May 15, 1962 M. RIFKIN 3,034,328

WINDOW LATCHING DEVICE

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Fig. 1.

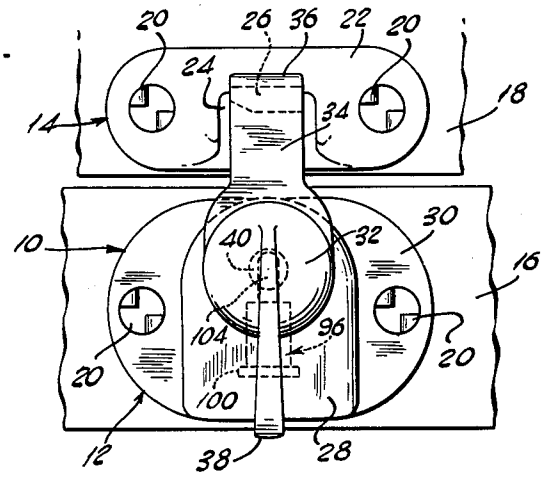
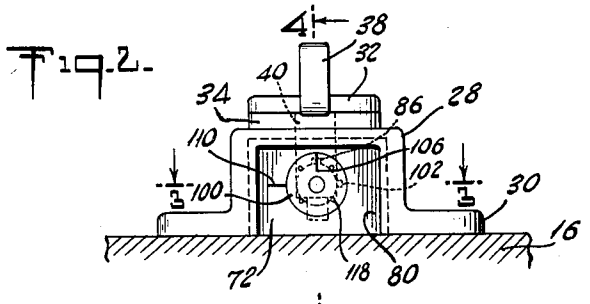


Fig. 2.



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Fig. 3.

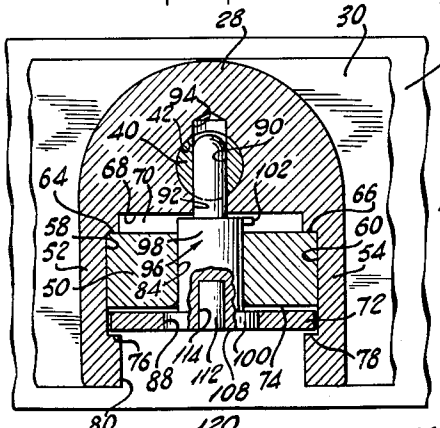


Fig. 4.

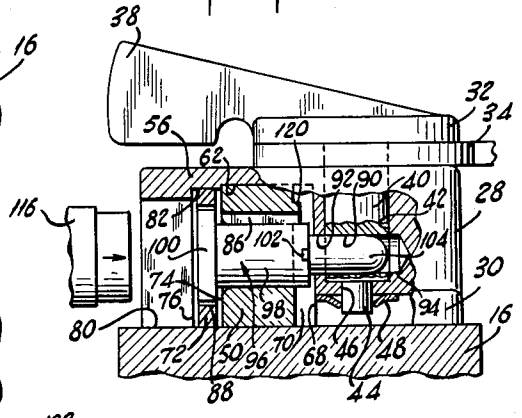
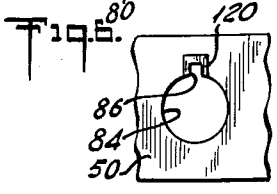


Fig. 6.



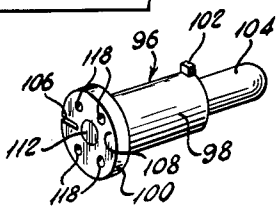


Fig. 5.

INVENTOR
MICHAEL RIFKIN
BY
Harold Kaplan
ATTORNEY

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Fig. 7.

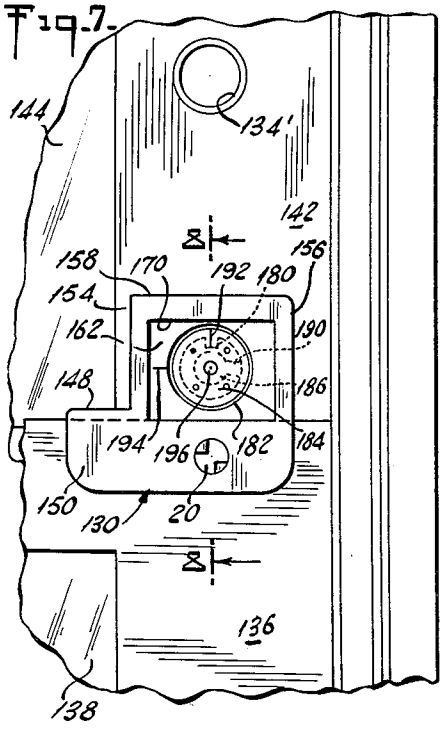


Fig. 9.

