United States Patent [19]

Thur

[11] **3,730,199**

[45] **May 1, 1973**

[54] **UMBRELLA AND SHEATH**

[75] Inventor: **Klaus Thur,** Solingen, Germany

[73] Assignee: **Telesco Brophey Limited,** East Montreal, Quebec, Canada

[22] Filed: **Feb. 11, 1972**

[21] Appl. No.: **225,555**

[30] **Foreign Application Priority Data**

Oct. 13, 1971 Germany.....P 21 50 937.5

[52] **U.S. Cl.**.....**135/20 R,** 135/33 C, 135/44

[51] **Int. Cl.**.....**A45b 25/00**

[58] **Field of Search**.....135/16, 25, 33, 44, 135/20

[56] **References Cited**

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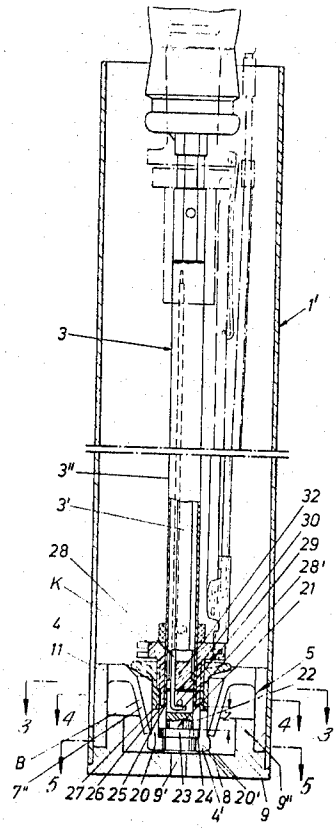
Primary Examiner—J. Karl Bell

Attorney—Alan Swabey

[57] **ABSTRACT**

A collapsible umbrella in combination with a rigid wall sheath, a resilient clip within the sheath adapted to grip the cap of the umbrella when the umbrella is collapsed and in the sheath, the cap includes a split annular flexible head for engagement with the clip and the sheath and a movable core is provided within the cap for engagement in the head. The core is movable from a position within the head upon a full extension of the telescopic stick, thereby releasing the head from engagement with the resilient clip within the sheath.

