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1,748,598

LOCK

Filed Jan. 20, 1928

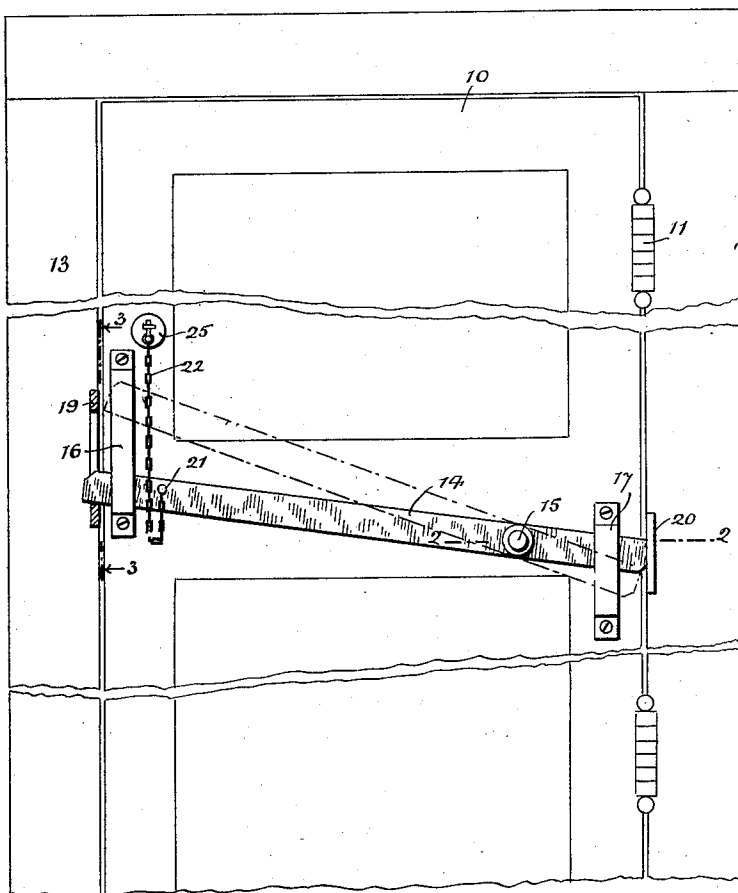


Fig. 1.

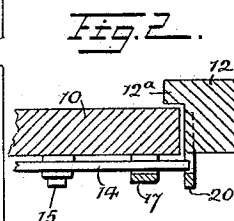


Fig. 2.

Fig. 3.

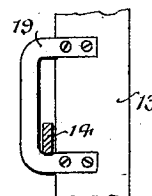
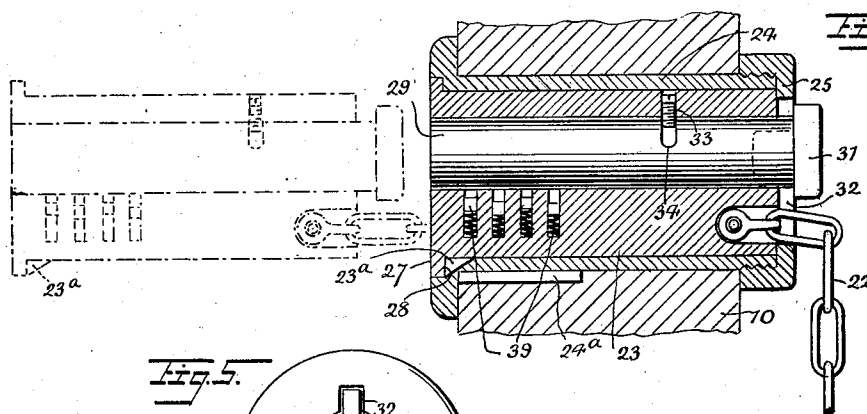
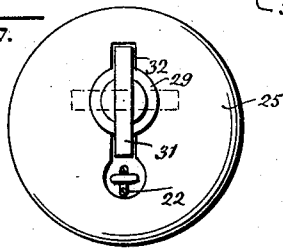


Fig. 4.

Fig. 5.



WITNESSES
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LOCK

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The lock of the present invention while capable of a wide range of utility is primarily intended for use on doors. An object of the invention is to provide a locking mechanism including a chain-operated bolt, and key controlled means accessible from the outside of the door for drawing the chain to lift the bolt.

By virtue of this arrangement, I provide a lock which is exceedingly difficult to jimmy, which is too massive to force, and yet which is extremely simple in construction and operation.

More general objects of the invention are to provide a lock of simple, practical construction, which will be rugged, durable and efficient in use, and well suited to the requirements of economical manufacture and convenient installation.

With the above noted and other objects in view, the invention consists in certain novel features of constructions and combinations and arrangements of parts as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a broken elevational view of the inside of a door equipped with my improved lock, the dotted lines indicating the position of the bolt when the latter has been moved to inoperative position by the chain.

Fig. 2 is a sectional detail on the line 2—2 of Fig. 1.

Fig. 3 is a vertical sectional detail on the line 3—3 of Fig. 1.

