

Jan. 24, 1956

A. L. ROTH ET AL
TILTABLE UMBRELLA

2,731,973

Filed June 8, 1953

2 Sheets-Sheet 1

FIG-1

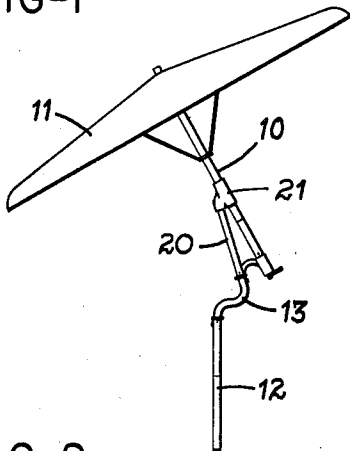


FIG-2

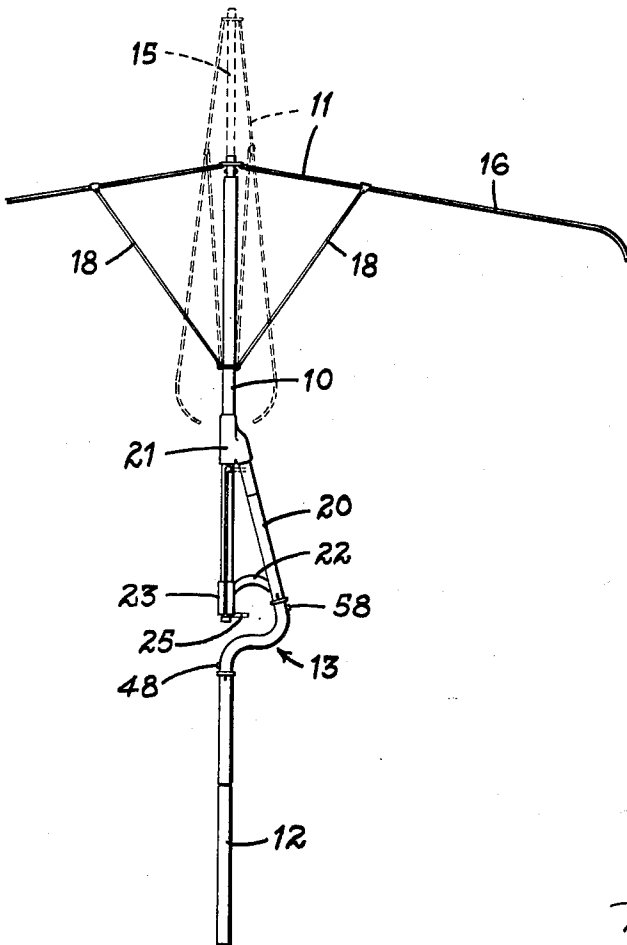
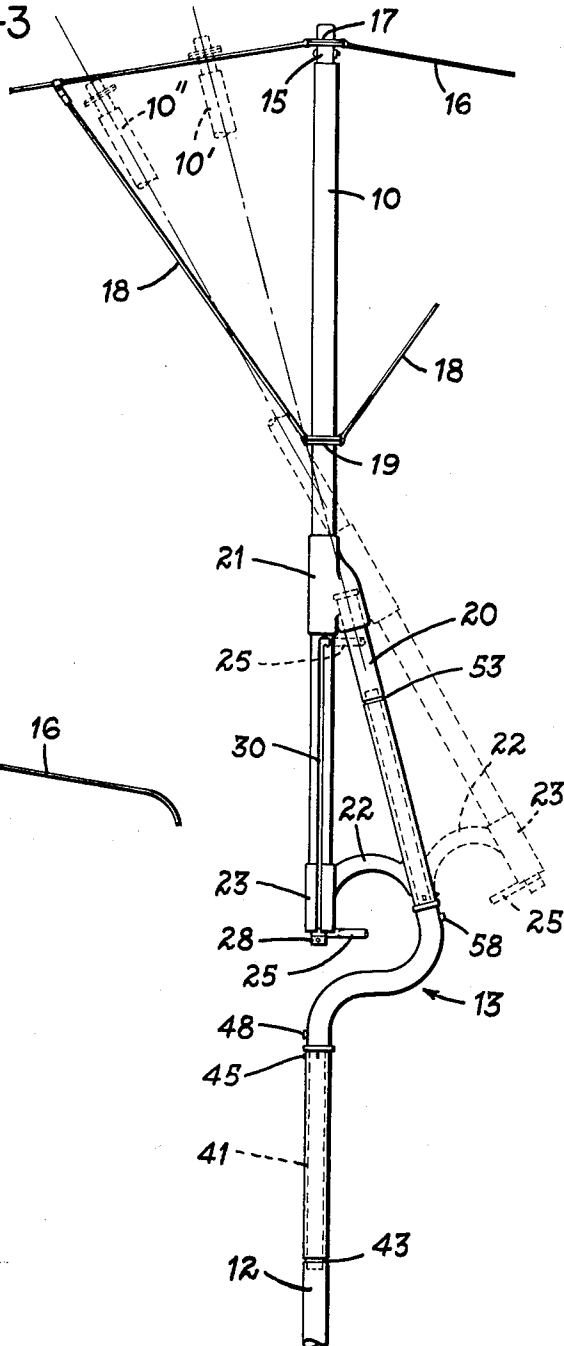


