Jan. 5, 1965 S. N. SMALL 3,164,160

TILTABLE SUPPORT FOR UMBRELLAS

Filed Oct. 6, 1961

FIG. 2A

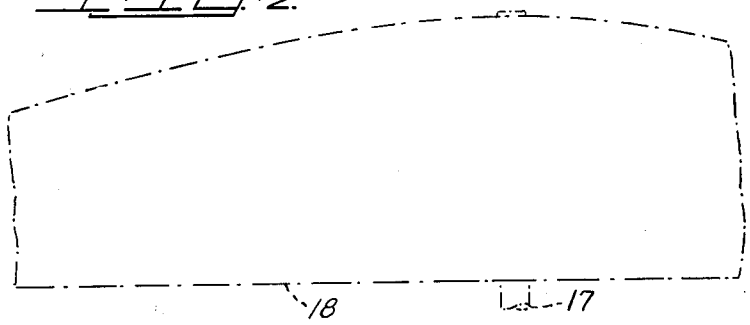


FIG. 2

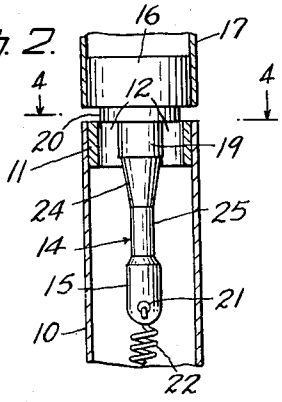


FIG. 1

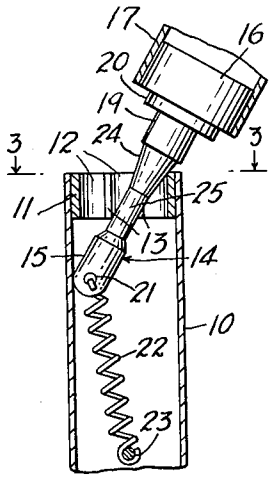


FIG. 3

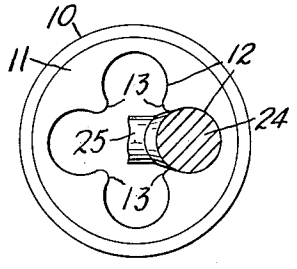
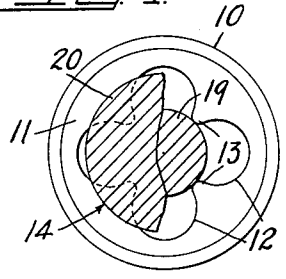


FIG. 4



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TILTABLE SUPPORT FOR UMBRELLAS

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4 Claims. (Cl. 135—46)

This invention relates to umbrellas and, particularly, to the provision of means for supporting an umbrella in several tilted positions in connection with a support. More particularly, the invention deals with a tiltable means employing a spring for directly coupling the umbrella post with the support and for keying and retaining the umbrella post in alined, as well as the several tilted positions with respect to the support.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a sectional view through the upper portion of a support and the lower portion of an umbrella post showing the tilting means in elevation and in a tilted position with respect to the support.

FIG. 2 is a view, similar to FIG. 1, showing the umbrella post in the non-tilted position on the support.

FIG. 2A is a dot-dash showing of a portion of an umbrella top and part of the post on a reduced scale and with the umbrella top in upright or non-tilted position.

FIG. 3 is an enlarged section on the line 3—3 of FIG. 1; and

FIG. 4 is an enlarged section on the offset line 4—4 of FIG. 2.

This application constitutes a continuation-in-part of the structure disclosed in a prior application filed by me May 19, 1961, Serial Number 111,321.

While the structure forming the subject matter of this application is adapted for use in conjunction with umbrellas of various sizes, it is adaptable and especially desirable for use in connection with medium or smaller types of umbrellas, such as commonly used in connection with chairs and like supports for producing shade for a single individual.

In illustrating one adaptation and use of my invention, I have shown in FIGS. 1 and 2 of the drawing part of a tubular support 10, or what might be regarded as the end portion of such a support. The lower end of the support 10 will have suitable means for mounting the same in connection with a chair or the like. Fixed in the upper end of the support 10 is a key collar or bushing 11, having a plurality of rounded sockets 12, note FIGS. 3 and 4. At 13 are shown the ribs dividing the sockets. Adjacent surfaces of the ribs 13 of each socket 12 form restricted passages controlling access to the sockets 12.

