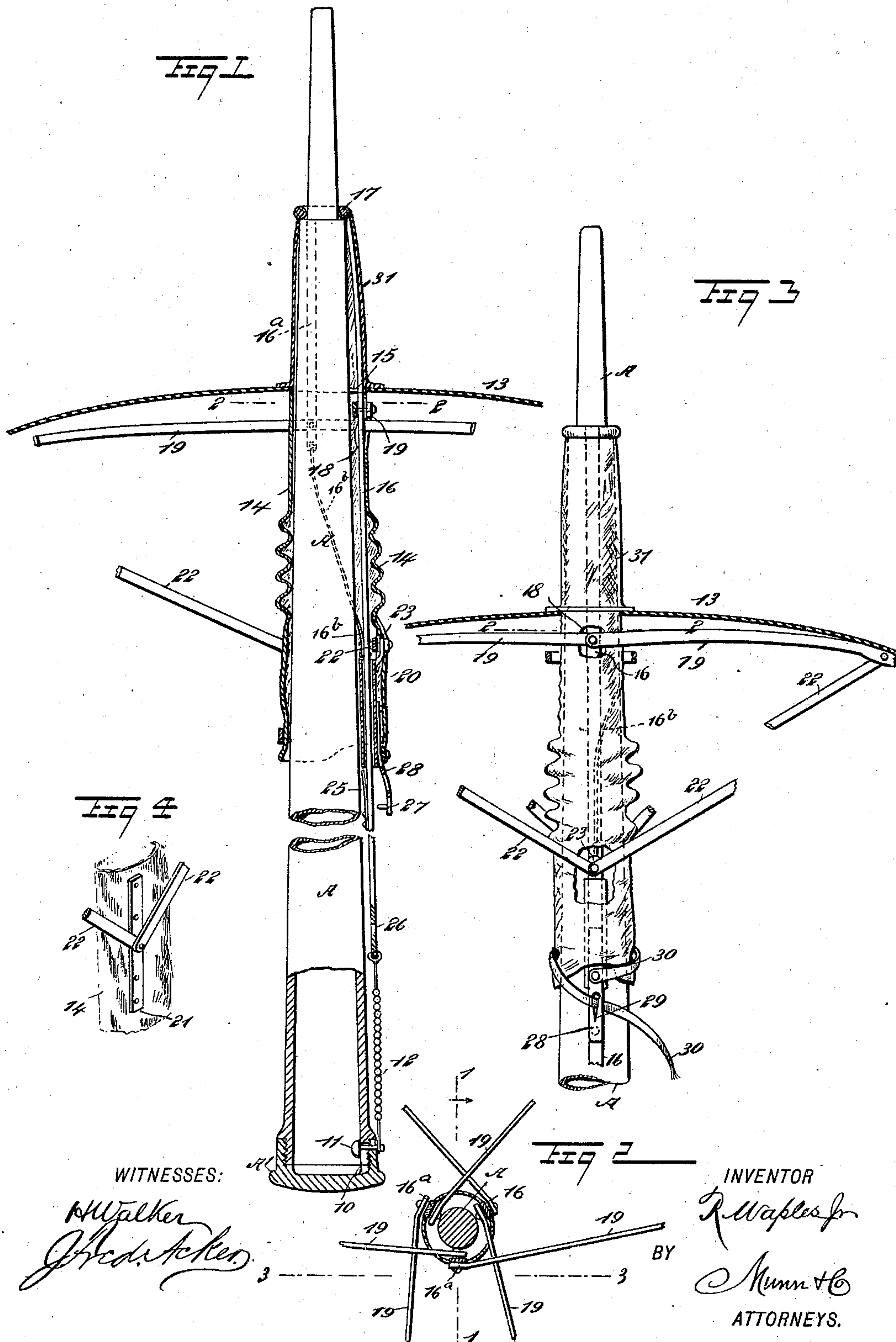


(No Model.)

R. WAPLES, Jr.
UMBRELLA CANE.

No. 558,867.

Patented Apr. 21, 1896.



WITNESSES:

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UMBRELLA-CANE.

SPECIFICATION forming part of Letters Patent No. 558,867, dated April 21, 1896.

Application filed January 19, 1895. Serial No. 535,524. (No model.)

To all whom it may concern:

Be it known that I, RUFUS WAPLES, Jr., of New York city, in the county and State of New York, have invented a new and Improved Umbrella-Cane, of which the following is a full, clear, and exact description.

My invention relates to an improvement in umbrella-canes, and especially to an improvement in such articles as described in Letters Patent granted to me January 3, 1893, No. 489,351, and March 27, 1894, No. 517,315, the object of the invention being to provide an umbrella - canopy supported by ribs and braces of metal or like material, and capable of being compactly folded and introduced into a tubular cane, which cane, when the umbrella is expanded or opened, will constitute the stick therefor.

