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SHOWCASE LOCK MECHANISM

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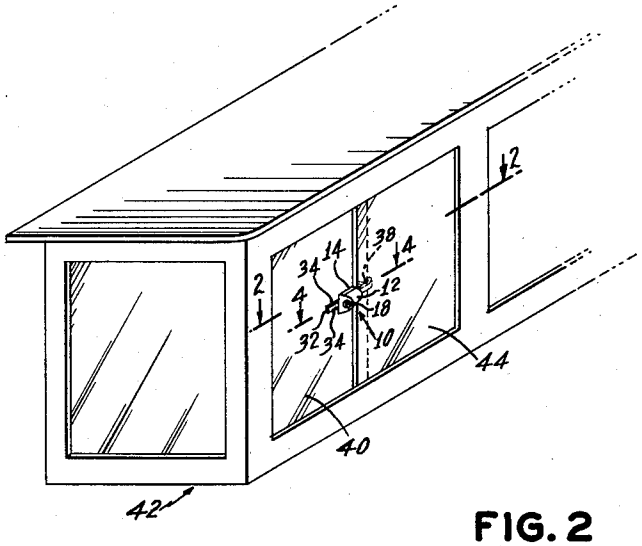



FIG. 1

FIG. 2

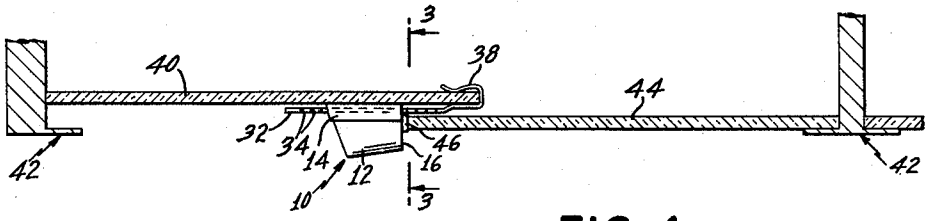



FIG. 4

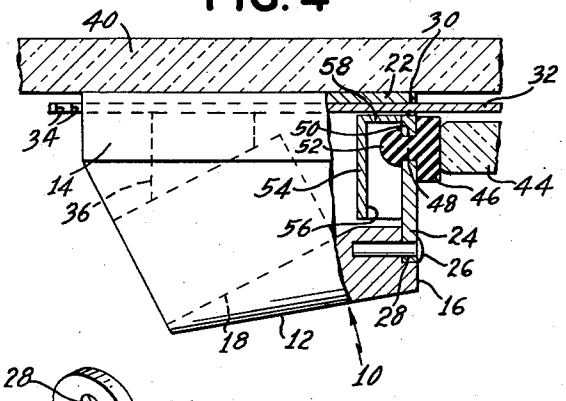



FIG. 3

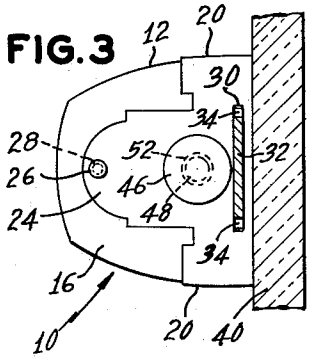
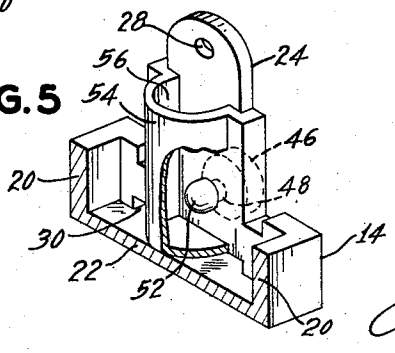



FIG. 5




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# SHOWCASE LOCK MECHANISM

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This invention relates to lock mechanisms and in particular to such locks employed in showcases.

Showcase display cabinets usually comprise a plurality of sliding glass doors. In order to insert merchandise into and remove the same from the showcase, it is necessary to slide the glass doors relative to each other. These showcase doors can be locked and limited from opening and closing movement by the application of a lock mechanism. However, as frequently happens, when the lock mechanism is applied to the sliding glass doors, slight movement of the doors will cause them to abut the lock mechanism and splinter or crack its glass at the point of abutment.

