

April 2, 1957

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2,787,155

SLIDING BOLT LOCK HAVING AUTOMATIC DOGGING MEANS

Filed Jan. 18, 1952

FIG. 1.

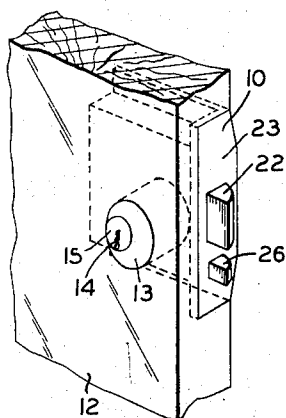


FIG. 2.

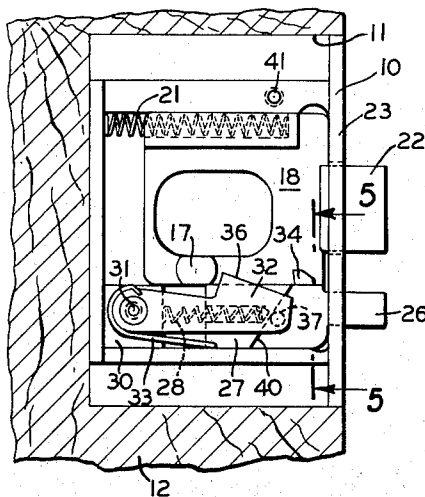


FIG. 3.

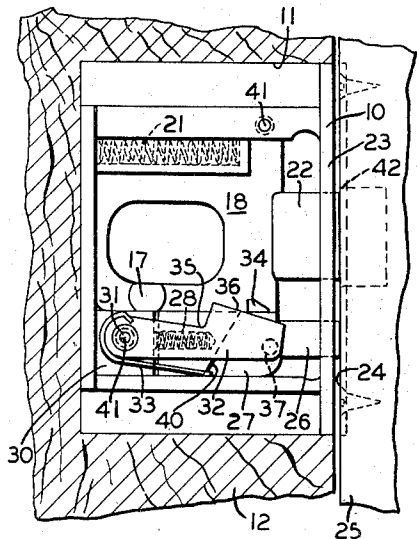


FIG. 4.

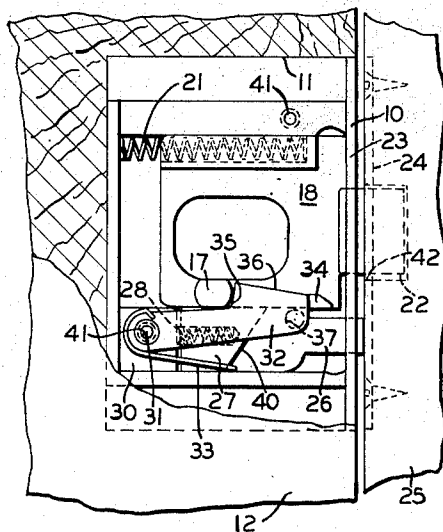
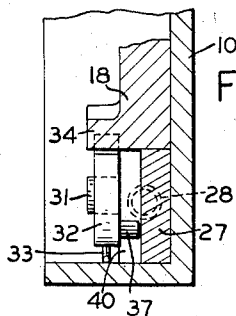


FIG. 5.



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SLIDING BOLT LOCK HAVING AUTOMATIC DOGGING MEANS

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Application January 18, 1952, Serial No. 267,023

1 Claim. (Cl. 70—156)

This invention relates to improved safety locks and relates more particularly to a novel lock of the type having a beveled, spring latch bolt and wherein means are provided which greatly reduce the opportunity for opening the same except by the use of a proper key.

A common practice is to retract a spring-urged bolt by means of a flat celluloid ruler or even a business card, and a person possessing the requisite skill can open a lock in this fashion about as fast as the average person can with a key.

Another method of tampering with a lock consists in inserting a flat instrument like a screw driver between the lock and the strike plate and separating the parts sufficiently to free the bolt from the strike plate. The method cannot be used on doors in a house where the frame is relatively rigid but it can be used on desks, cabinets and the like.

An important object of the present invention is to provide means for largely eliminating the unauthorized opening of a lock by either of the foregoing methods and which does not reduce the efficiency of the lock in any respect or increase the time required for retracting the bolt by a proper key.

Another object of the invention is to provide a novel type of auxiliary or dogging bolt which effectively restrains any movement of the main bolt under any conditions except by the use of a key, the dogging bolt being an element separate and apart from the main bolt, thus eliminating the mechanical objections to dogging devices carried by or directly associated with the main bolt.

