

[54] **TELESCOPIC UMBRELLA**

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[56] **References Cited**  
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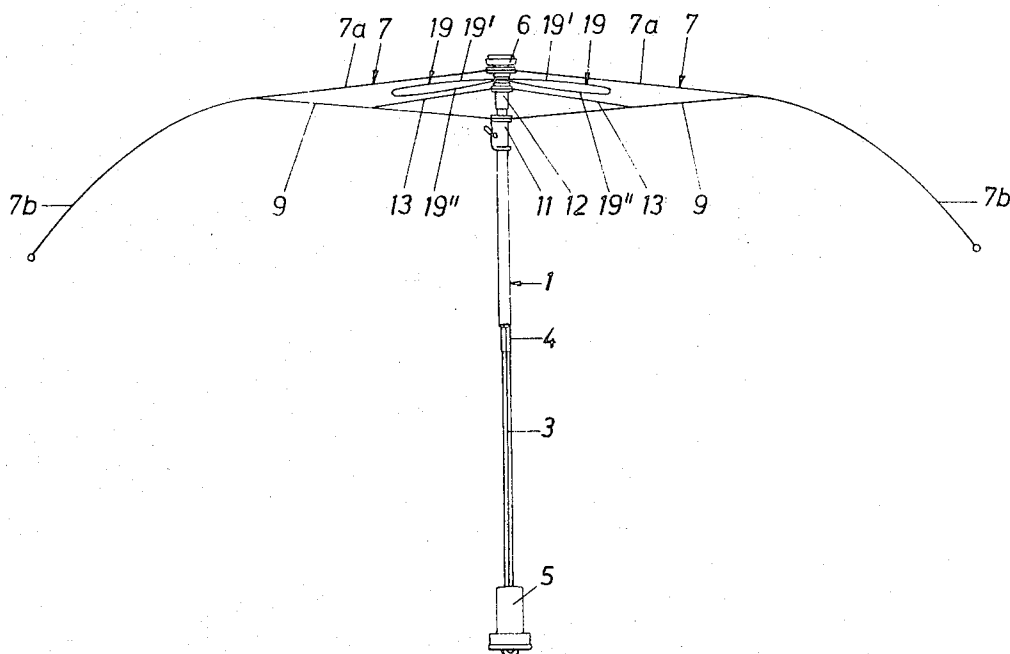
