Feb. 26, 1963 M. RIFKIN 3,078,704

WINDOW LATCHING DEVICE

Filed June 24, 1959 4 Sheets-Sheet 1

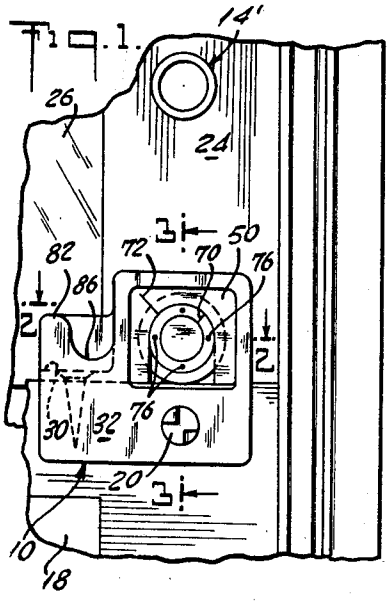


Fig. 1.

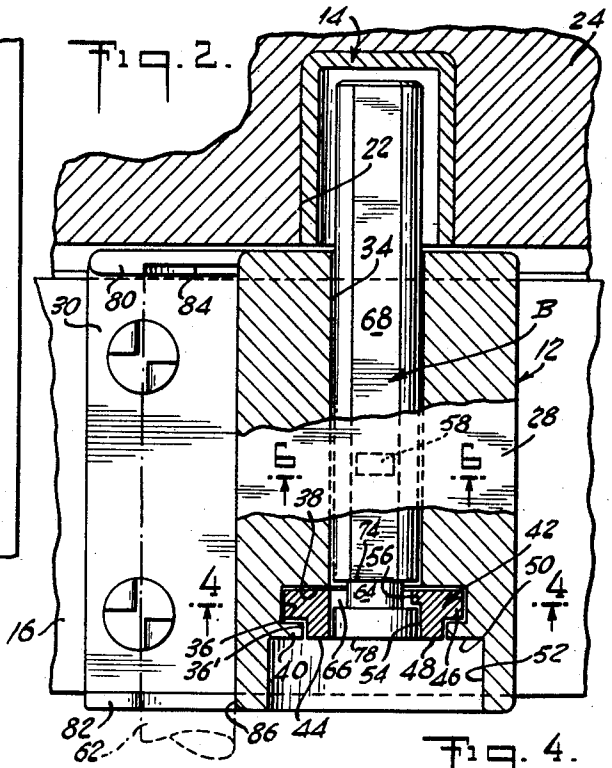


Fig. 2.

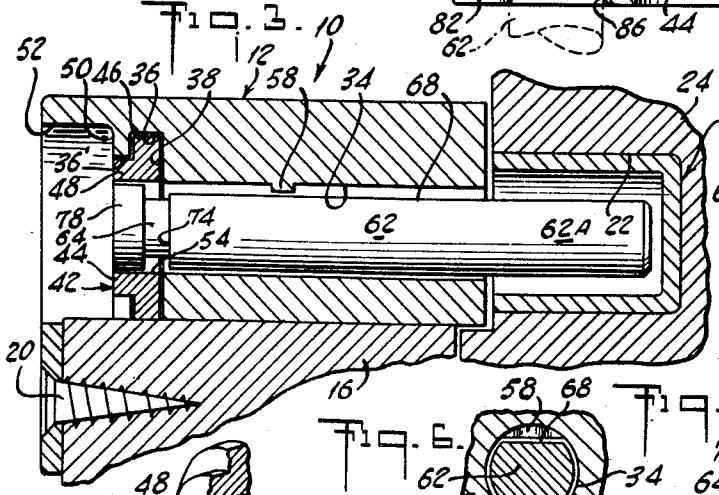


Fig. 3.

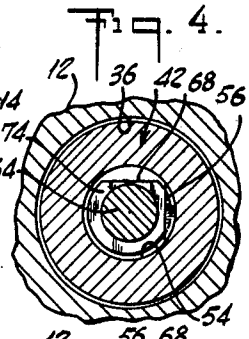


Fig. 4.

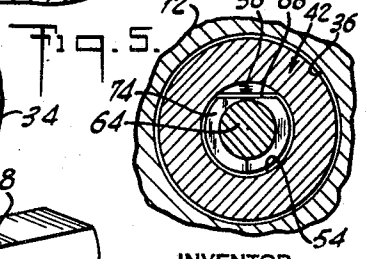


Fig. 5.

Fig. 6.

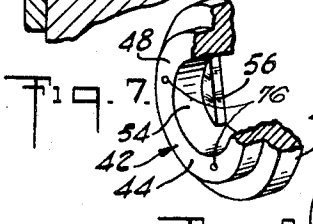


Fig. 7.

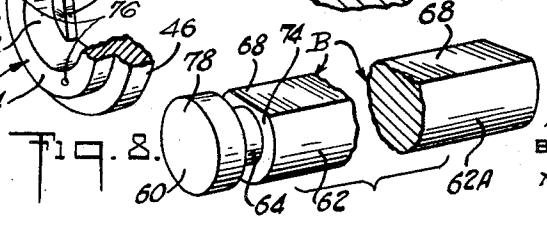


Fig. 8.

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Feb. 26, 1963 M. RIFKIN 3,078,704

WINDOW LATCHING DEVICE

Filed June 24, 1959 4 Sheets-Sheet 2

Fig. 9.

