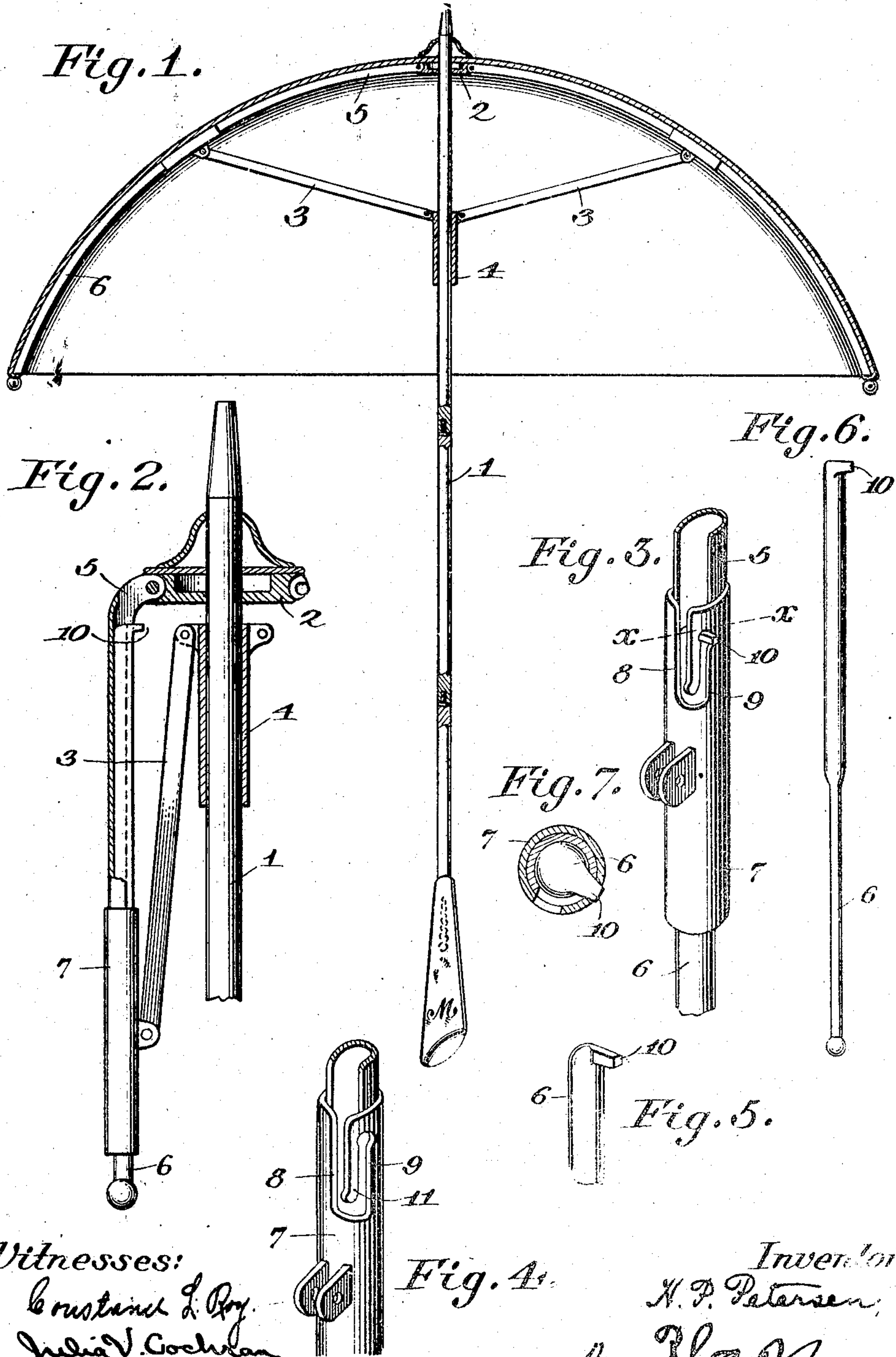


No. 881,825.

PATENTED MAR. 10, 1908.

H. P. PETERSEN.  
FOLDING UMBRELLA.  
APPLICATION FILED JUNE 8, 1907.



Witnesses:  
Constant L. Roy.  
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Fig. 4.

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By *Wm. H. Macey*  
Att'y



# UNITED STATES PATENT OFFICE.

HANS P. PETERSEN, OF WAUPACA, WISCONSIN.

## FOLDING UMBRELLA.

No. 881,825

Specification of Letters Patent.

Patented March 10, 1908.

Application filed June 8, 1907. Serial No. 377,996.

*To all whom it may concern:*

Be it known that I, HANS P. PETERSEN, citizen of the United States, residing at Waupaca, in the county of Waupaca and State of Wisconsin, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification:

This invention appertains to umbrellas and parasols of the folding type embodying ribs or stretchers comprising sliding sections, and means for holding said sections when extended.

