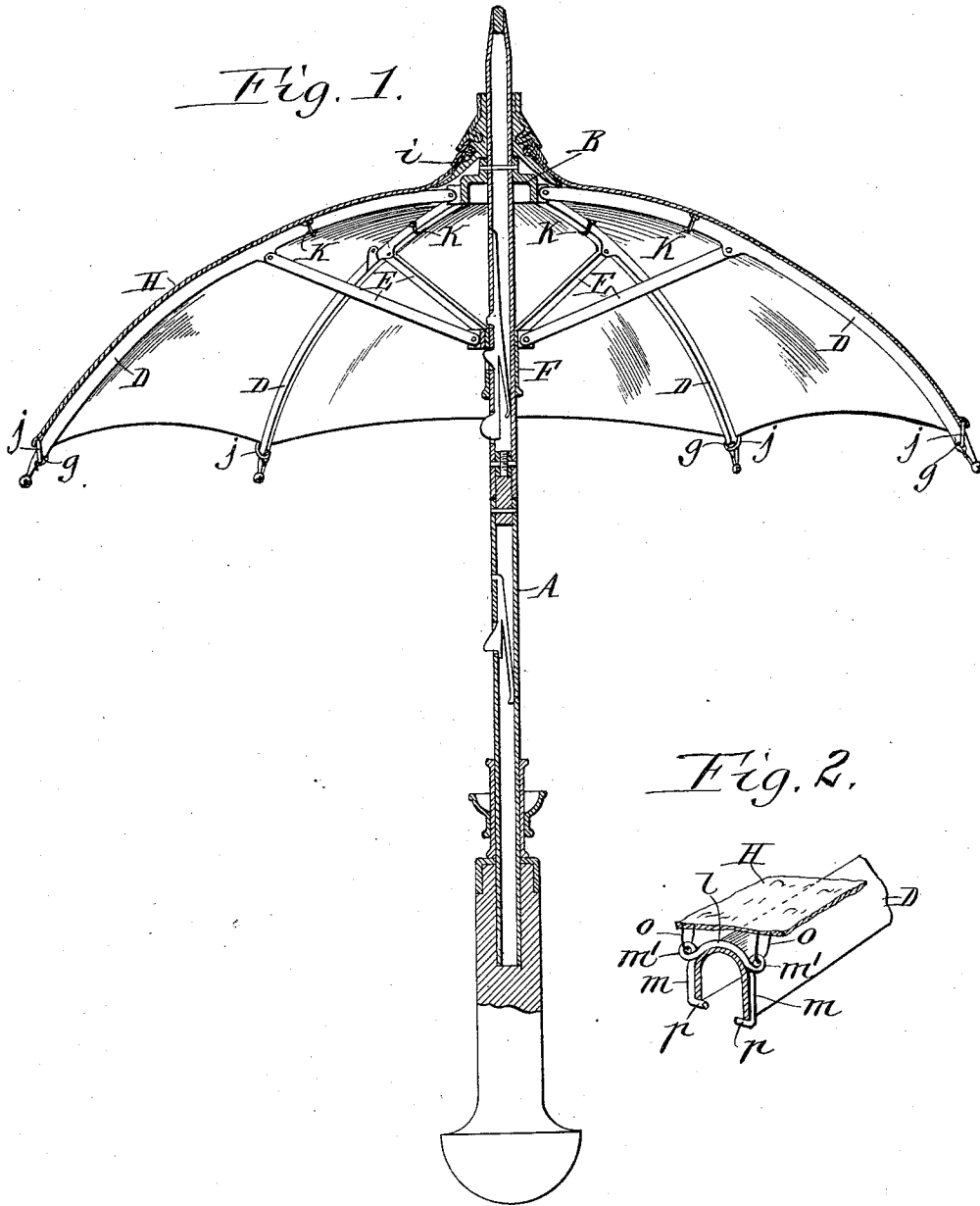


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UMBRELLA.

APPLICATION FILED MAY 4, 1911.

1,052,684.

Patented Feb. 11, 1913.



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UNITED STATES PATENT OFFICE.

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UMBRELLA.

1,052,684.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Original application filed January 3, 1910, Serial No. 536,130. Divided and this application filed May 4, 1911. Serial No. 624,890.

