

929,497.

J. ROSE.  
FOLDING UMBRELLA.  
APPLICATION FILED AUG. 3, 1908.

Patented July 27, 1909.

FIG. 1.

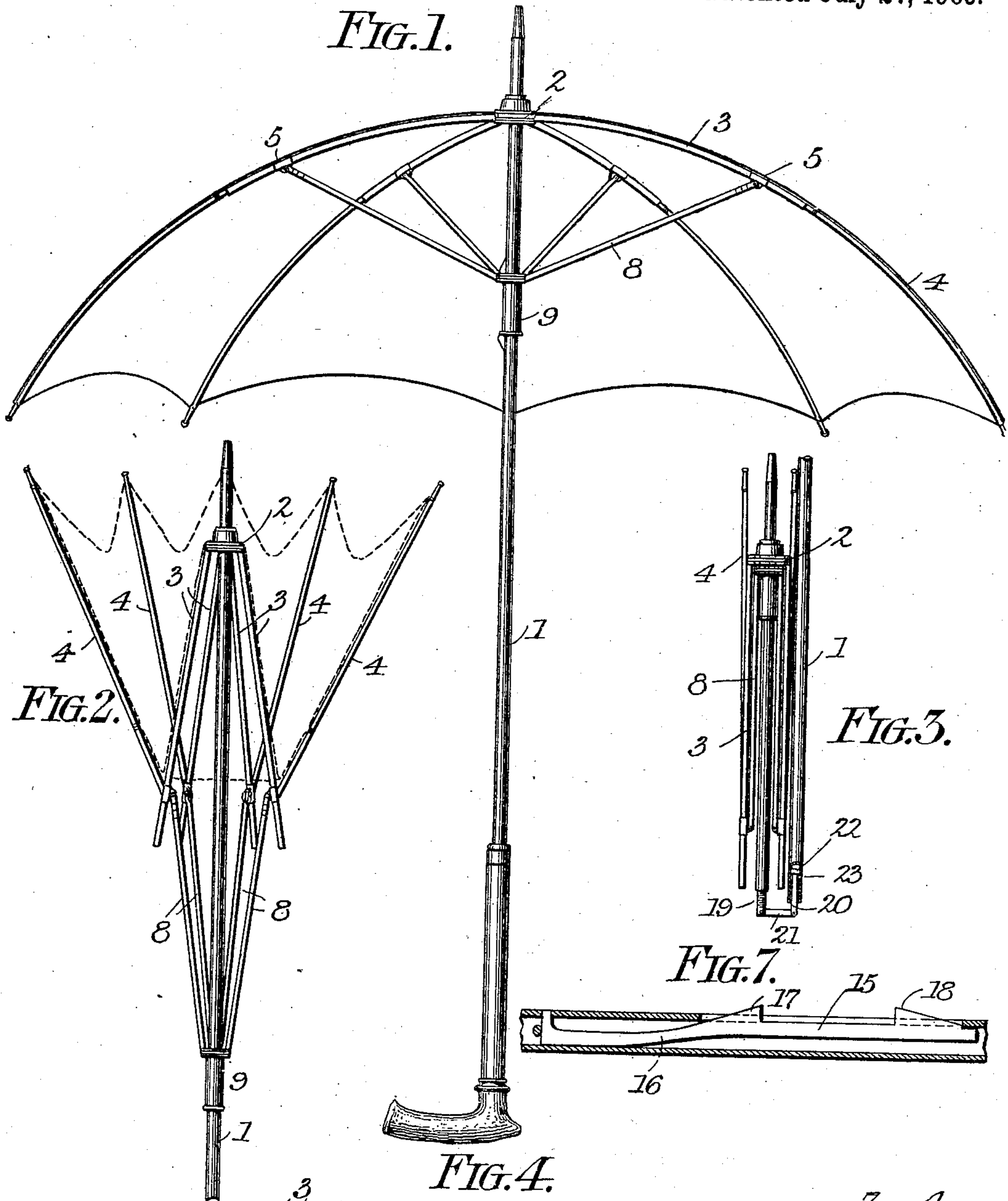


FIG. 2.

