2 Sheets—Sheet 1.

A. H. EGE.
Umbrella.

No. 229,685. **Patented July 6, 1880.**

Fig. 1.

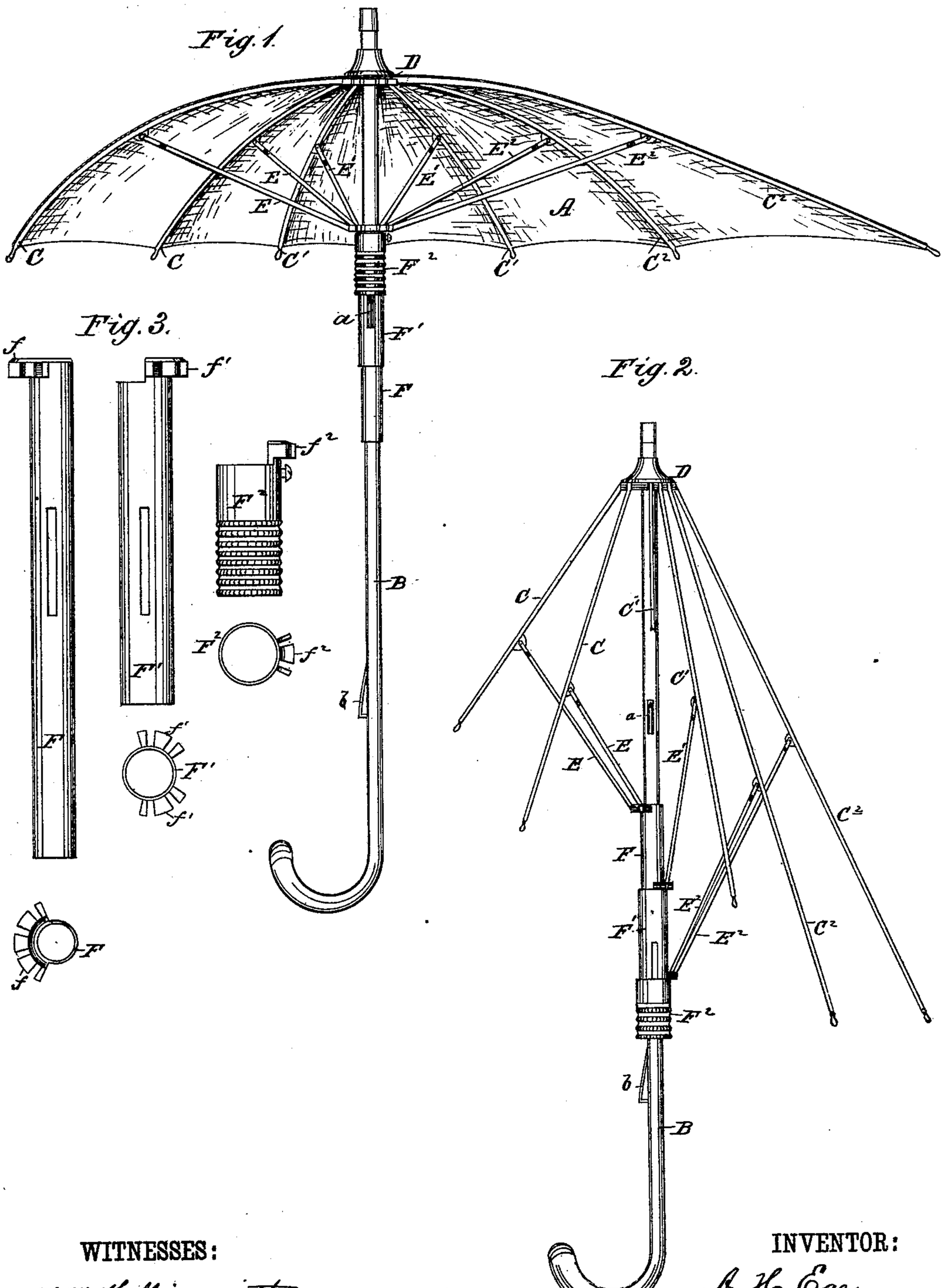

Fig. 3.

Fig. 2.

WITNESSES:

W. W. Hollingsworth

Edw. U. Byrn.

INVENTOR:

A. H. Ege

BY Munn & Co

ATTORNEYS.

