(No Model.)

C. P. WHITNEY.

FOLDING UMBRELLA.

No. 274,687. Patented Mar. 27, 1883.

FIG. 1.

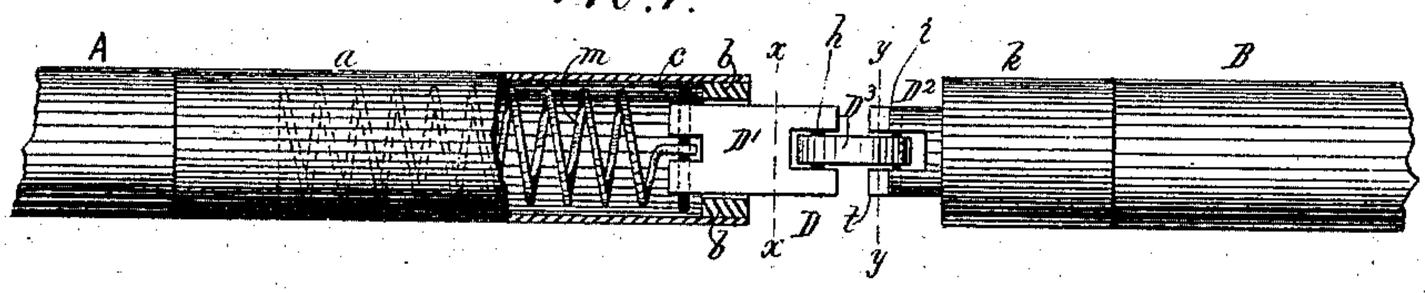


FIG. 2.

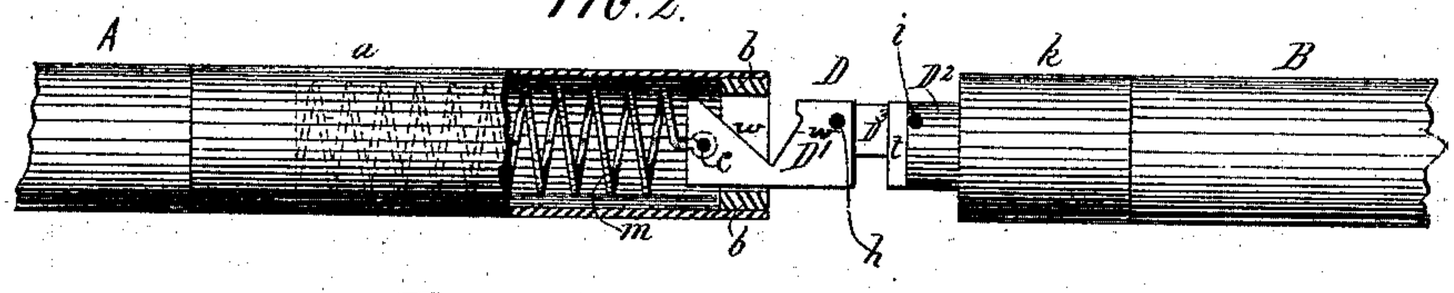


FIG. 3.

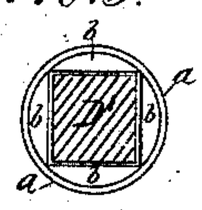


FIG. 4.

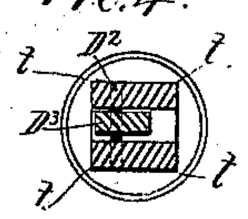


FIG. 5.