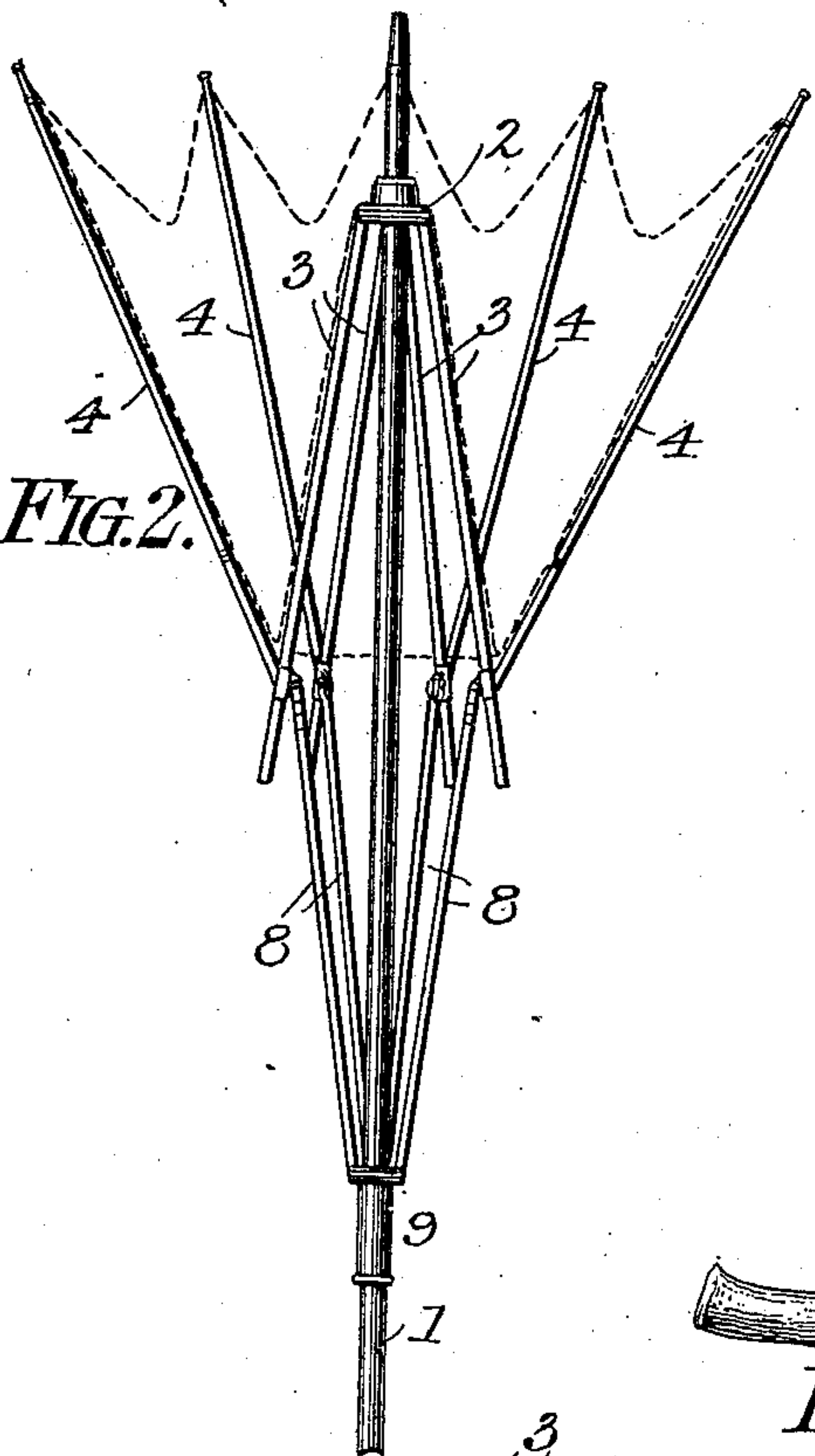


FIG. 3.

