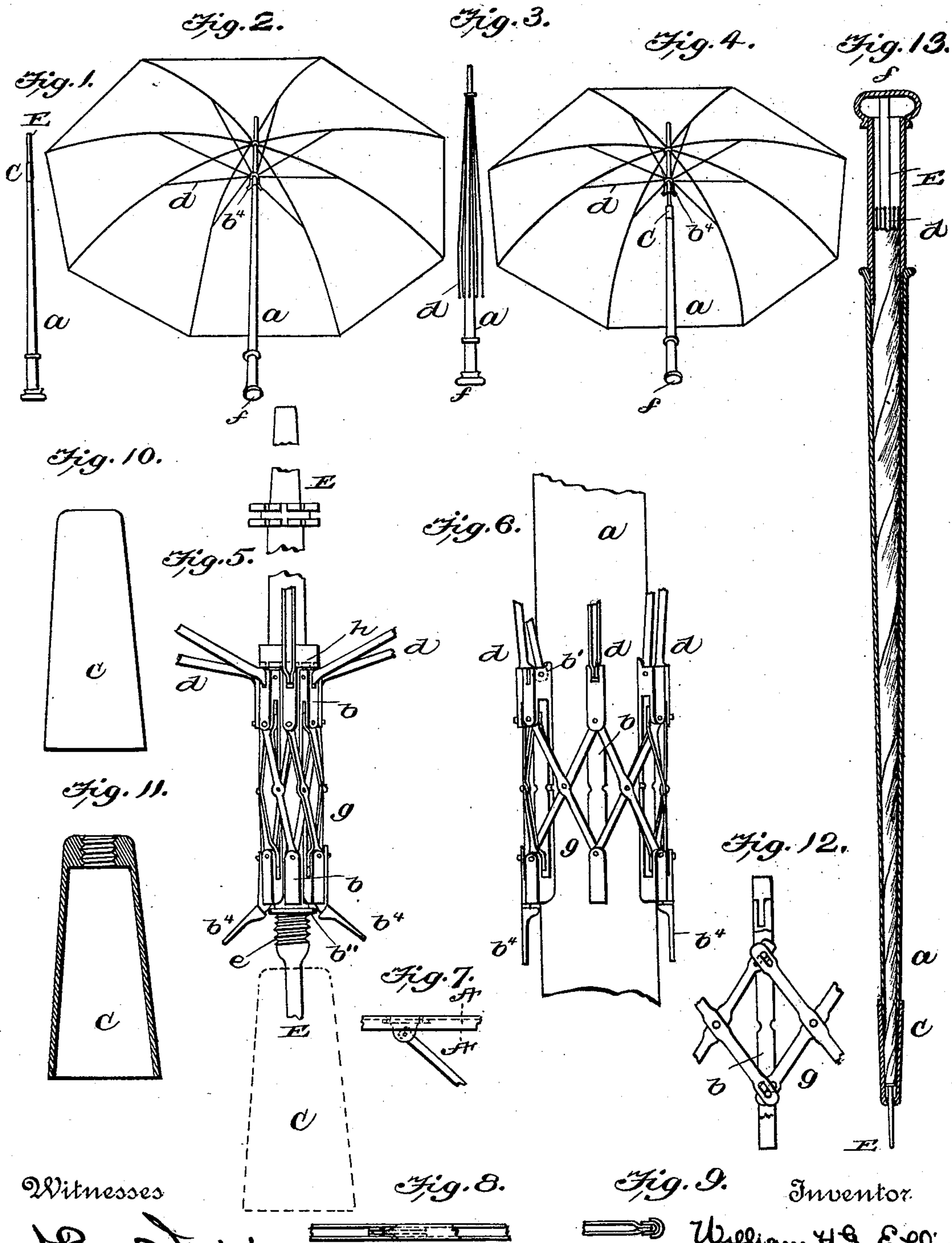


(No Model.)

W. H. G. ELLIS.
COMBINED UMBRELLA AND CANE.

No. 465,320.

Patented Dec. 15, 1891.



Witnesses

John J. J. J.
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Fig. 8.



Fig. 9.

Inventor

William H. G. Ellis

By His Attorney

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UNITED STATES PATENT OFFICE.

WILLIAM H. G. ELLIS, OF LOUISVILLE, KENTUCKY.

COMBINED UMBRELLA AND CANE.

SPECIFICATION forming part of Letters Patent No. 465,320, dated December 15, 1891.

Application filed May 21, 1891. Serial No. 393,660, (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. G. ELLIS, of Louisville, in the county of Jefferson, in the State of Kentucky, have invented new and useful Improvements in a Combined Umbrella and Cane, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in umbrellas, being designed especially for that article, although with slight modifications as to size and minor details they may be equally useful for all kinds of portable shades for outdoor use.

