

[54] CUP DISPENSER

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1968, Pat. No. 3,563,411.

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[58] Field of Search 221/45, 46, 63, 282, 283,
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References Cited

UNITED STATES PATENTS

2,353,365	4/1944	Sanford.....	248/316 D
2,427,416	9/1947	Petersen	248/311
2,450,722	10/1948	Drije	248/311
2,520,538	8/1950	Gilbertsen.....	221/304 X

2,991,910	7/1961	Coe.....	221/63 X
3,261,500	7/1966	McGlynn	221/63
3,389,883	6/1968	Johnson	248/311 X
3,411,665	11/1968	Blum.....	221/307 X

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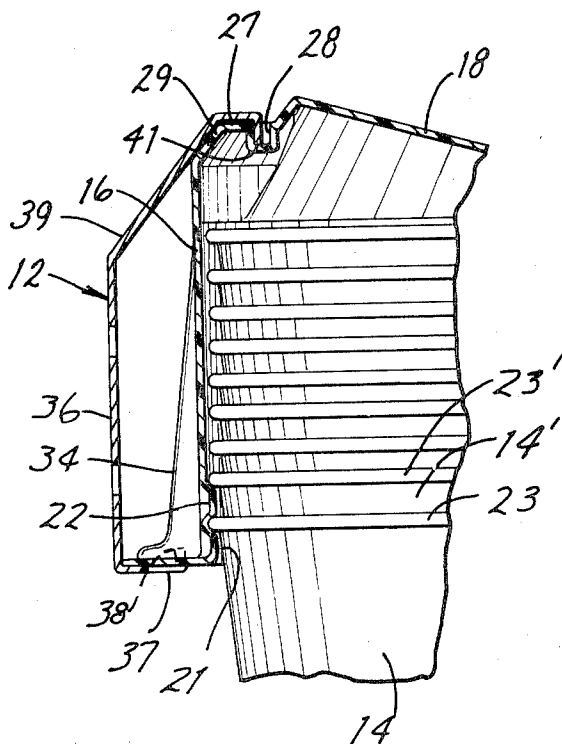
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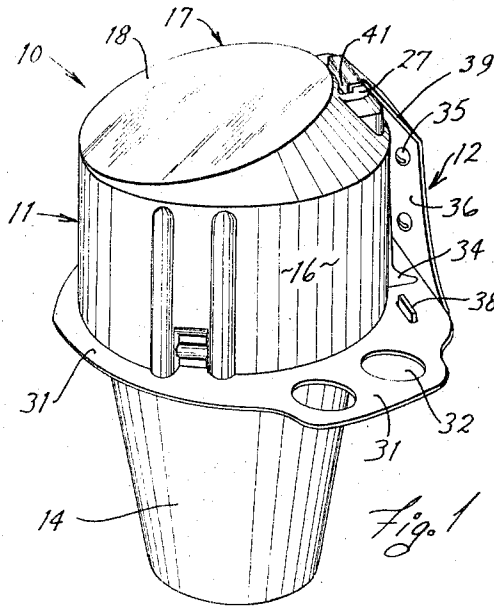
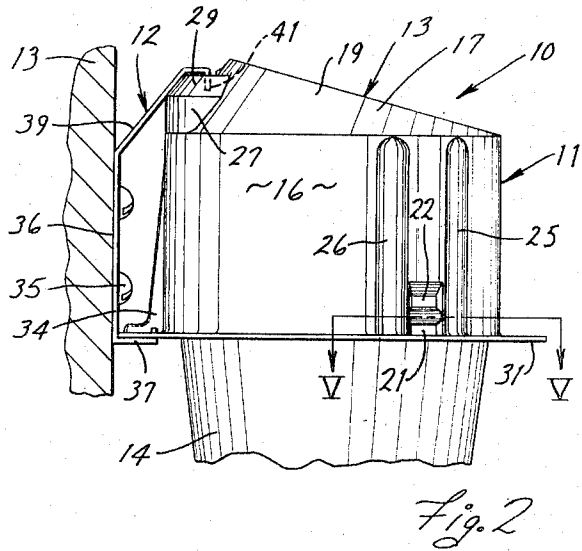
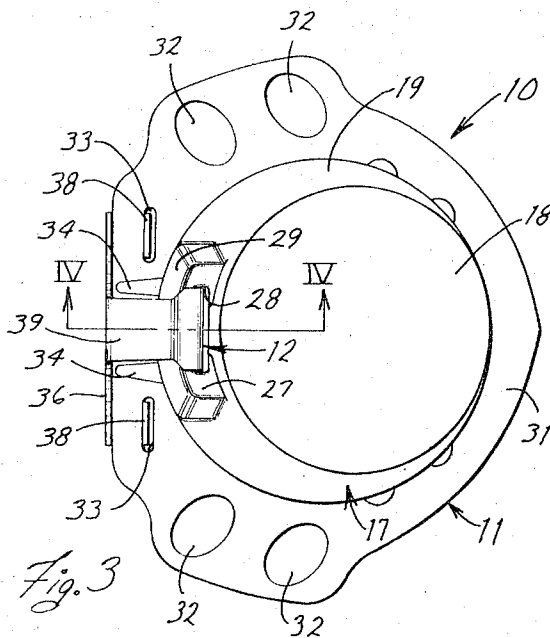
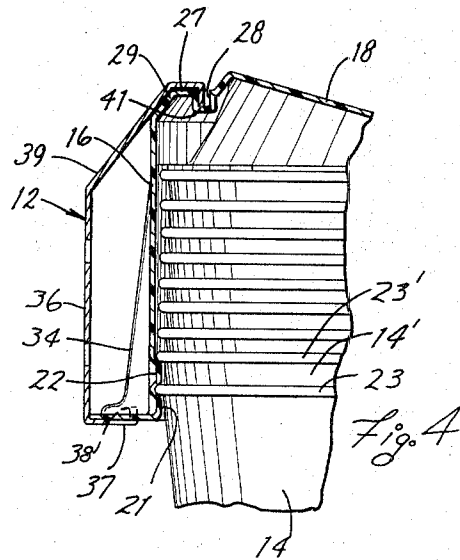
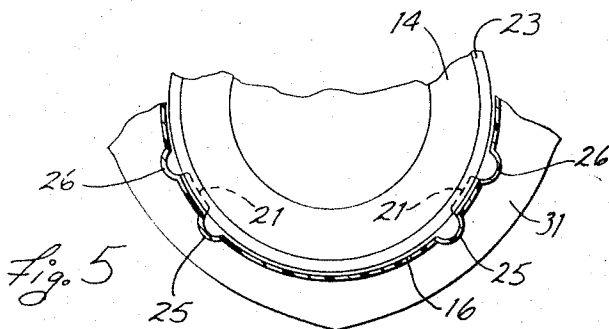
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ABSTRACT

