

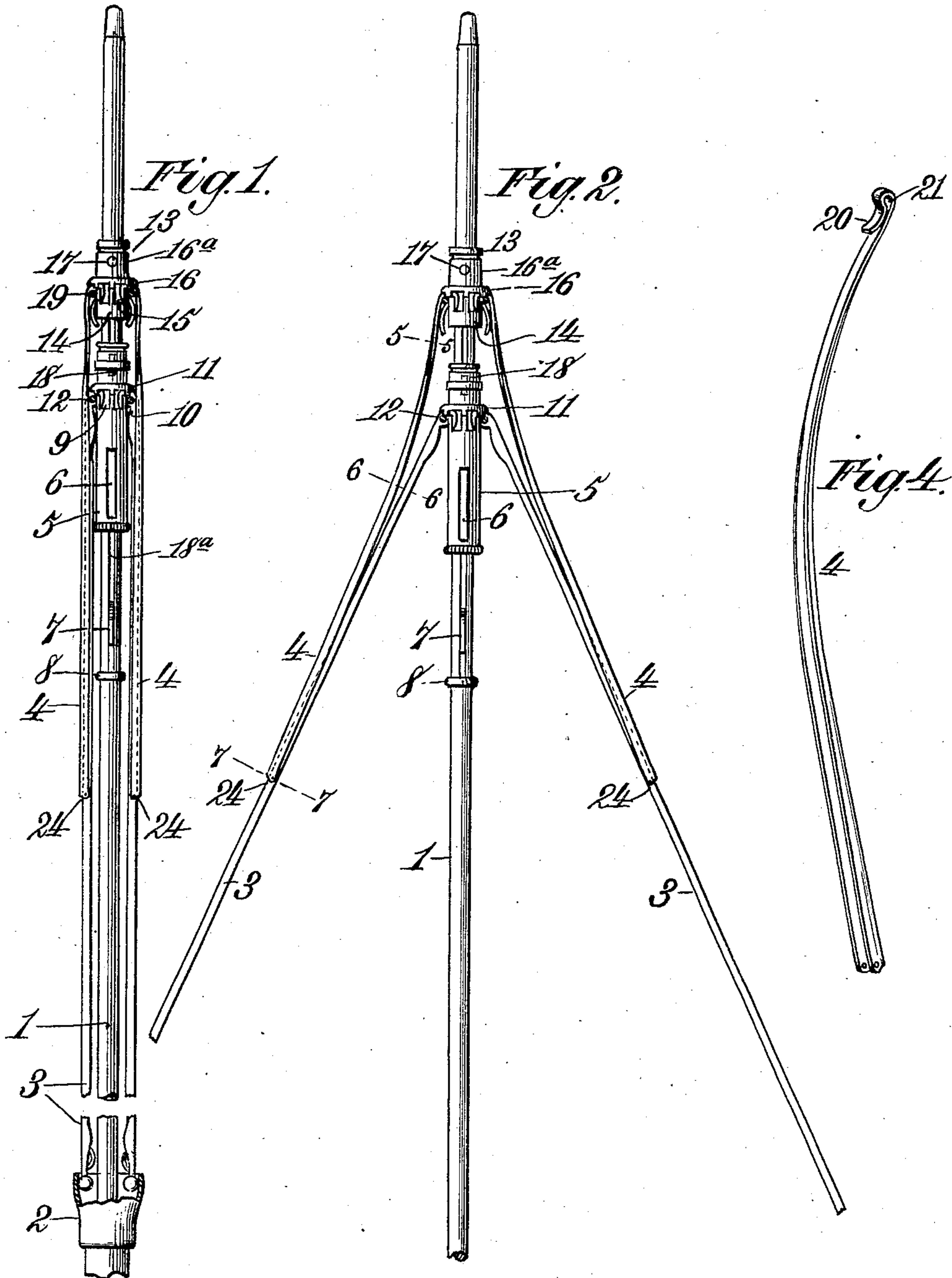
No. 854,663.

PATENTED MAY 21, 1907.

M. G. McGUIRE.
UMBRELLA.

APPLICATION FILED MAR. 8, 1907.

