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UMBRELLA RUNNER AND TIP CUP

Original Filed Feb. 7, 1930

Fig. 1.

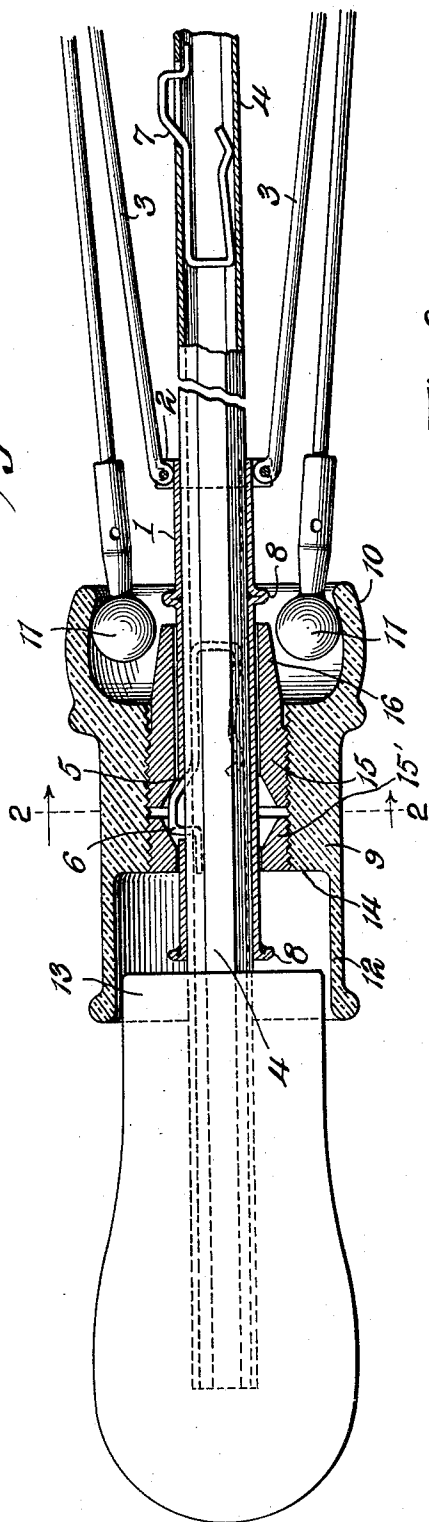


Fig. 3.

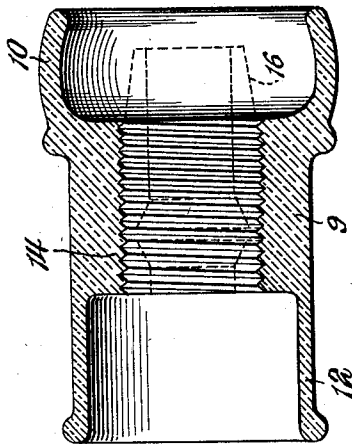
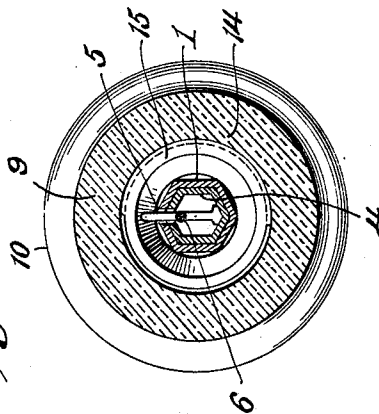


Fig. 2.



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UMBRELLA RUNNER AND TIP CUP

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This invention relates to umbrellas, and it relates more particularly to combined runners and tip cups of the kind having means for holding the ends of the ribs of a closed umbrella, and in which the sliding movements of the runners and tip cups effect the depression of the retaining springs by which the parts of an umbrella are held either in an open position for use or in a closed position for carrying or storage.

One object of the invention is to provide a combined runner and tip cup in which the parts are of a construction permitting the employment of celluloid or similar plastic material in its construction, in order that the tip cup may be of the same color as the handle, or of the cover of the umbrella, so that when the umbrella is closed a harmonizing color appearance of the umbrella is presented. Another object is to provide a combined runner and tip cup of the kind referred to, in which the runner and tip cup and the handle of an umbrella shall be so relatively located and so formed that when the umbrella is in a closed position the tip cup shall overlap the end of the handle, presenting a smooth continuous outer surface of the parts, free from the usual space between the parts in which clothes and other articles enter and become entangled in the generally employed forms of these parts. A further object of the invention is to provide a combined runner and tip cup of the specified type in which the tip cup shall be formed of celluloid or similar material and shall be reinforced to lend strength in that portion which in use is subjected to greatest wear or strain, in order to compensate for the comparatively fragile character of the material employed.

Having the specified and other objects in view, the invention resides in the structure substantially as set forth in the following description and as defined in the claims.

In the accompanying drawing the preferred embodiment of the invention is illustrated, and it will be apparent from an understanding of the invention that many changes in details may be resorted to, if required, without departing from the general construction shown.

In the drawing:

Figure 1 is a view in which the tip cup is shown in section, and a part of the umbrella handle is also shown in section, in connection with the rod, ribs, runners and retaining springs of an umbrella, the parts being shown in positions assumed when an umbrella is closed.

Figure 2 is a transverse sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a central longitudinal sectional view of the tip cup.

