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HOLDER FOR DRINKING CUPS, AND THE LIKE

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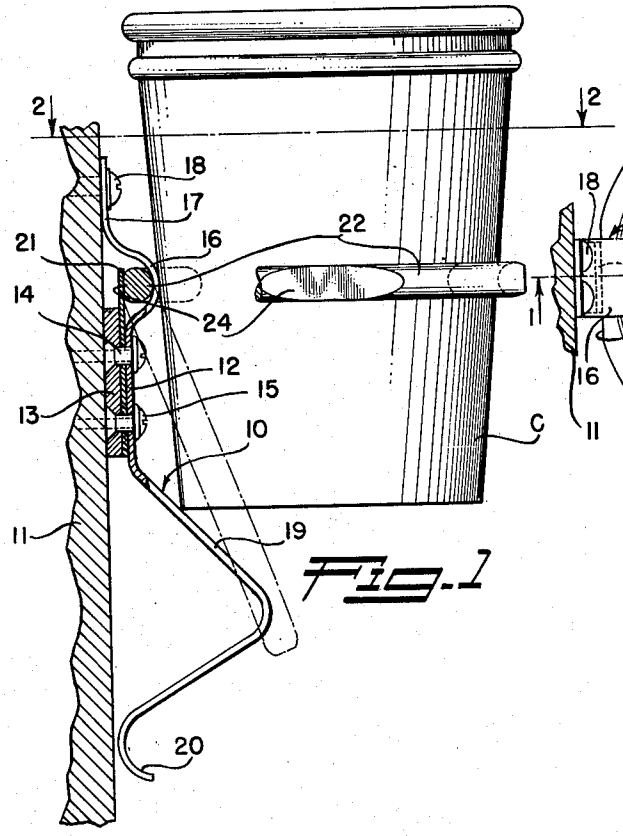

Fig. 1

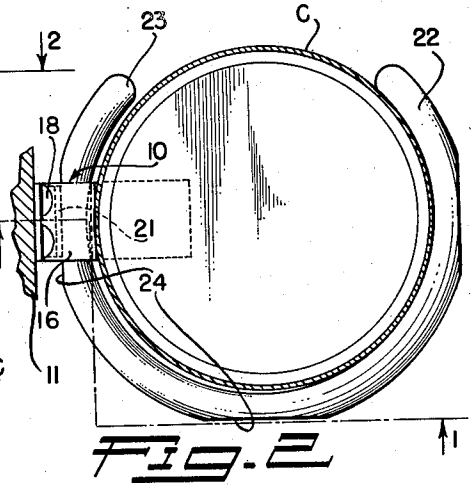

Fig. 2

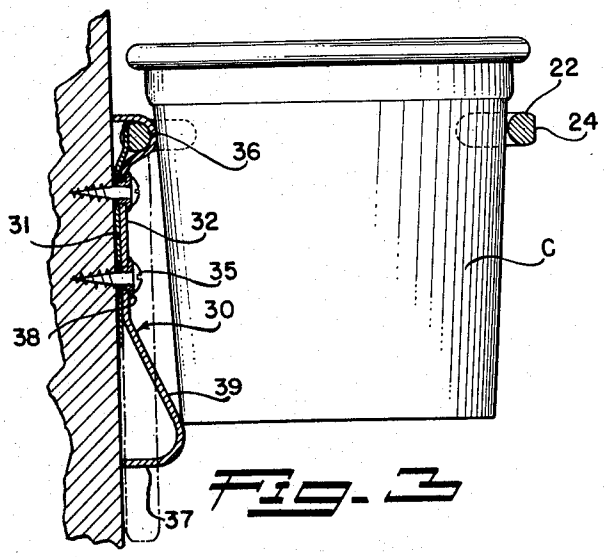

Fig. 3

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HOLDER FOR DRINKING CUPS AND THE LIKE

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3 Claims. (Cl. 248—311)

This invention relates to holders for paper drinking cups, drinking glasses and like containers and relates more particularly to devices or holders of this kind that are adapted to be folded or operated to retracted positions when not in use.

