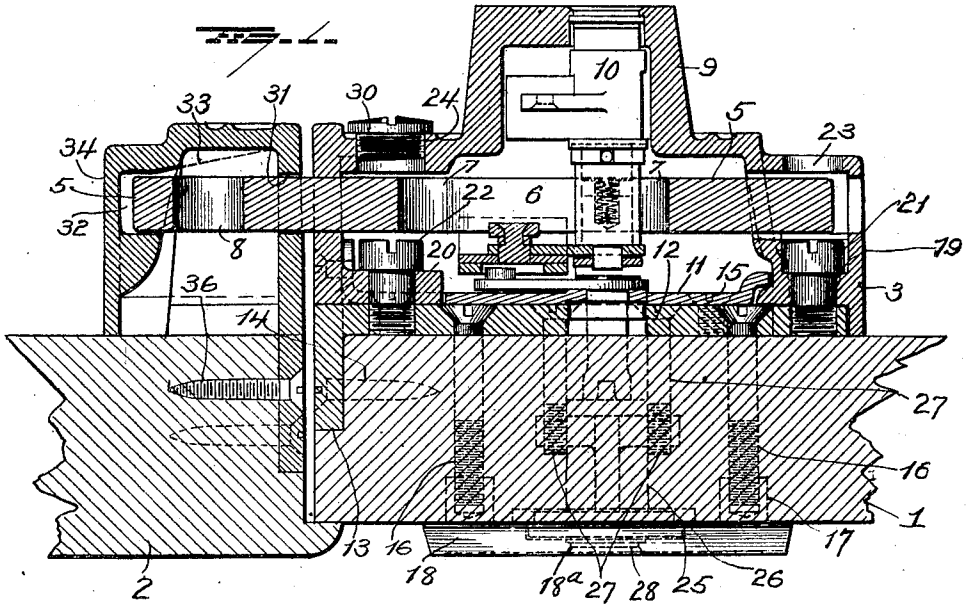
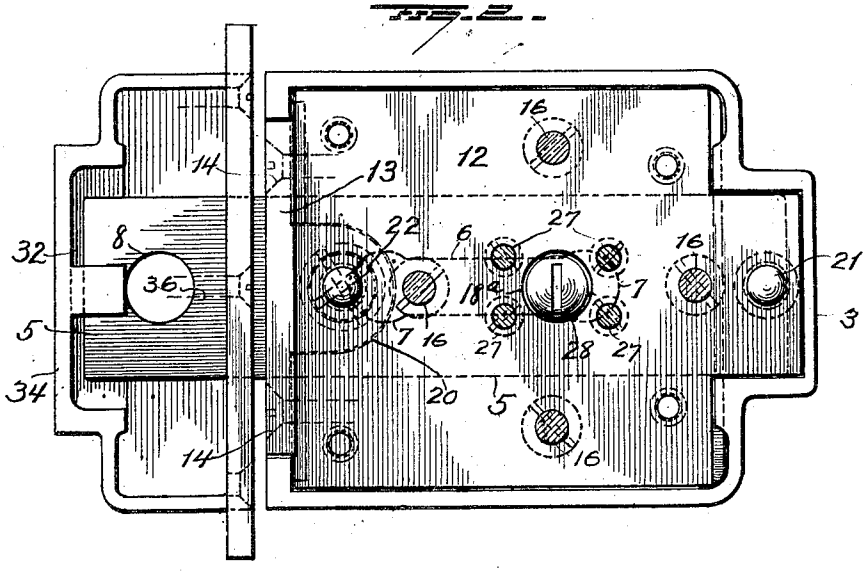
Oct. 28, 1924. 1,512,939

C. LEDIN

LOCK

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Oct. 28, 1924. 1,512,939

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LOCK

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FIG. 3.

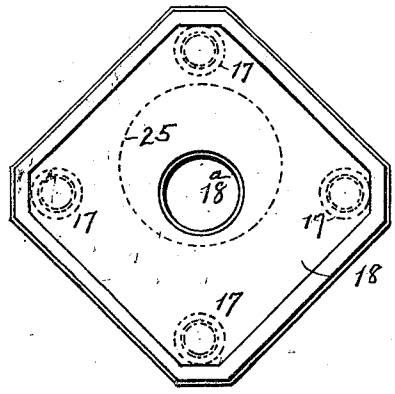


FIG. 4.