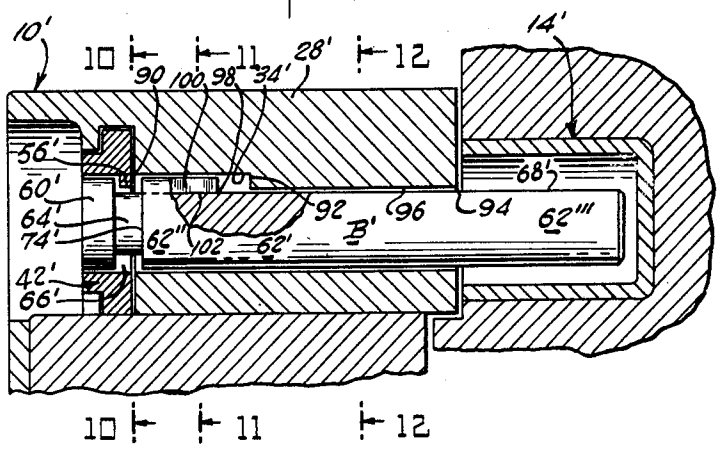


Fig. 10.

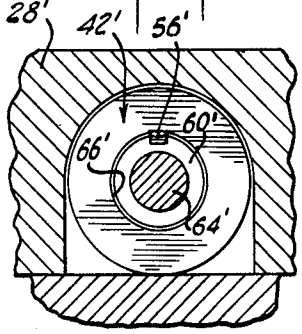


Fig. 11.

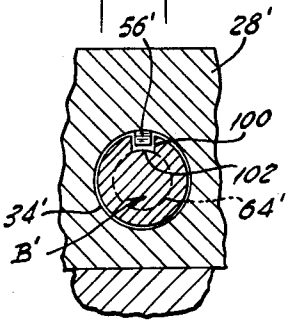


Fig. 12.

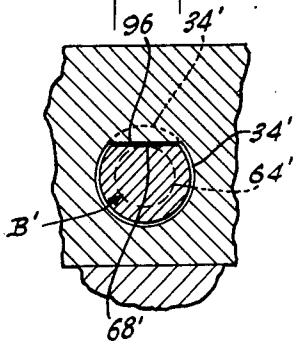
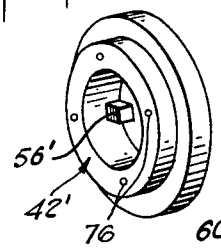


Fig. 13.



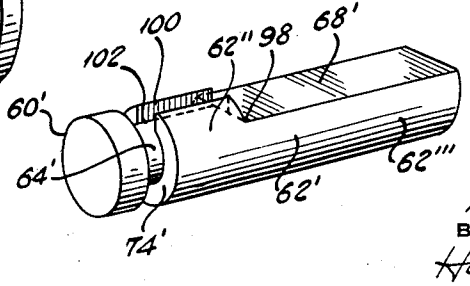


Fig. 14.

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Feb. 26, 1963 M. RIFKIN 3,078,704

WINDOW LATCHING DEVICE

Filed June 24, 1959 4 Sheets-Sheet 3

Fig. 15.

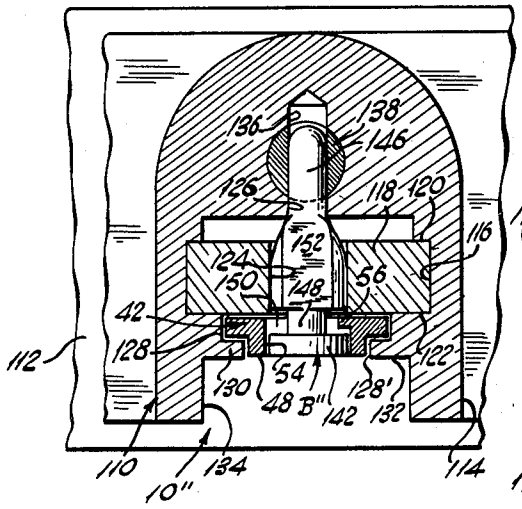


Fig. 18.

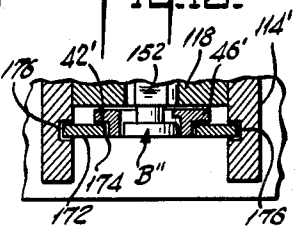


Fig. 19.

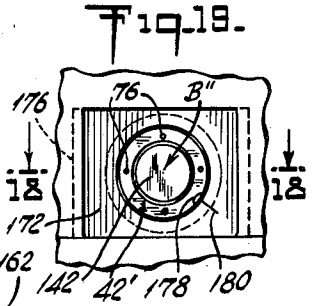


Fig. 16.

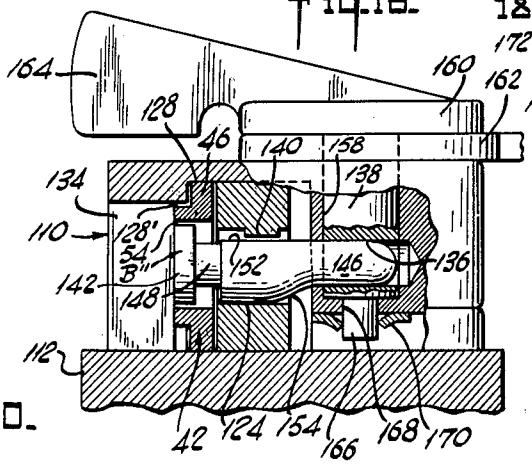


Fig. 21.

