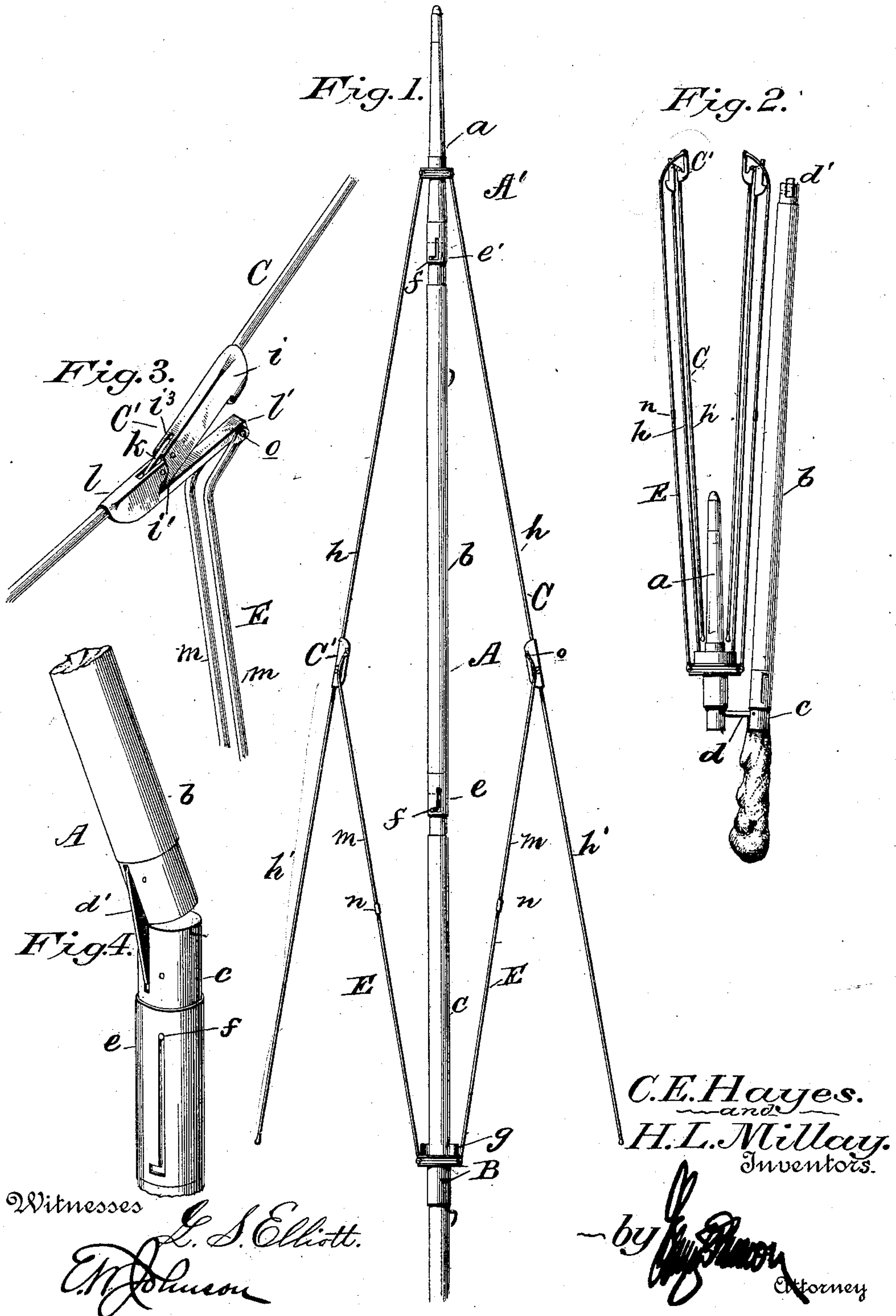


(No Model.)

C. E. HAYES & H. L. MILLAY.
FOLDING UMBRELLA OR PARASOL.

No. 472,457.

Patented Apr. 5, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

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FOLDING UMBRELLA OR PARASOL.

SPECIFICATION forming part of Letters Patent No. 472,457, dated April 5, 1892.

Application filed April 27, 1891. Serial No. 390,708. (No model.)

To all whom it may concern:

Be it known that we, CHARLES ELSWORTH HAYES and HARVEY LLOYD MILLAY, of Springview, in the county of Keya Paha and State of Nebraska, have invented certain new and useful Improvements in Folding Umbrellas or Parasols; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in folding umbrellas or parasols.

The object of the invention is to provide an umbrella or parasol which can be folded into a small space; and it consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of an umbrella or parasol, showing the parts organized in a position prior to raising, the cover of the umbrella being removed. Fig. 2 is a side view of the frame, showing the parts detached and in the position they will occupy when the frame is folded. Fig. 3 is a detail perspective view of one of the rib joints and braces. Fig. 4 is a detail perspective view of one of the joints with which the staff is provided.

