Nov. 8, 1955 L. E. JOHNSON, JR 2,723,148

SLIDING DOOR LOCK

Filed Jan. 5, 1953 3 Sheets-Sheet 1

Fig. 1.

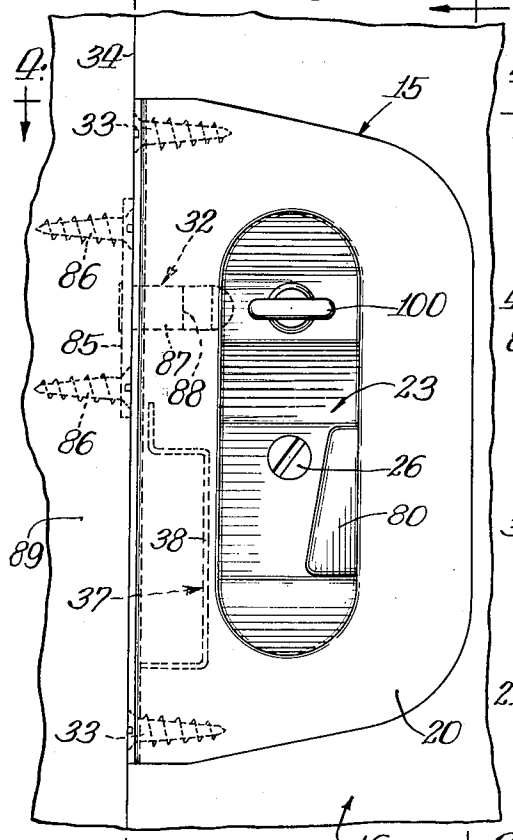


Fig. 2.

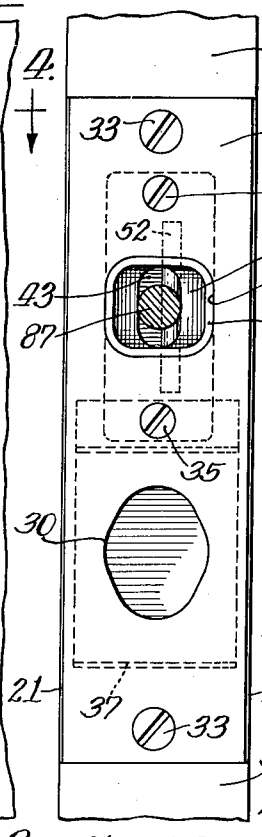


Fig. 3.

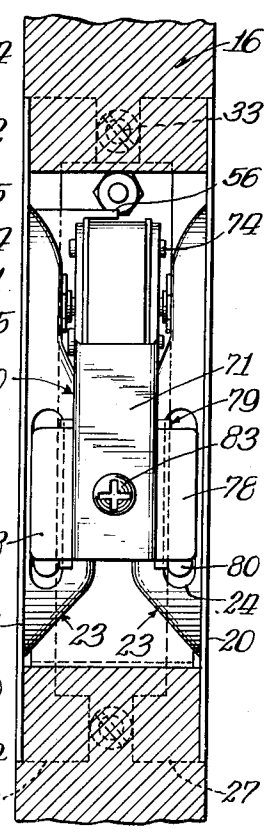
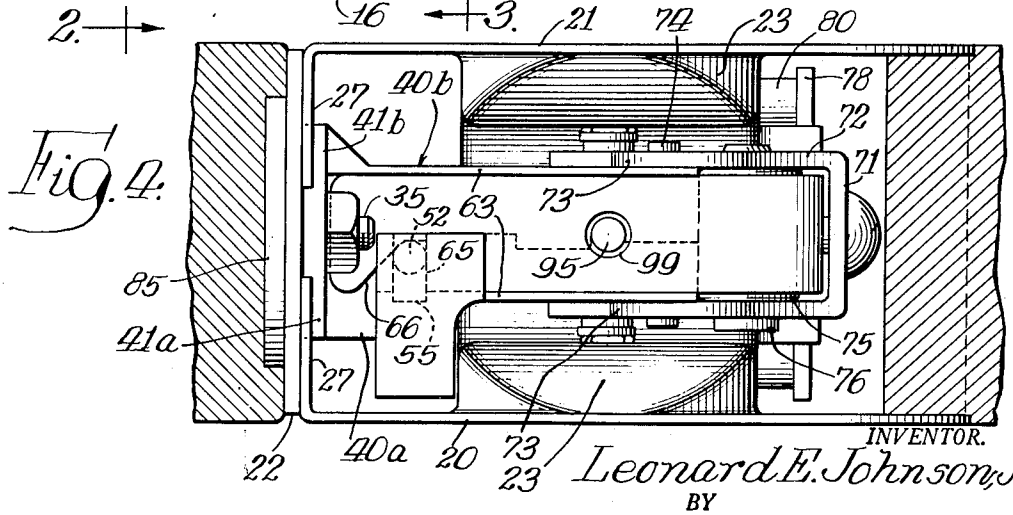


Fig. 4.

