June 5, 1928. 1,672,076

H. H. MUNSON

ADJUSTABLE LOCK

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Fig. 1.

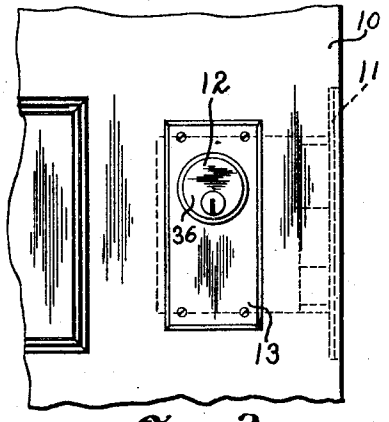


Fig. 2.

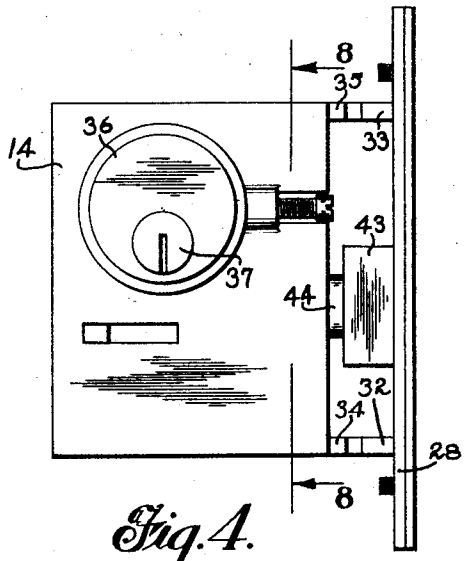


Fig. 3.

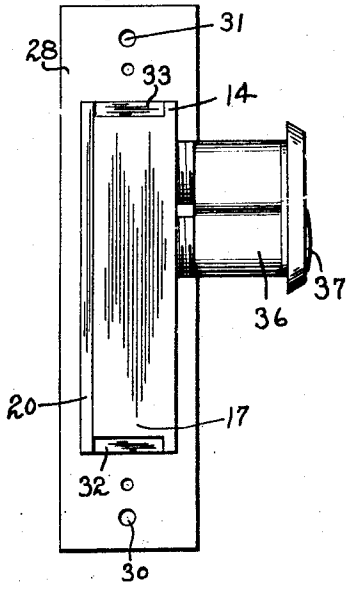
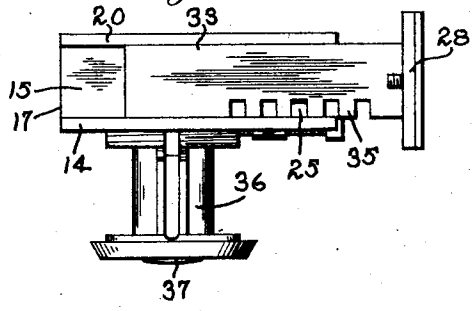


Fig. 4.



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Fig. 5.

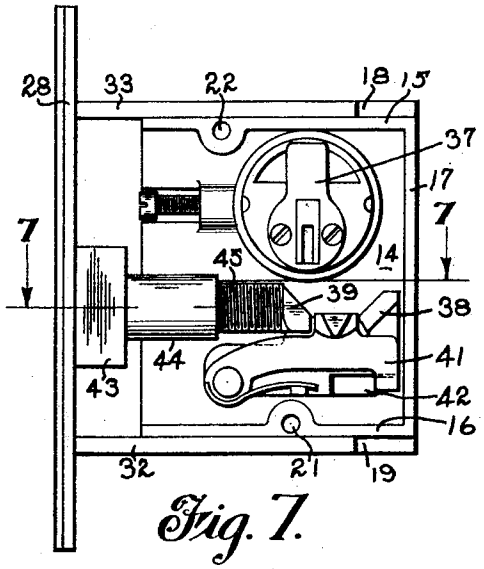


Fig. 6.

