Dec. 5, 1961 J. F. VELTER 3,011,679

CUP DISPENSER

Filed March 7, 1956

FIG. 1.

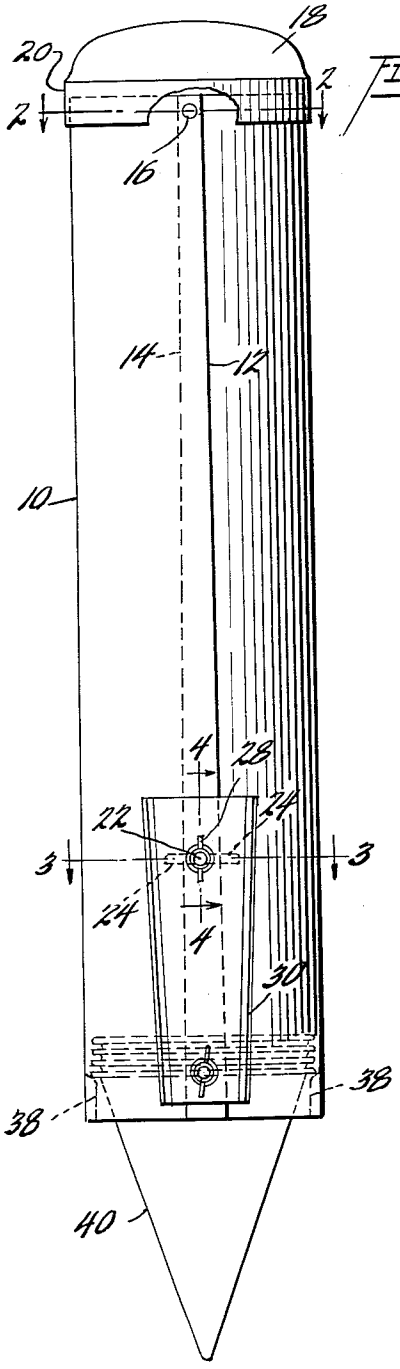


FIG. 2.

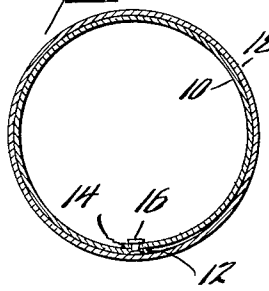


FIG. 3.

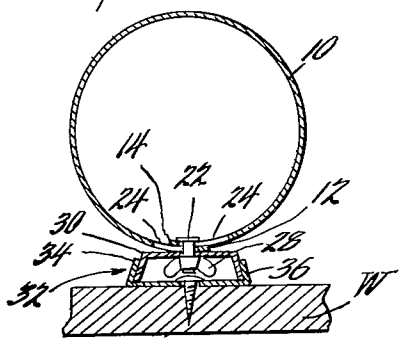
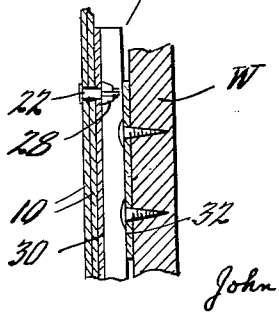


FIG. 4.



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CUP DISPENSER

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This invention relates to a dispenser of the tubular type such as is commonly employed for dispensing paper drinking cups or other articles individually and in succession.

Customarily such dispensers are loaded through the upper end which, for sanitary reason, is provided with a closure cap. A stack of nested cups or other articles placed in such a dispenser normally descends by gravity to rest on retainer lugs or supports or simply on a constricted inner periphery at the lower end of the dispenser, with the lowermost such cup or article projecting downwardly out of the lower end where it may be readily grasped or pulled free for use.

Such a dispenser has generally been capable of use only with cups or articles of a predetermined diameter. In the case of paper cups the products of various manufacturers are made in varying sizes so that should the user desire to change the brand of cups used, this will generally necessitate replacement of the dispensing unit. Since no commercially practical way has heretofore been devised for adjusting such a dispenser for use with varying sizes of articles, it will be apparent that where the outlet end of the dispenser is too large for the cups or other articles, this will permit more than one of them to be dispensed at a time, with consequent wastage. On the other hand, if the dispensing opening is too small, the cups will tend to jam in it and render it partially or wholly inoperative.