Paper drinking cups for water, coffee, soft drinks and other beverages are used extensively in snack bars, vehicles such as trains, vessels and aircraft, and in other numerous situations. Such paper cups are, by reason of their construction and materials, not inherently strong or stable and are easily overturned or upset, particularly in confined areas. Since it is often desirable to set a cup aside for a moment, as when the contained beverage is excessively hot or excessively cold or when the user wishes to free both of his hands for other purposes, the cups are many times placed on the floor or on other supports where they spill over or upset.

It is a general object of the present invention to provide a simple, practical, light-weight and inexpensive holder for paper drinking cups and the like.

Another object of the invention is to provide holders of this kind that may be readily attached to practically any available or desired support or structure to make the cups or other containers conveniently accessible to the users.

Another object of the invention is to provide a cup holder of this kind that is adapted to be retracted or folded when not in use to a condition where it occupies a minimum of space and does not constitute a hazardous or bothersome projection or obstruction.

A further object of the invention is to provide a holder of the kind referred to adapted to receive and dependably hold and retain paper drinking cups and other containers so as to prevent the overturning thereof or the spilling of the contents and yet makes the cups conveniently accessible for immediate removal and the use.

A still further object of the invention is to provide such cup holders that embody only a limited number of simple, easily fabricated and readily assembled parts.

Other objectives and features of the invention will become apparent from the following detailed description of typical preferred embodiments throughout which description reference will be made to the accompanying drawings wherein:

Figure 1 is a vertical sectional view of one embodiment of the invention showing certain parts and a contained cup in side elevation, being a view taken substantially as indicated by line 1—1 on Figure 2, the broken lines illustrating the retracted position of the cup or retaining ring;

Figure 2 is a view taken as indicated by line 2—2 on Figure 1; and

Figure 3 is a view similar to Figure 1 showing another form or embodiment of the invention.

The holders of the invention are adapted for many uses and may be modified and proportioned to removably receive and hold various objects. Accordingly, while I herein refer to the devices illustrated in the drawings for

holding paper cups, and the like, it is to be understood that this is not intended to limit either the scope or application of the invention.

The device of Figures 1 and 2 includes a body or bracket 10 adapted to be arranged or mounted on a convenient or selected support. In the drawings I have shown the bracket 10 arranged against a vertical support 11. The bracket 10 is preferably a vertically extending elongate member formed of steel, or other metal, or, if desired, of a suitable plastic. It is preferred to provide the bracket 10 with a flat, vertical intermediate portion 12 and to mount this portion on the support 11 through the medium of a block or spacer 13. Tubular rivets 14, or the equivalent, secure together the bracket portion 12 and the spacer 13 and screws 15, or the like, may be passed through the rivets 14 to attach or to assist in attaching the device to the support 11. The body or bracket 10 of the holder further includes a portion 16 extending upwardly from the intermediate part 12. This portion 16 curves upwardly and outwardly and then upwardly and inwardly, being of the nature of a partial loop having a substantially cylindrically curved inner surface curved after a generally horizontal axis. The bracket continues upwardly and inwardly from the loop 16 to have a substantially vertical tongue or tab 17 at its upper end for engaging inwardly against the face of the support 11. This tab 17 may be used to retain papers such as programs, napkins, etc., in which event it is not directly secured to the support 11 but is left free so that it may be flexed outwardly to receive such objects and thereafter removably retain the same by pressing or clamping them against the face of the support 11. I have shown a screw 18 passing through an opening in the tab 17 and entering the support 11 to assist in attaching the device to the support, it being understood that this screw or the equivalent is optional and may be dispensed with if desired.

The body or bracket 10 below the intermediate portion 12 slopes outwardly and downwardly to present a sloping shelf 19 which may assist in supporting the cups C, as will be later described. The strap-like body or bracket 10 curves inwardly and downwardly from the shelf 19 and then inclines downwardly and inwardly toward the face of the support 11, being provided at its lower extremity with an outwardly curved tongue portion 20. This tongue portion 20 may press inwardly against the face of the support 11 by reason of the flexibility and resiliency of the shelf 19 and lower portions of the bracket 10 and may be flexed outwardly to removably hold or clamp papers, such as programs, papet napkins, etc. against the fact of the support 11.