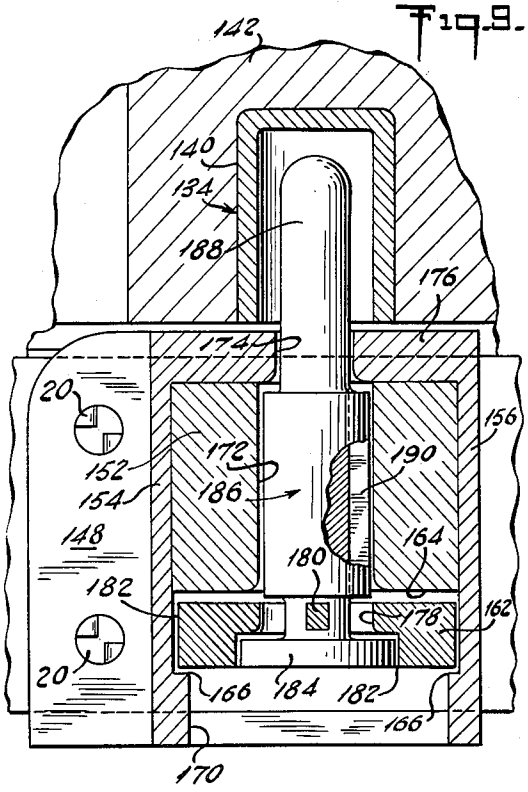


Fig. 8.

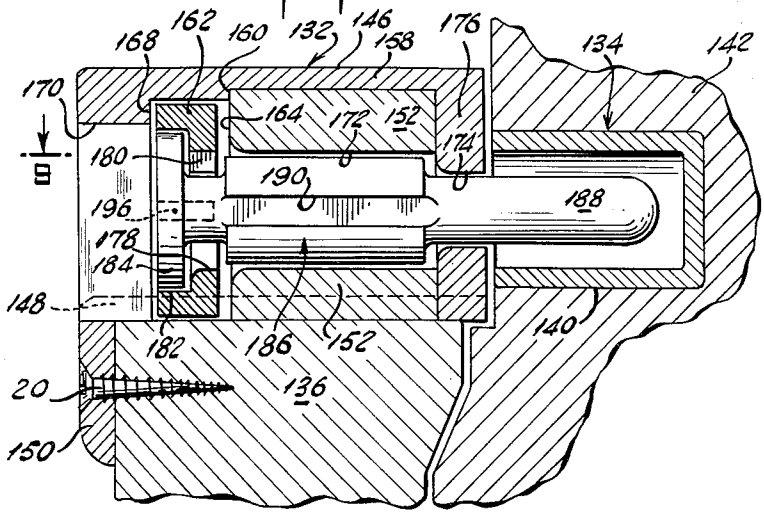


Fig. 10.

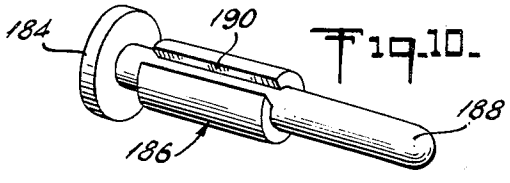
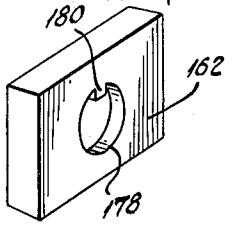


Fig. 11.



INVENTOR
MICHAEL RIFKIN
BY Harold D. Kaplan
ATTORNEY

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3,034,328

WINDOW LATCHING DEVICE

Michael Rifkin, 458 Lake Ave., Lyndhurst, N.J.

Filed Aug. 4, 1958, Ser. No. 752,843
3 Claims. (Cl. 70—90)

This invention relates generally to an improved window latching device and, more particularly, to an improved window latching device incorporating a novel and improved anti-burglary locking arrangement.

In my application Serial No. 700,457, filed December 3, 1957, for Window Latching Device, there are disclosed latch arrangements having novel means for locking sashes in a closed, or near closed, condition in a burglarproof manner and one important aim and object of the present invention is the provision of a window latching device of a generally similar character in which one of the latch parts includes a lockable rotatable member having improved means for the locking thereof for concomitantly locking sashes in a burglarproof manner.