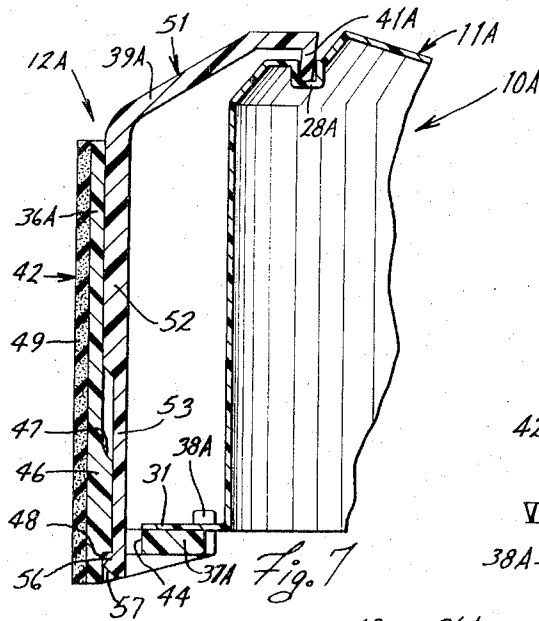
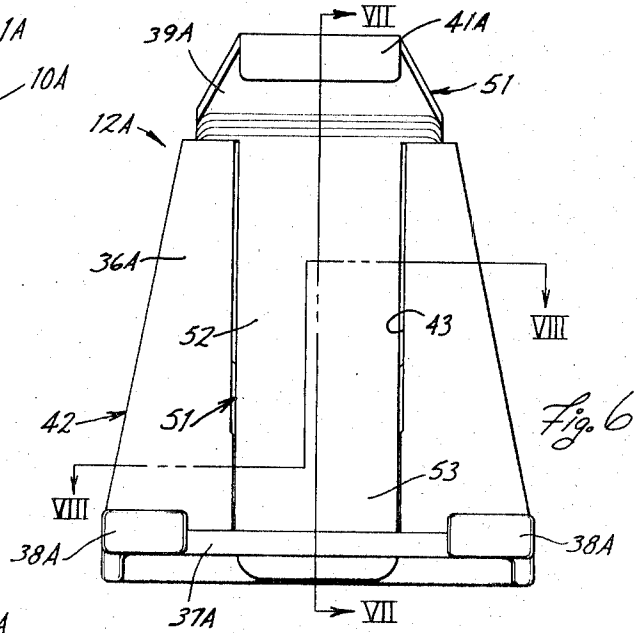
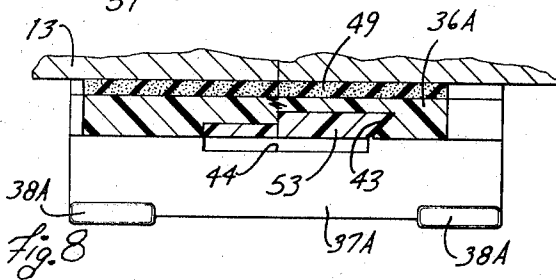
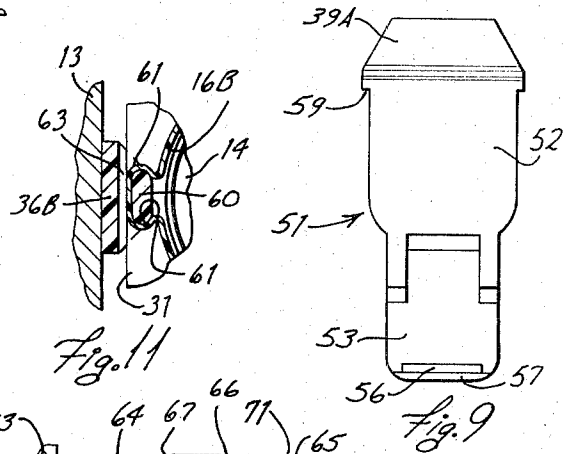
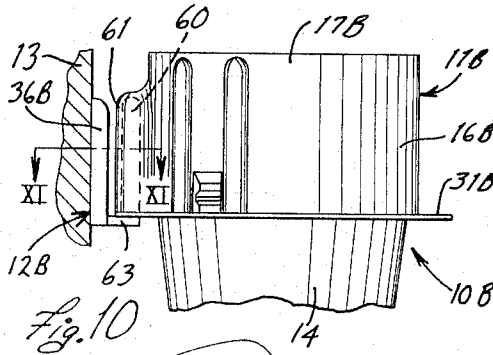
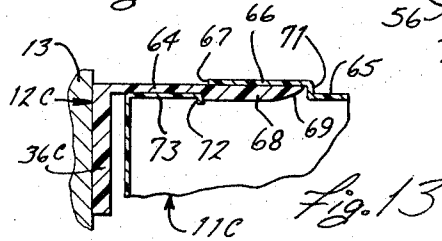
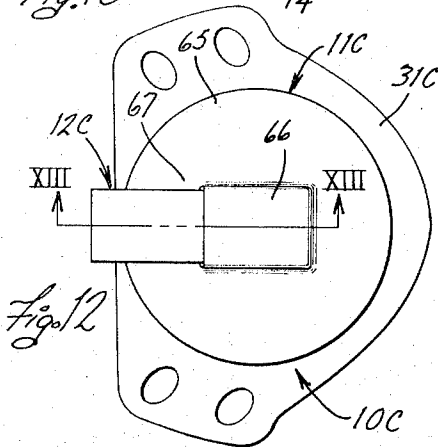
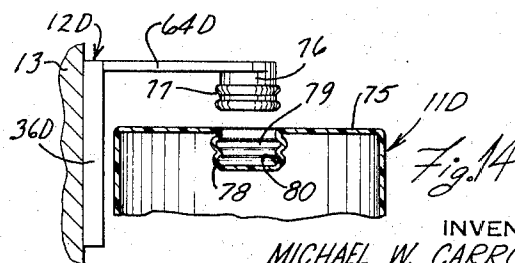
An inverted, cup-shaped cup dispenser is formed from thin plastic having a substantially uniform wall thickness. The dispenser has integral means projecting radially inwardly adjacent the open end thereof for releasably resisting unintentional movement of a plurality of nested cups from within the dispenser. In a preferred embodiment, the dispenser has recess or opening means formed therein for receiving a projecting portion of a bracket for releasably supporting the cup-shaped dispenser upon wall means. Also the dispenser may be provided with an integral flange near the open end thereof having a plurality of openings through which the handles of tooth brushes can extend.