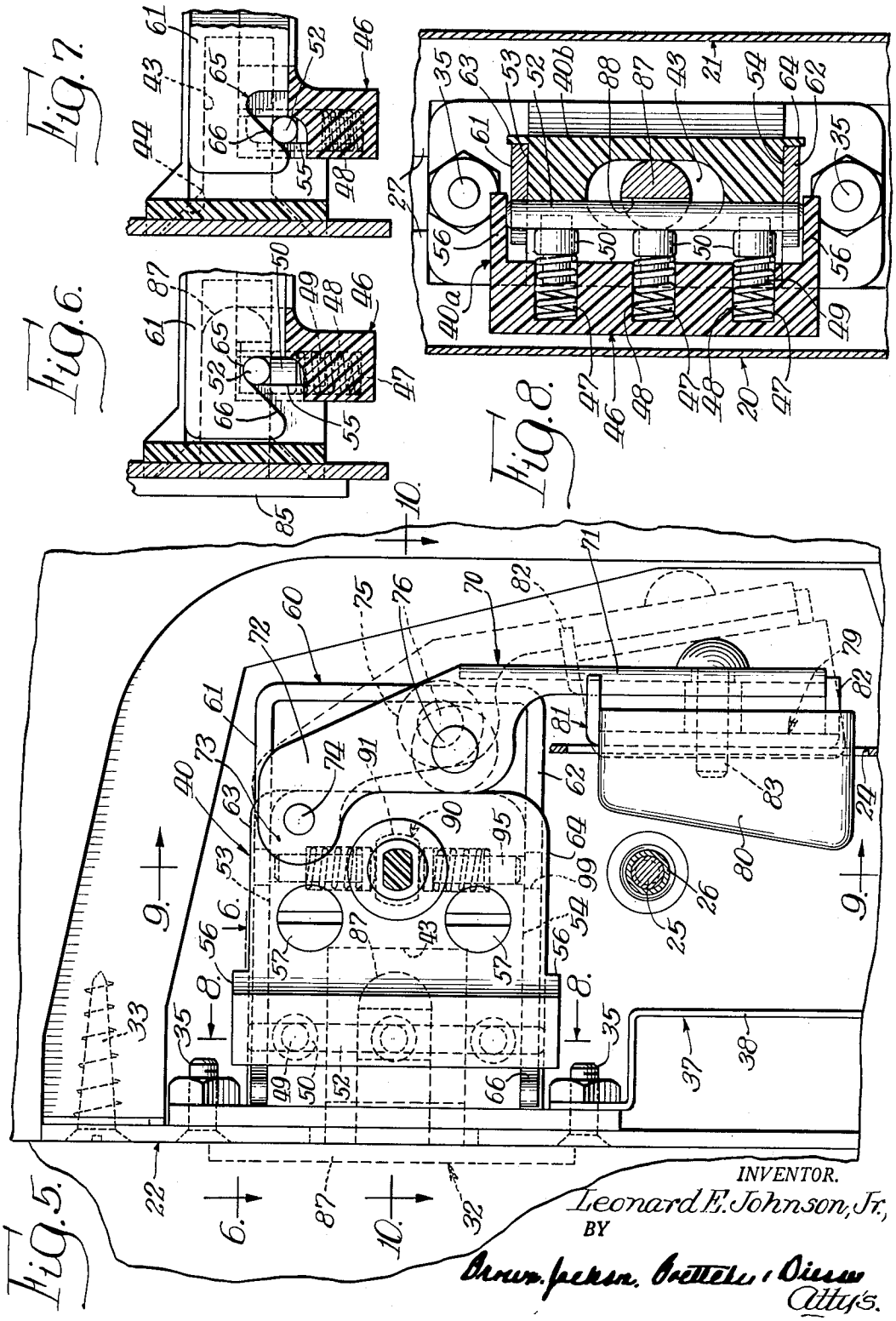


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SLIDING DOOR LOCK

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SLIDING DOOR LOCK

Filed Jan. 5, 1953 3 Sheets-Sheet 3

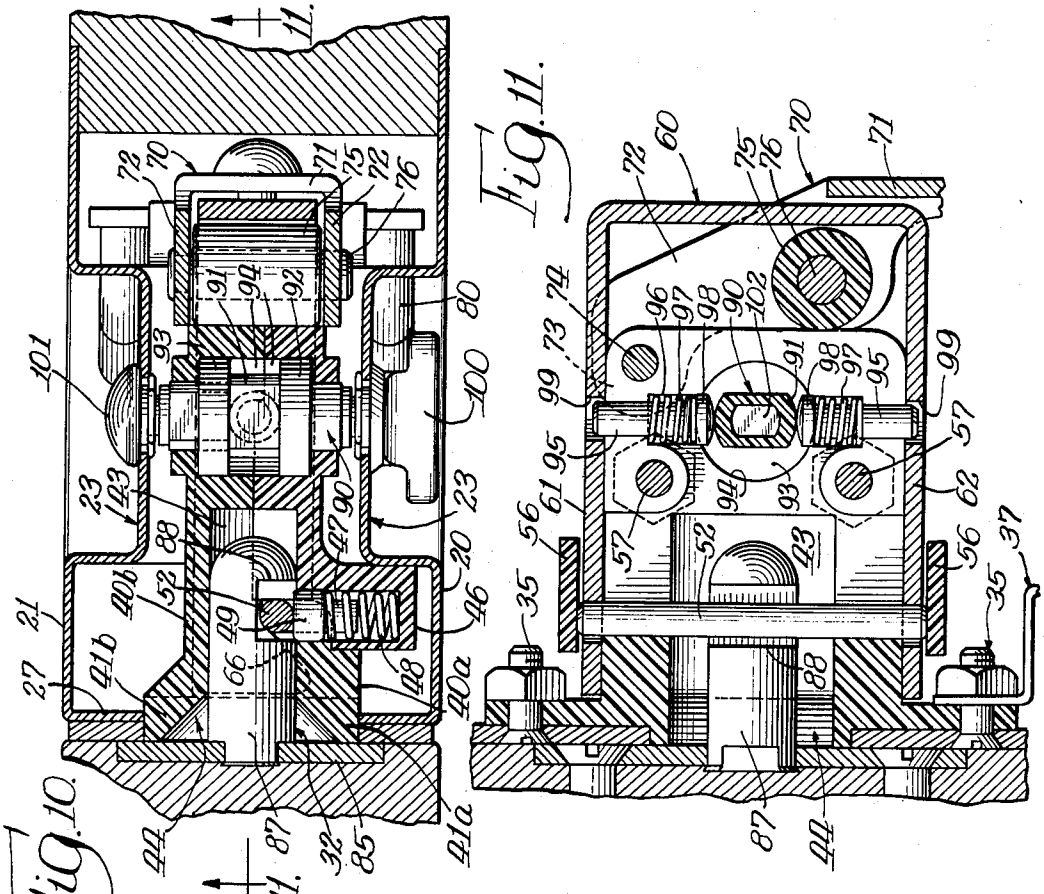


FIG. 10.

FIG. 11.

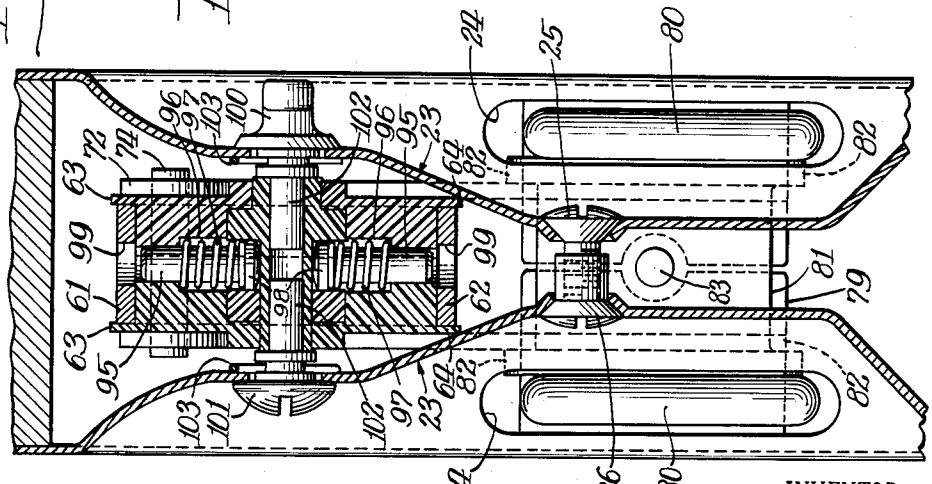


FIG. 9.

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2,723,148

SLIDING DOOR LOCK

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Application January 5, 1953, Serial No. 329,519

6 Claims. (Cl. 292—302)

My present invention relates generally to latch or lock mechanisms and concerns more particularly lock mechanisms of the class utilized with sliding doors.

The need for a successful door lock for sliding doors and particularly the pocket variety of sliding doors has been long felt in the industry. Previous known devices of this character have been encumbered by numerous impediments which make their installation and operation unsuccessful for various reasons. In particular, the lock of my present invention is directed to an improvement over prior known devices of this character and has features embodied therein which makes the same adaptable for reverse installation to accommodate left or right hand pull doors, has features of adjustment to accommodate door widths of various sizes and permits the vertical adjustment of the door to which the same is attached without the need for relocating the lock. Other features of my lock include a new and improved latch mechanism embodying simple and improved means for engaging and releasing a stationary striker with which the same cooperates and a new and improved self-aligning guide designed to pick-up and guide the striker into the latch mechanism consistent with the rolling movement of the door. Pull means are also embodied in my improved lock mechanism thereby eliminating the need for a separate pull for retrieving the sliding door from its recessed position in the pocket. Means are also included therein for locking the latch mechanism so that the door may be secured in its closed position with facility and convenience to the operator.

The main object of my present invention is to provide a new and improved lock means for sliding doors, particularly of the pocket variety, having features embodied therein which result in improved operating characteristics to the lock.

Another object of my present invention is to provide a lock mechanism for sliding doors having a new, improved and simplified latching mechanism whereby the same may be operated with minimum effort on the part of the user.

A still further object of my present invention is to provide a new and improved lock mechanism for sliding doors in which means are provided for the self alignment of the lock with a separate striker; the lock being movable with the door and the striker being normally fixed to a door frame or the like.

Still another object of my present invention is to provide a lock mechanism permitting vertical adjustment of the sliding door to which the lock of my invention is attached without the need for relocating the lock to insure its proper operation.