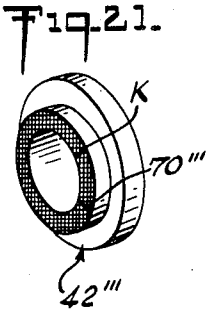


Fig. 20.

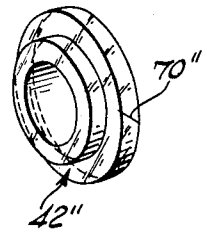
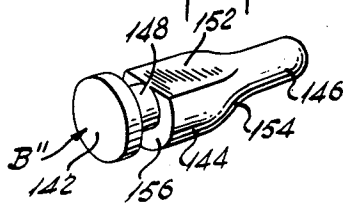


Fig. 17.



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Feb. 26, 1963 M. RIFKIN 3,078,704

WINDOW LATCHING DEVICE

Filed June 24, 1959 4 Sheets-Sheet 4

Fig. 22.

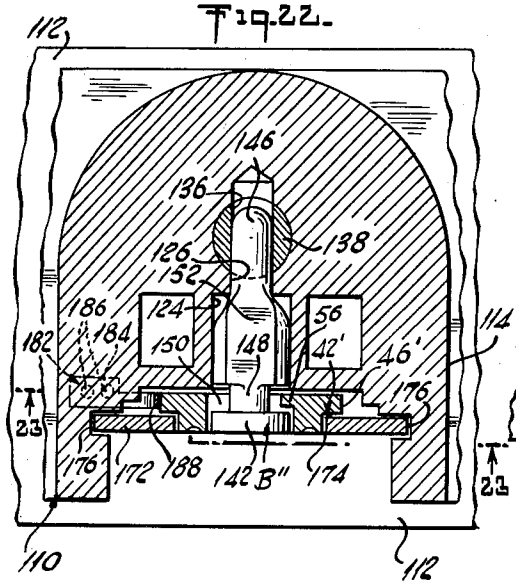


Fig. 24.

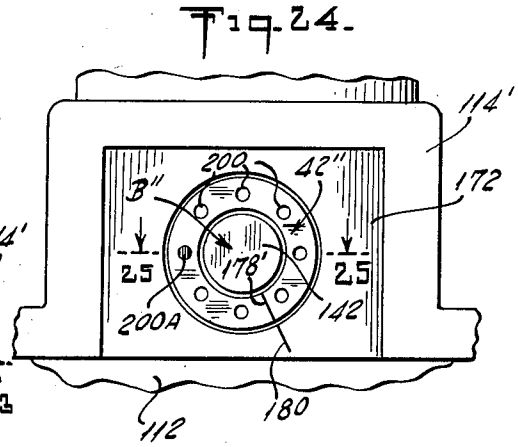


Fig. 23

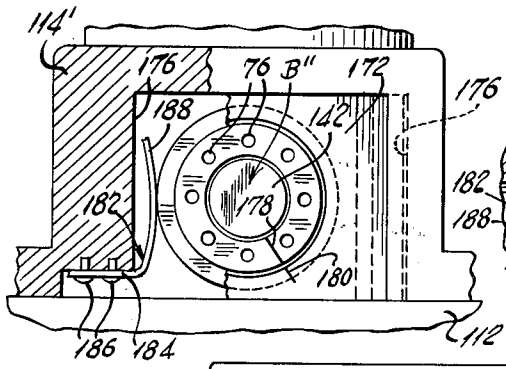


Fig. 25.

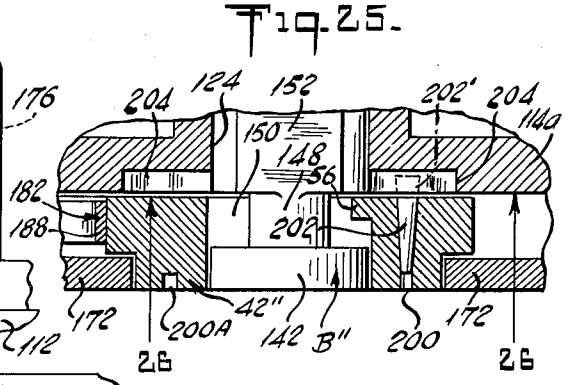
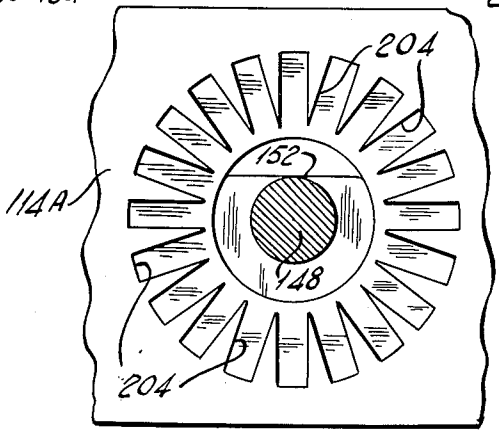


Fig. 26.



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United States Patent Office 3,078,704 Patented Feb. 26, 1963

3,078,704

WINDOW LATCHING DEVICE

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Filed June 24, 1959, Ser. No. 822,509
13 Claims. (Cl. 70—90)

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

In my application Serial No. 752,843, filed August 4, 1958, now Patent No. 3,034,328 issued May 15, 1962, for Window Latching Device, there are disclosed latch arrangements having novel provisions for locking sashes in a closed, or near closed, condition in a burglarproof manner and one important object of the present invention is the provision of a window latching device of a generally similar character having an enhanced anti-burglary locking arrangement operative to confound and frustrate a would-be burglar in his attempts to defeat the locking arrangement of the device.

