(No Model.)

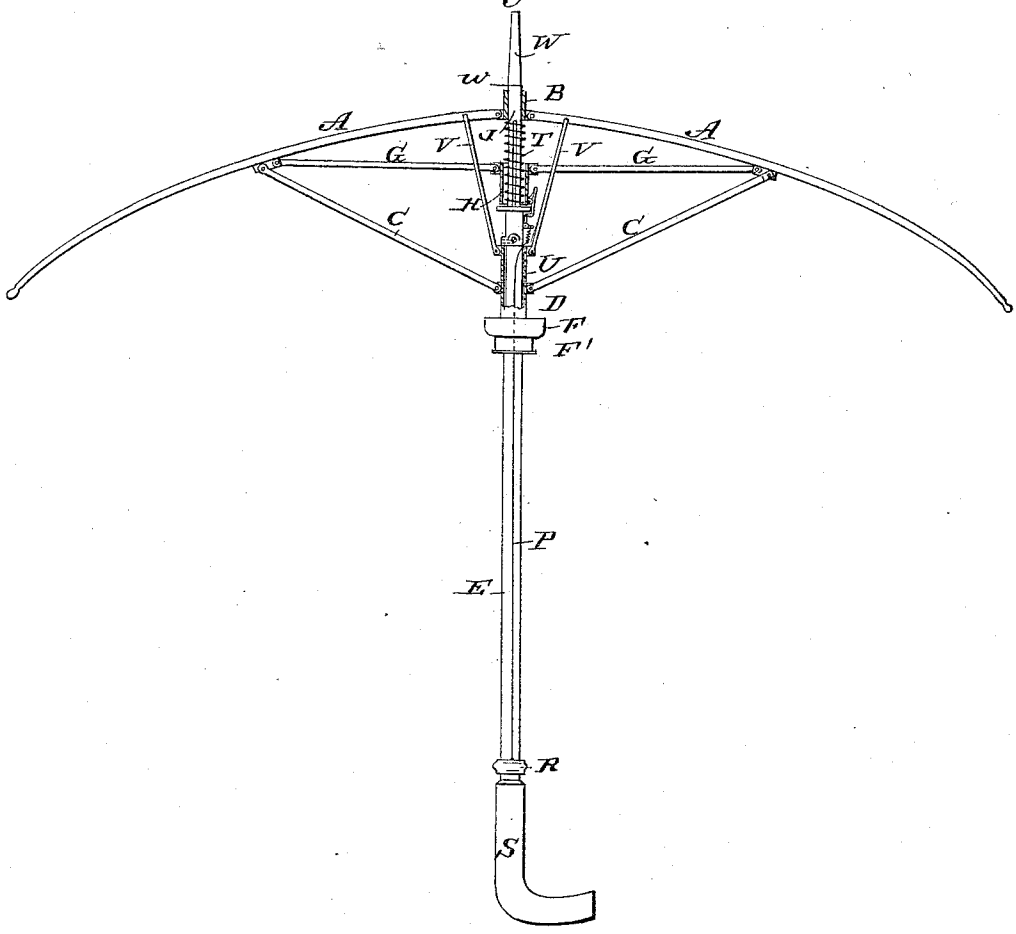
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G. GILARDINI.

UMBRELLA.

No. 319,225. Patented June 2, 1885.

Fig. 1.



WITNESSES:

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N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

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UMBRELLA.

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Fig. 2.

