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PATENTED APR. 16, 1907.

P. J. CALLAHAN.  
UMBRELLA.

APPLICATION FILED JUNE 28, 1906.

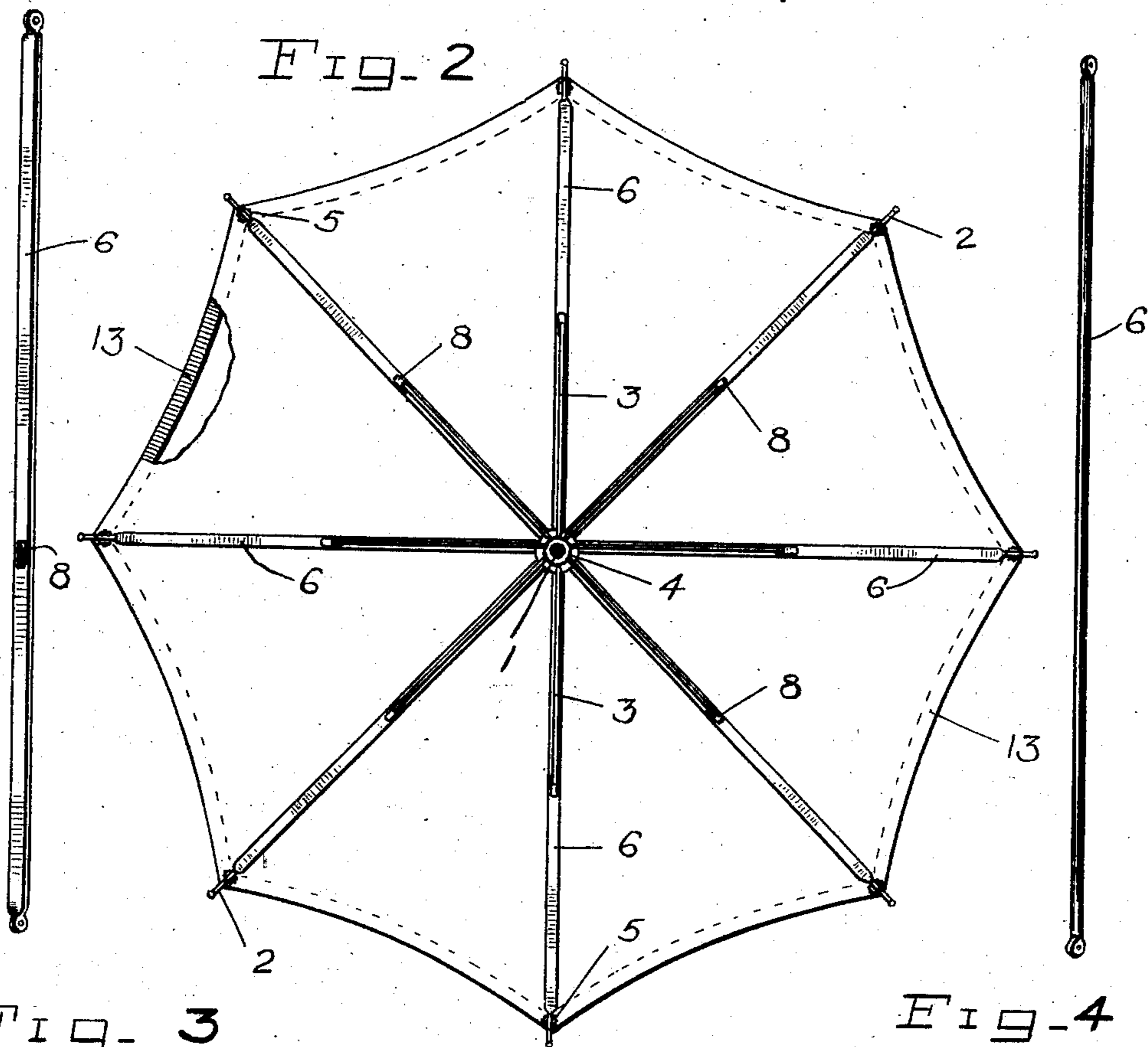
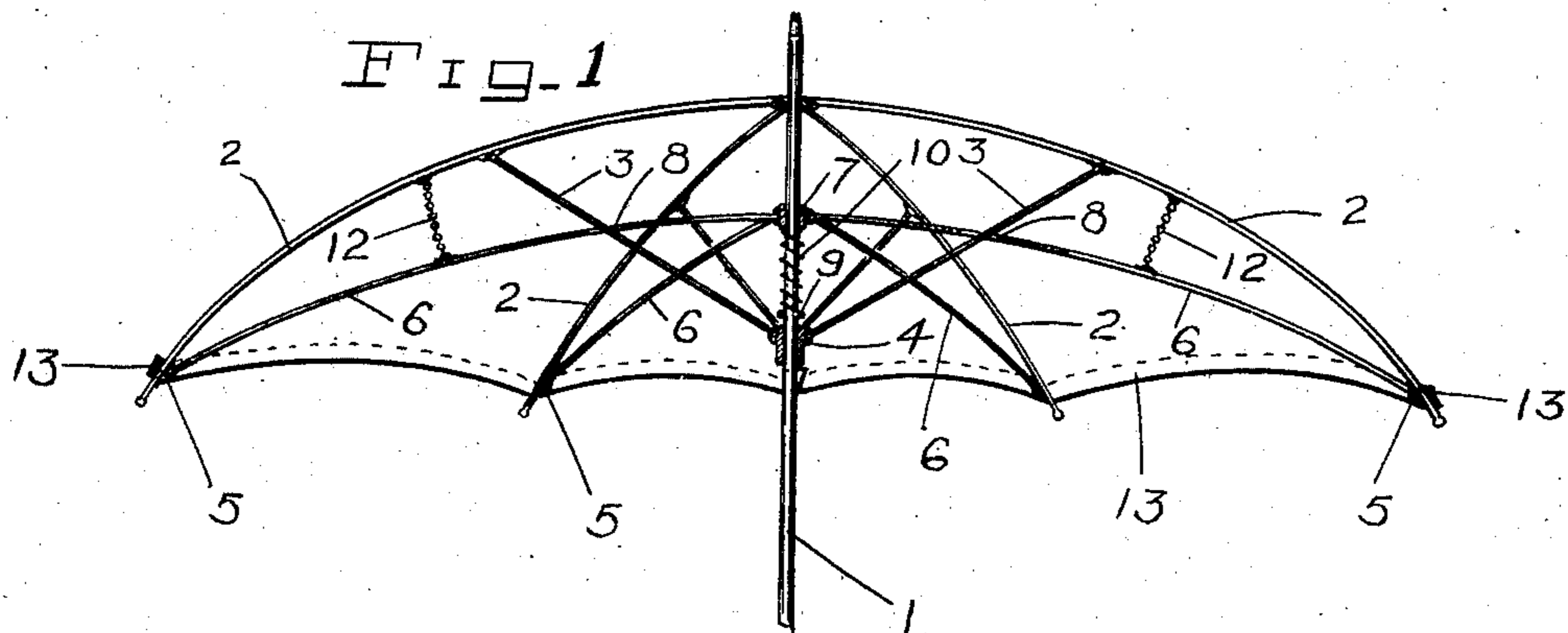