FIG-3



INVENTORS
ALICE L. ROTH &
JAMES C. WITTY
BY
*Marichol, Biehl, French
& Bugg*
ATTORNEYS

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FIG-4

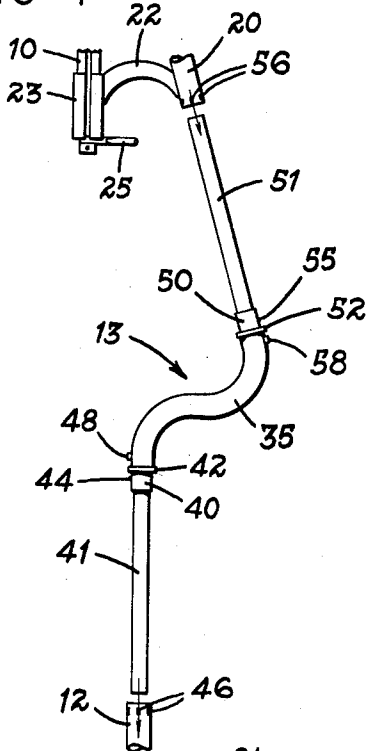


FIG-6

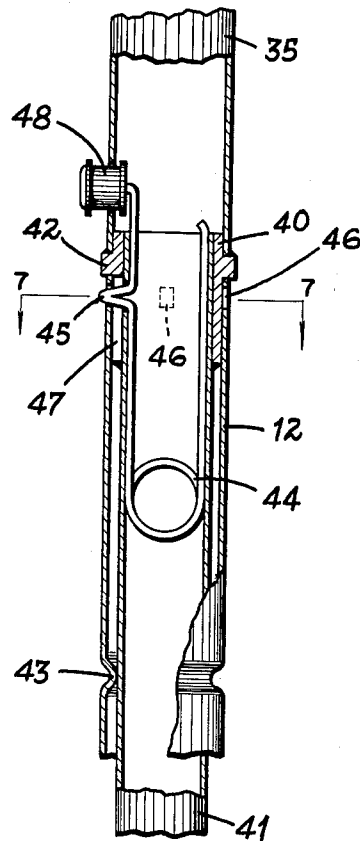


FIG-5

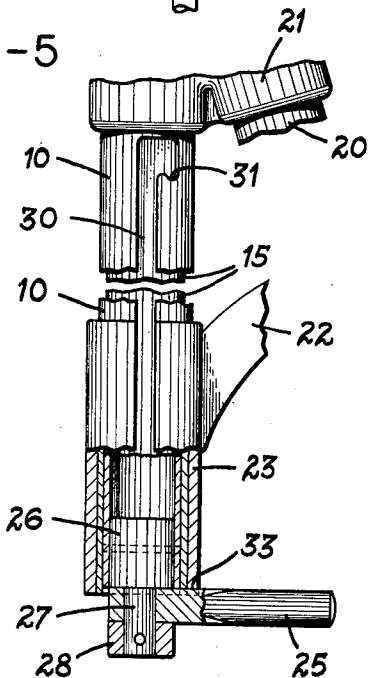
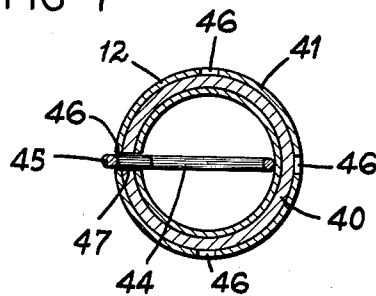


FIG-7



INVENTORS
ALICE L. ROTH &
JAMES C. WITTY

BY

Marichal, Biebel, French & Bugg
ATTORNEYS

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2,731,973

TILTABLE UMBRELLA

Alice L. Roth and James C. Witty, Troy, Ohio, assignors to The Troy Sunshade Company, Troy, Ohio, a corporation of Ohio

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13 Claims. (Cl. 135—20)

This invention relates to umbrellas, and more particularly to a beach or garden umbrella of the tiltable type.

