

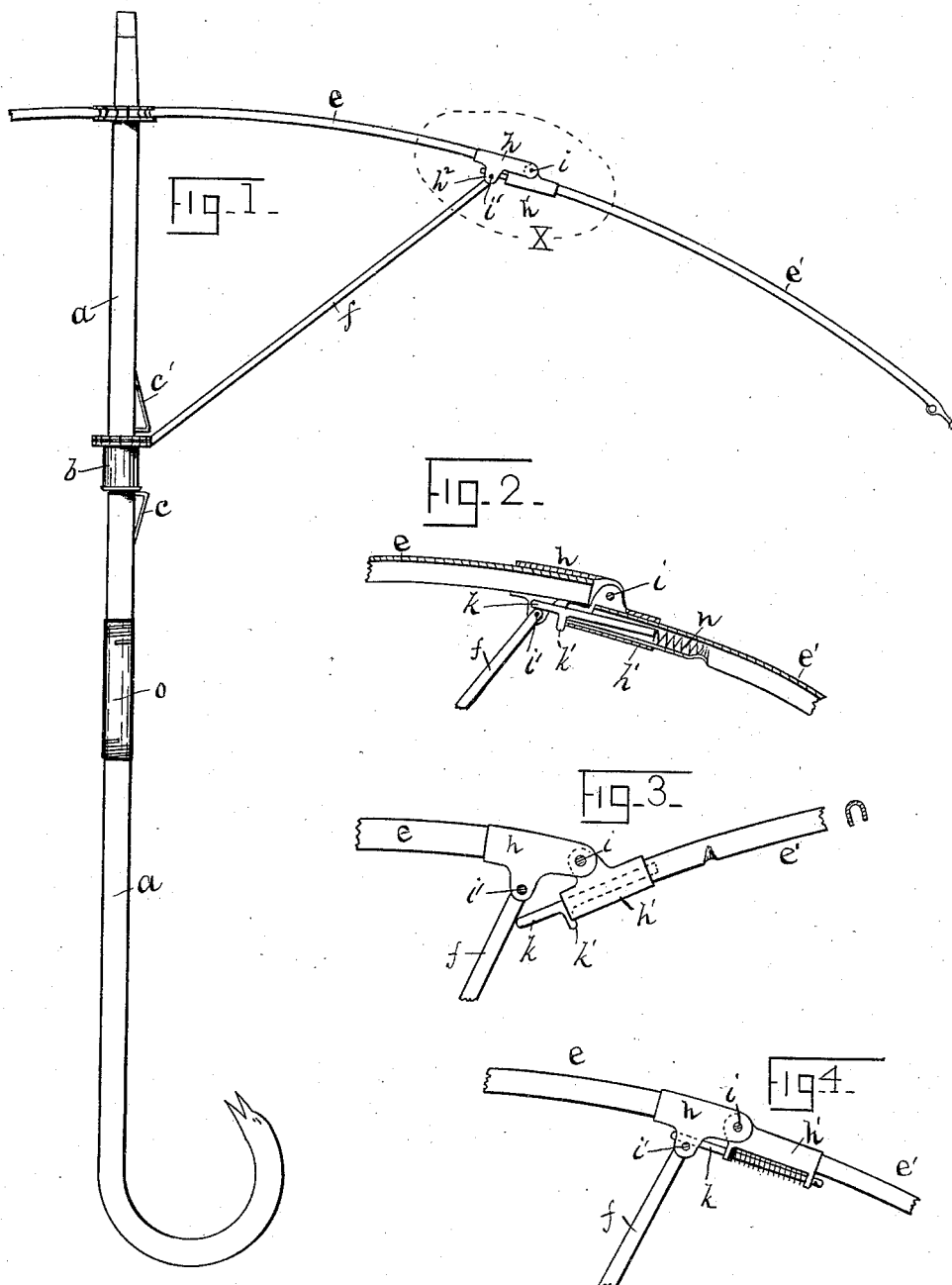
(No Model.)

A. S. HUBBELL.

UMBRELLA.

No. 383,128.

Patented May 22, 1888.



Witnesses,

Henry H. Burnham  
Allen Tenny

Inventor,

Algernon S. Hubbell,  
By his Attorney  
Frank H. Allen.

# UNITED STATES PATENT OFFICE.

ALGERNON S. HUBBELL, OF NORWICH, CONNECTICUT.

## UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 333,128, dated May 22, 1888.

Application filed December 12, 1887. Serial No. 257,709. (No model.)

*To all whom it may concern:*

Be it known that I, ALGERNON S. HUBBELL, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented a certain new and useful Improvement in Umbrellas, which improvement is fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings.

