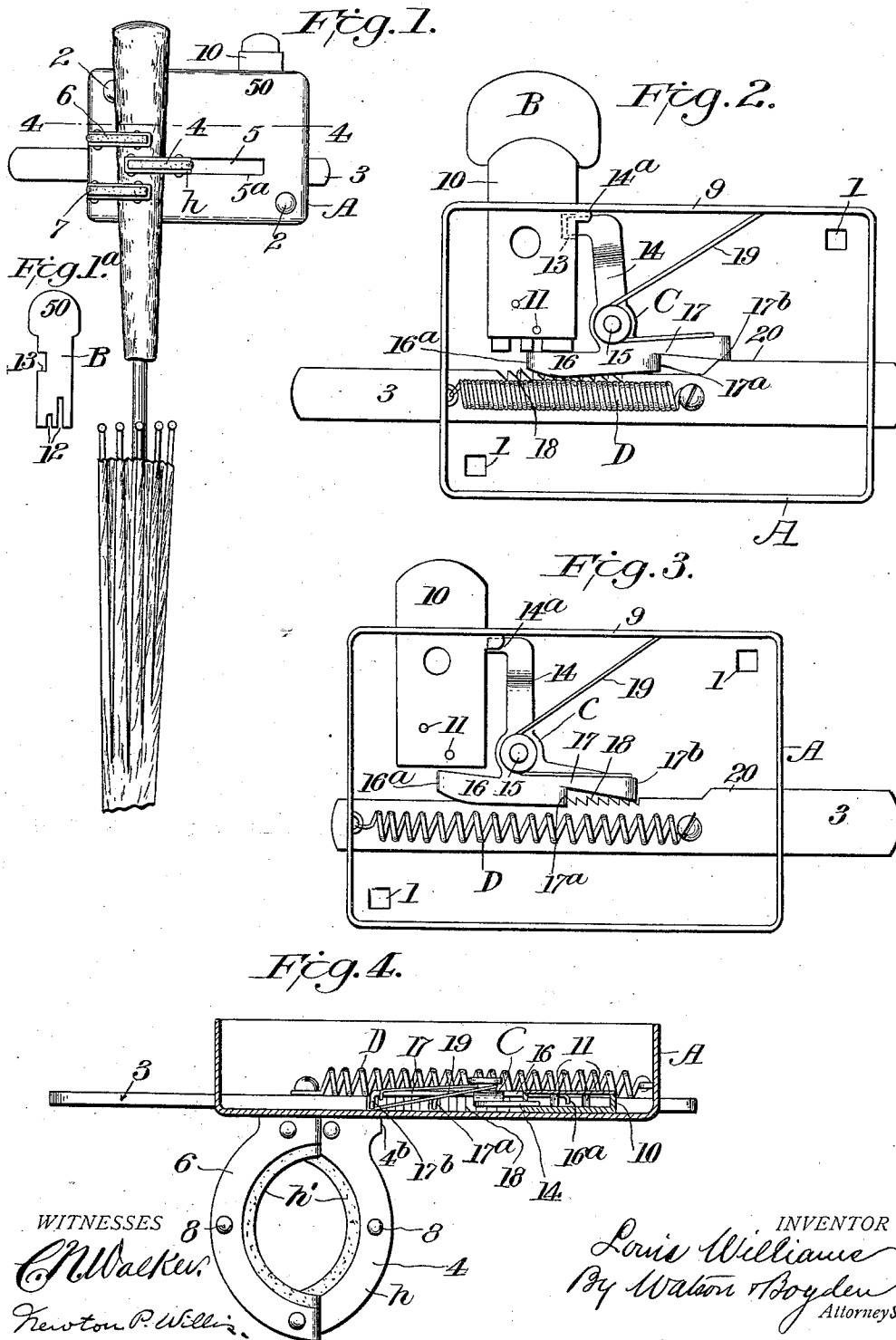


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 LOCKING DEVICE FOR UMBRELLAS, &c.
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1,065,858.

Patented June 24, 1913.



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LOCKING DEVICE FOR UMBRELLAS, &c.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS WILLIAMS, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Locking Devices for Umbrellas, &c., of which the following is a specification.

