

PATENT SPECIFICATION

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(54) LATCH MECHANISM

(71) We, YOSHIDA KOGYO K. K., a corporation duly organized under the laws of Japan and existing at No. 1, Kanda Izumi-cho, Chiyoda-ku, Tokyo, Japan, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

- 10 This invention relates to a latch mechanism for a window or the like in which the mechanism is mounted on an inner edge of a window frame to coact with a window, mounted within the window frame for swinging movement about an axis between a closed and an open position, to retain the window in its closed position.

- One known latch mechanism of this general type, as disclosed in Japanese Patent Publication No. 51-2880, comprises a housing, a latch bolt mounted in the housing and including a base portion having a locking groove and a head portion extending from the base portion and movable between a latched or extended position where the head portion is received in a locking opening in one edge of the window and an unlatched or retracted position where the head portion is retracted from the locking opening, and a locking piece in the form of an elongated bar mounted within the housing and lockingly engageable at one end with the locking groove for locking the latch bolt in its latched or extended position. This prior art latch device has been found not entirely satisfactory, however, in that the locking piece has often failed to effect sufficient locking because it engages the locking groove only at one end thereof. Further, the locking piece is susceptible to distortion when the closed window is subjected to forcible opening movement, thereby aggravating the problem. Another difficulty of this conventional latch device is that it can only be actuated from one end of the window.

This is quite undesirable where such a latch device is to be installed on a window serving as an emergency smoke vent which naturally needs to be opened in a hurry in the event of a fire.

The present invention seeks to provide a latch window unit incorporating a latch device which, if suitably installed, can be operated at either end of the window unit and is capable of positively locking a window with respect to the associated window frame against opening.

According to the invention, there is provided a latch mechanism for a window or the like comprising a latch bolt movable between a first position in which it protrudes for engagement with a co-operating aperture to lock the window or the like and second and third positions in which it is retracted by opening or closing of the window or the like respectively and a slider having a central position in which the latch is prevented from taking up its second position and two side positions in which the latch bolt is freed to take up both of its two retracted positions, the slider being biased towards its central position.

Preferably an elongated, hollow housing is mounted on the inner peripheral edge of the window frame, the housing having an aperture therethrough which is alignable with a locking opening in the window or the like when the window or the like is in its closed position, and having a longitudinal slot wherein the latch bolt has a base portion and a head portion extending from the base portion and disposed in the aperture of the housing so as to prevent the longitudinal movement of the latch bolt along the housing, wherein the slider is slidably mounted within the housing for movement therealong, the slider including a body having a keeper portion engageable with the base portion of the latch bolt when the slider assembly is in its central position whereby

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the head portion is held in its extended position; wherein biasing means are provided acting on the base portion of the latch bolt and normally biasing the head portion into its extended position and wherein actuation means are operatively associated with the slider assembly through the longitudinal slot for actuating the slider to move in either direction along the housing from its central operative position to bring the keeper portion out of engagement with the base portion of the latch bolt so as to enable the window or the like to be opened and move the latch bolt into its second and retracted position the head portion being urged by the said one edge portion of the window or the like into its third and retracted position as the window moves from its opened to closed position so that upon movement of the window to its closed position, the head portion is automatically received in the locking opening even when the slider assembly is in its operative position.

The invention will now be described in greater detail, by way of example, with reference to the drawings, in which:—

Figure 1 is a front elevational view of a latch window unit provided in accordance with the present invention;

Figure 2 is a perspective view of a latch device shown upside down;

Figure 3 is an exploded, perspective view of the latch device;

Figure 4 is a transverse, vertical cross-sectional view of the latch device, showing a latch bolt in its latched or extended position;

Figure 5 is a view similar to Figure 4 but showing the latch bolt in its unlatched or retracted position;

Figure 6 is a longitudinal, vertical cross-sectional view of the latch device;

Figure 7 is a longitudinal, horizontal cross-sectional view of the latch device; and

Figure 8 is a perspective view of a modified form of the parts shown in Figure 3.

Figure 1 shows a latch window unit 10 which is capable of serving as an emergency smoke vent and comprising an outer frame 11 of a rectangular configuration and a plurality of windows 12 mounted within the outer frame 11 for swinging movement between a closed and an opened position about an axis substantially parallel to the longitudinal axis of the outer frame 11. Each of the windows 12 includes a rectangular inner frame 13 within which a panel member 14 such as a pane of glass is mounted. A plurality of latch devices 15 are provided for locking the windows 12 relatively to the outer frame 11 when the windows 12 are in closed position. The latch devices 15 are mounted on an inner edge of a horizontal member 16 of the outer frame 11 and coact with a corresponding number of receptive means, 65 provided respectively on outer edges of

horizontal top bars 17 of the inner frames 13, to retain the windows 12 in closed position, as will hereinafter more fully be described.