One of the primary objects of the invention is to provide a tiltable umbrella of improved and simplified construction requiring minimum effort for opening and closing the canopy as well as for adjustment between upright and tilted positions.

Another object is to provide a tiltable umbrella wherein an upper shaft or handle supporting the canopy is mounted on a lower shaft or standard by means of an inclined arm or shaft in such manner that the upper shaft can be rotated on the axis of this inclined arm for adjustment between upright and tilted positions, and especially to provide such a tiltable umbrella which includes a simple and effective lock mechanism for maintaining the upper shaft in either upright position or a selected one of a range of different tilted positions.

An additional object is to provide a tiltable umbrella as outlined above in which the canopy is so constructed and attached to the upper shaft that it is opened by means of a force directed downwardly of the umbrella, and especially to provide a tiltable umbrella of this construction wherein the canopy is equally readily opened or closed in either upright or any tilted position.

It is also an object of the invention to provide a tiltable umbrella having one or more of the above outlined characteristics which is composed of comparatively few and readily fabricated parts and which may be quickly and easily disassembled for carrying or storage without danger of loss of any small parts and the like.

Additional objects and advantages of the invention will be apparent from the following description, the accompanying drawings and the appended claims.

In the drawings—

Fig. 1 is a side elevational view showing a beach or garden umbrella constructed in accordance with the invention and illustrated in tilted position;

Fig. 2 is a somewhat diagrammatic view showing the umbrella in upright position and also illustrating the operation of the opening and closing mechanism for the canopy;

Fig. 3 is an enlarged and somewhat diagrammatic fragmentary view showing the operation of the tilting mechanism of the umbrella;

Fig. 4 is a fragmentary exploded view showing the central handle section and parts of the upper and lower handle sections;

Fig. 5 is an enlarged fragmentary view, partly in section, further illustrating the opening and closing mechanism for the umbrella canopy;

Fig. 6 is an enlarged fragmentary view, partly broken away and in section, showing the connection between the middle and lower handle sections; and

Fig. 7 is a section on the line 7—7 of Fig. 6.

Referring to the drawings, which illustrate a preferred embodiment of the invention, the umbrella handle includes three separate sections, an upper section 10 which carries the canopy 11, a lower section or standard 12

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which is adapted for fixed mounting in the ground or the like, and a middle section 13 which forms an adjustable connection between the upper and lower sections. The upper section 10 is a straight shaft of tubular metal, and the canopy 11 is carried by a staff 15 telescoping within the upper end of shaft 10. The ribs 16 for the canopy are pivoted on a crown 17 secured to the upper end of staff 15, and the braces 18 are pivoted to a ring member 19 which is secured in fixed position on shaft 10. The upper shaft 10 also carries an angularly extended arm 20 of tubular stock which is secured thereon by means of a suitable Y fitting 21, and the lower end of shaft 10 and the arm 20 thus cooperate with shaft 10 to form an inverted Y. A brace 22 connects the lower ends of shaft 10 and arm 20 for purposes of adequate rigidity and includes a collar portion 23 on the shaft 10.

Opening and closing of canopy 11 is effected by means of an operating handle 25 secured to the lower end of staff 15, this connection being shown in Fig. 5 as including a plug 26 pinned within the lower end of staff 15 and carrying a stud 27 on which handle 25 is retained by a collar 28. The operating handle 25 projects radially from upper shaft 10 through a bayonet slot 30 in the lower portion of the shaft, which may for convenience be open ended as shown. The bayonet slot 30 is provided with an offset seat 31 at its upper end, and a similar seat or detent notch 33 is formed in the lower end of shaft 10.

Fig. 2 shows the closed position of the canopy 11 in dotted lines, and in this position, the operating handle 25 will be moved to the upper end of the bayonet slot and seated in the seat 31 to lock the canopy in closed position. To open the canopy, the operating handle 25 is shifted out of seat 31 and pulled down through slot 30 until it can be moved over into locking position in the notch 33, and the reverse operation is followed to close the umbrella. This operating mechanism is highly advantageous, since not only does it provide for opening of the canopy by means of the straight downward pull which is the most easily exerted force in handling an umbrella of this type, but it also entirely avoids spring catches and the like which so often tend to pinch the fingers of the user, especially when first releasing the umbrella for closing.