2 SHEETS—SHEET 1.



Witnesses.
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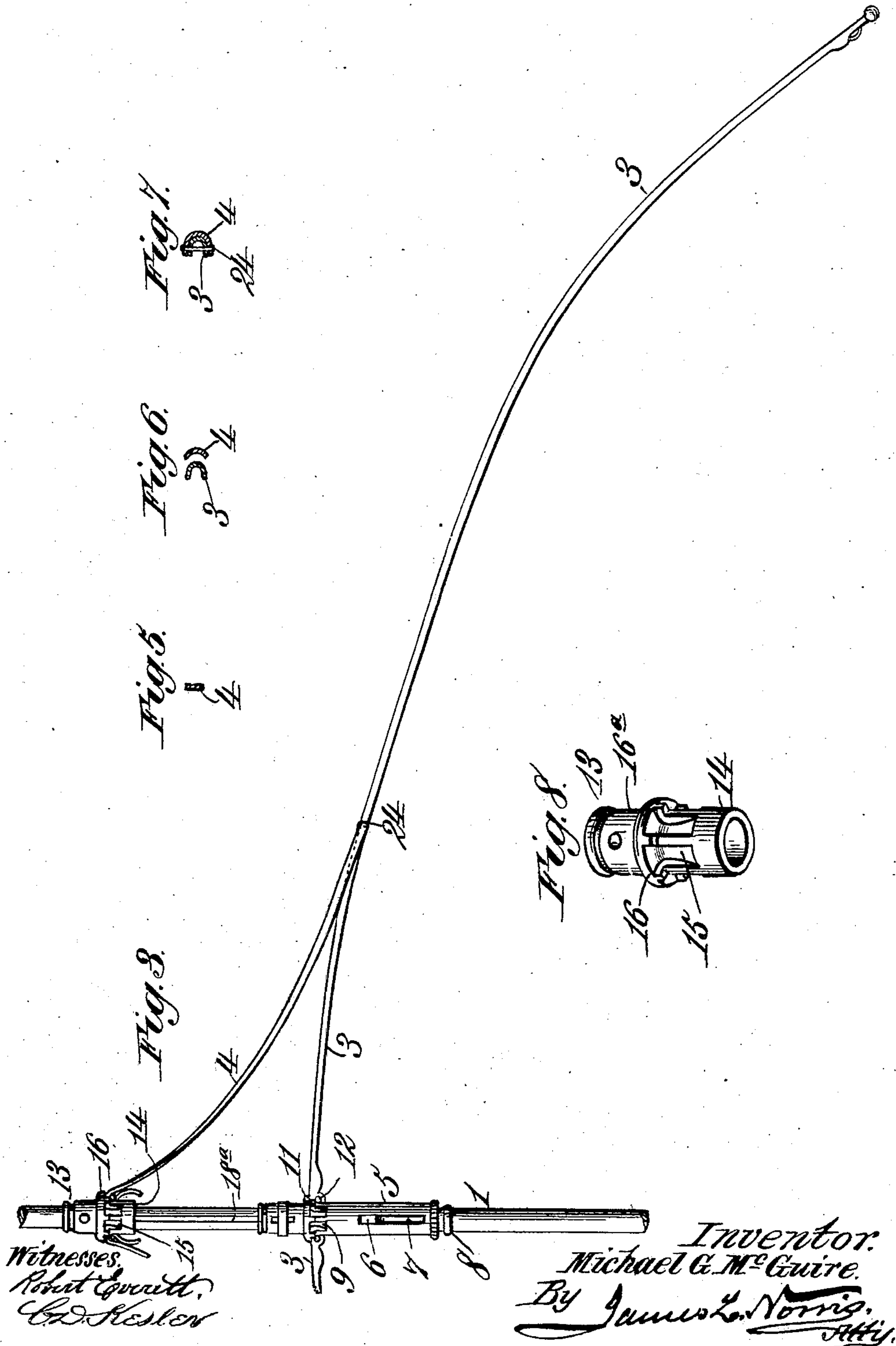
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UNITED STATES PATENT OFFICE.

MICHAEL G. McGUIRE, OF NIAGARA FALLS, NEW YORK.

UMBRELLA.

No. 854,663.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed March 8, 1907. Serial No. 361,242.

To all whom it may concern:

Be it known that I, MICHAEL G. McGUIRE, a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented new and useful Improvements in Umbrellas, of which the following is a specification.

This invention relates to "umbrellas," and the object thereof is to provide an umbrella with means, as hereinafter set forth, whereby the umbrella when extended will possess unusual rigidity so as not to collapse or be turned inside-out by a sudden gust of wind.