The latch device 15, best shown upside down in Figures 2 and 3 for illustration purposes, comprises an elongated housing 18, a slider assembly 19 slidably mounted within the housing 18 for movement therealong in either direction into and away from an operative position, a latch bolt 20 carried by the slider assembly 19 and extending exteriorly of the housing 18, an actuator plate 21 operatively associated with the slider assembly 19, and an operating wire 80 rope 22 connected to the actuator plate 21 for actuating the slider assembly 19 to move along the housing 18.

The housing 18 comprises a first structural member 23 of a channel-shaped cross-section having a pair of parallel spaced arms 24, 25 and a base 26 interconnecting the arms 24, 25 at one of their edges, and a second structural member 27 of L-shaped cross-section having a pair of legs 28, 29, the first structural member 23 being coextensive in length with the second structural member 27. Each of arms 24, 25 and the base 26 are substantially equal in width to the legs 28, 29, respectively. The first and second structural members 23, 27 are connected together by a pair of screws 30, 31 passing through the leg 28 and the arm 24, with the leg 28 disposed in contiguous, overlapping relation to the arm 24 and with the distal edges of the arms 24, 25 in abutment against the leg 29 so that the interior of the housing 18 has a rectangular cross-section. The first structural member 23 has a notch 32 of U-shaped contour in the arm 24 which is disposed substantially centrally of the length thereof and opening away from the base 26. The second structural member 27 also has a rectangular aperture 33 through the leg 28 which has a slightly smaller dimension in the longitudinal direction of the housing 18 than the notch 32 and is brought into alignment therewith upon assembly of the housing 18. The housing 18 is mounted on the outer frame 11 with the arm 25 fixedly secured to the inner edge of the horizontal member 16.

The slider assembly 19 comprises a pair of elongated front and rear plates 34, 35 of identical make and a spacer or base member 36 which is coextensive in length with the front and rear plates 34, 35 and interposed therebetween to hold the same in parallel spaced relationship. Each of the front and rear plates 34, 35 has a pair of recesses 38, 39 of U-shaped contour spaced along the length thereof to provide a pair of mounting portions 40, 41 and a keeper portion 42, the mounting portions 40, 41 being disposed at opposite ends of each of the plates 34, 35, and the keeper portion 42 being disposed 130

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substantially centrally of the length of each plate. Each of the front and rear plates 34, 35 has a longitudinal flange 43 extending along one edge and projecting right-5 angularly therefrom. Each of the mounting portions 40, 41 also has a flange 44 projecting right-angularly from one edge thereof remote from the longitudinal flange 43, the flange 44 projecting in the same direction as the longitudinal flange 43. 10

The spacer or base member 36 has a base plate 45 and a pair of channel portions 46, 47 at opposite ends thereof which extend at a right angle to the base plate 45. Each of the front and rear plates 34, 35 is attached to the spacer member 36, in such a manner that each pair of mounting portions 40, 41 are mated with and secured to respective one arms 48, 49 of the channel portions 46, 20 47 by a pair of screws 37 passing therethrough.

The slider assembly 19 also includes a pair of spring guide members 50, 51 of a channel-shaped cross-section disposed on 25 the spacer member 36 with their respective one arms 52, 52 held in sliding contact with the base plate 45, their arms being directed away from each other with their bases 53, 53 facing each other. A pair of compression 30 coil springs 54, 54 acts between the respective channel portions 46, 47 and guide members 50, 51 to normally urge the guide members 50, 51 toward each other. The latch bolt 20 is interposed between the 35 guide members 50, 51 so that the bases 53, 53 are urged against the latch bolt 20.

The latch bolt 20 includes a head portion 20a of generally right-angled triangular cross-section having a front face 55, a rear 40 face 56 inclined with respect to the front face 55 and acting as a cam surface, a top face 57 (Figures 4 and 5) extending at a right angle to the front face 55, and a pair of side faces 58, 58 extending at a right angle 45 to the top face 57. A corner of the head portion 20a into which the rear and top faces 56, 57 merge is rounded to provide an arcuate cam surface 59 (Figures 4 and 5). A pair of corners of the head portion 20a into 50 which the side faces 58, 58 and the top face 57 merge are extended in a direction away from each other to provide a pair of ridges 60, 60 (Figure 6). The latch bolt 20 also includes a base portion 20b of a generally 55 channel-shaped configuration having a front wall 61 extending from the top face 57 in coplanar relationship to the front face 55 and a pair of side walls 62, 62 extending from the top face 57 generally in respective 60 planes in which the side faces 58, 58 lie, the side walls 62, 62 being interconnected by the front wall 61 at one of their edges.

