Jan. 22, 1963 A. FOLTIS ETAL 3,074,419

UMBRELLAS

Filed March 7, 1958

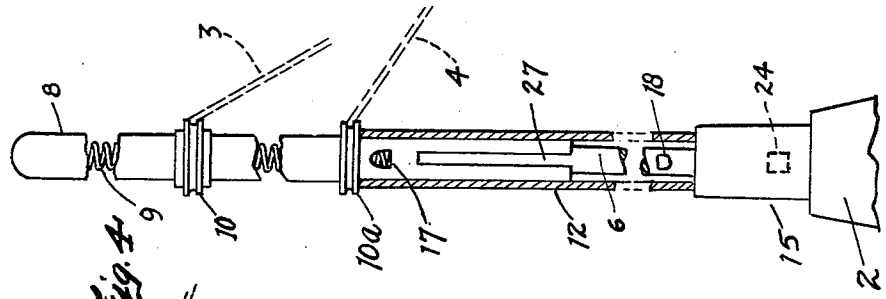


Fig. 4

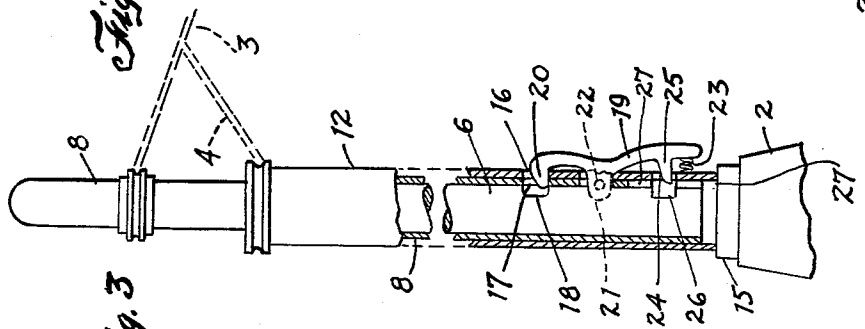


Fig. 3

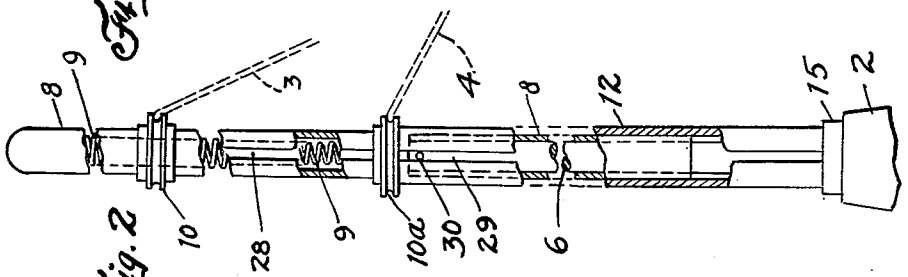


Fig. 2

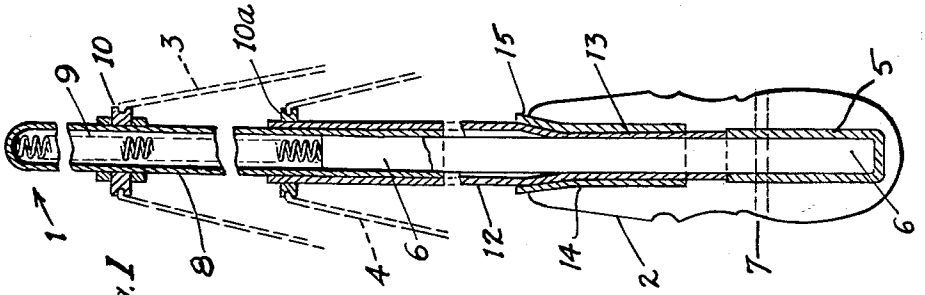


Fig. 1

INVENTORS

ANESTIS FOLTIS

BY PHILLIP KATES

William F. Nickel

ATTORNEY

United States Patent Office 3,074,419 Patented Jan. 22, 1963

3,074,419

UMBRELLAS

Anestis Foltis, New York, N.Y. (50—50 Hampton St., Jackson Heights, N.Y.), and Phillip Kates, 358 5th Ave., New York, N.Y.

Filed Mar. 7, 1958, Ser. No. 719,954
4 Claims. (Cl. 135—22)

Our invention is an improvement in umbrellas and parasols, having covers that can be distended and folded.

An important object of this invention is to provide an umbrella or the like having a cover and a rod with ribs to which the cover is atached; and so constructed that the cover can be distended or folded in the usual way when the user grasps the rod in one hand and manipulates the umbrella with the other; or distended and collapsed with one hand only.

Another object is to provide a rod to which the ribs of the umbrella are pivotally connected, but which is made in sections assembled in such a manner that they can operate to spread or collapse the ribs without requiring both hands of the user to assure such results.

