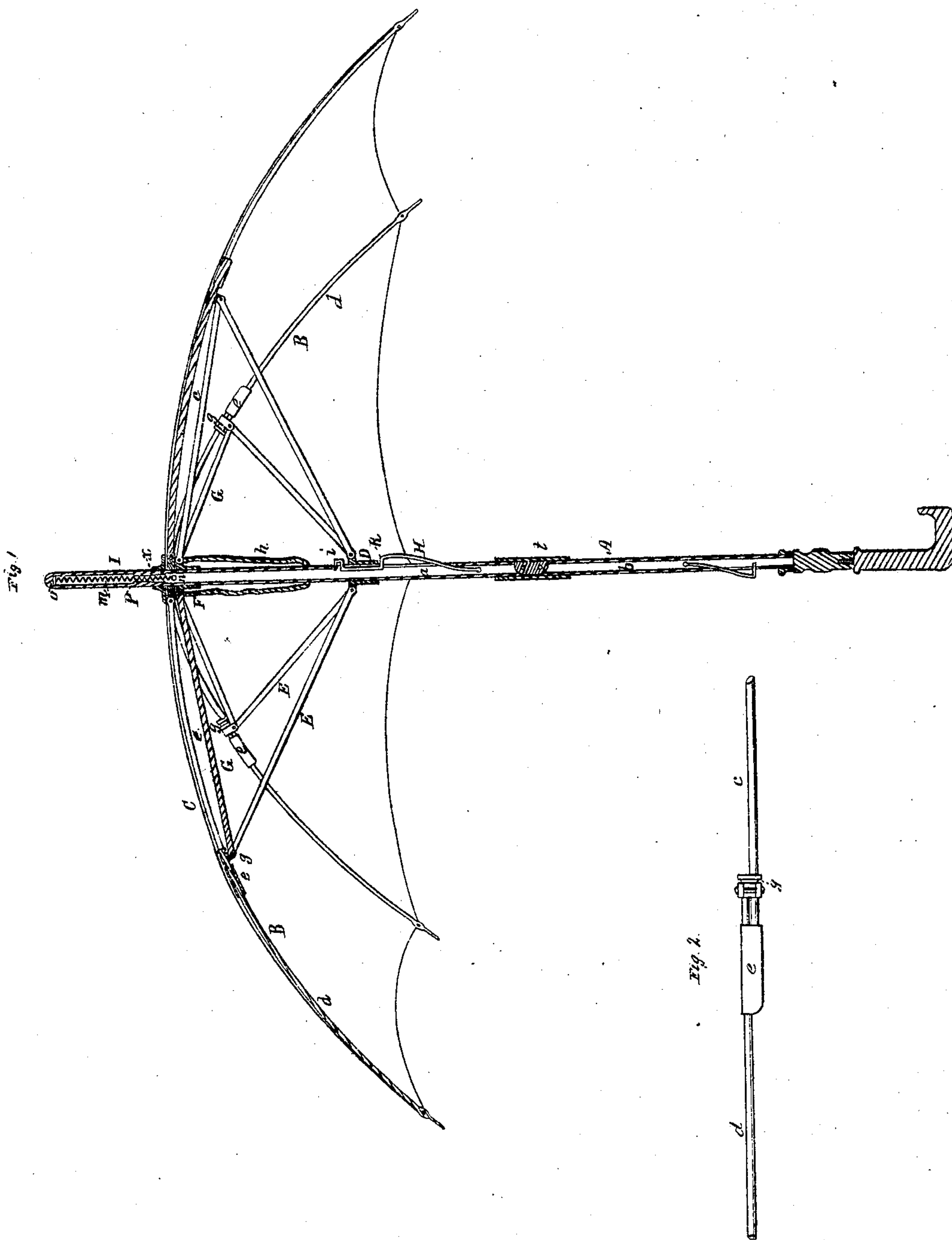


A. B. Shaw.
Umbrella.

No. 70631.

Patented. Nov. 5, 1867.



Witnesses
Geo. H. Mullen
J. T. Piper

A. B. Shaw.
by his attorney
Wm. L. Lusk

United States Patent Office.

AI B. SHAW, OF HOLDERNESS, NEW HAMPSHIRE.

Letters Patent No. 70,631, dated November 5, 1867.

IMPROVEMENT IN FOLDING-UMBRELLAS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, AI B. SHAW, of Holderness, in the county of Grafton, and State of New Hampshire, have invented an improved Folding-Umbrella, and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a longitudinal section of it.

Figure 2 is an under side view of the connection of the two rods of each compound rib.

In the drawings, A denotes the staff or stick as composed of two portions, *a b*, provided with a slide-tube, and hinged together, so that one may be turned down alongside of the other. B B are the ribs, and C the cover, of cloth, applied to them. D is the runner, and E E, &c., its series of spreaders or rods, hinged to it and extended from it to the ribs. Each rib B, I construct of two steel rods, *c d*, one of which, (viz, *c*), at its lower end, is attached to a slider, *e*, through which the other is passed. The upper end of such rod *c* is hinged to a collar, *f*, fixed on the staff. The upper end of the lower rod *d* is fixed to another slider, *g*, which encompasses and slides freely on the rod, and is jointed to one of the spreader-rods E. Furthermore, on the staff is another runner, F, carrying or having hinged to it another series of spreaders or rods, G G, each of which is hinged to one of the sliders *g*. A cord, *h*, fastened to the auxiliary runner F, serves to enable a person to depress the said runner on the staff preparatory to closing the umbrella. The spring-catch for holding the main runner in its highest position is shown at H as formed with a bent arm or stop, *i*, which serves to arrest the runner after it may have passed the shoulder *k* of the catch, and thus prevents undue strain on the ribs. The ferrule or part I of the staff which projects beyond the cover, I apply to the portion *a* of the staff by screwing one to the other, as shown at *x*, and by means of a helical spring, *m*, one end of which is attached to the head *n* of the part *a*. The other end of such spring is affixed to a button or slider, *o*, arranged within the ferrule, which is tubular, and provided with a shoulder, *p*, for the slider to bring up against when the ferrule is drawn up on the spring. The ferrule so connected to the staff may be unscrewed therefrom and turned down against the cover so as to shorten the umbrella, the helical spring serving to keep the ferrule in connection with the staff. The purpose of the auxiliary runner F and its series of spreaders is to prevent the lower part *b* of each rib from sliding upward when the umbrella is open, in which case the auxiliary runner will be up against the hinge collar of the ribs.

In order to prepare the umbrella for being closed and folded or shortened, the auxiliary runner F should first be pulled downward on the staff so as to bring each of the spreaders of such runner into an acute angle with the upper part *a* of the staff. Next, the main runner D should also be depressed on the staff, and the slide-tube *t* of the hinge-joint of the staff should also be drawn down so as to uncover the joint. Now, if the umbrella be closed in the ordinary way, lay hold of the handle of the staff with one hand, and grasp the cover of the umbrella with the other hand, and force the cover upward with respect to the upper rod so as to accordingly shorten the umbrella. After this, the upper and lower portions of the staff, that is, the ferrule and handle parts, may be turned or folded down upon the cover. The umbrella will thereby be materially reduced in its length.

I claim the combination of the auxiliary runner F and its series of spreaders G with the staff, the main runner D, and its series of spreaders E, and each of the ribs, formed in two parts, *c d*, and applied together, substantially as described.

I also claim the connection of the ferrule to the staff by means of the spring, arranged within and applied to such ferrule and staff, substantially as set forth.

I also claim the connection of the ferrule to the staff by means of the screws and the spring applied to them, substantially as specified.

AI B. SHAW.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.