Another important object of the present invention is the provision of a sash lock in which one of the latch parts has provision for a lock bolt which is interlockable therewith and is bodily engageable with a companion latch part for concomitantly locking sashes in a burglarproof manner.

Another important object of the present invention is the provision of a latching device or sash lock which may be used with conventional types of double-hung windows, either as an original installation sash lock or as a replacement for the conventional types of presently used sash locks.

Yet another object of the present invention is the provision of an improved latching device of the aforenoted character which is of simple design and construction, and in which the anti-burglary locking feature may be made selectively operative or inoperative by the householder in a quick and facile manner.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawing in which:

FIG. 1 is a top plan view of a sash lock formed according to the present invention and adapted for use with double-hung sash;

FIG. 2 is a front view thereof;

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 2;

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 2;

FIG. 5 is a perspective view of the key lock bolt;

FIG. 6 is a fragmentary rear view of the latch block showing the details of the key lock bolt stop provision;

FIG. 7 is a front elevational view showing a modified form of sash lock installed in double-hung sash;

FIG. 8 is a sectional view, on an enlarged scale, taken on the line 8—8 of FIG. 7;

FIG. 9 is a sectional view taken on the line 9—9 of FIG. 8;

FIG. 10 is a perspective vew of the key lock bolt of the sash lock shown in FIGS. 7–9; and

FIG. 11 is a perspective view of the lock plate.

Referring to the drawing, there is shown a latch device or sash lock 10 which may be used with conventional types of double-hung windows, either as an original installation sash lock or as a replacement for the presently used sash lock. The sash lock 10 comprises a complementary pair of releasably interengageable latch parts 12 and 14 which are secured to the meeting rails 16 and 18, respectively of a double-hung window by suitable fasteners, such as clutch head screws 20 which extend

through companion apertures provided in the latch parts.

The latch part 14 is preferably of one-piece construction and comprises a base 22 having a centrally upstanding part 24 which terminates in a hook-shaped portion 26, the base being mounted to the top face of the rail 18 of the upper sash by screws 20. The latch part 12 comprises a housing 28 having a base 30 which is mounted to the top face of the rail 16 of the lower sash by screws 20, said housing pivotally mounting the parts 32 and 34, the latter part having a hook-shaped terminal end 36 which is formed complementary to the portion 26 and interengageable therewith for locking the sashes. The part 32 includes a projecting finger-piece 38 for facilitating the manual rotation of the parts 32 and 34. The part 32 has suitably secured thereto a downwardly projecting rotatable shaft or member 40 which extends through a complementary aperture 42 provided in the housing 28, said shaft having a reduced diameter end portion 44 extending through the aperture 46 which extends from the aperture 42. The shaft 40 is retained in position against axial displacement by the lock ring 48 which is snapped over the end portion 44 of said shaft. The part 34 is secured in position between the housing 28 and part 32, and shaft 40 extends through part 34 and is operatively associated therewith in any suitable manner to provide conjoint rotation of the parts 32, 34 and 40 as a unit on the manipulation of the finger-piece 38. More particularly, the portions 26 and 36 of the latch parts 14 and 12, respectively are releasably interengaged for latching the sashes by manipulating the fingerpiece 38 to rotate the part 34 conjointly therewith to the FIG. 1 position, the portions being disengaged by manipulating the finger-piece in the opposite direction.

Pursuant to the present invention, the block or fixed lock part 50 is mounted forwardly of the housing between the laterally spaced walls 52 and 54 and against the top wall 56. The ends of the block 50 are seated in recesses 58 and 60 provided in the walls 52 and 54, respectively and the top of the block is seated in a recess 62 of said top wall. Thus the rear of the block seats against the shoulders 64 and 66 of the housing and is spaced from the wall 68 thereof to define a space or clearance 70 for a purpose which will be apparent from the description which follows. Also seated in the recesses 58 and 60, but with a loose fit, is a plate 72 which is movable in a direction perpendicular to the plane thereof between the forward wall 74 of the block and the shoulders 76 and 78 of the housing, the latter having a forward opening 80 providing access to the plate. The top marginal edge of the plate interfits in the recess 82 provided in the top wall 56 of the housing. The block 50 is provided with a through aperture 84 having a keyway 86 coextensive therewith, the plate having an aperture 88 aligned with the aperture 84 but of larger diameter. The shaft 40 is provided with a transverse aperture 90 which registers with the companion apertures 92 and 94 of the housing 28 in the latched position thereof as shown in FIGS. 3 and 4.