A further object of the invention is to provide an umbrella with interiorly-arranged braces for the ribs, said braces being flexible, as well as resilient, and acting as means, when the ribs are released, to project the lower portions thereof away from the stick of the umbrella, thereby facilitating the opening thereof.

A further object of the invention is to provide the umbrella with interiorly-arranged braces for the ribs, said braces being positioned above the ribs and within the cover and so constructed as to receive the upper portions of the ribs when the umbrella is closed, thereby offering no obstacle to prevent compact rolling after the umbrella has been closed, said braces further acting as a continuation of the ribs of the umbrella when the ribs are extended, thereby offering a support for that portion of the cover which is arranged above and not attached to the ribs.

A further object of the invention is to provide means to prevent the turning upon the stick of the attaching collar for the braces, and further, to provide means to prevent turning of the runner upon the stick, the runner carrying the attaching collar for the ribs.

Further objects of the invention reside in constructing an umbrella which shall be formed of few parts, strong, durable, readily opened and closed, conveniently set up and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of an umbrella in accordance with this invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, wherein like characters denote corresponding parts throughout the several views, and in which—

Figure 1 is a view of the umbrella when closed, the handle portion being broken away and the cover not shown. Fig. 2 is a similar view of the umbrella with the ribs released, showing the same projected away from the stick by the braces. Fig. 3 is a view showing a rib extended and braced. Fig. 4 is a perspective view of one of the spring braces. Fig. 5 is a section on line 5—5 of Fig. 2. Fig. 6 is a section on line 6—6 of Fig. 2. Fig. 7 is a section on line 7—7 of Fig. 2, and, Fig. 8 is a perspective view of the attaching collar for the braces.

Referring to the drawings by reference characters, 1 denotes the stick of the umbrella carrying near the handle end thereof a shiftable band 2 for retaining the ribs 3 in parallelism with respect to the stick 1 when the umbrella is closed and against the action of the spring braces 4. Mounted upon the stick 1, near the ferrule end thereof, is a runner 5, slotted as at 6 to receive a catch 7 so that the runner 5 will be retained in its shifted position when the ribs 3 of the umbrella are extended. The stick 1 is provided with a stop 8 for limiting the movement in one direction of the runner 5.

Near one end of the runner 5 a plurality of notches 9 is provided in which are positioned the apertured ends 10 of the ribs 3 and said runner is furthermore provided with an annular bead 11 positioned at one end of the notches 9 so as to form a stop to arrest the movement in one direction of the ends of the ribs 10—that is to say, when the umbrella is closed the bead 11 will act as an abutment or seat to prevent the shifting of the apertured ends of the ribs out of the notches. The ribs 3 are pivoted in the notches 9 through the medium of a strand of wire or other suitable material, which is indicated by the reference character 12. The bead 11 also acts as a means to prevent the shifting of the strand of wire from off the runner 5 when opening the umbrella or when the umbrella is opened or closed.

Mounted upon the stick 1 in close proximity to the ferrule 13 is a collar 14 having a plurality of notches 15, an annular bead 16 and an extension 16^a. The extension 16^a is fixed to the stick through the medium of a

hold-fast device 17. Such arrangement prevents the shifting of the collar 14 upon the stick. The function of the collar 14 is to attach the braces to the stick at a point above the upper end of the runner 5.

The spring braces 4 have one end pivotally connected in the notches 15 of the collar 14 and for such purpose one end of each of the spring braces 4 is bent upon itself as at 20 so as to form an eye 21 through which the flexible member 19 can extend. This member 19 is preferably formed of a strand of wire. This manner of connecting the upper end of the braces 4 is shown by way of example, but any other suitable means may be employed. The width of that end of the brace 4 in which is formed the eye 21 is such as to fit closely within the notch 15.

The bead 16 upon the collar 14 is provided for a like function as the bead 11 upon the runner 10—that is to say, acting as a stop, or abutment or seat to prevent the shifting of the pivoted ends of the braces 4 out of the notches 15 when the umbrella is closed or opened or when closing or opening the umbrella. The bead 16 also prevents the flexible member 19 from slipping over the collar 14.

The brace 4 at its lower portion is preferably U-shaped in cross section so as to form a nest to receive the upper portion of a rib 3 when the umbrella is closed, as shown clearly in Fig. 1. The lower end of each of the braces 4 is pivotally connected to a rib 3 as at 24. That portion of the rib 3 from the pivot 24 to its pivoted end gradually decreases in thickness so as to increase the flexibility thereof.