Fig. 4 is a longitudinal sectional view through the key controlled chain operating mechanism, the dotted lines indicating the position of the removable element of said mechanism when it has been pulled outwardly to lift the bolt.

Fig. 5 is an enlarged end elevation of the inner end of the key controlled mechanism, the dotted lines indicating the position of the cylinder cross head when the door is locked.

In the drawings I have used the reference numeral 10 to indicate a door hinged at 11 to

the jamb 12 and adapted to be locked to the opposite jamb 13.

A rocking bolt 14 is fulcrumed intermediate its ends on a fulcrum pin 15, this pin being preferably arranged between the center of the door and the hinged edge thereof. Straps or brackets 16 and 17 secured to the door adjacent the respective edges thereof serve to guide the rocking movement of the bolt 14, and strap 16 is preferably disposed above the bolt so that the normal position of the latter is as seen in Fig. 1; that is to say, slightly inclined, whereby a comparative slight rocking of the bolt will serve to disengage its ends from the keeper brackets 19 and 20 arranged on the respective jambs 13 and 12.

In Fig. 1 the bolt is shown in its normal position with its two ends engaged in the keeper brackets 19 and 20, whereby the door is effectively secured by the relatively massive locking bolt, the inwardly extending extensions 12^a of the door jambs (see Fig. 2) preventing the insertion of a bolt-rocking tool between either side of the door and jamb.

The longer end of the bolt, that is to say, the upper end thereof which engages in the keeper 19, is provided with a pin or other suitable anchorage 21 to which one end of a flexible device such as the chain 22 is attached. The other end of this chain is attached to a key controlled member such as the cylindrical block 23 arranged in a cylindrical sleeve 24 keyed at 24^a in the door and adapted to be bodily withdrawn to draw the chain and rock the bolt to disengaged position.

In so far as the key controlled mechanism is concerned, it will be obvious that such mechanism may assume a multiplicity of practical forms. For illustrative purposes however, I have shown one extremely simple mechanism consisting of the sleeve 24 and the cylindrical block 23, the latter being held against inward movement beyond the position of Fig. 4 by a cap 25 including a flange 26 screwed on to the inner threaded end of the shell 24. Block 23 is additionally provided with a flange 27 at its outer end abutting a shoulder 28 defined by an annular recess in the shell 24, and is keyed into the

shell by a tapering key or lug 23^a of triangular cross section taking into a corresponding recess in the shell and which may be readily guided into its recess or keyway in the dark for the purpose of positioning the block in the shell.

Rotatable within the block 23 is a lock spindle 29 of substantially conventional form, rotation of this spindle being normally prevented by tumbler members 30 adapted to be disengaged by the application of a suitable key in the outer end of the spindle. The inner end of the spindle carries a detachable cross head 31 normally engageable with the cap 25 to prevent outward withdrawal of the block 23, but adapted when the spindle is rotated to the position illustrated in Figs. 4 and 5 to pass through an elongated slot 32 in cap 25 and permit withdrawal of the block using the key as a handle to effect such withdrawal.

Axial movement of the spindle within the block 23 may be prevented by a set screw 33 working in an arcuate groove 34 in the spindle. The set screw and groove also serve to limit the rotation of the spindle under the influence of the key, serving as a stop which will notify the operator of the key that the cross head 31 has been moved to the proper position for withdrawing the block.

The operation of the device is as follows. Assuming the parts to be in the locked position of Fig. 1, a key is inserted in the spindle 29 from the outside of the door, and the spindle is rotated until checked by the set screw 33, at which time, head 31 will be in alignment with slot 32 and the block 23 may be drawn outwardly from the sleeve or shell 24, drawing with it the chain 22 and rocking the bolt 14 to the dotted line released position of Fig. 1. The cylindrical block 23 is then bodily replaced in the shell and part 29 turned by the key so that block 23 is held against outward movement until a key is again applied. The tapered key 23^a assists in guiding the block back into proper position.

The bolt may of course be readily manipulated by hand from the inside of the door.

Obviously, various changes and alterations might be made in the general form and arrangement of the parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A door lock including a bolt rockably mounted intermediate its ends on the inner face of a door, keeper means on the door jambs receiving the ends of the bolt, and key controlled means for rocking the bolt, including a removable key controlled member

and a normally slack bolt-operating flexible device attached to said member.

2. A door lock including a bolt and a keeper, a bolt-operating handle member, a casing for the handle and key controlled means normally preventing withdrawal of the handle from the casing and means connecting the bolt and the handle to permit withdrawal of the bolt by power manually applied at the handle when the latter is released from its casing, said connecting means comprising a flexible device normally slack when the handle is in its casing and adapted to be pulled taut as an incident of the removal of the handle from its casing.

3. A key controlled bolt-operating mechanism including a cylinder, a bolt operating block rotatable and slidable therein, means normally preventing sliding movement of the block, but disengageable upon rotary movement of the block within the cylinder and key controlled means normally holding the block against such rotary movement.

Signed at New York, in the county of New York, and State of New York, this 18th day of January, 1928.

MICHAEL DERMODY.