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 a simplified and economical 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 easy manner. A feature of the present invention is the self-storing character of the latching device in that the latter includes a provision for storing the lock bolt when removed from the device for unlocking the sashes.

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

FIG. 1 is a front elevational view of a sash lock formed according to the present invention installed in double-hung sash

FIG. 2 is a sectional view, on an enlarged scale, taken on the line 2—2 of FIG. 1;

FIG. 3 is a sectional view, on an enlarged scale, taken on the line 3—3 of FIG. 1;

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 2, the lock ring being in a locked position;

FIG. 5 is a view similar to FIG. 4 with the lock ring in an unlocked position;

FIG. 6 is a sectional view taken on the line 6—6 of FIG. 2;

FIG. 7 is a perspective view of the lock ring partially broken away to reveal structural details;

FIG. 8 is a perspective view of the lock bolt;

FIG. 9 is a view similar to FIG. 3 showing a modified form of sash lock;

FIGS. 10, 11 and 12 are sectional views taken on the lines 10—10, 11—11, and 12—12, respectively of FIG. 9;

FIG. 13 is a perspective view of the lock ring of the modified form of sash lock;

FIG. 14 is a perspective view of the lock bolt of the modified form of sash lock;

FIG. 15 is a horizontal sectional view of another modified form of sash lock installed in double-hung sash, the lock bolt being shown in a locked position;

FIG. 16 is a side elevational view thereof with parts shown in section;

FIG. 17 is a perspective view of the lock bolt of the form of the invention shown in FIG. 15 and 16;

FIG. 18 is a fragmentary horizontal sectional view of yet another modified form of sash lock, said view being taken on the line 18—18 of FIG. 19;

FIG. 19 is a fragmentary front elevational view thereof;

FIG. 20 is a perspective view of a modified form of lock ring;

FIG. 21 is a perspective view of yet another modified form of lock ring;

FIG. 22 is a view similar to FIG. 15 showing a modification of the embodiment of FIGS. 18 and 19;

FIG. 23 is a sectional view, on an enlarged scale, taken on the line 23—23 of FIG. 22;

FIG. 24 is a fragmentary enlarged front elevational view of yet another form of sash lock;

FIG. 25 is a sectional view taken on the line 25—25 of FIG. 24, the lock pin shown in solid lines being in the normal retracted position; and

FIG. 26 is a partial sectional view taken on the line 26—26 of FIG. 25.

Referring to the drawings, and more particularly to FIGS. 1–8 thereof, 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 sash lock. The sash lock 10 comprises a complementary pair of releasably interengageable latch parts 12 and 14, the latch part 12 being secured to the meeting or check rail 16 of the lower sash 18 by the clutch head screws 20. The latch part 14 is constituted by a tubular fitting which is suitably secured in the aperture 22 at a lower end portion of the stile 24 of the upper sash 26. One or more additional latch parts 14' may be provided in the stile 24 for locking the sashes in a near closed position as contrasted with latch part 14 which cooperates with companion latch part 12 for locking the sashes in a fully closed position.

The latch part 12 comprises a housing 28, preferably of one-piece construction, having top and front flanges 30 and 32, respectively which interfit with check rail 16 and are secured thereto by screws 20. The housing 28 is provided with a longitudinal bore 34, of circular cross section, extending therethrough which is coaxial with the enlarged peripheral groove 36 defined between the peripheral wall 38 and the peripheral flange 40 of the housing. Disposed in groove 36 and groove part 36' defined by flange 40 is a lock ring 42 (see FIG. 7) which may be formed of brass or any other suitable non-magnetic material. The ring 42 comprises annular portions 44 and 46 of different diametrical extent, the larger diameter portion 46 interfitting in groove 36 and the smaller diameter portion 44 interfitting in groove part 36' and with flange 40. The ring 42 is assembled with the housing from the bottom thereof which is closed off by the check rail 16 in the installed condition of the latch part 12. It will be apparent that the ring 42 is secured against axial withdrawal from the groove 36 and groove part 36' of the

housing by the flange 40, the ring 42 being rotatable about its axis, for a purpose which will be apparent from the description which follows, and to this end the ring 42 is mounted in the housing with sufficient clearance to provide for such rotation. The front face 48 of the ring is disposed in substantially flush relation with the wall 50 of the housing defined at the bottom or base of forward opening 52 providing access to the ring and the lock bolt B. The lock ring 42 is provided with an aperture 54 of a diameter corresponding to the diameter of bore 34 and in registered relation therewith, the lock bolt B being adapted for installation in the registered apertures 54 and 34. The lock ring 42 is further provided with key portion 56 projecting into aperture 54 at the rear thereof.

At an intermediate position along the length of bore 34 is a fixed portion 58 which is formed complementary to the lock bolt to prevent the rotation thereof in its installed condition. The sashes are locked in a burglarproof manner by the installation of the lock bolt now to be described.