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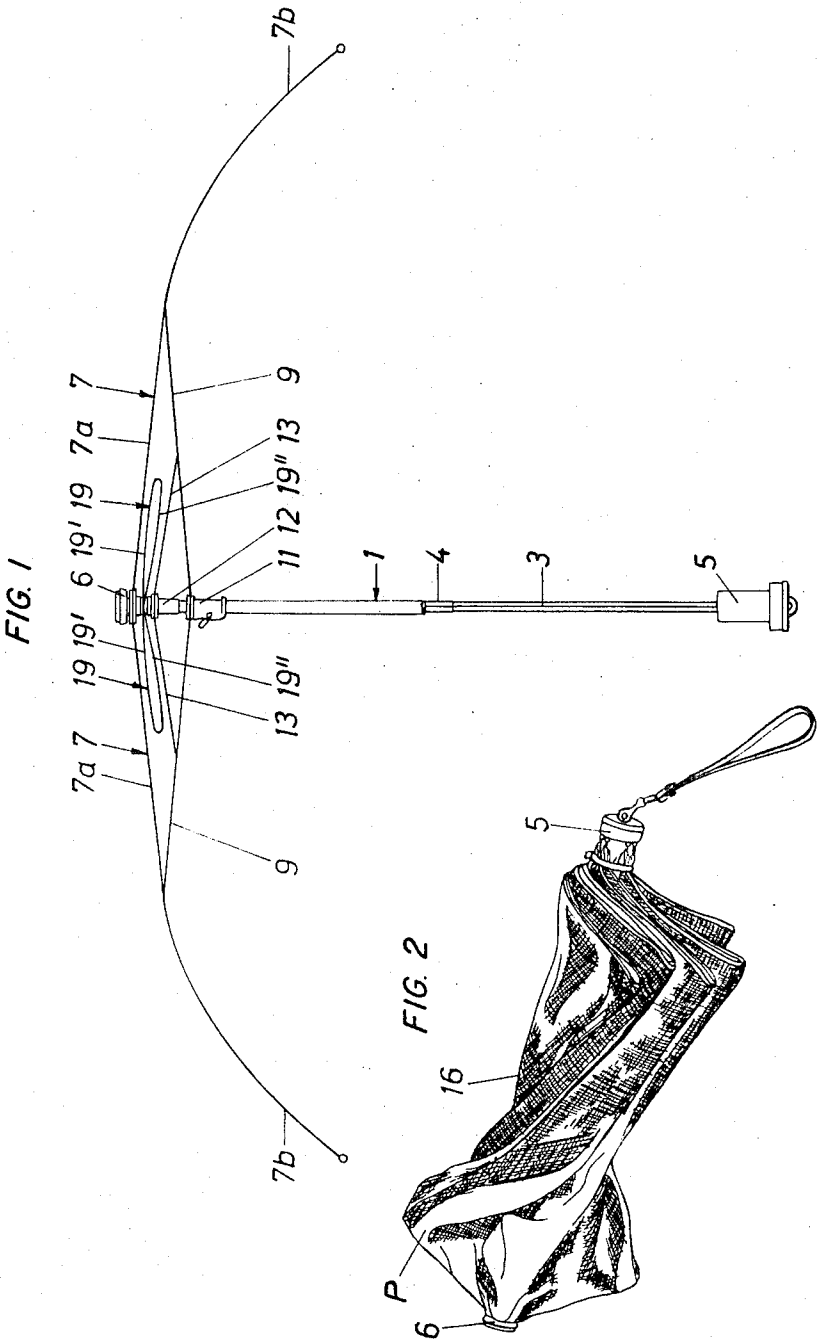
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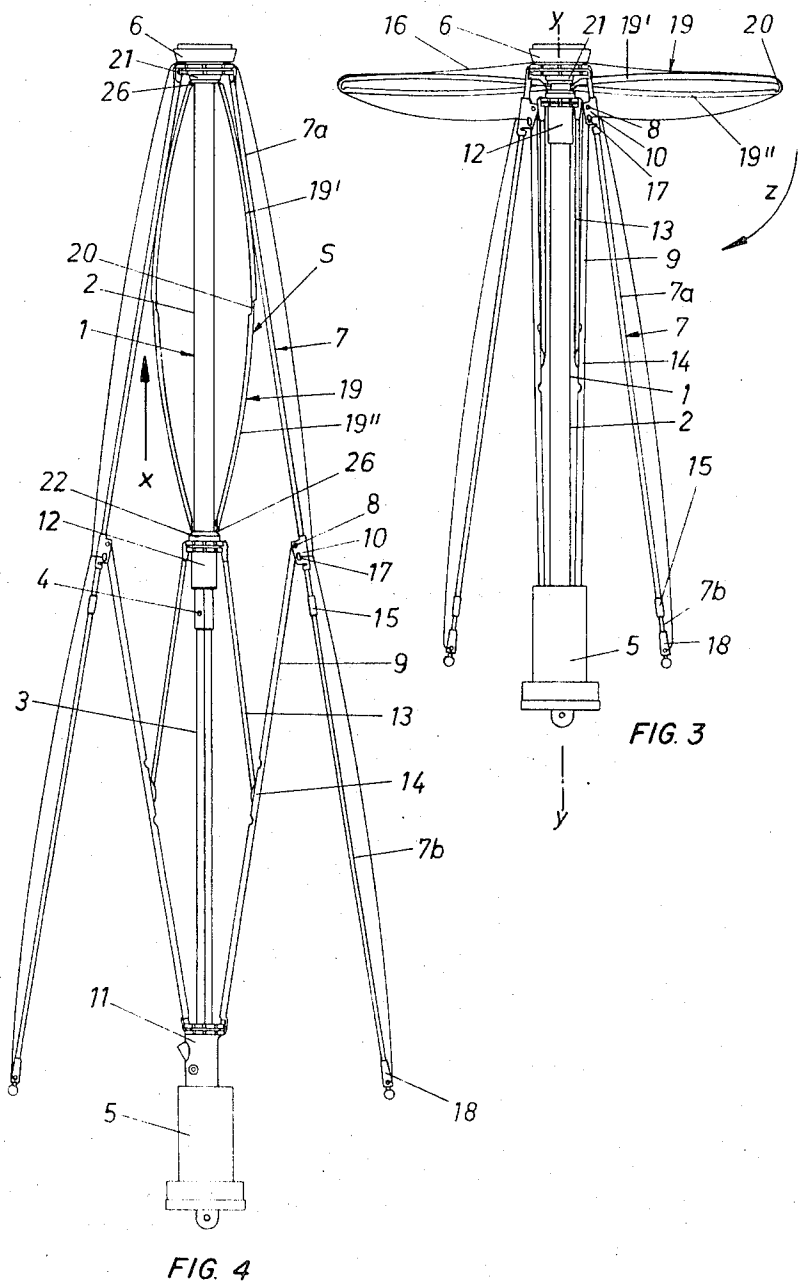
[57] **ABSTRACT**