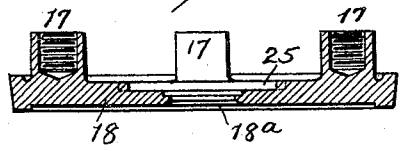
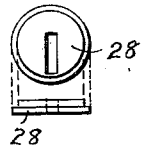


FIG. 5.



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Fig. 6.

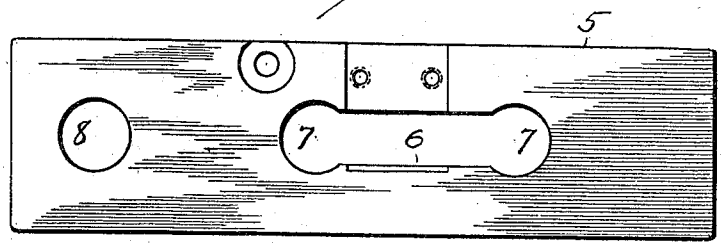


Fig. 7.

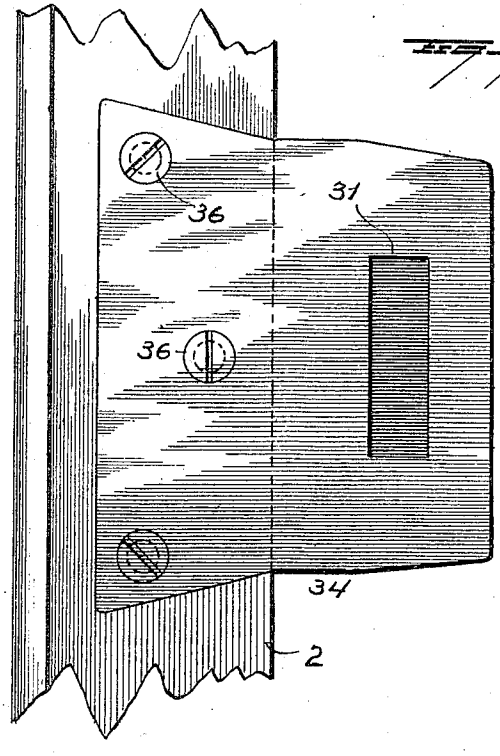
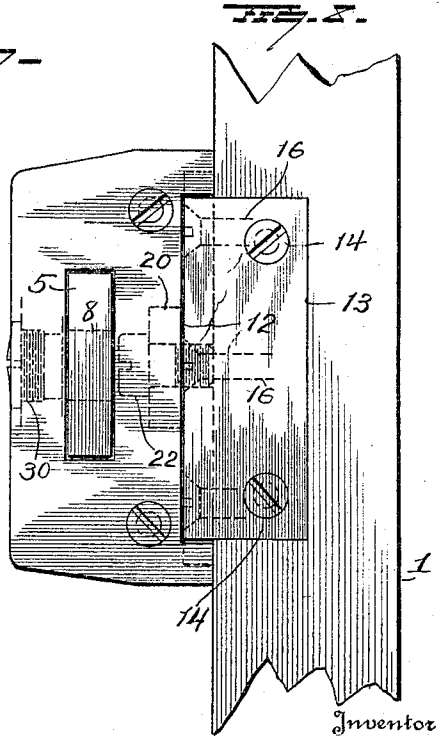


Fig. 8.



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Patented Oct. 28, 1924. 1,512,939

UNITED STATES PATENT OFFICE.

CHARLES LEDIN, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

LOCK.

Application filed September 4, 1923. Serial No. 660,849.

To all whom it may concern:

Be it known that I, CHARLES LEDIN, a citizen of the United States, and resident of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be 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.

This invention relates to improvements in door locks and more particularly to those of the "rim" type,—one object of the invention being to render such locks burglar proof.

A further object is to provide efficient means for securing the lock case to the door by the employment of securing means which shall be protected against attack while the bolt is projected.

A further object is to provide a lock structure wherein protection of the cylinder against drilling or being twisted from its mountings or connection with the door and the lock casing, shall be insured.

A further object is to provide simple means for effecting a strong and rigid attachment of a rim lock casing to the door, so as to render it exceedingly difficult for one to knock the casing off the door, especially in view of the fact that the casing would be preferably made of malleable iron.

A further object is to so construct a rim lock and attach its casing to the door in such manner that the bolt or locking bar shall be operable, when projected, to cover the casing fastening screws so as to guard said screws and prevent their removal, and to so construct said bolt or locking bar that access to said screws will be permitted when the bolt or locking bar is in retracted or unlocked position.