The lock bolt B is formed of a magnetizable material, such as steel, and comprises a head part 60 and a shaft part 62 interconnected by the neck part 64, the latter part defining a peripheral groove 66 for the reception of rotatable key portion 56. The head and shaft parts 60 and 62, respectively are coaxial and of common diameter, the shaft part 62 having a flattened surface 68 extending the length thereof. In the installed condition of the lock bolt the surface 68 interfits with the fixed key 58 to prevent lock bolt rotation (FIG. 6). The ring 42 is rotatable to rotate key 56 into and out of registry with the surface 68 of bolt B and key 58. In the registered position of key 56 the index mark 70 of the ring 42 will align with companion index mark 72 on wall 50 (FIG. 1), and in this registered position the lock bolt is free for axial insertion and retraction with respect to latch part 12. The lock bolt is dimensioned to interfit in the registering apertures 54 and 34 and in the installed condition of the lock bolt the end portion 62A of shaft part 62 extends into the latch part 14 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 key 56 with key 58, which occurs when ring 42 has the index mark 70 thereof aligned with index mark 72, and extending the bolt through the apertures 54 and 34 with the surface 68 aligned with the keys to position the locking part 62A in the fitting or latch part 14. In this installed position of the bolt, the head 60 interfits in aperture 54 of the lock ring in substantially flush relation therewith. The lock ring is rotated to take the key 56 thereof out of registry with surface 68, as shown in FIG. 4, and to lock the sashes in a burglarproof manner. In the installed position of the bolt the key 56 extends in groove 66, and when key 56 is out of registry with surface 68 said key coacts with the peripheral surface 74 of the bolt to prevent the withdrawal thereof and concomitantly the unlocking of the sashes. The bolt must be removed to unlock the sashes and such removal requires registry of the keys which is accomplished by rotating the lock ring to align the index marks 70 and 72 and thereby condition the bolt for retraction. The lock ring is provided with a series of small indentations 76 to facilitate the rotation thereof through the intermediation of a suitable instrument or device. The bolt is facilely axially retracted by a magnet or magnetic tool which is applied to the face 78 of the bolt head by the householder.

The ring may be readily rotated to unlock the bolt for retraction by the householder but this becomes a near impossible task for a would-be burglar who must gain access to the ring and 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 there is provided a very effective burglarproof sash lock. The provision of the rotatable non-magnetic lock ring in conjunction with the magnetically removable lock bolt enhances the anti-burglary feature aforedescribed in that the application of a magnetic tool to the lock bolt and ring by a would-be burglar will have no effect on the lock ring and will not disturb its setting. Thus the magnetic tool used for lock bolt removal cannot be used to rotate the lock ring to unlocked position and while the lock bolt will be attracted to the magnet it cannot be so retracted without first rotating the lock ring to unlocked position. The locating of the lock ring is most difficult for a would-be burglar without frontal visual access and even if the lock ring is located by such would-be burglar he could not register the index lines 70 and 72 which is a prerequisite for lock bolt removal. The householder however may facilely manipulate the lock ring to install and remove the lock bolt. It will be noted that the surfaces 48, 50 and 78 are disposed in flush relation to enhance the difficulty of location of the lock ring by one without frontal visual access.

The latching device is self-storing in that the housing 28 includes a provision for storing the lock bolt when removed from locking engagement, such provision comprises the laterally offset wall portions 80 and 82 of the housing. The wall portion 80 is provided with a shallow recess 84 and the wall portion 82 is provided with an arcuate cutout 86, said recess and cutout being aligned and dimensioned to receive and retain in position the removed lock bolt, as shown in FIG. 2. If desired, the sashes may be locked in a partly opened position by engaging the lock bolt in a latch part 14' at the selected level.

With reference to FIGS. 9–14, there is shown a modified form of sash lock 10' which is similar to sash lock 10, differing therefrom in the respects to be described in detail below. In sash lock 10', the housing 28' is provided with bore 34' of circular cross section extending between points 90 and 92 and of circular cross section with a flattened length portion 96 extending between points 92 and 94. The flattened portion 96 corresponds to the fixed key 58 of the previous embodiment 10 and the lock bolt B' interfits with such portion and is thereby locked against rotation. In all other respects housing 28' corresponds to housing 28. The lock ring 42' corresponds to lock ring 42 except for key shape, the lock ring 42' having a key 56' of uniform quadrilateral cross section. The lock bolt B' comprises head and shaft parts 60' and 62', respectively interconnected by neck part 64', the shaft part 62' having a flattened surface 68' extending a substantial portion of the length thereof and, more particularly, from point 98 to the inner end thereof. The forward or outer end 62'' of shaft part 62' is of circular cross section and is provided with a longitudinal keyway 100 to receive key 56'. The keyway 100 terminates at surface 68' and the base surface 102 of the keyway is substantially at a common level therewith. In all other respects bolt B' corresponds to bolt B.

In order to lock the sashes in a burglarproof manner, the lock bolt B' is installed in position by registering the key 56' with the portion 96 through the proper indexing of the lock ring, and extending the bolt through bore 34' with the keyway 100 aligned with key 56' to position the locking part 62''' in the fitting 14. The lock ring is rotated to take the key 56' out of registry with the keyway 100 and to lock the sashes in a burglarproof manner. As previously described, in the installed position of the lock bolt the key 56' extends in groove 66' and when said key is out of registry with the keyway it coacts with the peripheral surface 74' of the bolt to prevent the withdrawal thereof.