4 Claims, 7 Drawing Figures



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2 Sheets-Sheet 1

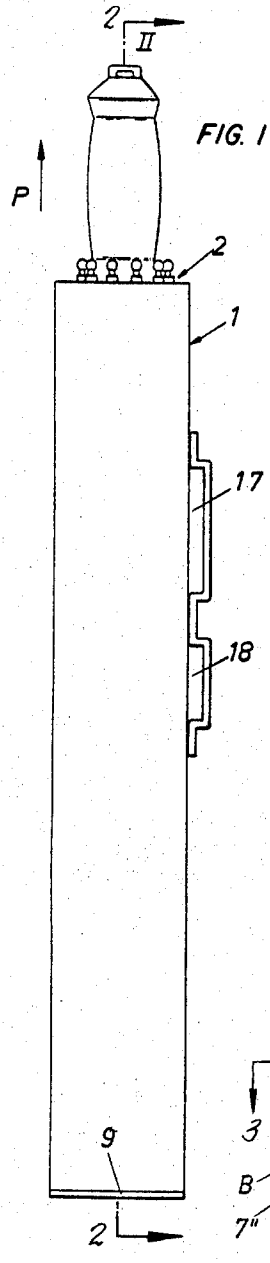


FIG. 1

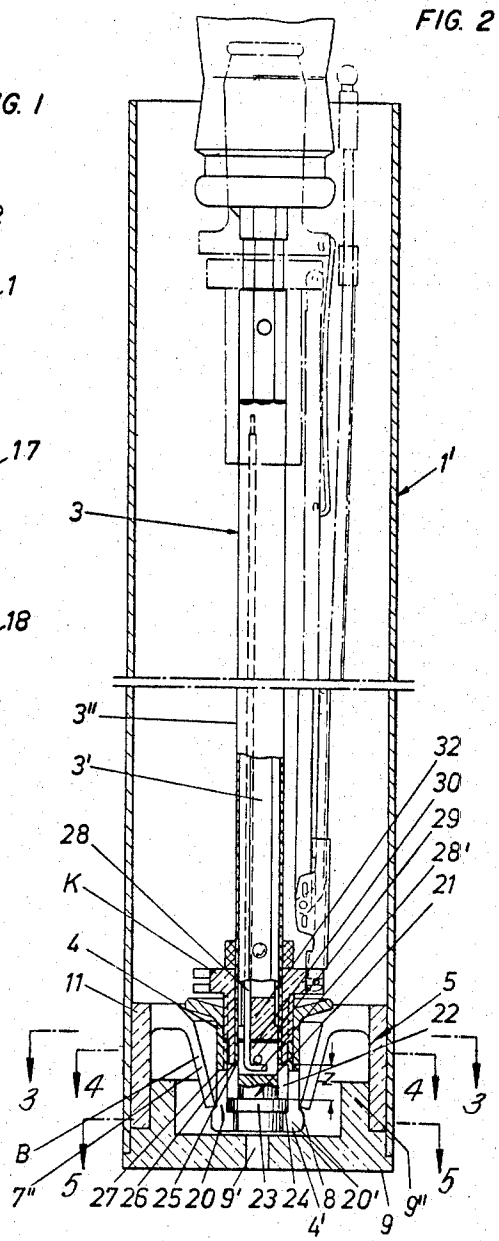


FIG. 2

FIG. 3

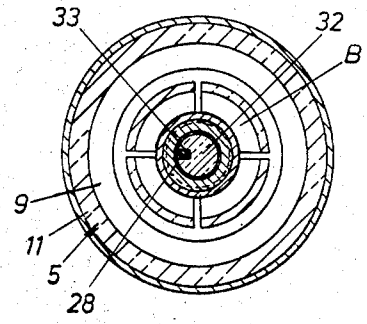


FIG. 4

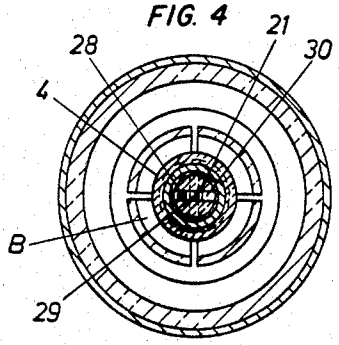
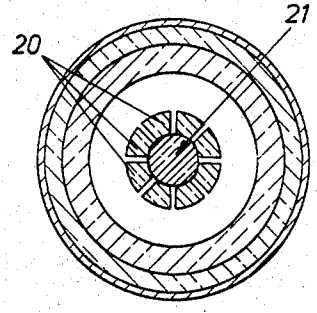