10 Claims, 23 Drawing Figures

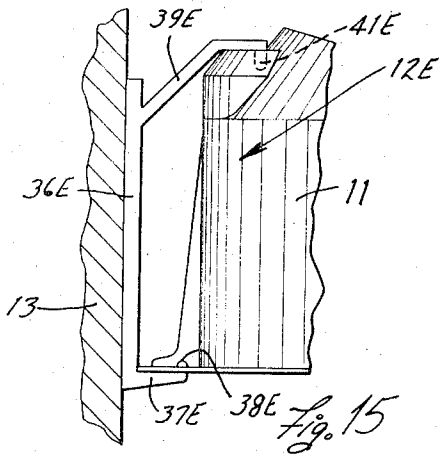
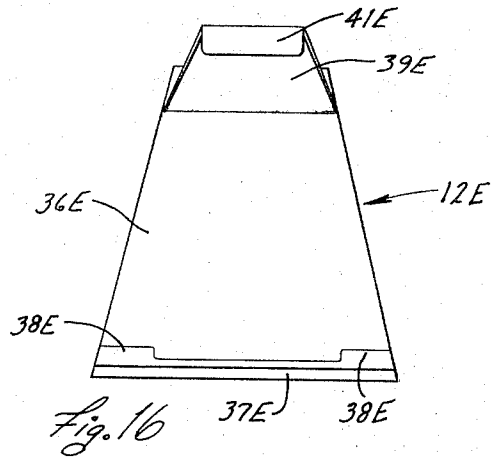
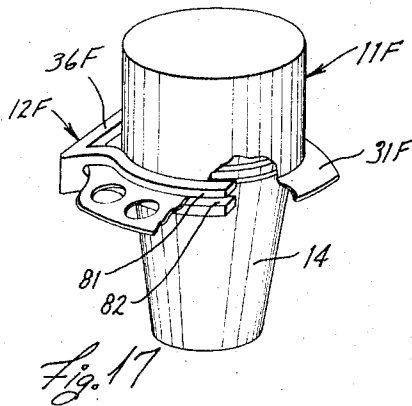
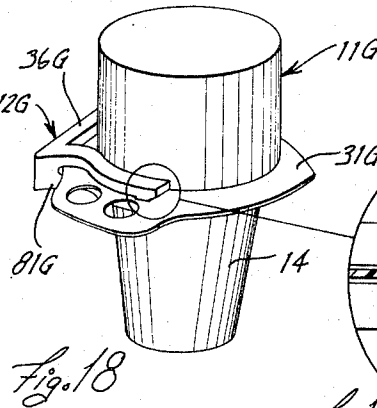
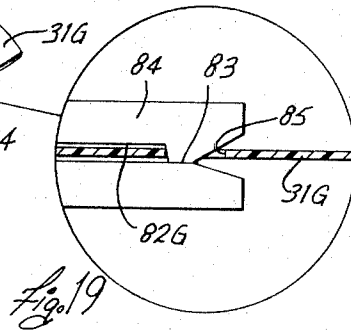
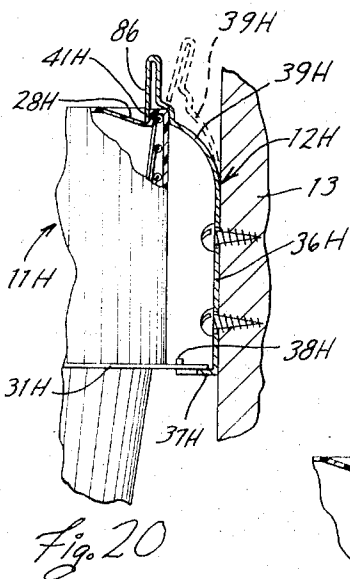
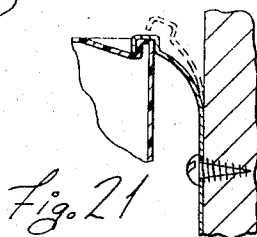
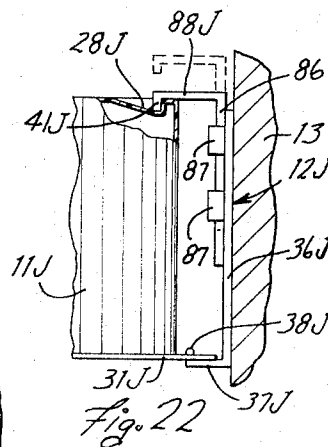
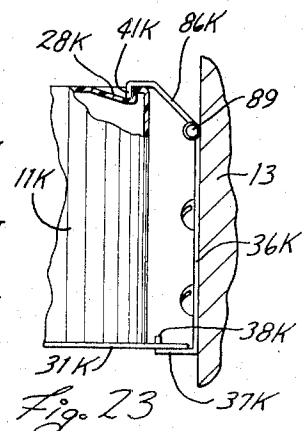




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CUP DISPENSER

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of my prior application Ser. No. 786,938, filed Dec. 26, 1968, and entitled CUP DISPENSER, now U.S. Pat. No. 3,563,411.

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, one piece 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, such as motels and the like, 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.

My aforesaid application Ser. No. 786,938 discloses a dispenser which overcomes the basic problems set forth above. However, in the course of continuing improvement upon the concepts involved, it became apparent that other, related means could be developed to achieve the desired ends, perhaps more effectively.

