

(No Model.)

W. N. STEVENSON.
UMBRELLA.

No. 580,907.

Patented Apr. 20, 1897.

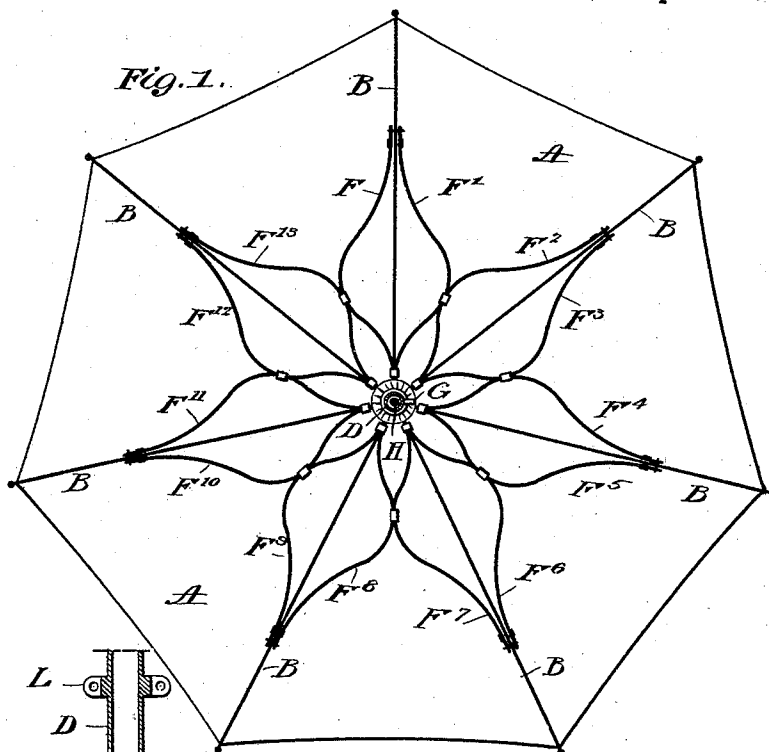
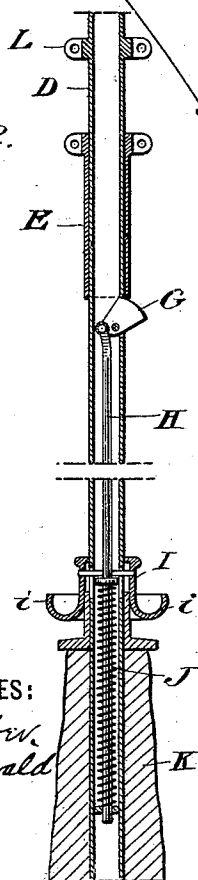


Fig. 2.



WITNESSES:

Frank S. Ober.
J. S. Oswald

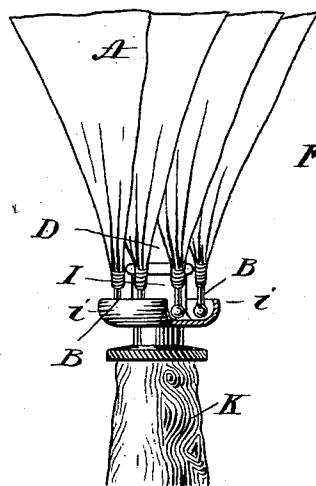


Fig. 3.

INVENTOR

William N. Stevenson.

BY

R. Churchill
ATTORNEY

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM N. STEVENSON, OF SOUTH ORANGE, NEW JERSEY.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 580,907, dated April 20, 1897.

Application filed October 29, 1896. Serial No. 610,414. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. STEVENSON, a citizen of the United States, residing at South Orange, Essex county, State of New Jersey, have invented certain new and useful Improvements in Umbrellas, of which the following is a full, clear, and exact specification.