The construction of my improved umbrella is such that when not in use as an umbrella its ribs, stays, and cover may be disposed of by being placed within the handle or staff, which is a tapering hollow tube made of gutta-percha, celluloid, paper, or any suitable material, and the invention will be found to be useful as an ordinary walking stick or cane.

Referring to the accompanying drawings, the invention will be found to be carried out as follows:

Figure 1 shows the invention when not in use as an umbrella, the ribs, braces, and cover being folded together and placed within the handle. Fig. 2 represents the same when opened up for use as an umbrella. Fig. 3 represents the umbrella when closed. Fig. 4 shows the umbrella opened and partially detached from the handle. Fig. 5 shows the metallic section of the umbrella in connection with a runner so constructed that it will expand or contract to accommodate itself to changes in the slope or position of the braces attached thereto, and also shows in dotted lines the ferrule C on the rod E as slightly separated from the screw-threaded portion thereof, to which it is attached when the device is to be used as an umbrella. This runner has the position shown in Fig. 5 when the umbrella is opened as shown in Fig. 2. Fig. 6 represents this expanding and contracting runner when it is expanded and the umbrella is closed as shown in Fig. 3. Fig. 7 is a side elevation of a portion of a rib and brace, showing the manner in which they are connected together. Fig. 8 shows said rib and brace as seen from the under side. Fig. 9 represents a cross-section of one of the ribs on line A A,

Fig. 7, the views 8 and 9 being intended to illustrate more fully the devices for connecting the ribs and braces. Fig. 10 represents a side view of a metallic ferrule located at the smaller end of the hollow staff *a*; and Fig. 11 shows a longitudinal vertical section of the same on a center line through Fig. 10. Fig. 12 is a detail view of one of the arms *g* of the expanding runner hereinafter referred to, and Fig. 13 is a central vertical section showing the umbrella within the hollow case.

Similar letters of reference indicate corresponding parts in all the views where shown.

a represents the hollow staff, made of any suitable material, though I prefer to use gutta-percha, celluloid, or paper. This staff serves as a case for the ribs, braces, and cover when the invention is not in use as an umbrella and as a supporting-stick for the structural parts of the umbrella when used as such.

A part of my invention lies in the expanding and contracting runner shown in use in Figs. 2 and 4, and in detail of construction in Figs. 5 and 6, and is so constructed as to lie close to and fit securely upon the staff regardless of the position in which are the ribs and braces of the umbrella, when designed for use as such, the details of construction of said expanding runner being upon the general plan of the lazy-tongs. The ends of the arms of the tongs are secured at their upper and lower ends or pivoted extremities to the yokes *b b* of the runner, so that as the arms *g g* expand and contract they will cause the yokes *b b* to spread apart or draw together to accommodate themselves to the large or small space, as may be required on the different portions of the staff *a*, or within the same when required. The arms *g g* are loosely connected to the yokes *b* at top and bottom by means of rivets, which pass through slots *s'* in the arms *g*, so as to permit slight vertical play thereof on said rivets as the runner is expanded and contracted in operation. At the upper ends of the yokes are provided a set of lips *b' b'*, Figs. 5 and 6, which enter into an annular channel provided on the inner face of a collar *h*, which is attached to the rod *E*, and, in connection with the shoulder *b''* over which the runner passes, securely holds the umbrella in its open position, as shown in Fig. 2.

$b^4 b^4$, Figs. 5 and 6, are levers hinged at the lower ends of the yokes b , by means of which the runner is slightly expanded when pressure is applied to the free ends of said levers by reason of the inner shoulders of said levers bearing against the shoulders b'' and forcing away the yokes b so as to expand them sufficiently to allow them to pass over the shoulder b'' , Fig. 5, thus causing the expanding runner to pass down over the ferrule C on the small end of the handle a , (shown detached in Figs. 10 and 11,) thence down on the staff a , as shown in Fig. 6, toward the handle end, at which point the runner is open to its greatest expansion, and the friction thereof against the staff is ordinarily sufficient to hold the umbrella in its closed position, though I also use the strap and button, common to all umbrellas, which encircles the ribs and cover and secures the umbrella in its closed position.

$d d$ are the ordinary braces of an umbrella and are fastened to the ribs, as shown in Figs. 7, 8, and 9, and at the opposite ends to the expanding runner.

The ribs of my improved umbrella are of the ordinary construction, except that they are preferably constructed relatively larger than the braces, so as to partially or wholly inclose the same when the umbrella is folded.