The device further includes a leaf spring 21 at the inner side of the loop portion 16 described above. In this form of the invention the spring 21 is a simple, initially flat leaf having its major portion secured to or clamped between the intermediate portion 12 of the bracket and the spacer 13, being retained or secured by the rivets 14. The spring 21 extends upwardly beyond the spacer 13 to have its active portion in spaced opposing relation to the inner surface of the loop 16.

The holder of Figures 1 and 2 includes a retractable object encircling member which I will term the ring 22. This ring 22 is intended to partially surround or encircle the cup C or other object, to support or retain the same and may be constructed of metal, plastic, or other appropriate material. Since many paper cups are equipped with laterally extendable handles, I prefer to provide the ring 22 with an open side or gap 23 to permit free access to the handles of such cups when the same are arranged in the device. The gap 23 may also facilitate the entrance and removal of cups and other objects into and out of the ring. It should be noted however that the

ring 22 preferably extends for considerably more than 180° to dependably retain the objects or cups C. The ring 22 is preferably substantially circular or cylindrical in transverse cross section and is arranged to extend between the inner surface of the loop 16 and the face of the spring 21. The curved surface of the ring 22 substantially conforms to and bears on the correspondingly shaped inner surface of the loop 16 to permit rotation or angular movement of the ring from the full line position of Figure 1 to the retracted broken line position where the lower portion of the ring rests against, or is adjacent, the shelf 19 and inclined lower part of the bracket 10. The ring 22 is provided with one or more flat tangential surfaces 24 for cooperating with the spring 21. These surfaces 24 are on the outer or peripheral side of the ring 22 and are substantially vertical when the ring is in the raised, horizontal, full line position of Figure 1. The ring 22 is positioned so that one of its surfaces 24 is cooperable with the spring 21.

It will be seen that when the ring 22 is swung upwardly from the retracted position to the raised or horizontal active position, the surface 24 first bends the spring 21 rearwardly and then assumes a vertical position where the spring flatly bears against the flat surface. This flat pressure engagement of the spring 21 with the surface 24 serves to dependably retain the ring 22 in the active horizontal position where it may serve to retain a cup C or other object in a substantially vertical position where its lower end may rest on the shelf 19. Whenever it is desired to retract the ring 22 the ring is merely deliberately swung downwardly to overcome the retaining pressure of the spring 21 on the surface 24, the ring being movable to a position where its lower portion may cooperate with the shelf 19 and adjacent parts of the bracket 10. With the ring 22 in the retracted position the spring 21 cooperates with the curved or rounded surface of the ring to hold the ring against unwanted swinging, vibration, and like movement. Although the ring 22 may be provided with a continuous flat tangential surface 24 extending from one side of the gap 23 to the other, thereby permitting circular indexing of the ring in any selected position, it will usually be preferable to provide the ring with, say, three substantially equally spaced flat surfaces 24 so that the ring 22 may be arranged to have its gap 23 face either to the left, to the right, or forwardly. It will be observed that the ring 22 may be easily assembled in the operative position by merely slipping one end thereof between the inner surface of the loop 16 and the spring 21 and then moving the ring to the position where the selected cam surface 24 cooperates with the spring. In a like manner the ring 22 may be easily removed from the device.

Figure 3 shows an embodiment of the invention having a bracket 30, a spring 31, and the ring 22. The ring 22 may be the same as above described. In this construction the bracket 30 has a loop 36, similar to the loop 16, and the upper end of the bracket extends rearwardly from the top of the loop to terminate at the face of the support 11. The vertical intermediate portion 32 of the bracket 30 lies parallel with the face of the support 11 and is secured to the support by screws 35, or the equivalent. The bracket 30 has a shelf portion 39 sloping downwardly and outwardly from the intermediate part 32 and the lower extremity of the bracket extends rearwardly from the shelf to terminate at or adjacent the face of the support 11. This terminal region 37 of the bracket may, if desired, be employed in the same manner as the above described tongue 20 to removably retain papers such as programs, and the like.