The sashes are locked in a burglarproof manner by installing the lock bolt 96 in position in the latch part 12 in the manner to be described in detail below. The lock bolt 96 comprises a shaft or body part 98 and a head 100 which are formed complementary to the apertures 84 and 88, respectively to interfit therewith. The inner end of the shaft part 98 is provided with a laterally projecting key 102 which interfits in the keyway 86. Extending axially from the shaft part 98 is a reduced diameter part 104 which is formed complementary to the aperture 90 of the member 40 and is adapted to be received therein for locking the sash lock. While a specific form of key has been illustrated and described herein, it will be apparent that other forms of keys may be used to ac-

complish the function to be pointed out in detail hereinafter.

In order to lock the sashes in a burglarproof manner, the part 38 is manually actuated to the sash locked position in which the portion 36 is interengaged with the portion 26 as shown in FIG. 1, and the lock bolt 96 is installed in position. More particularly, the key 102 is registered with the keyway 86 and the bolt is extended through the aligned apertures 88 and 84 to position the bolt part 104 in the aperture 90 of member 40. In this installed position of the bolt, the head 100 thereof loosely interfits in the aperture 38 of the plate in substantially flush relation therewith. The bolt is rotated to take the key 102 out of registry with the keyway 86 and to lock the sashes in a burglarproof manner. The key 102 will be disposed in the space 70 as shown in FIGS. 3 and 4 in the installed condition thereof, and in this condition the member 40 will be locked against rotation.

It will be apparent that the bolt must be removed to unlock the sashes and such removal requires the registry of the key with the keyway. This is accomplished by the householder by rotating the bolt to align the index mark 106 on the face 108 of the bolt with the index mark 110 on the face of the plate and with the index marks so aligned the key will be in registry with the keyway and the bolt will be conditioned for axial retraction. The bolt is preferably formed of non-magnetizable material such as aluminum and is provided with a magnetizable insert 112 formed of steel, for example, which is press-fitted or otherwise suitably secured in the recess 114 of the bolt. As best shown in FIGS. 3 and 5, the forward end of the insert 112 is in flush relation with the face 108 of the bolt. A magnetic tool such as the tool 116 must be accurately registered with the exposed end of the insert 112 to withdraw the same, this arrangement enhancing the antiburglary feature. The householder manipulates the tool 116 to the face 108 of the bolt head in registry with the insert 112 and the latter will be magnetically attracted to the tool so that the bolt may be axially retracted. The bolt head is provided with one or more small apertures 118 to facilitate the rotation of the bolt and the latter may be rotated by a suitable pin inserted in an aperture 118. Thus the bolt may be readily rotated and retracted by the householder to unlock the sash but this becomes a near impossible task for a would-be burglar who must gain access to the bolt from an outside position, as by breaking a window pane. Even if the burglar is sufficiently accomplished to know that lock bolt removal is required for unlocking a sash, he will be frustrated in his attempt to remove the lock bolt without frontal visual access thereto, and thus the latching device provides a burglarproof sash lock. The entrance to aperture 84 is suitably rounded or chamfered and the terminal end of part 104 is rounded, this arrangement facilitating the reception and guidance of the lock bolt into position in its companion apertures.

The loose mounting of the plate 72, which is formed of magnetizable material, enhances the anti-burglary feature aforedescribed in that the application of a magnetic tool to the plate by the burglar without frontal visual access will result in the jiggling of such plate in its mounting to thereby further confound the burgler in his attempt to locate and withdraw the locking bolt. The would-be burglar might construe such jiggling as looseness in a device the removal of which is required for unlocking the sashes and of course continued effort in this direction by the bruglar can only confound him as the jiggling device or plate is not removable and cannot function to unlock the sash lock. Thus accurate registration of the magnetic tool 116 with insert 112 is a difficult or near impossible task without frontal visual access. Even if the bolt head is located the would-be burglar without frontal visual access could not register the index lines 106 and 110 which is a prerequisite for lock bolt removal. If such would-be burglar should apply a magnet to the bolt head and attempt to withdraw and rotate the same to a position in which the bolt key is registered with the keyway, the key will engage the projecting flange or stop device 120 (FIGS. 4 and 6) which projects from the rear face of the block adjacent the keyway into space 70. Thus the stop device 120 functions to prevent the full rotation of the bolt to register the key thereof with the keyway when the bolt is slightly axially retracted by a magnet so as to prevent the use of such magnet from applying a bolt retracting force concomitant with the rotation thereof to the keyway. The householder may facilely install and remove the lock bolt relative to the sash lock through the opening 89 of the housing.