An object of the present invention is to provide a lock mechanism and splinter or crack its glass at the point thereof to move into and out of abutment with the lock mechanism without cracking or splintering the abutting surface of the glass door.

Another object of the invention is to provide a lock mechanism having a force absorbing resilient abutment means mounted in position thereon for force absorbing cooperation with the coinciding surface of the glass door of the showcase to which the lock mechanism is attached.

Still another object of the invention is to provide a showcase lock mechanism that can not be burglarized. In this connection, a novel feature of the invention resides in the provision of burglar-proof guard means positioned within the interior of the lock mechanism in a location behind the normally accessible front plate thereof obstructing and foiling attempts to gain access to the interior of the lock mechanism through such plate.

Other and further objects of this invention reside in the structures and arrangements hereinafter more fully described with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of a showcase illustrating the relatively movable glass doors secured in closed position by the lock mechanism that is constructed according to the teaching of the invention,

FIG. 2 is a cross section of FIG. 1 taken along lines 2—2,

FIG. 3 is a cross section of FIG. 2 taken along lines 3—3,

FIG. 4 is a cross section of FIG. 1 taken along lines 4—4, and

FIG. 5 is a perspective view of the front plate and a portion of the base of the lock mechanism.

Referring now to the drawing, the numeral 10 is employed in a general manner to identify the lock mechanism. The lock mechanism 10 has a housing that comprises a casing 12 adapted to be connected and securely joined to a base 14. Both the casing 12 and base 14 when secured together complete the housing details of the lock mechanism 10. For the purpose of this invention, the precise or structural details of the casing 12 are unimportant since the same are not deemed to be inventive other than as they are utilized in connection with the structural details of the base 14 to be described.

To provide a clearer understanding of the overall details of construction and the cooperation of the casing 12 with that of the base 14, it is noted that the casing is provided with a front surface 16, as is shown more clearly in FIGS. 3 and 4. The body of the casing 12 tapers



and enlarges in a rearward direction away from the front surface 16 to accommodate and mount therewithin a key operated tumbler 18. The base 14 is securely fastened to the underside of the casing 12. Base 14 extends longitudinally for the full length of the casing 12 and includes a pair of laterally spaced upstanding side walls 20 that merge with a bottom wall 22.

The lateral space between the walls 20 is substantially equal to the width of the casing 12 so that the lower portion of the casing can seat thereon and be congruously joined therewith. The front of the base 14 is provided with a front plate 24 of irregular configuration. The front plate 24 is substantially perpendicular to the bottom wall 22 of the base 14 and is adapted to be inset into a complementary shaped surface 16 of the casing 12. Hence, the casing 12 and base 14 can be assembled to form a unitary housing of the lock mechanism 10. The housing assembly is held together by the use of a plurality of securing means 26 in the form of screws, pins or rivets inserted through the bottom wall 22 and through the front plate 24, respectively, into the body of the casing 12 as illustrated in FIGS. 3, 4 and 5. To illustrate this, the front plate 24 is provided with a suitable opening 28 to accommodate the securing means 26.

At the jointure of the bottom wall 22 and front plate 24 of the base 14 is an elongated aperture 30 that opens onto the face or front of the lock mechanism 10 and extends longitudinally along the length of the base 14 and the mating bottom portion of the casing 12 between the walls 20. This elongated aperture is adapted to receive a locking slide 32 for movement into and out of the same.

The locking slide 32 is elongated in length and is provided with a plurality of locking notches 34 along the lengths of the opposite edges thereof. The locking notches 34 are adapted to be engaged by a keeper 36 (FIG. 4) actuated by the operation of the tumbler 18. The forward end of the slide 32 is substantially hook-shaped as shown at 38 to engage about the edge of the rear one of the sliding glass doors 40 of a showcase generally identified by the numeral 42. The front panel of the showcase 42 is identified by the numeral 44.

In normal use, before the application of the lock mechanism 10 to the showcase 42, the panel 44 is slid from its closed position as shown in FIGS. 1 and 2 fully to the left to its open position. In like, but opposite manner, the panel 40 is then slid to the right exposing its right hand edge. The hook-shaped portion 38 of the locking slide 32 is then slid over the exposed edge of the same to assume the position shown in FIGS. 1 and 2 permitting the rear end of the locking slide 32 now to be exposed at the left hand edge of the door 44.