Accordingly, a primary object of this invention is the provision of a one piece, disposable cup dispenser ca-

pable of holding a plurality of nested cups in position for individual release, such dispenser being formed from thin plastic material of substantially uniform thickness, thereby permitting the formation of the dispenser by extremely economical methods and machines previously developed.

A further object of this invention is the provision of a disposable cup dispenser, as aforesaid, having an integral toothbrush holder capable of holding a plurality of toothbrushes and designed so that the combined cup dispenser and toothbrush holder can be easily and inexpensively replaced.

A further object of this invention is the provision of a dispenser, as aforesaid, which has means for releasable attachment thereof to a wall mounted bracket.

Another object of this invention is the provision of a dispenser, as aforesaid, which includes double projection means disposed adjacent the dispensing end of the dispenser for insuring that the cups are dispensed one at a time.

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 one embodiment of an expendable cup dispensing and toothbrush holding device embodying the invention.

FIG. 2 is a fragment of a side elevational view of the dispensing device illustrated in FIG. 1.

FIG. 3 is a top view of said dispensing device.

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. 2.

FIG. 6 is a front view of a modified mounting bracket for the dispenser illustrated in FIG. 1.

FIG. 7 is a sectional view taken along the line VII—VII in FIG. 6 with the bracket connected to a part of the dispenser illustrated in FIG. 1.

FIG. 8 is a sectional view taken along the line VIII—VIII in FIG. 6.

FIG. 9 is a rear view, on a reduced scale, of the movable portion of the bracket illustrated in FIG. 6.

FIG. 10 is a fragmentary side elevational view of a modified dispensing device and bracket.

FIG. 11 is a sectional view taken along the line XI—XI in FIG. 10.

FIG. 12 is a top view of another modified dispensing device and bracket.

FIG. 13 is a sectional view taken along the line XIII—XIII in FIG. 12.

FIG. 14 is a fragmentary, central cross-sectional view of a further modification of the dispensing device.

FIGS. 15 and 16 are side and front views of a modified bracket structure.

FIG. 17 is a perspective view of another modification of the dispensing device.

FIG. 18 is a perspective view of still another modification of the dispensing device.

FIG. 19 is a fragmentary enlargement of the circled portion of FIG. 18.

FIGS. 20—23 are fragmentary elevational views, partially in section, of further modified dispensing devices and particularly the support brackets.

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 FIGS. 2 and 10 in which the front is on the right side of the figure. The terms "inner," "outer" and derivatives thereof will have reference to the geometric center of the dispensing device and parts thereof.

SUMMARY OF THE INVENTION

The objects and purposes of the invention, including those set forth above, have been met by providing a dispensing device constructed entirely from a thin sheet of plastic material and having a cup-shaped member which may be releasably held in an inverted position by bracket means which can be secured to a wall or other support surface. The cup-shaped member preferably has at least one opening or recess in the wall thereof in which a projecting portion of the bracket means is received. The cup-shaped member also preferably has an integral, radially extending flange means with openings through which the handles of toothbrushes can extend.

DETAILED DESCRIPTION

The dispensing device 10, which is illustrated in FIGS. 1 through 5, is comprised of a cup-shaped receptacle 11 which in one embodiment is releasably held in the inverted position by means of a bracket 12 on a supporting surface, such as a wall 13, for the purpose of releasably holding a plurality of nested containers, such as plastic cups 14. The receptacle 11 is preferably fabricated by thermal forming from a thin sheet of inexpensive plastic material, such as polyethylene or high impact styrene.

The receptacle 11 preferably has a substantially cylindrical sidewall 16 and a top wall 17. The top wall 17 includes a substantially annular and circular portion 18 which is disposed at an acute angle relative to the axis of the tubular sidewall 16. The top wall 17 also includes a tapered annular portion 19 integral with and extending between the portion 18 and the upper edge of the tubular sidewall 16.

To retain the nested cups 14 within the cup-shaped receptacle 11, the sidewall 16 is provided with inwardly directed, plural pairs of integral projections 21 and 22 (FIG. 4) adjacent the lower open end of the receptacle, the projections in each pair being axially spaced one above the other as illustrated in FIG. 4. In the preferred embodiment, there are three pairs of projections substantially uniformly spaced around the periphery of the sidewall 16 adjacent the open end thereof. The projections 21 and 22 define a clearance space or opening having a diameter slightly smaller than the outside diameter of the rim 23 of the cups 14 for the purpose of preventing accidental dislodgement of said cups from within the receptacle 11 during normal use and operation. The inside diameter of the cylindrical sidewall 16, above the projection 22, is preferably slightly greater than the outside diameter of the cup rim 23 so that the cups can be freely moved upwardly or downwardly within the dispenser after the rims 23 pass the projections 21 and 22. The projections 21 and 22 are preferably formed during the molding operation by projections in the sidewall of the mold, not shown, and have substantially the same thickness as said sidewall 16.

The sidewall 16 of the receptacle 11 is also preferably provided with two pairs of vertical stiffening ribs 27 and 28 disposed on opposite circumferential sides of two pairs of recesses 21 and 22. The ribs 27 and 28 are also formed in the cylindrical sidewall 16 during the molding operation and, thus, have a substantially uniform wall thickness along with the cylindrical sidewall 16.

The top wall 17 of the receptacle 11 has a projection 27 which is integral with, and extends rearwardly from, the tapered annular portion 19. The projection 27 extends to the periphery of the sidewall 16 and has through its upper surface a downwardly extending opening or recess 28 therein. The upper rear edge of the projection 27 is sloped at 29 for coaction with the bracket 12 in a manner to be described hereinafter.

The illustrated embodiment of the dispenser also includes an integral flange 31 extending radially outwardly from the lower edge of the receptacle 11. The flange 31 has a plurality of openings 32 therethrough for receiving the handles of toothbrushes. The rearward part of the flange 31 is provided with a pair of spaced openings 33 through which parts of the bracket 12 extend to releasably support the receptacle 11 on the bracket. Integral, spaced stiffening flanges 34 are preferably formed in the sidewall 16 and the flange 31 between the openings 33.