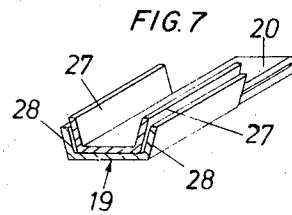
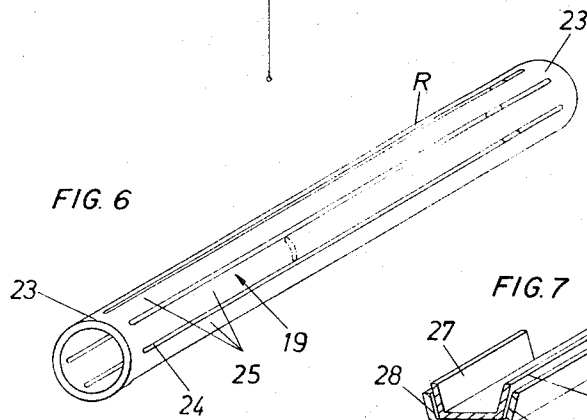
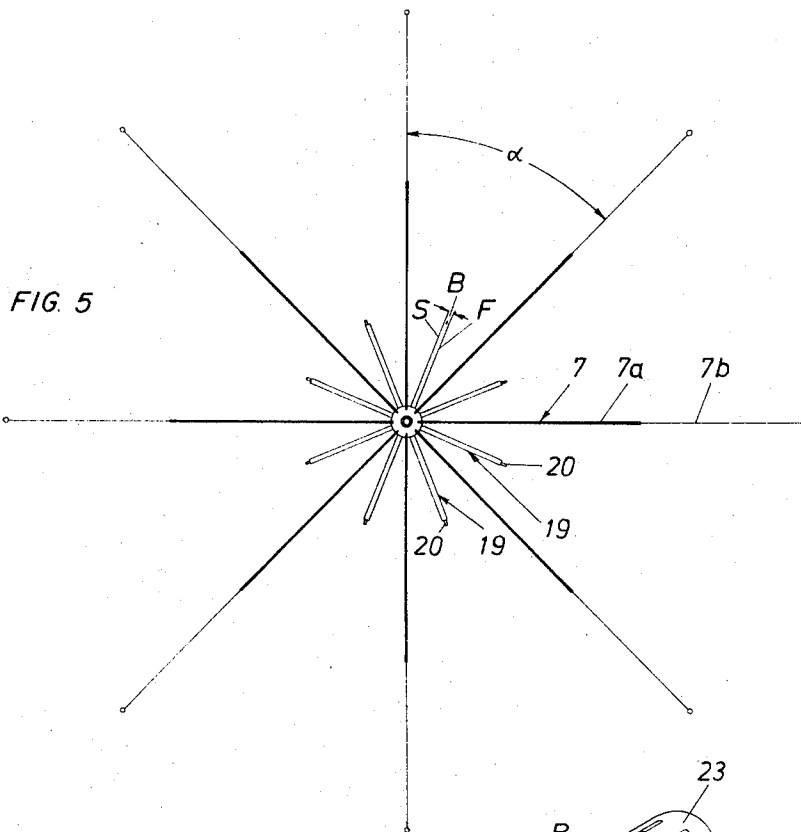
The umbrella has a frame with a telescopic stick and telescopic dome ribs. At least one runner is provided for sliding movement on the stick and mounts support members for opening and closing the dome ribs, and the runner is in a position adjacent the crown of the umbrella when the umbrella is in a closed collapsed position. Foldable spokes are hinged to the crown and to the runner such that when the umbrella is being collapsed, the spokes fold and expand outwardly normal to the axis of the stick so as to spread out the mushroom being formed by the cover material as the umbrella is being collapsed.