The above and further objects and features of my present invention will be recognized by one familiar with the art from the following detailed description thereof and with reference from time to time to the accompanying drawings.

In the drawings:

Figure 1 is a side elevational view illustrating the door lock of my present invention in its installed relation with a door;

Figure 2 is an end elevational view looking substantially from the vantage line **2—2** of Figure 1 and demonstrating the finger pull and striker guide features embodied in my improved lock assembly;

Figure 3 is an end elevational view taken substantially along the vantage line **3—3** of Figure 1, looking at the right hand end of the lock assembly of Figure 1;

Figure 4 is a top plan view of the installed lock of Figure 1 taken substantially along line **4—4** of Figure 1 and illustrating in enlarged detail features of the latch assembly of my present invention;

Figure 5 is an enlarged partial side elevational view of the assembly illustrated in Figure 1, with one cover plate removed to demonstate the operational features and relation of the working elements of my new and improved lock assembly, particularly the latch mechanism therein;

Figures 6 and 7 are partial cross sectional views taken substantially along line **6—6** of Figure 5 and illustrating the operational positions of the latch pin and latch spreader of my invention.

Figure 8 is an enlarged partial cross sectional view taken substantially along line **8—8** of Figure 5 to demonstrate the operational features of the latch pin of my invention;

Figure 9 is an enlarged cross sectional view taken substantially along line **9—9** of Figure 5 and illustrating in particular the operation of the new and improved safety lock means utilized with the lock assembly of my invention;

Figure 10 is an enlarged cross sectional view taken substantially along line **10—10** of Figure 5 and showing the operational arrangement of elements of the latch mechanism of my improved door lock; and

Figure 11 is an enlarged partial cross sectional view taken substantially along line **11—11** of Figure 10 and illustrating the operational features of the safety lock means, and the working relation of the striker and latch elements of my lock assembly.

Turning now to the concepts of my new and improved lock assembly as illustrated in the drawings, it will be recognized from Figure 1, in particular, that my lock means **15** is constructed and arranged for attachment to a door indicated generally at **16**. My lock means **15** includes a cover assembly comprising similar right and left hand side plate members **20** and **21** respectively which are to be fitted on opposite faces of the door **16** and outwardly of a transversely related face plate member **22**, as best shown in Figure 2 of the drawings. Each of the side plates is distinguished by an oval shaped and inwardly recessed portion **23** which may be formed conveniently by a suitable stamping operation, according to the configuration particularly illustrated in Figure 3 of the drawings. It will also be recognized that each of the oval recess portions **23** is provided with elongated slotted aperture **24** adjacent its right hand or rearward edge, as viewed in Figure 1, for the reception of latch operating handle, as will be described later herein. A central connector means comprising a threaded sleeve **25** and bolt **26** is effectively utilized for interconnecting the two face plates **20** and **21**; the connector means being located and inserted through suitable apertures formed substantially centrally of the indented oval recess portions **23**. In this regard, particularly note Figure 9 of the drawings wherein the bolt means **25** and related threaded sleeve **26** are illustrated in their assembled condition with the face plates **20** and **21**. It will also be understood that by using such a connector between the two face plates, adjustment for accommodating various door thicknesses is made available.

From a study of Figure 4 it will be seen that the side plates **20** and **21** also are provided with inwardly turned flange portions **27** adjacent their left hand edge, as viewed in Figure 1 of the drawings, which flange portions are adapted to embrace the door edge and form edge supports for the face plate **22**.

The face plate **22** comprises a substantially elongated rectangular member, preferably of metal or a like rigid material and shaped as particularly illustrated in Figure 2 of the drawings. It will be seen that face plate **22** is provided with a finger receiving aperture **30** disposed intermediate its horizontal center line and the lower edge thereof as well as an approximately square opening **31** located adjacent its upper end which accommodates entry of a striker assembly **32**. Plate **22** is also provided with screw receiving apertures adjacent its upper and lower ends for the reception of screw fasteners **33**, **33**, or the like, which are utilized in engaging face plate **22** against leading edge **34** of the door **16**. Openings are also provided in plate **22** immediately above and below the striker receiving aperture or opening **31** for the reception of fastening bolts **35**, **35** utilized in connecting the latch mechanism of my invention to the face plate as will be amplified later herein.

Mounted immediately adjacent face plate **22** and behind the finger hole opening **30** is a finger hole cover plate **37** which is held to the face plate **22** by means of one of the bolt fasteners **35**. The finger hole cover member is utilized for preventing the user's finger from engaging the operating mechanism of the lock; the finger hole **30** being provided for the purpose of drawing the door, especially a pocket variety of sliding door, out of its recessed condition in the enclosing wall pocket. In this regard it will be recognized that the finger hole cover member **37** is provided with an offset planar platform portion **38** which is disposed in spaced parallelism rearwardly of face plate **22** when the cover member is assembled to the face plate, substantially as illustrated in Figure 1 of the drawings.