A further object is to so construct the keeper or strike member of the lock that provision shall be made for a wide distribution of the securing screws, with the consequent advantage of a large amount of wood of the door frame to offer resistance against attempts to draw the keeper or strike member out of the wood-work; so that when a member of the strike or keeper is mortised or set into the wood, added strength shall be provided and the wood caused to offer great resistance against attempts to pull the strike or keeper from the door frame, and so that access, through the keeper to the end of the bolt or locking bar, by a tool, shall be effectually prevented.

With these and other objects in view, the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings,—

Figure 1 is a sectional view of a lock structure embodying my improvements.

Figure 2 is a rear face view.

Figure 3 is a face view of the escutcheon or guard plate.

Figure 4 is a sectional view of the same.

Figure 5 illustrates the guard to be disposed in the escutcheon or guard plate, for the plug of the cylinder lock.

Figure 6 is a view of the locking bolt.

Figure 7 shows an inside face view of the keeper or strike, and

Figure 8 is an end view showing the lock casing, the front end of the bolt and the reinforcing plate secured to the door.

In the drawings, a portion of a door is represented at 1 and a portion of the door frame at 2,—a casing 3 of a rim lock being mounted on the former and a keeper or strike member 4 being secured to the latter as more particularly hereinafter explained.

The bolt operating mechanism shown in the drawings may be substantially such as disclosed in patent to Reinhold Schoell June 27, 1922, No. 1,420,760, and hence it is not necessary for the purposes of this application to describe the details of this mechanism,—suffice it to say however that the bolt or locking bar 5 is provided with an elongated opening 6 which may be enlarged at its ends as indicated at 7 and that said bolt is provided near its forward end with a hole 8.

The casing 3 may be provided with a housing 9 to enclose a cylinder lock 10 and the connections between this cylinder lock and the bolt operating mechanism will be permitted by the elongated slot or opening 6 in the bolt 5.

Interposed between the lock casing 3 and its cover plate 11 and the door, is a reinforcing plate 12 which will preferably be made of hardened steel and provided at one end with a flange 13 which is recessed into the edge portion of the door 1 and secured

to the latter by means of screws, such as indicated at 14. The cover plate 11 of the lock casing is secured to the interposed reinforcing plate 12 by means of screws 15 and said reinforcing plate is secured in position by means of stout screws 16 having their heads countersunk in the outer face of said plate. These screws 16 pass through the door and enter threaded bosses 17 projecting inwardly from an escutcheon or guard plate 18 on the outer face of the door,—said bosses being countersunk into the wood of the door so that turning of the plate 18 will be effectually prevented. The lock casing 3 is provided interiorly at its respective ends with enlargements 19 and 20 and these enlargements are provided with holes for the accommodation of stout screws 21 and 22 which enter threaded openings in the reinforcing plate 12 and secure the casing to said plate,—the heads of these screws having bearings against the enlargements 19 and 20 in the casing. It will be observed from inspection of Figure 1, that when the bolt 5 is in its projected position it will cover the screws 21 and 22 so as to render it impossible to gain access to said screws. When the bolt 5 is in its retracted position, one end portion 7 of the slot 6 in the bolt will be disposed over the head of the screw 21 and hole 8 in the bolt will be over the head of the screw 22. The casing 3 is provided near one end with an opening 23 immediately above or over the screw 21 and the forward portion of the casing is provided with an opening 24 over or in alignment with the screw 22. When the bolt is in its retracted position, the openings 7 and 8 will be in alignment respectively with the openings 23 and 24 in the casing so that a tool may be passed through said openings 23 and 24, the openings in the bolt and engage the heads of the screws 21 and 22 for removing them to detach the casing from the reinforcing plate or for initially securing the casing to said reinforcing plate.

The escutcheon or guard plate 18 is preferably made of hardened steel and has in its inner face a recess 25 to provide a seat for one end of a cylinder lock 26 located in a suitable opening in the door,—said cylinder lock being firmly secured to the reinforcing plate 12 by means of a plurality of screws 27. The plate 18 serves to protect the cylinder of the lock 26 against drilling and in order to similarly protect the plug of the outer cylinder lock 26, a steel disk 28 is seated in the inner face of the plate 18 so as to be in line with the key opening 18^a in said plate and directly over the plug of the lock,—said disk being loosely mounted and provided with a slot 29 for the accommodation of the key when the latter is inserted into the plug of the lock. The escutcheon or guard plate 18 also serves to most rigidly and immovably secure, through the medium of the screws 16 and the reinforcing plate 12, the lock to the door so that it will be exceedingly difficult to knock or drive the lock casing from the door and it will be observed that the heads of the screws 16 are inaccessible when the lock is secured to the door, by reason of the fact that the heads of said screws are covered by the cover plate 11 of the lock casing.

