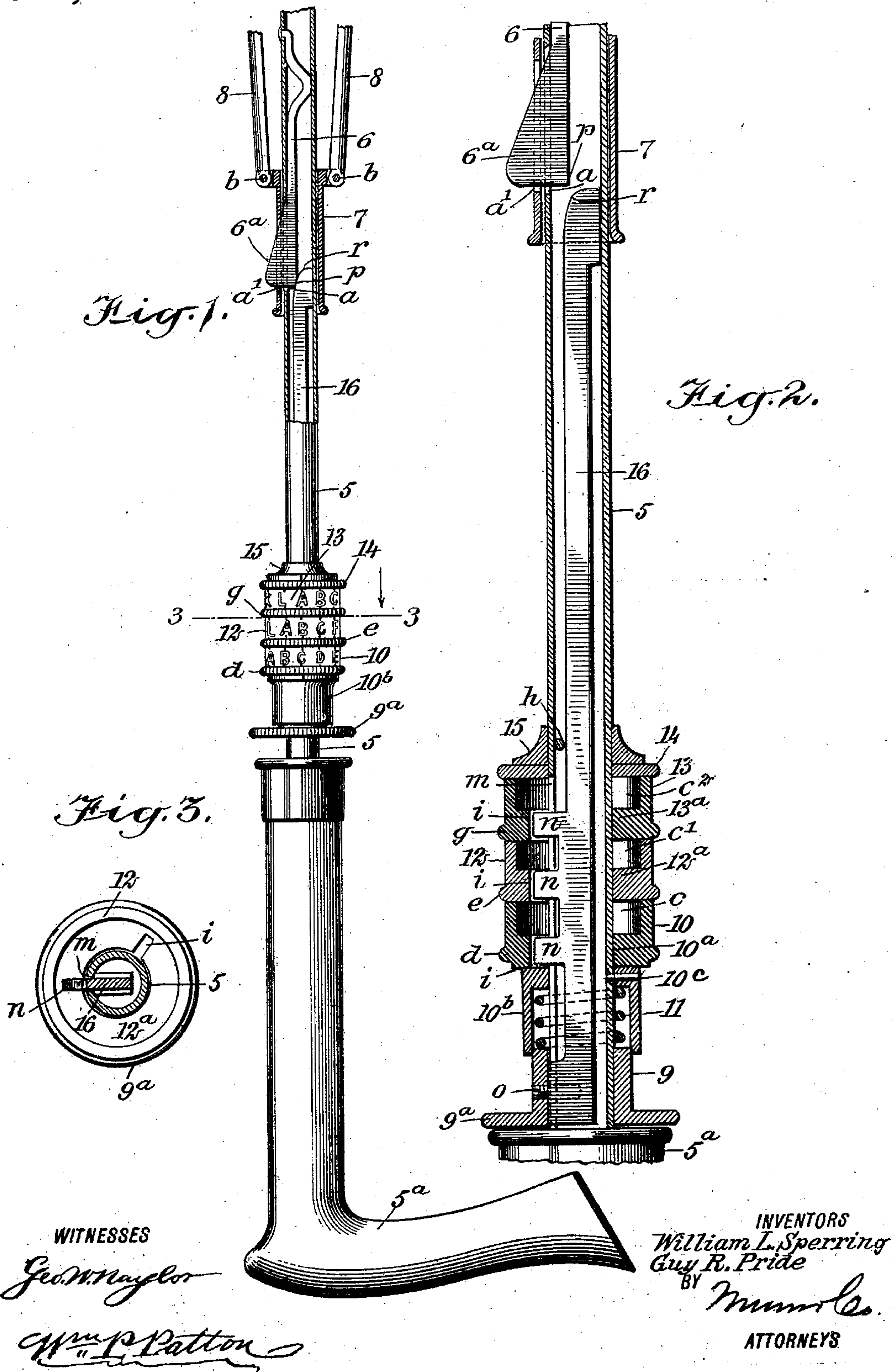


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LOCKING DEVICE FOR UMBRELLAS AND THE LIKE.

APPLICATION FILED JAN. 6, 1909.

934,228.

Patented Sept. 14, 1909.



UNITED STATES PATENT OFFICE.

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Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed January 6, 1909. Serial No. 470,964.

To all whom it may concern:

Be it known that we, WILLIAM LEONARD SPERRING and GUY REED PRIDE, both citizens of the United States, and residents of Jacksonville, in the county of Duval and State of Florida, have invented a new and Improved Locking Device for Umbrellas and the Like, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide novel means for locking the runner sleeve and attached stretcher rods of an umbrella or parasol in closed adjustment on the stick of the umbrella, said means embodying a locking slide bar and a permutation lock mounted on the stick, comprising a plurality of cup-shaped rings having indicating characters thereon, said rings by adjustment controlling the sliding movement of the slide bar for locking or releasing the runner sleeve.

