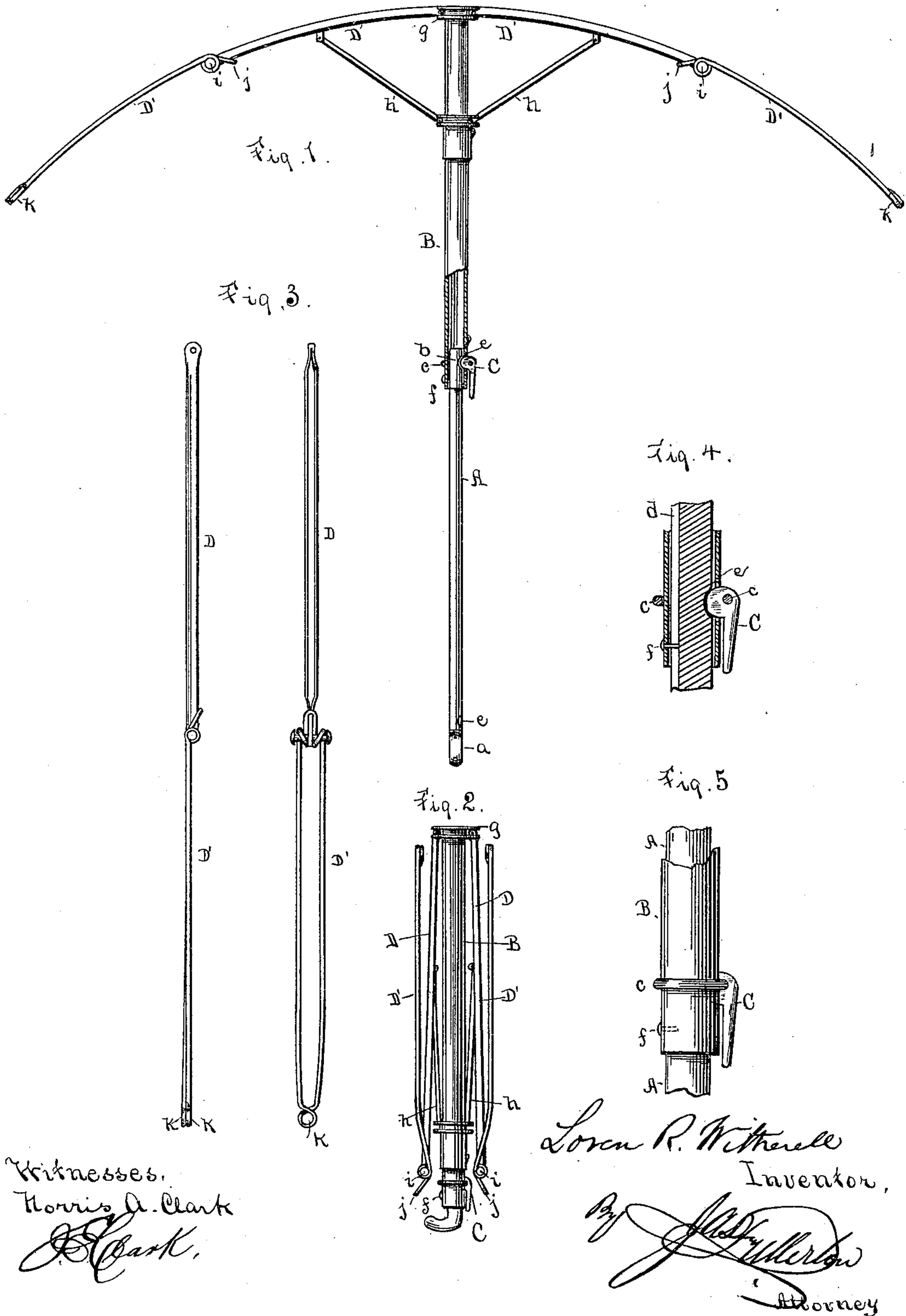


(No Model.)

L. R. WITHERELL.
FOLDING UMBRELLA FRAME.

No. 371,652.

Patented Oct. 18, 1887.



UNITED STATES PATENT OFFICE.

LOREN R. WITHERELL, OF DAVENPORT, IOWA.

FOLDING UMBRELLA-FRAME.

SPECIFICATION forming part of Letters Patent No. 371,652, dated October 18, 1887.

Application filed January 19, 1887. Serial No. 224,787. (No model.)

To all whom it may concern:

Be it known that I, LOREN R. WITHERELL, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Folding Umbrella-Frames; and I 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.

