

R. E. ADAMS.
UMBRELLA LOCK.

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931,550.

Patented Aug. 17, 1909.

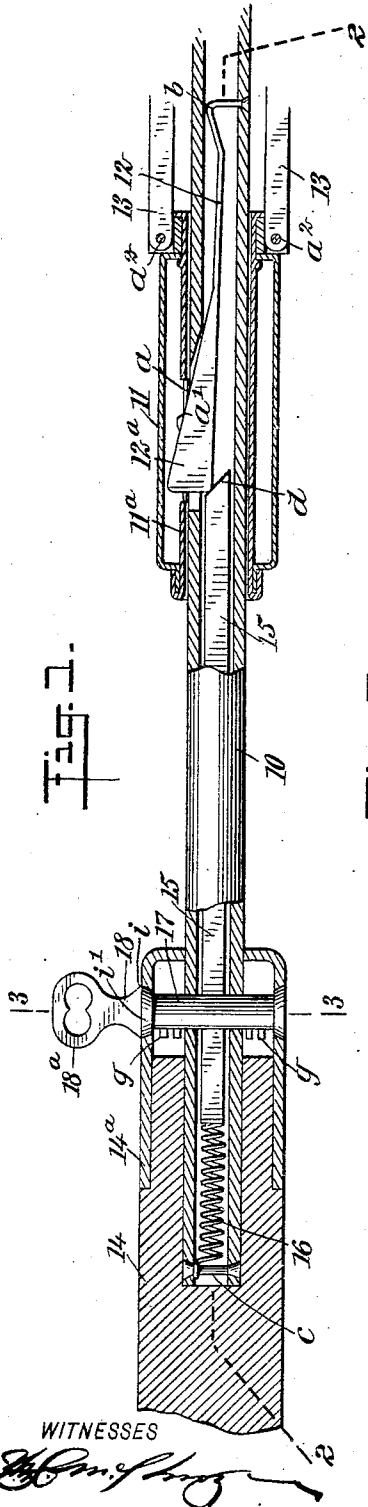


Fig. 1.

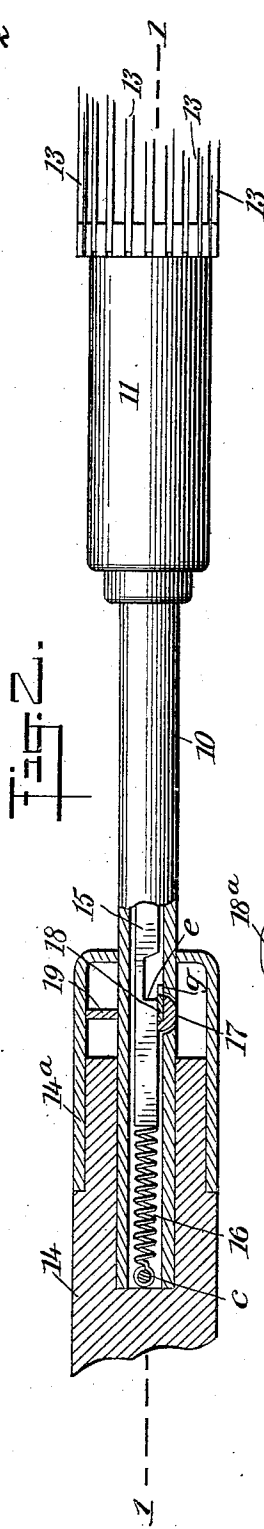


Fig. 2.

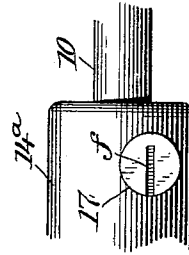


Fig. 3.

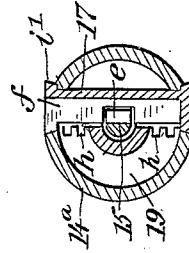


Fig. 4.

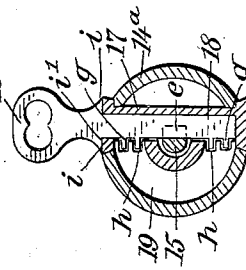


Fig. 5.

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ROY E. ADAMS, OF PHILADELPHIA, PENNSYLVANIA.

UMBRELLA-LOCK.

No. 931,550.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed November 18, 1908. Serial No. 463,202.