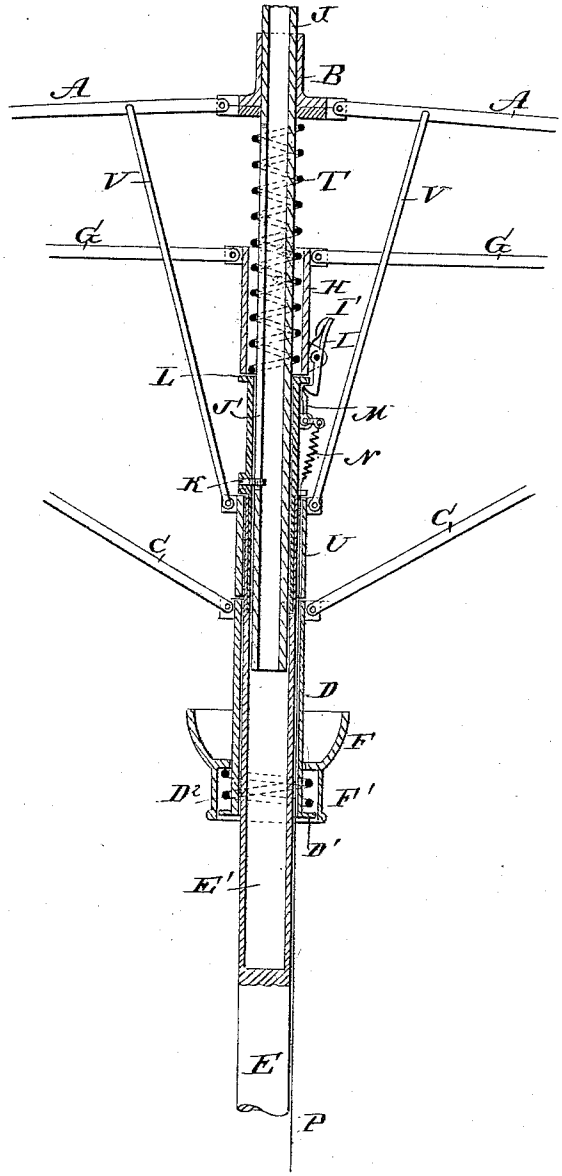
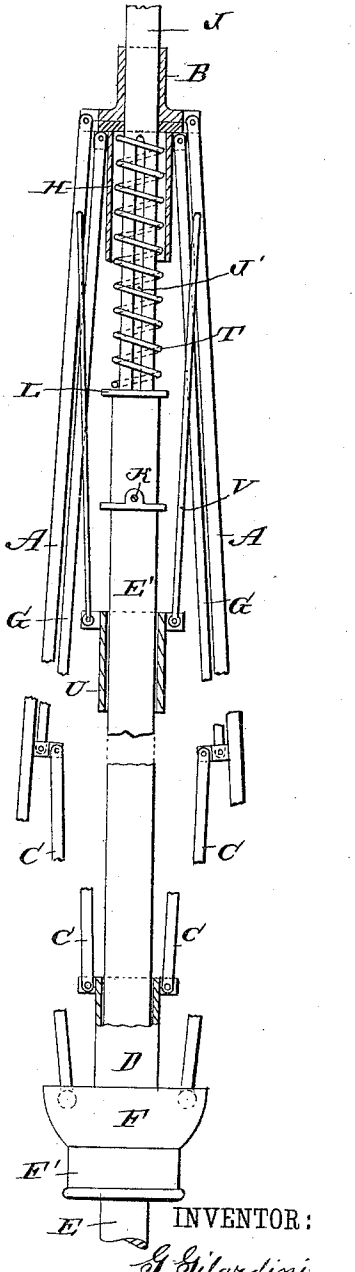


Fig. 3.



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UNITED STATES PATENT OFFICE.

GIOVANNI GILARDINI, OF TURIN, ITALY.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 319,225, dated June 2, 1885.

Application filed June 18, 1884. (No model.) Patented in Italy May 1, 1884, No. 16,784; in England May 13, 1884, No. 7,667; in Germany May 14, 1884; in Belgium May 31, 1884, No. 65,161; in Spain September 10, 1884, No. 4,217; in France September 27, 1884, No. 162,053, and in Austria-Hungary December 12, 1884, No. 34,980 and No. 57,272.