The nature and advantages of our invention are clearly described hereinafter, and several embodiments of our improvement are illustrated in the accompanying drawings. But this disclosure is by way of example only and many variations in structural details may be adopted without deviating from the main design in which the invention resides.

On said drawings:

FIGURE 1 is a longitudinal section through the rod of an umbrella for instance, showing the parts of the rod and the mode of assembly, the section being on line 1—1 of FIGURE 3, looking toward the left.

FIGURE 2 is a similar view showing said parts in a different position, partly in section, showing the opposite side of the device as indicated on FIGURE 3.

FIGURE 3 is a view seen from the opposite side of the rod, as it appears in FIGURE 2, the parts being enlarged.

FIGURE 4 is a similar view seen from the right of the construction as illustrated in FIGURE 3.

With reference first to FIGURES 1 and 3, the umbrella is shown as comprising a rod 1 with a handle 2 of any suitable material at one end. This rod carries ribs 3 to which the cover, not shown, is attached, and the spreading links or struts 4 which distend the ribs and cover. The handle is hollow and within it is a cup-shaped, metallic socket 5, open at the inner end of the handle; and secured within this socket is the end of a fixed solid shank 6 which extends out of the handle, the socket 5 and shank 6 being secured by a pin 7 in the handle 2.

The rod 1 is a composite member and comprises a hollow terminal top section 8, slidably mounted upon the outer end of the shank 6 and containing a compression spring 9, which seats at one end against the shank 6 and at the other end against the outer closed end of this section 8. The ribs 3 are pivotally secured in the usual way to a collar 10 affixed to the section 8, and the links 4 are similarly attached to another collar 10*a* fixed on the outer end of a sleeve 12, and the collar 10*a* is at such distance from the collar 10 that, when the collars 10 and 10*a* are moved toward each other, the ribs 3 are distended, and when the collars are moved apart the ribs and cover are collapsed.

The sleeve 12 envelops the inner end portion of the section 8 and is large enough in diameter to allow free relative sliding movement of the parts 8 and 12. The end 13 of the sleeve 12 at the handle 2 is of reduced diameter and is shown in FIGURE 1 retracted within the handle; being housed in an annular space 14 between the handle 2 and shank 6. The space 14 opens through

the inner end of the handle 2 and terminates short of the socket 5, and the reduced end portion 13 of the sleeve 12 is joined to the main part of sleeve 12, with the larger diameter, by a coupling section 15. When the umbrella is in collapsed condition, the compressive force of the spring 9 maintains the section 8 in its outermost position on the shank 6; and the sleeve 12 has its small portion 13 within the space 14 surrounding the shank 6.

The section 8 terminates at the proper point between the handle 2 and collar 10*a*, when the umbrella is collapsed. Obviously, if the smaller portion 13 of the sleeve 12 is within the handle 2 and in contact with the socket 5, and the section 8 is projected by the spring 9, as in FIGURE 1, any pressure on the outer end of the section 8 will force this section towards the handle, sliding between the shank 6 and the sleeve 12, and compressing the spring 9. As the collars 10 and 10*a* are fixed, one on the section 8 and the other on the end of the sleeve 12, this movement of the section 8 against the force of the spring 9 will cause the links 4 to force the ribs 3 outward.

The outer sleeve 12 has an opening 16 therein (see FIGURE 3) and the section 8 has a cooperating opening 17, the shank 6 having a depression 18. These openings and depression all register to permit the hooked end 20 of a catch 19 to enter them when the section 8 is forced inward into the sleeve 12 against the spring 9. Then the catch 19 will lock the section 8 in retracted position and the umbrella is kept raised. The catch 19 is pivoted to opposite sides of the outer sleeve 12 by lugs 21 and short pins or rivets 22; and in the section 8, extending from a point near the aperture 17 to the inner end of the section 8, is a slot 27 which is open at the end presented towards the handle 2. The end of the catch opposite the hook 20 is engaged by a spring 23, which may be either a coil spring or a leaf spring, and normally urges the hooked end 20 towards the rod 1. The slot 27 is open at the inner end of the section 8. The catch 19 and abovenamed openings are at the left of the umbrella as it appears in FIGURE 2, but are omitted for the sake of clearness.

The catch also has a second projection 25 near the spring 23, and the shank 6 has another depression 26 nearer the handle 2. In the sleeve 12 in the end portion adjacent the handle is another aperture 24. When the end of the catch 19 at the spring 23 is depressed to withdraw the projection 20 from the openings 16 and 17 and depression 18, the other projection 25 enters the opening 24 and depression 26, securing the sleeve 12 to the shank 6 as the spring 9 expands and thrusts the section 8 outward to its former position and collapses the ribs and cover. Otherwise the sleeve 12 might be caused to move with the section 8, and the folding of the ribs and cover prevented.

