No. 873,174. PATENTED DEC. 10, 1907.

A. C. ROLLER.

FOLDING UMBRELLA OR PARASOL.

APPLICATION FILED MAR. 28, 1907.

Fig. 1.

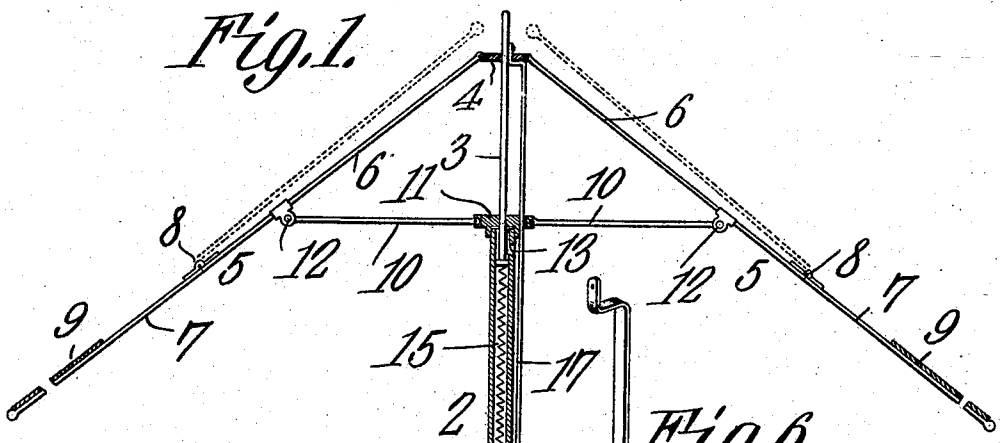


Fig. 6.

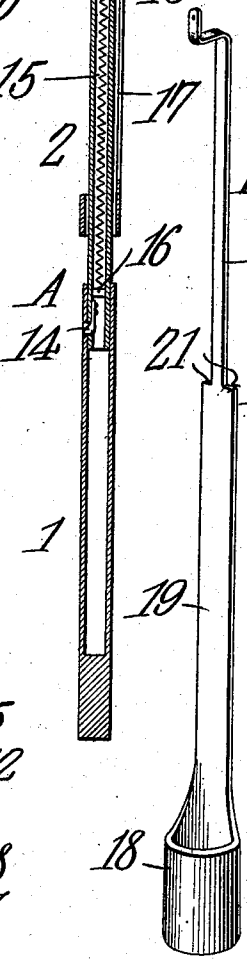


Fig. 3.

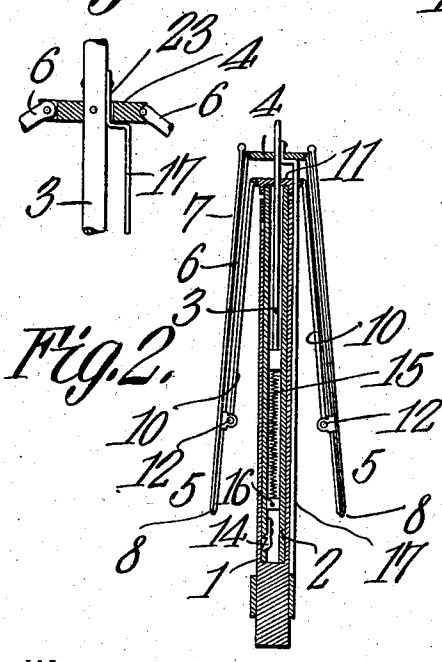
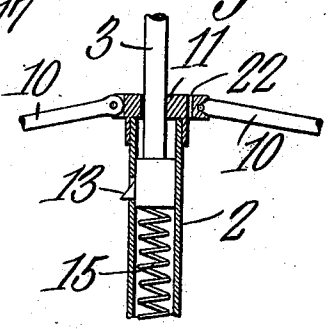


Fig. 2.

Fig. 4.



