No. 855,142. PATENTED MAY 28, 1907.

A. STEININGER.

FOLDING UMBRELLA.

APPLICATION FILED OCT. 11, 1906.

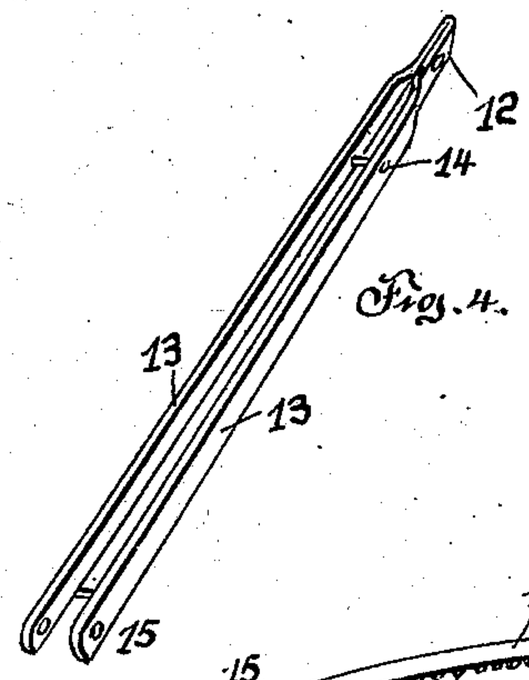

Fig. 4.

Fig. 1

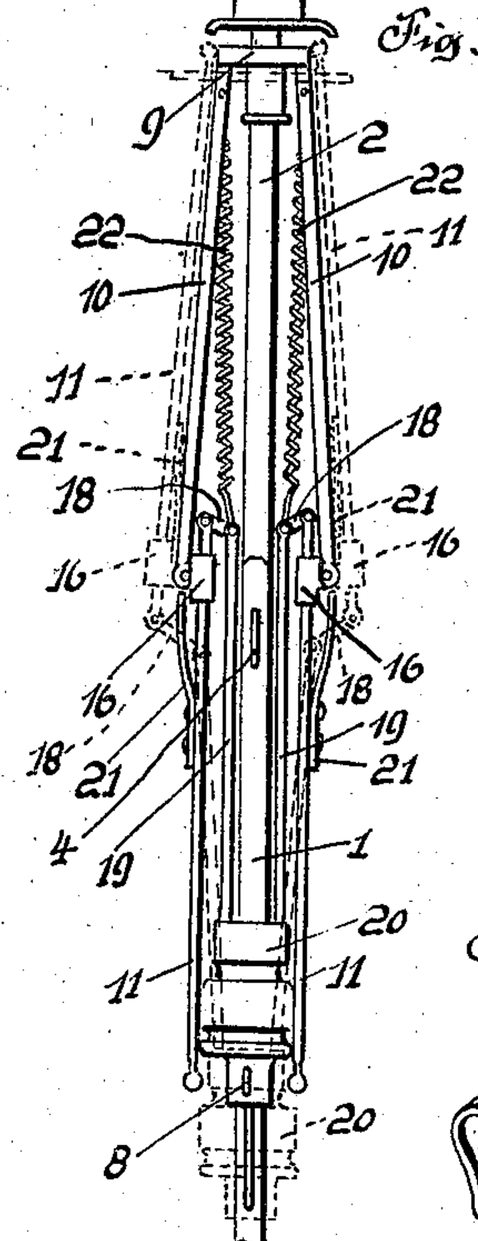

Fig. 2.

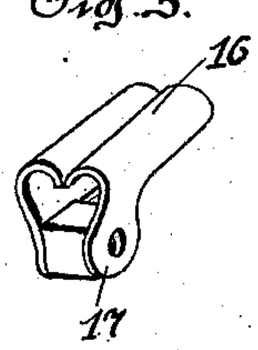

Fig. 5.

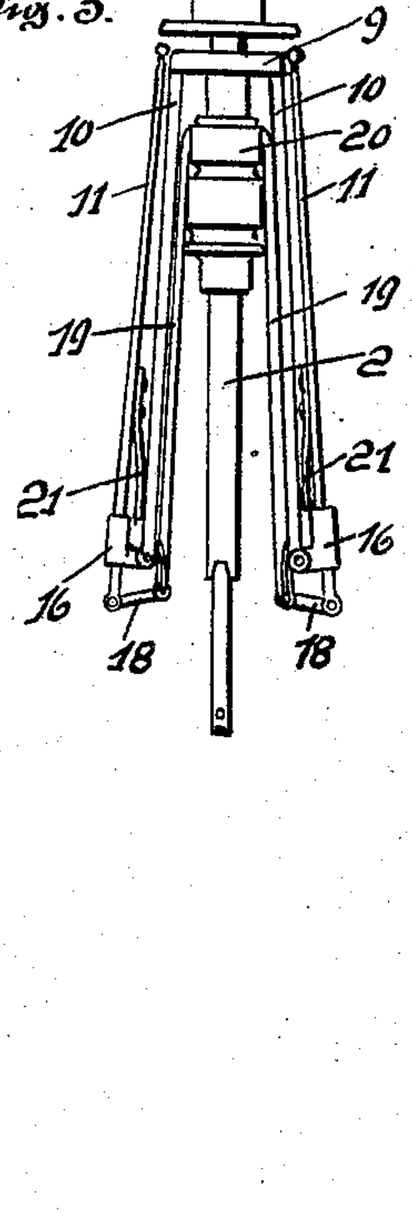

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

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FOLDING UMBRELLA.