The lock of the present invention can be used with equal facility on a door opening in or out and its construction does not vary greatly if it is to be mounted in a mortised opening or mounted on the inner surface of the door without any pre-formed opening. This lock is particularly useful on drawers and doors for cabinets and desks, such, for instance, as those housing narcotics and money, wherein the utmost safety of the contents is of paramount importance.

Another object of the invention is to provide a lock of the character described which is small and compact, thus making it especially useful where space considerations are present, and which resists openings by the usual run of burglar tools.

In the drawings,

Fig. 1 is a perspective view of a lock embodying the present invention shown recessed within a mortised opening in a door;

Fig. 2 is a side elevation of the lock with the cover plate removed from the housing and showing the main and the auxiliary bolts in extended position;

Fig. 3 is similar to Fig. 2 but shows both bolts in retracted position;

Fig. 4 is also similar to Fig. 2 but shows the main bolt in extended position and the auxiliary bolt in retracted position;

Fig. 5 is a broken section taken on line 5—5 of Fig. 2. Referring now to Figs. 1 to 5, the lock includes a hous-

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ing 10 mounted within a recess 11 in a door 12. The door has an opening for a barrel 13 which extends outwardly from the housing and may be of conventional construction. When a proper key is inserted in key hole 14 a cylinder 15 is rotated and a bolt actuating rollback (not shown) at the inner end of the cylinder contacts a boss 17 on bolt 18 to retract the bolt.

Main bolt 18 is urged outwardly by means of a spring 21 and the bolt portion 22 which passes through an opening in the outer face 23 of the housing. The bolt portion is beveled in the usual manner of spring-urged bolts to cause it to retract when it contacts the strike plate 24 secured to the door jamb 25.

Face 23 has a second opening through which the bolt portion 26 of the auxiliary or dogging bolt 27 passes. This bolt is urged outwardly by spring 28. An internal seat 30 which may be formed integrally with the housing has a stud 31 which forms a bearing for a dogging lever 32. A spring 33 urges the free end of the dogging lever upwardly and when it is in its uppermost position (Fig. 4) it prevents inward movement of bolt 18 by virtue of a boss 34 formed on the bolt which contacts the outer end of the dogging bolt. The dogging bolt is cut away at 35 because of the position of boss 17 on the main bolt. The dogging bolt also has a diagonal camming surface 36 for a purpose to be described.

The rear face of lever 32 is formed with a boss 37 which works against a diagonal camming surface 40 on dogging bolt 27. When the latter is moved from extended to retracted position the dogging lever is permitted to move from the lower position of Fig. 2 to the upper position of Fig. 4 but as the dogging bolt moves outwardly to extended position the camming surface 40 contacts boss 37 and moves the lever downwardly.

Spring 28 is sufficiently strong to overcome the influence of spring 33. Threaded holes 41, one of which is in stud 31 receive screws to hold the housing cover plate (not shown) in place.

The strike plate has an opening 42 to permit bolt portion 22 of the main bolt to move to extended position when the door is closed, but has no opening for the bolt portion 26 of the auxiliary bolt.

The operation of the lock will be largely clear from the foregoing. When the door is open both bolts are in extended position (Fig. 2). Dogging lever 32 is down and both bolts can be moved inwardly against the influence of springs 21 and 28. As the door is closed, however, bolt bolts contact the strike plate and retract. As auxiliary bolt 27 retracts the dogging lever 32 would tend to move upwardly to dogging position, thus blocking inward travel of bolt 18. Camming surface 36, however, is under boss 34, thus preventing upward travel of the lever. As soon as bolt portion 22 reaches the opening in the strike plate it moves out. The auxiliary bolt is retained in retracted position and as soon as boss 34 has moved out far enough boss 34 permits the dogging lever to travel up to dogging position (Fig. 4). When the key is inserted in the cylinder and the rollback rotated the latter first contacts camming surface 36 and depresses lever 32. It then contacts boss 17 and retracts the bolt.

I claim:

A key operated lock comprising a housing, a dogging lever pivoted at one end thereof within the housing and provided with a boss on one face thereof at its opposite end, a main bolt which is movable inwardly by a key lock, and an auxiliary bolt, both mounted in the housing for sliding movement, a spring urging the main bolt outwardly, a spring urging the auxiliary bolt outwardly, and a spring of lesser rating than the latter urging the free end of the lever upwardly, the front face of the housing having spaced openings for the bolts, a first boss and a second boss spaced on the main bolt, and a camming sur-

face on the auxiliary bolt for engaging the boss on the lever to lower the lever as the latter bolt moves to extended position but which permits the lever to move upwardly as the auxiliary bolt is retracted to cause said lever to block inward travel of the main bolt upon contact with the first boss on the latter, but being movable downwardly to non-dogging position as a key lock is used to retract the main bolt, the second boss on the main bolt being contacted by said key lock to retract the bolt.

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