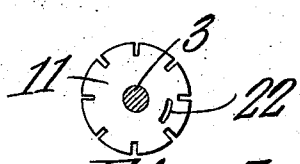


Fig. 5.

Abrah C. Roller,
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ALVAH C. ROLLER, OF LAWRENCE, KANSAS.

FOLDING UMBRELLA OR PARASOL.

No. 873,174. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed March 28, 1907. Serial No. 365,202.

To all whom it may concern:

Be it known that I, ALVAH C. ROLLER, a citizen of the United States, residing at Lawrence, in the county of Douglas and State of Kansas, have invented a new and useful Folding Umbrella or Parasol, of which the following is a specification.

This invention relates to a folding umbrella of that type in which the handle is collapsible and the ribs divided and fold backward on themselves so as to reduce the length of the umbrella and make it possible to pack it in small traveling receptacles and for other purposes.

The object of the invention is to improve and simplify the construction of such devices without using a multiplicity of obtrusive attachments which soon get out of order and besides mar the neat, attractive appearance of an umbrella.

With this and other objects in view the invention consists of the novel combination and arrangement of parts hereinafter described and definitely pointed out in the claims.

In the accompanying drawings: Figure 1 is a vertical sectional view of an umbrella constructed in accordance with the invention. Fig. 2 is a similar view, showing the frame of the umbrella folded, the ribs being slightly separated from the handle to avoid confusion. Fig. 3 is an enlarged detail sectional view of the upper end of the outer handle section. Fig. 4 is a similar view of the upper end of the intermediate handle section. Fig. 5 is a plan view of the same; and Fig. 6 is a perspective view of the operating slide.

Similar reference characters indicate the same parts in all the figures of the drawings.

The reference letter A indicates an extensible handle which preferably consists of a lower section 1, an intermediate section 2 and an upper section 3. The intermediate section 2 is telescoped within the lower section 1, and the upper section 3 is telescoped within the intermediate section.

Rigidly secured to the upper section 3 of the extensible handle is a collar 4 with which is pivotally connected a plurality of radially-extending folding ribs, indicated generally by 5, each of said ribs consisting preferably of an inner hinge member 6 and an outer hinge member 7. The hinge joint 8 is of such nature that the outer hinge member 7 can be folded upwardly upon the inner hinge member 6, as shown, but cannot be folded in the opposite direction upon said inner hinge member. Suitably connected with the folding ribs 5 is the cover 9 of the umbrella or parasol which may be of the ordinary shape.

For the purpose of holding the folding ribs 5 in extended position, a plurality of radially-extending bracing members 10 are pivotally connected at their inner ends with a notch 11 secured to the upper end of the intermediate section 2 of the extensible handle, the outer ends of said bracing members 10 being pivotally connected at 12 with the inner hinge members 6 of the folding ribs 5.

Suitably mounted upon the upper section 3 of the extensible handle A is a resilient catch 13 which, when the handle is in extended position, is adapted to snap outward through a suitable slot in the intermediate section 2 so as to limit the upward movement of the section 3 with respect to the section 2. A second resilient catch 14, is mounted upon the intermediate section 2 so as to be adapted to engage a slot in the lower section 1 of the extensible handle.

To assist in opening the umbrella a spiral spring 15 is placed within the intermediate section 2 and bears at its lower end against an abutment 16 within the section just above the catch 14, and at its opposite end on the bottom of the upper section 3. A slide 17 parallel to the umbrella handle A and movable longitudinally, is connected to the upper section 3 and extends downwardly within reach of the hand. The length of the slide 17 is a little less than that of the lower section 1, and comprises three parts, 18, 19, and 20. The part or thimble 18 is cylindrical, having a diameter sufficiently large to run freely on the lower section 1, and long enough to be easily held between the thumb and fingers when the slide is to be operated. The body part 19, is a longitudinal continuation of one side of the thimble 18, having the same curvature but a circumferential width of about ninety degrees. The top of the body part 19 is formed with two shoulders 21 between which rises the upper extension 20, curved similar to the body part but narrower. The upper extension passes through a curved slot 22 in the notch 11 and a similar slot 23 in the collar 4 just above which it is riveted to the upper section 3. Instead of passing through the collar 4 it may be fastened to it or to the upper section below the collar.