With the parts in the position shown in FIGURE 1, if the owner of the umbrella now wishes to open it with one hand, he holds the umbrella with the closed outer end of the section 8 in position against a wall, floor or pavement, or any fixed object and pushes on the handle 2. With the sleeve 12 having its end portion 13 in the handle 2, the opening 24 now registers with the depression 26 in the shank 6, and as the section 8 is forced towards the handle 2, the slot 27 in the section 8 clears the projection 25 on the catch 19, and the part of the section 8 at the end of the slot 27 slips past the rounded end of projection 20 of the catch 19, so that the opening 17 can be alined with the opening 16 and depression 18. The catch 19 thus locks the section 8 to the sleeve 12 and shank 6 and keeps the spring 9 under compression. This movement of the section 8, of course, distends the ribs 3.

When the umbrella is to be closed, the owner presses

on the end of the latch 19 under which is the spring 23, pushing the projection 25 through the opening 24 and into the depression 26 in the shank 6, and the inner section 8 is released. The end 20 of the latch 19 is now pulled out of the opening 17 in the section 8. The spring 9 then forces this inner section outward to original position and the ribs and links are collapsed. The slot 27 in the section 8 gives sufficient clearance to the projection 25 on the latch 19 as the section 8 is returned by the spring 9, and the projection 25 on the catch is now in the depression 26, holding the sleeve 12 stationary. The catch 19, the holes in the section 8 and sleeve 12, and depressions 18 and 26 in the shank 6 are omitted in FIGURES 1, 2 and 4, but can be located conveniently say, on the front side of the rod 1, as shown in FIGURES 1 and 3, or rear side as shown in FIGURE 3. The umbrella can thus be closed with one hand quite easily.

With the umbrella collapsed with the parts in position as in FIGURE 1, the coupling member 15 will be entirely within the handle 2. The section 8 is now held out by the spring 9, and its opening 17 is beyond the end of the shank 6 which one end of the spring 9 abuts. If it is desired to raise the umbrella with both hands, the owner takes hold of the handle 2 with one hand and, with his other, pushes the sleeve 12 outward away from the handle 2. The latch 19 is pressed to move its end 20 clear of the opening 16. The collar 10*a* on the outer end of this sleeve 12 then thrusts against the links 4 and raises the ribs 2, but the spring 9 in the section 8 is not compressed. The projection 20 of the catch 19 moves along the slot 27 in the section 8 and when the ribs are fully distended, the projection 20 of the catch slips into opening 17 of the sleeve 8 and the ribs and cover are held in raised position as before. See FIGURE 3. A pin 30 in the shank 6 engages a slot 29 in the sleeve 12 between the collar 10*a* and coupling 15 to prevent turning of this sleeve, and the same pin engages a slot 28 in the sleeve 8 closed near the inner end thereof to limit the outward movement of the section 8.

When the umbrella is to be collapsed again, the catch 19 is released by pressing on the end having the spring 23. At this time, the projection 25 is pressed into the slot 27 far enough for the retraction of the other projection 20 from the opening 16 to permit the sleeve 12 to be pulled back toward the handle and carry the ribs downward to close the umbrella with one hand. If desired, another depression may be formed in the shank 6 just below the spring 9 to allow more inward movement of the projection 20 at this time. The sleeve 12, as it moves toward the outer end of the section 8, of course, carries the coupling 15 with it, but does not entirely withdraw it from the handle 2. See FIGURE 4.

Having described our invention what we believe to be new is:

1. An umbrella comprising a hollow top section with ribs pivoted thereto for a cover to be attached over said ribs, a sleeve into which said section telescopes, links pivotally connecting said ribs and the adjacent end of said sleeve, a shank in the section which is slidable thereon, a coil spring carried by said section and having one end engaging the section and its other end seated on said shank, said umbrella comprising a handle on said shank, and a latch on said sleeve adjacent the handle to engage the shank to hold both said section and sleeve in retracted position.

2. An umbrella comprising a hollow rod forming a main suppor therefor and having a top tubular section with ribs pivoted thereto for a cover to be attached over said ribs, a sleeve externally telescoping said section, links pivotally connecting said ribs and the adjacent end of the sleeve, a coil spring carried by said section, a shank in said section which is slidable thereon, seating said spring, a latch on the opposite end of the sleeve, to engage the shank and hold the said sleeve and section retracted and said spring compressed when the ribs are distended and when released disengaging the sleeve and section, allowing the spring to expand and collapse said ribs and said links.

3. The umbrella according to claim 2 wherein said rod has a handle at one end to which the shank is fixed, the spring being within said section and seated against the outer end of the section, said section, shank and sleeve having openings to be engaged by said latch.

4. The umbrella according to claim 2 wherein the shank has a handle fixed at one end, the latch being adjacent said handle, the section having its outer end closed, the spring being within said section and seated against said shank the outer end of the section, said section, shank and sleeve having openings to be engaged by said latch, said sleeve being slidably mounted on said section.

References Cited in the file of this patent

UNITED STATES PATENTS

601,096	Hager	Mar. 22, 1898
638,700	Cameron	Dec. 12, 1899

FOREIGN PATENTS

877,187	Germany	May 21, 1953