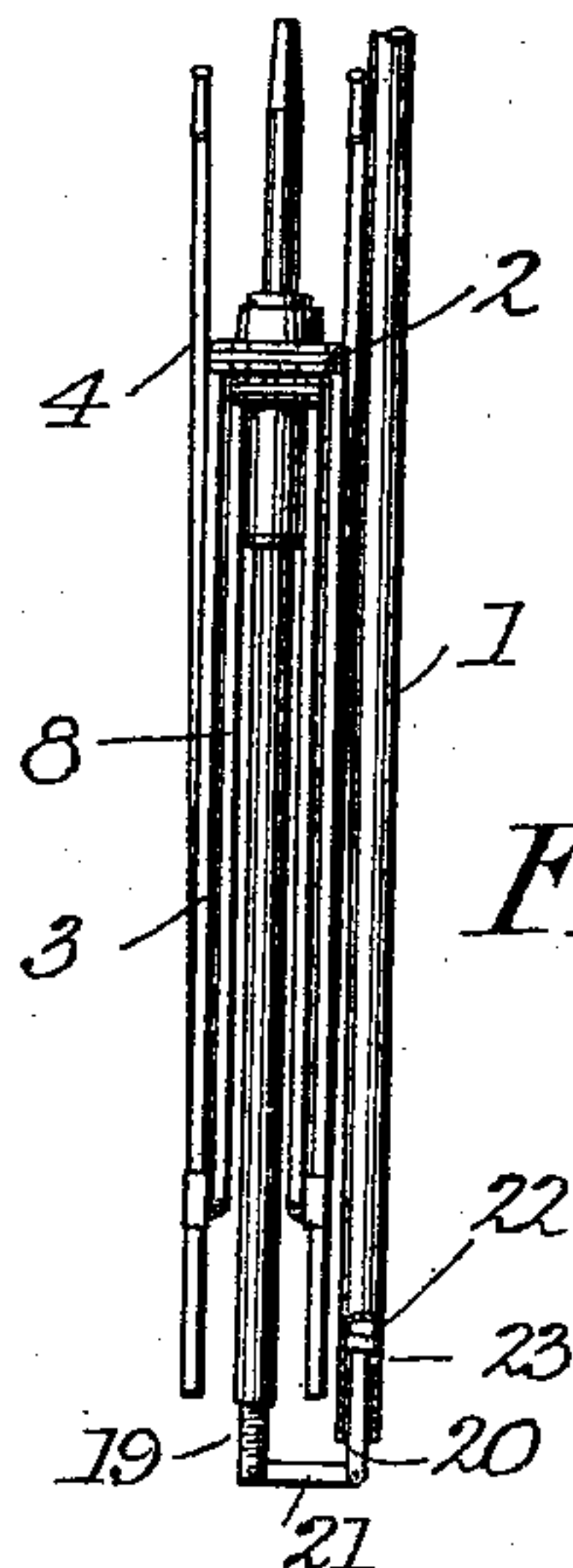


FIG. 7.

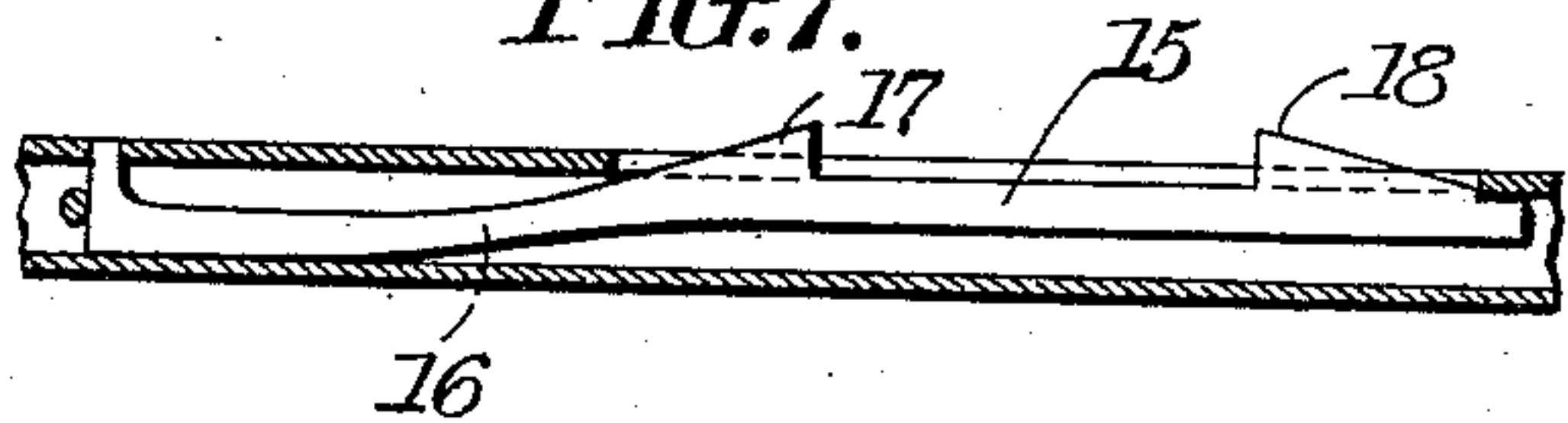


FIG. 4.