The runner 5 is prevented from turning upon the stick through the medium of a key 18, said key being suitably secured to the runner and adapted to engage in a channel 18^a formed in the stick. Although the key 18 prevents turning of the runner 5 upon the stick, yet it does not in any way prevent longitudinal movement of the runner upon the stick. That portion of the rib 3 from the attaching band 25 to its pivoted end gradually decreases in thickness so as to increase the flexibility thereof.

When the runner 5 is moved toward the handle end of the stick the pivoted ends of the ribs 3 are carried therewith, such action causing the upper portions of the ribs 3 to leave the lower portions of the braces 4, thereby giving full play to the latter. When the runner has been moved to such position as to be engaged by the catch 7 the spring braces 4 will rigidly secure the ribs 3 in position and, owing to the manner in which the spring braces 4 are connected to the ribs 3 when the ribs 3 are extended, the braces 4 act as a continuation of the ribs 3 so that there is extending from the ferrule end of the stick to the end of the cover a continuous rib

of ogee curvature, and, owing to the manner in which the ribs 3 are braced by the elements 4 there is little likelihood of the umbrella collapsing or turning inside-out by sudden gusts of wind.

When the umbrella is closed and the ribs 3 retained in parallelism with respect to the stick tension is stored in the spring braces so that when the band is slipped off the free ends of the ribs the lower portions of the ribs will be automatically projected away from the stick so that the operation of extending the umbrella will be vastly facilitated.

Owing to the manner in which the spring braces are constructed—that is to say having the upper portions thereof gradually decreasing in thickness, the lower portions of the braces are of greater strength, that is, the portions of the braces which bear upon the ribs of the umbrella. Such arrangement, as before stated, increases the resiliency of the upper portions of the braces and at the same time provides sufficient strength for the lower portions to retain the ribs rigid when these latter are extended so that there will be no danger of the umbrella collapsing and turning inside-out as the ribs will not turn outward or inward.

What I claim is—

1. An umbrella comprising a stick, a runner, ribs pivoted thereto, and spring braces pivoted at one end to the stick above the pivot point of the ribs and having the other ends pivotally connected to the ribs, thereby forming, when the umbrella is extended, a plurality of supporting members for the cover of ogee curvature.

2. An umbrella comprising a plurality of pivoted ribs and a plurality of pivoted braces therefor, said braces positioned above and connected to the ribs, the length of the braces being greater than the distance from the point of connection of the ribs to the pivoted end thereof.

3. An umbrella comprising a stick, a notched collar fixed thereto and provided with an annular bead, spring braces pivotally connected to said notches and having their movement in one direction arrested by said bead, a runner mounted upon the stick below the collar and provided with a plurality of notches and an annular bead, ribs arranged below the braces pivotally connected in the notches of the runner and having their movement in one direction arrested by the last-mentioned bead, and means for connecting the spring braces to the ribs.

4. An umbrella comprising a plurality of pivoted ribs, the upper portion of each of said ribs being of greater flexibility than the lower portion, and pivoted spring braces for the ribs, said braces arranged above and connected to the ribs and having the lower portions thereof of greater strength than the upper portions.

5. An umbrella comprising a plurality of ribs, a stick, means for pivotally and slidably connecting the upper ends of the ribs to the stick, means for arresting the movement in one direction of the pivoted ends of the ribs when closing the umbrella, a plurality of spring braces, means for pivotally connecting the upper ends of said braces to the stick, above the pivoted ends of the ribs, means for arresting the movement in one direction of the pivoted ends of the braces when closing the umbrella, and means for suitably connecting the lower ends of the braces to the ribs.

6. An umbrella comprising a stick, ribs slidably and pivotally connected therewith, and spring braces pivoted at one end to the stick above the ribs and connected at their lower ends to the ribs and adapted to sustain the ribs when extended, said braces having their lower portions constructed to receive

the upper portions of the ribs when the umbrella is closed.

7. An umbrella comprising a stick, a runner slidably mounted thereon and adapted to be shifted toward the handle end of the umbrella when opening the umbrella, means carried by and engaging in the stick to prevent turning of the runner, spring braces pivoted at their upper ends to the stick above the runner, ribs pivoted to the runner, and means for pivotally connecting the spring braces to the ribs, said ribs and braces acting as a support for the cover of the umbrella.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MICHAEL G. McGUIRE.

Witnesses:

DANIEL W. McGUIRE,
A. L. BOGAN.