This invention relates to improvements in locking hooks, intended to secure simplicity in construction and reliability in operation. Devices of this character, when made with a large number of parts are apt to get out of order in some one or more of their parts, causing considerable trouble if an article is locked to the device and it is desirable to secure its prompt release. In order to be commercially successful a device of this nature must be inexpensive, reliable in its operation at all times and secure against manipulation by unauthorized persons.

In the invention set forth in the following specification and illustrated in the drawings, the arrangement is such that strength, durability and reliability are secured with a minimum number of parts.

In the accompanying drawing, Figure 1 is a front elevation of one of my improved locking devices, showing the hooks closed against an umbrella handle, the key being removed; Figure 1^a is a side view of a key for unlocking the device; Fig. 2 is a rear elevation of the locking device showing the key locked and the hook slide released; Fig. 3 is a similar view showing the slide in locked position and the key removed, and Fig. 4 is a longitudinal section on the line 4-4 of Fig. 1.

Referring to the drawing, A indicates a rectangular casing, preferably made of steel and provided with angular openings 1 in its front wall through which bolts 2, of common form, having angular portions near their heads, may be past to secure the casing to its support, the bolts being held in place by nuts applied thereto at the back of the support. This arrangement prevents the bolts from turning in the openings and prevents the removal of the casing from the front. The slide 3 extends through suitable guide openings in the ends of the casing and carries a hook 4 which projects through a slot 5 in the front wall of the casing. Secured to the front of the casing, at one end thereof and at opposite sides of the hook 4, are cooperating hooks 6 and 7.

The several hooks are alike in construction, each being composed of a sheet metal strip $\frac{1}{2}$, folded upon itself and a rubber gripping piece h' arranged between the folds of the metal, and suitably secured by rivets 8, as shown in Fig. 4. When in position upon its support, the device is arranged with the slide extending horizontally, as shown in the several figures of the drawing, and in the upper wall 9 of the casing is arranged a key sheath 10 which extends at right angles to the slide, through said wall and into proximity to the slide. One or more stops 11, in the way of pins, project into the key sheath and the key B is provided with slots 12 which straddle the stops and permit the key to be inserted to its full extent in the key sheath. The stops are differently arranged in different locking hook devices and the keys are correspondingly slotted so that where a number of locking hooks are in use, each key will fit only one of the devices. Each casing is appropriately numbered, and the key for the casing bears a corresponding number. In this instance the casing and key bear the number "50". Each key also has a shoulder or stop 13 on one edge adapted to be engaged by the overturned end 14^a of an arm 14 on a locking member C. This locking member is mounted upon a pivot 15, secured to the front wall of the casing, and comprises three integral arms, namely, the arm 14 for engaging the shoulder on the key, an arm 16 having an overturned end 16^a, adapted to be engaged by the inner end of the key when the latter is in the key sheath and an arm 17 having two overturned portions 17^a and 17^b which serve as detents to engage teeth 18 on one edge of the slide 3 when the slide is in its locked position as shown in Fig. 3. A spring 19 normally presses the detent arm 17 toward the slide and tends to move the arm 14 out of engagement with the key. A spring D attached to the slide and to one end of the casing normally holds the slide, with its hook 4 in the open position, a shoulder 4^b, on the hook, then engaging the end 5^a of the slot, and forming a stop for the slide. The part 20 of the slide projects above the line of the teeth and the end 17^b of said arm normally rests upon this raised portion and holds the arm 14 in engagement with the shoulder on the key when the slide 3 is in its released position as shown in Fig. 2. The de-

tent arm is provided with two offsets or detents 17^a and 17^b, because, after long use, the ends of the teeth on the slide may become worn or broken and if a tooth on one portion of the slide is defective so that the
 5 detent engaging that tooth might not hold the slide, the other detent, engaging another tooth would hold it; also for the reason that as the ends of the slide project through the
 10 casing, if a single detent were used the slide might be released by a blow applied to one end of the slide, which would break off the detent or strip the teeth, whereas with a double detent the slide will be held with
 15 much greater security against attempts to release the hooks by force applied to the end of the slide.

