Aug. 4, 1925. 1,548,239

J. ALLAIN

PADLOCK

Filed March 25, 1924

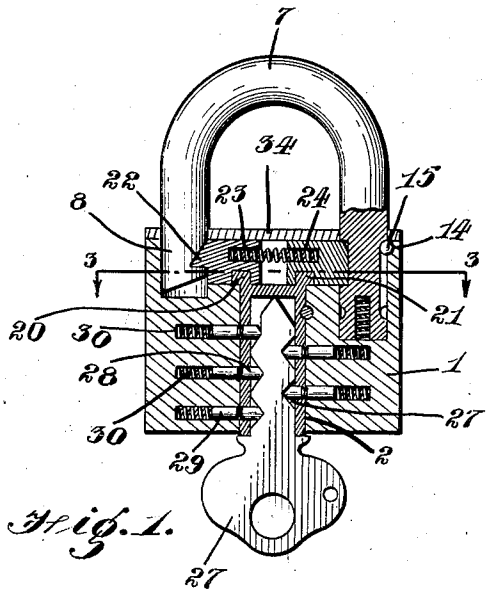


Fig. 1.

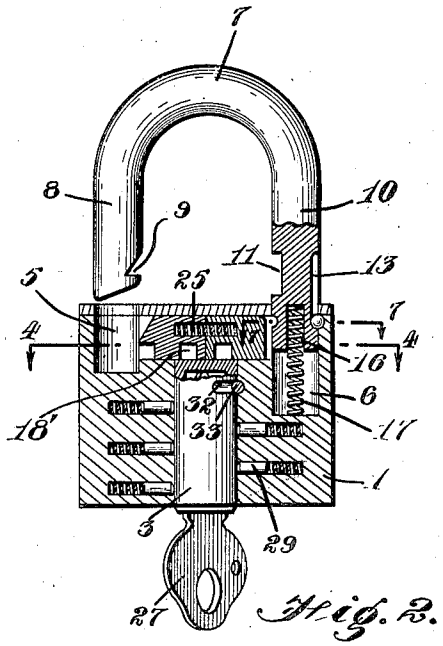


Fig. 2.

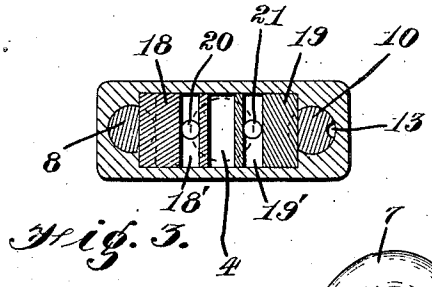


Fig. 3.

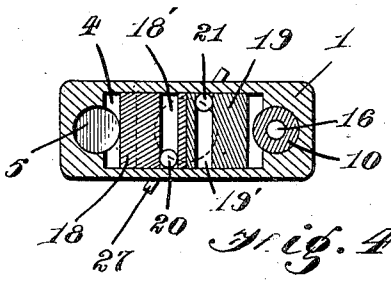


Fig. 4.

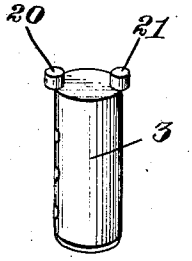


Fig. 5.

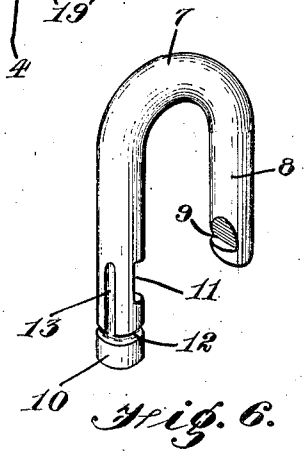


Fig. 6.

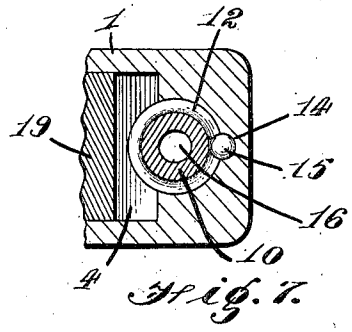


Fig. 7.

Inventor

Jacques Allain

By William Clinton

Attorney

Patented Aug. 4, 1925. 1,548,239

UNITED STATES PATENT OFFICE.

JACQUES ALLAIN, OF MONTREAL, QUEBEC, CANADA.

PADLOCK.

Application filed March 25, 1924. Serial No. 701,807.

To all whom it may concern:

Be it known that I, JACQUES ALLAIN, a subject of the King of Great Britain, residing at Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Padlocks; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention pertains to a novel padlock of the type in which the shackle is adapted to be turned on one end as a pivot after the other end has been withdrawn from the body of the lock.

The object of the invention is the provision of a device of this character in which both ends of the shackle may be positively locked within the body, the shackle and body being so constructed that the former may be turned only when one end has been removed from the body.

