

(No Model.)

R. C. BERRY.
UMBRELLA.

No. 544,838.

Patented Aug. 20, 1895.

Fig. 1.

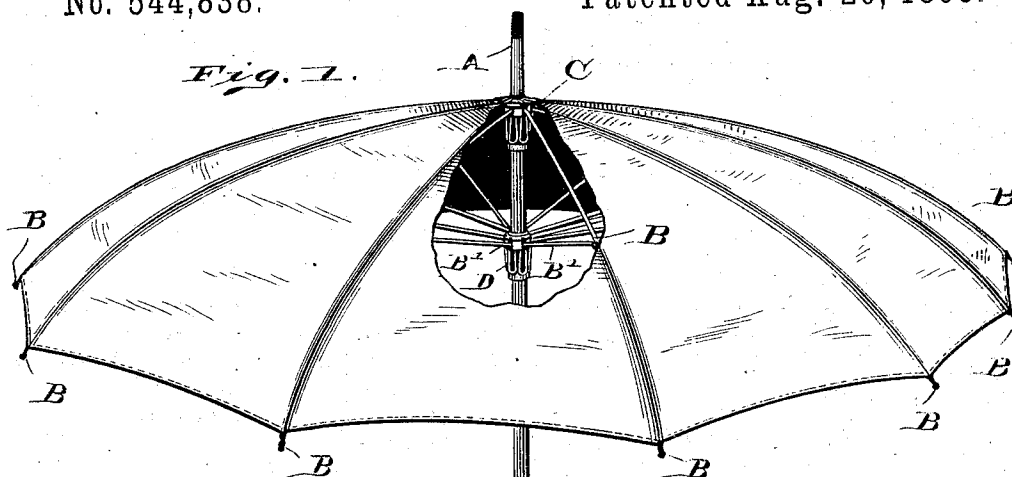


Fig. 2.

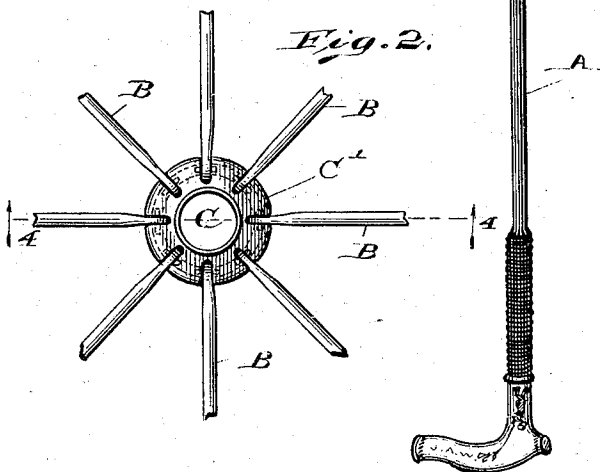


Fig. 4.

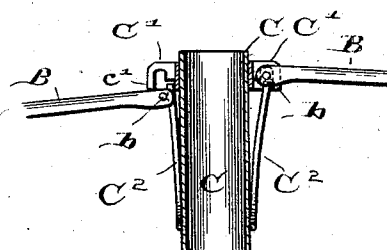


Fig. 5.

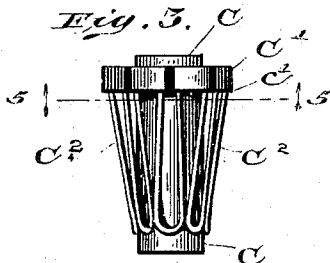


Fig. 5.

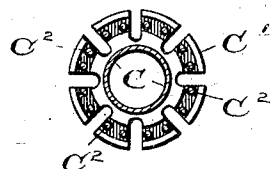
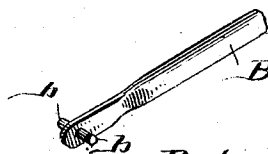


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 544,838, dated August 20, 1893.

Application filed November 2, 1894. Serial No. 527,756. (No model.)

To all whom it may concern:

Be it known that I, ROBERT C. BERRY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Umbrellas, of which the following is a specification.