While the receptacle 11, as described above and as illustrated in some of the drawings, may be provided with a toothbrush support flange 31, it will be readily appreciated that the toothbrush flange 31 can be readily eliminated in those situations where such a toothbrush support flange is not desired, without departing from the desirable structure of the receptacle 11 and the manner in which it coacts with the bracket 12. In this situation, the receptacle 11 would still preferably be provided with a partial flange extending from one side thereof, which flange would have the necessary opening or openings for reception of the mounting tabs provided on the support bracket.

The bracket 12 comprises a mounting plate 36, which is adapted to be secured to a wall 13 by screws 35 which extend through openings 37 in said mounting plate. The bracket 12 has an integral bottom flange 37 extending forwardly therefrom which flange has a pair of spaced, upwardly extending tabs 38 integral with its free edge. The tabs 38 are adapted to extend into and through the openings 33 provided in the receptacle flange 31.

The bracket 12 is also provided with a stiff but resiliently flexible arm 39 integral with the upper edge of the mounting plate 36. The arm 39 extends forwardly and upwardly at an acute angle relative to the adjacent support wall 13 and has a downwardly extending tab 41 adjacent its free end adapted to be disposed within the opening or recess 28 when the tabs 38 are within the openings 33.

When the receptacle 11 is to be mounted on the bracket 12, the receptacle 11 is initially positioned so that the two lower tabs 38 extend through the openings 33 formed in the receptacle flange 31. The upper end of the receptacle 11 is then moved toward the bracket 12 until the upper tab 41 of the bracket engages the sloped surface 29. The upper portion of the receptacle 11 is then urged toward the wall 13, which causes the upper arm 39 of the bracket to be resiliently deflected upwardly toward the wall whereby the tab 41 rides up

the slope 29 until it moves onto the upper surface of the projection 27 after which the tab 41 then resiliently snaps into the opening or recess 28. Thus, the receptacle 11 is securely but releasably supported upon and by the bracket 12.

When it is desired to remove the receptacle 11 from the bracket 12, the receptacle 11 is initially lifted upwardly which causes the upper arm 39 of the bracket to be resiliently deflected upwardly. When the receptacle is lifted upwardly a sufficient distance the lower tabs 38 will be withdrawn from the openings 33 formed in the receptacle flange 31. The lower portion of the receptacle 11 is then manually moved outwardly away from the wall 13 until the lower flange 31 is clear of the tabs 38. The receptacle 11 can then be lowered to withdraw the upper tab 41 from the recess 28.

The bracket 12 is preferably fabricated from a sheet-like material, such as metal spring stock, so that it possesses the necessary resiliency but is still relatively stiff. However, the bracket could also be formed from a plastic material, if so desired.

OPERATION

In normal operation, receptacle 11 is filled with a quantity of containers 14, which may be drinking cups fabricated from paper, plastic or other preferably 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 of the cups 14 are of such a size that the rim 23 of the lowermost cup will overlie the lower projections 21 and will be engaged by, and supported on, the projections 21. In a similar manner, the rim 23' of the next lowermost cup 14' will be disposed closely adjacent and overlie and upper projections 22. The lowermost cup 14 is thus supported by the projections 21 and must be physically gripped and moved downwardly in order to dislodge it from its position of support on the projections 21. The gripping of rim 23' by the upper projections 22 is such that the frictional engagement between the two lowermost cups will be released before the rim 23' is moved downwardly past the projections 22 when the lowermost cup is removed from the dispenser. However, even if the rim 23' is moved downwardly past the projections 22, it will still be held within the receptacle 11 by the lower projections 21 in most instances. Nevertheless, even if two or more cups stick together and are removed at the same time, the excess cups can be quickly and easily reinserted into the receptacle.

MODIFICATIONS

FIGS. 6 through 23 illustrate several modifications of the present invention, which modifications contain many parts which are structurally and functionally the same as or similar to the parts of the embodiment shown in FIGS. 1 through 5 and described above. Parts or components of the modified embodiments of the invention will be referred to by the same reference numerals designating corresponding parts of the above described embodiment of the invention but with the suffix A, B, C, D, E, F, G, H, J or K added thereto.

FIGS. 6 through 9 illustrate a dispensing device 10A having a modified bracket structure 12A which is geometrically similar to the bracket structure 12 described above. The bracket 12A has a two-piece, plastic construction. Specifically, the bracket 12A includes a base

member 42 having a mounting plate 36A adapted to be secured to a supporting wall 13 by means of an adhesive 49 on the rear side thereof. The mounting plate 36A is provided with an integral bottom flange 37A having a pair of upwardly extending tabs 38A secured thereto. The tabs 38A are adapted to extend through openings (such as openings 33) formed in the receptacle flange 31.

The front side of the mounting plate 36A is provided with an upright, undercut slot 43 extending longitudinally thereof, which slot is aligned with an opening 44 extending through the bottom flange 37A. A forwardly projecting abutment 46 (FIG. 7) extends across the slot 43 adjacent the lower end thereof. Said abutment has a tapered upper edge 47 and a lower shoulder 48 which is perpendicular to the plate 36A.

The bracket 12A also includes a clamping member 51 which is preferably constructed of polypropylene and which includes a slide member 52 slidably disposed within the slot 43. An upwardly and forwardly extending resilient arm 39A is integral with the upper end of the slide member 52 and has a downwardly extending tab 41A adjacent the free end thereof for insertion into the cavity or opening 28A formed in the top of the projection 27 on the receptacle 11. The clamping member 51 includes a tongue 53 integral with and extending downwardly from the slide member 52. The tongue 53 is of reduced thickness, so that it is relatively flexible, and it is adapted to slide through the opening 44.

A locking flange 56 is integral with the lower end of the tongue 53 and is adapted to extend below the top shoulder 48 (FIG. 7) for locking engagement therewith. The lower side of flange 56 has a sloped surface 57 which is adapted to coact with the tapered surface 47 for deflecting the lower end of the tongue 53 when the slide member 52 is moved downwardly in the groove 43. The lower end of tongue 53 is resiliently moved back into a position adjacent the abutment 46 after the flange 56 passes below the shoulder 48. The shoulders 59 of the slide member 52 abut against the upper edge of the mounting plate 36A for limiting the downward movement of the member 51 relative to the base member 42.