FIG. 5



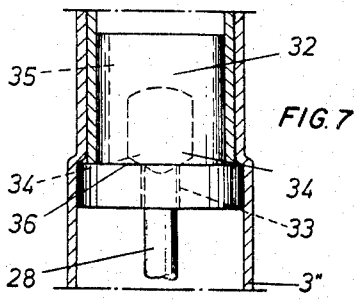


FIG. 7

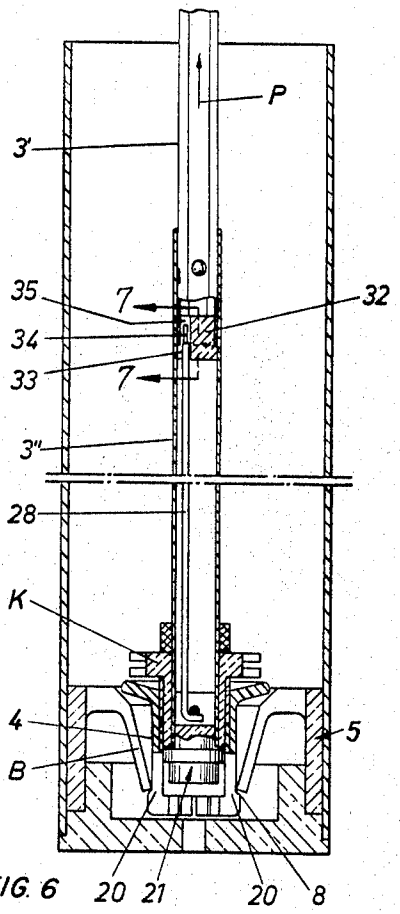


FIG. 6

UMBRELLA AND SHEATH

BACKGROUND OF INVENTION

1. Field of Invention

The present invention relates to a collapsible umbrella in combination with a sheath, and more particularly to a sheath having a length thereof which is equal to the length of the umbrella when in a fully collapsed position and having rigid walls.

2. Description of Prior Art

Reference is made to applicant's copending United States application, Ser. No. 216,082, filed Jan. 7, 1972. In that application, a collapsible umbrella is described in combination with a rigid wall sheath in which there is a resilient clip in the closed end of the sheath adapted to receive one end of the umbrella, preferably the cap end of the umbrella, to engage it in a locking manner. When it is required to retrieve the umbrella from the sheath, the umbrella stick is pulled, but enough force must be provided so that the cap overcomes the resilient grip of the clip within the sheath.

SUMMARY OF INVENTION

The present invention is an improvement over the above-mentioned telescopic umbrella and sheath.

An aim of the present invention is to provide a release of the umbrella cap from the clip within the sheath which is not dependent on sheer force.

In a construction in accordance with the present invention, an umbrella sheath and telescopic umbrella is provided wherein the sheath includes rigid side walls and a rigid end wall. The sheath includes an open end through which the collapsed umbrella may be inserted. The umbrella includes a telescopic stick, a cap at one end of the stick, the cap including an annular split head portion with a central aperture, core means, normally seated within the aperture of the head to expand the head, the sheath including a resilient clip adjacent the end wall of the sheath, the clip adapted to normally engage the head when the core is seated within the head, means associated with the telescopic stick for moving the core axially away from the split annular head when the umbrella stick is being fully extended, thereby allowing the split head to contract when the umbrella is being pulled from the sheath and thereby disengaging itself from the resilient clip.

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 side elevational view of a telescopic umbrella in the umbrella sheath;

FIG. 2 is a vertical cross section taken along lines II—II of FIG. 1;

FIG. 3 is a radial cross section taken along lines III—III of FIG. 2;

FIG. 4 is a radial cross section taken along lines IV—IV of FIG. 2;

FIG. 5 is a radial cross section taken along lines V—V of FIG. 2;

FIG. 6 is a fragmentary longitudinal cross section showing details of the umbrella in a different operable position than in FIG. 2; and

FIG. 7 is a longitudinal cross section taken along lines VII—VII of FIG. 6.

DESCRIPTION OF PREFERRED EMBODIMENT

The embodiment of the umbrella and sheath shown in the drawings includes a sheath 1, which is closed at one end and a collapsible telescopic umbrella 2. The sheath includes the rigid cylindrical wall 1' and has a rigid end wall 9. The end wall 9 is provided with an annular stepped ring 9'' which is spaced from the rigid wall 1' to leave an annular recess. A sleeve 11 of the resilient clip 5 is constructed such that it force fits into the recess between the annular projecting ring 9'' and the rigid wall 1'. The clip 5 also includes resilient jaws B which taper downwardly and inwardly and which are spaced apart one from the other. The jaws may be made of suitable flexible plastic material.

The umbrella includes a telescopic stick 3 having a telescopic stick section 3' connected to the handle and adapted to slide within the hollow stick section 3''' which is connected to the crown K and the cap 4. The cap 4 includes flaring surfaces 8 which are engaged by the flexible jaws B of the clip 5. The cap has a head 4' made up of head segments 20 which are also spaced one from the other by means of slits so as to give the head the necessary radial expansion and retraction flexibility.

