Jan. 17, 1967 F. J. RUSSELL ET AL 3,298,094

METHOD FOR PREPARING A DOOR FACE TO RETAIN A UNIT LOCK IN POSITION

Filed Oct. 28, 1963

Fig. 1

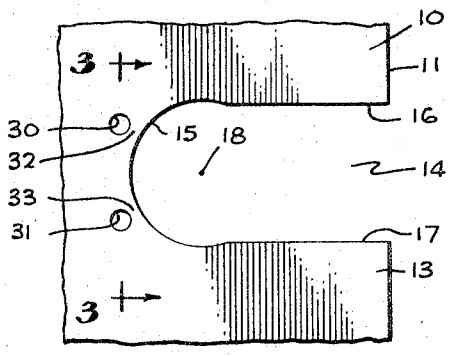


Fig. 2

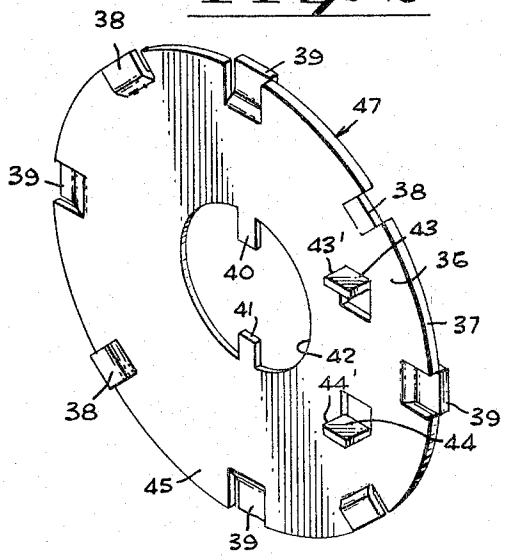


Fig. 4

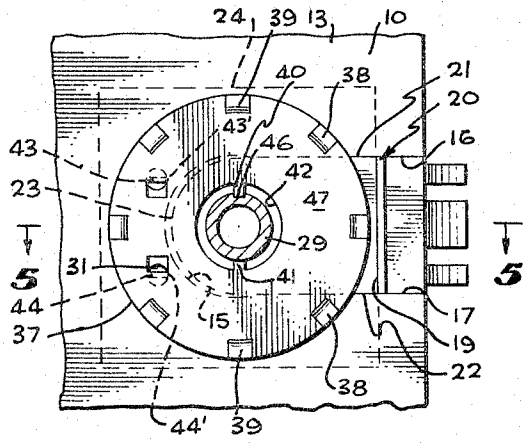


Fig. 3

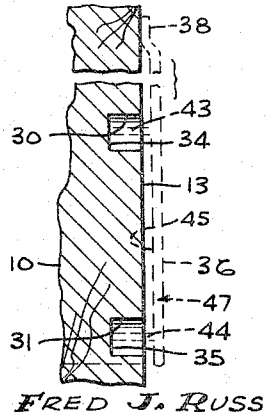
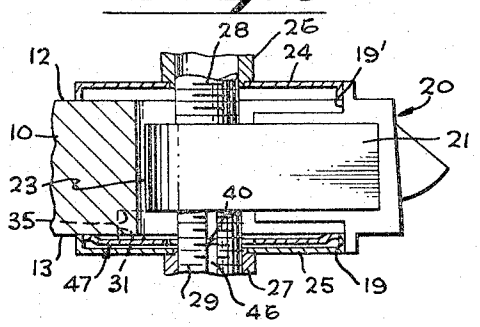


Fig. 5



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METHOD FOR PREPARING A DOOR FACE TO RETAIN A UNIT LOCK IN POSITION

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2 Claims. (Cl. 29—428)

The invention relates to installation techniques in preparing a door for installation of a lock of a particular kind and relates additionally to preparing a retention means to cooperate with the installation. The lock involved is one which customarily is inserted inwardly of the edge of the door, requiring a relatively large cutout to accommodate the lock casing or housing.

There is a certain line of locks of a relatively rugged type, with great security potential, which requires a technique for installation slightly different from the technique and practices employed in the location of ordinary residential locks. The lock under consideration, although known by various names, consists of a housing substantially as thick as the door thickness itself and having a length, at and adjoining the door edge area, which extends a relatively substantial distance from the edge of the door. Initial steps in preparing a door are disclosed in applicants' co-pending application, Serial No. 319,117, filed October 28, 1963, now Patent No. 3,256,918, entitled "Method for Preparing a Door for Installation of a Lock Unit."