**5 Claims, 7 Drawing Figures**









## TELESCOPIC UMBRELLA

## BACKGROUND OF INVENTION

## 1. Field of Invention

The present invention relates to an umbrella and more particularly to an improvement in telescopic umbrellas having telescoping dome ribs and a telescoping stick.

## 2. Description of Prior Art

In conventional telescopic umbrellas, about the only part of the umbrella which cannot be neatly and efficiently collapsed is the cover. The covering material is usually attached centrally at the crown of the umbrella and at the tips of the dome ribs. Often the umbrella cover is also attached at an intermediate point to a sliding geats on the dome ribs. However, as the dome ribs are being telescoped, the portion of the cover between the attachment at the geats and at the crown is usually bunched in a bulky condition and must be manually reformed and neatly folded before inserting the telescoped umbrella into a sheath. Furthermore, the folds of the cover between its attachment with the geats and the crown are often pinched by the geats against the crown when the umbrella is fully collapsed. This can give rise to accidentally tearing of the cover in this area.

## SUMMARY OF INVENTION

It is an aim of the present invention to provide an umbrella frame and cover whereby when the umbrella is being telescoped into a collapsed condition, the cover material between its attachment with the geats on the frame and the crown assumes a spread-mushroom shape which is then easily folded for insertion into an umbrella sheath.

A construction in accordance with the present invention includes an umbrella frame having a telescopic stick, a crown at one end of the stick, and a handle at the other end thereof, dome ribs hinged to the crown, a runner slidably movable on the stick which assumes a position adjacent the crown when the umbrella frame is in a closed collapsed condition, a plurality of foldable spokes hinged to the runner and to the crown, a cover attached to the crown and to the dome ribs, the spokes being foldable such that when the umbrella is being closed and collapsed, they will fold and assume a normal position to the axis of the stick, forcing the cover to form a mushroom extending outwardly of the stick.

## BRIEF DESCRIPTION OF THE DRAWINGS

Having thus generally described the nature of the invention, reference will now be made to the accompanying drawings, showing by way of illustration, a preferred embodiment thereof, and in which:

FIG. 1 is a schematic view in elevation of an umbrella frame and cover embodying the present invention;

FIG. 2 is a perspective view of an umbrella being closed;

FIG. 3 is a side elevation of the umbrella in a closed collapsed position and showing the cover in outline;

FIG. 4 is a side elevation of a closed umbrella frame prior to its being telescoped to a collapsed position and showing the umbrella cover in outline;

FIG. 5 is a schematic top plan view of the umbrella;

FIG. 6 is a perspective view of a detail of the umbrella; and

FIG. 7 is a fragmentary enlarged perspective view of a detail of the umbrella.

## DESCRIPTION OF PREFERRED EMBODIMENT

Referring now to the drawings, the umbrella is shown as having a stick 1 comprising two telescopic tubular sections 2 and 3. Section 2 is of circular cross section, while section 3 is of polygonal cross section. The open end of the stick section 2 includes a mouth which is formed in the shape of a polygonal cross section to receive the stick section 3. A conventional catch 4 is also provided in the area of the mouth formed at the end of the stick section 2.

A crown 6 is mounted at the other end of the stick section 2 and dome ribs 7 are hinged to the crown. Each dome rib 7 includes telescopic sections 7a and 7b with section 7b telescoping within the section 7a. The outer section 7b is connected to a geats 10 at a hinge connection 8.

