

1,435,682.

J. ALLAIN.
LOCK.
APPLICATION FILED AUG. 30, 1920.

Patented Nov. 14, 1922.

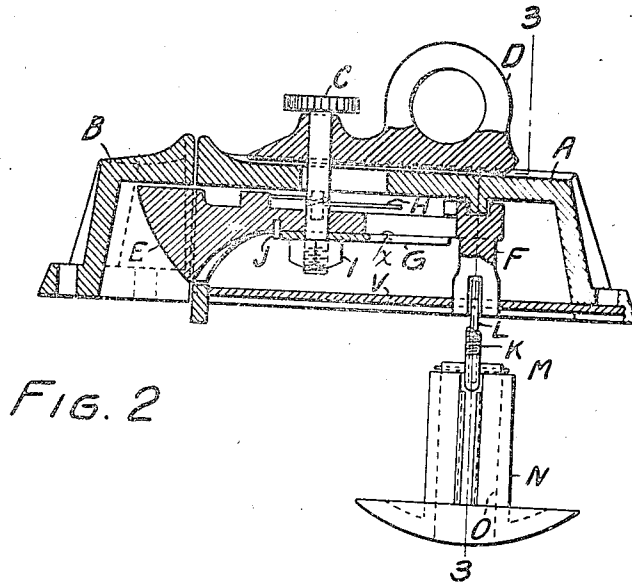


FIG. 2

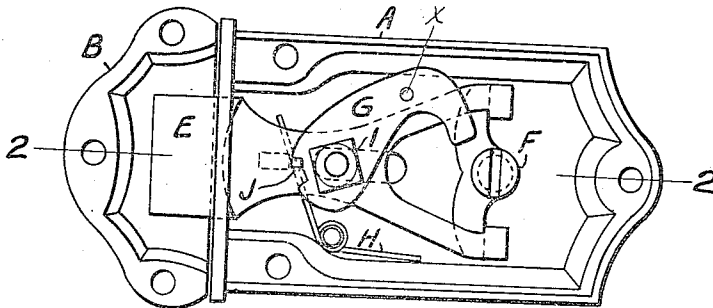


FIG. 1

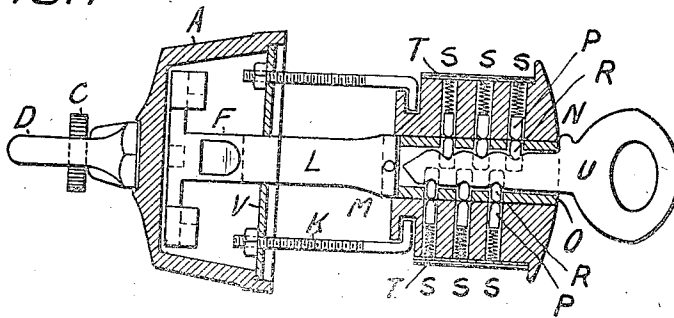


FIG. 3

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JACQUES ALLAIN, OF MONTREAL, QUEBEC, CANADA.

LOCK.

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To all whom it may concern:

Be it known that I, JACQUES ALLAIN, a subject of the King of Great Britain, of 175 Amherst Street, and residing at the city of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented a new and useful Lock, of which the following is the specification.

The invention relates to locks as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially of the novel means of construction pointed out broadly and specifically in the claims for novelty following a description in detail of the preferred form of the invention.

The objects of the invention are to construct a simple and cheap lock efficient in regard to its safety features and easy to operate and maintain and generally to provide a serviceable lock.

In the drawings Figure 1 is an elevation of the lock showing the interior mechanism.

Figure 2 is a horizontal sectional view of the lock on the line 2—2 in Figure 1.

Figure 3 is a vertical sectional view on the line 3—3 in Figure 2.

Similar letters apply to similar parts in different positions.

The said lock is composed of the case A, enclosing the bolt and its mechanism, and having the wall bracket B and the key cylinder N below described.

The bolt E is attached to an exterior piece D, by means of a rod C provided at one extremity with a button and at the other end with a screw nut I. This piece D has a hole through which passes the rod and it can slide on the back of the case A for operating the bolt, a slot being provided in the bottom of the case, permitting the rod C to move the whole length of the course of the bolt. The said piece D is formed as a ring to which a cord can be attached, enabling one to retract the bolt from a distance.

