporting surface, such as the wall 13. A pair of spaced gripping legs 46 and 47 are integral with

and extend outwardly in approximately the same direction from the opposite ends of the mounting bar 41. The outer end portions 48 and 49 of the legs 46 and 47, respectively, are arcuately shaped, preferably in the same manner, so that their concave surfaces face each other and define a circle approximately equal to the diameter of the circle defined by the inner walls 31 and 32 of the recesses 27 and 28, respectively. Thus, the receptacle 11 can be snugly but removably held between the curved portions 48 and 49 of the legs 46 and 47.

In normal operation, receptacle 11 is filled with a quantity, such as eight or ten, of containers 14, which may be drinking cups fabricated from paper, plastic or other disposable materials. The drinking cups 14 are nested together and, accordingly, are releasably and frictionally held with respect to each other in the nested position. The rims 33 of the cups 14 are of such a size that the rim on the lowermost cup will be engaged on opposite sides thereof by, and be supported on, the projections 35 near the lower end of the receptacle 11. The inner surface of the receptacle sidewall 16 located between the offset portions 18 and 19 is such that said cups cannot be removed from the dispenser accidentally. That is, the lowermost cup within the receptacle 11 must be physically gripped and moved downwardly in order to dislodge it from its position of support by the projections 35 on the receptacle 11.

While this particular dispenser is considered expendable and can therefore be thrown away after the last cup is removed therefrom, it would be possible to reload the dispenser if desired in the same manner as initially loaded. However, under normal circumstances, the receptacle will serve as part of the package in which the cups are sold, displayed, stored and used. Thus, a new receptacle will be included with the cups when they are purchased as a refill item and, accordingly, there will be no reason to save the receptacle.

In this particular embodiment, the receptacle 11 is designed for a relatively small number of cups or other containers since it is intended that this size of dispenser will be used in motel rooms and the like. The guest will be invited to take the receptacle and remaining cups therein with him when he leaves the motel and, accordingly, both the receptacle 11 and the cups therein can have advertising material printed thereon.

Since the cups will be packaged in the receptacle 11 when received, a high degree of cleanliness can be maintained for the benefit of the users of the cups. Moreover, since the receptacle will be or can be changed each time a new party occupies the living space in which it is used, the chance of contamination from a dirty toothbrush holder is also eliminated. However, even if the receptacle 11 and its attached flange 34 are fabricated from materials which warrant their reuse, it would be a simple matter to remove the receptacle 11 from the bracket 12 and sterilize it before it is reloaded and reused by others. Such a system might be better suited to hospital use, for example, where a somewhat larger dispenser may be desired in order to provide a larger supply of cups.

The same principles of the invention can be used for dispensers in commercial establishments, such as restaurants, offices and the like except that the receptacles would be considerably longer and would not necessarily include a toothbrush holding flange. However, the same type of bracket 12 and cooperating recesses 27 and 28 in the receptacle 11 could be employed.

FIG. 6 illustrates therein a receptacle 11A which is identical to the receptacle 11 illustrated in FIGS. 1-5 except that the receptacle 11A is not provided with an integral toothbrush supporting flange adjacent the lower end thereof. Thus, the receptacle 11A is detachably mountable within a U-shaped bracket 12 in substantially the same manner as illustrated in FIG. 1.

Although particular preferred embodiments of the invention have been described above in detail for illustrative purposes, it will be understood that variations or modifications of such disclosure which lie within the scope of the appended claims are fully contemplated.