The bracket 12A permits engagement or disengagement of a receptacle 11A, which may be identical to receptacle 11, in the same manner as described above relative to the embodiment disclosed in FIGS. 1-5.

FIGS. 10 and 11 illustrate a modified dispensing device 10B which utilizes both a modified receptacle 11B and a modified bracket 12B. The receptacle 11B has a substantially flat top wall 17B and a cylindrical sidewall 16B which has an integral, outward projection 61 extending axially along the sidewall 16B. The projection 61 defines a lengthwise groove 62 preferably of noncircular cross-section, the lower end of the groove 62 being open.

The bracket 12B includes a mounting plate 36B which is adapted to be secured to the wall 13 in any conventional manner, as by bolts or by a pressure-type adhesive. A flange 63 is integral with and extends forwardly from the lower edge of the plate 36B. A pin 60 of noncircular cross-section extends upwardly from flange 63 and is adapted to extend snugly into the groove 62 defined by the projection 61 for mounting the receptacle 11B on the bracket 12B. The bracket 12B could, if necessary, be provided with two or more pins 60 for securing the receptacle.

Another embodiment of the present invention is illustrated in FIGS. 12 and 13 which discloses a mounting bracket 12C adapted to cooperate with an inverted cup-shaped receptacle 11C. The mounting bracket 12C includes a mounting plate 36C adapted to be secured to a wall 13 in a conventional manner. A mounting arm 64 is fixedly, here integrally, connected to the upper edge of the plate 36C and extends outwardly therefrom for connection to the top wall 65 of the receptacle 11C.

The top wall 65 of receptacle 11C is substantially flat except for the central raised portion 66, which is preferably integrally connected to the top wall 65 on three sides thereof. The fourth side of the raised portion 66 is spaced from the top wall 65 so as to define an elongated slot 67, through which the bracket arm 64 can extend while being parallel with and adjacent to said top wall 65.

The forward end portion 68 of the arm 64 has a thickness slightly greater than the height of the opening 67. Thus, when the portion 68 is inserted into the slot 67, the tapered nose 69 thereof causes a wedging action which deflects the raised portion 66 and/or adjacent part 73 of wall 65 apart so that the end portion 68 can pass through the slot 67. The end portion 68 is then pushed through the slot 67 until the forward end thereof abuts the front end 71 of the raised portion 66. In this position, the rear shoulder 72 on the end portion 68 will be disposed adjacent to and abut the front edge of the part 73 the top wall adjacent slot 67. This locking engagement between the bracket 12C and the receptacle 11C will thus firmly but releasably support the receptacle in a suspended vertical position.

FIG. 14 illustrates a modified bracket 12D adapted to releasably support an inverted cup-shaped receptacle 11D. The bracket 12D includes a mounting plate 36D adapted to be connected to a wall 13 in a conventional manner. A mounting arm 64D is integrally connected to and extends outwardly from the upper edge of the plate 36D. The arm 64D has a downwardly projecting plug 76 secured to its forward end, and said plug is provided with a plurality of coaxial, annular ribs 77.

The receptacle 11D has a top wall 75 with a downwardly offset central portion 78 defining an upwardly opening recess 79 in the top wall 75 for snug reception of the plug 76. The portion 78 preferably has annular, coaxial grooves 80 which open into the recess 79 and effect a releasable gripping with the ribs 77. The receptacle 11D is suspended from the bracket structure 12D by pushing the receptacle 11D upwardly such that the plug 76 is releasably and resiliently engaged within the recess 79.

A further variation of the structure illustrated in FIG. 14 would involve the use of a threaded connection between the bracket 12D and the receptacle 11D. For example, the projecting plug 76 could be provided with a threaded periphery, and the receptacle wall portion 78 could likewise be provided with an internal thread for permitting the receptacle 11D to be screwed onto the bracket 12D.

FIGS. 15 and 16 illustrate a further bracket 12E which is structurally and functionally similar to the brackets 12 and 12A, as described above. However, the bracket 12E is of a one-piece construction similar to the bracket 12 described above, but is constructed of plastic, preferably polypropylene, and is thus similar to

the bracket 12A described above. The bracket 12E specifically includes a mounting plate 36E which is adapted to be secured to the wall 13 by a suitable pressure adhesive. An integral bottom flange 37E extends forwardly from the lower edge of the mounting plate 36E and is provided with a pair of spaced, upwardly extending tabs 38E integral with the free edge of the bottom flange 37E. The bracket also has an upwardly and inwardly inclined flexible arm 39E integrally connected to the mounting plate 36E adjacent to but spaced downwardly a slight distance from the upper edge thereof, which arm 39E is also provided with a downwardly extending tab 41E adjacent its free end. The tabs 41E and 38E are adapted to coact with the openings or recesses formed within the receptacle 11 in the same manner as described above with respect to the embodiments illustrated in FIGS. 1-9. Further, the receptacle is mounted on and removed from the bracket 12E in the same manner as described above.

FIG. 17 illustrates a further embodiment of the present invention wherein the receptacle 11F, in which there is removably disposed a plurality of cups 14, is adapted to be removably mounted on a wall support bracket 12F. The wall support bracket 12F is of a generally U-shaped configuration and includes a wall or base support portion 36F which is adapted to be secured to a wall by any conventional means, such as screws or an adhesive. The bracket 12F also includes a pair of elongated arms 81 (only one shown in FIG. 17 for purposes of illustration), which arms 81 extend outwardly from the opposite ends of the wall support portion 36F and are adapted to be disposed in diametrically opposite sides of the receptacle 11F. The elongated arms 81 are each provided with an elongated slot 82 extending longitudinally thereof so that the arms 81 have a bifurcated or fork-like configuration, whereupon the receptacle 11F can thus be removably supported on the bracket 12F by means of the toothbrush support flange 31F being slideably inserted into the slots 82. The bracket 12F can be constructed of either metal or plastic, but construction of plastic is preferred since the bracket can thus be easily formed in one piece.