United States Patent No. 110,918 was issued to me January 10, 1871, for an umbrella which when open had the appearance of umbrellas as commonly constructed, but which was capable of being folded into small space for greater convenience in carrying. My present invention has for its immediate object the improvement of the umbrella therein described. The ribs in said earlier form were jointed at or near the point of intersection with the stretchers, and so long as the umbrella was in its open position these jointed ribs were practically as rigid as though solid, being supported by the peculiar form of joint in the stretchers, but when it became desirable to lower the umbrella for a time (but not to pack it away) these jointed ribs naturally doubled back upon themselves or flapped loosely about, and as a result the umbrella thus closed had the annoying appearance of a broken or disjointed device.

The improvement which forms the essential feature of my present invention is a spring-pressed bolt which, applied to umbrellas of the general plan set forth in my said 1871 patent, interlocks the two jointed rib-sections and renders them practically one continuous rib. This enables one to open or close the said umbrella as quickly and in the same manner as ordinary umbrellas, but does not prevent the unbolting of the series of ribs and folding the same into small compass whenever it is desired to pack it away.

In the drawings which I have provided to assist in explaining my invention, Figure 1 is a side view of a rib of my new form, with its stretcher attached, the same being shown in the positions they assume when the umbrella is opened. Fig. 2 is an enlarged longitudinal section of those portions of the rib and stretcher embraced by line X in Fig. 1; and Fig. 3 is a view of the rib-joint unlocked, my invention thus far being illustrated as applied to the so-

called "paragon" rib made of sheet metal doubled longitudinally to provide stiffness with extreme lightness. Fig. 4 shows my locking-bolt applied to a rib of solid metal.

I prefer to use the said paragon ribs, and shall therefore first describe my invention as so applied.

The letter *a* indicates the umbrella-handle; *b*, the runner; *c c'*, the wire-stops, and *e e'* the two-part rib.

*f* indicates the stretcher.

The rib sections *e e'* are jointed or hinged together by means of metal clips *h h'*, which are swaged onto the ends of said sections and are provided with perforated coincident lugs, which, with a rivet, *i*, form a substantial hinge to connect said parts. Clip *h* is further provided with perforated lugs *h<sup>2</sup>* and rivet *i'*, by which the stretcher end is attached to the rib. Within the end of rib-section *e'* is a bolt, *k*, pressed normally outward by a spiral spring, *n*, seated in its rear. When used with a paragon rib, said rib is pinched together in the rear of the spring, as in Figs. 2 and 3, and slightly rolled in at its under side to prevent the accidental displacement of the bolt. Said bolt is provided with a lug, *k'*, which projects laterally through the adjacent rib-slot, said lug being long enough to be easily operated by a finger-nail when it is desired to unbolt and fold the umbrella.

For a general description of the manner of opening or folding umbrellas of this class reference is made to my earlier patent above noted.

Assuming now that the umbrella has been in use and it becomes necessary to fold and pack it, the runner *b* is released and drawn toward the handle end to relieve the strain on the ribs. Holding the umbrella in an inverted position, the bolts *k* are withdrawn, one at a time, and the rib-sections *e'* swing outward and downward by gravity against the outside of the companion sections *e*, as in my said earlier patent, and the whole may then be folded into a package one-half the length of the umbrella when opened for use. The handle or stick *a* may be jointed, as in my former patent, or may be of two sections joined by a ferrule, *o*, the latter being my preferred construction.

In Fig. 4 the bolt *k* lies along under the under side of a solid rib, being supported in clips attached to said rib and forced forward into engagement with the companion rib-section by a spiral spring which encircles said bolt; but the general action of said bolt is the same as hereinbefore described. The location of said bolt so as to insure certain and easy locking action forms a feature of my invention.

It will be noticed that the end of bolt *k* engages and rides against the side of the stretcher as the parts approach the locking position. (See Fig. 3.) During this action the several parts (rib-sections and stretcher) are swinging on their hinges or pivots, and the stretcher acts as a lever to gradually push bolt *k* back against the force of its spring until the rib sections are in line with each other, when the bolt end shoots across the end of the stretcher and so locks together the two rib sections. The bolt, however, does not, when in such position, interfere with the working of the stretcher,

and the umbrella may be opened and closed as readily as umbrellas of ordinary construction.

I claim as my invention—

1. In combination with a jointed rib of the form described, a stretcher hinged thereto at or near the rib-joint, and a spring pressed bolt located and adapted to interlock the rib-sections, substantially as and for the object specified.

2. In combination with a jointed rib, a stretcher hinged thereto at or near the rib-joint, and a spring-pressed bolt so located in one rib-section that its free end may engage and ride against the said stretcher in the act of opening the umbrella and pass across the end of said stretcher to interlock the rib-sections, substantially as herein described, and for the object set forth.

ALGERNON S. HUBBELL.

Witnesses:

FRANK H. ALLEN,  
ALLEN TENNY.