Each of the side walls 62, 62 has the same thickness or dimension in the longitudinal 65 direction of the slider assembly 19 as the

respective ridge 60 but is made thinner adjacent to the front wall 61, as shown in Figure 7. The base 53 of each of the spring guide members 50, 51 is urged against the respective ridge 60 and side wall 62 by the 70 respective compression spring 54.

The slider assembly 19 is slidably disposed within the housing 18 with the longitudinal flanges 43, 43 and the base plate 45 of the spacer member 36 in sliding con- 75 tact with the arm 25 of the first structural member 23 and with the two pairs of flanges 44 and the respective one arms 52, 52 of the spring guide members 50, 51 remote from the base plate 45 in sliding contact with the 80 arm 24.

The head portion 20a of the latch bolt 20 is urged by a compression spring 63 to normally extend through the aligned notch 32 and aperture 33 exteriorly of the housing 85 18, the compression spring 63 acting between the base plate 45 of the spacer member 36 and the top face 57 of the head portion 20a. The compression spring 63 acts on the top face 57 through a cup-shaped 90 bearing member 64 of square cross-section received in the base portion 20b of the latch bolt 20. The pair of ridges 60, 60 engage the lateral margins of the aperture 32 spaced along the length of the housing 18 to pre- 95 vent the latch bolt 20 from moving out of the housing 18.

With this arrangement, the slider assembly 19 is normally held in its operative position where the base portion 20b of the latch 100 bolt 20 is interposed between the keeper portions 42, 42.

The second structural member 37 has a longitudinal slot 65 through the leg 29 extending along the length thereof, the 105 elongated slot 65 terminating at its opposite ends in a pair of tabs 66, 66 which extend away from the first structural member and are capable of serving as a stop means. The leg 29 also has a pair of lugs 67, 67 at opposite 110 site ends thereof which extend in a direction away from the first structural member 23 and have respective guide recesses 68, 68 at their distal ends.

The actuator plate 21 is of rectangular 115 shape and has a connecting bolt 69 on one surface facing away from the first structural member 23 and a pair of actuating pins 70, 70 on the other surface, the connecting bolt 69 being disposed substantially at the center 120 of the actuator plate 21, and the pair of pins 70, 70 being located adjacent to the opposite ends of the actuator plate 21 and disposed approximately centrally of the width thereof. The wire rope 22 is coiled about the 125 connecting bolt 69 and fixedly secured thereto by means of a nut 71 and washers 72, 72. The guide recesses 68, 68 in the lugs 67, 67 slidably receive the wire rope 22 to guide the movement thereof. The actuator 130

plate 21 is attached to the housing 18 with the actuating pins 70, 70 extending through the slot 65 and the recesses 38, 39 in the front plate 34 into the slider assembly 19.

5 As shown in Figure 7, when the slider assembly 19 is in its operative position, the front wall 61 and the rear edges of the side walls 62, 62 are held in sliding contact with the keeper portions 42, 42 of the front and rear plates 34, 35, respectively, so that the latch bolt 20 is held against rotation or angularly movement about an axis parallel to the longitudinal axis of the housing 18 to hold the head portion 20a in its extended or latched position, thereby locking the closed window 12 relatively to the outer frame 11. The horizontal bar 17 of the inner window frame 13 has a locking opening 73 in its outer edge which is defined by a pair of front and rear marginal edge portions 74, 75, the locking opening 73 representing the aforesaid receptive means. When the respective window 12 is in its closed position, the head portion 20a of the latch bolt 20 is received in the locking opening 73 with the front face 55 in abutting engagement with the front marginal edge portion 74.

When the respective window 12 is to be opened, the wire rope 22 is pulled from either end of the latch window unit 10, for example in the left-hand direction (Figure 1), to move the actuator plate 21 along the longitudinal slot 65 in the right-hand direction (Figures 2 and 3) so that the right-hand actuating pin 70 is brought into engagement with the mounting portion 41 to slidably move the slider assembly 19 along the housing 18 away from its operative position, with the guide members 50 moving closer to the channel portion 46 and with the guide member 51 in turn moving farther away from the channel portion 47. The sliding movement of the slider assembly 19 is restricted upon engagement of the end of the actuator plate 21 with the right-hand stop tab 66. Since the head portion 20a extends through the aligned notch 32 and aperture 33, the latch bolt 20 is held against movement along the housing 18. With the slider assembly in its inoperative position, the front wall 61 and the rear edges of side walls 62, 62 are disposed out of registration with the keeper portions 42, 42 and hence face the opposed recesses 38, 38, respectively. The swinging movement of the respective window 21 to its opened position causes the front marginal edge portion 74 of the top bar 17 to urge against the latch bolt 20 to rotate or angularly move in a clockwise direction (Figure 5) about one edge 33a of the aperture 33 facing away from the leg 29 so that the inclined rear face 56 are brought into sliding engagement with respective one edges of the aligned notch 32 and aperture 33 facing the leg 29. The arcu-