FIGS. 18 and 19 illustrate therein another embodiment of the invention which is similar to FIG. 17 in that the receptacle 11G is supported upon a substantially U-shaped bracket 12G having a wall support portion 36G which can be suitably secured to a wall or support surface in any conventional manner, as by screws or a pressure adhesive. The bracket 12G also includes a pair of arms 81G having elongated slots 82G formed therein for permitting the arms to slideably engage the toothbrush support flange 31G on substantially diametrically opposite sides of the receptacle 11G. However, the arms 82G are further provided with a downwardly extending tab 83 (FIG. 19) adjacent the free end of the upper arm portion 84, which tab is adapted to extend through an opening 85 formed in the flange 31G for locking the receptacle 11G to the bracket 12G. The bracket 12G is preferably constructed of plastic so that the upper arm portions 84 will possess sufficient resiliency to enable the upper arm portions 84 to deflect when the bracket 31G is slideably inserted between the arm portions, whereupon the tabs 83 will then snap into the openings 85. The tabs 83 are, as illustrated in FIG. 19, preferably provided with inclined camming sur-

faces on the opposite sides thereof to facilitate the insertion or removal of the flange 31G.

FIG. 20 illustrates therein another bracket 12H which is adapted to cooperate with and releasably mount the receptacle 11H. The bracket 12H is of a one-piece construction similar to the brackets 12 and 12E described above and is constructed from a thick sheet-like resilient material, such as spring metal or plastic. The bracket 12H again includes a support portion 36H adapted to be secured to the wall 13 and a lower flange 37H having mounting tabs 38H projecting upwardly through openings formed in the receptacle flange 31H. The bracket also has a resilient upper arm 39H having a tab 41H formed on the free end thereof adapted to extend into an opening or recess 28H formed in the top wall of the receptacle 11H. The receptacle, in this illustrated embodiment, is provided with a substantially flat or transverse top wall in which is formed the recess 28H. The free end of the arm 39H is also provided with an upwardly extending tab 86 which is sized to permit a thumb to be disposed in engagement therewith, whereupon the tab 86 can thus be manually pressed inwardly toward the wall to cause the arm 36H to deflect into the position illustrated by dotted lines in FIG. 20, thereby permitting the receptacle 11H to be easily mounted on or removed from the bracket.

Alternately, the bracket 12H can be constructed without a thumb tab thereon, in which case the bracket would be constructed to coact with the receptacle substantially in the same manner as illustrated in FIG. 21.

FIGS. 22 and 23 illustrate therein still further bracket constructions which are useable with a receptacle having a flat top substantially like the receptacle 11H illustrated in FIG. 20. The bracket 12J illustrated in FIG. 22 includes a support portion 36J which is fixedly securable to a wall 13 and has a lower flange 37J having tabs 38J on the free edge thereof adapted to extend through the receptacle flange 31J. The bracket also includes an upper portion 86 which is slideably mounted on the support portion 36J by means of the guide tabs 87 which are integrally connected to the support portion 36J. The upper portion 86 includes a forwardly extending arm 88 which has a downwardly directing tab 41J on the free end thereof adapted to extend into the opening or recess 28J formed in the top wall of the receptacle 11J. The receptacle 11J is mounted on the bracket 12J by first mounting the flange 31J over the tabs 38J, whereupon the upper bracket portion 86 is then slideably moved downwardly from its dotted line position until the flange 41J is disposed within the opening 28J. The receptacle is removed in a reverse manner, namely by pulling the upper bracket portion 86 upwardly to release the receptacle.

The bracket construction 12K illustrated in FIG. 23 is somewhat similar to the bracket 12J in that it includes a support bracket portion 36K secured to the wall 13 and having upwardly extending tabs 38K which extend through openings in the receptacle flange 31K. The bracket also includes an upper portion 86K which is connected to the support portion 36K by means of a hinge 89. The upper portion 86K also extends inwardly and has a tab 41K on the free end thereof which is adapted to be received within the recess or opening 28K formed in the upper wall of the receptacle 11K. The receptacle is mounted on or removed from the

bracket 36K by pivotally swinging the upper bracket portion 86K toward or away from the receptacle so that the tab 41K will be disposed within or removed from the opening 28K. A suitable torsion spring or other resilient device can be associated with the hinge 89 if desired to bias the bracket portion 86K into engagement with the receptacle.

The brackets illustrated in FIGS. 22 and 23 can both be constructed from relatively rigid, nonresilient materials since these bracket structures utilize slideable and/or pivotal connections for permitting relative movement between the bracket and the supporting wall to enable the receptacle to be mounted on or removed from the bracket.

While all of the above-described embodiments of the invention have utilized a separate bracket for permitting the receptacle to be fixedly secured relative to a supporting surface, such as a wall, it should be apparent that the cup dispenser of the present invention, whether provided with or without a toothbrush support flange, could also be secured to a wall or support surface without requiring the use of a separate or independent bracket. For example, the receptacle constructed according to the present invention, such as the receptacle 11, could be provided with an adhesive strip secured directly to the back portion thereof, which adhesive strip would then permit the receptacle to be mounted directly to a support surface without requiring the use of a separate mounting bracket.

In all of the above described embodiments, the inverted cup-shaped receptacle is preferably constructed by thermal forming from a thin sheet of plastic material and is of substantially uniform wall thickness throughout. For example, considering the embodiment illustrated in FIGS. 1-5, the cylindrical sidewall 16, the projection 27, the projections 21 and 22, the flange 31 and the stiffening ribs 34 are of substantially uniform thickness whereby the entire inverted cup-shaped receptacle thus constitutes one continuous member having a minimum amount of material therein to minimize cost and weight.

While the disclosed receptacle is considered expendable and can therefore be thrown away after the last cup is removed, it would be possible to reload the receptacle if desired in the same manner as initially loaded. Under normal circumstances, the receptacle will serve as part of the package in which the cups are shipped, sold, displayed, stored and/or used. Thus, a new receptacle will be furnished with the cups when they are purchased, even as a refill item. However, the disclosed brackets will remain where mounted for repeated use with refill receptacles.

The receptacle is generally 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. Moreover, the guest will be invited to take the receptacle and remaining cups when he leaves the motel and, accordingly, both the receptacle and the cups can have advertising material printed thereon.

Since the cups will be packaged in the receptacle when received, a high degree of sanitation 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 furnished, the chance of contamination from a dirty toothbrush holder is also eliminated. However,

even if the receptacle and its attached toothbrush holding flange are fabricated from materials which warrant their reuse, it would be a simple matter to remove the receptacle from the bracket and sterilize it before it is reloaded with cups for use 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 probably be considerably longer and would not necessarily include a toothbrush holding flange. However, the same types of brackets and connections thereof with receptacles could be employed.