E is a rod which is nearly the length of the staff and handle of my improved umbrella, and it is upon this rod that the expanding runner slides when the whole is dismounted from the staff a for folding to place within the said staff. This rod is provided with a screw-threaded spindle e , which corresponds to the screw-threaded interior of the ferrule C on the small end of the staff a , and said ferrule is secured to said rod by said screw-threaded portions, thus securing the umbrella to its staff when about to be used as a shelter.

The ferrule C is connected positively to the smaller end of the hollow staff a , and when the device is to be used as an umbrella the major portion of the rod is projected into and lies within the hollow portion of the staff a , while the screw-threaded end of the ferrule C is secured to the screw-threaded portion of said rod E. The handle f is secured in its proper place and the whole is in position for use, so that the cover may be raised or lowered by moving the runner up or down on the staff a .

When it is intended to use my device as a cane, the ferrule C and its connected hollow staff a are unscrewed from the rod E, which is then drawn entirely out of the smaller end of the staff a while the umbrella is in its closed position, the expanding runner sliding over the small end of the staff. The umbrella may then be folded, when it is in condition to be placed within the hollow staff a . The handle f is removed from said staff and the now folded umbrella is placed within the same, tip foremost. The tip end of the rod E passes through the hollow staff a and projects be-

yond the ferrule C to form the walking-point of the cane, while the opposite end of the rod E is of such length as to abut against the inner side of the detachable handle f and prevents the upper section from sliding back into the hollow staff.

When the hollow staff is of sufficient diameter, the top notch 9 on the rod E rests against the inner shoulder of the ferrule C, at the screw-threaded end thereof when the umbrella-frame is inclosed in the staff a , and, with the contact of the handle and the other end of the rod E, prevents motion of the rod E when the device is used as a cane.

It will be readily apparent that my improved umbrella may be used as a cane or umbrella, and, if desired, it may be folded as closely and compactly on the staff as an ordinary umbrella when temporarily out of use as an umbrella, while it may be placed within the hollow staff and handle when desired, and the same will be no more bulky than an ordinary strong walking-cane.

It requires but a moment to manipulate my invention so as to convert it into either of its uses, and is so simple and durable as to form an article of manufacture which may be manufactured at a price which will make it readily salable in competition with the ordinary umbrella of commerce now on the market.

It will be observed that the yokes b to which the levers b^4 are connected are square at their lower ends, while the yokes not provided with such levers are slightly beveled at their inner sides at the lower end. By thus forming the yokes I provide a lock of as many of such yokes as are provided with levers, two or more being required, as the square shoulders of such yokes rest on and are held in position normally by such shoulders engaging the shoulders b'' , and when it is desired to lower the umbrella all that is required is a slight pressure upon the free end of such levers, which causes the inner projecting portion thereof to bear against the outer peripheral face of such shoulder as a fulcrum, and thus free the square lower end of such yokes, so as to permit the whole to be lowered past the shoulder b'' and onto the staff a .

Having described my invention, what I claim is—

1. In a combined umbrella and cane, a hollow staff of suitable material provided with a removable handle at one end and an open screw-threaded ferrule at the opposite end, in combination with a collapsible umbrella-frame secured to a fixed rod of sufficient length and provided with an expanding metallic runner sliding on said rod and staff and constructed to accommodate itself to the part of the stick on which it may lie, all combined and constructed to operate substantially in the manner and for the purpose set forth and shown.

2. In a combined umbrella and cane, a hollow staff, a rod held within said staff for a portion of its length, corresponding screw-

threaded portions on said rod and staff to secure them in operative position as an umbrella-stick, ribs secured to said rod, and braces connecting said ribs to an expanding runner sliding on the staff and constructed so as to contract and expand to accommodate itself to the varying diameters of the stick, all combined and constructed to operate substantially in the manner and for the purpose specified and shown.

3. In a combined umbrella and cane, a staff, a detachable handle, a rod provided with screw-threaded spindle and held in position in said staff by a corresponding screw-threaded portion in the end thereof, ribs secured to said rod, braces secured at one end to said ribs and at their opposite ends to an expanding runner sliding on said staff, said runner being so constructed as to contract and expand to accommodate itself to the varying diameters of the stick in its passage from end to end of the same while in use, all con-

structed, combined, and operating substantially as and for the purpose specified and shown.

4. In an umbrella, an expanding runner comprising the arms *g*, yokes *b*, provided with the lips *b'*, and the levers *b⁴*, connected to said yokes, in combination with a stick having the shoulder or stop *b''*, and the collar *h*, provided with an annular groove within the same and adapted to engage said lips *b'*, all constructed and combined to operate substantially as described and shown.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Louisville, in the county of Jefferson, in the State of Kentucky, this 19th day of May, 1891.

WILLIAM H. G. ELLIS.

Witnesses.

A. O. LAFAYETTE,
FREDERICK H. GIBBS.