It is among the objects of the invention to provide a new and improved method for preparing a door for the insallation of that type of lock which is inserted into a notch cutout in the edge of the door and which only clamps the door faces, the method being especially directed to means preventing the lock from shifting in an edgewise direction.

Another object of the invention is to provide a more rapid method for installing in a door a lock of the type which only clamps to the door faces in a recess cut edgewise into the door.

Still another object of the invention is to provide a new and improved method for reliably retaining a lock in a door wherein the lock is one which is inserted edgewise into a cutout at the door edge and which only clamps to the door faces.

With these and other objects in view, the invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter set forth, pointed out in the appended claims and illustrated in the accompanying drawings.

In the drawings:

FIGURE 1 is a fragmentary side elevational view of a door prepared by the method under consideration.

FIGURE 2 is a side perspective view of a retaining plate adapted to be made use of in the method.

FIGURE 3 is a fragmentary longitudinal sectional view taken on the line 3—3 of FIGURE 1.

FIGURE 4 is a side elevational view of a fragment of door showing a lock housing and accompanying retaining plate in position.

FIGURE 5 is a cross-sectional view taken on the line 5—5 of FIGURE 4.

In an embodiment of the invention chosen for the purpose of illustration, there is shown a door **10** having an edge **11** and opposite faces **12** and **13**. A cutout **14** extends transversely inwardly into the door **10** from the edge **11**. A cutout of the type made reference to may be made by boring a hole **15** through the door **10** from one or another of the faces **12** or **13** through the opposite face as an initial step. Thereafter, saw cuts are made

from the edge **11** of the door **10** whereby to form, respectively, upper and lower parallel edges **16** and **17**. The saw cuts forming the edges **16** and **17** extend inwardly until they break through the edges of the hole **15**, whereupon a cutout piece of the door (not shown) is removed.

A center **18** of the hole **15** is normally the center of rotation of retracting mechanism (not shown) contained in a lock housing indicated generally by the reference character **20**. The lock housing **20** has, respectively, upper and lower walls **21** and **22** terminating in a rounded inside wall **23**. The lock housing **20** is inserted into the cutout **14** to a position where the rounded inside wall **23** clears the adjacent wall of the hole **15** and where the upper and lower walls **21** and **22**, respectively, fit snugly within the upper and lower edges **16** and **17**.

Once in position, a lock housing of the type here under consideration is clamped to the opposite faces **12** and **13** of the door **10** by respective escutcheon plates **24** and **25** which are forced into frictional engagement with the said faces by turning one or both of opposite collars **26** and **27**, respectively, which are in threaded engagement with opposite threaded hubs **28** and **29**, respectively. The collars **26** and **27** bear against the escutcheon plates **24** and **25**, forcing them into clamping engagement with the door **10**. Although this engagement is sufficient to mount the lock housing **20** in the cutout **14**, it is insufficient to prevent a transverse shift of the lock housing **20** in the cutout **14** away from the edge **11**.

Ordinarily, the escutcheon plates **24** and **25** cover an area of an extent sufficient to amply hide all portions of the lock housing **20** to the left of ridges **19** and **19'**, as shown in FIGURE 5.

In order to provide a method for preventing the edgewise dislodgment mentioned above, one or more recesses **30**, **31** are bored in one face of the door **10**, as for example, the face **13** in the chosen embodiment. These recesses **30**, **31** are spaced from the edge of the hole **15**, leaving undisturbed portions **32** and **33**, respectively, of the door face **13**. Further still, these recesses **30**, **31** extend only a short distance into the door **10** from the edge **11** as suggested by the location of a bottom **35** of one of the recesses **31**, as shown in FIGURES 3 and 5. The other recess **30**, if more than one recess is employed, may have its bottom **34** at a corresponding depth. It is further important to note that the entire area covered by the recesses **30** and **31** lies well within the area defined by the escutcheon plate **25**.