To all whom it may concern:

Be it known that I, HENRY MILLER, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented new and useful Improvements in Umbrellas, of which the following is a specification.

This invention relates to an umbrella which can be opened and closed like those now in general use but which can also be collapsed or knocked down into a smaller compass than that which it occupies in its ordinary folded condition, so as to render the same more compact and permit of stowing the same in a smaller space for transportation and other purposes.

It is the object of this invention to provide improved means for detachably connecting the cover of an umbrella of this character to the middle or intermediate parts of the ribs thereof.

This application is a sub-division, in part, of an application for patent filed by myself January 3, 1910, Serial No. 536,130.

In the accompanying drawings: Figure 1 is a sectional elevation of an umbrella embodying my invention. Fig. 2 is a fragmentary sectional perspective view showing one of the devices for detachably connecting the cover to a rib between the inner and outer ends thereof.

Similar letters of reference indicate corresponding parts in both figures.

In its general construction the umbrella shown in the drawings for illustrating my invention comprises a stick A, a head B mounted on the stick, ribs D pivoted at their inner ends on the head, braces or stretchers E pivotally connected at their outer ends with the ribs, and a tubular runner F which slides lengthwise on the stick and to which the inner ends of the braces are pivoted.

Each of the ribs is preferably constructed of sheet metal and has the form of an inverted letter U in cross section and is provided at its outer end or tip with a shoulder g on the underside thereof.

H represents the cover of the umbrella which may be constructed of any suitable flexible material and which is detachably secured to the ribs and to the stick so that the same may be conveniently renewed when worn out or removed for cleaning or repairing. The means provided for thus permit-

ting the cover to be conveniently attached to and removed from the stick and the ribs comprises a ring or gromet i arranged at the center of the cover and detachably secured to the upper end of the stick in any suitable manner. At its outer edge the cover is provided with a plurality of rings j each of which is adapted to slip over the outer end of one of the ribs and engage with the shoulder g on the underside of the same, as shown in Fig. 1.

Between its center and outer edge the cover is provided on its underside with a plurality of intermediate clips, fastenings or clasps K for detachably connecting the cover with the ribs. Each of these fastenings or clips is preferably constructed substantially in the form of an inverted letter U which straddles the upper side of a rib and is provided with an arch l and two legs m, m depending from opposite ends of the arch. In the construction shown in Figs. 1 and 2, the clip is provided on its opposite sides with two attaching eyes m¹ which project laterally from the body of the clip and which are arranged at the junction of the arch and the legs and these eyes are located below the top of the arch and the upper side or crown of the rib which is straddled by the clip. The eyes of the clips are attached to the underside of the adjacent part of the cover by means of stitches o. The lower ends of the legs of the clip are provided with inwardly turned toes p which are arranged substantially at right angles to the legs and engage with the longitudinal downwardly facing lower edges on the underside of the rib. Each of these clips may be produced in various ways but the same is preferably constructed from a single piece of wire which is bent into the form above described and has the eyes formed by twisting the arch. A clip having two laterally projecting attaching eyes is more desirable because the eyes of the same are arranged below the top of the rib and the arch of the clip and therefore do not deflect the cover upwardly nor tend to wear the same but instead permit the cover to lie substantially smooth and even on the rib as in umbrellas of ordinary construction.

For attaching the clip to a rib when applying the cover the legs are sprung apart sufficiently to permit the toes thereof to pass downwardly over the rib and when the toes

reach the underside of the rib the same are moved inwardly by their resilience and held in engagement therewith so that the cover is retained in place. When removing the
5 cover from the ribs the clips are manipulated reversely to the manner just described.

I claim as my invention:

10 An umbrella comprising a stick, ribs pivotally mounted on said stick, a cover arranged on the ribs, and means for detachably connecting the cover with each rib comprising a U-shaped clip straddling the upper side of the rib and provided on its

arch on opposite sides of the rib and below the top of the same with two eyes which
15 project laterally from the body of the clip and which are stitched to the cover and having its legs provided with inwardly turned toes which engage with the underside of the
20 rib.

Witness my hand this 29th day of April, 1911.

HENRY MILLER.

Witnesses:

BLANCHARD G. HUGHES,
MARY P. FLEMING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."