A main runner 11 slides on the umbrella stick and stretcher members 9 are hinged to the main runner as well as to the geats 10 at the hinge connection 8. An auxiliary runner 12 slides on the umbrella stick between the main runner 11 and the crown 6 and hinged to the crown 6 and hinged to struts 13 which in turn are hinged to a mid-point of the stretcher 9 at 14. A bushing 15 is provided at the end of the dome rib section 7a and limits the movement of geats 10 outwardly from the crown. The umbrella canopy or cover 16 is attached centrally to the crown 6. It is also attached to the sliding geats 10 which are provided with a suitable eye 17. Finally, the canopy 16 is attached to the ends 18 of the outer dome rib sections 7b.

A cover spreader S is provided between the auxiliary runner 12 and the crown 6. The cover spreader S includes spaced-apart elongated members F. These members are in the form of spokes 19 and take a spread position when the runner 12 is moved upwardly towards the crown 6 in the direction of arrow X. The spokes 19 are made of resilient thermoplastic material preferably, and include a bending area 20 centrally of the spoke 19. The spokes 19 each include sections 19' and 19'' which are of channel-shaped cross section and in opposed relation relative one to the other. Since the spokes 19 are always bowed outwardly even when the umbrella is fully extended such as shown in FIG. 4, they bend easily about the bending area 20 when the runners move upwardly, assuming a position at right angles to the axis Y—Y of the umbrella stick. When the umbrella is being closed as shown in FIG. 3, the spokes 19 which now form the fingers F push the umbrella cover 16 outwardly into a mushroom shape thereby preventing the cover 16 from getting folded and pinched between the geats 10 and the crown 6. The spokes 19 may be connected to a flange 21 on the crown 6 and a flange 22 on the auxiliary runner 12. On the other hand, the spokes may also be constructed as shown in FIG. 6 by slitting a sleeve R into elongated sections 25 divided by the slits 24. When the umbrella is being assembled, the sleeve R is placed on the umbrella stick 1 between the runner 12 and the crown 6. When the rings 23 formed at the end thereof are loaded by means of the runner 12, the arched wall sections 25 which therefore buckle only in an outward direction are positively spread.

The hinges 20 of the spokes 19 are formed by reducing the thickness of the web of the material at that location and eliminating any flanges which might be present

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in the spoke 19, particularly in the sections which are of channel-shaped construction. The spokes are also located such that they do not coincide with the dome ribs 7, but rather project into the angular space  $\alpha$  between the dome ribs 7.

When the umbrella is fully opened as shown in FIG. 1, or when the spokes 19 are spreading the cover material as shown in FIG. 3, the spokes are reinforced by the fact that the sections 19' and 19'' nest one within the other as shown in FIG. 7.

I claim:

1. An umbrella including an umbrella frame and cover, the umbrella frame having a telescopic stick, a crown at one end of the stick, and a handle at the other end thereof; telescopic dome ribs hinged to the crown; a runner slidably movable on the stick such that it assumes a position adjacent the crown when the umbrella frame is in a closed collapsed condition; a plurality of foldable spokes hinged to the runner and to the crown such that when the runner is moved towards the crown, the spokes will fold outwardly and assume a position normal to the axis of the stick, a cover attached to the

4

crown and to the dome ribs whereby when the umbrella is being collapsed, the spokes which are being folded outwardly will force the cover to form a mushroom extending outwardly of the stick.

2. An umbrella as defined in claim 1 wherein the spokes are individually attached to a flange connected to the runner and to a flange connected to the crown, respectively.

3. An umbrella as defined in claim 1 wherein the spokes bend outwardly between the hinge plane of the individual dome ribs.

4. An umbrella frame as defined in claim 1 wherein the spokes are formed by a resilient plastic tube with spaced-apart axial parallel slits defining the spokes therebetween and the tube is fitted on the stick between the runner and the crown.

5. An umbrella as defined in claim 2 wherein each spoke includes a central web portion at a fold area such that it is thinner than the remainder of the spoke and the sections defined on either side of the fold area have channel cross sections facing oppositely.

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