The middle section 13 of the umbrella standard includes a generally S-shaped central part 35 which is rotatably connected with both the upper and lower sections. Referring particularly to Figs. 6 and 7, the part 35 has a collar 40 welded to the lower end thereof, and this collar in turn carries a tubular extension 41. The collar 40 includes a circumferential rib 42 proportioned to seat on the upper end of standard 12, and this collar also includes a lower portion fitting smoothly for rotation within standard 12. An inwardly pressed bead or rib 43 in part 12 forms a similar guide bearing for the tubular extension 41.

The collar 40 carries a spring latch for cooperation with lower handle section 12 to secure the part 35 in angularly adjusted relation with the lower handle. This latch 44 is shown as formed of spring wire and includes a tongue portion 45 adapted to enter one of a series of slots 46 in the wall of the part 12, the collar 40 being slotted at 47 to receive tongue 45 therethrough. An operating button 48 for the latch projects through a suitable opening in the part 35 above collar 40, and when this button 48 is depressed, the tongue 45 will be withdrawn from latched engagement with the lower handle section 12 to permit the part 35 to be freely rotated on the axis of part 12.

There is a similar rotatable connection between the upper end of the part 35 and the arm 20 on the upper handle section 10. A collar 50 similar to the collar 40 supports an arm or shaft 51 which projects upwardly and

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is inclined toward the upward projection of lower handle section 12, the angle between this shaft and the projection of the part 12 being substantially equal to the angle defined by the arm 20 and part 10. The arm 20 telescopes over shaft 51 for rotation on the axis of shaft 51 on the bearing surface provided by the rib 52 on collar 50 and the rib or bead 53 in arm 20. The collar 50 supports a latch mechanism of the same construction as already described in connection with Fig. 6, the latch tongue 55 cooperating with slots 56 in the lower end of arm 20 and the operating button 58 for this latch corresponding to button 48.

With this construction as described, when the parts are assembled as shown in Fig. 3, the upper shaft 10 can assume a vertical position in which it is parallel with the lower handle section 20, and for purposes of symmetry, the part 13 can be proportioned in such manner that the upper and lower handle sections will be coaxial when the umbrella is upright. One of the latch slots 56 in arm 20 should be so located as to lock the upper and lower handle sections together in this position. At the same time, with the lower end of the shaft 10 thus supported as shown in freely spaced relation with the lower handle and the part 13, the operating handle 25 is readily accessible for opening and closing the umbrella canopy.

Tilting of the umbrella from upright position is effected by releasing the latch tongue 55 and then rotating the arm 20 on the collar 50 and shaft 51. This adjustment is easily carried out by utilizing the collar 23 as a handle, and the umbrella can be retained in desired tilted position by reengagement of the latch tongue 55 with a selected slot 56. Thus Fig. 3 indicates in dotted lines at 10' an intermediate tilted position of shaft 10, and also the position 10'' of maximum tilt of the umbrella in which the projections of the parts 10 and 12 define an angle substantially double the angle between the parts 10 and arm 20.

In addition to this easy tilting adjustment of the umbrella, the direction of tilt can be varied as desired by rotation of the part 35 about the axis of the lower handle section. Such an adjustment simply requires release of the latch tongue 45 and rotation of part 35 until the latch tongue is indexed with a selected different slot 46. In addition, disassembly of the umbrella is effected at similar speed and ease by releasing one or both of the latch tongues 45 and 55 and withdrawing the corresponding telescoped parts out of telescoping relation. At the same time, since such disassembly does not require even the temporary removal of bolts, screws or like small parts, there is no danger of loss of any such parts, and the disassembled umbrella will include only the three major handle sections as described.

While the form of device herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of device, and that changes may be made therein without departing from the scope of the invention which is defined in the appended claims.

What is claimed is:

1. A tiltable umbrella having a canopy adapted to be supported at different angles comprising an upper shaft to which the canopy is attached, a lower shaft, means for supporting said lower shaft in predetermined fixed relation at a substantial angle to the vertical, a guide member rotatably mounted on said lower shaft and angularly adjustable to different positions with respect thereto, and means connecting said guide member to said upper shaft to support said upper shaft in different angular positions while providing for the tilting thereof and of said canopy in response to angular adjustment of said guide member upon said lower shaft.

