

Feb. 26, 1946.

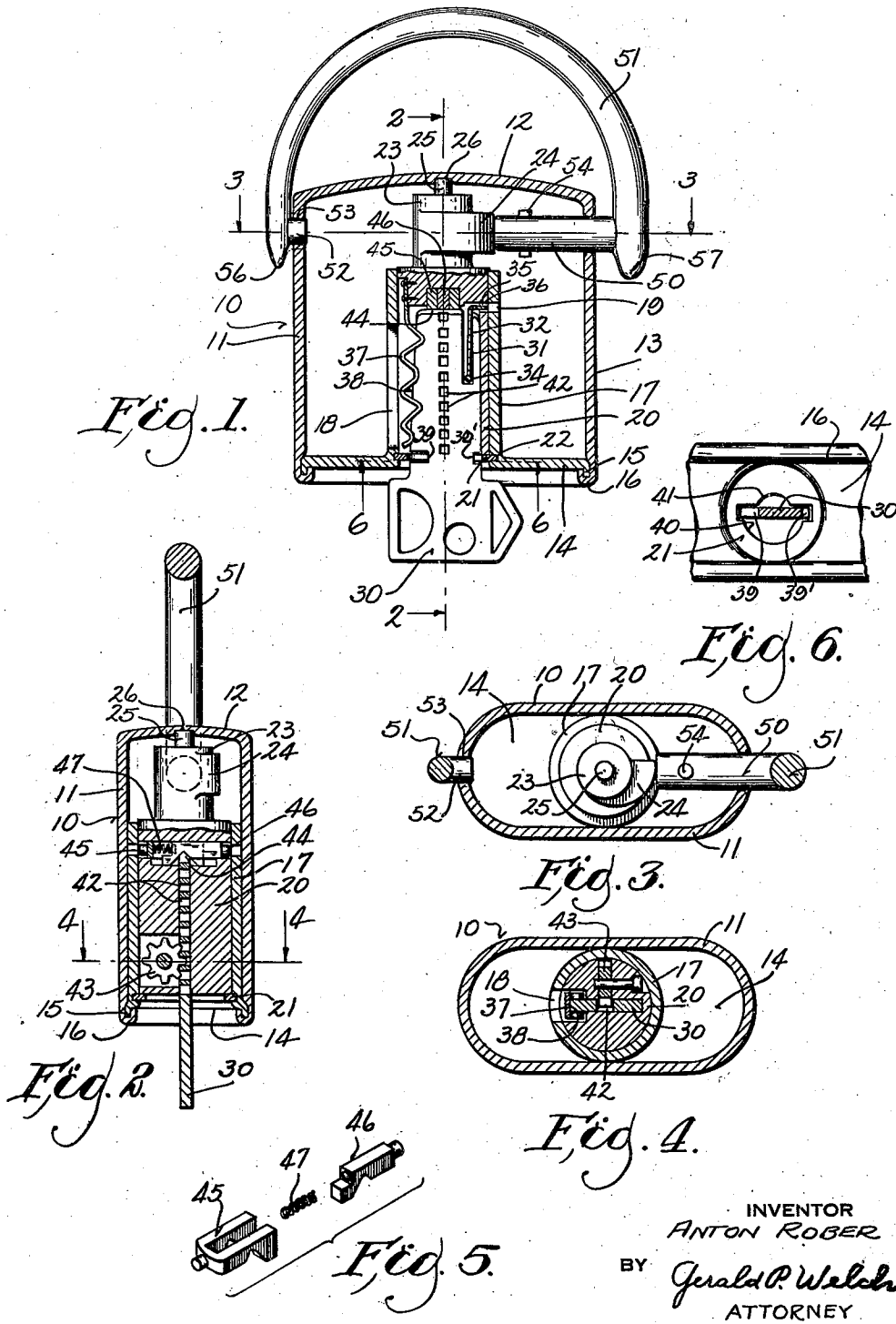
A. ROBER

2,395,762

PADLOCK

Filed Jan. 2, 1942

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

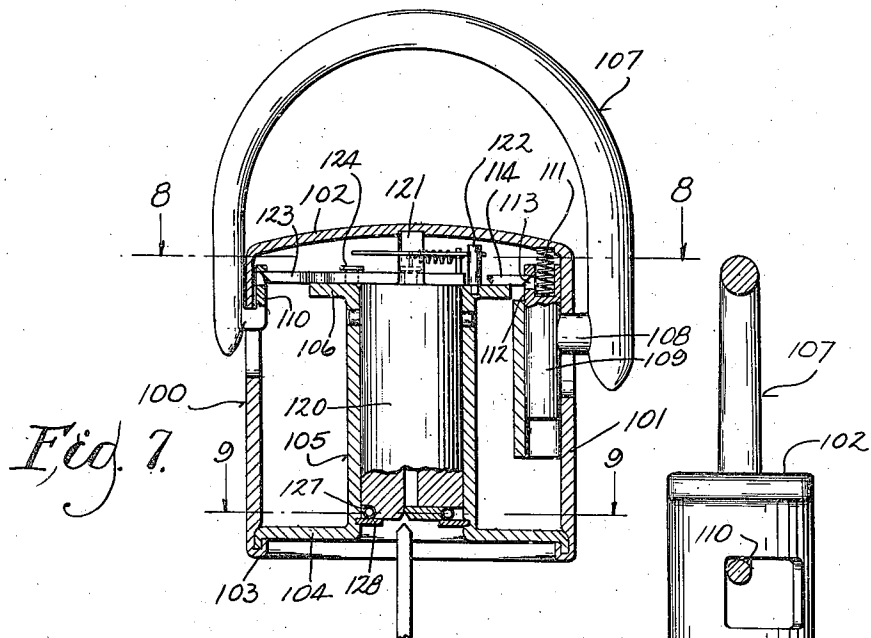


Fig. 7.

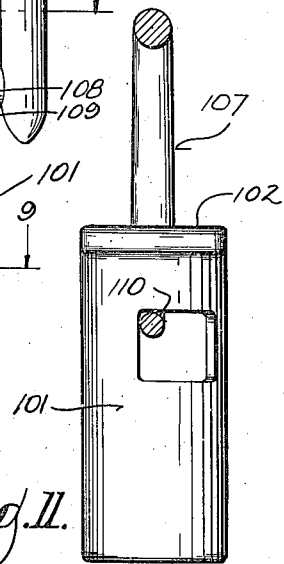


Fig. 11.