Latch assembly

Turning now to the features of the latch mechanism of my improved lock assembly which is normally housed between the left and right hand side plates **20** and **21** and behind face plate **22**, as heretofore described, it will be recognized from Figures 4 and 5 in particular that the working elements of the latch mechanism are either carried within or attached to a bi-part housing assembly indicated generally by numeral **40** and preferably formed of molded nylon or a similar wear resistant material. The nylon housing **40** includes a right hand half **40***a* and a left hand half **40***b* as illustrated in Figures 4 and 8 of the drawings. These housing halves are so constructed and arranged as to interfit closely in assembly as will be observed from a study of Figures 2, 10 and 11. The housing parts **40***a* and **40***b* are each respectively provided with front flange portions **41***a* and **41***b* and when combined serve to define an internal chamber **43** therebetween for the reception of the striker assembly **32**, as will be related presently.

From an inspection of Figures 2, 10 and 11, it will also be recognized that the chamber **43** is provided with an outwardly diverging throat portion **44** which serves to guide the entry of the striker assembly in the striker receiving chamber **43**. Flange portions **41***a* and **41***b* of the housing assembly **40** are also extended outwardly around the converging throat portion **44** to register against the periphery of opening **31** in the face plate and form a beaded lip **45** which assists in the proper assembly and alignment of the face plate **22**.

As is shown in Figures 10 and 11, the right hand portion **40***a* of housing assembly **40** is provided with an outwardly projecting rectangular boss portion **46** located substantially vertically in central disposition at one side of the striker receiving aperture **43**. This projecting

boss portion **46** is provided with a series of vertically spaced cylindrical apertures **47**, **47** for the reception therein of coil springs **48**, herein shown as three in number. Each of the coil springs **48** is fitted with a substantially cylindrical coaxially disposed spring pin **49** adjacent the striker receiver aperture **43** and preferably constructed of nylon or a like material. From an inspection of Figure 8, in particular, it will be recognized that the spring pins **49**, **49** are provided with enlarged head portions **50** for frictionally engaging one side of a vertically disposed latch pin **52** mounted upright within the striker receiving aperture **43**. Further, it will be seen that the latch pin **52** extends above and below the upper and lower walls **53** and **54** respectively, of the housing assembly **40** via substantially rectangular registeringly aligned apertures **55**, **55** provided for this purpose and illustrated best in Figure 8 of the drawings. It will also be recognized that the apertures **55**, **55** through which the end portions of the latch pin **52** extend terminate at one end approximately on the center line of the striker receiving aperture **43** so as to limit the lateral movement of the striker pin as induced by the biasing force of spring members **48**, **48** (see Figure 8). To prevent the vertical displacement of the latch pin **52** the projecting boss portion **46** of the right hand housing portion **40***a* is provided with overhanging platform portions **56**, **56** at its upper and lower ends which overlie the upper and lower ends of latch pin **43** in assembly.

It will thus be understood that when the latch mechanism is assembled with the housing portions **40***a* and **40***b* which are held in mating relation by bolt means **57**, **57** the latch pin **52** is adapted for lateral translation substantially half-way across the lateral dimension of the striker receiving aperture **43**, as best shown in Figure 8. To provide for the actuation of the latch pin according to its desired lateral translation as specified, I have embodied a simplified mechanical linkage arrangement capable of manual manipulation by the user and designed to effect the desired movement of the latch pin during unlatching operation of the lock.

To this end I employ a substantially U-shaped latch retractor member **60**, preferably of metal or a like rigid material, and of a dimension whereby the upper and lower arm portions **61** and **62**, respectively, thereof embrace and attritionally slide across the upper and lower walls **53** and **54** respectively of the housing **40**. In this regard the outside walls of left and right hand housing halves **40***a* and **40***b* are extended beyond the upper and lower walls **53** and **54** to form spaced upper and lower flange portions **63** and **64** respectively, which form a guideway for the sliding passage of the latch retractor arms **61** and **62**. Adjacent the outer ends of each of the arm portions **61** and **62** of the U-shaped latch retractor, I have provided substantially triangular shaped cam openings **65**, **65** having inclined cam surfaces **66** disposed in registering vertical alignment and adapted to engage the upper and lower ends of the latch pin **52**. This arrangement is best demonstrated in Figures 6, 7 and 8 of the drawings, from which it will be appreciated and understood that movement of the latch retractor to the rear or away from the face plate **22** causes a lateral displacement of the vertical latch pin **52** toward the right hand portion **40***a* of the housing assembly **40**. This action serves to effect the release of the striker assembly **32** as will be explained more fully hereinafter. Conversely, movement of the latch retractor **60** toward the face plate **22** permits the spring members **48**, **48** and the spring pins **49** to bias the latch pin **52** toward the vertical center line of the striker receiving aperture **43** until the same eventually reaches the position illustrated in Figures 6 and 10 of the drawings. Outward or opposite lateral displacement and biasing compression of the spring members **48**, **48** is of course caused by the rearward movement of the latch retractor **60** through the engagement of camming edges **66** of the latch retractor cam openings

with the ends of the latch pin **52**. It will also be recognized that the inward extent of the triangular camming apertures **65**, **65** serves to limit the lateral movement of the latch pin toward the vertical center line of the striker receiving aperture **43**. This relation is best illustrated in Figure 6 of the drawings.

