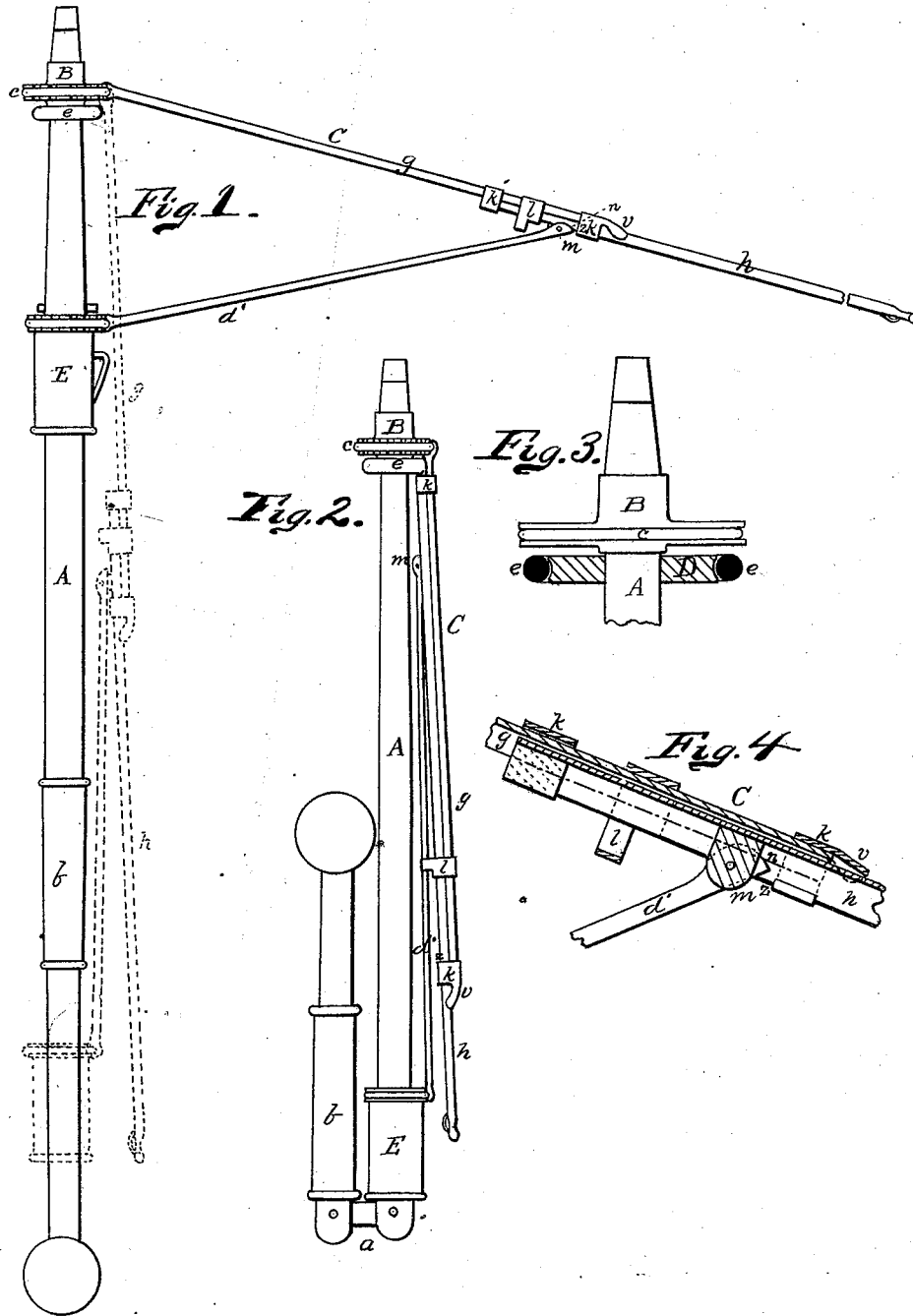


A. M. ALEXANDER.  
Folding Umbrella.

No. 164,121.

Patented June 8, 1875.



