

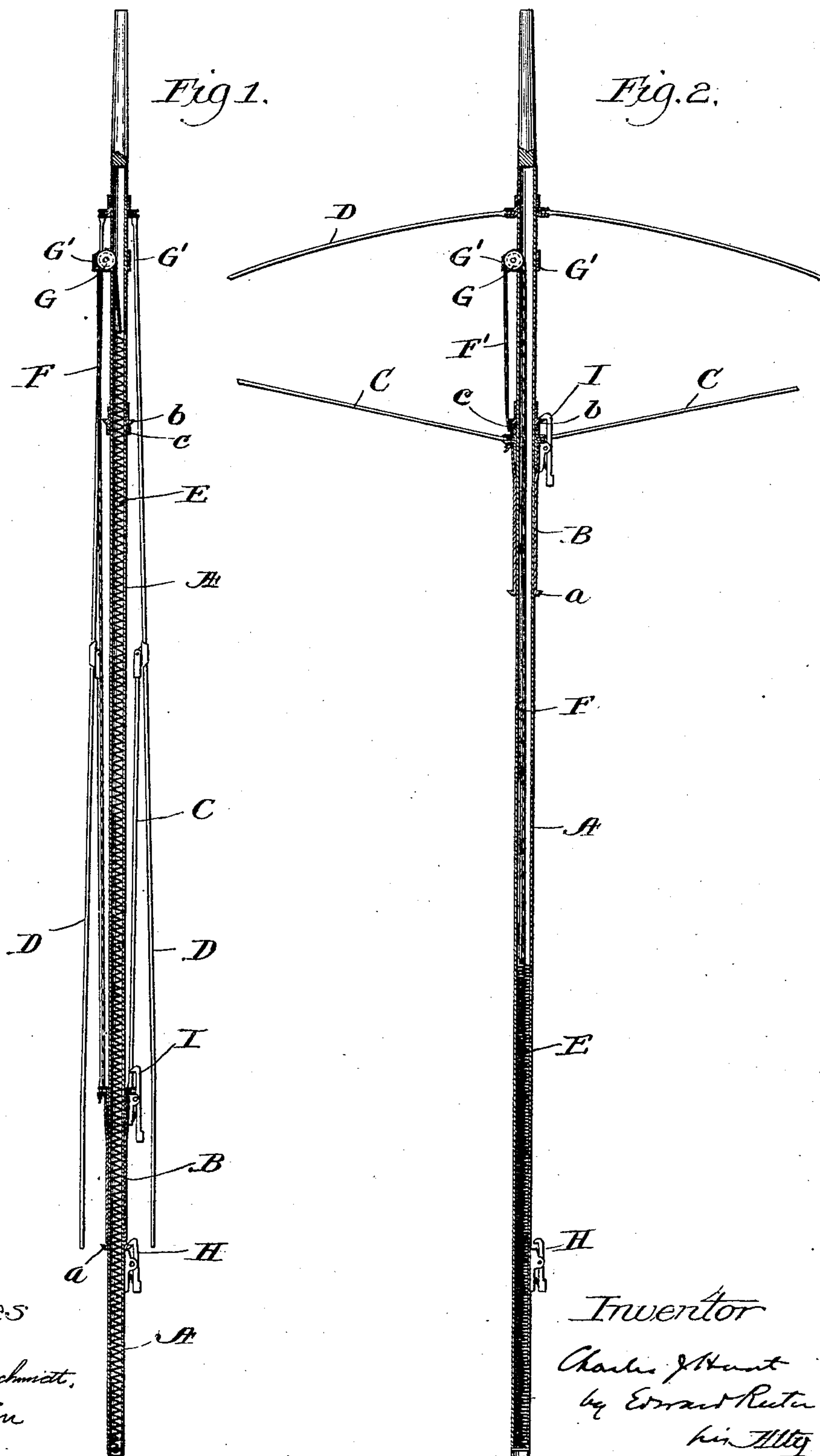
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Patented Aug. 13, 1901.

C. J. HUNT.
SELF OPENING UMBRELLA.

(Application filed Jan. 18, 1901.)

(No Model.)



Witnesses

G. A. Paulschmidt,
L. B. Erwin

Inventor

Charles J. Hunt
by Edward Reuter
his Atty

UNITED STATES PATENT OFFICE.

CHARLES J. HUNT, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO JOSEPH P. CLEAL, OF SAME PLACE.

SELF-OPENING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 680,661, dated August 13, 1901.

Application filed January 18, 1901. Serial No. 43,789. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. HUNT, a citizen of the United States, residing at Dayton, county of Montgomery, and State of Ohio, have invented a certain new and useful Improvement in Self-Opening Umbrellas, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to the familiar class of self-opening umbrellas which are provided with variously arranged and connected springs tending to open the umbrella, which springs are put under tension by the closing of it and the umbrella held in a closed position against the stress of such springs by a suitable catch adapted to be disengaged by the thumb of the hand holding the umbrella to permit the springs to open it.