Sliding actuation of the U-shaped latch retractor **60** is accomplished in a simple manner by means of a handle keeper member **70** which comprises a substantially bell crank linkage. From an inspection of Figure 5 of the drawings in particular, it will be noted that the handle keeper **70** is provided with a back plate portion **71** from the upper end of which are extended angularly disposed arm portions **72**, **72**; there being two such arm portions disposed in spaced parallelism from opposite edges of the back portion **71** of the handle keeper. The upper extremity of each of the arm portions **72**, **72** is provided with an ear portion **73** through which is formed a central aperture for the reception of a keeper pin **74**, as best seen in Figure 4 of the drawings. It further will be recognized from Figure 4, that the arm portions **72**, **72** are adapted to embrace the rearward end of the housing assembly **40** therebetween with the keeper pin passing through a suitable cylindrical aperture formed transversely of the housing assembly and thus providing a pivotal connection for the upper end of the handle keeper. Mounted intermediate the ear portions **73**, **73** and the lower end of the handle keeper, I have provided a roller member **75** mounted transversely between arm portions of the handle keeper and adapted for rolling movement on a pin axle **76**, as shown best in Figures 4 and 11 of the drawings. The roller member **75** is adapted to have rolling engagement with the inside face of a back wall portion **71** of the U-shaped latch retractor so that counter-clockwise pivotal movement of the handle keeper **70** to its dotted line position, as illustrated in Figure 5, will cause the biasing of the U-shaped latch retractor rearwardly to effect the lateral translation of the latch pin outwardly of chamber **43**, as described herebefore.

Formed at the lower end of the back plate **71** of the handle keeper and projecting laterally outward therefrom, in coplanar relation, are rectangular wing portions **78**, **78**, as best seen in Figure 3 of the drawings. Each wing portion **78** serves as a back rest for one of two nylon handle members **79**, **79** each having a trapezoidal shaped arm portion **80**. The two handles **79** are insertable through the elongated apertures **24** of the two face plates **20** and **21** and constitute the means by which the operator may effect manual operation of the handle keeper in actuating the latch pin; the operator having access to the arm portions **80** of the handle via the indented recesses of the side plates **20** and **21**. Means for connecting the handle members **79** to the handle keeper comprises a rectangular metal handle clamp member **81** having lug elements **82** disposed at its four corners for traversing upper and lower edges of the handle members and upper and lower edges of the wing portions **78**, **78** of the handle keeper. Rigid connection between the back portion **71** of the handle keeper and the handle clamp **81** is effected by means of a self-tapping screw member **83** or a like rigid fastener. By loosening the fastener **83** and sliding the two handles **79** laterally of the handle keeper wing portions **78**, **78**, means are provided for adjustably positioning the handle members to accommodate variations in door thicknesses.

From the above description it will be recognized that by combining various elements described in the manner related, a latching function is performed by laterally reciprocating the latch pin **52** substantially half-way across the striker receiving aperture **43** of the nylon housing assembly **40**. In order to perform a locking function, or that is to latch a sliding panel door, or the like, in a closed condition, it is necessary that the latch mechanism described hereabove be related with a stationary element such as the striker assembly **32**.

Striker assembly

The striker assembly **32**, as seen particularly in Figures 1, 4, 10 and 11 comprises a striker plate **85** having apertures for the passage of wood screws **86**, **86**, or like fasteners, and a centrally disposed striker pin **87**. The striker pin is formed as a substantially cylindrical rod having a cutout portion **88** adjacent its outer end which is adapted to engage and lock with the vertical latch pin **52**. The leading end of the striker pin is bullet shaped to bias the latch pin laterally of chamber **43**, against the force of springs **48**, as the striker homes in chamber **43**. It will be understood and recognized that the striker assembly **32**, and particularly the striker plate **85** is to be attached firmly to a stationary frame member, such as a door jamb **89** or the like, so that the striker pin may lock with the latch pin in accordance with the closing movements of the door with which the lock assembly of my present invention is associated.

In regard to the operation of the striker pin and its alignment with the striker chamber **43**, it will be appreciated that the funnel-like formation of the throat portion **44** of the striker chamber **43** permits automatic guiding or self-aligning action of the lock and sliding door as the same approach the stationary striker pin **87**. This feature permits locking engagement with the stationary striker assembly by merely closing the sliding door according to its normal closing lateral motion.

It will also be understood and appreciated that the cylindrical diameter of the striker pin is somewhat smaller than the vertical and lateral dimensions of the striker chamber **43**. This feature enables vertical and lateral plumbing and adjustment of the door relative to the stationary striker without the need for relocating the striker assembly or the lock assembly. The advantage of such a feature and relationship between the lock assembly, particularly the latch mechanism therein, and the striker assembly will be readily recognized to those familiar with the art.