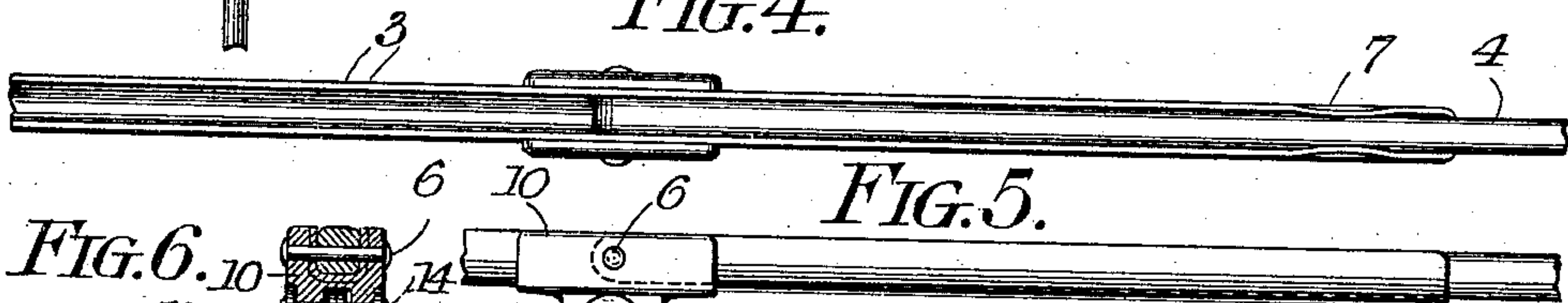
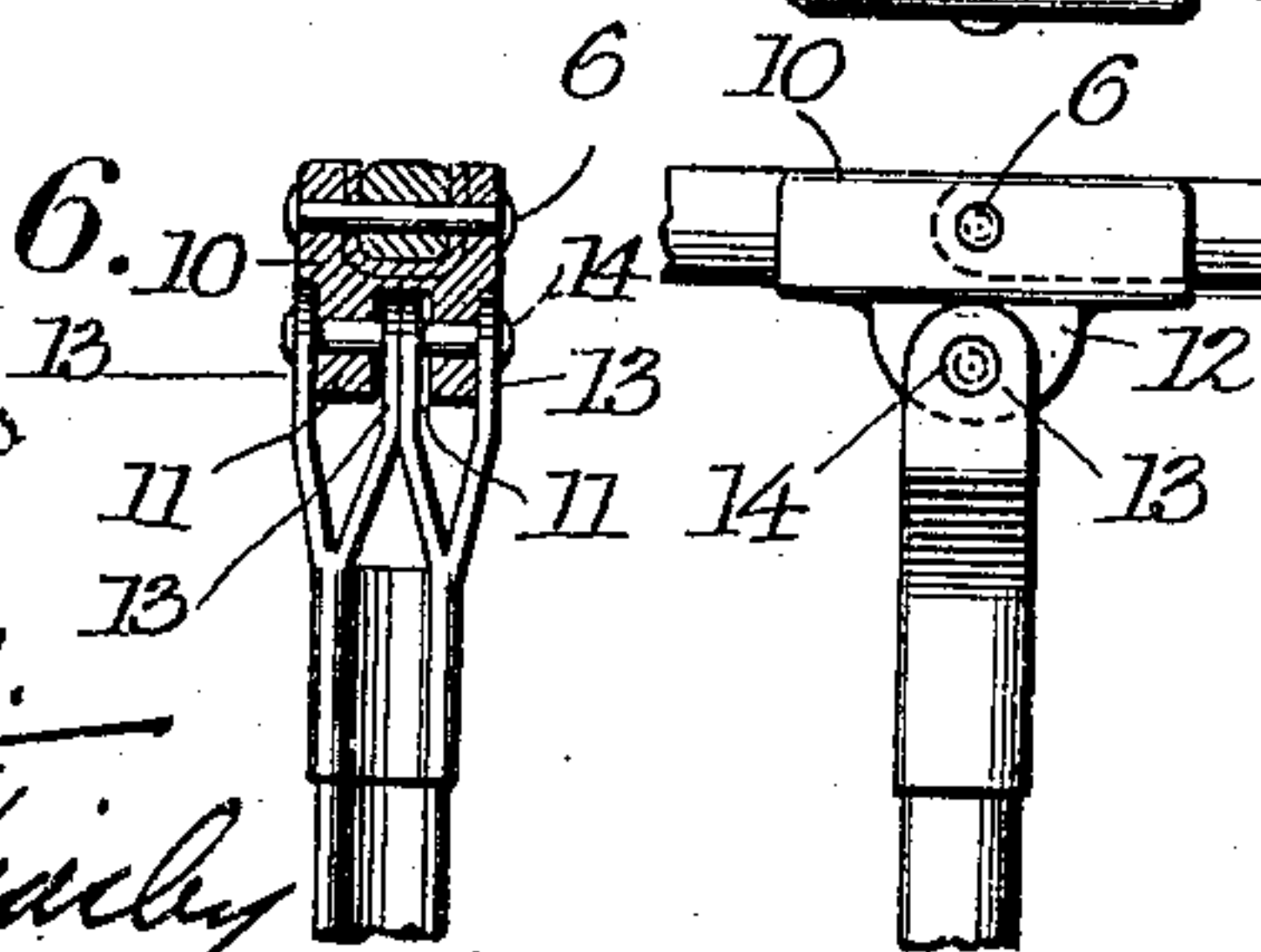