To all whom it may concern:

Be it known that I, ROY E. ADAMS, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Umbrella-Lock, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide novel details of construction for a lock to be applied upon the handle of an umbrella, which will afford convenient means for locking the umbrella frame in closed adjustment, requiring the use of a suitable key for releasing the same and permitting the distention or opening of the umbrella.

The invention consists in the novel construction and combination of parts, as is 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 partly sectional side view of the details of the improvement, substantially on the line 1—1 in Fig. 2; Fig. 2 is a partly sectional plan view of the details shown in Fig. 1, taken on the axial line 2—2 in said view; Fig. 3 is a transverse sectional view of parts, substantially on the line 3—3 in Fig. 1; Fig. 4 is a transverse sectional view on the same line as Fig. 3, but showing parts of the lock with the key removed; and Fig. 5 is an exterior side view of a portion of an umbrella handle and an end view of a key guard that is a detail of the invention.

In the drawings that show the construction and application of the invention, 10 indicates the stick for the umbrella that is tubular, and of suitable dimensions for effective service. Upon the tubular stick 10, a runner sleeve is slidably mounted that is tubular, and consists of an outer wall 11 and a concentric inner wall 11^a secured to the outer wall at the ends of said parts, as shown clearly in Fig. 1. The inner wall 11^a of the runner sleeve is slotted longitudinally, as shown at *a* in Fig. 1, and in said slot the head 12^a of a spring latch is adapted to work freely, said latch being positioned in the stick 10 and its head 12^a working in a slot in the wall of the stick, as shown in Fig. 1. The head 12^a has the upper edge *a'* thereof

sloped so as to give said head wedge form, the small end merging into the resilient thin limb 12 that is bent at *b*, producing a short leg, which is secured in the side wall of the stick 10, and it may here be explained that 60 the head 12^a is positioned in the slot *a*, as represented in Fig. 1, when the umbrella is closed.

Upon the end of the runner sleeve nearest to the leg *b* of the latch piece 12, a collar is 65 formed, having the periphery thereof radially slotted at equal intervals throughout its surface, these slots each receiving an end of a stretcher rod 13, that is pivoted therein as at *a*², so that all of said rods may 70 be spread apart or folded closely, as indicated in Figs. 1 and 2. The stretcher rods 13, as usual, are jointed at their opposite ends upon an equal series of bows that support the fibrous cover of the umbrella, and 75 as these bows and the cover are of well-known form and do not embody features of the invention, they are omitted from the drawings.

The stick 10 is connected with the bows 80 and covering of the umbrella in the usual manner, and for convenience in illustration of the invention, these connections are omitted.

Within the stick 10, near the end thereof 85 that is a distance from the runner sleeve and that is provided with a handle piece 14, a locking bar 15 is loosely located and adapted for longitudinal movement.

An expansible spring 16 is placed in the 90 stick 10 between the end of the locking bar and an abutment pin *c* that is transversely secured in the wall of the stick. As shown in Fig. 1, the forward end *d* of the locking bar is sloped to give it wedge form, and as 95 said end is normally pressed against the lower edge of the free rear end of the latch head 12^a, this engagement will prevent the latch head from moving inward, and consequently will prevent the umbrella from 100 being distended.

The means for retracting the locking bar 15 is controlled by a key, and comprises the following details: Upon the handle piece 14, before it is secured upon the stick 10, a 105 tubular lock case 14^a is mounted and thus disposed concentric with the axis of the stick 10. At a suitable point within the case 14^a, an open recess is formed in one side of the locking bar 15, that terminates at the 110

end thereof which is nearest to the spring 16, in a transverse shoulder *e*, as shown in Fig. 2.

Transversely in two opposite perforations 5 in the lock case 14^a, and adjacent to the recess in the locking bar when the latter is in normal position, a guide sleeve 17 is rotatably secured by its ends, said sleeve having a portion removed so as to produce 10 a lateral opening therein throughout its length within the case 14^a. Opposite the open side of the guide sleeve 17, the side of the stick 10 is cut away, and the locking bar 15 is so relatively positioned that the recess therein having the shoulder *e*, will be 15 exposed in front of the open side of the guide sleeve.

