

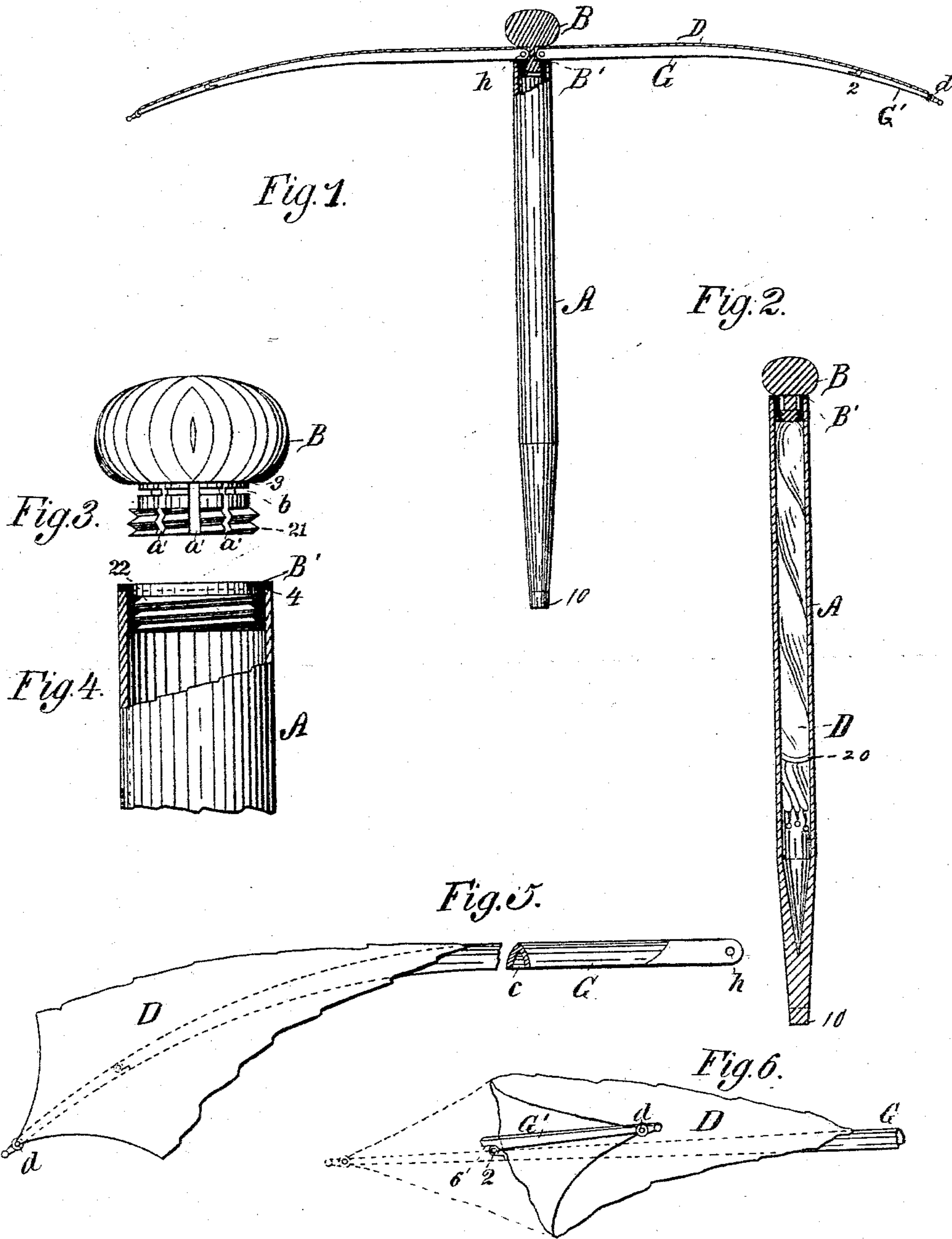
(Model.)

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COMBINED UMBRELLA AND CANE.

No. 369,374.

Patented Sept. 6, 1887.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

CHARLES E. VAIL, OF KANSAS CITY, MISSOURI.

## COMBINED UMBRELLA AND CANE.

SPECIFICATION forming part of Letters Patent No. 369,374, dated September 6, 1887.

Application filed February 8, 1887. Serial No. 226,936. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. VAIL, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Combined Umbrella and Cane, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

The object of my invention is to provide a new and improved combination instrument which can be used as a cane or as an umbrella, and which will be devoid of the usual braces for holding the frame in shape when spread.

The invention consists in the special construction of the center-piece which holds the frame of the umbrella and its manner of working and attachment to the cane—namely, the sinking of the ends of the ribs into grooves formed longitudinally in the body of the center-piece.

The invention consists, further, in the peculiar shape of the ribs, which have the greatest strength at the end attached to the center-piece, which are made tapering toward their outer ends, whereby the said outer ends will have considerable more flexibility than the heavier inner ends, and which are formed in two sections hinged together for the purpose of stretching the cover.