Another object of the invention is to provide a simple, durable, and economic device whereby the canopy may be expeditiously locked in an open or in a closed position upon the cane-stick, and likewise whereby the umbrella-canopy when closed may be held in a compact form, suitable for introduction into a hollow stick of the proportions of an ordinary cane.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a partial vertical section through the canopy of the umbrella, illustrating it in position upon a cane-stick, the stick being shown as broken at a point in its length and partially in section, the said section being taken practically on the line 1 1 of Fig. 2. Fig. 2 is a horizontal section taken substantially on the line 2 2 of Fig. 1. Fig. 3 is a section through the canopy proper, illustrating the ribs and braces in side elevation, likewise the flexible sleeve connected therewith, together with the means for tying the canopy when in closed form; and Fig. 4 is a detail perspective view of a portion of the lower part of the flexible sleeve, one of the stay-plates

attached thereto, and a portion of two braces connected with said plate.

In carrying out the invention the stick A, that is employed as a support for the canopy, its braces and ribs, is tubular and is shaped as a cane, being intended for use as such. The said cane-stick is fitted with a detachable head A', which is usually screwed thereon, but may be otherwise secured to the body.

The open end of the body of the cane is provided with a slot 10, and in this slot a stud 11 is removably mounted, the said stud being provided with a chain 12, or its equivalent, attached at its outer end. The canopy may be said to consist of a cover 13, which is made of any material usually employed for that purpose in an ordinary umbrella, and a flexible sleeve 14, which at its upper end is attached directly to or is indirectly connected with the said cover, the cover at its center having an opening 15 therein for the passage of the cane-stick A.

A stay-plate 16 is introduced, preferably, on the inside of the flexible sleeve 14, and is attached thereto at or near its upper end by means of stitching or otherwise, the said stay-plate being made of greater length than the said sleeve, extending below its lower end and below the upper point of attachment of the said sleeve to the said stay-plate, the sleeve being free to move on the plate. This stay-plate 16 extends upward through the opening 15 in the cover a predetermined distance beyond the same, as shown in Fig. 1, and preferably two other stay-plates 16^a are likewise employed at the upper portion of the sleeve, as shown in Fig. 2; but the stay-plates 16^a are much shorter than the plate 16, extending from a flexible attachment to stay-plate 16 a short distance within the cover outward through the opening in the umbrella-cover a length corresponding to that of the said plate 16, and the upper or outer ends of the plates 16 and 16^a are connected by a ring 17 or its equivalent.

Each stay-plate 16 and 16^a is visible through an opening 18, made in the upper part of the sleeve near the top, and upon this visible portion of each of said stay-plates two ribs 19 are pivoted, the ribs of each pair extending tangentially from the sleeve, which may

be termed a "runner," in diametrically opposite directions, whereby adjoining ribs of adjoining pairs will be made to cross one another, and the pairs are so attached to their stay-plates that they will not be in the same horizontal plane. The cover is secured to the ribs in the usual manner, except around the center opening. Here the cover is secured to the stay-plates a short distance above the points where the ribs are pivoted to the stay-plates. This makes the cover smooth and prevents strain against the ends of the ribs when the canopy is closed.

It is obvious that when the umbrella is opened a compression will be exerted by the ribs 19, tending to move the stays 16^a, to which they are pivoted, toward the ferrule, and to overcome this tendency the lower end of each short stay 16^a is secured to the stay-plate 16. This is preferably accomplished by a flexible strip 16^b, and these strips are also secured to the long stay 16 at a point which will be just above the upper end of the slide 20 when the latter is in position to hold the canopy expanded. The lower ends of these flexible connecting-strips 16^b, secured to stay-plate 16, also serve as a stop for the slide 20 when pushed as far up the long stay as it should go to engage a latch to be hereinafter described.

The stay-plate 16, in addition to serving as a support for one pair of ribs, is likewise adapted as a guide for a slide 20, the said slide being secured to the lower end of the sleeve or runner 14 by sewing or otherwise, as shown in Fig. 1, and two short stay-plates 21 are also secured to the bottom portion of the sleeve or runner at predetermined distances apart, the locations of the lower stay-plates and the slide 20 being substantially below those of the upper stay-plates 16^a and 16.

A pair of braces 22 is pivotally attached to each lower stay-plate 21 and to an offset 23 from the upper portion of the slide 20. The braces 22 are arranged in the same order as the ribs 19, since a brace is adapted to be pivotally connected with each rib in the manner common to umbrellas. These braces are constructed of the same material as the ordinary umbrella-braces, although any other equivalent material may be used. These braces 22 are pivoted together in pairs at the center tangentially to the stick and the braces of each pair extend in diametrically opposite directions from the common pivot to the ribs.