At 14 I have shown one of my improved tilting elements, comprising a rod 15 having, at its upper end, an enlarged head 16 suitably fixed in the lower end of the post 17 of an umbrella. In FIG. 2A of the drawing, a small portion of the post 17 is indicated in dot-dash lines and, in said figure, part of the umbrella top is indicated in dot-dash lines at 18 with the umbrella top in open position. Between the head 16 and rod 15, the element includes a rounded bearing portion 19 which normally fits snugly within the ribs 13 when the device is in the position shown in FIG. 2 in provding a sturdy coupling of the umbrella with the support 10, note FIG. 4. Between the bearing portion 19 and the head 16 is a collar 20 which seats upon the key collar or brushing 11 when the parts are in the position shown in FIGS. 2 and 4.

The rod of the element 14 has an aperture 21, with

which the upper end of a coil spring 22 is coupled, the other or lower end of the spring being coupled with a transverse pin or the like 23 fixed to the support. The element 14 has, adjacent the portion 19, a tapered key part 24 which joins the rod in a reduced neck portion 25. The diameter of the neck portion 25 is such as to clear the restricted passage between the ribs 13 in placing the tapered key part in the sockets 12. This restricted passage between the ribs also serves in definitely keying the key part 24 in each of the sockets. It will be seen that the spring provides the sole means of coupling the umbrella with the support 10, the spring 22 being tensioned to support the umbrella or the post 17 in its normal upright position, as indicated in FIG. 2, and, in moving the umbrella to a tilted position, the operator raises the umbrella or the post 17 sufficiently to pass the neck 25 through the reduced passage of the ribs 13 to position the key part 24 in one of the sockets 12. This moves the post 17 into tilted position. Upon releasing the upward pull on the post 17, the spring 22 will move the key part 24 downwardly into firm keyed position in the socket 12, as seen in FIG. 3. When in this position, the post 17 is definitely retained against shifting movement, even in the presence of strong winds.

From time to time, the umbrella can be shifted from socket to socket in bringing the umbrella into proper relationship to the chair or support in shading the occupant of the chair. In returning the umbrella to the position shown in FIG. 2, all that is essential is for the operator to raise the position slightly and then swing the umbrella or post 17 into a central position on the support; whereupon, the spring 22 will automatically draw the bearing portion 19 downwardly into position between the ribs 13. This last operation is, of course, further assisted by the weight of the umbrella. In addition to the engagement of the bearing portion 19 with the ribs, tensional seating of the collar 20 upon the bushing 11 further aids in maintaining the umbrella or the post 17 thereof in alined position with the support 10, as seen in FIG. 2 of the drawing.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In tiltable umbrellas having an umbrella post, a tubular support having at its end a key bushing, including a plurality of circumferentially spaced sockets, a tilting element fixed to the post, said element having a rod extending into the support through said bushing, a spring coupled with the rod and the support, said spring urging said post in the direction of said support in securing the umbrella post to the support, said element including means normally seating on and arranged in said bushing in support of the post in alined position with the support, key means on the rod of said element adapted to be positioned in one of said sockets in retaining the umbrella post in tilted position with respect to the support, said bushing including circumferentially spaced ribs forming restricted passages for access to said sockets, and the rod of said element having a reduced neck of a diameter to pass through the restricted passages of said sockets in coupling the element with said sockets.

2. In tiltable umbrellas having an umbrella post, a tubular support having at its end a key bushing, including a plurality of circumferentially spaced sockets, a tilting element fixed to and projecting beyond the post, said element having a rod extending into the post through said bushing, a spring coupled with the rod and the support, said spring urging said post in the direction of said support in securing the umbrella post to the support, said element including means normally seating on and arranged in said bushing in support of the post in alined position with the support, key means on the rod of said element adapted to be positioned in one of said sockets

in support of the umbrella post in tilted position with respect to the support, and each of the sockets having means engaging the rod of said element when supported therein to retain the post in tilted position.

3. A tiltable umbrella of the character described including a tubular post, a tubular support in connection with which the post is adapted to be supported in alined and tiltable positions, a tilting element coupled with the post, said element including a rod extending into said support, a spring coupled with the rod of said element and the tubular support forming the sole means of establishing coupling engagement of the post with the support, the support including a bushing having a key socket including a restricted passage, the rod of said element having means facilitating insertion of the rod through the restricted passage into said socket, and means on the rod engaging the socket of the bushing in retention of the post against movement in said bushing and said support when the post is in tilted position.

4. In a tiltable umbrella of the character defined, a support, an umbrella post tiltably coupled with said support, the support having a plurality of circumferentially spaced sockets bordered by ribs, said ribs defining therebetween restricted openings for access to said sockets, a rod projecting from the post, said rod having an end portion arranged at all times within said support, said rod having means passable through the restricted openings of each of said sockets to position the rod in any one of the sockets, said rod having key means fitting the socket in which the rod is arranged to retain the post against displacement from said socket, and a spring coupled with said end portion of the rod and the support in retaining the rod in a socket and urging said post in the direction of said support.

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