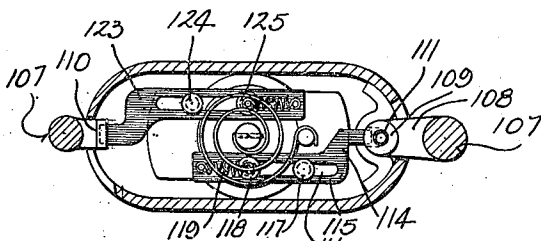


Fig. 8.

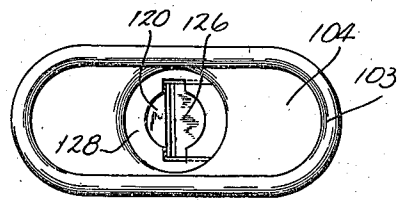


Fig. 10.

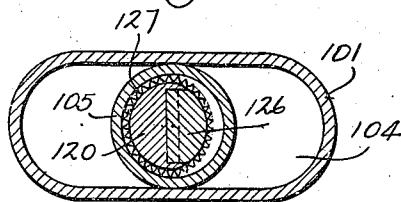


Fig. 9.

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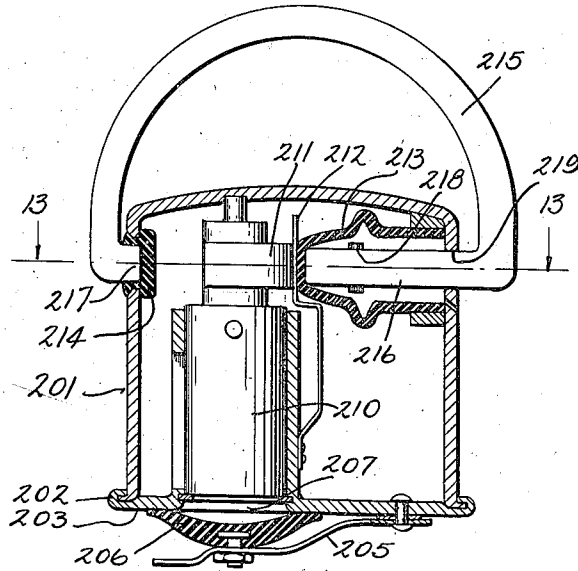


Fig. 12.

