

A. G. KUBALL.  
Umbrella.

No. 207,357.

Patented Aug. 27, 1878.

FIG. 1.

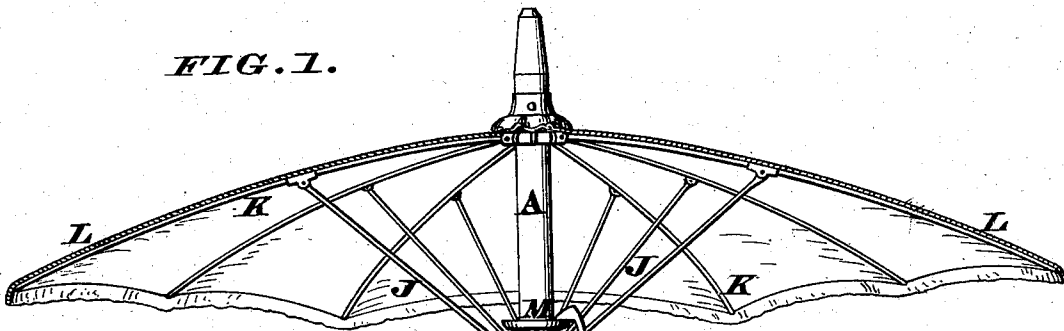
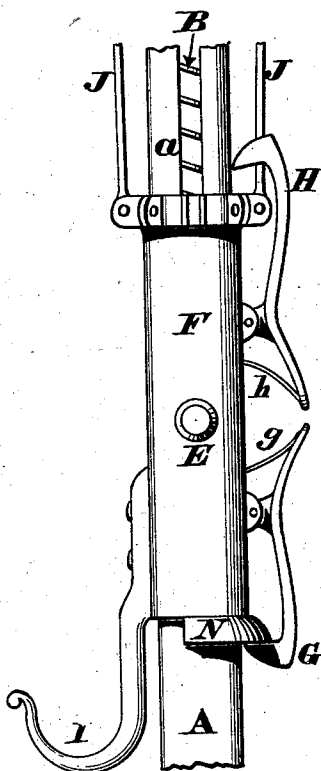


FIG. 2.



Attest.  
G. L. Bovey.  
S. A. Bond

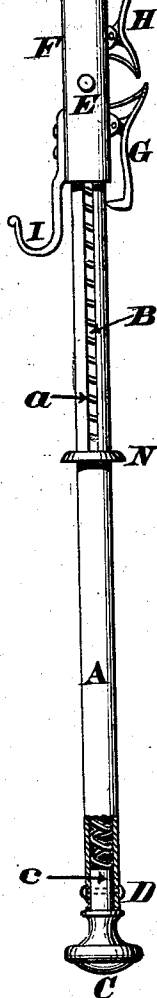


FIG. 3.

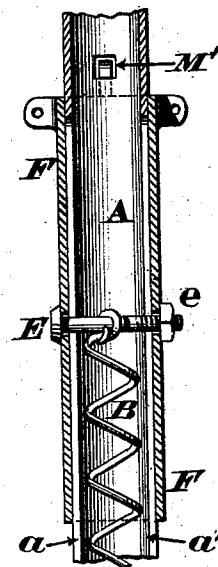
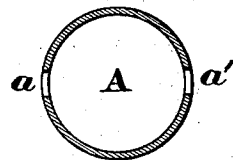


FIG. 4.



Inventor.

Albert G. Kuball

By James H. Layman  
His Attorney.

# UNITED STATES PATENT OFFICE.

ALBERT G. KUBALL, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES P. DITTMAN, OF SAME PLACE.

## IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. **207,357**, dated August 27, 1878; application filed June 21, 1878.

*To all whom it may concern:*

Be it known that I, ALBERT G. KUBALL, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Umbrellas, Parasols, Sun-Shades, &c., of which the following is a specification:

This invention relates to those umbrellas, parasols, and sun-shades which are capable of opening automatically by the action of a coiled spring as soon as a suitable catch or detent is liberated; and my improved device is constructed as follows: The shaft or handle of the parasol is tubular, and has housed within it a coiled or other spring, which is arranged so as to exert either a pushing or a pulling action with reference to the runner, and this runner is provided with two catches or detents that secure the umbrella both in its open and closed condition.

In the preferred form of my invention the aforesaid spring exerts a pushing or thrusting action against the runner, and consequently said spring is compressed when the umbrella is closed. Furthermore, this runner has attached to it a hook, which enables the ready closure of the umbrella or parasol, and said hook also affords a convenient suspension device, as hereinafter more fully explained. This runner carries a transverse bolt or screw that traverses two diametrically-opposite slots in the handle, and one end of the operating spring is secured to this bolt or pin, the nut of said bolt being capable of adjustment so as to cause the runner to hug the handle more or less tightly, and thereby render the umbrella capable of opening with more or less rapidity, as hereinafter more fully explained.