Referring to FIGS. 7–11, there is shown a modified form of sash lock 130 for conventional types of double-hung windows which differs from sash lock 10 in the manner to be described in detail below. The sash lock 130 comprises a complementary pair of latch parts 132 and 134 adapted for releasable interengagement by virtue of lock bolt 186 to be described, the latch part 132 being secured to the meeting or check rail 136 of the lower sash 138 by the clutch head screws 20. The latch part 134 is constituted by a tubular fitting which is suitably secured in the aperture 140 at a lower end portion of the stile 142 of the upper sash 144. One or more additional latch parts 134' may be provided in the stile 142 for locking the sashes in a near closed position as contrasted with latch part 134 which cooperates with latch part 132 for locking the sashes in a fully closed position.

The latch part 132 comprises a housing 146 having top and front flanges, 148 and 150, respectively, which interfit with check rail 136 and are secured thereto by screws 20. The block or fixed lock part 152 is suitably secured in housing 146 between the laterally spaced walls 154 and 156 and against the top wall 158, said block being seated against shoulder 160 of the top wall. Positioned in the housing forwardly of block 152 in adjacent relation therewith is a lock plate 162, formed of magnetizable material, which has a loose fit. The plate 162 is positioned between the walls 154 and 156 and adjacent the top wall 158, said plate being movable in a direction perpendicular to the plane thereof between the forward wall 164 of the block and the side and top shoulders 166 and 168, respectively of the housing. The housing is provided with a forward opening 170 providing access to the plate and the lock bolt head 184 to be described.

The block 152 is provided with a through aperture 172 which registers with the opening 174 provided in the rear wall 176 of the housing and the opening 178 of plate 162. The openings 172 and 178 are of corresponding diameter with the opening 174 being of smaller diameter, the entrance end of said openings being suitably contoured or rounded. The plate 162 is provided with a key 180 which projects into the opening 178. The plate 162 further includes a counterbored recess 182 which registers with the opening 178, said counterbore being adapted to receive the head 184 of the key lock bolt 186. The sashes are locked in a burglarproof manner by the installation of the lock bolt 186 now to be described.

The lock bolt 186 comprises a head part 184, a body part 186, and a locking shaft part 188, said body part being of enlarged diameter with respect to said locking part and having a longitudinal keyway 190 formed complementary to key 180. The lock bolt may be of one-piece construction or may be of a composite construction as by securing a slit sleeve in position on the shaft part to define said body part. The body part is formed complementary to the openings 172 and 178, said part interfitting in the opening 172 of the block in the installed

condition of the lock bolt. In this installed condition of the lock bolt the locking part 188 thereof extends through the opening 174 and into the latch part 134 to lock the sashes in a corresponding position.

In order to lock the sashes in a burglarproof manner, the lock bolt is installed in position by registering the keyway 190 thereof with the key 180 of the lock plate and extending the bolt through the aligned apertures 178, 172 and 174 to position the locking part 188 in the fitting or latch part 134. In this installed position of the bolt, the head 184 thereof loosely interfits in the counterbore 182 of the lock plate in substantially flush relation therewith, said lock plate corresponding to the plate 72 previously described and being of corresponding function. The bolt is rotated to take the keyway out of registry with the key and to lock the sashes in a burglarproof manner. The bolt must be removed to unlock the sashes and such removal requires key and keyway registry which is accomplished by rotating the bolt to align the index mark 192 on the bolt head with the index mark 194 on the lock plate to thereby condition the bolt for retraction in the manner previously described. The bolt head 184 is similar to the bolt head 100 previously described and is formed of non-magnetizable material with a magnetizable insert 196. It will be understood that the enhanced anti-burglary effect as previously described in detail in connection with embodiment 10 is applicable to the present embodiment which is also provided with a loose mounted lock plate to further confound a would-be burglar. Thus the key lock bolt, in the installed condition thereof, interlocks with the latch part 132 and bodily engages the companion latch part 134 for locking the sashes in a burglarproof manner. If desired, the sashes may be locked in a partly open position by engaging the lock bolt in a latch part 134' at the selected level.