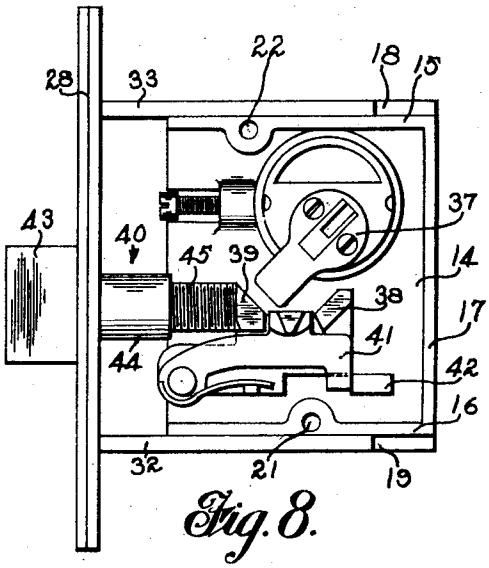
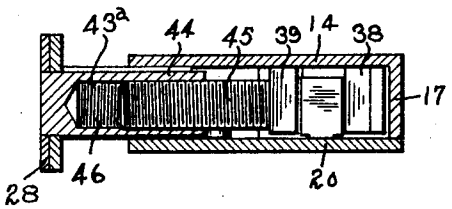


Fig. 7.

Fig. 8.



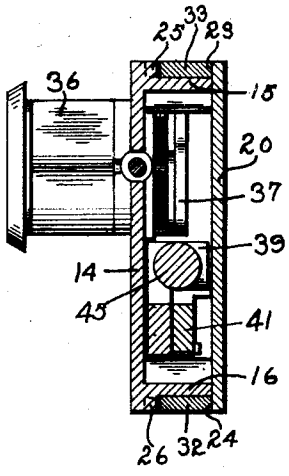
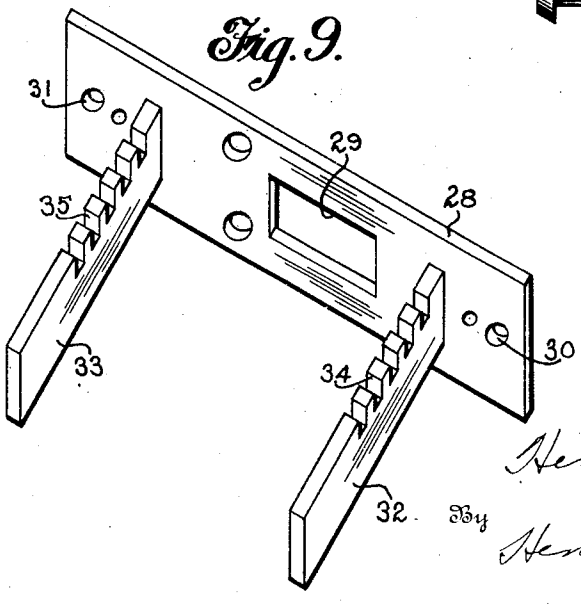


Fig. 9.



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Patented June 5, 1928. 1,672,076

UNITED STATES PATENT OFFICE.

HENRY H. MUNSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & COMPANY, OF NEW HAVEN, CONNECTICUT.

ADJUSTABLE LOCK.

Application filed January 19, 1924. Serial No. 687,306.

This invention relates to locks and more especially to a so-called mortise lock, the case of which is usually placed in a mortise in the front edge of a door, the knob and key cylinder being positioned in an escutcheon plate upon the door stile. It is, of course, essential to have the face plate of the lock substantially flush with the edge of the door and it is also desirable to position the escutcheon plate practically at the center of the door stile. As the stiles of various doors differ in width, it will be apparent that a lock case when properly positioned with respect to the edge of the door may or may not be of the proper dimensions, such that the exposed parts will be disposed in the approximate center line of the stile of the particular door with which the lock is used.

It also sometimes happens that it becomes necessary to remove a lock from a door for the purpose of replacing it with another lock. When this is done, the openings in the door still will not always correspond to those required for the new lock when the face plate of the lock is properly positioned flush with the edge of the door, and it is then necessary to make additional openings in the door stile for the knob and lock cylinder.