Safety lock

In addition to the striker assembly and latch assembly of my new and improved door lock, as hereabove described, I have also included an improved safety lock feature designed to permit the selective locking of the latch with the stationary striker from either side of the door, as desired, or from only one side, as in the particular embodiment herein illustrated. To this end, the nylon housing assembly **40** is provided with a rotatable locking cam member **90** comprising a substantially rectangular shaped tubular member made of nylon or like material, and having two, diametrically opposed, curved locking cam lug portions **91**, **91** projecting from opposite sides thereof, substantially as illustrated in Figures 10 and 11 of the drawings. A cylindrical, annular shoulder portion **92** is formed integrally with the tubular member **90** immediately adjacent the raised cam lugs **91** thereon and a similar annular washer **93**, removable for reasons of assembly, is provided on the opposite side of the raised cam lugs (see Figure 10). The shoulder portion **92** and annular washer member **93** are adapted for registering insertion in cylindrical recessed openings **94**, **94** formed inwardly of the inner or engaging faces of the two housing portions **40***a* and **40***b*. A pair of lock pins **95**, **95** herein illustrated as substantially cylindrical rod members, are slidingly mounted in coaxial openings communicating with the upper and lower walls **53** and **54** of the housing assembly, such apertures having enlarged cylindrical portions **96** adjacent their lower ends for the reception of compression springs **97**, **97**. Each compression spring engages an enlarged head end **97** of a lock pin and a shoulder portion **98** formed at the intersection of the enlarged cylindrical portion **96** of the lock pin aperture and the remaining cylindrical portion thereof. The head ends **98** of the lock pins **95** are of course designed to engage with the cam lugs **91**. As

will best be understood from an inspection of Figure 11 of the drawings, the turning of the tubular member **90** in a direction whereby the raised cam lugs **91** thereon engage the head ends of the lock pins to compress spring members **97**, causes the thrusting of the lock pins upwardly and downwardly through the upper and lower walls of the housing **40** so that the same protrude in an interfering manner with the sliding passage of the U-shaped latch retractor. To permit such protrusion of the lock pins, apertures **99**, **99** are formed in the arm portions **61** and **62** of the latch retractor. Therefore, with the lock pins extending into such apertures **99**, prevention of rectilinear reciprocation of the latch retractor is effectively brought about.

To operate this safety lock the tubular cam member **90** may be rotated, as desired, from its Figure 9 to its Figure 11 position by a handle member **100** positioned outwardly of one of the side plates **21** or **22**, as best seen in Figure 9 of the drawings. At the opposite end of the tubular member from handle **100**, a safety button **101** is provided outwardly of the other side plate; it being understood that operation of the safety lock may then take place from one side of the lock only, or that side which is provided with the operating handle member **100**. Operating engagement of the handle and safety button means with the tubular cam member **90**, is made by inserting rectangular shaped end portions **102** of each member **100** and **101** in the hollow interior of the tubular member **90** which is formed correspondingly rectangular for that purpose (see Figure 9). Holding the handle member **100** and safety button **101** for rotational movement relative to the side plates **20** and **21** and preventing the withdrawal thereof from cam member **90**, are small hair pin shaped spring members **103** designed to lock with reduced shank portions **104** of the safety button and handle members, as illustrated best in Figure 9.

Thus it will be recognized that I have herein described and illustrated a new and improved door lock assembly having special adaptation and utility in conjunction with sliding doors and particularly with the "pocket" variety of sliding door. It will also be appreciated that a convenient finger pull means **30** is provided for the recovery of the door from its recessed position in the wall pocket and that the indentations **23** provide a convenient finger grip for imparting sliding motion to the door in operation. The lock of my invention also includes a new and improved latch means designed to rectilinearly move a vertical latch pin laterally of a striker receiving chamber bringing about effective and efficient engaging and disengaging operation of the latch mechanism with a stationary striker. Safety lock means of an improved variety are also included, giving simplified and convenient locking function to the lock of my invention. Ready disengagement of the spring loaded latch pin with the stationary keeper is easily effected by depression of the handle members **79**, **79** which protrude inwardly of the recessed portions **23** of the side plates as illustrated in the drawings and described hereabove.

All in all, the features of my new and improved lock bring forth an advancement in the art over prior known devices of this character while the utilization of structural materials such as nylon for the majority of the working parts and metal for certain of the wear parts, such as the striker pin and latch pin assemblies, spells improved life and ruggedness for a lock of the class described. It will also be recognized and appreciated that the utility of material such as nylon for the working parts of the latch mechanism, particularly the housing and rotatable parts thereof, eliminates the need for lubrication; a feature having major importance in decorative locks of this character.

Therefore, it will be understood that while I have herein shown and described the features and improvements of my invention as related to a preferred embodiment thereof, it is fully contemplated that various changes, modifications and substitutions of equivalents may be made therein without departing from the spirit and scope of my invention. Consequently, I do not wish to be limited to the specific illustrative embodiment herein described except as may appear in the following appended claims.

I claim:

1. A door lock for use with sliding doors, comprising, a bi-part housing enclosing a striker receiving chamber which opens inwardly of the front wall of said housing, said chamber having a throat portion at its entry end diverging angularly outward from within said housing, a vertical latch pin mounted within said housing, across said chamber, said latch pin being arranged for horizontal translation parallel to its own longitudinal axis intermediate a position adjacent the longitudinal axis of said chamber and a position located outwardly of one of said chamber's side walls, a substantially U-shaped latch retractor embracing top, bottom and rear end walls of said housing and arranged for rectilinear translation in a direction transversely of the plane of movement of said latch pin, said latch retractor having camming apertures adjacent the free ends of its arm portions for engaging opposite end portions of said latch pin which project outwardly of the top and bottom walls of said housing whereby rectilinear movement of said latch retractor serves to translate said latch pin sideways relative to said chamber.