A passage formed longitudinally in the guide sleeve 17 for the reception of a key, is 20 in the form of a slot *f* that will loosely receive the body of a key such as is shown in Figs. 1 and 2. The key 18 is of a well known type, having a thin, flat body, enlarged at one end to form a bow or grip piece 18^a, and 25 along one edge a plurality of toes or bits *g* project therefrom. A baffle plate 19 having a series of notches *h* formed in one straight edge, is secured upon the wall of the stick 10, at a point that will dispose said 30 notches in the path of the key 18 when it is fully inserted into the guide sleeve 17.

Upon the insertion of the key 18, it will be disposed as shown in Fig. 2, and in order to impinge the bits *g* of the key upon the 35 shoulder *e*, it must be given a partial rotation along with the guide sleeve 17.

The baffle plate 19 is so relatively positioned, that the bits on the key must pass 40 through the notches *h* in the baffle plate in order to slide the locking bar a proper distance away from the head 12^a of the latch 12.

In operation, the act of closing the umbrella will cause the latch head 12^a to be 45 spring-pressed through the slot *a* in the runner sleeve wall 11^a, and as the sloped end of the locking bar 15 is now engaged with the lower corner of the latch head, the stress of the spring 16 will prevent a depression of the latch head and consequently prevent the 50 raising of the umbrella frame into expanded adjustment. This relative adjustment of the latch head 12^a and locking bar 15, disposes the notch or recess in said bar, so that the shoulder *e* will be adjacent to one side 55 edge of the slot or passage *f* for the key, that is formed in the guide sleeve 17. Upon the insertion of the key 18 until the offsets *i* thereon have contact with the end wall *i'* of the guide sleeve, the bits *g* on the edge of 60 the key will be disposed opposite the notches *h* in the baffle plate 19, so that a turning movement may be given to the key in the direction of the shoulder *e*. The bit on the key that has been located opposite the shoulder 65 *e*, will be impinged upon said shoulder

as the key is turned along with the guide sleeve 17, which will push the locking bar 15 at its sloped end *d* away from the latch head 12^a. Upon giving the key a half revolution from its first position shown in Fig. 2, 70 against stress of the spring 16, and thus fully retracting the locking bar 15, the force of said spring will hold the key and the shoulder *e* engaged and the bar 15 slid away from the latch head 12^a. 75

It will be seen that the slidable movement of the runner sleeve 11 may now be effected, and the frame of the umbrella expanded, as the act of sliding said runner sleeve away 80 from the handle piece 14 will impinge the sloped edge *a'* of the latch head 12^a upon the upper end wall of the slot *a* in the sleeve and the slot in the stock 10, thereby depressing the latch head and releasing the runner sleeve. 85

When the runner sleeve is released, the key 18 may be removed, and the umbrella frame fully expanded until it is caught by an upper spring and held in expanded condition as usual. 90

It will be noted that as the number of bits formed on the key 18 must correspond with the notches *h* in the baffle plate 19, and be 95 equally spaced apart therefrom, the lock cannot be operated except by a key of proper form.

The provision of the rotatable guide sleeve 17 and a neatly-fitting passage therein for the accommodation of the key, prevents the 100 use of a wire or the like for drawing the locking bar away from the latch head 12^a and releasing the frame from the stick 10, so that it may be moved.

Having thus described my invention, I claim as new and desire to secure by Letters Patent: 105

1. In an umbrella lock of the character described, the combination with a stick and a spring-pressed locking bar therein having 110 a recess in one side affording a shoulder, of a guide sleeve rotatably supported near the shoulder and having a key slot therein, and a key slidable in the slot, having bits that engage the shoulder and slide the locking bar when the key and guide sleeve are turned. 115

2. In an umbrella lock of the character described, the combination with a stick, and a spring-pressed locking bar slidable therein, having a recess in one side affording a 120 shoulder, of a handle on the stick, a casing on the handle, a guide sleeve rotatably supported at its ends in the casing and having a side thereof removed adjacent to the locking bar, said guide sleeve having a key slot therein, and a key insertible in the slot and 125 turning with the guide sleeve, the said key engaging the shoulder on the locking bar and pressing said bar to release the same when the guide sleeve and key are turned toward the shoulder. 130

3. In an umbrella lock, the combination
with the stick and a locking bar provided
with a shoulder, of a guide sleeve rotatable
in the stick near the shoulder and provided
5 with a key slot, and a key for engaging the
shoulder to move the locking bar.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

ROY E. ADAMS.

Witnesses:

WILLIAM A. CARR,
A. E. WILLIAMS.