I propose to obviate the disadvantage referred to by the provision of a lock provided with an extensible case, such that the body of the lock may be adjusted with respect to the face plate so that the lock cylinder or knob or both, may be properly positioned upon the door stile.

A still further object of my invention is the provision of a new and improved extensible lock case for an ordinary door lock.

A still further object of my invention is the provision of a lock provided with a case having an adjustable face plate so that the latter may always be positioned properly with respect to the edge of the door, regardless of the position of the main part of the lock case.

Still another object of my invention is the provision of a lock case provided with an extensible face plate, and also provided with extensible parts whereby the bolt will be properly positioned with respect to the plate regardless of its adjusted position.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a fragmentary side elevational view of a door having thereon a lock embodying my improvements;

Fig. 2 is a side elevational view of the lock case;

Fig. 3 is a rear view of the lock case;

Fig. 4 is a top plan view;

Fig. 5 is a side elevational view of the lock case with the cover removed, showing the lock mechanism with the bolt in retracted position;

Fig. 6 is a similar view showing the bolt protracted;

Fig. 7 is a sectional view on line 7—7 of Fig. 5;

Fig. 8 is a sectional view on line 8—8 of Fig. 2, and,

Fig. 9 is a perspective view of the face plate and its attaching arms.

In Fig. 1 of the drawings, I have shown a portion of a door at 10, provided with a so-called mortise lock 11 shown in dotted lines, the lock case having connected therewith a lock cylinder 12, projecting through an escutcheon plate 13, mounted at the approximate center of the door stile.

The particular lock case which I have selected to illustrate and describe, although it will be understood that changes may be made therein without departing from the spirit of the invention, comprises a back plate 14, top and bottom plates 15 and 16, and a rear plate or side 17. These parts may be integrally made or rigidly secured together as desired. The rear plate 17 is substantially flush with the rear edge of the back plate 14, while the top and bottom plates 15 and 16 may be slightly offset in an inward direction from the corresponding edges of the back plate, so as to provide projecting shoulders 18 and 19. A cover plate 20 is adapted to be placed upon the lock case and secured thereon by screws or the like passing through openings 21 and 22 in lugs formed with the parts of the case previously described. The cover plate is substantially the same size as the back plate 14, so that it projects at its upper and lower edges slightly beyond the top and bottom plates 15 and 16 to form shoulders 23 and 24. By referring to Figs. 3 and 8 of the drawings, it will be seen that between the shoul-

ders 18 and 23 is formed a guideway upon the upper surface of the plate 15 and likewise the shoulders 19 and 24 define a guideway upon the lower side of the plate 16.

Upon the shoulders 18 and 19 are formed small lugs or detents 25 and 26 which project into the guideways previously described.

A face plate 28 is provided with the usual bolt opening 29 and may also be provided with the usual screw openings 30 and 31 by which it may be secured in place upon the door. At the rear side of the face plate are secured a pair of rearwardly projecting plates or arms 32 and 33, these arms being of the proper width to fit snugly into the guideways at the upper and lower sides of the lock case. The arms 32 and 33 are each provided at one edge with a series of notches 34 and 35, designed to receive the detents 25 or 26 when the lock is assembled. It will be understood that the cover plate 20 may be removed and the arms 32 and 33 may be disengaged from the detents 25 and 26, at which time the face plate may be adjusted relatively to the lock. When the proper adjustment is made, the detents are again engaged in the notches 34 and 35 and when the cover plate is secured upon the lock it will be obvious that the face plate is readily secured in its adjusted position so that while it may stand closer to or further from the body of the lock case, it will still be securely and rigidly attached thereto.

The lock cylinder 12 is provided with a key barrel 36, having a roll back 37 secured upon its inner end. The roll back is designed to engage between the talons 38 and 39 of the lock bolt. Pivotally mounted upon the body of the bolt is a tumbler 41, engaged by the roll back 37, the tumbler co-operating with a detent or post 42 secured to the lock case.