My invention relates to certain improvements in umbrellas.

The object I have in view is to obtain an umbrella which may be readily folded into a small compass, and thereby rendered convenient for carrying when not in use.

To the accomplishment of the above the invention consists of certain novel parts, as will be hereinafter fully described and specifically claimed.

Reference will be made to the accompanying drawings, in which Figure 1 is a view, partly in section, showing the umbrella ready for use; Fig. 2, a similar view of the same folded; Fig. 3, a detail of one of the ribs, shown in two different positions; Fig. 4, a sectional detail of a portion of the handle, showing a guiding-slot formed therein; and Fig. 5, a detail in elevation showing the manner of securing an eccentric in place.

Like letters refer to like parts in each view.

A represents the handle or stick proper, the same being formed with any suitable knob or handle, *a*, as shown, and being provided on its upper end with a suitable metal cap, *b*. This handle or stick is of about one-half the length of the ordinary umbrella-handle, and fitted over and adapted to slide thereon is a tube, B. Upon the outer circumference of this tube, and near its lower end, there is secured a ring, *c*, said ring being held in place by solder or by any suitable means. Pivoted upon this ring is an eccentric, C, the head of which passes through a suitable slot formed in the tube and engages, when its handle is brought to the proper position—*i. e.*, parallel with the tube—with suitable notches, *e*, one formed at a point near the lower end of the stick A and the other in the cap *b*, hereinbefore referred to. By the arrangement thus far described it will be seen that means are provided for holding the tube

in the two positions necessary for having the umbrella closed or opened.

In the stick diametrically opposite the notches *e* mentioned I form a vertical slot, *d*, extending the entire length of the stick, said slot being arranged and adapted to receive a small pin, *f*, secured to the inside of the tube B at the point shown, means being thus provided to keep the tube in position while being raised or lowered.

To the upper end of the tube B there is secured a ring, *g*, such as is ordinarily used for pivoting the ribs of an umbrella to the stick or handle thereof. Pivoted to this ring are a suitable number of short ribs, D, to which are pivoted the ordinary brace-rods, *h*, said rods being also pivoted to a suitable ring or flange secured to the tube B. The only difference between the arrangement shown and that ordinarily used is that in this case, because of the shortness of the ribs, the brace-rods are made shorter and the ring to which they are pivoted consequently located higher up on the handle, or that part of it formed by the tube. Pivoted upon a suitable pin, *i*, passed through the lower outer end of such rib D, is a rib, D', this last-named rib being formed of suitable wire so bent around the pivot-pin *i* as to hold the parts together, and at the same time form a lug or stop, *j*, to limit the movement of the parts when turned in one direction. The two ends of the twisted wire of which each rib D' is formed are each formed into an eye, *k*, and the two are then securely held together by solder or other suitable means.

The figures marked 1 and 2 on the drawings will show clearly the manner of using this device without any detail description of the operation of the different parts, such figures showing the position of the different parts when the umbrella is both opened and closed.

What I claim is—

1. In an umbrella, the combination, with a stick or handle, of a tube telescoped thereon and an eccentric pivoted on the tube and arranged to engage with the stick, as and for the purpose set forth.

2. In an umbrella, the combination, with a handle or stick provided with suitable notches at or near its top and bottom, of a tube telescoped thereon and an eccentric pivoted to

said tube and adapted to engage the notches of the stick or handle, as and for the purpose set forth.

3. In an umbrella, the combination, with a stick or handle, of a tube telescoped thereon, said tube slotted and provided with a suitable ring, as described, and an eccentric pivoted on such ring and adapted to engage the stick or handle, as set forth.

4. In an umbrella, the combination, with the handle or stick provided with a suitable slot, of a tube telescoped upon such stick and provided with a pin moving in the slot of the stick and an eccentric pivoted to the tube, as and for the purpose set forth.

5. In an umbrella, the combination, with a short rib pivoted to suitable handle and pro-

vided on its outer end with a short pin, of a second rib formed of a bent wire, said wire twisted around the cross-pin and formed into a suitable stop, as set forth.

6. In an umbrella, the combination, with a short rib pivoted to a suitable handle and provided on its outer end with a short pin, of a second rib formed of a bent wire, said wire twisted around the cross-pin and formed into a suitable stop, its free end being formed into eyes and secured together, as described.

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

LOREN R. WITHERELL.

Witnesses:

H. C. FULTON,

J. M. ELDRIDGE.