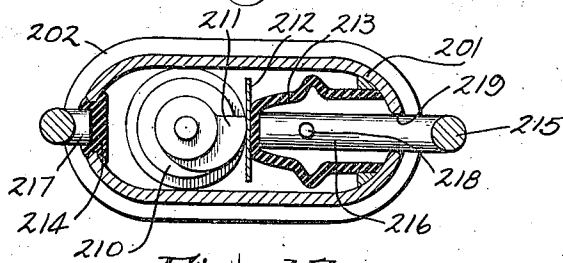


Fig. 13.

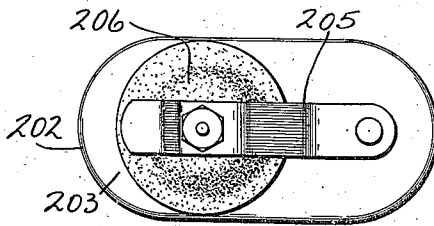


Fig. 14.

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UNITED STATES PATENT OFFICE

2,395,762

PADLOCK

Anton Rober, Milwaukee, Wis.

Application January 2, 1942, Serial No. 425,441

4 Claims. (Cl. 70—35)

This invention relates to padlocks, and more particularly to a novel padlock of a water resistant or rain-proof type.

An object of the invention is to provide a device of the type which has a structure designed to draw off drops of rain or other moisture from points of entry into the padlock casing.

Another object of the invention is to provide a padlock hasp or shackle having dependent protuberances adjacent the points of connection thereof with the padlock casing.

Another object of the invention is to provide a padlock key having novel multiple conformance requirements for operation in a key-seat designed to admit the same.

Other and further objects of the invention will be apparent as the description proceeds, reference being had to the accompanying drawings, in which:

Fig. 1 is a side view partly in elevation and partly in section of a padlock embodying my invention.

Fig. 2 is a vertical sectional view on line 2—2 of Fig. 1.

Fig. 3 is a view in horizontal section on line 3—3 of Fig. 1.

Fig. 4 is a horizontal sectional view on line 4—4 of Fig. 2.

Fig. 5 is a detail perspective exploded view of the retractable tumblers and spring mechanism.

Fig. 6 is an inverted view partly in elevation and partly in section on line 6—6 of Fig. 1.

Fig. 7 is a side view partly in elevation and partly in section of a modified form of the invention.

Fig. 8 is a view taken on line 8—8 of Fig. 7.

Fig. 9 is a view taken on line 9—9 of Fig. 7.

Fig. 10 is a bottom view in elevation of the padlock showing the key chamber closure.

Fig. 11 is a side view in elevation of the device.

Fig. 12 is a view partly in section and partly in elevation of another modification of the device.

Fig. 13 is a view taken on line 13—13 of Fig. 12.

Fig. 14 is a bottom view in elevation of the padlock.

Referring more particularly to the drawings, the numeral 10 refers to the device in general, having a casing 11 comprising an integral top 12 and the wall portion 13. A bottom or end wall 14 is edgedly and outwardly flanged at 15 to receive the rolled lower edge 16 of the casing wall 13. Integral with said end wall 14 is an inwardly turned cylindrical sleeve 17, having a longitudinal slot at 18, for a portion of its length,

and an aperture at 19 disposed substantially oppositely in said sleeve at the inner end thereof.

A barrel, 20 is rotatably held in sleeve 17, by means of the ring 21, in turn held in a circular groove at 22 of sleeve 17.

Integral with the barrel 20 is the extension 23 and eccentric cam 24 topped by the axial pin 25 journaled in the cavity 26 centrally and interiorly of the top 12.

A key, 30, has a slot at 31, for a portion of its length from the insertable end thereof, adjacent an edge thereof and parallel thereto.

The barrel or cylinder 20 carries a spring 32 fastened at 34 of the key-seat, and having an outwardly disposed end 35 adapted to normally project through aperture 36 in barrel 20 and into a registering aperture 19 in the sleeve 17, to lock the said barrel against rotation.

The barrel 20 also contains an irregularly undulating bar spring 37 fixed to lie along an edge of the key seat. An edge 38 of the key 30 is cut to conform with the bends in the spring 37.

The key 30 is edgedly and oppositely slotted at 39 and 39' in unequal degree to permit turning thereof within the complementary unequal arcs 40 and 41 of the ring 21.

The key 30 has a row of aligned apertures 42, a cog wheel 43 adapted to mesh therein is journaled in the key seat, and the said key has a beveled point 44 adapted to withdraw the retractable tumblers 45 and 46 against the coil springs 47, all of which has been previously disclosed in my application filed Sept. 15, 1941, and bearing the Serial Number 410,824.