The invention consists in the novel construction and combination of parts, as are hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a broken and partly sectional side view of the lower portion of an umbrella stick, a runner sleeve and stretcher rods in lowered adjustment on the stick, a spring latch carried by the stick and engaging within a slot in the runner sleeve, a slide bar longitudinally adjustable in the stick for locking or releasing the spring latch, and a permutation lock carried by the stick and adapted by its adjustment for control of the slide bar; Fig. 2 is an enlarged longitudinal sectional view of an umbrella stick, and a partly sectional side view of details of the improved locking device mounted on said stick; and Fig. 3 is a transverse sectional view, substantially on the line 3—3 in Fig. 1.

The stick 5 of the umbrella, partially shown to illustrate the invention and its application, is tubular and cylindrical, having in complete form a sufficient length for receiving the ribs and covering therefor as usual, these latter-named parts that are not necessary for the disclosure of the invention, being omitted from the drawings. Upon the stick a handle 5^a is secured at the lower end thereof, and at a suitable point above

the handle a spring latch piece 6 is secured in the stick, said latch piece having a latch head 6^a thereon which is of usual form and normally projects outward through a slot *a* 60 formed in the wall of the stick. On the stick 5, a runner sleeve 7 is slidably mounted, having ordinary form, and upon the upper end of said sleeve a plurality of stretcher rods 8 are jointed at their lower ends, as 65 shown at *b*. Said rods that in use serve as prop braces for the ribs and cover of the umbrella, are folded down closely to the stick 5 when the umbrella in complete form is in closed adjustment, this condition of 70 the stretcher rods appearing in Fig. 1. As usual, when the sleeve 7 and stretcher rods 8 are lowered on the stick 5, the latch head 6^a projects through a slot *a'* in the sleeve and engages its lower end with the lower end of 75 said slot *a'*, thus locking the sleeve in lowered condition until the latch head is depressed so that the sleeve may be slid upward over the latch head.

Upon the stick 5, adjacent to the handle 80 5^a, a cylindrical collar 9 is slidably placed, having a radial flange 9^a formed or secured on its lower end, the edge of which is milled and projects laterally slightly beyond the upper end of the handle piece 5^a. A permutation ring 10 is mounted loosely upon the 85 stick 5, said ring having an inwardly extended annular wall 10^a, the inner circular edge of which loosely engages the stick. The annular wall 10^a is flat and is disposed 90 a distance below the upper edge of the ring, an annular recess *c* being produced above said wall 10^a. A radial bead *d* is formed on the exterior of the permutation ring 10, the edge of which is milled or otherwise rough- 95 ened, and below the said ring is arranged a spring casing 10^b, the interior diameter of which loosely receives the collar 9, the said casing being secured to the stick by a pin 10^c. A coil spring 11 is arranged within the 100 spring casing, between the upper end thereof and the upper end of the collar 9. Above the permutation ring 10, a second permutation ring 12 is placed on the stick 5, the form of which is similar to the upper por- 105 tion of said ring 10. Specifically described, the ring 12 comprises a circular wall equal in diameter with that of the cylindrical upper portion of the permutation ring 10, and having an interiorly trending flat wall 12^a 110 formed thereon at its lower edge, producing a recess *c'* above it, said wall 12^a having a

central circular opening therein of such diameter as permits the slidable insertion of the stick 5 therethrough and, as shown, the ring 12 is seated upon the ring 10. A third permutation ring 13, similar to the ring 12, in every respect, is loosely mounted upon the stick 5, the flat inwardly extended bottom wall 13^a of the permutation ring 13 seating on the upper edge of the ring 12, as shown in Fig. 2, the wall 13^a defining the depth of a recess *c*² in the ring 13. The permutation rings 12 and 13, have circumferential beads *e* and *g* respectively formed thereon, and these beads are milled similarly to the bead *d*, to facilitate the rotation of the rings upon which they are formed.

On the stick 5, a washer plate 14 is fitted and disposed in loose contact with the upper edge of the upper permutation ring 13. A collar 15 is mounted upon the stick 5 and seated upon the washer plate 14, the collar being secured in place by a cross pin *h* or other means, thus loosely mounting the permutation rings 10, 12, and 13 in place on the stick 5 between the top of the spring casing 10^b and the washer plate 14 to allow individual rotation of either permutation ring 10, 12 or 13.

Upon each ring 10, 12, 13, a plurality of indices are formed or secured, which may be either a series of numerals or of alphabetical characters; the latter being shown spaced apart thereon in Fig. 1. In each of the bottom walls 10^a, 12^a and 13^a of the respective permutation rings 10, 12, 13, a radial slot *i* is formed, said slots being equal in width and length, and in the stick 5, within the permutation rings, a single elongated slot *m* is cut, having an equal width with that of the slots *i* that may be disposed opposite said slot *m*.