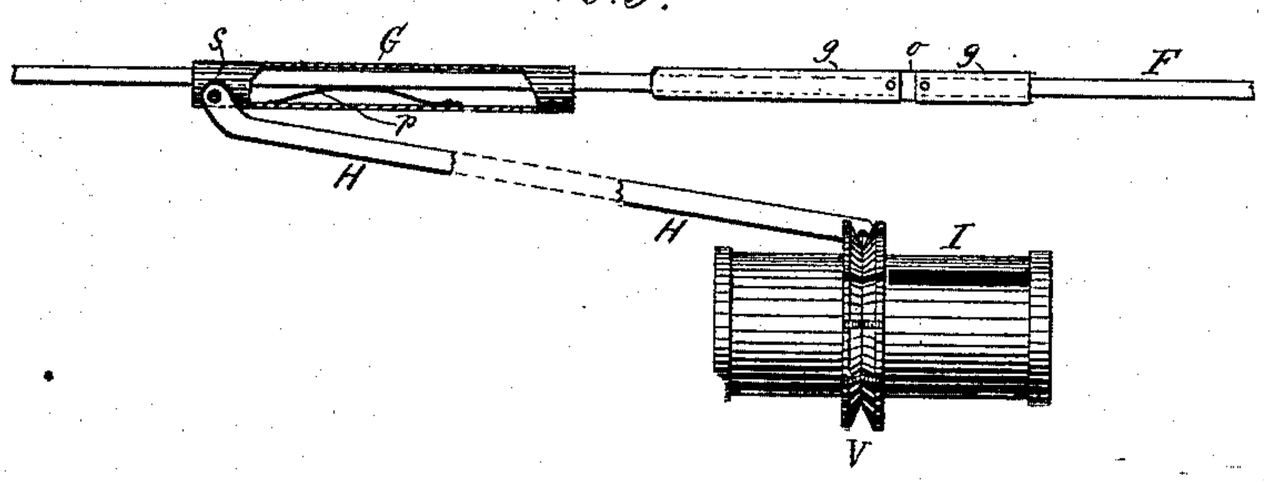
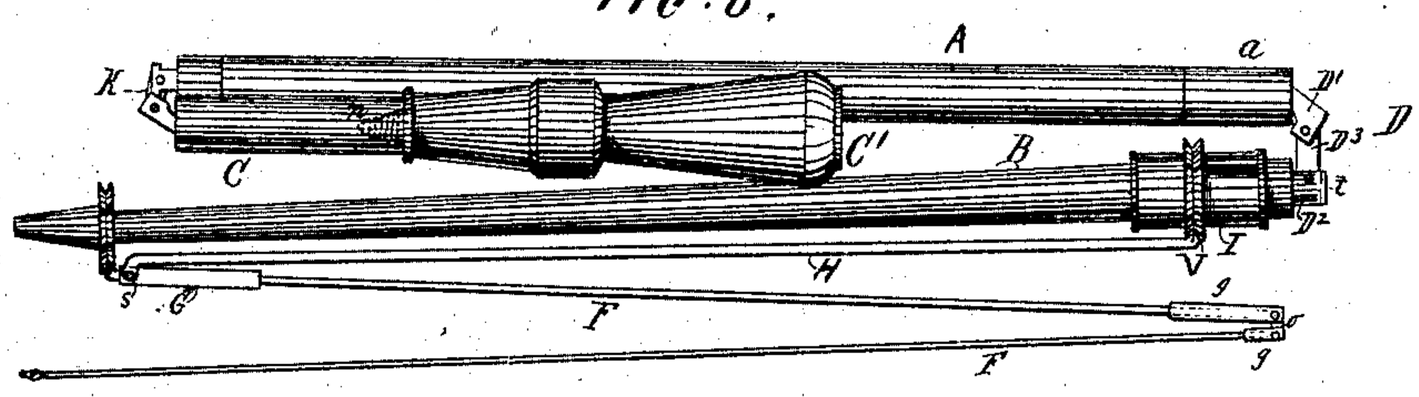


FIG. 6.



Witnesses.
John Buckler.
Wm. A. Lowe

Inventor.
Charles P. Whitney.
By Paul J. Forch
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES P. WHITNEY, OF MILFORD, NEW HAMPSHIRE.

FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 274,687, dated March 27, 1883.

Application filed August 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. WHITNEY, a citizen of the United States of North America, and a resident of Milford, county of Hillsborough, State of New Hampshire, have invented a new and useful Improvement in Folding Umbrellas, of which the following is a specification.

My invention relates to umbrellas which may be folded in the direction of their length, that they may be more conveniently packed and carried; and the invention consists of novel jointing devices for the ribs and handles, which permit the ready and compact folding of the umbrella and secure its superior stiffness and rigidity when unfolded and open.

Reference is to be had to the accompanying drawings, in which Figures 1 and 2 are longitudinal elevations, with parts broken away to exhibit other parts of a portion of the handle, showing different views of my improved joint or jointing device therefor. Fig. 3 is a cross-section on line *x x*, Fig. 1, looking upward. Fig. 4 is a cross-section on line *y y*, Fig. 1, looking downward. Fig. 5 is a partly-sectional elevation, showing my improved rib-jointing device. Fig. 6 is a side elevation, showing the position of parts when the handle-sections are nearly folded together.

Similar letters of reference indicate corresponding parts.

A represents the central section of the umbrella-handle; B the upper section, and C the lower section, thereof.

The sections A B are united by means of a jointing device, D, which consists of a tube, *a*, secured on the upper end of section A, and forming part thereof, and having internal shoulders, *b*, formed at its upper end. The opening about which the shoulders *b* are formed is designed to be squared or rectangular, corresponding to shape of the bar D′, whose upper end is secured by pivot *h* in the link D^3, while the upper end of the latter is held by pivot *i* to the lower end of the round bar D^2, the upper end of the latter being screwed or otherwise rigidly secured in a ferrule, *k*, on the handle-section B. Bar D^2 is round, with an upper end of square cross-section, thus forming shoulders *t* at the four corners. A pin, *c*, projecting from the sides of the bar D′ and resting on the shoulders *b*, prevents the detachment of one handle-section from the other. This bar D′ is cut away at *w* to form a recess, which will receive the edge of the socket when the umbrella is folded, and thus the parts will lie closer together, as shown in Fig. 6.