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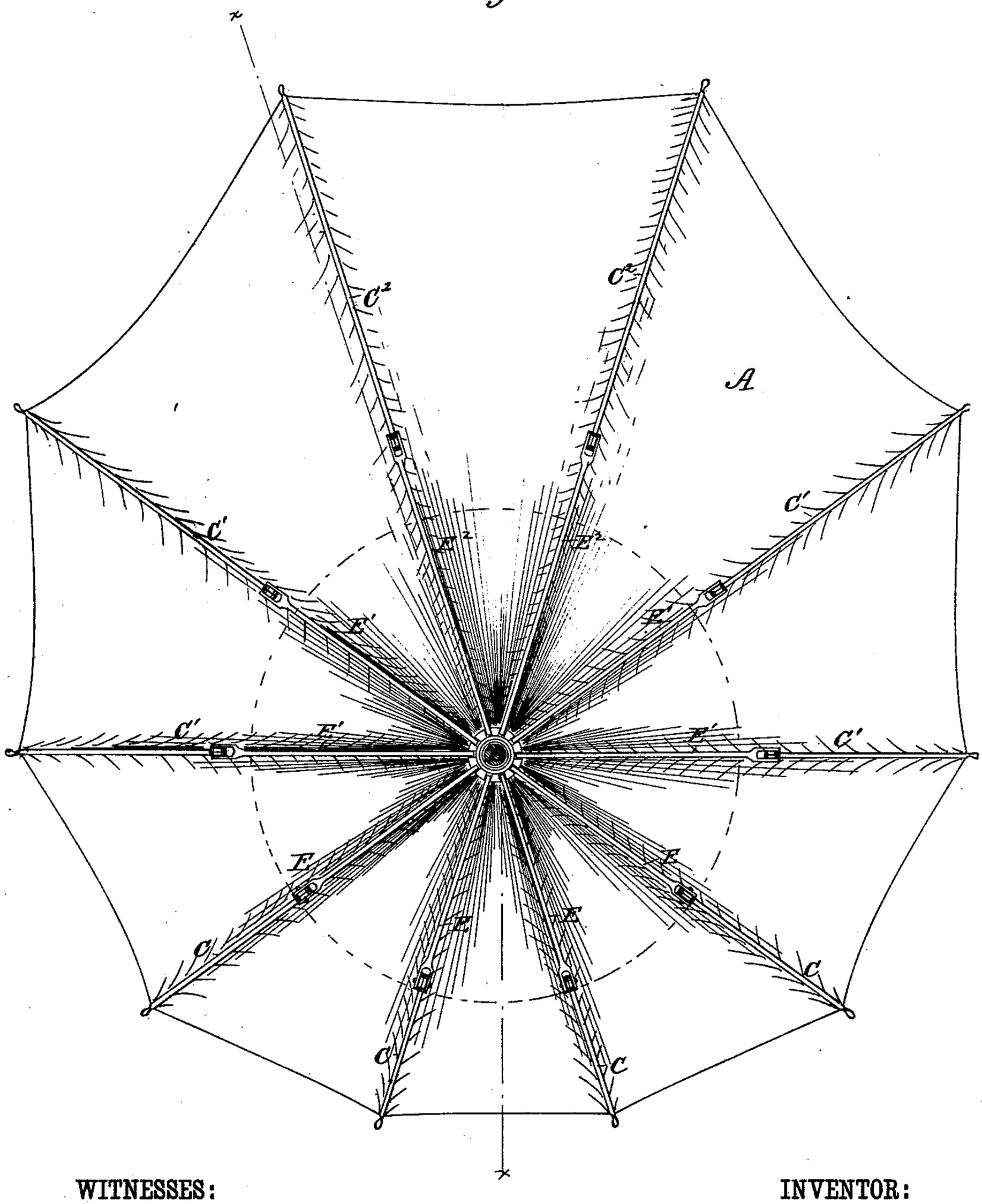
Fig. 4.



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UNITED STATES PATENT OFFICE.

ALEXANDER H. EGE, OF MECHANICSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO RICHARD RAY, OF LAKE CITY, FLORIDA.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 229,685, dated July 6, 1880.

Application filed December 3, 1879.

