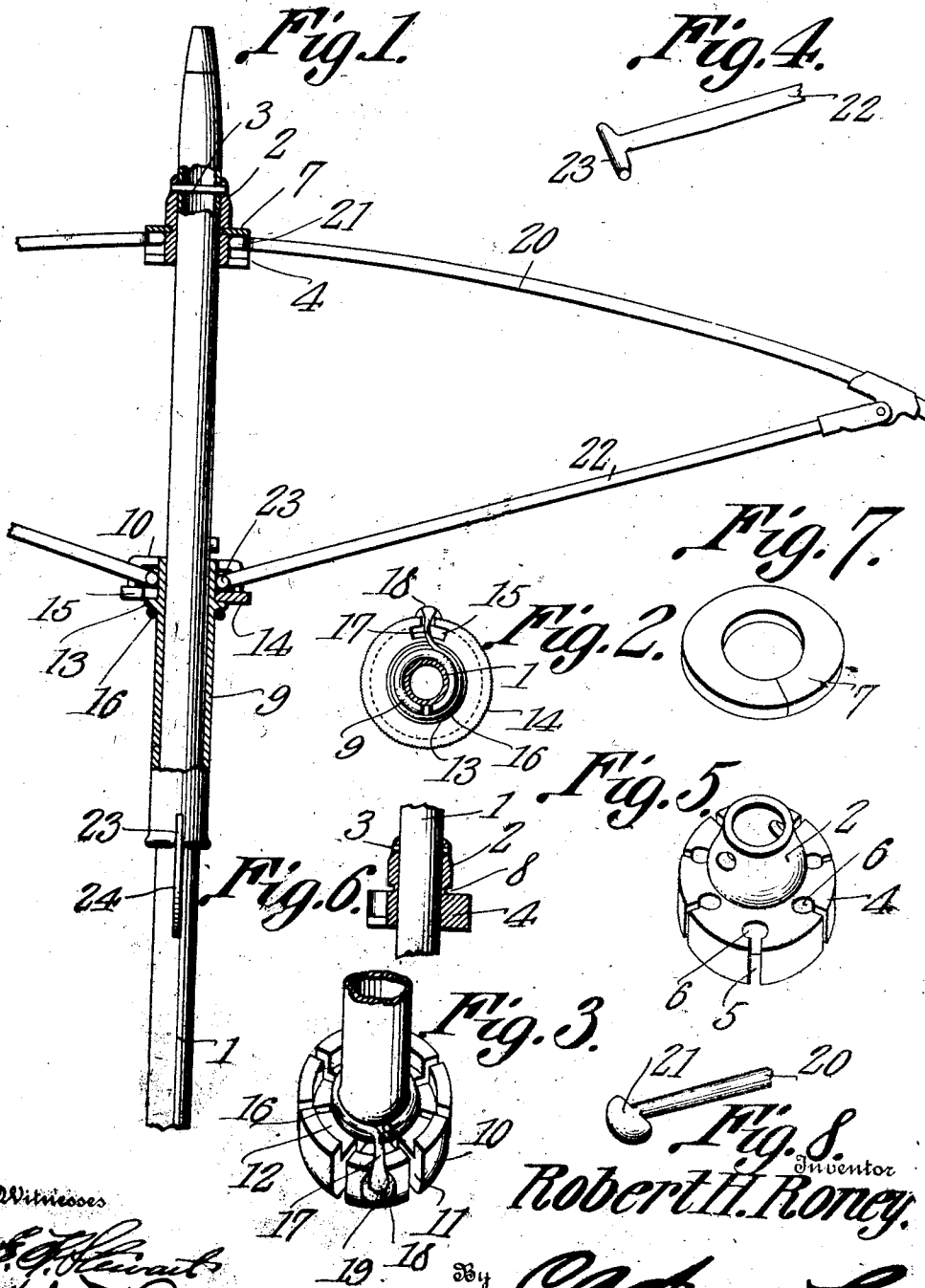


985,842.

Patented Mar. 7, 1911.



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UNITED STATES PATENT OFFICE.

ROBERT HENRY RONEY, OF BURLINGTON, NORTH CAROLINA.

UMBRELLA.

985,842.

Specification of Letters Patent.

Patented Mar. 7, 1911.

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To all whom it may concern:

Be known that I, ROBERT H. RONEY, a citizen of the United States, residing at Burlington, in the county of Alamance and State of North Carolina, have invented a new and useful Umbrella, of which the following is a specification.

This invention relates to umbrellas and more particularly to means whereby the ribs and stretchers may be detachably connected to the rod and runner without danger of becoming accidentally displaced relative thereto.

Another object is to provide improved means whereby the ribs and stretchers may be securely locked in position without however interfering with the pivotal movement thereof necessary in opening and closing the umbrella.

A further object is to provide an umbrella of this character which is simple and durable in construction and the ribs and stretchers of which can be removed without the necessity of detaching the cover from the rod.

With these and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view partly in section and partly in elevation of a portion of an umbrella having the present improvements combined therewith. Fig. 2 is an end elevation of the runner the rod being shown in section therein. Fig. 3 is a perspective view of one end portion of the runner and showing the stretcher receiving collar, the locking plate being removed from the runner. Fig. 4 is a perspective view of one end portion of a stretcher adapted to be used in connection with the runner shown in Figs. 1, 2 and 3. Fig. 5 is a perspective view of the rib engaging collar adapted to be secured to the rod at the ferrule end thereof, the cap ring being removed therefrom. Fig. 6 is a central longitudinal section through the collar shown in Fig. 5. Fig. 7 is a perspective view of a cap ring adapted to be used in connection with the collar shown in Figs. 5 and 6. Fig. 8 is a perspective view of the pivot end of a rib to be used in connection with the collar shown in Figs. 5 and 6.

