

March 3, 1936.

E. F. LOHRS

2,033,079

LOCK

Filed Dec. 4, 1931

Fig 1

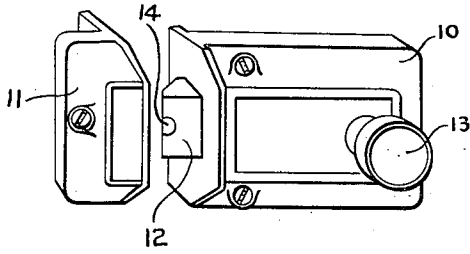


Fig 2

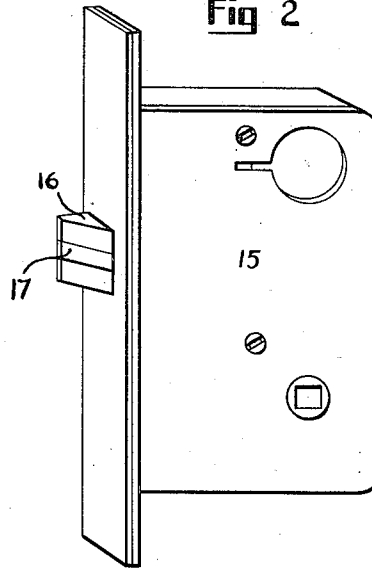


Fig 3

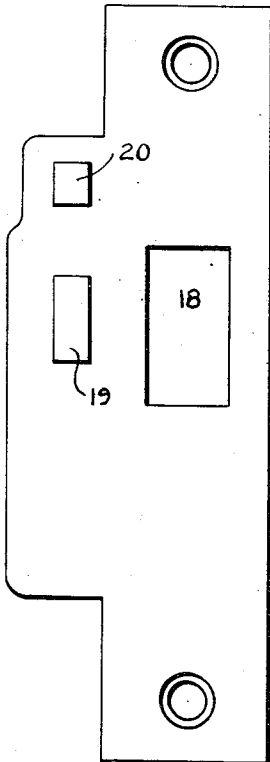


Fig 4

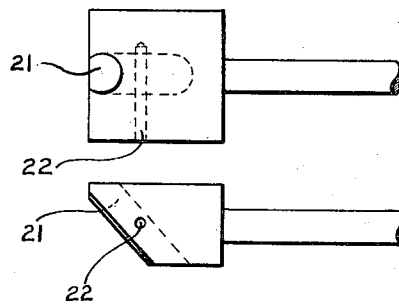
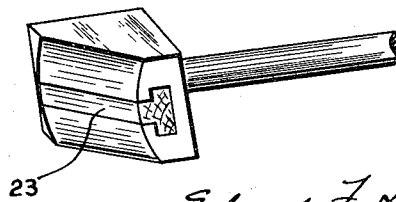


Fig 5



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2,033,079

LOCK

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Application December 4, 1931, Serial No. 578,972

6 Claims. (Cl. 292—2)

This invention relates to a lock, and more especially a lock of the type in which a spring pressed latch bolt is adapted to cooperate with a strike for riding over the strike and into the latch bolt opening therein.

For many years the lock industry has been faced with the problem of how best to lubricate a latch bolt. The usual metal latch bolt wears rather rapidly on its strike contacting portion, and generally the strike contacting portion becomes so rough and grooved after some service, that it finally hinders the camming back of the latch bolt and the closing of the door on which the latch bolt is applied. While all sorts of devices, such as oil wicks, graphite carrying members, etc., have been used, none have been successful commercially.

My invention comprises the insertion of a self-lubricating material into a latch bolt so that as the latch bolt rides over a strike, it is self-lubricating, thus lengthening the life of the bolt and easing the action of the same.

My invention comprises also a strike in which a self-lubricating insert is placed in position on the strike to be contacted by the bolt in its action, the bolt being adapted to pick up lubricating material so as to be lubricated for its travel relatively to the strike.

As a further feature of the invention, I arrange the insert relatively to the bolt so that the insert will be the only part of the bolt contacting the strike, and will, preferably, be retained in the bolt due to its shape and method of insertion, rather than by the addition of holding means. A more detailed feature of the invention is the utilization of an insert of self-lubricating material made of wood impregnated with oil, and sold commercially under the trade-mark "Arguto". This is a hard material which, when used as part of the latch bolt, does not substantially weaken it, and is capable of functioning as an integral locking portion of the latch bolt.

In the drawing where there is shown a preferred modification of my invention, Fig. 1 is a perspective view of a conventional night latch and strike. Fig. 2 is a view of a mortise lock having a latch bolt of the conventional type. Fig. 3 is a plan view of a strike embodying my invention. Fig. 4 is an elevation and side view of a latch bolt showing a preferred modification of my invention. Fig. 5 is a perspective view of my invention applied to a latchbolt in a slightly different manner.