Fig. 3

Fig. 4

Witnesses  
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# UNITED STATES PATENT OFFICE.

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## UMBRELLA.

No. 850,341.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed June 28, 1906. Serial No. 323,809.

*To all whom it may concern:*

Be it known that I, PATRICK J. CALLAHAN, a citizen of the United States, residing at Central City, in the county of Lawrence and State of South Dakota, have invented certain new and useful Improvements in Umbrellas; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to attachments for umbrellas.

The object of the invention is to provide a series of supplemental braces adapted to be attached to an umbrella to increase the strength of and to prevent the same from being blown inside out, means being provided whereby sudden gusts of wind entering the umbrella will be yieldingly resisted.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of an umbrella constructed in accordance with the invention, showing the same in open position. Fig. 2 is an inner side view of the umbrella with the staff in section. Fig. 3 is a detail perspective view of one of the truss-braces shown in Figs. 1 and 2, and Fig. 4 is a similar view of a modified form of brace.

Referring more particularly to the drawings, 1 denotes the rod or staff of the umbrella, to which is connected the usual ribs 2 and brace-rods 3. The inner ends of the brace-rods 3 are connected to the usual runner 4 on said rod or staff of the umbrella.

On the outer end of all or a part of the ribs 2 are arranged bearing-lugs 5, with which are pivotally connected the outer ends of truss-brace bars 6, the inner ends of which are pivotally connected to a ring 7, slidably mounted on the rod 1 above the upper runner-catch, as shown. The truss-brace bar 6 may be formed of flat metal, as shown in Fig. 3 of the drawings, or the same may be constructed in the form of a rod, as shown in Fig. 4 of the drawings. When the brace-bars are constructed as shown in Fig. 3, they are adapted to lie immediately beneath the ribs 2 and are provided near their inner ends with a longitudinally-disposed slot 8, through which is adapted to project the braces 3 of the um-

rella. When the truss-braces 3 are constructed as shown in Fig. 4, they are adapted to lie in a plane adjacent to one side of the ribs 2, and in this form the braces 3 of the umbrella will pass along one side of the truss-brace, so that said parts will not interfere with each other.

Between the rings 7 and a transversely-disposed stop, preferably in the form of a pin 9, arranged in the staff or rod of the umbrella immediately above the upper runner-catch, is a coil-spring 10, said spring being adapted to support the ring 7 and inner end of the truss-braces, thereby yieldingly holding or cushioning the same against strain due to sudden heavy gusts of wind striking the inner side of the umbrella, and the upward pressure of the wind on the under side of the umbrella has a tendency to force up the outer ends of the rods, which cause the inner ends of the truss-rods to bear down against the tension of the spring 10 and press the umbrella against turning, so that the greater the upward pressure on the outer ends of the brace-rods the greater is the downward pressure at the inner ends and the more firmly the frame is braced. The spring 10 also serves as a means for closing the umbrella when the runner 4 is released from the runner-catch, as will be understood.

Connected with the truss-brace bars 6, substantially midway between their ends, are flexible short braces 12, preferably formed of short sections of chain. The braces 12, if desired, may also be constructed of short cords or leather straps and are connected at their outer ends to the umbrella-rods 2 between their ends and the pivotal points of the braces 3 and serve to hold the truss-brace bars curved upwardly and prevent the same from straightening out when strained by the wind, thus forming supporting means for the truss-bars. By forming the brace connections 12 of chains or other flexible material the same will not interfere with the closing of the umbrella.

Arranged around the edge of the umbrella-covering and secured to each of the ribs 2 is a strengthening strip or band 13, which may be formed of fabric or any strong flexible material. The object of the strip or band 13 is to increase the strength of the covering material around its outer edge, thus preventing the same from being readily torn when held against turning by the truss-rods.

By providing an umbrella constructed as

herein shown and described the same will be prevented from being turned inside out by the wind, and the general construction of the same will be materially strengthened. The  
5 strengthening-braces and coacting parts as herein shown may be applied to an umbrella in the course of construction or to an umbrella already constructed.

From the foregoing description, taken in  
10 connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion,  
15 and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claim.

20 Having thus described my invention, what

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

In an umbrella, a staff provided with a rigid stop above the upper runner-catch, a ring loosely mounted on the staff above said  
25 stop, a spring loosely mounted between the ring and the stop, truss-brace bars pivotally secured to said ring and to the outer ends of the ribs of the umbrella, and flexible braces secured to said bars intermediate their ends  
30 and to said ribs between the ends thereof and the points of attachment to said ribs of the runner-braces.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.  
35

PATRICK J. CALLAHAN.

Witnesses:

LEO A. HAY,

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