Under some circumstances, it might be desirable to provide means, such as perforations and/or reduced thickness (not shown), along a line at the junction between the flange 31C (FIG. 12) and the sidewall of the receptacle 11C. Thus, the user of the dispenser 10C can remove the flange 31C for convenience after the dispenser has been removed from the bracket 12C.

The receptacles may be fabricated partially or entirely from transparent material to expose the cups within the receptacles.

Although a particular preferred embodiment of the invention has been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A container dispenser for receiving therein a plurality of cuplike articles and for permitting said articles to be dispensed one at a time, said dispenser comprising:

a one-piece receptacle formed from a thin plastic material and including a cup-shaped portion having an elongated 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 one end thereof for closing said one end of said tubular portion, the other end of said tubular portion defining an opening for permitting a plurality of nested cuplike articles to be inserted into said cup-shaped portion of said receptacle;

said tubular portion further including a plurality of protuberance means disposed adjacent said other end thereof and projecting radially inwardly relative to the inner peripheral surface of said sidewall for releasably holding said plurality of nested articles within said receptacle and for permitting said articles to be dispensed one at a time through said opening, said plurality of protuberance means being integral and continuous with said sidewall and substantially rigid relative thereto and spaced circumferentially around said opening;

each said protuberance means including a pair of axially spaced projections extending radially inwardly relative to the inner peripheral wall of said tubular portion, said pair of projections being spaced from each other so that the outermost projection is adapted to releasably engage and support the out-

ermost article when the innermost projection is supporting the next outermost article so that only one article is dispensed at a time; and

said tubular portion including a plurality of stiffening ribs extending axially thereof and spaced circumferentially around said tubular portion, and said sidewall including said stiffening ribs and said cover portion and said protuberance means all being integral and continuous and of substantially uniform wall thickness.

2. A dispenser according to claim 1, wherein said tubular portion is of substantially uniform diameter throughout the axial extent thereof and said continuous circumferential sidewall is of substantially uniform thickness throughout the axial extent of said tubular portion.

3. A container dispenser according to claim 1, further including bracket means adapted to be mounted on a support surface for releasably supporting and holding said receptacle, said bracket means and said receptacle having coacting means for permitting said receptacle to be releasably mounted on said bracket means.

4. A container dispenser according to claim 3, wherein said receptacle includes a pair of axially spaced recesses, and wherein said bracket means is substantially C-shaped and has protuberances adapted to be removably disposed within said spaced recesses for releasably engaging said receptacle.

5. A container dispenser according to claim 1, further including means associated with said receptacle for permitting same to be releasably attached to a supporting surface.

6. A container dispenser for receiving therein a plurality of cuplike articles and for permitting said articles to be dispensed one at a time, said dispenser comprising:

a one-piece receptacle formed from a thin plastic material and including a cup-shaped portion having an elongated tubular portion defined by a continuous circumferential sidewall, said tubular portion including a plurality of stiffening ribs extending axially thereof and spaced circumferentially therearound;

said cup-shaped portion including a cover portion integrally and continuously connected to the sidewall of said tubular portion adjacent one end thereof for closing said one end of said tubular portion, the other end of said tubular portion defining an opening for permitting a plurality of nested cuplike articles to be inserted into said cup-shaped portion of said receptacle;

said receptacle including a substantially planer flange projecting radially outwardly from said tubular portion adjacent said other end thereof, said flange being disposed in surrounding relationship to said opening, said flange being integral and continuous with said other end of said tubular portion;

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

and substantially rigid relative thereto and spaced circumferentially around said opening; and each said protuberance means including a pair of axially spaced projections extending radially inwardly relative to the inner peripheral wall of said tubular portion, said pair of projections being spaced from each other so that the outermost projection is adapted to releasably engage and support the outermost article when the innermost projection is supporting the next outermost article so that only one article is dispensed at a time;

said tubular portion, and said sidewall including said stiffening ribs and said cover portion and said protuberance means all being integral and continuous and of substantially uniform wall thickness.

7. A dispenser according to claim 6, wherein said tubular portion is of substantially uniform diameter throughout the complete axial extent thereof, and wherein said continuous circumferential sidewall is of substantially uniform wall thickness throughout the complete axial extent of said tubular portion.

8. A dispenser according to claim 6, wherein said receptacle has a blind recess formed therein adjacent said cover portion, and wherein said receptacle has a further recess formed therein in the vicinity of said flange, whereby said recesses are adapted for cooperation with suitable projections formed on a mounting bracket.

9. A container dispenser for receiving therein a plurality of cuplike articles and for permitting articles to be dispensed one at a time, said dispenser comprising:

a one-piece receptacle formed from a thin plastic material and including a cup-shaped portion having an elongated tubular portion defined by a continuous circumferential sidewall, said tubular portion being of substantially uniform diameter throughout the

axial extent thereof;

said cup-shaped portion further including a closed cover portion integrally and continuously connected to the sidewall of said tubular portion adjacent one end thereof for closing said one end of said tubular portion, the other end of said tubular portion defining an opening for permitting a plurality of nested cuplike articles to be inserted into said cup-shaped portion of said receptacle;

said tubular portion including a plurality of elongated stiffening ribs extending axially thereof and spaced circumferentially therearound, said stiffening ribs extending axially of said tubular portion throughout the complete length thereof;

said tubular portion further including a plurality of protuberance means disposed adjacent said other end thereof and projecting radially inwardly relative to the inner peripheral surface of said sidewall for releasably holding said plurality of nested articles within said receptacle and for permitting said articles to be dispensed one at a time through said opening, said plurality of protuberance means being integral and continuous with said sidewall and substantially rigid relative thereto and spaced circumferentially around said opening; and

said sidewall including said stiffening ribs and said cover portion and said protuberance means all being integral and continuous and of substantially uniform wall thickness.

10. A dispenser according to claim 9, wherein a pair of said stiffening ribs are disposed directly adjacent each of said protuberance means, with said protuberance means being disposed between the stiffening ribs of each said pair.

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