In the drawings which illustrate the manner of carrying out my invention, Figure 1 shows a cross-sectional view of the umbrella-top mounted on the cane. Fig. 2 is a longitudinal sectional elevation of the cane containing the folded umbrella. Fig. 3 is a detail view of the combined center-piece and cane-handle. Fig. 4 is a detail view of the handle end of the cane. Fig. 5 is a perspective view of a rib having a portion of the covering attached thereto; and Fig. 6 is a detail view of a rib and a portion of the covering, and showing the manner of operating the hinged sections to stretch the cover.

The cane A may be made of wood, metal, vulcanized rubber, papier-maché, or any other suitable material, is hollow, and is slightly tapered from one end to the other.

The combined center-piece and handle B is provided with an outside screw-thread, 21, corresponding to the thread 22 of a bushing, B', which is securely located in the handle end of the cane. Said center-piece is also provided

with an annular shoulder or flange, 3, which presses the ribs to proper place when the frame is to be spread. The bushing B' is also provided with an annular flange, 4, which bears against the end of the cane.

For the purpose of permitting the frame to be inserted into the cane when closed, and to allow the ribs to close down sufficiently far to do this, I provide the body of the center-piece with a series of longitudinal grooves, *a'*, which permit the inner ends of the ribs to sink below the screw-thread 21 and the center-piece to be screwed into the bushing after the frame has been placed within the cane, as shown. The center-piece B is also provided with annular recess *b*, in which the ribs are pivoted in the usual manner. The ribs *G* are provided with a perforation, *h*, at their larger end, through which passes the pivot which hinges them to the center-piece, and with another perforation, *d*, at their outer end, by means of which the cover is secured in place. Of course, however, the cover can be secured to the ribs in any other suitable way. The ribs are also made to have the greatest strength at the inner end—that is, tapering toward the outer end—whereby the outer end will have considerably more flexibility than the inner end. The ribs may be either solid in cross-section or they may be formed hollow on the under side, as shown at *c*.

The cover D may be secured to the ribs in the usual manner, as it is not to be removed therefrom in placing the frame within the cane.

The ribs are formed in two sections hinged together for the purpose of stretching the cover. About two inches of the length of the ribs is hinged to the main sections thereof by the well-known form of hinge shown at 2, or in any other desired way, so that the hinged portions or outer sections, *G'*, can open upward.

The manner of operating the invention is as follows: When taking the instrument into one's hand for use as an umbrella, the operator unscrews the center-piece or handle B from the bushing B', which will permit the frame to be withdrawn from the cane A. Then the lower end of the cane should be turned upward and the instrument shaken slightly, when the frame will spread itself out; but of course there will be no tension on the cover yet. Then the operator should screw the center-piece into the cane, or the cane onto the center-piece—either

way—with the ribs in the position shown in Fig. 1, until said ribs are firmly held at about a right angle to the body of the cane. In doing this the thickest portion of the ribs is  
5 clamped between the shoulder 3 on the center-piece and the flange 4 on bushing B'. The center-piece being firmly screwed within the bushing, the operator next straightens out the hinged sections G', as shown more clearly in  
10 Figs. 5 and 6, which will give the required tension to the cover D, and also cause the ribs to assume a bowed position. In straightening out the hinged sections the inner ends of said sections (indicated by the numeral 6) will come  
15 in contact with a shoulder on outer ends of the main sections, as shown, thus preventing the hinged sections from swinging inward on the opposite side of the main sections.

The manner of placing the umbrella within  
20 the cane is quite simple, and is as follows: The hinged sections are to be first thrown back to remove the tension from the cover and from the ribs. Then the cane should be unscrewed from the center-piece and the frame closed together, the ribs G closing down in the grooves  
25 a', and the cover rolled firmly around the ribs and secured by the usual fastening-band—such as 20—and inserted within the cane, where it will be securely held by screwing down the  
30 center-piece again, as shown in Fig. 2.

To protect the lower end of the cane and prevent it from becoming blunted and disfig-

ured in use, a metallic ferrule, 10, should be located thereon.

Having thus described my invention, what I claim is—

1. A cane-umbrella constructed with a center-piece having a clamping-flange, and also having longitudinal grooves for the reception of the ribs when the umbrella is placed within  
40 the cane, substantially as shown and described.

2. In a cane-umbrella, the center-piece B, provided with clamping flange or shoulder 3, screw-thread 21, and longitudinal grooves a', substantially as and for the purpose shown  
45 and described.

3. In a cane-umbrella, the combination, with cane A, carrying bushing B', of the center-piece B, provided with shoulders 3, screw-thread 21, and grooves a', and ribs G, substan-  
50 tially as described, and for the purpose set forth.

4. In a cane-umbrella, the combination, with cane A, of bushing B', center-piece B, provided with shoulder 3 and grooves a', ribs formed of  
55 two sections hinged together, and cover D, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. VAIL.

Witnesses:

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