Referring to the figures by characters of

reference 1 designates the rod or staff of the umbrella, there being a sleeve 2 secured thereto close to the ferrule thereof, said sleeve being fastened in any preferred manner, as by means of a locking pin 3 extended diametrically therethrough and through the staff. An annular collar 4 is formed around the inner end of the sleeve and has a series of radial slots 5 extending thereinto at regular intervals, each slot opening into a cylindrical bore 6 which is parallel with the longitudinal axis of the sleeve. The outer ends of these bores 6 and the slots 5 are adapted to be closed by a split spring ring or washer 7 which extends around the sleeve 2 and is adapted to be sprung into an annular groove 8 formed within said sleeve and flush with the outer face of the collar. The bores 6 do not extend entirely through the collar 4 but merely extend thereinto a sufficient distance to constitute efficient seats for the ribs of the umbrella as will be hereinafter set forth. The slots 5, however, extend entirely through the collar and are constantly open at their inner ends, to-wit, those ends nearest the handle of the umbrella.

A tubular runner 9 is slidably mounted on the rod or staff 1 in the usual manner, this runner being provided at that end thereof nearest the ferrule of the staff, with an annular collar 10 provided with a series of radial slots 11, all of said slots opening into an annular groove 12 formed within the face of the collar nearest the umbrella handle. An annular rib 13 is formed upon the runner close to said collar and serves to hold a locking ring 14 in constant contact with the adjoining face of the collar, the said ring being provided in its peripheral portion with a substantially T-shaped slot 15. It is to be understood that this ring can be rotated about the runner so as to bring the slot 15 into register with any one of the slots 11 and with the adjoining portion of the annular groove 12.

A spring 16 is coiled about and secured to the runner and has a locking tongue or extension 17 extending radially from said runner and adapted, when the ring 14 is in a predetermined position and with its slot 15 out of register with any of the slots 11, to be seated within said slot 15 and thus hold the ring against movement. The ring is additionally held by a knob or projection 18 formed upon the end of the extension 17 and adapted to be seated within a re-

cess 19 formed in the periphery of the collar 10. When this enlargement is thus seated within the recess, it becomes impossible for the end of the spring to be shifted laterally.

Each rib 20 of the umbrella has a substantially semi-circular head 21 provided with flat opposed faces, the distance between these faces being a little less than the width of any one of the slots 5. That portion of the rib adjacent the head is also shaped so as to be readily inserted into and rotated within one of the slots 5.

Each of the ribs has a stretcher 22 pivotally connected to it as ordinarily, each of the stretchers being provided with a T-shaped head 23 at its free end and which is so shaped as to fit snugly within the annular groove 12 while the adjoining portion of the stretcher is mounted to swing within one of the slots 11. The head 23 is preferably tapered toward each end and is rounded so as to reduce friction to the minimum.

When it is desired to disengage a rib and its stretcher from the staff or rod of the umbrella, and from the runner, the extension 17 of the spring is shifted out of the slot 15 and the locking ring 14 is then rotated so as to bring the slot 15 into register with the slot 11 in which the stretcher 22 to be removed, is located. The said stretcher and its head 23 can then be slid out of the slot 11 and through the slot 15 thus becoming detached from the collar 10. The rib 20 is now free to be partly rotated and by giving it a one-quarter rotation, the head 21 thereon can be brought into register with the slots 5 and can be withdrawn through said slots. To place the rib and stretcher upon the staff and runner, the foregoing operation is reversed. The rib 20 is first placed so as to permit its head 21 to be inserted into the proper slot 5 and said rib is then given a one-quarter turn so as to bring the head 21 in position across the slot 5 and within the bore 6. The ring 14 is then rotated to bring the slot 15 into register with the proper slot 11 and the head 23 on the stretcher 22 of the rib is then swung through said slot 15 and into the groove 12 and the slot 11 after which, by turning the ring 14 to its normal position, the stretcher will be firmly held against displacement. It will be obvious of course that the ribs and stretchers, although being thus securely

held against detachment, are, nevertheless free to swing relative to the collars 4 and 10.

In order that the runner 9 may be prevented from rotating upon the staff 1 through the action of the wind while the umbrella is open or as a result of whirling the open umbrella, a notch 23 is preferably formed in one end of the runner, and is adapted, when the umbrella is raised or opened, to receive a spring catch 24 or the like mounted within the staff 1 and which thus serves not only to hold the runner against longitudinal movement but to also prevent it from rotating.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claim.

What is claimed is:—

An umbrella including a staff, a runner slidably mounted thereon, ribs pivotally and detachably connected to the staff, stretchers connected to the ribs, a collar upon the runner and having radial slots for the reception of the respective stretchers, means on the stretchers for preventing their withdrawal from the slots, a ring mounted to rotate upon the runner and bearing upon one end thereof to close the slots and retain the stretchers in position therein, said ring having a slot movable into register with any one of the slots in the collar to release the stretcher in said slot, a spring secured to and coiled about the runner and bearing upwardly, on the rings, to retard the rotation of the ring, said spring having an upwardly extending terminal portion provided with a knob, there being a recess in the peripheral portion of the collar for the reception of the knob, said spring being movable into the slot in the ring to hold said ring against movement relative to the collar when the slot in the ring is brought into position out of register with the slots in the collar.

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

ROBT. HENRY RONEY.

Witnesses:

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M. A. CALIVER