To all whom it may concern:

Be it known that I, GIOVANNI GILARDINI, of Turin, Italy, have invented a new and Improved Umbrella, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved umbrella or parasol which opens and closes automatically when desired.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improved umbrella, parts being broken out, the umbrella being open. Fig. 2 is an enlarged sectional view of the upper part of the umbrella, the same being open. Fig. 3 is an enlarged detail view of the umbrella, parts being broken out and others shown in section, the umbrella being closed.

In the drawings I have shown only the frame of the umbrella, and have omitted the covering, so as to avoid confusion. The ribs of the umbrella are pivoted at their upper ends to a sleeve, B, and at or near the middle of each rib A a brace-rod, C, is pivoted to the same, the lower ends of which brace-rods are pivoted to a sleeve, D, sliding on the rod E. The lower end of the sleeve D—that is, the end nearest the handle—is surrounded by a cup, F, and its neck F′, the opening of the cup projecting toward the point of the stick. The sleeve D is provided at its end with an annular flange, D′, between which and the base of the cup F a spiral spring, D^2, is held, which presses the cup in the direction toward the point of the stick. To each rib A an additional brace-rod, G, is pivoted at or near the same place to which the corresponding brace-rod, C, is pivoted, and the inner ends of the brace-rods G are pivoted to a sleeve, H, in the lower end of which a hook-latch, I, acted upon by a spring, I′, is pivoted. The sleeve B fits closely on a tube, J, which is adapted to slide into and out of the upper apertured or hollow end, E′, of the stick E, which tube J is provided with a longitudinal slot, J′, into which a stud or screw, K, passes from the upper tubular part of the stick at the upper end. The tubular part E′ of the stick E is provided with an external flange, L, on which the hook of the latch I is adapted to catch. On the tube E′ an elbow-lever, M, is pivoted in such a manner that one end of the same will be directly below the hook of the latch I when the said hook has caught on the flange L. To the other end of the lever L a spiral spring, N, is connected, from which a cord or wire, P, extends to a ring, R, or to a lever or any other object directly above the handle S of the stick E; or the end of the wire P can be secured to the rod E or to the handle S, as may be desired. A spiral spring, T, surrounds the tube J between the sleeve B and the upper end of the tubular part E′ of the stick, the said spring being surrounded by sleeve H, the diameter of which must be larger than that of the spring T. A sleeve, U, held to slide on the rod E on its tubular part, is connected by rods V, pivoted on the jaws of the said sleeve U, with the upper ends of the braces A short distances from the pivots by which they are pivoted in the sleeve B. On the outer end of the tube J a point, W, of the usual construction, is secured, and is provided with a shoulder, *w*, to prevent the sleeve B from slipping entirely off of the stick. The sleeve B is adapted to slide on the tube J, and the tube J is adapted to slide in the tubular part of the stick E, and the sleeve D is adapted to slide on the stick E and the tubular part E′ of the same. When the umbrella is closed, the ends of the ribs A are held closely to the stick E, and are held together by the cup F, which is slightly withdrawn to permit of pressing the ends of the ribs against the stick E, and when the cup is released the spring D^2 presses it in the direction toward the point of the stick, thus confining the ends of the ribs within the cup. Then the point of the stick is placed on the ground, and the stick is forced downward, thereby causing the tube J to slide into the tubular part E′ of the stick, and thereby the sleeve H, in which the latch I is pivoted, is moved to the flange L and the hook I catches on the said flange. If, then, the umbrella is to be opened, the cup F is moved in the direction toward the handle, thus releasing the ends of the ribs, which spring outward

and upward, thereby drawing the sleeves U and D upward in the position shown in Figs. 1 and 2. These ribs swing outward and upward on account of the great spring-tension in the same, which spring-tension is brought into the said ribs by pressing the handle-rod downward, so as to cause the catch I to engage with the shoulder or flange L. If the umbrella is to be closed, the string or wire P is pulled either directly or by means of suitable intermediate contrivances, thereby causing the lever M to swing the lower end of the latch I outward, whereby the sleeve H is disengaged from the flange L, the weight of the ribs causes them to swing downward, thereby moving the collars U and D downward and moving the collar H upward into the position shown in Fig. 3. The ends of the rods are then held by means of the cup F; but as yet the ribs are not in tension and the umbrella could not be opened automatically. Before the umbrella can be opened automatically the point must be again pressed on the ground and the stick forced downward to cause the flange L, which is connected with the rod, to slide on the stick E until the hook I catches on the said flange.