If desired, in order to prevent the entrance of dust and dirt into the forward portion of the lock casing, the hole 24 hereinbefore referred to, may be closed by a screw plug 30.

The keeper or strike 4 is made hollow and provided with a slot 31 for the accommodation of the bolt 5 and within said hollow keeper, a seat 32 is provided for the end of the bolt. The outer wall of the keeper may be beveled or provided with beveled portions 33 to assist in directing the forward end of the bolt 5 to its seat and the back wall 34 of the keeper is closed so as to prevent access to the end of the bolt with the use of a driving tool. The keeper or strike member 4 is provided with a dovetail flange or apron 35 which is mortised or recessed into the wood of the door frame 2 and perforated for the accommodation of fastening screws 36. By thus forming the apron of the keeper, provision is made for a wide distribution of the fastening screws and the wood of the frame will be rendered capable of exerting great resistance against attempts to pull the keeper member from the door frame.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:

1. The combination with the casing of a rim lock and an outer escutcheon or guard plate, of a reinforcing plate to be disposed between the lock casing and a door, bolts connecting said reinforcing plate and escutcheon or guard plate, and normally concealed fastening means securing the casing to said reinforcing plate.

2. The combination with the casing of a rim lock and a sliding bolt, of a reinforcing plate, means normally concealed by said bolt when projected for securing the casing to said reinforcing plate, an outer escutcheon plate, and fastening means adapted to pass through a door and connected at respective ends with said reinforcing plate and said escutcheon.

3. The combination with the casing of a rim lock and a sliding bolt, of a reinforcing plate, means normally concealed by said bolt when projected for securing the casing to said reinforcing plate, an outer escutcheon plate, fastening means adapted to pass through a door and connected at respective ends with said reinforcing plate and said escutcheon, and said bolt and casing having

openings to align with each other over the fastening means for the casing to the reinforcing plate when the bolt is in retracted position.

4. The combination with the casing of a rim lock and an outer escutcheon plate, of a reinforcing plate to be interposed between the locking casing and a door, fastening devices for securing the lock casing to the reinforcing plate, fastening devices connecting said reinforcing plate and escutcheon plate, and a cover plate for the casing concealing said last mentioned fastening devices.

5. The combination with the casing of a rim lock and an outer escutcheon plate, of a reinforcing plate to be interposed between the lock casing and a door, means for securing the lock casing to said reinforcing plate, means for securing the reinforcing plate to the escutcheon plate with the door interposed between said plates, and means whereby all of said securing means may be concealed.

6. The combination with the casing of a rim lock and an outer escutcheon plate, of a reinforcing plate to be interposed between the lock casing and a door and provided at one end with a flange to be recessed into and secured to the free edge of the door, means for securing the lock casing to said reinforcing plate, means for securing the reinforcing plate to the escutcheon plate with the door interposed between said plates, and means whereby all of said securing means may be concealed.

7. The combination with a rim lock and a cylinder lock connected with the bolt work of said rim lock and adapted to be disposed in an opening in a door, of a reinforcing plate to be interposed between the casing of the rim lock and the door, means for securing said casing to said reinforcing plate, a guard plate to be disposed in front of said cylinder lock and constitute an armor for the latter, and securing means connecting said guard plate and reinforcing plate.

8. In a lock structure, the combination of a plate to be disposed against the inner face of a door, a cylinder lock to be mounted in the door and secured to said plate, a hardened steel escutcheon or guard plate to be disposed against the outer face of the door, and securing means connecting said escutcheon or guard plate and said reinforcing plate.

9. In a lock structure, the combination of a plate to be disposed against the inner face of a door, a cylinder lock to be mounted in the door and secured to said plate, a hardened steel escutcheon or guard plate to be disposed against the outer face of the door, securing means connecting said escutcheon or guard plate and reinforcing plate, said escutcheon or guard plate having an opening in line with the plug of the cylinder lock, and a hardened metal disk seated in said opening in front of the plug of the cylinder lock and having a key slot.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CHARLES LEDIN.

Witnesses:
WILLIAM H. DONALDSON,
CHARLES A. BERRY.