2. A tiltable umbrella having a canopy adapted to be supported at different angles comprising an upper shaft to which the canopy is attached, a lower shaft, means for supporting said lower shaft in predetermined fixed rela-

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tion at a substantial angle to the vertical, a guide member rotatably mounted on said lower shaft and angularly adjustable to different positions with respect thereto, means connecting said guide member to said upper shaft in relatively fixed relation thereto to support said upper shaft substantially vertically in one angular position of said rotatable guide and an inclined position in another angular position of said guide member with respect to said lower shaft, and means for releasably retaining said guide member in predetermined angular positions of adjustment on said lower shaft to maintain a desired tilt of said umbrella.

3. A tiltable umbrella having a canopy adapted to be supported at different angles comprising an upper shaft to which the canopy is attached, a lower shaft, a supporting handle, means supporting said lower shaft on said handle in predetermined fixed relation with said lower shaft extending upwardly at a substantial angle to the vertical, a guide member rotatably mounted on said lower shaft and adjustable angularly to different positions with respect thereto, means connecting said guide member to said upper shaft in predetermined relatively fixed relation for supporting said upper shaft and said canopy in substantially vertical relation in one position of rotation of said guide member and at an angular relation to the vertical in other rotated positions of said guide member on said lower shaft, and means for releasably retaining said guide member in predetermined angular positions of adjustment on said lower shaft to maintain a desired tilt of said umbrella.

4. A tiltable umbrella comprising a shaft for supporting the umbrella canopy, a standard adapted for fixed upright mounting, a lower arm inclined upwardly from the upper end of said standard and at a predetermined angle thereto, an upper arm inclined downwardly from said shaft, said upper arm being supported on and in concentric relation with said lower arm, said upper arm being inclined with respect to said shaft at substantially the same angle as said predetermined angle to locate said shaft in upright substantially parallel relation with said standard, said upper arm being rotatable about the axis of said lower arm to cause said shaft to tilt from said upright position, and cooperating means on said arms for maintaining said shaft in tilted relation with said standard.

5. A tiltable umbrella comprising a shaft for supporting the umbrella canopy, a standard adapted for fixed upright mounting, a lower arm inclined upwardly from the upper end of said standard and at a predetermined angle thereto, an upper arm inclined downwardly from said shaft, said upper arm being supported on and in concentric relation with said lower arm, said upper arm being inclined with respect to said shaft at substantially the same angle as said predetermined angle to locate said shaft in upright substantially parallel relation with said standard, said upper arm being rotatable about the axis of said lower arm to cause said shaft to tilt from said upright position, and means for rotating said lower arm about the axis of said standard to vary the direction of tilt of said shaft.

6. A tiltable umbrella comprising a shaft for supporting the umbrella canopy, a standard adapted for fixed upright mounting, a lower arm inclined upwardly from the upper end of said standard at a predetermined angle, an upper arm inclined downwardly at substantially the same said angle from said shaft, means for supporting said upper arm on said lower arm for rotational movement about the axis of said lower arm between an upright position of said shaft and a position of maximum tilt wherein the projections of said shaft and standard define an angle which is double the angle of inclination between said lower arm and said standard, and cooperating means on said arms for maintaining said shaft in tilted relation with said standard.

7. A tiltable umbrella comprising a shaft for supporting the umbrella canopy, a standard adapted for fixed mounting, a lower arm carried by said standard, said arm having the lower end thereof offset from said standard and being

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inclined upwardly toward the upward projection of said standard at a predetermined angle, said shaft including a main straight section and an upper arm projecting downwardly from an intermediate point on said straight section to form an inverted Y with said main section at substantially the same predetermined angle, means for mounting said upper arm in telescoping relation with said lower arm to locate said shaft in upright and parallel relation with said standard, and means for effecting rotation of said upper arm on the axis of said lower arm to tilt said shaft from said upright position.

8. A tiltable umbrella comprising a shaft for supporting the umbrella canopy, a standard adapted for fixed mounting, a lower arm carried by said standard, said arm having the lower end thereof offset from said standard and being inclined upwardly toward the upward projection of said standard at a predetermined angle, said shaft including a main straight section and an upper arm projecting downwardly from an intermediate point on said straight section to form an inverted Y with said main section at substantially the same said predetermined angle, means for mounting said upper arm in telescoping relation with said lower arm, means for effecting rotation of said upper arm on the axis of said lower arm to shift said shaft between a tilted position with respect to said standard upright position parallel with respect to said standard, and means forming a rotatable connection between said lower arm and said standard for rotating said arm on the axis of said standard to change the direction of tilt of said shaft.