In contemplation of the practice of the method, the method comprehends making use of a retaining plate, indicated generally by the reference character **47**, which consists of a disc **36** having a perimeter **37** which extends outside of the area occupied by the recesses **30** and **31** but which does not extend outside of the area occupied by the escutcheon plate **25**. The disc employs inner offset portions **38** and outer offset portions **39** which, together with the thickness of the disc **36**, adequately fill the space between the escutcheon plate **25** and the face **13** of the door **10**. Tongues **40** and **41** are helpful in centering the disc **36** in a rotational direction with respect to the hub **29** over which an aperture **42** of the disc **36** extends.

One or more tabs like the tabs **43** and **44** are formed from the metal of the disc **36** by punching them out and bending them in an inward direction with respect to an inner face **45** of the disc **36**. The method comprehends punching out or otherwise forming the tabs **43** and **44** so that their edges **43'** and **44'**, respectively, register against the corresponding wall of recesses **30** and **31**, respectively, when the lock housing **20** is in a position wherein its edge is flush to the door edge **11**, as shown in FIGURE 4.

In the employment of the method, it is customary to

first form the disc **36** and the tabs **43** and **44** thereon in an appropriate direction and spaced so that they, when in use, will lie in a position spaced from the wall of the hole **15** but still lying within the area occupiel by the escutcheon plate **25**. This precaution is automatically taken care of by forming the perimeter **37** of the retainer plate **47** small enough so that it lies within the perimeter of the escutcheon plate **25**. Customarily also, the retainer plate will be mounted over the threaded hub **29** prior to application thereto of the escutcheon plate **25**. Therefore, when the door **10** is prepared, first with the cutout **14** and then with the recesses **30** and **31** in the manner heretofore described, the tabs **43** and **44** will be moved into positions in the recesses **30** and **31**, respectively, to the locations suggested in FIGURE 3 and FIGURE 4. Thereafter, subsequent to clamping of the lock housing **20** in position by manipulation of the collars **26** and **27**, the tabs **43** and **44** will be anchored in their positions within the respective recesses **30** and **31** and therefore prevent the lock housing from shifting outwardly in a transverse direction. Moreover, when the threaded hub **29**, for example, is provided with a slot **46** for reception of the tongue **40**, the tabs **43** and **44** are anchored rotatively in relation to the lock housing **20**; and the relatively close fit between the aperture **42** of the disc **36** and the diameter of the hub **29** anchors the tabs **43** and **44** transversely in relation to the lock housing **20**.

It will appear, therefore, from the foregoing description that the method is an extremely simple one for securely anchoring the lock housing **20** in its position in the door **10**, inasmuch as there need be relatively few operations, namely, boring of the recesses **30** and **31**, and inserting the tabs **43** and **44** in the recesses **30** and **31** when the lock housing **20** is being mounted on the door **10** in the regular way.

While the invention has herein been shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices.

Having described the invention, what is claimed as new in support of Letters Patent is:

1. In a door and lock housing assembly of the kind wherein the door has a cutout slot from one edge extending through the door from face to face and wherein a lock housing extends into said cutout slot from said edge and is retained partially by an escutcheon plate located against a face of the door in position covering a selected area, a method for preparing a door for anchoring said housing against edgewise removal comprising forming at least one recess on one face thereof to receive a retaining means extending from a retaining plate at a location spaced from the cutout slot and at the same time falling within the area covered by the escutcheon plate, forming a retaining plate with a perimeter no larger than said escutcheon plate, forming a tab on said retaining plate and locating said tab into said recess when the lock housing is assembled on said door.

2. In a door and lock housing assembly of the kind wherein the door has a cutout slot from one edge extending through the door from face to face and wherein a lock housing extends into said cutout slot from said edge and is retained partially by an escutcheon plate located against a face of the door in position covering a selected area, a method for preparing a door for anchoring said housing against edgewise removal comprising forming at least one recess on one face thereof at a location further removed from said one edge than the cutout slot to receive a retaining means extending from a retaining plate at a location spaced from the cutout slot and at the same time falling within the area covered by the escutcheon plate, said retaining plate having a perimeter no larger than said escutcheon plate, forming an extending tab on said retaining plate with a surface which engages the recess in a direction which retains the lock housing assembly from moving out of position in said cutout slot when the lock housing is assembled on the door, and inserting said tab in said recess during application of said retaining plate to the adjacent face of the door.

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