FIG. 5.

FIG. 6.

Witnesses  
N. F. Barnes.  
Melle J. Tully



Inventor  
James Rose  
By David H. Mead  
Attorney



# UNITED STATES PATENT OFFICE.

JAMES ROSE, OF LANCASTER, PENNSYLVANIA.

## FOLDING UMBRELLA.

No. 929,497.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed August 3, 1908. Serial No. 446,626.

*To all whom it may concern:*

Be it known that I, JAMES ROSE, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification.

This invention relates to folding umbrellas. In umbrellas of this class as usually made the features which adapt them for being folded to occupy a small space render their use as an ordinary umbrella objectionable either because of their appearance or because they require careful handling to prevent disarrangement of the parts which come into play when the umbrella is to be folded.

The object which I have in view is to provide a folding umbrella so constructed throughout as to have the appearance of an ordinary umbrella and to be capable of use as such when desired under all circumstances, and which shall be capable of being quickly and easily folded to occupy a small space.

With this object in view the invention consists of an umbrella having the novel generic and specific features of construction and arrangement of parts substantially as hereinafter described and claimed.

The invention is illustrated in the accompanying drawing in which;—

Figure 1 is a side elevation of an umbrella of my improved form, one side of the cover and one half the ribs being removed; Fig. 2 is a side view showing the first position in which the parts are placed in folding the umbrella; Fig. 3 is a side view showing the umbrella in a folded position, the cover and one half the ribs being removed; Fig. 4 is a detail view showing the outer face of the means for joining and retaining the parts of the rib which I employ; Fig. 5 is a detail view particularly showing the form of connection by which the parts of the ribs are joined and by which the stretchers are pivotally attached to the ribs; Fig. 6 is a sectional view showing the connection and the form of the outer ends of the stretchers which are attached to the connections, and Fig. 7 is a detail view showing the combined upper spring and stop.

In this drawing 1 represents the stick which is preferably of metal and of the tubular form in general use. Arranged near the tip

end of the stick is a notch ring 2 which is of somewhat greater diameter than those ordinarily used to provide a space to allow the runner and stretchers to be interposed between the stick and the ribs which are attached to the notch ring near the periphery thereof.

The ribs which I employ are composed of two parts 3 and 4, pivotally connected. The upper portion 3 of each rib is of the ordinary grooved or paragon form, while the lower portion 4 may be solid, and is of a size to enter the groove in the upper portion. The upper groove or paragon parts of the ribs are connected to the notch ring in a manner to have their grooves on their outer faces. The parts of the rib are pivotally connected at points 5, a short distance above the lower end of the upper portion of the ribs by pins 6 passing through the parts, the location of the pin being such that when the parts of the ribs are brought to positions substantially parallel to each other a portion of the lower end of each rib rests in the groove in the upper end thereof. In order that the parts of the ribs may be maintained during ordinary handling and use in line with each other to form ribs which in appearance and function shall be the same as those of the usual ribs formed of one piece, the upper portion of each rib has its sides bent inward as shown at 7, Fig. 4, forming shoulders or projections. When those portions of the lower ends of the ribs opposite the shoulders formed as described in the upper parts 3 are forced into the grooves in such upper parts they will be firmly held in place by the resiliency of the metal of the rib. This means of securing the parts of the ribs in place permits of the use of a commercial form of rib requiring no special formation or the addition of any securing means. Besides, as the lower portions of the ribs are entirely inclosed by the upper portions, a smooth outer face with which the cover contacts is presented when the ribs are extended.

