(No Model.)

A. WEIGAND.

UMBRELLA.

No. 445,707. Patented Feb. 3, 1891.

Fig. 1.

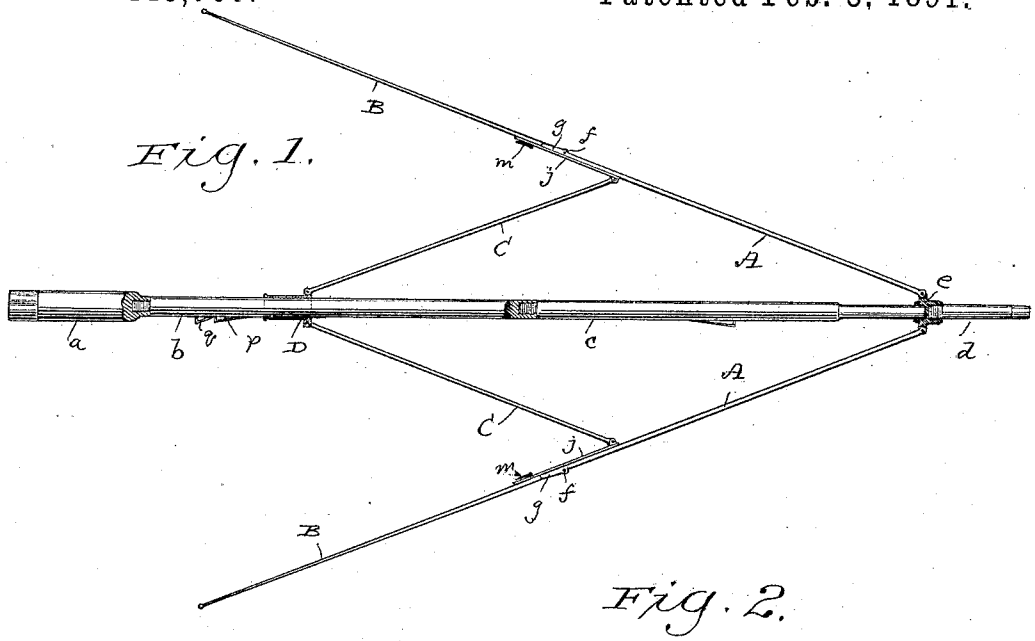


Fig. 2.

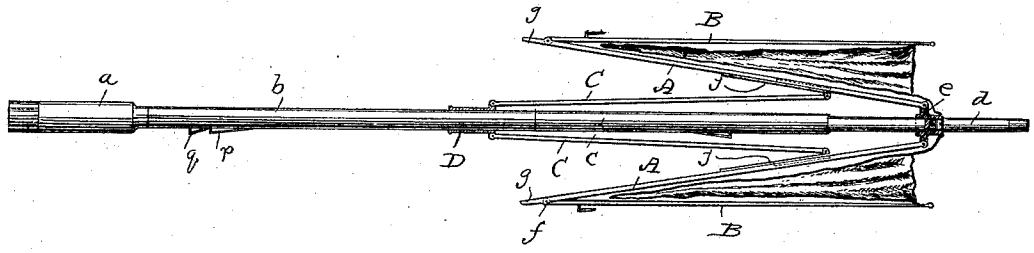


Fig. 3.

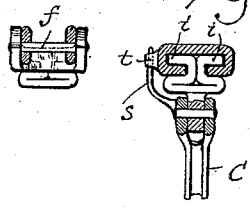


Fig. 4.

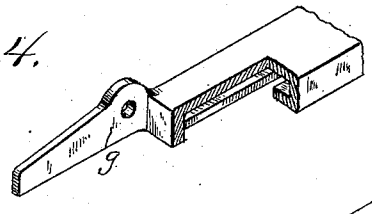


Fig. 5.

Fig. 8.

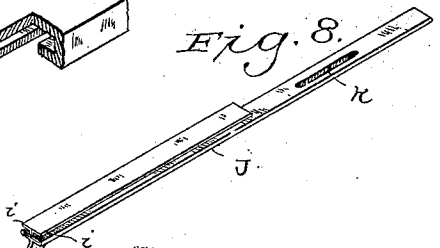


Fig. 6.

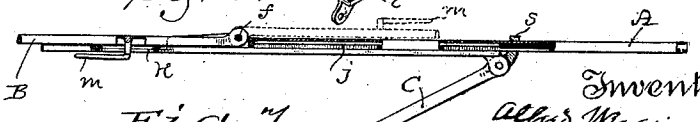
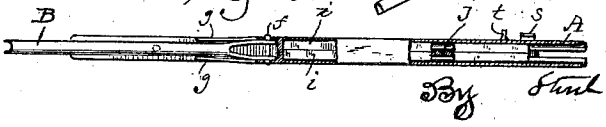


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALFRED WEIGAND, OF SHEBOYGAN, WISCONSIN.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 445,707, dated February 3, 1891.

Application filed September 16, 1889. Serial No. 324,135. (No model.)