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

1. In an umbrella or parasol, the combination, with the ribs and the usual braces, of braces pivoted to the ribs at or near the same point with the usual braces, and of braces pivoted to the ribs near their upper ends, substantially as herein shown and described.

2. In an umbrella or parasol, the combination, with the stick E, of the sliding tube or rod J, the spring T, the ribs A, the usual braces, C, and the additional braces, G V, substantially as herein shown and described.

3. In an umbrella or parasol, the combination, with the stick E, of the sliding rod or tube J in the end of the same, the ribs A, the usual braces, C, the additional braces, V G, and the spring T, surrounding the sliding rod or tube J and held between the sleeve B and the upper end of the stick, substantially as herein shown and described.

4. In an umbrella or parasol, the combination, with the stick E, of the tube or rod J in one end of the same, the ribs A, the sleeve H, the braces G, pivoted to the sleeve H and to the ribs, the sleeve U and the braces V, pivoted to the upper end of the sleeve U and to the ribs A near their pivoted ends, and of the braces C, pivoted to the sleeve D and to the ribs near or at the same point at which the braces G are pivoted to the ribs, substantially as herein shown and described.

5. In an umbrella or parasol, the combination, with the stick E, having a shoulder or flange, L, at its upper end, of the sliding rod or tube J on the end of the stick, braces A, pivoted to a sleeve, B, on the rod or tube J, the spring T, surrounding the rod or tube J, the sleeve H, having a latch, I, the braces G, pivoted to the ribs A and to the sleeve H, the braces V, pivoted to the ribs A, near their upper ends and to the sleeve U, and the braces C, pivoted to the ribs and to a sleeve, D, substantially as herein shown and described.

6. In an umbrella or parasol, the combination, with the stick E, having a shoulder or flange, L, at its upper end, of the sliding rod or tube J on the end of the stick, braces A, pivoted to a sleeve, B, on the tube or rod J, the spring T, surrounding the rod or tube J, the sleeve H, having a latch, I, the braces G, pivoted to the ribs A and to the sleeve H, the braces V, pivoted to the ribs A near their upper ends and to the sleeve U, the braces C, pivoted to the ribs and to the sleeve D, the elbow-lever M, pivoted to the stick a short distance below the flange L, and the cord or wire extending from the lever to the handle, substantially as herein shown and described.

7. In an umbrella or parasol, the combination, with the stick E, having a shoulder or flange, L, at its upper end, of the sliding rod or tube J on the end of the stick, braces A, pivoted to a sleeve, B, on the rod or tube J, the sleeve H, having a latch, I, the braces G, pivoted to the ribs A and to the sleeve H, the braces V, pivoted to the ribs A near their upper ends and to the sleeve U, the braces C, pivoted to the ribs and to the sleeve D, the bell-crank lever M, pivoted to the stick a short distance below the flange L, the spring N, the cord or wire P, secured to the same, and the ring R, mounted on the stick at the handle, to which ring R the cord or wire P is secured, substantially as herein shown and described.

8. In an umbrella or parasol, the combination, with the stick E, of the tube or rod J, having a longitudinal slot, J′, the screw or pin K, projecting from the stick into the slot J′, the spring T, surrounding the tube or rod J, the sleeve B, the ribs A, the braces C, the sleeve D, the braces V, the sleeve U, the braces G, the sleeve H, and the latch I, substantially as herein shown and described.

The foregoing specification signed by me this 13th day of May, 1884.

GIOVANNI GILARDINI.

Witnesses:
FNG. LORENZO RAIMONDO,
FELE. BREGETTO.