The purpose of the invention is to provide a device of the character aforesaid which may be readily folded into compact form either for storing or convenience of handling, and which when required for use may be quickly extended, the chief purpose being to devise a novel form of joint between the sections of the ribs or stretchers whereby the same are held extended in a positive manner and prevented from casual loosening or shortening.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the results, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features of the invention, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a sectional view of a folding umbrella embodying the invention, showing the frame-work extended. Fig. 2 is a detail view of a rib brace and adjunctive parts showing the same on a larger scale than they will appear when folded and reduced to composite form. Fig. 3 is a detail view of the joint formed between the sections of a rib. Fig. 4 is a detail perspective view of the end portion of the upper section of a rib. Fig. 5 is a detail view of the coupling end of the lower section of a rib. Fig. 6 is a side view of the lower section of a rib or stretcher. Fig. 7 is a transverse section of the joint on the line  $x-x$  of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The umbrella frame, including the sticks

or handle is of sectional construction to admit of its length being materially reduced, so that the article may be packed in small compass either to be carried in a bag or case or otherwise stored so as not to occupy any very great amount of room. The handle or stick 1 is composed of sections which are coupled preferably by means of a screw thread joint, one section having a threaded opening and the matching section having a reduced end portion correspondingly threaded to screw into the opening of the mating section. Near the upper end of the stick or handle is located the notch 2 to which the ribs or stretchers are pivoted in the usual or any preferred way. The braces 3 are pivoted at one end to the runner 4 and at the opposite end to the ribs or stretchers. The runner 4 may be of any construction and is slidable upon the stick or handle, and is adapted to be moved upon the handle so as to come close to the knob 2, this position being assumed when the umbrella is folded in the compact form.

The stretchers or ribs comprise upper sections 5 and lower sections 6. The upper sections have the braces 3 pivotally connected thereto near their lower ends whereas the lower sections 6 are slidable upon the upper sections. Each upper section is provided at its lower end with a sleeve 7 having a longitudinal slot 8 near its upper end and which slot connects at its lower end with an L slot 9. The lower section 6 is slidable through the sleeve 7 and is provided at its upper end with a lug 10 which is adapted to slide in the slots 8 and 9. The horizontal member of the L slot opens into the lower end of the longitudinal slot 8 whereas the vertical member of said L slot extends about parallel with the longitudinal slot 8, and receives the lug 10 when the sections of the ribs are extended. The tension upon the cover 11 serves under normal conditions to hold the lugs 10 within and at the upper ends of the vertical members of the L slots 9, thereby preventing loosening or casual displacement of the sections when extended. The upper sections 5 are grooved or channeled whereas the lower sections 6 consist of wires. This construction admits of the sections 5 and 6 lying close together when the ribs or stretchers are reduced in length. When the umbrella is lowered and folded, the lower sections of the ribs slide upon the upper sections, and the handle or stick is re-



duced in length by separating the sections, the cover folding about the reduced parts and being secured in any convenient way either by a strap, an elastic band or other binder.

When the umbrella is extended and raised the lower sections of the ribs are slid outward and are held extended by the lugs 10 entering the vertical or longitudinal members of the L slots 9, the tension upon the cover retaining the parts in such position. The handle or stick is lengthened by coupling the sections after which the umbrella may be manipulated in substantially the same manner as an umbrella of ordinary construction, the cover being raised or lowered by sliding the runner 4 upon the stick. When the runner 4 is near the lower end of the handle the lower sections of the ribs may be loosened by moving them outwardly and giving said lower sections a partial turn to cause the lugs 10 to clear the L slots 9 and enter the longitudinal slots 8 after which the lower sections may be slid upon upper sections thereby reducing the length of the ribs about one-half, after which the runner may be moved upon the stick so as to occupy the position adjacent to the notch 2. To extend or lengthen the umbrella the runner is moved downward upon the stick after which each rib is lengthened by sliding the lower section outward and securing the same by causing said lug 10 to enter the longitudinal member of the L slot. When thus adjusted, the umbrella may be used in substantially the same manner as any ordinary umbrella, being raised and lowered by moving the runner upon the stick, said runner being secured by suitable catches at the extreme positions, that is when the umbrella is either raised or lowered.

The lower section of each rib or stretcher is enlarged at its upper end to fit the sleeve 7 snugly and prevent any play. This construction also admits of the lower portion of the section 6 moving freely through the sleeve 7 when telescoping the sections to reduce the length of the umbrella without marring or scratching the finish of the section 6. The joint between the sections is likewise further strengthened or reinforced, whereas the lower portion of the section 6 is made more flexible.

The tongue 11 separating the slots 8 and 9 has its free end bent inward so as to bear

against the section 6 when slid outward and thereby prevent a too free movement thereof after the lug 10 has been inserted in the slot 9. This is of advantage when the umbrella is lowered and the cover is in a relaxed condition, thereby preventing the casual displacement of the lug 10 from the slot 9. The sleeve 7 has rigid connection with the section 5 so as to form in effect a part thereof.

Having thus described the invention, what is claimed as new is:

1. In a folding umbrella, comprising ribs formed of sliding sections, interlocking means for securing said sections when extended, the same consisting of a sleeve upon one section having intercommunicating slots, one of the slots opening through an extremity of the sleeve and the other slot being closed, and the other section having a lug, and slidable in said sleeve, and having said lug movable in the said slot, the lower section having both longitudinal and rotary movement.

2. A folding umbrella comprising ribs formed of sliding sections, a sleeve carried by one of said sections and having a longitudinal slot opening through an end and an approximately L slot in communication with said longitudinal slot, and the other section having both a sliding and a rotary movement in said sleeve and provided with a lug which is adapted to travel in said longitudinal and L slots.

3. In a folding umbrella, the combination of a handle, a notch secured to the handle, a runner mounted upon the handle, ribs composed of upper and lower sections which are relatively slidable, the upper sections being pivoted to the notch, sleeves at the lower ends of said upper sections, and provided with longitudinal and L slots, in communication, the lower section being mounted in said sleeves to receive both longitudinal and rotary movement and having lugs to move through said longitudinal and L slots, and braces connecting said sleeves with the runner.

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

HANS P. PETERSEN. [L. S.]

Witnesses:

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FLORENCE L. JOHNSON.