My invention relates to improvements in umbrellas; and it consists in the novel mechanical arrangement and construction of the parts thereof hereinafter fully described and claimed.

The object mainly of my invention is to provide, in conjunction with a self-closing umbrella-frame, a means for holding said frame in the opened position, which means may be readily released by the user without shifting the hand from the handle of the umbrella.

The above, in addition to other features hereinafter fully described, constitutes my invention.

My invention is illustrated by the accompanying drawings, in which—

Figure 1 is a view of the under side of an umbrella-cover and illustrating the construction of the frame, the same being in the opened position. Fig. 2 is a longitudinal section through the center of the umbrella rod and handle. Fig. 3 is a side elevation of that portion of the umbrella adjacent to the inner end of the handle, the umbrella being closed.

A is a cover of any suitable material.

B B are ribs connected in the usual manner to an upper notch L, carried by a tubular rod D.

E is a runner arranged to slide on said rod.

F F' F² F³ F⁴, &c., are stretcher-arms formed, preferably, of spring metal and operating in pairs. The inner ends of the stretcher-arms referred to are hinged to a notch carried by the runner E. The outer ends of said stretcher-arms are pivotally connected to the ribs B at points intermediate in their length. These stretcher-arms F are connected at points intermediate in their length. Thus F' is connected to F², F³ to F⁴, F⁵ to F⁶, and so on. By this construction it will be seen that while the umbrella is closed the stretcher-arms will lie substantially parallel, but when the frame is open each set of arms F, F', and so on, will be sprung apart, as indicated in Fig. 1, so that while in the said opened position the stretcher-

arms will be under constant tension, their effort being to assume the normal parallel position. To hold the runner E in the elevated position, in which position the umbrella is opened, I provide in the tubular rod D a loosely-hinged detent G. Pivotaly connected to this detent G is a connecting-rod H, which leads down through the center of the rod D, and is suitably connected to a thimble I, loosely mounted upon the rod D at a point closely adjacent to the handle K.

J is a spring, preferably carried within the rod D, as shown, and adapted to normally elevate the thimble I and thereby the connecting-rod H, thus causing the detent G to normally move outward into the path of the runner E to engage it, as shown in Fig. 2. To release the said runner, the thimble I is retracted, and then by action of the self-closing frame previously described the umbrella automatically closes. If desirable, a cup-shaped flange i may be formed on the thimble I for the purpose of retaining the ends of the ribs B B (see Fig. 3) when the umbrella is closed.

A particular advantage of the construction above described lies in the fact that the handle K is in no way mutilated by the presence of the detent-controlling means. Furthermore, a handle may be renewed or changed as desired without mutilating the same in any way.

It is apparent that in carrying out my invention some changes in the particular construction shown and described may be made, and I therefore do not limit myself to the particular construction shown, but hold myself at liberty to make such changes as are fairly within the spirit and scope of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an umbrella, a self-closing frame, a tubular rod supporting said frame, a detent hinged in said rod toward its upper end, a runner coöperatively connected to said frame and sliding on said rod, said runner being engaged by said detent only when the umbrella is open, an annular operating-thimble loosely mounted outside and sliding upon said rod at a point near the inner end of the handle portion, a rigid connection between said detent

and thimble, and a spring inside said rod for moving said detent and thimble in one direction to cause the former to normally move into the path of the runner.

- 5 2. In an umbrella, a self-closing frame, a tubular rod supporting said frame, a detent hinged in said rod toward its upper end, a runner coöperatively connected to said frame and sliding on said rod, said runner being engaged by said detent only when the umbrella
10 is open, an annular cup-shaped operating-

thimble loosely mounted outside of and sliding upon said rod at a point near the inner end of the handle portion, a connection between said detent and thimble, and a spring inside
15 said rod for moving said detent and thimble in one direction to cause the former to normally move into the path of the runner.

WILLIAM N. STEVENSON.

Witnesses:

R. C. MITCHELL,
C. B. EATON.