My invention has for its object the production of an umbrella of this class which shall be simple in construction and efficient and satisfactory in operation; and its novelty consists in the construction, arrangement, and combination of the several parts hereinafter set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal middle section of the umbrella in closed position, and Fig. 2 a corresponding view in open position.

The same letters of reference indicate corresponding parts in both views.

The stick or handle A of the umbrella is of tubular form and has mounted upon it the usual sleeve or runner B, to whose upper end are pivoted the inner ends of the braces or stretchers C, which are pivoted at their outer ends to the ribs D, which latter are pivoted at their upper and inner ends to a collar fast upon the stick A near its upper end, as usual.

Inclosed within the tubular stick A is a contractile coiled spring E, whose lower end is fixedly secured in said stick and to whose upper end is connected the lower end of a cord F, which passes thence upward through the stick A to a point slightly below the collar, to which the inner ends of the ribs D are connected, thence outward through the opening in the stick and over a grooved sheave or pulley G, mounted in a suitable support G',

secured to the stick A, and thence downward and connected at its lower end to the upper end of the sleeve or runner B.

Mounted upon the stick A in suitable position near its lower end is a spring-catch H, adapted to engage an annular shoulder *a* on the lower end of the sleeve B when the umbrella is in closed position, Fig. 1, while mounted upon the sleeve B at its upper end is a second spring-catch I, adapted to engage a collar *b*, secured in proper position upon the stick A to lock the umbrella in open position.

Under the above-described construction and arrangement of parts it will be understood that when the sleeve B is slid downward upon the stick A to close the umbrella the coiled spring E within said stick will be distended and put under tension, the engagement of the spring-catch H with the annular shoulder *a* upon the lower end of the sleeve serving to hold the umbrella in closed position against the stress of said spring tending to open it, and that upon disengaging the said catch from said sleeve the spring will contract and through the medium of the cord F draw the sleeve B upward along the stick A until the upper end of the sleeve contacts with the collar *b*, and thereby open the umbrella, the catch I upon the sleeve automatically engaging said collar and locking the umbrella in open position. To cushion the contact between the upper end of the sleeve B and the collar *b* at such opening of the umbrella, I interpose around the stick A a rubber ring *c*, with which the upper end of the sleeve D directly contacts instead of striking the metal collar *b*.

To open the umbrella when in closed position, it is simply necessary to press the thumb upon the lower end of the spring-catch H, and thereby disengage its upper hooked end from the shoulder *a* upon the sleeve B, whereupon the spring E will at once open the umbrella, and the catch H will automatically engage the collar *b* and lock the umbrella in open position, while to close the umbrella it is only necessary to disengage the catch H by a pressure of the thumb upon its lower end and then draw the sleeve B downward until the catch H reengages the annular shoulder upon its lower end.

I am aware that self-opening umbrellas are old and well known and that the springs for opening them have been located, arranged, and connected with the several moving parts in a great variety of ways; but I am not aware of any prior umbrella of this class which is opened by means of a contractile coiled spring inclosed within a tubular stick and having its lower end fixedly secured therein and its upper end connected to a cord passing upward through the stick and outward over a sheave or pulley and downward into connection with the sleeve or runner upon the stick, and I believe my umbrella embodying this feature presents a simpler and cheaper and more efficient and satisfactory construction than those heretofore employed.

Having thus fully described my invention, I claim—

1. In a self-opening umbrella, the combination, with the tubular stick A, sleeve or runner B, braces C and ribs D, of the coiled spring E located within the stick A, and having its lower end fixedly secured therein, and the cord F connected at one end to the upper end of said spring within the stick A and passing thence upwardly through the stick and outwardly over the sheave G and thence downwardly and having its lower end connected to the sleeve or runner B, substantially as described.

2. In a self-opening umbrella, the combination, with the tubular stick A provided near its lower end with a spring-catch H and near its upper end with the collar *b* and above the latter with the support G' carrying the sheave or pulley G, the sleeve or runner E

sliding upon said stick and provided at its lower end with the shoulder *a* adapted to cooperate with the spring-catch H and at its upper end with the spring-catch I adapted to cooperate with the collar *b* upon the stick A, the braces C, and the ribs D, of the contractile coiled spring E located within the stick A and having its lower end secured therein, and the cord F connected at one end to the upper end of the spring E and passing thence upwardly through the stick A and outwardly over the sheave or pulley G and thence downwardly and having its lower end connected to the sleeve B, substantially as described.

3. In a self-opening umbrella, the combination, with the tubular stick A provided near its lower end with the spring-catch H and near its upper end with the collar *b* and rubber cushioning-ring *c* and above said collar with the support G' carrying the sheave G, the sleeve or runner B sliding upon said stick A and provided at its lower end with the shoulder *a* and at its upper end with the spring-catch I adapted to cooperate with the collar *b*, the braces C, and the ribs D, of the coiled contractile spring located within the stick A and having its lower end secured therein, and the cord F connected at one end to the upper end of said spring and passing thence upwardly through said stick and outwardly over the sheave G, and thence downwardly and having its lower end connected to the sleeve B, substantially as described.

CHARLES J. HUNT.

Witnesses:

PEARL N. SIGLER,
JOSEPH P. CLEAL.