The object of my said invention is to so construct an umbrella that the ribs may be easily and conveniently attached to or detached from the ferrule, and the braces similarly manipulated with reference to the runner, so that in cases of breakage or when for any other reason it is desired to remove and reinsert or replace one of the ribs such removal, reinsertion, or replacement can be quickly and easily effected without destroying or injuring any of the other parts. This object is well accomplished in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of an umbrella embodying my said invention; Fig. 2, a top or plan view of the ferrule structure with fragments of the umbrella-ribs attached thereto; Fig. 3, a side elevation of said ferrule structure separately; Fig. 4, a central sectional view on the dotted line 4 4 in Fig. 2, showing the rib on one side fully in place and on the other side just in the act of being put in place or removed; Fig. 5, a horizontal sectional view looking upwardly from the dotted line 5 5 in Fig. 3, and Fig. 6 a perspective view of a fragment of the upper end of an umbrella-rib.

In said drawings the portions marked A represent the umbrella-handle; B, the ribs; C, the ferrule, and D the runner. In the claims, however, the term "ferrule" is used as a generic term, applying to both or either the parts C and D.

The handle A and ribs B, as well as the cover secured to the ribs, are all substantially in the usual form and arrangement, except that the ends of the ribs B are provided with cross-heads instead of being secured to the ferrule-rim by a wire, as is most common, said cross-heads being usually formed by drilling holes through the ends of said ribs and inserting short pins *b* rigidly therein. The braces B' have the same formation at the ends as the ribs B and engage with the runner D

in exactly the same manner that the ribs engage with the ferrule C.

The ferrule C and runner D are alike in all essential particulars, except that one is stationary and the other is movable, as usual. The ferrule C only is in detail illustrated and described; but the description applies equally as well to the runner D. Said ferrule is composed of the usual ferrule-center, with a rim C' surrounding the same, which rim has an annular groove in its under side and radial slits in its edges. Secured to the sides of said rim are springs C², the ends of which extend up within the overhanging lip c', which forms the outer lower edge of the rim C', and by their own resiliency are held outwardly against the inner side of said overhanging lip at all times, except when forcibly pushed in. When in their normal position, the upper ends of these springs are below and practically bar ingress to the annular groove in the under side of the rim C', so that when the ribs are in place, as shown at the right of Fig. 4, said springs support the pins *b*, and thus prevent the ribs B from dropping out of engagement with the rim C'. When it is desired to detach a rib, it can be easily done by pressing in these springs C², as shown at the left of Fig. 4, when the rib can easily be taken out, and in reinserting the rib or putting in a new one the springs C² are also pressed inwardly and the rib inserted, as will be readily understood. As before stated, the lower ends of the braces B' are attached to the runner D in the same manner that the upper ends of the ribs B are attached to the ferrule C, and a corresponding manipulation is had in this case as in the other.

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

1. A ferrule for umbrellas composed of the usual tubular part, a rim surrounding said tubular part having an annular groove and slits therein, and springs attached to the tubular part with their free ends extending into the path leading from the annular groove, in combination with engaging members of an umbrella frame having cross-heads adapted to fit into said annular groove, said springs being thus normally adapted to prevent said cross-heads from being withdrawn.

2. An umbrella ferrule having the usual tubular portion and a rim surrounding said tubular portion provided with an annular groove and radial slits with a lip extending
5 down outside of said annular groove, and springs secured to the tubular portion and extending up within the lip and adapted to intercept the path leading from said annular
10 groove, in combination with engaging members of an umbrella frame substantially as shown and described.

3. An umbrella comprising in combination the usual handle, a ferrule composed of the usual tubular portion and a rim surrounding
15 the same provided with an annular groove and radial slits with a lip extending outside said annular groove and springs secured to the tubular portion and extending up within the lip and arranged to normally prevent the

disengagement of the ribs therefrom, ribs 20 having cross-heads on their ends adapted to be forced into the slits in the adjacent portion of the grooves past the springs whereby they are removably connected thereto, a runner of a construction like that of the ferrule, 25 and braces extending from the ribs thereto with their inner ends having cross-heads similar to the cross-heads on the inner ends of the ribs whereby they are removably connected to said runner, substantially as set forth. 30

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 30th day of October, A. D. 1894.

ROBERT C. BERRY. [L. s.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.