In the base of the socket formed by the tube *a* is secured a spiral spring, *m*, whose other end is made fast to the lower end of the bar D′, and assists by its tension in drawing the jointed device downward until the opposite ends of the handle-sections A B are brought together, and in holding it there.

When the parts are in the positions shown in Figs. 1 and 2 the jointing device D can be bent, as indicated in Fig. 6, and the lower sections of the umbrella-handle folded upward parallel with the section B.

When unfolded the handle-section A may be pushed upward until it is in contact with section B, and the shoulders *t* on the bar D^2 then coming above the internal shoulders, *b*, a slight or partial turn of the section A will bring the shoulders *t* across the internal shoulders, *b*, whereby the handle-sections A B are held straight, and firmly in line with each other, and the action of the spring *m* at the same time tends to prevent the accidental returning of the handle-section A.

The handle-section C′ is preferably provided with a screw, as shown at *n*, and can be thereby screwed into the lower end of the section C, and be readily detached therefrom when desired, and said sections A C are preferably united with a joint, *k*.

The umbrella-ribs F are jointed, as shown at *o*, at about midway of their length, so that their lower portions may be turned back or folded upward, and they are provided with short metallic re-enforcing pieces *g* about their jointed ends, and over and upon each rib F is a sliding sleeve, G, that is pivoted, as shown at *s*, at its upper end to the stretcher H. The runner I differs from the ordinary umbrella-runner in having the notch-wheel *v* near the middle thereof, which shortens the umbrella by so much. Within each sliding sleeve G is secured a curved spring, *p*, whose free end extends nearly to the upper end of said sleeve.

When it is designed to open the umbrella the ribs F are straightened or unfolded, and

the runner I being drawn down, the sleeves G are brought over the rib-joints *o*. The pivots *s*, coming in contact with the upper ends of the upper re-enforcing pieces, *g*, prevent the sleeves G from sliding too far down on the ribs F, and hence said sleeves G are held, when the umbrella is open, directly over and about the rib-joints *o*, and the sleeve-springs *p*, pressing against the jointed rib ends, serve to hold the sleeves G in their position while opening the umbrella, and tend greatly to increase the rigidity and stiffness of the joints and to prevent any undue freedom of movement of the lower ends of the umbrella-ribs.

I do not broadly claim a folding umbrella, as I am aware that others have been made with one or two joints in the handle; but,

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

1. In a folding umbrella, the handle having a joint at D, combined with ribs having joints which, when folded, will lie adjacent to the joint D in the handle, and with a runner and stretchers carrying sleeves which embrace and cover the hinged ends and pivots of the ribs, whereby the cover is protected from the wear caused by the hinges and the rib-joints are supported when the umbrella is opened, as set forth.

2. The combination, with the joint D′, of the spring *m*, having one end connected to the bottom of the socket *a* and the other end to the joint by a pin, *c*, such pin also serving as a stop for the joint D′ against the flanges *b*, as set forth.

3. In a folding umbrella, the combination, with the handle-sections, of the jointing device D, consisting of tube *a*, provided with internal shoulders, *b*, bars D′ D², the latter having shoulders *t*, pivoted link D³, and spring *m*, constructed, arranged, and adapted to operate substantially as herein shown and described.

4. In a folding umbrella, the combination, with the jointed ribs F and stretchers H, of the sliding sleeves G, attached to said stretchers, and provided with internal springs, *p*, substantially as and for the purpose described.

5. In a folding umbrella, the combination of the ribs F, jointed at *o*, and having re-enforcing pieces *g*, the stretchers H, and the runner I, with the sleeves G, having springs *p*, as and for the purposes specified.

6. In a folding umbrella, the combination, with the jointed ribs F, provided with re-enforcing pieces *g* and stretcher-attached sleeves G, of the pivots *s*, substantially as herein shown and described, whereby said sleeves are prevented from sliding too far on the said ribs, as set forth.

7. In a folding umbrella, the combination of the handle-sections A B C, jointed at D and K, substantially as described, and the ribs F, hinged at *o*, and having re-enforcing pieces *g*, with the runner I, stretchers H, and sleeves G, having springs *p*, as and for the purposes set forth.

8. In a folding umbrella, and in combination with the jointed handle, the rectangular bar D, having recesses *w*, adapted to receive the edge of the socket *a*, and to serve as and for the purposes specified.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 24th day of July, 1882.

CHARLES P. WHITNEY.

Witnesses:

A. B. HUTCHINSON,

C. R. HOWARD.