2. In a door lock of the class described for use with sliding doors, a latch assembly comprising, a latch housing having an internal striker receiving chamber, an elongated latch pin carried by said housing and extending through said chamber transversely of the path of movement of said striker pin as it enters said chamber, means for translating said latch pin rectilinearly parallel to its own longitudinal axis and toward the central axis of said chamber, latch retractor means engageable with opposite ends of said latch pin and having camming apertures arranged to bias said latch pin rectilinearly parallel its own longitudinal axis to a position laterally outward of said chamber, said latch retractor means being arranged for rectilinear movement transversely of the axis of said latch pin, link means pivotally supported on said housing, roller means carried by said link means in rolling engagement with said latch retractor, handle means manually accessible exteriorly of said housing for displacing said link means thereby to rectilinearly move said latch retractor, rotatable locking cam means having diametrically opposed cam lugs carried by said housing, and spring loaded lock pin means adjacent with said rotatable locking cam means, said locking pin means engaging apertures in said latch retractor for preventing rectilinear movement thereof upon the selective rotation of said rotatable cam means to a position wherein said cam lugs thereon engage said locking pin means.

3. A door lock assembly of the class described for use with sliding doors, comprising in combination, housing means carried at one edge of a door, an internal chamber in said housing means opening convergingly inward of one end wall thereof and adapted to receive a striker pin, a latch pin mounted within said housing for rectilinear translation in a plane paralleling its own longitudinal axis and traversing the axis of said chamber, such movement occurring between a position outside of said chamber and a position substantially adjacent the longitudinal axis thereof, spring means biasing said latch pin to its said position within said chamber, manually actuated cam means simultaneously engaged with both ends of said latch pin and moveable transversely of the latter's longitudinal axis, movement of said cam means serving normally to move said latch pin against the biasing force of said spring means and dispose the same bodily outward of said chamber thereby disengaging such from the striker pin, and safety lock means selectively op-

erable to prevent movement of said cam means thereby immobilizing said latch pin.

4. A lock assembly for use with sliding doors, comprising, a housing means carried in one edge of a door, said housing means having an internal chamber opening inwardly at one end wall thereof, the entry end of said chamber being distinguished by an inwardly converging throat portion, a vertical latch pin means mounted in said housing and movable in a plane paralleling its own longitudinal axis and traversing the longitudinal axis of said chamber, spring means arranged to normally bias said latch pin toward said chamber's longitudinal axis, a U-shaped latch retractor connected with both ends of said latch pin exteriorly of said housing, a cam surface means formed on said latch retractor at its areas of engagement with said latch pin, a pivotally moveable link means forming a bell crank lever system, and a roller means carried by said link means to engage said retractor whereby motivating said link means causes rectilinear movement of said retractor transversely of the axis of said latch pin with movement of said retractor in one direction serving to withdraw said latch pin from the interior of said chamber.

5. A door lock assembly of the class described mountable in a recess at one edge of a sliding door or the like, comprising, a pair of spaced side plate members, each having a central indented portion and mountable in opposite faces of the door; a face plate mounted transversely of said side plates at one edge thereof and across a side edge of the door, said face plate having a finger opening formed therethrough and an aperture, a latch housing mounted behind said face plate intermediate said side plates, said housing having a chamber opening inwardly of one end thereof in communication with the said aperture in said face plate, a latch pin mounted in said housing to move rectilinearly in a plane paralleling its own longitudinal axis from outside said chamber to the interior thereof, a latch retractor engageable with opposite ends of said latch pin outwardly of said chamber, camming apertures formed in said latch retractor for receiving the opposite ends of said latch pin, link means mounted on said housing, a roller means carried by said link means for engaging said retractor whereby rectilinear translation of the retractor in one direction, responsive to pivotal movement of said link means, causes said camming apertures to withdraw said latch pin from the interior of said chamber, compressible spring means opposing the withdrawal of side latch pin, and handle means operatively connected to said link means and manually accessible at said indented portions of both said side plate members for operating said retractor.

6. In a door lock of the class described for use with sliding doors, the combination comprising, a latch housing having an internal striker receiving chamber, a throat portion in said chamber opening converging inwardly of one wall thereof, and acting as a guide means, an elongated latch pin carried by said housing transversely of the longitudinal axis of said chamber, end portions of said latch pin extending outwardly of upper and lower walls of said housing through registering aligned apertures communicating with said chamber, a U-shaped latch retractor having arm portions embracing said housing's upper and lower walls, said arm portions having camming apertures receiving said end portions of said latch pin, camming surfaces formed along one edge of said camming apertures for engaging said latch pin, a manually operated pivotal link means carrying a roller means for engaging said retractor, movement of said link means rectilinearly moving said retractor in the one direction causing said camming surfaces to bias the latch pin to a position located outwardly of said chamber, spring means carried by said housing and engageable with said latch pin for normally biasing said latch pin to a position within said chamber, rotatable cam means carried by said housing intermediate the arms of said latch retractor, and spring loaded locking pin means movable by said cam means into interfering engagement with said latch retractor thereby to prevent its said rectilinear displacement.

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