The several parts of the slide are so pro-

portioned that when the umbrella is raised, the thimble 18 will be a short distance above the top of the lower section 1, and the shoulders 21 abutting against the under side of the notch 11. The slide 17 is made preferably of thin steel either from a tube cut to the proper shape, or stamped out of sheet metal and rolled, the adjacent edges which form the thimble being soldered or brazed.

Constructed as described, it will be apparent that when the umbrella is open and the catches 13 and 14 are pressed inward so as to permit the lower section 1 to be slipped upward upon the intermediate section 2, and the upper section 3 drawn downward by the slide 17 into said intermediate section against the tension of the spiral spring 15, the inner hinge member 6 of the folding ribs will be drawn inward upon the lower section 1 of the handle, and the outer hinge members 7 of the folding ribs can be folded upward so as to adapt the umbrella or parasol to be folded into small compass and carried in a suit-case, if desired. When it is desired to open the umbrella, the lower section 1 of the handle is drawn downward upon the intermediate section 2 until the resilient catch 14 snaps outward into the slot so as to prevent accidental upward movement of the lower section 1 with respect to the intermediate section 2. The thimble 18 is then grasped by the fingers and pushed upwardly. The upper extension 20, attached to the upper section 3 and sliding through the curved slot 22 causes said section to be drawn out of the intermediate section, this movement being greatly assisted by the spiral spring 15 pressing against the upper section. The outward movement of the upper section 3 carrying with it the upper ends of the ribs 5 cause the bracing members 10 to throw the folding ribs outwardly, it being understood that the ribs have previously been straightened. When the upper section 3 has almost reached the limit of its movement, determined by the shoulders 21 striking the notch 11, the bracing members will be approximately in the same plane and will have stretched the cover to the utmost. Then, when the shoulders 21 strike the notch 11 the inner ends of the bracing members 10 have passed the dead center and the tendency of the cover to contract will hold the upper section 3 fully projected and the shoulders 21 pressed tightly against the notch 11. The catches 13 and 14 will prevent any accidental telescoping of the extensible handle, as will be apparent.

The improved umbrella of this invention is strong, simple, durable and inexpensive in construction as well as thoroughly efficient in use.

Having thus described the invention what is claimed is:—

1. A folding umbrella having an extensible handle comprising a lower section, an intermediate section, and an upper section telescoping into the intermediate section, a notch on the upper end of the intermediate section having a slot therethrough, folding ribs pivoted to the upper section, bracing members pivoted to said folding ribs and to said notch, a slide passing through said slot and attached to the upper section for moving it in and out of the intermediate section and shoulders on said slide to abut against said notch for limiting the upward movement of said upper section.

2. A folding umbrella having an extensible handle comprising an upper section telescoping into a lower section, a notch on the upper end of the lower section having a slot therethrough, folding ribs pivoted to the upper section, bracing members pivoted to said folding ribs and to said notch, and a slide having a ferrule on its lower end surrounding said lower handle passing through said slot and attached to the upper section, shoulders being formed on said slide to abut against said notch and limit the upward movement of said upper section.

3. A folding umbrella having an extensible handle comprising three telescopic sections, a notch on the intermediate member of the sections having a slot therethrough, a spring in the intermediate section acting on the upper section to force it out of said intermediate section, catches on the sections to hold them in extended position, folding ribs pivoted to the upper section, bracing members pivoted to said folding ribs and to said notch, a narrow slide attached to the upper section and passing through the slot in said notch terminating in a ferrule embracing the intermediate section, said slide having shoulders to abut against the under side of said notch to limit the upward movement of the upper section.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ALVAH C. ROLLER.

Witnesses:
JOHN B. BOENER,
HENRY A. BOENER.