When the lock is closed, the cam 24 abuts against and securely holds the long arm 50, which is integral with the shackle 51, thus also retaining securely the short arm 52 within the aperture 53 of the casing wall 13. A detent pin 54 in the arm 50 prevents the withdrawal thereof through the aperture 55 in casing 11.

A salient feature of the invention resides in the pendent lobes or protuberances 56 and 57 disposed at each end of the shackle. Drops of water, as from rain will tend to draw toward the said pendent lobes and drop off at these points.

Fig. 7 shows a modified form, in which the numeral 100 represents the device generally, having a casing wall 101 and an integral top 102. The wall 101 has its lower edge 103 rolled about the bottom wall 104, the latter having an integral, central and inwardly directed sleeve 105 having the flange 106 at its inner end.

In this form of the invention, the shackle 107 when pressed downwardly, after use of the key

108, is released to swing about a vertical axis in opening for engagement with an object or objects to be locked.

The shackle 107 is attached at one end by means of the connecting element 108 to the swivel post 109, and at the other end to the integral, inwardly and upwardly disposed keeper element 110. The swivel post 109 is bored from the upper end thereof to accommodate the coiled expansion spring 111. The cylindrical wall 112 of the bored portion of post 109 is apertured horizontally at 113 thereof to act as a keeper. The offset latch 114 normally is extended into keeper 113. The said latch has a body member 115 which is longitudinally slotted at 116 and held for limited sliding movement on the pins 117 and 118. The coiled spring 119 tends to return the latch to locking position. The barrel or cylinder 120 is similar to that in the preferred form of the invention as to internal mechanism, but has an extension 121, journaled in the casing top 102, which has a hair spring anchored there-through at one end and has the other end thereof engaging a pin 122, also serving to return the barrel and latches to the locking position. The latch 123 engages in keeper 110, and is similarly mounted for limited sliding movement on the pins 124 and 125, and also has the coiled spring for urging the latch into the keeper. The barrel 120 has at its outer end, a slide adapted to cover the outer end of the key-seat. The slide 126 is moved over the key-seat by the circular coil spring 127 disposed within the ring 128.

Another modified form of the invention is shown in Fig. 12 of the drawings. A casing 201 has a bottom having its edge 202 curled about the lower marginal edge of the casing. The bottom 203 carries a pivot on which is mounted a spring 205 to the free end of which is attached a vacuum suction cup 206 covering the key-seat 207, which in this modified form is off-center as shown. The barrel 210 is constructed identically with that shown in Fig. 1 of the drawings, and has a cam 211 which turns against the vertical spring 212, the latter being interposed to prevent wear between a rubber cup 213 and said cam. The rubber cup 213 serves to keep water from the internal mechanism of the padlock, as does a

smaller rubber cup 214 adapted to receive the opposite and short arm 217 of the shackle 215. The long arm 216 has the detent pin 218 to prevent removal of the shackle from the casing 201 through the aperture 219. The rubber cups 213 and 214 are cemented or vulcanized to the casing 201 to prevent entry of moisture.

It will be understood that the device is capable of various modifications in structure and design, without departing from the spirit of the invention, within the scope of the appended claims.

Having thus described the invention, what I claim and desire to secure by Letters Patent of the United States, is:

1. In a padlock, a shackle, a cam rotatable on a vertical axis within said padlock, a short arm on said shackle extending horizontally inwardly thereof, the said padlock having an aperture adapted to seat said short arm, a long arm on the opposite end of the shackle extending horizontally inwardly thereof and bearing against said cam, whereby when the cam is extended against the long arm the short arm will be locked securely in said aperture.

2. In a padlock, a casing, a shackle having integral arms extending within the casing, and rubber shield means attached to said casing and freely embracing said arms whereby moisture will be prevented from entering said casing.

3. In a padlock, a casing, a shackle, means integral with said shackle disposed within the casing, rubber shields fixed in the casing and freely receiving the means integral with said shackle, a cam rotatable within the casing to apply pressure against one of the shields, and a spring metal strip interposed between the cam and the shield to receive the friction of the cam.

4. A padlock comprising a casing, a shackle spanning an end of said casing, opposed inwardly projecting means at the opposite ends of said shackle normally interlocked with the external sides of said casing, one of said means being releasable from said casing by bodily displacement of said shackle transversely of said casing, and lock controlled means for preventing such bodily displacement of said shackle.

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