In order to accomplish this object, the body of the lock receives a pair of slidable bolts adapted to engage both ends of the shackle. In the body is mounted a key controlled plug connected to the bolts in such a manner as to bring them together when the plug is turned. As the bolts are thus drawn together, they are freed from their engagement with the shackle, and the latter may now be elevated with reference to the body.

The invention is fully disclosed in the following description and in the accompanying drawings in which:

Figure 1 is a longitudinal section of the device in closed position;

Figure 2 is a similar section thereof in open position;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a section on the line 4—4 of Figure 2;

Figure 5 is a perspective view of the plug;

Figure 6 is a perspective view of the shackle; and,

Figure 7 is an enlarged detail section on the line 7—7 of Figure 2.

Reference will now be had to these views by means of like characters which are employed to designate corresponding parts throughout.

The device consists of a body 1 formed with a central aperture 2 for receiving a rotatable plug 3. In the top of the body is cut a slot 4 at the ends of which are formed circular recesses 5 and 6, the latter being deeper than the former. These recesses receive the ends of a shackle 7, the end 8 thereof being received in the recess 5 and also notched as at 9. The remaining end 10 is adapted for insertion in the recess 6. This end is formed with a substantially square notch 11 at its inner side, the slot being adapted for alinement with the slot 4 when the shackle is in closed position. Around the end 10 is cut a groove 12 from which a straight groove 13 extends upwardly on the side opposite to that in which the notch 11 is cut. In the outer wall of the recess 6 is formed a semi-spherical depression 14 which, in conjunction with the grooves 12 and 13, receives a ball bearing 15. The end 10 is further formed with an external cavity 16 in which is fitted one end of a spring 17, the remaining end of this spring bearing against the bottom of the recess 6.

The upper slot 4 receives a pair of bolts 18 and 19 adapted for a slight sliding movement therein. The bolts are formed in their bottoms with grooves 18′ and 19′ receiving pins 20 and 21 carried by the upper end of the plug 3. The outer end of the bolt 18 is provided with a lug 22 receivable in the notch 9 of the shackle. The outer end of the bolt 19 is receivable directly in the squared notch 11. The inner ends of the bolts are formed with apertures 23 and 24 in which is placed a spring 25 normally pushing the bolts outwardly.

The shackle of the lock is held against upward and pivotal movement when the bolts are in engagement with the ends thereof. It will be obvious that when the plug 3 is turned, the bolts are drawn inwardly and out of contact with the shackle, whereupon the latter may be raised and consequently turned on its end 10 as a pivot lying in the recess 6.

For the control of the rotation of the plug, the latter is formed with a longitudinal key slot 26, adapted to receive a key 27. Pins 28 are slidably disposed in the wall of the plug, and these are engageable by followers 29 mounted in the body and pressed inwardly by springs 30. The pins 28 vary in length, and the outer ends thereof are brought to the outer surface of the plug 3 to permit rotation thereof only when a

properly notched key is inserted. The openings 31 for receiving the followers 29 and springs 30 are drilled from the outer wall of the body and are subsequently filled with a solder having the same composition as the body. In order to prevent the plug from falling out, it is formed with a short groove 32 in its outer surface, and a pin 33 is so disposed within the body as to lie in the groove. The slot 4 is covered by means of a plate 34 suitably apertured to permit the passage of the ends 8 and 10 of the shackle.

As previously pointed out, the lock is opened by turning the plug so as to bring the bolts together. The shackle may now be raised, and in this movement it is held against rotation by reason of the ball 15 lying in the longitudinal groove 13. Finally, however, the ball is received in the peripheral groove 12, and the shackle may now be turned on its end 10 as a pivot.

While a specific embodiment of the invention has been illustrated and described, it is to be understood that various alterations in the details of construction may be made without departing from the spirit of the invention as indicated by the appended claim.

Having thus fully described the invention, what I claim as new and desire to protect by Letters Patent is:—

A padlock comprising a body having a slot formed therein and recesses in the same at the opposite sides of the slot, a shackle having its ends formed for reception in said recesses, a pair of opposed bolts mounted for opposite slidable movement in the slot engageable at their outer ends with the ends of the shackle, the under sides of the rearward portions of said bolts having grooves formed therein transversely of the same, the adjacent ends of said bolts being formed plane and in parallelism to said grooves, expansible spring means engaging said adjacent ends of the bolts for normally imparting opposite thrusts thereto, a plug rotatably mounted in the body having one end extending into a position in proximity to the slot therein, and diametrically opposed cylindrical elements fixedly mounted upon that end of the plug adjacent said slot slidably engaged in the transverse grooves aforesaid adapted, with rotation of the plug in one direction to impart inward sliding movement to the bolts.

In witness whereof I have hereunto set my hand.

JACQUES ALLAIN.