The stretchers 8 are attached at their inner ends to a runner 9 in the usual way and they are joined to the ribs by a connection or geat 10. These connections or geats are U-shaped in general contour and are of a size to receive and closely confine the upper parts of the ribs and they are secured in place by



the pins 6 by which the parts of the ribs are pivotally connected. The inner faces of the connections or geats are each formed with two projections 11, 11, which have broad flat outer faces 12. The outer ends of the stretchers terminate in three flat fingers 13, the middle one being of a width corresponding to the space between the projections on the connections or geats, and the outer ones having flat inner faces which bear on the outer faces of the projections. The projections and fingers are pivotally connected by pins 14. By this form of connection the spreaders and ribs are prevented from having lateral movement independent of each other and any bending at the point of juncture is prevented. Thus the contact or interference of one rib with another in raising or lowering the cover or in manipulating the parts in folding or unfolding is prevented.

The form of upper spring 15 shown particularly in Fig. 7 of the drawing, serves both as the usual upper spring of an umbrella and as a stop which is usually placed above the upper spring. It consists of the elongated body 16 of resilient metal on which are formed the projections 17 and 18. The lower projection 17 has its lower face beveled and has a straight upper face at right angles to the stick, while the upper projection has a straight lower face and a beveled upper end. The space between the flat faces of the respective projections corresponds to the length of the runner. When the umbrella is raised the runner will ride over the beveled face of the projection 17 depressing the spring. After passing over the projection 17 the spring will automatically return to its normal position presenting the lower face of the projection 18 to the runner and acting to stop the latter.

In connection with the parts described I use a stick which is capable of being folded to occupy approximately one half its usual amount of space. In the form herein shown the lower end of the upper portion of the stick has a male screw while the upper end of the lower portion has a female screw of a size to receive the male screw. In order to prevent separation of the parts of the stick a plug 19 fast to the upper portion of the stick extends a short distance from the screw threaded end, and arranged in the other portion is a short bar 20 capable of moving up and down in the stick. The two parts are connected by a link 21 pivotally at one end to the plug and at the other to the bar. The bar 20 has on it a head 22 and after the bar is placed in the stick a pin 23 is inserted into the wall of the stick. The pin projects into the path of the head and prevents its withdrawal.

When the parts are in their normal positions the umbrella has the appearance and can be used in the same way as one of the

usual construction. When it is desired to fold the umbrella the ribs are first bent back upon themselves to assume the positions shown in Fig. 2 of the drawing. The runner is then forced upward and when caught by the upper projection 18 of the upper spring which acts as a stop the latter is depressed by pressure on the lower projection 17 which is readily reached. When the projection 18 is depressed the runner is moved to bring it against the notch ring and by this movement the folded ribs and runners are brought to a position close to and parallel with the stick. The parts of the stick are then separated by unscrewing them, the bar 20 is drawn outward and the lower end of the stick is swung to bring it parallel with the upper end of the stick in which position it lies close to the ribs. By this manipulation of the parts the umbrella is brought to the short compact form shown in Fig. 3 and may safely and conveniently be packed in a small space.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A folding umbrella comprising ribs made in two parts pivotally connected, one part being of the groove or paragon type whose inner faces constitute means whereby the other part is retained by frictional contact when the latter enters the first, substantially as described.

2. A folding umbrella comprising ribs made in two parts pivotally connected, one part being of the groove or paragon type and being provided with projections extending into the groove, the other being adapted to enter the groove and be retained therein by frictional contact with the projections, substantially as described.

3. A folding umbrella comprising ribs made in two parts pivotally connected, one part being of the groove or paragon type and provided with indented sides, the other part being adapted to enter the first and be retained by contact with the indentations, substantially as described.

4. A folding umbrella comprising ribs made in two parts, one member being of the groove or paragon type whose inner faces constitute means whereby the other part is retained therein by frictional contact, a pivotal connection between the parts a short distance from the end of the groove member, the second member being of a size to enter and be retained by contact with the inner faces of the first, substantially as described.

5. A folding umbrella comprising ribs made in two parts one part being of the groove or paragon type whose inner faces constitute means whereby the second part is retained by frictional contact, and a pivotal connection between the parts a short distance from the end of the groove member, substantially as described.



6. A folding umbrella comprising ribs  
made in two parts, one part having a groove,  
means for connecting the parts near the end  
of the groove member, the said groove mem-  
5 ber being provided between the point of con-  
nection and its end with indentations form-  
ing projections on the inner face of the  
groove, the second member being adapted to  
enter the groove in the first and be retained

therein by contact with the projections, sub- 10  
stantially as described.

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

JAMES ROSE.

Witnesses:

DAVID H. MEAD,  
C. W. FOWLER.