The cap 4 and head 4' define a central opening 22. A movable core plug 21 is adapted for limited sliding movement in the hollow stick and into the cavity 22 formed between the head segments 20. The core plug 21 includes an annular shoulder 23 which engages against the shoulders 24 of the ends 20' of the head segments 20 to limit the outward movement of the core plug 21. In the inward direction axially, the movement of the core plug 21 is restricted by the ends 26 of the crown K abutting against the shoulder 23 of the core plug 21. The base 27 of the slits forming the segments 20 ends a short distance from the end faces 25 and 26 of the stick 3'' and the crown K respectively.

The core plug 21 is connected in a lost-motion connection to the inner stick section 3' by means of a tie rod 28. One end of the tie rod 28 is attached to the core plug 21 by means of a transverse pin 29 which passes through a bore 30 containing the bent end 28' of the tie rod 28 as shown in FIGS. 2 and 4. There is a carrier plug 32 force fitted within the inner stick 3' near the free end thereof and a bore 33 is provided longitudinally of the carrier plug 32 to allow the plug to slide over the tie rod 28.

Referring to FIG. 7, the free end of the tie rod 28 is flattened on the opposite side of the carrier plug 32 with the extended portions identified 34 and the shoulders so-formed as 36. The shoulders 36 would, of course, abut against the carrier plug 32 when the stick is being extended.

In operation, when it is required to move the umbrella from the sheath, the handle is gripped and force is applied in a direction P. The umbrella stick 3 will extend from its telescopic position thereby umbrella stick section 3' including the carrier plug 32 will move in the direction P sliding on the tie rod 28. As the umbrella stick section 3' reaches a position close to its fully extended position, the carrier plug 32 engages the shoulders 36 of the flattened end of the tie rod 28 as shown

in FIG. 7 and further movement of the umbrella stick 3' in the direction P will cause the carrier plug 32 to pull the tie rod 28 which will move the core plug 21 axially away from its engagement in the head 4' into a position as shown in FIG. 6. In this position, the head segments 20 will be allowed to retract inwardly, radially on further pulling of the umbrella stick, thereby allowing the cap 4 to be disengaged from the clip 5.

At this point, the umbrella is in a fully extended position as it is pulled out of the sheath, and the user need only actuate a release mechanism to open the dome of the umbrella if the umbrella is a so-called automatic umbrella.

In order to store the umbrella in the sheath, the above operation need only be reversed. When the cap 4 is anchored in a central aperture defined by the jaws B, the segments 20 increase slightly in size and further shortening of the umbrella stick 3, particularly in the final stage of movement, forces the core plug 21 to move axially into a locking position as shown in FIG. 2. Carrier plug 32 in this operation acts as a plunger as it engages the end of the core plug 21 to force it into the cavity 22.

I claim:

1. An umbrella and sheath combination wherein the umbrella is of the collapsible type having a telescopic stick; the sheath has an end wall, rigid side walls and an open end; gripping means provided in the interior of the sheath; cap means provided on one end of the umbrella stick adapted to be engaged by the gripping means; the cap means includes split annular segments adapted for radial contraction and expansion; release means associated with the cap means, including a movable core, which is remotely actuated to lock the segments in engagement with the gripping means of the sheath and to release the cap from the gripping means.

2. An umbrella sheath as defined in claim 1 wherein a tie rod connects the core to a stick section, other than the stick section connected to the cap whereby when the umbrella stick is being extended, the core is retracted from a position locking the segments with the gripping means.

3. An umbrella and sheath as defined in claim 2 wherein the tie rod is connected with the other stick section in a lost-motion connection such that the core plug is only retracted in the last stage of movement of the umbrella stick when being extended.

4. An umbrella and sheath as defined in claim 3 wherein the telescopic stick has two sections, an inner section slidable within an outer section, wherein the inner section is connected to a handle and the outer section is connected to the cap, the tie rod is connected to the core member, a carrier plug connected in the inner stick section adjacent the free end thereof, and including a bore for sliding on the tie rod, abutment means at the free end of the tie rod for engagement with the carrier plug in the final stage of movement of the umbrella stick extension movement.

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