A locking bar 16 is a completing detail of the improvement, and as clearly shown in Fig. 2, consists of a flat strip of metal fitted loosely in the lower portion of the stick 5, and having three similar flat tongues *n* formed on one side edge thereof, which project through the slot *m* into the respective radial slots *i*, wherein said tongues are normally positioned. The locking bar 16 is laterally extended at or near the lower end thereof, so as to have contact with the inner surface of the collar 9, whereon it is secured by means of a screw *o*, as is shown in Fig. 2. The length of the locking bar 16, is proportioned so as to dispose the upper end portion of said bar below and near to the inner lower corner *p* of the latch head 6^a, when the locking device is not in use for retaining the umbrella closed. There is a rounded corner *r* formed on the upper end of the locking bar 16, which will engage with the corner *p* of the latch head 6^a if the locking bar is moved upward a short distance, and this will prevent a depression of the latch head 6^a. In

ordinary use, the spring 11 will by its tension press the collar 9 and the attached locking bar 16 down until the lower end of the collar seats upon the handle 5^a, which will dispose the tongues *n* in the radial slots *i*, as is represented in Fig. 2.

When it is desired to lock the umbrella in close folded condition, assuming that the runner sleeve 7 is slid downward, so that the latch head 6^a engages the slot *a*' in the runner sleeve, the collar 9 is slid away from the handle 5^a by manipulation of the radial flange 9^a, thus compressing the coiled spring 11 and imparting an upward sliding movement to the locking bar 16 thus disposing the tongues *n* in the annular recesses *c*, *c*', *c*² in the permutation rings 10, 12, 13, above the radial slots *i* they normally occupy. The rings are now adjusted by turning them, so as to produce a selected combination of letters that may be a word or any other association of the letters on the rings, which will dispose the tongues *n* on the end walls of the rings 10, 12, 13, away from the slots *i*. The upward movement of the locking bar 16, due to the upward sliding movement of the collar 9, will enforce a locking engagement of the corner *r* with the corner *p* on the latch head 6^a, which will prevent a release of the runner sleeve 7 from the latch head and obviously secure the umbrella in folded condition. To the owner of the umbrella, who has set the combination of characters on the permutation rings, it will be the work of but a few seconds to turn the rings, so as to aline the radial slots *i* with each other, and thus dispose them opposite the tongues *n*, which will adapt the tension of the spring 11 for effecting a downward sliding movement of the collar 9 into its normal position, and a retraction of the upper end of the locking bar 16 from the latch head 6^a, so that the umbrella may be raised and lowered as usual.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In an umbrella lock of the character described, the combination of a stick, a locking bar slidable within the stick and having spaced tongues on one edge, a collar slidable on the lower end of the said stick and secured to the lower end of the said locking bar, a spring casing secured to the said stick, a spring in the said casing and pressing the said collar, a series of superimposed permutation rings mounted to turn loosely on the said stick, each permutation ring having an annular recess in its upper end and having a radial slot in its bottom for engagement by the said tongues of the locking bar.

2. In an umbrella lock of the character described, the combination with a stick, of a locking bar slidable within the stick and provided on one edge with spaced tongues,

the lower end of the said locking bar being provided with a shifting collar mounted to slide exteriorly on the said stick, permutation rings in superimposed relation, a recess being provided between the adjacent rings for receiving the tongues, each of the said rings having a slot for permitting the passage of a corresponding tongue when said rings are in a predetermined position, a collar fixed on the stick, a spring casing fixed on the stick, the said permutation rings being disposed between the said fixed collar and the said spring casing, and a spring interposed between the said spring casing and the said collar on the locking bar.

3. In an umbrella lock of the character described, the combination of a stick, a locking bar slidable within the stick and provided with spaced tongues on one edge, and a shifting collar on its lower end, permutation rings provided with means engaging the tongues for locking the bar between the rings, and a spring pressing the said shifting collar.

4. In an umbrella lock of the character described, the combination of a stick, a runner, a spring latch for locking the runner against movement on the stick, a manually-controlled shiftable locking bar within the said stick and adapted to engage and lock

the said spring latch, the said locking bar having spaced tongues on one edge, and superimposed permutation rings mounted to turn loosely on the said stick and each having means for engaging the said tongues for locking the bar in locking position.

5. In an umbrella lock of the character described, the combination of a stick, a runner, a spring latch for locking the runner against movement on the stick, a manually-controlled shiftable locking bar within the said stick and adapted to engage and lock the said spring latch, the said locking bar having special tongues on one edge, superimposed permutation rings mounted to turn loosely on the said stick and each having means for engaging the said tongues for locking the bar in locking position, and a spring pressing the said locking bar to move the latter into unlocking position on release of the said permutation rings.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM LEONARD SPERRING.
GUY REED PRIDE.

Witnesses:

M. E. HINES, Jr.,
F. H. FARWELL.