To all whom it may concern:

Be it known that I, ALFRED WEIGAND, of Sheboygan, in the county of Sheboygan, and in the State of Wisconsin, have invented certain new and useful Improvements in Umbrellas; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to umbrellas, parasols, &c.; and the invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described, and pointed out in the appended claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a view, partially in side elevation and partially in transverse vertical section, of the staff and part of the skeleton frame of my improved umbrella in partially-opened condition. Fig. 2 is a similar view of the same partly unfolded. Figs. 3, 4, 5, 6, 7, and 8 are detached views of certain details of the construction hereinafter described.

The object of my invention is to produce an umbrella, parasol, or similar device which can be readily folded into very compact form and which shall at the same time open and close exactly after the manner of the usual types of such articles. This object I attain by virtue of the construction which I will now proceed to describe.

Referring to the accompanying drawings, *a b c d* designate a number of sections, which, when screwed together end to end, constitute the staff or stick of the device.

A designates the ribs, which are hinged at their upper ends in the usual manner to the usual "notch" *e*, surrounding the upper part of the stick.

As shown in the drawings, the lower end of the upper section or tip *d* of the stick is screwed to the upper side of the notch, and the upper end of the next lower section is screwed into the under side of said notch; but this, as will appear from the ensuing description, is not an essential part of my present invention, and the notch may be of any other suitable or preferred form, as desired. These ribs are much shorter than is usual in umbrellas of like size.

D designates the usual slide, to which the inner ends of the spreaders C are pivoted in any suitable manner.

The ribs A at their outer or lower ends are connected to extension-ribs B, which are hinged at *f* to said ribs A, and the latter are formed at their outer ends with lugs *g*, which overlap the inner sides of said extension-ribs and steady or stiffen them. The inner face of each rib A is formed with a T-groove, (best shown in Fig. 4,) which is designed to receive a T-shaped flange *i* on the outer side of a slide *j*. The outer ends of the spreaders C are pivoted to the upper ends of the slides *j*. The upper portions of these slides *j* are formed with longitudinal slots *k*, which engage angle-lugs *m* upon the inner sides of the extension-ribs B. Near its pivotal connection with the slide *j* each spreader C carries an outwardly-extending lateral arm *s*, which engages a stud *t* upon one edge of the lower or outer part of the corresponding rib A.

The operation of the above-described structure is as follows: Ordinarily the parts of the umbrella occupy the position shown in Fig. 1, whether the umbrella be open or closed—that is to say, the extension-ribs B are in alignment with the ribs A and the slides *j* are drawn down, so as to lock the joints between the said ribs A and B. When the umbrella is closed, the slide D is caught by the upper catch *p*. When, however, it is desired to fold the umbrella—as, for example, for transportation—the slide D is drawn down over the lower catch *q*, depressing the slides *j*, so that their slots *k* clear the angle-lugs *m*. If now the umbrella be inverted upon its tip, the extension-ribs will fold over toward the latter, as shown in Fig. 2. The slide D is now moved toward the tip, drawing the slides *j* in the same direction upon ribs A and causing the latter to fold closely against the stick or staff. The handle-section *a* and the section *b* are now detached from the section *c* and from each other and the umbrella occupies a very compact space. In order to open the umbrella again, the staff-sections *a b* are replaced and the slide D is drawn downward, so as to engage catch *q*. The umbrella is then held with its tip uppermost, thus allowing the extension-ribs B to fold outward into the position shown in Fig. 1. The lugs *m* will now enter the slots

k, and as the slide is moved from catch q to catch p the lugs m will engage the slides j, so that a further upward movement of slide D will open the umbrella.

It will thus be seen that I have produced a simple and inexpensive folding umbrella or parasol which is of neat appearance and which is usually manipulated exactly as an ordinary article of its class.

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

1. In a folding umbrella or parasol, the combination, with the hinged ribs, of extension-ribs pivoted to the outer ends of said hinged ribs and slides for locking the rib-joints, pivoted upon the outer ends of the spreaders and working in grooves in the inner sides of the hinged ribs, substantially as described.

2. The combination, with the hinge-ribs having grooves in their inner sides, of extension-ribs pivoted to the outer ends of the hinge-ribs and slides having flanges to work in said grooves and arranged to lock the joints between the ribs, substantially as described.

3. The combination, with the hinge-ribs and the extension-ribs pivoted thereto, of slides for locking the rib-joints and spreaders carrying the slides and having the arms to engage studs upon the hinge-ribs, and thus limit the movement of the slides, substantially as described.

4. The combination, with the hinge-ribs and the extension-slides connected to the outer ends of said hinge-ribs and having the lugs adjacent to their points of connection with the hinge-ribs, of slides working upon the hinge-ribs and having slots to detachably engage said lugs, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, at Sheboygan, in the county of Sheboygan and State of Wisconsin, in the presence of two witnesses.

ALFRED WEIGAND.

Witnesses:
D. T. PHALEN,
C. H. MAYNARD.