At a point near the upper end of the longer stay-plate 16 a spring 25 is secured, adapted to support the slide 20 when the umbrella has been opened, and the chain 12 is attached to the lower end of this longer stay-plate, and said plate is provided with an opening 26 near its lower end to receive a stud or pin 27, secured upon a spring-plate 28, attached to the lower end of the slide and projecting therefrom, adapted to lock the umbrella in a closed position on its stick, and in the said

spring-plate 28 a substantially wedge-shaped opening 29 is made, as shown in Fig. 3, and one end of a cord or band 30 is secured to this plate, said band being passed around the lower end of the sleeve or runner, as is also shown in Fig. 3, and thence through the said opening 29 in the spring-plate, whereby, by drawing the band 30 tightly around the sleeve or runner, the latter may be securely connected to the cane-stick, and when the canopy is removed from the stick its ribs may be tied close together by passing said band around them, and held in that position by pushing the band downward in the contracted portion of its opening 29.

In placing the umbrella-cover on the cane-stick the cane is introduced into the larger end of the sleeve or runner 14, it serving as a guide, and the cane is then passed outward through the opening in the cover until the ring 17 of the stay-plates 16 and 16^a clamps the reduced or ferrule end of the stick. The cap or cover A' having been removed to draw the umbrella canopy out from the cane the stud 11 is then entered into the opening 10 at the mouth of the cane-stick, and the cover A' is again placed in position, whereby such tension is exerted on the longer stay-plate 16 as to hold the canopy firmly in position.

If desired, the umbrella may now be carried in closed position, the stud 27 on the spring-plate 28 being made to enter the opening 26 in the stay-plate. When the umbrella is to be opened, the spring-plate is disconnected from the stay-plate, and the sleeve or runner is pushed upward, its slide 20 moving upon the longer stay-plate 16 until, when the ribs and braces have been forced upward sufficiently to spread the cover, said slide will engage with the spring 25 and will hold the cover in its elevated position.

I desire it to be distinctly understood that any other form of catch may be employed to support the runner when the umbrella has been opened. When the umbrella is not required, the canopy may be entirely removed from the stick, closely folded, tied at its upper end, and introduced into the body of the cane-stick, whereupon the head is screwed to place and the stick may be used as an ordinary cane. If in practice it is found desirable, a cap 31 may be made to cover those portions of the upper stay-plates exposed above the cover.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In an umbrella, the combination of a stick, a flexible sleeve adapted to fit said stick, a main stay-plate secured to said sleeve and extending longitudinally of the stick and provided at opposite ends with means for securing it to the ends of the stick, other stay-plates secured to said sleeve independent of the main stay-plate, ribs pivoted on the respective stay-plates, and braces secured at

their outer ends to the ribs and adjustably secured at their inner ends to the main stay-plate, substantially as set forth.

2. In an umbrella, the combination of a stick, having a shoulder adjacent to one end, a flexible sleeve having a ring at one end to engage said shoulder, stay-plates secured to the end of said flexible sleeve adjacent to said ring, and suitably spaced apart, one of said stay-plates being a main stay-plate and being secured at its opposite end to the other end of the stick, ribs pivoted to said stay-plates, and braces having their outer ends connected to said ribs and their inner ends adjustably connected to said main stay-plate, substantially as set forth.

3. In an umbrella, the combination of a stick, a flexible sleeve adapted to fit said stick, a main stay-plate secured to one side of said flexible sleeve and having at opposite ends means for securing it to the opposite ends of the stick, other stay-plates secured at various points around the flexible sleeve at the upper and lower parts thereof independent of the main stay-plate, a slide on the main stay-plate adjacent to the lower stay-plates, ribs pivoted to the upper stay-plates and to the upper part of the main stay-plate, braces secured at their outer ends to the ribs and pivoted at their inner ends to the lower stay-plates and to the slide on the lower part of the main stay-plate, a connection between said slide and said lower stay-plates, and means for securing said slide to the main stay-plate when in its upper and lower positions, substantially as set forth.

4. In an umbrella-cane, the combination of the cover, the ribs, a flexible collapsible sleeve through which the cane may be introduced and the rigid braces connected at their outer ends to the ribs and at their inner ends in pairs to the flexible collapsible sleeve, the braces of each pair being oppositely disposed whereby they will stay each other in position upon the sleeve and means by which the braces may be secured in open position, substantially as set forth.

5. The combination in an umbrella of the cover, ribs and braces, and a guide-sleeve by which to aid in inserting the cane for use as an umbrella-stick, such guide-sleeve being secured at its inner end to the center of the cover and extended thence to the stick end of the braces, whereby when the umbrella is open the guide-sleeve will be crimped between the braces and ribs, substantially as set forth.

6. In an umbrella substantially as described, the combination of the cover, ribs and braces, and the guide-sleeve secured at its inner end to the center of the cover and connected substantially at its lower end with the inner ends of the stretchers or braces whereby, when the umbrella is open the sleeve will be crimped between the stretchers and the ribs substantially as shown and described.

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Witnesses:

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