To all whom it may concern:

Be it known that I, ALEXANDER H. EGE, of Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented a new and Improved Umbrella; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the umbrella when hoisted, with the cover in vertical section. Fig. 2 is a skeleton view of the frame with the ribs partially furled. Fig. 3 are details of the runners. Fig. 4 is an inside view of the umbrella shown in Fig. 1, exhibiting the contour or form of same.

My invention relates to certain improvements in umbrellas of that form in which some of the ribs are longer than the others, or in which the staff is connected eccentrically to the cover, to allow the person to occupy the center of shelter and be better protected from rain or the sun's rays.

The improvement consists in the peculiar construction and arrangement of a series of runners in connection with stretchers of different lengths, and in the peculiar arrangement of parts for locking the runners in place, as hereinafter more fully described.

In the drawings, A represents the cover of the umbrella, which is elliptical in general form. B is the staff passing through the cover at a point on the major axis about one-third of the length of said major axis from its end.

C C′ C², &c., are the ribs, which are articulated upon the stationary center piece, D, on the staff, and radiate therefrom. For symmetry of shape these ribs are arranged in symmetrical pairs of equal length on opposite sides of the staff; thus (see Fig. 4) C C are the two pairs of shortest ribs, C′ C′ are the next in length, arranged upon opposite sides, and C² C² are the two longest, arranged adjacent to each other. The angles meanwhile included between the radiating ribs are diminished, as the ribs increase in length, in an equal or corresponding ratio. The stretchers E E′ E², &c., are also increased correspondingly, to afford sufficient leverage when extended to preserve the symmetry of the ellipticity. Since, however, upon observation it becomes evident that where both the lengths of the ribs and stretchers vary by corresponding series they only radiate from a common point when the umbrella is in an expanded condition, it follows that, to be able to furl or close the umbrella with such construction of ribs and stretchers, a corresponding series of runners must be used as will move freely upon the staff and adapt themselves to the constantly-changing center of radiation necessitated by the different lengths of the ribs and stretchers, as above described, when said ribs and stretchers are drawn down from their expanded condition to one practically parallel to the staff. For the accomplishment of this end I prefer the use of three or more hollow telescopic runners, F F′ F², &c., varying in internal diameter and length sufficiently to allow, first, the inner or smaller one to slide freely upon the staff, the second or next larger one to slide freely upon the former, the third to slide freely upon the second, &c., in the order of the varying diameters of the number of runners used, the longest or internal runner, F, meanwhile articulating or jointing with the shortest stretchers used at its upper extremity, which, in turn, articulate with the shortest ribs, both of which are situated in the forward part of the umbrella when expanded, or in front of the person carrying said umbrella for shelter. The second aforesaid runner, F′, is articulated at its upper extremity with the second series of two or more longer stretchers, which latter, in turn, are articulated with a corresponding series of two or more longer ribs radiating laterally. The third aforesaid runner, F², still larger in cylindrical diameter than the second, is articulated at its upper extremity with the third series of stretchers, which latter, with their corresponding ribs, are the longest, and radiate posteriorly for the accomplishment of the aforesaid purposes.

In a similar manner do we proceed with all additional runners, stretchers, and ribs as may seem desirable to be utilized by manufacturers.

In practice, however, I prefer the use of but three sliding runners, as affording sufficient

leverage for successful articulation as necessitated by the requirements of use and the minimum of expenditure or cost of production.

Each of these runners, it will be seen, has only a segmental flange or socket-piece, $f f' f^2$, for the reception of the inner ends of the stretchers, and when the umbrella is hoisted these several flanges or sockets coincide to complete the circle and bring the inner ends of the stretchers to the same center.

For holding the several runners in the hoisted position a single stop-spring, *a*, upon the upper end of the staff, is made to pass through coinciding slots in each of the runners, and a second stop-spring, *b*, is used below to hold them down. This stop-piece may be carried on the runners and protrude through to engage with the staff, instead of being located in the staff and protruding through the runners, as shown.

I do not claim, broadly, varying the length of the stretchers and dividing the runner-flanges $f f' f^2$ into separable segments; but,

Having thus described my invention, what I claim as new is—

1. The combination, with the stretchers and ribs of varying lengths, of a set of telescopic runners varying in diameter inversely to their lengths, as described.

2. The combination, with the ribs, stretchers, and concentric runners, of a single stop device adapted to lock each of said runners to the staff, as described.

ALEXANDER H. EGE.

Witnesses:
EDWD. W. BYRN,
CHAS. A. PETTIT.