The housing of the lock mechanism 10, comprising the secured and assembled combination of the casing 12 and base 14, is then positioned such that its elongated aperture 30 is in alignment with the left hand end of the locking slide 32. Thereafter, continued movement to the right of the assembled casing 12 and base 14, toward the left hand edge of the door 44, will cause the housing of the locking mechanism 10 to receive and accommodate therein the exposed left hand end of the locking slide 32. The casing and base are moved along the slide 32 until the front plate 24 abuts the left hand edge of the front door 44. The tumbler 18 may now be key actuated to release the keeper 36 causing the same to engage with the locking notches 34 provided along the opposite lateral edges of the locking slide 32 and enclosed between the casing 12 and base 14. The engagement of the keeper 36 with the notches 34 thus prevents the doors 40 and 44 from moving relative to each other.

However, as frequently happens, the doors are sometimes permitted relative movement because the store-

keeper does not properly operate the locking mechanism 10 in the manner described. For this reason, therefore, the front plate 24 is provided with a resilient deformable force absorbing bumper means. The bumper means may be secured in any convenient manner to the face of the front plate 24 by vulcanizing or glueing the same thereto. However, in practice, the bumper means is formed with an enlarged head 46 that seats against the exposed face of the front plate 24 and is positioned between the front plate and the left hand edge of the sliding door 44. A narrower body 48 is formed integral with the head 46 and extends through an opening 50 provided for the accommodation of the same in the front plate. The narrower body 48 is of such diameter that it is normally larger than that of the opening 50 but when deformed, it is capable of being pressed thereinto to be engaged with the wall of the opening. The narrower body 48 is formed with a larger securement portion 52 that becomes positioned against the rear or interior face of the front plate 24, thereby preventing the bumper means 46 from removal front the front plate 24.

In the use of conventional showcase lock mechanisms to which the instant invention relates, the same have been burglarized by drilling a small hole through the front plate 24 rearwardly into the tumbler 18 thereby rendering the tumbler inoperative. The present invention is directed to a structure for preventing and foiling this manner of burglarization. This is accomplished by the provision of a guard means 54 that has a front guard surface 56. The guard means 54 is arcuately shaped with its surface 56 longitudinally spaced rearward from but parallel to the rear or interior surface of the front plate 24. The ends of the arcuately shaped guard means 54 are formed integral with and as a unitary part of the front plate 24 so that there is no space or opening provided between them through which a burglar may have access to the interior of the lock mechanism. In addition, the bottom of the guard means 54 is provided with a bottom closure surface 58 that is positioned in alignment with the elongated aperture 30 in which the locking slide 32 is accommodated. Hence, access to the interior of the lock mechanism by way of the slot 30 is prevented by the closure surface 58 while drilling access to the tumbler 18 through the plate 24 is foiled by the guard means 54 positioned therebehind.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art, without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.



I claim:

1. A lock mechanism comprising a housing, said housing including a casing and a base, said base having a plate forming the front of said housing, a longitudinally extending slot defined in said casing and base and extending through said plate, a locking slide longitudinally movable into and out of said casing along said slot, operable lock means in said casing to releasably lock said slide in said slot, means in said casing to operate said lock means, and drill resistant guard means on and having a portion thereof spaced longitudinally from the rear of said plate and being positioned within said casing.

2. A lock mechanism as in claim 1, said drill resistant guard means having a surface formed integral with spaced portions of said plate and having a curved surface spaced from the rear of said plate.

3. A lock mechanism as in claim 2, said curved surface of said drill resistant guard means being arcuately shaped with the sides of said arcuate shape being connected with the rear of said plate, and a portion of said arcuate shape longitudinally spaced from the rear of said plate being parallel with respect thereto.

4. A lock mechanism as defined in claim 1 adapted to have the locking slide substantially parallel to and with a portion thereof between two sliding panels with the said plate forming the front of the said housing in facing relationship to an end of one of the said panels, said lock mechanism comprising resilient means on said plate, said plate having an opening defined therein to receive a portion of said resilient means, and said resilient means comprising a body portion having a narrower central portion adapted to be frictionally engaged in said opening of said plate so that a portion of said resilient means will be within the said housing and another portion of said resilient means will be outside of the plate on the said housing and in a position to abut the said end of the said panel whereby when the said lock mechanism is in locking engagement with the said panels, the said resilient means will be under compression.

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