A designates the staff, which is preferably made up of three parts, *a* referring to the top section, *b* to the center section, and *c* to the handle. These sections are connected to each other by links *d* and *d'*, which are let into recesses at the ends of the sections and pivoted, as shown. In addition to the links the staff is provided at the joints with slides *e* and *e'*, provided with slots which engage with pins *f* and *f'* for locking the parts in engagement with each other. The sections of the staff are shouldered for the reception of the slides. The notch to which the ribs are secured is attached to the ferrule-section *a* in the usual manner, and is of less diameter than the cup *g*, carried by the ring of the runner B. The ribs C are made up of two sections *h* and *h'*,

to which are rigidly attached the joints C', consisting of the parts *i* and *l*, which are hinged to each other by a short link *k*, pivoted in the recesses *i*³. The under side of the part *i* of the joint is recessed, so that the extended portion *l'* of the part *l* will lie therein, and said parts are also provided with a lug or projection *i'* and recess therefor in order to insure the proper hinge movement. When the parts of this joint are brought together, their upper and lower edges will be on a line with each other. The spreaders E are preferably made up of two rods *m m*, which are brought together at their lower ends, where they are attached to the notched ring of the runner B. These spreaders are braced or reinforced by cross-pieces *n*, which encircle the rods *m m*. The upper ends of the rods are bent at an obtuse angle, their terminals being provided with perforations through which the pins *o* pass for pivotally attaching them to the extended end *l'* of the rib-joint. Instead of using two rods to form the spreader the upper end of a single rod may be bifurcated and bent to give the same results. By bending the spreaders at obtuse angles, as shown, the joints C' will be further braced when the umbrella is lowered in the usual manner, as said bent ends lie over the joint.

When it is desired to fold the umbrella to occupy a small space, as shown in Fig. 2, the lower sections of the ribs, when the runner B is at an intermediate point on the staff, are folded over toward the top notch. The runner B is then moved upwardly on the staff until the cup *g* lies over the ring of the notch and the slides on the staff are moved to permit the staff to be folded, and when in a folded position the link *d*, which connects the section *a* to the section *b*, will serve as a lock to prevent the movement of the runner. When the umbrella is folded, the handle-section will lie parallel with the section *b*. The stretchers and the upper sections of the ribs are nearly of the same length. Therefore in folding the umbrella when the upper rib-sections are horizontal the stretchers will also be horizontal, and the further movement of an ordinary runner would not have any effect upon the movement of the ribs; but with my improved runner having a cup thereon it will be noted that the cup

comes in contact with the upper rib-sections, completes the movement thereof, and raises them to a vertical position by a very small upward movement of the runner.

5 An umbrella constructed as herein described is light, and when folded the parts will be connected to each other.

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

10 1. In a knockdown or folding umbrella, the combination, with the jointed ribs *h* and *h'*, provided with interlocking parts, of a link *k*, connecting the parts to each other, the lower
15 section of the joint having an extension to which the spreader is pivotally secured, the upper section being recessed for said extension, the interlocking joint presenting a flat upper surface substantially on a line with the
20 ribs, which are brought on a line with each other when the parts of the joint are interlocked, for the purpose set forth.

2. In a folding umbrella or parasol, the combination of the runner *B*, having a cup or upwardly-projecting flange *g*, carried thereby, a
25 top notch of less diameter than the ring of the runner, jointed ribs the upper sections of which are attached to the top notch, and spreaders connected to the ribs and to the runners *B*, the parts being organized so that when
30 the umbrella is folded the top notch and runner will be adjacent to each other.

3. The combination, in a knockdown umbrella or parasol, of a runner *B*, having a cup
35 *g* on its upper end, the notched ring of said runner being of greater diameter than the cup, and a top notch of less diameter than the notched ring of the runner, said top notch being adapted to lie within the cup carried by the
40 runner when the umbrella is knocked down, together with jointed ribs connected to spreaders, substantially as shown, and for the purpose set forth.

4. In a knockdown umbrella, constructed substantially as shown and provided with
45 folding ribs, fixtures *i* and *l*, attached thereto, the fixture *l* having an extended portion *l'* and a recess or undercut portion adjacent to and extending beyond one of the pivots of the link, and the fixture *i* having an extended portion
50 which enters a recess in the fixture *l*, both fixtures having straight edges which lie against each other when the joint is broken and which will be on a line when the parts of the fixture
55 are interlocked, the adjacent ends of the fixtures being bifurcated for the reception of the link *k*, substantially as set forth.

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Witnesses:

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