This application is a continuation-in-part of my application Serial No. 732,238, filed May 1, 1958, and now abandoned, for Window Latching Device.

While there is shown and described herein certain specific structure embodying the invention it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular form herein shown and described except insofar as indicated by the scope of the appended claims.

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

1. A latch part, comprising a fixed lock part, a member positioned forwardly thereof in laterally adjacent relation therewith, and a locking member movable relative thereto between extended and retracted positions, said lock part and member having registered apertures formed complementary to said locking member to receive the same, said locking member comprising a lock bolt having a head at one end and key means disposed intermediate the length thereof, one of said lock part and member having key means formed complementary to said first mentioned means for relative movement into and out of registered relation therewith, said lock bolt being insertable in said registered apertures with said key means in said registered relation to said extended position in which said head is disposed in interfitting relaton with the aperture of said member, said key means being rotated out of said registered relation to thereby prevent the retraction of said lock bolt from said lock part and member, the rotation of said lock bolt to place said key means in said registered relation conditioning said lock bolt for retraction from said lock part and member to said retracted position, said lock bolt head having at least a part thereof formed of magnetizable material whereby the lock bolt may be retracted from said lock part and member with said key means in said registered relation by a magnet device applied to said lock bolt head part, said member being formed of magnetizable material and being mounted with clearance with respect to said lock part in a direction axially of said apertures whereby to enhance the difficulty of location of said bolt by a magnet device from a position without frontal visual access thereto.

2. A latch part, comprising a fixed lock part, a member positioned forwardly thereof in laterally adjacent relation therewith, and a locking member movable relative thereto between extended and retracted positions, said lock part and member having registered apertures formed complementary to said locking member to receive the same, said locking member comprising a lock bolt having a head at one end and key means disposed intermediate the length thereof, one of said lock part and member having key means formed complementary to said first mentioned key means for relative movement into and out of registered relation therewith, said lock bolt being insertable in said registered apertures with said key means in said registered relation to said extended position in which said head is disposed in interfitting relation with the aperture of said member, said key means being rotated out of said registered relation to thereby prevent the retraction of said lock bolt from said lock part and member, the rotation of said lock bolt to place said key means in said registered relation conditioning said lock bolt for retraction from said lock part and member to said retracted position, said lock bolt head having at least a part thereof formed of magnetizable material whereby the lock bolt may be retracted from said lock part and member with said key means in said registered relation by a magnet device applied to said lock bolt head part, said member being formed of magnetizable material and being mounted with clearance with respect to said lock part in a direction axially of said apertures whereby to enhance the difficulty of location of said bolt by a magnet device from a position without frontal visual access thereto, said lock bolt key means comprising a keyway, and said member having a key constituting said last mentioned key means.

3. A latch part, comprising a fixed lock part, a member positioned forwardly thereof in laterally adjacent relation therewith, and a locking member movable relative thereto between extended and retracted positions, said lock part and member having registered apertures formed complementary to said locking member to receive the same, said locking member comprising a lock bolt having a head at one end and key means disposed intermediate the length thereof, one of said lock part and member having key means formed complementary to said first mentioned key means for relative movement into and out of registered relation therewith, said lock bolt being insertable in said registered apertures with said key means in said registered relation to said extended position in which said head is disposed in interfitting relation with the aperture of said member, said key means being rotated out of said registered relation to thereby prevent the retraction of said lock bolt from said lock part and member, the rotation of said lock bolt to place said key means in said registered relation conditioning said lock bolt for retraction from said lock part and member to said retracted position, said lock bolt head having at least a part thereof formed of magnetizable material whereby the lock bolt may be retracted from said lock part and member with said key means in said registered relation by a magnet device applied to said lock bolt head part, said member being formed of magnetizable material and being mounted with clearance with respect to said lock part in a direction axially of said apertures whereby to enhance the difficulty of location of said bolt by a magnet device from a position without frontal visual access thereto, said lock bolt key means comprising a

key, and said lock part having a keyway constituting said last mentioned key means.

References Cited in the file of this patent

UNITED STATES PATENTS

74,718	Pierson	Feb. 18, 1868
616,104	Hinterholzner	Dec. 20, 1898
1,396,478	Turney	Nov. 8, 1921
1,432,640	Szalai	Oct. 17, 1922
1,956,438	Eichenauer	Apr. 24, 1934
2,131,315	Dunseath	Sept. 27, 1938

FOREIGN PATENTS

15,684	Great Britain	July 7, 1913