In the annexed drawing, Figure 1 is a side elevation of my improved umbrella in its open condition, the covering and the lower portion of the handle being shown in section. Fig. 2 is an enlarged side elevation of the runner and its accessories, said runner being shown locked, so as to maintain the umbrella in its closed condition. Fig. 3 is an axial section through said runner in the plane of its pin, and Fig. 4 is an enlarged transverse section of the slotted handle or shaft.

The handle or shaft A, which may be of any suitable material, is hollow or tubular,

and has housed within it a coiled spring, B, one end of which bears against the plug or stem *c* of a terminal knob, C, which latter may be secured to said handle with a screw or rivet, D, or otherwise. The other end of said spring is secured to a bolt or pin, E, having a nut, *e*, said pin being applied transversely of the runner F, and being capable of traversing freely the longitudinal slots *a a'* of handle A, as more clearly seen in Fig. 3. Pivoted near the lower end of this runner is a catch or detent or other convenient locking device, G, whose spring *g* maintains said catch in its normal position. H is a similar detent, pivoted near the upper end of the runner, said detent being provided with a spring, *h*. Secured to the lower end of this runner is a suitable hook or pull, I.

J are the braces or stretchers extending from the upper end of said runner to the ribs or frame K, which frame carries a covering, L. M is a collar secured to handle A near its upper end. N is another collar applied farther down on said handle, which collar may be grooved on one side to permit the passage of hook I, or said collar may extend only part-way around the handle, as seen in Fig. 2.

To shut the umbrella, or parasol or other device to which my improvements are applied, detent H is first disengaged from collar M, and the hook or pull I is then drawn toward the knob C until the detent G snaps over the collar N, which engagement of said detent secures the parasol or umbrella in its closed condition. During this movement of runner F toward collar N the pin E traverses freely the slots *a a'*, thereby compressing spring B between said pin and the plug *c*, and thus storing up sufficient power in the handle A to insure an instantaneous opening of the parasol the moment detent G is disengaged, and in this closed condition of the device the pull I serves as a hook to attach the parasol to a lady's belt or other support.

To open the parasol the spring end of detent G is pressed toward runner F, so as to unlock said detent from collar N, thus leaving the confined spring B at liberty to exert its full force against the pin E *e*. The instant expansion of this spring now drives the run-

ner F along handle A until said runner is brought in contact with collar M, when detent H at once snaps over this collar, as seen in Fig. 1, and thus secures the parasol in its open position as long as may be desired.

If it should be found that spring B is so powerful as to drive the runner F too forcibly against collar M, the nut *e* can be screwed up so as to produce more friction between said runner and the handle A, or said nut can be slackened and the friction lessened in case the spring should be weakened by constant use.

If the spring should break, a new one can be readily applied after knob C *e* has been disengaged.

The above is a description of the preferred form of my invention; but it is evident the details of construction may be modified—as, for example, the spring B may be located between the ferrule end of the handle and the pin E, so as to exert a pulling action with reference to runner F, as seen in Fig. 2; or this spring may be located externally of handle A, and adapted to surround the latter. Finally, the collars M N may be omitted, and the detents G H may engage with suitable pits or depressions in handle A, or with perforations in the same, as seen at M' in Fig. 3.

I am aware that automatically-opening um-

rellas, parasols, &c., are not new, and therefore my claim to such appliances is limited to the combination of devices herein described.

I claim as my invention—

1. The combination of slotted tubular handle A *a'*, inclosed spring B, plug *e*, pin E, and runner F of an umbrella, parasol, or sun-shade, substantially as herein described.

2. The combination of slotted tubular handle A *a'*, inclosed spring B, plug *e*, pin E, runner F, detents G *g* H *h*, and collars M N, substantially as herein described and set forth.

3. In combination with the slotted tubular handle A *a'*, inclosed spring B, and runner F of an umbrella or parasol, the pin E, having a nut, *e*, wherewith the velocity of said runner may be regulated, substantially as herein described.

4. The hook I, applied to the runner F and serving the twofold purpose of a pull for said runner and a device for suspending the umbrella, parasol, or sun-shade, substantially as herein described.

In testimony of which invention I hereunto set my hand.

ALBERT G. KUBALL.

Witnesses:

JAMES H. LAYMAN,  
CHARLES P. DITTMAN.