The bolt is retracted by the key by the means of a piece F of the form indicated in Figure 1. This piece has a cylindrical body journalled at one end on a pivot projection on the lock casing and at the other in an opening in cover plate V. This cylindrical body has oppositely extending cam arms taking behind the angularly projecting ends of the forked shank of bolt E for the purpose of retracting said bolt as shown in

Figure 1, and catch the arms of piece F, in such a way that in turning the key, either to the left or to the right, the bolt can be retracted. The said piece F is operated by the key by means of a thin plate L which introduces itself through an opening at the extremity of the cylindrical part of piece F. The key plug or barrel O, at one extremity, is also provided with an opening in which the said plate is fixed by means of a small wire M.

The bolt E is brought to the position indicated in Figures 1 and 2, by means of a spring H which coils around a pivot fixed at the bottom of the box A. One extremity of the spring abuts against the side of the box and the other on a projection of the bolt.

A curved piece b having a hooked shaped end, adjacent to bolt E is fastened to rod C in such a way so as to turn with it. It has a rectangular opening into which is introduced the rod C which is square at this part. The piece G blocks the bolt E from movement as it is introduced between the pivot J, and the post F when the bolt is short and removed from said position when the bolt is in its operating conditions. To prevent piece G from falling accidentally to bolt dogging position, a projection X is made on the side of the bolt by means of a punch. This piece G also serves to hold the bolt retracted so as to keep the bolt from latching. The cylindrical part of piece F is notched at the part where piece G touches it on both sides. The movement of piece G is limited by means of a small pin J on taking into an elongated notch in piece G.

The mechanism above described is covered by a lid V.

The key cylinder is represented in sections in Figure 3. It is composed of tumbler casing N which is fastened to the door by joining to the lock by means of rods K, K. Cylinder plug O rotates in the interior of this casing. The said plug O has a longitudinal opening into which the key is introduced. Above and underneath this opening, the plug is pierced vertically with three holes which receive little cylindrical pieces R, R, which pieces can be raised and lowered when the key is introduced into the opening of the plug.

In the casing, in the interior of which cylinder O is rotated, holes are made of the same diameter as those of said plug, and corresponding with them at each turn of said

plug. In these holes are found the small cylindrical tumblers P, P, and the springs S, S, these cylinders P, P, and these springs S, S, are enclosed by means of the usual covers 5 T, T. When the key is not introduced into the opening of plug O, the springs S, S, push the tumblers partly into the plug O, in such a way that plug O cannot be turned. In introducing the key the cylindrical pieces are 10 uplifted, and when the key is finally in place, the break in the tumblers is in alignment with the shear between the plug and casing as shown in Figure 3, the plug then is being rotatable to retract bolt E.

15 The key, opposite each of the holes containing the tumblers P, P, and R, R, and the springs S, S, is provided with notches by means of which the tumblers are brought into position to allow the lock to be operated.

20 In varying the depth of the notches and the key and the length of the small cylindrical pieces of P, P, and R, R, a great number of combinations can be obtained.

Claims.

25 1. In a lock, a case, a spring-projected latch having a rigid extension forming a

crotch and terminating in inwardly turned lugs, a pivoted slotted key post having lever extensions therefrom engaging said lugs on their inner sides, for retracting said latch, a 30 spindle and an arm forming a safety catch and fixedly mounted on a spindle pivotally held in said rigid extension and through said case and adapted to be brought into engagement with one or other side of said post. 35

2. In a lock, a case, a spring-projected latch having a rigid extension therefrom forming a crotch and terminating in inwardly turned lugs, a slotted key post pivotally mounted in said case between said 40 lugs and having lateral cam arm extensions engaging said lugs, an arm having a hook-shaped end adapted to be moved to engage said post, a pivot pin pivotally secured in the rigid extension from the latch behind the 45 crotch and carrying said hooked arm for rotation, and a knurled thumb piece fixedly mounted on the projecting end of said pivot pin beyond the case.

Signed at Montreal, Canada.

JACQUES ALLAIN.