No. 855,142. Specification of Letters Patent. Patented May 28, 1907.

Application filed October 11, 1906. Serial No. 338,437.

To all whom it may concern:

Be it known that I, ANDREWS STEININGER, a subject of the King of Hungary, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to folding umbrellas, and its object is to provide an umbrella which may be readily folded into small compass and packed into a trunk or satchel.

The invention consists of sectional ribs of novel construction and improved means for connecting the same together and to the handle-rod of the umbrella.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawing which forms a part of this specification, and its novel features will be defined in the appended claims.

In the drawing, Figure 1 is a side elevation partly in vertical section of an umbrella frame embodying the invention, the folded position of the ribs being shown in dotted lines, Fig. 2 is a similar view showing the ribs in folded or closed position, Fig. 3 is a side elevation showing the outer sections of the ribs folded, Fig. 4 is a view in perspective of the inner section of one of the main ribs, Fig. 5 is a detail perspective of one of the connecting sleeves employed to connect the inner sections of the main ribs.

The handle rod or stick of the umbrella comprises two sections, designated respectively by the reference numerals 1 and 2. The lower section 1 to which the handle 3 is secured is tubular, and secured therein is an ordinary spring-catch 4. The catch 4 projects through a slot formed in the tubular section 1. The lower section 1 is also provided with the usual retaining catch 8.

Upon the upper handle rod section 2 is a notch 9 to which the inner ends of the main rib sections 10 are pivotally secured. Each of the main ribs comprises two sections 10 and 11, the inner section 10 preferably consisting of a single metallic strip bent centrally upon itself to provide a projecting perforated end 12, and two longitudinal sides 13 connected by a cross-pin 14. Between the perforated outer ends 15 of each section 10 is pivoted a connecting sleeve 16, formed with perforated ears 17. The outer sections 11 of the main ribs extend through these sleeves and are each connected by a link 18 with the outer ends of the stretchers 19, the inner ends of which stretchers are connected to a runner 20 arranged on the handle-rod.

The rib sections 11 are further connected to the sections 10 by means of flat springs 21 secured at their outer ends to the sections 11, and at their inner ends to the pivotal supports of the sleeves 16. To each of the stretchers 19 is connected one end of a coil spring 22. The opposite ends of these springs are connected to the cross pins 14 of the main rib sections 10, said springs resting in the spaces between the sides 13 of the said sections 10. These springs 22 act to automatically open the umbrella when the runner 20 is released from catch 8.

The umbrella is shown in closed position in Fig. 2 of the drawings, Fig. 1 also showing in dotted lines the closed position of the ribs and stretchers, and Fig. 3 shows the ribs in the folded position. When the ribs and stretchers are in the closed position as shown in Fig. 2, and as seen in dotted lines in Fig. 1, and it is desired to raise the cover of the umbrella the spring catch which holds the runner 20 in lowered position on the umbrella stick is depressed, and, as the coiled springs 22 have been extended or expanded in the closing of the umbrella, the tension of these springs is exerted against the stretchers 19, and when the runner is released as above noted, the springs cause the runner to be drawn upwardly on the umbrella stick, opening the umbrella automatically to a certain extent. Pressure against the runner sufficient to force the same over the catch 4 is all that is required to effect the complete opening of the umbrella. These springs 22 are placed under tension in the closing of the umbrella by reason of the fact that the links 18, when the umbrella is in open form, lie substantially in line with the outer rib sections 11, whereas in the closed position of the ribs these links lie at substantially right angles to the outer rib sections, and the springs 22 being connected to the outer ends of the stretchers, the distance between the outer ends of said stretchers and the pins 9 is greater when the umbrella is in closed position, than when the same is in the opened or extended position. When it is desired to

have the umbrella occupy but little space the handle sections are disjointed as will be readily understood.

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

1. In a folding umbrella, the combination with an inner rib section and an outer rib section, of a sleeve pivotally secured to the outer end of the inner rib section and through which sleeve the inner end of the outer rib section is received, a spring secured to the outer rib section and pivotally secured at its inner end to said sleeve, a stretcher, a link pivotally connected to the outer end of said stretcher and the inner end of said outer rib section, a pin carried by the inner rib section near its inner end, and a spring connected to said pin at one end and at its other end connected to the outer end of the stretcher.

2. In a folding umbrella, the combination with an umbrella stick, a notch thereon, and a runner slidable on the stick, of ribs each formed of an inner and an outer section, the inner section pivotally secured at its inner end to the notch, a sleeve pivotally secured to the outer end of said inner section, the outer rib section having its inner end received through said sleeve, a spring secured to the outer rib section and pivotally secured at its inner end to said sleeve, stretchers pivotally secured at their inner ends to the runner, links pivotally connected to the outer ends of said stretchers and to the inner ends of the outer rib sections, and springs having one end connected to the outer ends of said stretchers and their other ends connected to the inner rib sections adjacent the pivoted inner end of the latter.

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

ANDREWS STEININGER.

Witnesses:

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MAX H. SROLOVITZ.