Referring now more particularly to the drawing, Fig. 1 illustrates a conventional night latch 10 having a cooperating strike 11 which is adapted

to lock the latchbolt 12 in the manner well known in the art, the latchbolt being retractable by the knob 13 as will be readily understood. The latchbolt is equipped with an insert of "Arguto" wood 14, a hard self-lubricating substance, whereby action of the latchbolt on the strike will be eased and the latch bolt will be long lasting.

Fig. 2 illustrates a conventional mortise lock 15 having a regulation latch bolt 16 which is equipped with the insert 17. This insert will ride over the strike and will be self-lubricating as is clearly understood.

Fig. 3 shows a strike equipped with the usual cut-out opening 18 adapted to accommodate a standard latch bolt, and has inserts 19 and 20 of the "Arguto" wood material. The insert 19 is adapted to contact with a latch bolt, for lubricating the same, the latchbolt then spreading the lubricating material over the surface of the strike. The insert 20 is intended for a deadlocking latch member which acts to deadlock the regular latchbolt of the standard mortise latch, as will be understood by those skilled in the art.

Fig. 4 illustrates a method of mounting the hard self-lubricating insert in the latchbolt, the particular modification of Fig. 4 showing the use of a pin-like insert of "Arguto" wood 21 held by an auxiliary pin 22 in position in the latch bolt.

Fig. 5 is designed to show the curved face of the latch bolt of Figs. 1, 2, and 4, and to illustrate the modification wherein the "Arguto" wood portion, or self-lubricating portion 23, is the only portion of the latch bolt adapted to contact with the strike when the latch bolt is in action, thus giving a very quiet action of the bolt, while at the same time assuring a long lasting bolt of much greater utility than a bolt made entirely of metal. This figure illustrates also the maintaining of the insert within the bolt without the use of additional retaining means, the shape of the insert itself being utilized.

Whereas particular modifications of the invention have been illustrated and described, it should be understood that variations of the same within the scope of the appended claims will readily occur to those skilled in the art.

I claim:

1. As part of a lock, a bolt, an insert for said bolt, constructional means on said bolt and insert whereby said insert is so set in the bolt as to form the strike contacting part of the bolt, said constructional means including the feature of the insert being so formed that its shape relatively to the bolt will inherently retain it in the bolt without additional securing means, said insert

being composed of a hard self lubricating material whereby to be inherently and continuously lubricating at its strike contacting surface while functioning because of its hardness as an integral effective locking part of said bolt.

5 2. As part of a lock, a bolt, an insert for said bolt, constructional means on said bolt and insert whereby said insert is so set in the bolt as to form the strike contacting part of the bolt, said constructional means including the feature of the insert being so formed as to be secured without fastening means exposed in the strike contacting surface of said bolt, said insert being composed of a hard self lubricating material whereby to be inherently and continuously lubricating at its strike contacting surface while functioning, because of its hardness, as an integral effective locking part of said bolt.

10 3. As part of a lock, a bolt, an insert in said bolt so set therein as to form the strike contacting portion of the bolt, said insert being composed of a hard continuously self lubricating material whereby to be inherently and continuously self lubricating while its physical hardness is utilized to permit its functioning as an integral effective locking part of said bolt without substantial weakening of the bolt as a locking member.

15 4. As part of a lock, a bolt having a convex strike contacting face, an insert in said bolt so set therein as to occupy the surface of the greatest curvature of said bolt, said insert being composed of a hard self lubricating material whereby to be inherently and continuously self lubricating while its physical hardness is utilized to permit

its functioning as an integral effective locking part of said latchbolt without substantial weakening of the bolt as a locking member.

5 5. As part of a lock, a metallic bolt, a non-metallic insert for said bolt, constructional means on said bolt and insert whereby said insert is so set into the bolt as to form the strike contacting part of the bolt, said constructional means including the feature of the metal bolt being so cut away for said insert and the insert being so formed that the two form a bolt of continuous even surface contour, said insert being composed of a hard impregnated self lubricating material whereby to be inherently and continuously lubricating at its strike contacting surface, while functioning also, because of its hardness, as an integral effective locking part of said bolt.

10 6. As part of a lock, a bolt, said bolt being cut away in the central portion thereof to permit the mounting of an insert, said cut away being effective to weaken the bolt substantially, an insert mounted in said cut away central portion and extending to the strike contacting surface of the bolt and formed so as to function as a part of the continuous surface of said bolt, said insert being composed of a hard and self lubricating material whereby to be continuously self lubricating while its physical hardness is utilized to permit its functioning as an integral effective locking part of the bolt and to offset the weakening of the bolt incidental to its cutting away for the insertion of said insert.

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