The practical necessity for a closure cap on the upper end of the dispenser has complicated the problem of adjustability since adjustability of the diameter of the dispenser or tube would require a new cap for each adjustment.

With the foregoing in mind, the primary objects of the invention are to provide a dispenser which is capable of universal adjustability at its discharge end to adapt same for use with cups or other articles within a wide range of sizes, without requiring special adapters or replacement parts and without disturbing the fit between the closure cap and the upper end of the dispenser; also to utilize the adjusting means in novel association with supporting means for the dispenser, whereby one of the complementary parts of the supporting means is secured to the dispenser by such adjusting means and the two complementary portions of the supporting means, when assembled, serve to conceal the adjusting means.

The above ends are attained through use of an article dispenser which is formed of a general rectangular sheet of flexible material curved upon itself in generally cylindrical conformation and with its circumferentially directed edges in adjoining or over-lapping relation. At the upper end of the dispenser the adjoining edges or edge portions are interconnected for relative angular movement about a pivotal axis closely adjoining and as nearly contiguous as practical to the upper end edge of the tubular dispenser whereby relative angular movement of the said edges or edge portions about their pivot will change the diameter of the upper end only to an immaterial degree, which will not interfere with the fit of the closure cap. Spaced from the said axis are suitable means for interconnecting the adjoining edge portions selectively in various positions of angular adjustment, such varying positions of adjustment with the consequent flexing or deforming of the material forming the dispenser will result in varying the diameter of the lower or discharge end of the dispenser, whereby the same may be adapted for use with different types and sizes of paper cups or analogous articles.

In the accompanying drawings:

FIGURE 1 is a side elevation of a dispenser embodying the new and useful features of the invention;

FIGURE 2, a cross-section on the line 2—2 of FIGURE 1;

FIGURE 3, a cross-section on the line 3—3 of FIGURE 1; and

FIGURE 4, a section on the line 4—4 of FIGURE 1.

Referring now in detail to the accompanying drawings, the dispenser, generally designated 10, is formed from a generally rectangular sheet of flexible material, preferably comprising sheet metal bent around on itself in cylindrical formation with its circumferentially directed edge portions 12 and 14 brought into adjoining and preferably overlapping relation as closely as possible to the upper end of this dispenser 10, the overlapping edge portions 12 and 14 are pivotally interconnected at 16 for relative angular movement about an axis which extends generally diammetrically to the dispenser 10. The pivot 16, preferably in the form of a rivet, is located so as to place the axis of pivotal movement between the portions 12 and 14 as nearly coincident as practical with the upper edge of the dispenser 10 so that relative angular movement between these edge portions will change the diameter of the upper end only to a very slight degree. The degree of such change will in practice be found so slight as not to interfere with the fit of the closure cap 18, which is of a usual type provided with a depending annular skirt 20 for snug frictional reception of the upper end of the dispenser 10. In order to facilitate the application of the cap 18 to the receptacle 10 it will generally be found desirable to either countersink the external head of the rivet 16 in the material of the dispenser 10 so that it will lie flush with the outer surface thereof, as shown in FIGURE 2, or else to form the head of the rivet 16 of relatively flat configuration rounded at the edges.

Spaced toward the lower end of the dispenser 10 from the pivotal axis 16 is a suitable means for interconnecting the overlapping edge portions 12 and 14 selectively in various positions of angular adjustment about the axis of the pivot 16 thus to vary the diameter of the lower discharge end of the dispenser.

Such interconnecting means is exemplified in the present embodiment by one or more threaded elements in the form of bolts 22 respectively disposed through slots 24 in the edge portions 12 and 14. Wing nut 28 turned on to the respective bolts 22 may be utilized to draw the overlapping portions 12 and 14 together after they have been adjusted to the desired positions with the nuts 28 loose on their respective bolts.