Normally the parts are in the position shown in Fig. 2, with the hooks apart, and
 20 the key locked within its sheath. In order to lock an article, such as an umbrella, to the device, the article is placed against the hooks 6 and 7 and the opposing hook 4 is then moved inward and pressed against the
 25 article. As the slide 3 moves with the hook 4, the detent arm 17 will move downward from the high part 20 of the slide onto the lower part and the detents will engage the teeth 18 and hold the slide and hook in
 30 their closed positions. As the several arms of the locking device C are integral with one another the arm 14 will move out of engagement with the shoulder 13 on the key whenever the detent arm rides off of the
 35 high portion of the slide, the spring 19 causing the locking device to rock. Therefore, as soon as the hook 4 and slide 3 are moved to the closed position, the key B may be taken out of the sheath, and the umbrella
 40 or other article cannot be released until the key is replaced. When the key is replaced and pushed inward to its fullest extent, it will bear upon the overturned end 16^a of the arm 16 and rock the detents out of engagement with the rack in the slide and also
 45 rock the arm 14 into the engagement with the shoulder 13 on the key. As the slide will then be moved instantly to its released position, the raised portion 20 of the slide will pass under the detent arm 17 and hold
 50 the locking device C in the position shown in Fig. 1, with the arm 14 in engagement with the shoulder 13 on the key. The umbrella or other article, of course, becomes released as soon as the slide and hook 4 are
 55 drawn back to normal position by the spring D.

It will be evident that the individual checking the article will have to return the
 60 key to its proper place in the key sheath before he can release the article; also that when the article is locked between the hooks and the key is removed, the article can not be released except by the person holding the
 65 proper key.

What I claim is:—

1. In a locking hook, the combination with a casing and a pair of hooks fixed to the front wall thereof at one end of the casing, said front wall having a longitudinal
 70 slot in a plane between the fixed hooks, of a hook slide extending through the end walls of the casing and a hook thereon projecting through said slot, said slide having rack teeth, a spring for moving the slide to separate the hooks, a key-sheath extending
 75 through a side wall of the casing, a key adapted to fit into said sheath, said key having a shoulder, a locking and tripping device pivoted within the casing, said latter device comprising a detent arm adapted to engage the rack, an arm adapted to engage the shoulder on the key and an arm projecting into the plane of the key at the inner
 80 end of the key sheath, and a spring normally pressing said detent arm against the slide.

2. In a locking hook, the combination with a casing and a hook secured thereto, of a slide extending through the end walls
 90 of the casing and having rack teeth, a hook on said slide, a spring for moving the slide to separate the hooks, a key-sheath extending through a side wall of the casing, a key adapted to fit into said sheath, said key
 95 having a shoulder, a locking and tripping device pivoted within the casing, said latter device comprising a detent arm adapted to engage the rack, an arm adapted to engage the shoulder on the key, and an arm projecting into the plane of the key at the inner
 100 end of the key sheath, and a spring normally pressing said detent arm against the slide.

3. In a locking hook, the combination with a casing and a hook secured thereto, of a slide extending through the end walls
 105 of the casing and having rack teeth, a hook on said slide, a spring for moving the slide to separate the hooks, a key-sheath extending through a side wall of the casing, a key adapted to fit into said sheath, said key having a shoulder, a locking and tripping device pivoted within the casing, said latter device comprising a detent arm having two
 110 teeth adapted to engage the rack, an arm adapted to engage the shoulder on the key and an arm projecting into the plane of the key at the inner end of the key-sheath, and a spring normally pressing said detent arm
 115 against the slide.

4. In a hat and coat lock, the combination with a casing having a stationary hook, of a bar slidably supported in the casing and having an exteriorly located cooperating
 125 hook, means within the casing for securing the said bar to hold its hook in the locking position with reference to the stationary hook, a key-sheath, a key adapted to enter the sheath, means within the casing and ac-
 130

tuated by the key to release the locking bar,
said key having a stop thereon, a key lock-
ing device normally spring held in position
to unlock the key and bearing on one end a
5 projection adapted to engage the stop on the
key, the opposite end of said device being
arranged in the path of the sliding bar as
the latter moves to the unlocked position,
and a cam surface on said sliding bar

adapted to engage the said device to throw 10
said projection into engagement with the
stop on the key, substantially as described.

In testimony whereof I affix my signature,
in presence of two witnesses.

LOUIS WILLIAMS.

Witnesses:

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