With reference to FIGS. 15–17, there is shown another modified form of sash lock 10'' which is similar to sash lock 10 and differs therefrom in the respects to be described in detail below. The sash lock 10'' comprises a latch part 110 which is secured to the check rail 112 of

the lower sash as aforedescribed. The latch part 110 comprises a housing 114 which is recessed as indicated at 116 for the reception of the block 118 which interfits with the shoulders 120 and 122 defined by such recess to mechanically interlock the block in position. The block 118 is provided with a longitudinal bore 124, of circular cross section, extending therethrough which is in registry with the opening 126 of smaller diameter formed in the housing rearwardly of the block. Coaxially arranged with respect to bore 124 is a groove 128 defined between the front face of the block and the peripheral flange 130 of the housing. Disposed in groove 128 and groove part 126' defined by flange 130 is a lock ring 42 as aforedescribed. The ring 42 and the block 118 are assembled with the housing from the bottom thereof which is closed off by the check rail. The ring 42 is rotatable about its axis and functions in the manner aforedescribed in detail in connection with the first described embodiment. The front face 48 of the ring is disposed in substantially flush relation with the wall 132 of the housing at the base of the forward opening 134 providing access to the ring and lock bolt B''. The diameter of the lock ring aperture 54 corresponds to the diameter of bore 124 and registers therewith, the lock bolt B'' being adapted for installation in said registering apertures and in the registering aperture 136 of rotatable shaft 138 to lock the latter against rotation to concomitantly lock the sashes.

At an intermediate position along the length of bore 124 is a fixed portion 140 which corresponds to portion 58 previously described. The sashes are locked in a burglarproof manner by the installation of lock bolt B'' which functions to prevent the release of shaft 138 and the latch structure companion therewith.

Lock bolt B'' generally corresponds to lock bolt B, the former comprising a head part 142, a shaft or body part 144, and a terminal end or lock part 146. The head and body parts are interconnected by a neck 148 which defines a peripheral groove 150 for the reception of key portion 56 of ring 42. The body part 144 has a flattened surface 152 and is contoured as indicated at 154 to smoothly merge with lock part 146. On lock bolt installation the surface 152 interfits with the fixed key 140 to prevent lock bolt rotation. The ring is rotatable to rotate the key thereof into and out of registry with the surface 152 of the lock bolt to unlock and lock the latter, respectively. Indexing means indicating such lock ring and lock bolt registration are provided as previously described. The lock bolt B'' is dimensioned to interfit in the registering apertures 54, 124, 126 and 136 and in the installed condition of the lock bolt the lock part 146 thereof locks the shaft 138 against rotation. The lock bolt is installed in position in the manner previously described and in such installed position the head 142 interfits in aperture 54 of the lock ring in substantially flush relation therewith. With key 56 out of registry with surface 152 said key coacts with the peripheral surface 156 of the bolt to prevent retraction thereof from shaft 138. The lock bolt may be facilely magnetically retracted on lock ring rotation to a position in which the index marks are aligned.

The housing pivotally mounts the parts 160 and 162, the latter part having a hooked shaped terminal end or the like (not shown) which is formed complementary to a companion latch part for interengagement therewith for locking the sashes, in a manner apparent to those skilled in the art. The part 160 includes a finger-piece 164 for facilitating the manual rotation of the parts 160 and 162. The part 160 has secured thereto the rotatable shaft 138 which extends through a complementary aperture 158 provided in the housing, said shaft having a reduced diameter end portion 166 extending through the reduced diameter aperture portion 168 of aperture 158. The shaft 138 is retained in position against axial displacement by lock ring 170. The part 162 is secured in position between the housing and part 160, and shaft 138 extends through part 162 and is operatively connected therewith in any suitable manner to provide conjoint rotation of the parts 160, 162 and 138 as a unit on the manipulation of finger-piece 164, the latter controlling sash latching and unlatching. It will be understood that the part 164 is manually actuated to the sash latched position, and thereafter the sashes may be locked in a burglarproof manner by installing lock bolt B'' as aforedescribed which locks the assembly 160, 162 and 138 against rotation by the interengagement of part 146 in aperture 136. In the unlatched position of the sash lock aperture 136 will also register to receive the lock bolt so that, if desired the latter may be installed as described above for storage whereby the lock bolt is self-storing in the sash lock.

Referring to FIGS. 18 and 19, there is shown an alternate form of mounting the lock ring in the housing, the lock ring 42' being retained in position by the mounting plate 172. The lock ring 42' is engaged in the aperture 174 of the mounting plate 172 with the portion 46' overlying the plate and the assembly 42', 172 is installed in the housing 114' from the underside thereof by positioning said plate in companion slots 176 of the housing. The assembly of plate 172 in the housing properly locates the lock ring in position. The lock ring is provided with small indentations 76 as previously described and a peripheral indentation 178 of minimal dimension which serves as an index mark for the lock ring which may be registered with index line 180 on the face of plate 172 to register the keys as described above for lock bolt installation and removal. If desired, indentations 76 may be omitted in which case rotation of the lock ring may be accomplished by the use of a sharp instrument engaged against the exposed surface of the lock ring.

