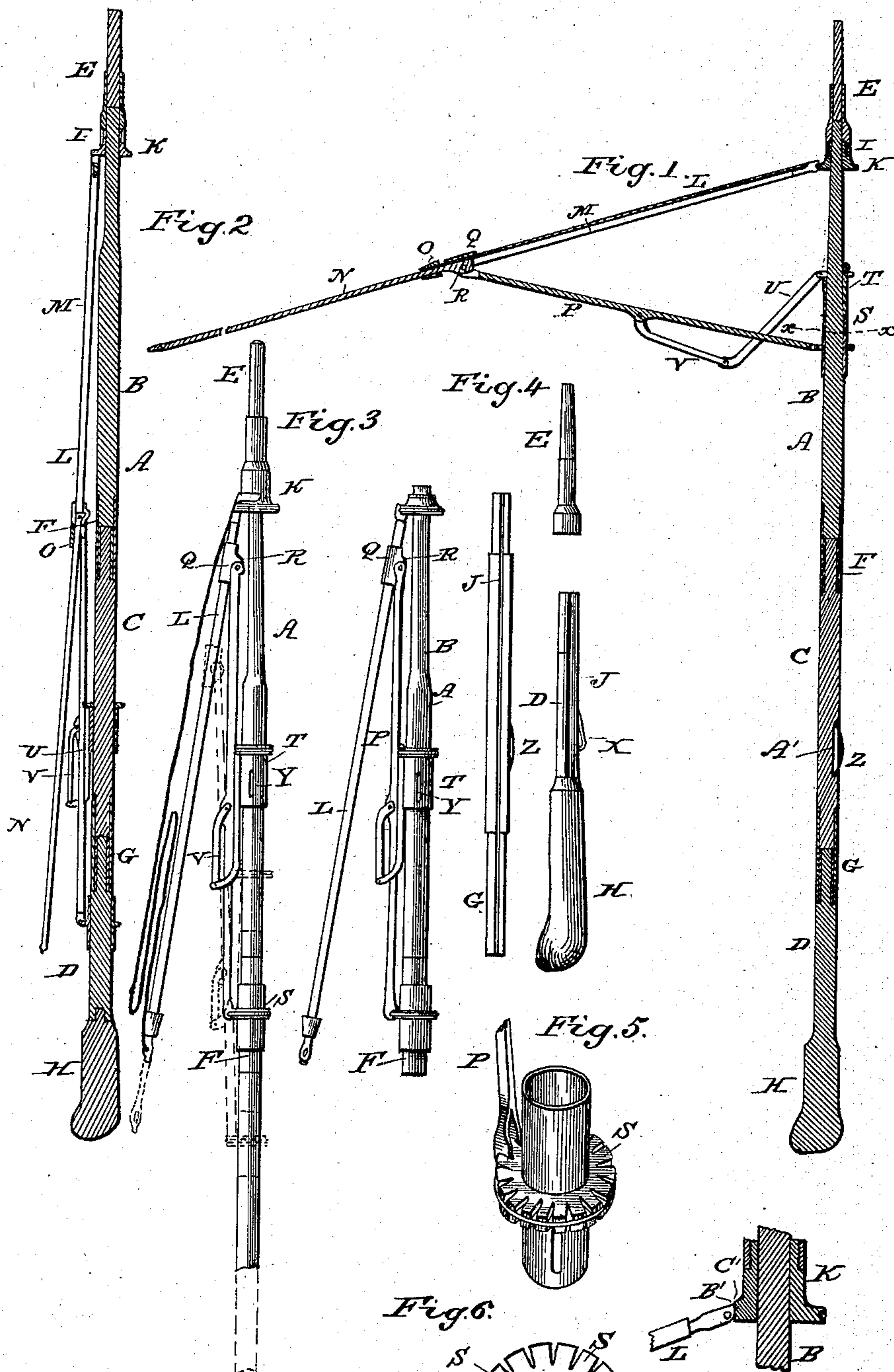


(No Model.)

E. V. WHITAKER.  
UMBRELLA.

No. 322,227.

Patented July 14, 1885.



WITNESSES:

*Edw. G. Dietrich*  
*Wm. Bagger*

Edwin V. Whitaker,  
INVENTOR.

by *Louis Bagger & Co.*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

EDWIN V. WHITAKER, OF GLOVERSVILLE, NEW YORK.

## UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 322,227, dated July 14, 1885.

Application filed November 8, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN V. WHITAKER, of Gloversville, in the county of Fulton and State of New York, have invented certain new and useful Improvements in Umbrellas; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical sectional view illustrating my improved folding umbrella extended and raised. Fig. 2 is a vertical sectional view of the umbrella extended and lowered. Fig. 3 is a side view of a portion of the frame, showing the same folded or collapsed, with dotted lines showing it in a partly-extended position. Fig. 4 is a side view showing the umbrella folded and ready for packing. Fig. 5 is a detail view in perspective of the lower sleeve or runner and a portion of one of the stretchers attached thereto, and Fig. 6 is a cross-section taken on the line  $x x$  in Fig. 1.

The same letters refer to the same parts in all the figures.