It will be obvious that it will be desirable to adjust the length of the bolt stem so that the face of the bolt head will usually stand flush with the face plate of the lock. To this end the bolt head 43 is formed with an interior bore 43^a and the stem 40 connected to the bolt head is made in two parts, a hollow sleeve-like portion 44 and a threaded rod 45 designed to engage with the interior threaded bore 46 of the stem 44. It will be apparent that the bolt head may be easily and readily adjusted with respect to the threaded stem 45, by rotating the sleeve 44 thereon and in this way the bolt head may be positioned at any desired distance from the lock case within wide limits. It is thus that the bolt may be adjusted to always occupy a proper position with relation to the face plate, regardless of the position of adjustment of the latter.

It will be obvious that I have provided an adjustable lock case and a lock mechanism having an adjustable bolt of very simple construction and which will be economical to manufacture. While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all the details shown but is capable of modification and variation within the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. In a lock, a case and a face-plate therefor, a bolt adjustable as to length mounted in said case, interfitting members formed on said plate and exteriorly on and integral with said case to secure the plate adjustably to the case, and means to hold said members in engagement.

2. In a lock, a case and a face-plate therefor, a bolt adjustable as to length mounted in said case, interfitting members formed on said plate and exteriorly on said case to secure the plate adjustably to the case, and a cover plate for the case retaining said members in engagement.

3. A lock case having one side thereof extending beyond its top and bottom to form shoulders, a face-plate, and interfitting members on said face-plate and shoulders to secure the face-plate adjustably to the case, and means to hold said members in engagement.

4. A lock case having its front and back sides extended beyond the top and bottom thereof to provide shoulders forming guideways, a face-plate, a pair of rearwardly disposed arms secured to the face-plate and adapted to lie in said guideways, and interfitting means on said shoulders and arms to adjustably secure the face-plate to the lock.

5. A lock case having its front and back sides extended beyond the top and bottom thereof to provide shoulders forming guideways, a face-plate, a pair of rearwardly disposed arms secured to the face-plate and adapted to lie in said guideways, and interfitting means on said shoulders and arms to adjustably secure the face-plate to the lock, said front face being removable to permit disengagement of said interfitting means to adjust the position of the face-plate with respect to the lock.

6. A lock comprising a case provided with a removable cover, the rear side of the case being extended beyond the top and bottom sides thereof to form shoulders, arms abutting the top and bottom sides of the case and adjustably secured to said shoulders, a face plate secured to said arms, said cover projecting beyond the top and bottom sides of the case to secure said arms in position.

7. A lock case having shoulders formed at the top and bottom thereof, a face plate having rearwardly projecting arms lying against said shoulders, and means including a removable cover plate for the lock mecha-

nism to secure the arms and face plate in position.

8. In combination, a lock case provided with guideways upon opposite sides thereof, a face plate having arms received in said guideways, and co-operating detents and notches formed upon the lock case and arms to adjustably secure the face plate to the case.

9. In combination, a lock case provided with guideways upon opposite sides thereof, a face plate having arms received in said guideways, and co-operating detents and notches formed upon the lock case and arms to adjustably secure the face plate to the case, a lock mechanism within the case including an adjustable bolt.

10. In combination, a lock case, a face plate having arms secured thereto and extending therefrom toward the lock case in spaced relation to embrace the case upon opposite sides thereof, and means including a removable cover plate for the lock case for adjustably securing said arms to the case.

11. In combination, a lock case, a face plate adjustably secured thereto, and means including a removable cover plate for securing the face plate in various adjusted positions.

12. In a lock, a case, a face plate therefor, a lug formed exteriorly on said case, arms secured to the face plate and projecting rearwardly therefrom, said arms having laterally opening notches in one edge thereof to receive said lugs to secure the face plate adjustably to the case, and means to secure said arms against lateral displacement to maintain the lug in engagement with the arms.

In witness whereof, I have hereunto set my hand this 17 day of January, 1924.

HENRY H. MUNSON.