9. A tiltable umbrella comprising an upper handle section for supporting the umbrella canopy, a lower handle section adapted for fixed mounting, a middle handle section including a generally S-shaped member, means mounting said S-member on said lower section with one end thereof pointing upwardly and the other end thereof pointing downwardly and supported for rotation on the axis of said lower section, an arm on said one end of said S-member projecting upwardly therefrom and inclined toward the projection of said lower section, a connection supporting said upper section on said arm with said upper section upright, and means for effecting rotation of said connection on the axis of said arm to cause tilting of said upper section with respect to said lower handle.

10. A tiltable umbrella comprising an upper handle section for supporting the umbrella canopy, a lower handle section adapted for fixed mounting, a middle handle section including a generally S-shaped member, means mounting said S-member on said lower section with one end thereof pointing upwardly and the other end thereof pointing downwardly and supported for rotation on the axis of said lower section, an arm on said one end of said S-member projecting upwardly therefrom and inclined toward the projection of said lower section, a connection supporting said upper section on said arm with said upper section upright, means for effecting rotation of said connection on the axis of said arm to cause tilting of said upper section with respect to said lower handle, and said S-member being rotatable with respect to said lower section on the axis of said lower section to change the direction of tilt of said upper section.

11. A tiltable umbrella comprising an upper handle section, a lower handle section adapted for fixed upright mounting, a middle handle section including a generally S-shaped member, means mounting said S-member on said lower handle section with one end thereof pointing upwardly and the other end thereof pointing downwardly and supported for rotation on the axis of said lower section, an

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arm on said one end of said S-member projecting upwardly therefrom in inclined relation toward the projection of said lower section, a connection supporting an intermediate portion of said upper section on said arm with said upper section upright and with the lower end of said upper section suspended in spaced relation with said lower section, a canopy including braces pivoted at a fixed location on said upper section, a staff telescoped within said upper section, said canopy including ribs pivoted to said staff for movement therewith with respect to said upper section, an operating handle secured to said staff within said suspended lower end of said upper section, said upper section having a bayonet slot therein for receiving said operating handle in radially projecting relation therethrough, and offset seats on said upper section adjacent each end of said slot for retaining said operating handle therein to hold said canopy in open or closed position respectively.

12. A tiltable umbrella comprising a shaft, a standard adapted for fixed upright mounting, a lower arm inclined upwardly from the upper end of said standard and at a predetermined angle thereto, an upper arm extending downwardly from a point on said shaft spaced upwardly from the lower end thereof, said upper arm being supported on and in concentric relation with said lower arm to maintain the lower end of said shaft suspended in spaced relation with said standard, a canopy including braces pivoted at a fixed location on said shaft, a staff telescoped within said shaft, said canopy including ribs pivoted to the upper end of said staff for movement therewith with respect to said shaft, an operating handle secured to said staff within said suspended lower end of said shaft, said shaft having a bayonet slot therein for receiving said operating handle in radially projecting relation therethrough, and offset seats on said shaft adjacent each end of said slot for retaining said operating handle therein to hold said canopy in open or closed position respectively.

13. A tiltable umbrella comprising a shaft, a standard adapted for fixed upright mounting, a lower arm inclined upwardly from the upper end of said shaft and at a predetermined angle thereto, an upper arm extending downwardly from a point on said shaft spaced upwardly from the lower end thereof, said upper arm being supported on and in concentric relation with said lower arm to maintain the lower end of said shaft suspended in spaced relation with said standard, the angle of inclination between said upper arm and said shaft being substantially equal to said predetermined angle to locate said shaft in upright substantially parallel relation with said standard, said upper arm being rotatable about the axis of said lower arm to cause said shaft to tilt from said upright position, a canopy including braces pivoted at a fixed location on said shaft, a staff telescoped within said shaft, said canopy including ribs pivoted to the upper end of said staff for movement therewith with respect to said shaft, an operating handle secured to said staff within said suspended lower end of said shaft, said shaft having a bayonet slot therein for receiving said operating handle in radially projecting relation therethrough, and offset seats on said shaft adjacent each end of said slot for retaining said operating handle therein to hold said canopy in open or closed position respectively.

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