In the form of the invention illustrated in Figure 3, the spring 31 is a leaf spring having its major portion secured against the inner side of the intermediate bracket portion 32. In practice, tubular rivets 38 may serve to secure the spring 31 to the bracket portion 32 and the above mentioned attaching screws 35 may be arranged through these rivets to secure the device to the support 11. The spring 31 is vertically arranged and extends upwardly beyond the intermediate bracket portion 32 to have its active free end portion spaced from and opposing the inner side of the loop 36. This free portion of the spring 31 cooperates with a selected cam face 24 and adjacent curved surface of the cup restraining ring 22. The device of Figure 3 operates in the same manner as the previously described embodiment.

The holders of the invention are effective in dependably holding or retaining paper beverage cups, and the like, in upright positions where they are conveniently accessible and removable. The ring 24, shelf 19, and other parts may be proportioned and related to readily receive and support paper cups and like containers of various sizes and shapes. While I have shown the cup C with its lower corner engaged against the face of the shelf 19 there may be some instances, for example where conical cups and the like are used, where the side face of the cup may bear inwardly against the curved lower extremity of the shelf 19. It should be observed that when the device is not in use the ring 22 may be lowered or retracted to the position where it is substantially flush or even with the shelf region of the bracket in the case of the device of Figures 1 and 2 and where it lies substantially flat against the surface of the support 11 in the construction shown in Figure 3. Thus the retracted ring 22 is in a position where it does not form an objectionable obstruction.

Having described only typical forms of the invention I do not wish to be limited to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art and fall within the scope of the following claims.

I claim:

1. An object holder of the class described including a bracket having an intermediate portion for arrangement on a support, a loop above the intermediate portion, a forwardly protruding flexible shelf portion below the intermediate portion, and a lower flexible portion extending downwardly and inwardly from the shelf portion toward the support, and engageable with the support to form a brace for the shelf portion, the shelf portion having a broad flat face arranged to interfere with the placement of the object in the holder, a spacer at the inner side of the intermediate portion mounting the intermediate portion on the support and spacing the loop from the support, a ring of cylindrical transverse cross section for encircling the object and arranged through the loop to bear therein, the ring having at least one flat peripheral surface, the ring being swingable in the loop between a lowered inactive position where it hangs adjacent the bracket and a substantially horizontal active position where it protrudes forwardly from the bracket to receive the object so as to have the object rest against the broad flat face of the shelf, and a leaf spring on the inner side of the intermediate portion extending upwardly therefrom and projecting upwardly beyond the spacer to have a projecting terminal region to cooperate with said flat surface to releasably hold the ring in said active position.

2. An object holder of the class described including a bracket having an intermediate portion for arrangement on a support, a loop above the intermediate portion, and a forwardly protruding flexible shelf portion below the intermediate portion, the shelf portion having a broad flat face arranged to interfere with the placement of the object in the holder, a ring of generally cylindrical transverse cross section for encircling the object and arranged through the loop to bear therein, the ring having at least one flat peripheral surface, the ring being swingable in the loop between a lowered inactive position where it hangs adjacent the bracket and a substantially horizontal active position where it protrudes forwardly from the bracket to receive the object so as to have the object rest against the broad face of the shelf, a spring on the

inner side of the intermediate portion, the spring having a forwardly offset part extending upwardly beyond the intermediate portion to cooperate with said flat surface of the ring to releasably hold the ring in said active position, and securing means passing through the intermediate portion and the spring to secure the holder to the support.

3. An object holder of the class described comprising a one-piece bracket having a generally vertical intermediate portion, a loop above the intermediate portion, a tab above the loop mounted on a support, a flexible shelf below the intermediate portion extending downwardly and outwardly therefrom having a broad flat face arranged to interfere with the placement of the object in the holder, and a flexible lower portion extending downwardly and inwardly from the shelf to engage with the support to form a brace for the shelf, a spacer at the inner side of the intermediate portion for mounting the intermediate portion on the support, a ring of cylindrical transverse cross section for encircling the object and arranged through the loop to bear therein, the ring being

swingable in the loop between a lowered position where it hangs adjacent the bracket and a substantially horizontal active position where it protrudes forwardly from the bracket to receive the object so as to have the object rest against the broad flat face of the shelf, the ring having at least one flat peripheral surface, and a leaf spring secured between the inner side of the intermediate portion and the spacer and projecting upwardly beyond the spacer to have an active terminal region for cooperating with said flat surface to releasably retain the ring in said active position.

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