WITNESSES

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# UNITED STATES PATENT OFFICE.

ALFRED M. ALEXANDER, OF INDIANAPOLIS, INDIANA.

## IMPROVEMENT IN FOLDING UMBRELLAS.

Specification forming part of Letters Patent No. 164,121, dated June 8, 1875; application filed March 20, 1875.

*To all whom it may concern:*

Be it known that I, ALFRED M. ALEXANDER, of Indianapolis, in the county of Mariou and State of Indiana, have invented a new and valuable Improvement in Folding Umbrellas; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of plan views of my umbrella, and Figs. 3 and 4 are sectional detail views of the same.

This invention has relation to umbrellas; and it consists in the construction and novel arrangement of the extensible ribs, and the elastic bearing under the center-plate at the top of the staff, as hereinafter shown and described.

In the accompanying drawings, the letter A designates the staff of my umbrella or parasol, which may be jointed at *a*, and provided with the joint-sleeve *b*, in the usual manner. B represents the center-plate at the upper end of the staff for the attachment of the upper ends of the ribs. This center-piece may be conveniently constructed with a grooved or doubly-flanged outer edge for the reception of a wire, *c*, designed to be passed through the eyes in the heads of the several ribs C, which are let into notches *d*, formed into said grooved edge. Below said center-plate is secured upon the staff a grooved collar, D, which is designed to receive the rubber annulus or ring *e*, which is of such size that when the ribs are drawn in parallel with the staff they will bear against the elastic ring, which will have a tendency to force them outward.

E designates the lower or movable thimble, to which the braces *d'* are attached, in the usual manner, or, as above described, with relation to the center-plate B.

The ribs C are each made in two portions, the upper parts *g* being attached to the center-piece B, and the lower sliding portions or extensions *h* being connected with the upper parts by guide-clamps *k* *k'*, or other suitable

slide-connections. To the lower portions of the ribs are attached the outer ends of the braces, the connection being made near the upper ends of said lower portions, as shown at *m*. A loop, *l*, is arranged on the upper part of the rib, near its lower portion, in such a position that when the rib is fully extended the head of the brace *d'* will be below and entirely freed from said loop, while, when the lower portion of the rib is slid upward inside the upper portion, the brace will pass with the rib-section through said loop, which will bind them together and to the upper section in parallel relation. In this position the upper ends of the ribs will bear against the spring *e*.

When the rib-sections are slid together, as just described, the lower thimble E should be above the joint of the staff, so that its handle may be folded upward, reducing materially the length of the umbrella, and facilitating its transportation in trunks and other baggage.

The cloth is designed to be secured at the center-piece at the end of the upper section *g*, and at the end of the lower section *h* of each rib; and at the end of the upper section a shelving guard, *v*, is provided, to obviate the catching and tearing of the cloth.

In order to open the umbrella constructed in the manner described, the staff is designed to be first straightened and the joint secured by the sleeve provided for this purpose. Then the lower ferrule E is drawn downward with its braces, extending the ribs their entire length. The rubber ring at the upper end of the staff will then throw the ribs outward slightly, so that on pushing up the ferrule E the upper end *n* of the brace *d'* will engage with the shoulder or projection *z*, with which the upper section of each rib is provided, and will keep the rib rigidly extended at its full length.

What I claim as new, and desire to secure by Letters Patent, is—

1. The sectional rib *g*, provided with a guide-clamp, *k*, having a guard, *v*, and shoulder *z*, substantially as and for the purpose set forth.

2. The sectional rib *h*, provided with the guide-clamp *k'*, in combination with the sectional rib *g*, provided with the guide-clamp *k*,

having guard *v* and shoulder *z*, and the brace *d'*, substantially as described.

3. The combination, with a sectional extensible umbrella-rib, C, of the lock-brace *d'* and shoulder *z*, constructed and arranged substantially as specified.

In testimony that I claim the above I have

hereunto subscribed my name in the presence of two witnesses.

ALFRED MARSHALL ALEXANDER.

Witnesses:

GEO. S. LONG,

E. A. MUNSON.