Referring to FIGS. 22 and 23, there is shown another embodiment of the present invention which corresponds to that shown in FIGS. 18 and 19 except that there has been additionally provided biasing means in the form of a spring 182 in the former embodiment for a purpose which will be apparent from the description which follows. It has been found to be desirable to provide a light but constant frictional drag between the lock ring 42' and the mounting plate 172 to further frustrate a would-be burglar in his attempt to defeat the aforedescribed anti-burglary locking arrangement by a trial and error incremental rotation or other manipulation of the lock ring to the unlocked position. In practice, it is difficult to manufacture the parts to the close tolerances required to obtain the requisite amount of frictional drag between the lock ring and its mounting plate. In order to obtain and insure the desired frictional drag between the lock ring and mounting plate and overcome undesirable looseness therebetween there is provided a spring 182 having a mounting part 184, which is secured to the housing 114' by fasteners 186, and an arm 188 which forms a leaf spring that is biased into engagement with the portion 46' of lock ring 42' to concomitantly bias the latter into edge engagement with the mounting plate at aperture 174. Thus spring 188 loads the lock ring with the requisite frictional drag to preclude looseness in the mounting and require deliberate rotation of the lock ring to overcome the frictional drag and move the lock ring to unlocked position. If desired, a plurality of springs may be used at spaced positions to bias the lock ring against its mounting plate. This spring mounting of the lock ring will positively eliminate a loose lock ring mounting which may encourage indiscriminate tampering with the same in an attempt to defeat the lock.

Referring now to FIGS. 24–26, there is shown another embodiment of sash lock which corresponds to the embodiment of FIGS. 22 and 23 with an added lock jamming feature to be now described. The index mark for the lock ring is constituted by an index line 178' which is adapted to register with the index line 180 (FIG. 24). The lock ring 42'' corresponds generally to lock ring 42'

and is provided with a series of circumferentially spaced preferably slightly tapered apertures 200 in each of which there is disposed an axially displacable lock pin 202 which is frictionally retained in the normal unlocked retracted position shown in solid lines in FIG. 25. The apertures 200 are preferably of relatively small diameter and the pins occupy the major portion of the aperture length. One of the apertures 200A is a dummy aperture which frontally simulates apertures 200 and which is suitably marked, as by contrasting coloring, to signal to the householder that the dummy aperture only is to be used for rotating the lock ring for locking and unlocking the same. It will be understood that without frontal view of the sash lock a would-be burglar could not discriminate between apertures 200 and aperture 200A. The housing 114A adjacent the rear wall of the lock ring is provided with a closely spaced series of radially extending shallow grooves 204 which are adapted to receive a pin 202 on depression of the latter by a would-be burglar as indicated at broken line position 202' in FIG. 25. Thus if a would-be burglar, without frontal visual access to the sash lock, should insert an instrument or device in an aperture 200 in an attempt to rotate the lock ring to its unlocked position he will depress the corresponding pin 202 into position 202' in which such pin will interengage with a groove 204 to "freeze" the lock ring in a locked position and thereby jam the sash lock in a locked condition. Thus once a would-be burglar depresses a pin 202 into a groove 204 he will permanently jam the lock by freezing the lock ring in position. The householder will of course use the dummy aperture 200A to facilitate the rotation of the lock ring to locked and unlocked positions.

Referring to FIG. 20, there is shown a lock ring 42'' which differs from the lock rings previously described in the respects to be now described. Lock ring 42'' is formed of a suitable transparent plastics material, as by a suitable molding operation, and is provided with an index line 70'' corresponding to the index line 70 previously described, the index line 70'' being disposed at the rear surface of the lock ring and being visible through the lock ring to align the same with a companion stationary index line or mark as aforedescribed. This construction has the advantage of eliminating all surface interruptions from the front face of the lock ring so as to eliminate all possibility of locating the index mark or line by feel or touch. The lock ring may be rotated by a suitable instrument engaged thereagainst. It is however within the scope of the present invention to form any of the lock rings described herein of any suitable plastics material, which may be transparent as shown in FIG. 20, translucent, or opaque.

With reference to FIG. 21, there is shown a lock ring 42''' in which the front exposed surface is knurled or serrated as indicated at K and is provided with an index line 70''' which is effectively camouflaged by the character of surface K. While the line 70''' is readily visible from a frontal position it cannot be located by feel as surface K presents a uniform feel to the touch throughout its extent. This lock ring thus represents another alternate construction for camouflaging the index line or mark. If desired, the housing or supporting plate surface adjacent to, and coplanar with, lock ring 42''' may be also knurled or serrated to effectively make it more difficult to locate the lock ring itself except from a frontal position to thereby further enhance the anti-burglary character of the sash lock. The various anti-burglary features aforedescribed may be used singly or in any desired combination in any of the sash locks herein shown and described, as will be manifestly evident to those skilled in the art.

This application is a continuation-in-part of my application Serial No. 803,972, filed April 3, 1959, now abandoned; which in turn is a continuation-in-part of my application Serial No. 770,539, filed October 29, 1958, now abandoned.

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 mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end and a peripheral shoulder defining a peripheral groove, said lock device having disposed in said groove key means constituting one of said parts with the other part being constituted by said shoulder, said head being disposed in interfitting flush relation with said lock device in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnet device applied to said head, said lock device being formed of a non-magnetizable material.

2. A latch part, comprising a mounting bracket and a lock bolt axially movable relative thereto between extended and retracted positions, said bracket having an aperture to receive said lock bolt in predetermined orientation and to restrain said lock bolt against rotation, and a rotatable annular member carried by said bracket having an aperture in registry with said first mentioned aperture, said lock bolt and annular member having complementary parts relatively movable into and out of registered relation, said lock bolt having a head at one end and a locking part at the opposite end, said lock bolt being mountable in said registered apertures with said parts in said registered relation to said extended position, said lock bolt being locked in said extended position on the rotation of said annular member to concomitantly move said parts out of said registered relation, said head being disposed in interfitting flush relation with said annular member in said extended position of said lock bolt, the rotation of said annular member to place said parts in said registered relation conditioning said lock bolt for axial movement to said retracted position, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnet device applied to said head, and said annular member being formed of a non-magnetizable material.