In addition to providing for adjustment of the discharge end of the dispenser, the bolts 22 and their associated nuts 28 may also extend through holes in the bottom portion of a channeled bracket element 30 of usual type and of downwardly converging wedge shaped configuration. The element 30 is adapted for removable reception in a complementary socket-like supporting bracket or element 32 adapted to be secured to a wall or other vertical surface to support the dispenser 10 in its operative vertical position. The socketed bracket member 32 will also be seen to be of channeled configuration, having downwardly converging sides 34 and 36 adapted to receive between them and support the corresponding sides of the element 30. Since the elements 30 and 32 are of conventional construction no further detailed description is deemed necessary herein. However, when such members are used in conjunction with the interconnecting

means 22 and 28 of the invention, it will be seen that these complementary members 30 and 32 function to provide a housing for the wing nuts 28 and the associated ends of their bolts 22 to conceal these from view and thus discourage tampering, as well as to improve the appearance of the dispenser 10 in its entirety.

Adjacent its lower end, the dispenser 10 may be formed with a plurality of inwardly pressed indentations 38 upon which the rim of the lowermost cup within the dispenser will normally rest, with the lower end of the cup 40 projecting downwardly through the discharge end of the dispenser.

In the use of the dispenser, it will be seen that the closure cap 18 may be removed whenever it is desired to replenish the supply of cups 40 within the container. The cups, in stacked and nested formation, are inserted into the container through the open upper end of tube 10, whereupon the closure cap 18 is reapplied. The cups will, of course, move downwardly so that the lowermost in the stack will be supported on the indentations or inward projections 38 but can flex inwardly to be withdrawn past such projections when grasped from the bottom in usual manner.

When it is desired to adjust the dispenser for use with cups of a somewhat smaller diameter, the dispenser 10 may be lifted bodily to raise its bracket 30 out of complementary socketed bracket 32, thereby permitting access to the wing nuts 28 which are loosened, following which the lower end of the dispenser may be squeezed together or constricted manually to the desired diameter, whereupon the wing nuts 28 may be tightened and the bracket member 30 replaced in its supporting socketed bracket 32. The dispenser may also be expanded at its lower end in obvious manner.

It will thus be seen that the invention comprises an extremely simplified construction capable of adjustment through a wide range of sizes without the necessity for adapters or replacement parts.

It will be apparent that the invention is capable of other embodiments than that shown and that its details may be modified in various ways all without departing from the invention.

Having thus described the invention, what is desired to be secured by Letters Patent is:

The combination of an article dispenser and supporting means therefor, said dispenser comprising a generally rectangular sheet of flexible material disposed in generally tubular conformation, and having overlapping edge portions, a pivot interconnecting said overlapping edge portions for relative angular movement about an axis substantially contiguous to one axial end of the dispenser, and means spaced axially of the dispenser from said pivot for interconnecting said overlapping portions selectively in various positions of relatively angular adjustment about said pivot, said means comprising threaded means extending through openings in said overlapping edge portions, one of said openings comprising a slot disposed transversely of the tubular axis of said dispenser for permitting relative adjustment of said edge portions in a manner to vary the cross-sectional area of said dispenser, said supporting means comprising a supporting bracket element of channeled cross section having said threaded means disposed through holes in the bottom wall thereof, a cooperating element threaded on said threaded element between the side walls of said bracket element, a socketed bracket member of channeled configuration having relatively downwardly converging sides, said bracket element having relatively downwardly convering side walls for removable reception between the converging sides of said socketed bracket member, said bracket element and socketed member together supporting said dispenser and defining a housing for receiving and concealing said cooperating element to render same inaccessible without dismounting the dispenser.

References Cited in the file of this patent

UNITED STATES PATENTS

1,264,950	Luellen	May 7, 1918
2,141,682	Carew	Dec. 27, 1938
2,339,383	Davidson	Jan. 18, 1944
2,605,582	Allen	Aug. 5, 1952
2,740,551	Carew	Apr. 3, 1956
2,780,388	Stephenson	Feb. 5, 1957