I claim:

1. A disposable container dispenser, comprising:

an inverted cup-shaped member formed from a thin plastic material and having a top wall and a tubular sidewall extending downwardly therefrom, said tubular sidewall having a substantially circular cross section of substantially uniform size throughout the length from the lower lip of the cup-shaped member to the top wall thereof;

said cup-shaped member having a downwardly facing opening for receiving a plurality of nested containers therein; and said tubular sidewall having inwardly directed protuberance means adjacent the lower end thereof for releasably holding said containers within said cup-shaped member;

said tubular sidewall including wall means on opposite sides of said cup-shaped member extending lengthwise thereof and projecting radially outwardly from said circular cross section, said wall means having diametrically opposed, radially inward recesses; and

substantially U-shaped bracket means for releasably holding said cup-shaped member and for permitting said cup-shaped member to be separated from said bracket means by movement of said cup-shaped member relative to said bracket means in a direction substantially transverse to the longitudinal axis of said tubular sidewall, said bracket means having a pair of spaced legs arranged with surfaces facing each other and spaced from each other a distance approximately equal to the distance between the innermost parts of said recesses whereby said cup-shaped member can be firmly gripped and releasably held by and between said legs.

2. A container dispenser according to claim 1, wherein said cup-shaped member has a substantially planar flange integral with and extending radially outwardly from the lower edge of said tubular sidewall, said flange having a plurality of openings therethrough for slideably receiving the handle of a toothbrush.

3. A container dispenser according to claim 1, wherein the facing surfaces on said pair of spaced legs are concave, wherein said recesses have bottom surfaces which are convex and adapted to be contacted by said concave surfaces when said cup-shaped member is gripped and held by and between said legs, and wherein said U-shaped bracket means includes a substantially straight base portion adapted to be secured to a supporting surface, said pair of spaced legs being curved and extending outwardly from opposite ends of said base portion.

4. A combined cup dispenser and toothbrush holder, comprising:

an inverted cup-shaped member formed from thin plastic material and having a circular cross section of substantially uniform dimension axially of the member, the minimum inside diameter of said cup-shaped member being slightly smaller near the open end thereof than the maximum outside diameter of the cups nested therein;

wall means on said cup-shaped member defining two pair of spaced projections on substantially diametrically opposite sides of the cup-shaped member and defining a pair of circumferentially aligned recesses;

integral, substantially planar flange means projecting radially outwardly from said cup-shaped member adjacent the lower open end thereof with a plurality of openings therethrough for receiving the handles of toothbrushes; and

substantially U-shaped bracket means having a pair of curved legs having concave surfaces facing each other and being arranged for snug, simultaneous reception within said recesses in said wall means for releasably supporting said cup-shaped member.

5. A disposable container dispenser, comprising:

a one-piece receptacle formed from a thin plastic material and including an inverted cup-shaped portion having an elongated, substantially vertical tubular portion defined by a continuous circumferential sidewall;

said cup-shaped portion further including a cover portion integrally and continuously connected to the sidewall of said tubular portion adjacent the upper end thereof for

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closing the upper end of said tubular portion, the lower end of said tubular portion defining a downwardly facing opening for permitting a plurality of nested containers to be inserted into said cup-shaped portion of said receptacle;

said tubular portion further including protuberance means disposed adjacent the lower end thereof and projecting radially inwardly relative to the inner peripheral surface of said sidewall for releasably holding said plurality of nested containers within said receptacle and for permitting said containers to be dispensed one at a time through said downwardly facing opening, said protuberance means being integral and continuous with said sidewall; and

bracket means adapted to be mounted adjacent a vertical support surface for releasably supporting and holding said receptacle.

6. A container dispenser according to claim 5, wherein said protuberance means comprises an inward radial depression

formed in said sidewall adjacent the lower end thereof whereby said protuberance means and said sidewall have a substantially uniform wall thickness.

7. A container dispenser according to claim 5, wherein said one-piece receptacle further includes a substantially planar flange projecting radially outwardly from said tubular portion adjacent the lower open end thereof, said flange being integral and continuous with the lowermost edge of said tubular portion, and said flange having a plurality of openings therethrough for permitting the handles of toothbrushes to be received therein.

8. A container dispenser according to claim 5, wherein said receptacle has a pair of spaced recesses formed therein, and said bracket means having a pair of spaced projections positionable within said pair of recesses for permitting said bracket means to support said receptacle and for permitting said receptacle to be releasably separated from said bracket means.

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