3. A latch part, comprising a mounting bracket and a lock bolt axially movable relative thereto between extended and retracted positions, said bracket having an aperture to receive said lock bolt in predetermined orientation and to restrain said lock bolt against rotation, and a rotatable annular member carried by said bracket having an aperture in registry with said first mentioned aperture, said lock bolt and annular member having complementary parts relatively movable into and out of registered relation, said lock bolt having a head at one

end and a locking part at the opposite end, said lock bolt being mountable in said registered apertures with said parts in said registered relation to said extended position, said lock bolt being locked in said extended position on the rotation of said annular member to concomitantly move said parts out of said registered relation, said head being disposed in interfitting flush relation with said annular member in said extended position of said lock bolt, the rotation of said annular member to place said parts in said registered relation conditioning said lock bolt for axial movement to said retracted position, said lock bolt having a peripheral shoulder defining a peripheral groove adjacent the head end thereof, said annular member having disposed in said groove key means constituting one of said parts, with the other part being constituted by said peripheral shoulder, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head.

4. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation therewith in the mounted position of said lock bolt, said head comprising a magnetizable part, and said annular member being formed of a non-magnetizable material.

5. A latch part, comprising a mounting bracket and a locking member therefore, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head comprising magnetizable material at one end and a peripheral shoulder defining a peripheral groove, said lock device having disposed in said groove key means constituting one of said parts with the other part being constituted by said shoulder, said head being disposed in interfitting flush relation with said lock device in the mounted position of said lock bolt, said mounting bracket having a forward opening providing access to said head and lock device, said opening defining an exposed substantially planar surface of substantial area which presents a substantially uniform feel to the touch.

6. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end and a peripheral shoulder defining a peripheral groove, said lock device having disposed in said groove key means constituting one of said parts with the other part being constituted by said shoulder, said head being disposed in interfitting flush relation with said lock device in the mounted position of said lock bolt, said mounting bracket having a forward opening providing access to said head and lock device, said opening defining a wall surface disposed in flush relation with said head and lock device, said wall surface, head and lock device collectively defining an exposed substantially planar surface of substantial area which presents a substantially uniform feel to the touch, said head comprising a magnetizable part, and said lock device being formed of a non-magnetizable material.

7. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation therewith in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head.

8. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end and a peripheral shoulder defining a peripheral groove, said lock device having disposed in said groove key means constituting one of said parts with the other part being constituted by said shoulder, said head being disposed in interfitting flush relation with said lock device in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock

bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said head and lock device collectively defining an exposed surface of substantial area which presents a substantial uniform feel to the touch to thereby frustrate the locating of said lock device without frontal visual access thereto.

9. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end and a peripheral shoulder defining a peripheral groove, said lock device having disposed in said groove key means constituting one of said parts with the other part being constituted by said shoulder, said head being disposed in interfitting flush relation with said lock device in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said head and lock device collectively defining an exposed surface of substantial area which presents a substantial uniform feel to the touch to thereby frustrate the locating of said lock device without frontal visual access thereto, and index means visible from a frontal position for indicating the registered relation of said parts, whereby to render said locking member removal burglarproof from a position without frontal visual access thereto.

10. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation therewith in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said rotatable lock device having a series of circumferentially spaced apertures having companion axially movable locking pins, and complementary fixed grooves disposed rearwardly of said lock device to receive a locking pin on the depression thereof from the front of said lock device to freeze the latter in a locked position and thereby jam the latch part in a locked condition.

11. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation therewith in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said rotatable lock device having a series of circumferentially spaced apertures a plurality of which are through apertures having companion axially movable locking pins, and complementary fixed grooves defined in said bracket rearwardly of said lock device to receive a locking pin on the axial projection thereof from the front of said lock device to jam the latter in a corresponding locked position.

12. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation therewith in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said mounting bracket having an apertured rotatable member movable to a locked position, the aperture of said rotatable member in the locked position thereof being in registry with said lock bolt, the latter in said mounted position thereof extending into said aperture of the rotatable member for locking the same.

13. A latch part, comprising a mounting bracket and a locking member therefor, said bracket being adapted to receive said locking member in predetermined fixed orientation, and a rotatable lock device carried by said bracket to cooperate with said locking member, said lock device and locking member having complementary parts relatively movable into and out of registered relation, said locking member being mountable with respect to said bracket with said parts in registered relation to a locking position in which said lock device is rotated out of said registered relation to prevent the retraction and unlocking of said locking member with respect to said bracket, the rotation of said lock device to place said parts in said registered relation conditioning said locking member for retraction from said bracket to an unlocked position, said locking member comprising a lock bolt having a head at one end, and said lock device comprising an annular member concentrically arranged with respect to said head in interfitting flush relation there-

with in the mounted position of said lock bolt, said lock bolt head comprising magnetizable material whereby the lock bolt may be retracted from said bracket with said parts in registered relation by a magnetic device applied to said head, said bracket carrying a mounting plate, and said annular member being carried thereby, and means for biasing said annular member into engagement with said mounting plate to provide a frictional drag on the former resisting the rotation thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

440,600	Linn	Nov. 11, 1890
1,410,033	Pass	Mar. 21, 1922
1,606,701	Hatch	Nov. 9, 1926
2,809,062	Mainhardt	Oct. 8, 1957

FOREIGN PATENTS

15,684	Great Britain	July 7, 1913