This invention relates to that class of umbrellas which may be collapsed or folded into a small space for convenience in packing into a trunk or valise; and it has for its object to provide a device which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction and arrangement of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A designates the stick of the umbrella, which is composed of four pieces, B, C, D, and E. The piece B is provided at its lower end with a socket, F, to receive the piece C, and the latter is provided at its lower end with a similar socket, G, to receive the piece D, which is provided with the handle H. The piece E is simply a tip provided with a screw-threaded socket, I, by means of which it may be connected to the ferrule at the upper end of the piece B. By this construction the stick may

be readily separated into pieces of such dimensions as to be easily packed into small and convenient compass.

J is a groove, formed longitudinally in the pieces B, C, and D, and in the metallic sockets F and G of the said pieces. This groove causes the parts to register properly when put together, and it has an additional important function, which will be presently more fully set forth.

K is the ferrule at the upper end of the piece B, to which the ribs L L are hinged in the usual manner. Said ribs are constructed each of two pieces, M and N, the upper one of which, M, is U-shaped in cross-section, and adapted to receive the sliding lower piece, N, to retain which the piece M is provided with a sleeve, O, at its lower end.

P P are the stretchers, the upper and lower ends of which are bifurcated, as shown, and the upper ends of which are provided with pivoted sleeves Q, embracing the upper pieces of the ribs, and provided with lugs R R, between which the upper ends of the lower sections, N, of the ribs are pivoted. The lower ends of the stretchers are pivoted to the runners S in the usual manner, and, being bifurcated, as already set forth, will insure that stability and ease and certainty of operation which it is especially desirable to secure in an umbrella of this class.

T is a supplemental runner, to which are pivoted a series of braces, U U, which consist each of two pieces straddling the stretchers P, and having their lower ends bent outward and pivoted to one end of a brace, V, the other end of which is bifurcated and pivoted in turn to one of the stretchers. Both of the runners are provided on their inner sides with studs W, entering and sliding in the groove J, whereby the said runners are guided and prevented from turning upon the umbrella-stick. The lower runner S is provided with a slot adapted to engage in the usual manner a catch, X, and the supplemental runner T is provided with a slot, Y, adapted to engage a bulging spring, Z, seated in a slot, A', in the umbrella-stick, so as to retain the said runner in its proper position by friction only. The upper ends of the ribs L are formed with square shoulders B', which, by abutting against an offset, C', upon the ferrule K, will

prevent the umbrella from turning when raised.

The operation of this invention and its advantages will be readily understood from the foregoing description taken in connection with the drawings hereto annexed. When the umbrella is extended or put together for use, as shown in Fig. 2 of the drawings, it may be readily raised by simply manipulating the main runner S in the same manner as that of an ordinary non-collapsible umbrella. It will be seen that when this is done the stretchers would have a tendency to slide the lower sections, N, up into the upper sections, M, of the ribs; but this tendency is overcome by the supplementary runner T and the braces connecting the same with the stretchers. It will be seen that the said supplementary runner is retained in position by its friction-spring, thus causing the stretchers to operate the ribs and raise the umbrella in the usual manner. When the runner S reaches the runner T, it will slide it on before it until it reaches the top, where a suitable stop and catch is provided. In order to lower the umbrella, the operation is simply reversed.

When it is desired to collapse the umbrella for packing, the runner S is released from its catch and the runner T is grasped and slid in an upward direction upon the umbrella-stick. The stretchers will then operate to push or shove the lower sections, N, into the upper sections, M, of the ribs L, thus causing the cover to be doubled or folded upon itself. When the runners have been moved up to the utmost extent, the pieces of the stick may be separated, thus reducing the umbrella to such a size that it may be conveniently packed into an ordinary trunk or valise.

It is obvious that this invention is susceptible of various changes with regard to the construction of details, and I would, therefore, have it understood that I do not limit myself to the precise construction herein shown, but reserve to myself the right to all such modifications as may be resorted to without departing from the spirit of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a collapsible umbrella, a stick com-

posed of several pieces or sections having sockets, whereby they may be connected, and provided with a longitudinal groove extending through the said sockets, whereby the said pieces may be brought to register properly, substantially as and for the purpose set forth. 55

2. In a collapsible umbrella, the combination, with a stick composed of several sections and having a longitudinal groove, of the runners having inwardly-extending studs registering with and guided by the said groove, substantially as and for the purpose herein set forth. 60

3. In a collapsible umbrella, the combination of a separable stick, the telescopic ribs, the stretchers connecting the main runner pivotally with a sleeve embracing the upper sections of the ribs and connected pivotally with the lower sliding sections of the same, and a supplemental runner connected with the stretchers by pivoted folding braces, the inner sections of which straddle the said stretchers, substantially as and for the purpose set forth. 65

4. In a collapsible umbrella, the stretchers connected pivotally with the lower sliding sections of the telescopic ribs and having bifurcated lower ends connected pivotally with the main runner, substantially as and for the purpose set forth. 70

5. In a collapsible umbrella, the combination, with a supplemental runner connected pivotally with the stretchers by folding braces and having a slot, Y, of a bulged spring, Z, forming a friction stop or catch, located upon the umbrella-stick, substantially as and for the purpose set forth. 75

6. In a collapsible umbrella, constructed, substantially as described, with telescopic ribs, the combination, with the said ribs having square shoulders at their upper ends, of the ferrule having a corresponding shoulder or offset, substantially as and for the purpose set forth. 80

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses. 85

EDWIN V. WHITAKER.

Witnesses:

LOUIS BAGGER,  
AUGUST PETERSON.