In this drawing 1 represents a runner provided with a notch ring 2, to which the stretchers 3 are pivotally connected in the usual way. The runner, which is of the usual tubular general form to receive and slide on a rod 4, has in it an opening 5 through which projects the lower retaining spring 6 of the rod when the umbrella of which it forms a part is in a closed position, and which is entered by the upper retaining spring 7 of the rod when the umbrella is raised. The runner is formed on its outer face with stops 8, by which the movements of the tip cup, which is arranged slidably on the runner, is limited. The stops may be formed in any suitable way, as, for instance, by spinning circumferential beads on the runner as herein shown.

The tip cup 9 is formed in one piece, cylindrical in general form, and is preferably composed of celluloid or other plastic material, in order that it may be given a color which is permanent and which may correspond either to the color of the cover of an umbrella or to that of the handle. Both ends of the cup are enlarged, one forming a receptacle 10 for the tip ends 11 of the ribs, and the other end 12 being adapted to receive and closely fit an end 13 of a handle when the umbrella is in a closed position.

A strengthening wall 14 is formed in the interior of the cup, and this wall may be of any thickness and length to compensate for the comparatively fragile character of the plastic material of which the cup is formed, and render it capable of use without danger of breaking.

The interior of the cup is provided with a

bushing which is attached to the wall 14 of the tip cup. The bushing is preferably of metal and made up of separate sections 15 and 15'. The sections may be secured in the cup by shrinking the material of the cup around them, or the face of the wall 14 and the exteriors of the sections may be correspondingly screw threaded, in order to allow the ready introduction or removal and adjustment of the sections. The bushing is with advantage made in two parts, as by this construction the parts may be moved toward or away from each other to give a space between them to receive any size of projecting portions of the retaining springs. The inner faces of both the sections forming the bushing are inclined, as shown, in order to hold a retaining spring yieldingly between them, to hold the parts of an umbrella in either an open or a closed position. By the application of a small amount of pressure to slide the cup on the runner, the retaining springs may be depressed by contact with the inclined faces of the sections, thus freeing the cup and runner from the springs, and allowing the runner to be moved to change the parts of an umbrella from an open to a closed position, or vice versa.

In order that when a tip cup in which the described bushing is employed may act to retain the ends of the ribs, when the umbrella is closed, in a position to prevent the ribs from overlapping each other, or from unduly crowding each other, the bushing is provided with a tapering projection 16 which extends into the receptacle 10 by which the rib ends are received. The action of this projection is to separate the ribs and evenly distribute them around the projection when they are introduced into the receptacle. When they are thus disposed, and the tip cup is slid to release them, they are freed in a manner to allow them to be raised without the entanglement which would otherwise occur, and which would often result in injury to the ribs or to a cover attached to the ribs.

The manner of accomplishing the opening and closing an umbrella in which the described tip cup and runner are incorporated will be readily understood from the foregoing description. Assuming that the umbrella is in a closed position, and that the tip ends of the ribs are confined in the tip cup, as shown in Figure 1 of the drawing, the tip cup is moved on the runner, toward the handle, freeing the ribs and allowing them to spring outwardly by reason of their inherent resiliency. Pressure is then applied to move the tip cup to contact with the upper stop on the runner, and a continuance of this pressure will cause a movement of the runner and tip cup on the umbrella rod, and a depression of the lower retaining spring by contact with the inclined side of that section

of the bushing located toward the handle. This effects the freeing of the runner from the spring, allowing the runner to be moved to spread the umbrella. When the umbrella is raised the upper retaining spring will hold it yieldingly in that position, from which it may be released by a downward movement of the combined runner and tip cup. When the umbrella is closed, the ribs are gathered close to the rod and the tip cup moved on the runner to inclose the tip ends of the ribs. Preferably the length of the end 12 of the cup is such that movements of the cup on the runner to secure or release the tip ends of the ribs may be made without removing this from a position to cover the adjacent end of the handle, so that at all times when the umbrella is in a closed position no space between the tip cup and the handle exists.

I claim:

1. A runner, and a tip cup composed of plastic material slidably arranged on the runner, the interior of the tip cup being provided with a bushing having opposed gradually inclined inner faces.
2. A runner, and a tip cup composed of plastic material slidably arranged on the runner, the interior of the tip cup being provided with a strengthening wall, and the wall being provided with a sectional bushing having opposed gradually inclined inner faces.
3. A runner provided with exterior stops spaced apart, a tip cup composed of plastic material slidably arranged on the runner between the stops, the runner being provided with an opening for receiving retaining springs, and the interior of the tip cup being provided with a sectional bushing having opposed gradually inclined inner faces adapted to bear on said retaining springs.
4. A runner provided with exterior stops spaced apart and formed by beads spun from the material of the runner, a tip cup composed of plastic material slidably arranged on the runner between the stops, the runner being provided with an opening for receiving retaining springs, and the interior of the tip cup being provided with a sectional bushing having gradually inclined faces adapted to bear on said retaining springs.
5. A runner, a tip cup of plastic material slidably arranged on the runner, one end of the tip cup being provided with a receptacle adapted to inclose the ends of the ribs of an umbrella, and the other end being provided with a receptacle adapted to inclose the end of a handle of an umbrella.
6. A runner, and a tip cup slidably arranged on the runner, the tip cup being provided with a receptacle adapted to inclose the ends of umbrella ribs, and a bushing arranged in the tip cup, and provided with a tapering projection extending into the receptacle.

7. A runner, a tip cup, and a sectional bushing arranged in the tip cup and on the runner and provided with inner inclined faces.

8. A runner, a tip cup, and a sectional bushing arranged in the tip cup and on the runner, the bushing being composed of sections movable toward and away from each other, and being formed with opposed inclined inner faces.

In testimony whereof I affix my signature.
JOHN ROSE.

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