ate cam surface 59 acts against the bearing member 64 to urge the same toward the base plate 45 of the spacer member 36 against the bias of the compression spring 63 so that the front marginal edge portion 74 slides over and moves past the distal tip end of the head portion 20a to retract the latter from the locking opening 73, thereby releasing the locking operation of the latch bolt 20. Even during those periods of time when the front marginal edge portion 74 slides over and moves past the distal tip end of the head portion 20a, this distal tip end will not completely be urged into the housing 18 to positively restrict the movement of the latch bolt 20 along the housing 18.

After the window 12 has been moved to its opened position, the pull applied to the wire rope 22 is released to automatically return the slider assembly 19 to its operative position under the influence of the compression spring 54 acting between the spring guide member 50 and the channel portion 46. With this arrangement, upon swinging movement of the window 12 from its opened to closed position, the window 12 is automatically locked relatively to the outer frame 11. That is, this swinging movement causes the front marginal edge portion 74 to act against the inclined rear face 56 of the head portion 20a to urge the latch bolt 20 towards the base plate 45 of the spacer member 36 against the bias of the compression spring 63 so that the front marginal edge portion 74 slides over and moves past the distal tip end of the head portion 20a to introduce the head portion 20a into the locking opening 73 under the influence of the compression spring 63, thereby retaining the window 12 in its closed position.

Figure 8 shows a modified form of the invention in which the spacer member 36 is replaced by a pair of channel-shaped spacer members 36a, 36a each having a base 46a and a pair of arms 48a, 49a interconnected by the base 46a at one of their edges, and in which in place of the pair of spring guide members 50, 51 there is utilised a generally U-shaped spring guide member 50a having a pair of arms 53a, 53a and a base 51a interconnecting the arms 53a, 53a at one of their edges, the arms 53a, 53a having a pair of oppositely directed flanges 52a, 52a at their respective other ends. The front and rear plates 34, 35 are held in parallel spaced relation with each pair of mounting portions 40, 41 mated with and secured to their respective one arms 48a, 49a. The base portion 20b of the latch bolt 20 is received in the U-shaped spring guide member 50a with the arms 53a, 53a held in engagement with the respective ridges 60, 60 and side walls 62, 62. A pair of compression coil springs 54, 54 act between the bases 46a, 46a of the spacer members 36a, 36a and the arms 53a, 53a of

the spring guide member 50a, respectively. The base 51a of the guide member 50a and the pair of flanges 52a, 52a are held in sliding contact with the arms 24 and 25 of the first structural member 23, respectively.

While the latch window unit 10 according to this invention has been specifically shown and described herein, the invention itself is not to be restricted by the exact showing of the drawing or the description thereof. For example, the first and second structural members 23, 27 can be replaced by a one-piece housing identical in configuration to the housing 18. Also, the keeper portion 42 of the rear plate 35 can be removed.

WHAT WE CLAIM IS:—

1. A latch mechanism for a window or the like comprising a latch bolt movable between a first position in which it protrudes for engagement with a cooperating aperture to lock the window or the like and second and third positions in which it is retracted by opening or closing of the window or the like respectively and a slider having a central position in which the latch is prevented from taking up its second position and two side positions in which the latch bolt is freed to take up both of its two retracted positions, the slider being biased towards its central position.

2. A mechanism according to claim 1 wherein an elongated, hollow housing is mounted on the inner peripheral edge of the window frame, the housing having an aperture therethrough which is alignable with a locking opening in the window or the like when the window or the like is in its closed position, and having a longitudinal slot, wherein the latch bolt has a base portion and a head portion extending from the base portion and disposed in the aperture of the housing so as to prevent the longitudinal movement of the latch bolt along the housing, wherein the slider is slidably mounted within the housing for movement therealong, the slider including a body having a keeper portion engageable with the base portion of the latch bolt when the slider assembly is in its central position whereby the head portion is held in its extended position, wherein biasing means are provided acting on the base portion of the latch bolt and normally biasing the head portion into its extended position and wherein actuation means are operatively associated with the slider assembly through the longitudinal slot for actuating the slider to move in either direction along the housing from its central operative position to bring the keeper portion out of engagement with the base portion of the latch bolt so as to enable the window or the like to be opened and move the latch bolt into its second and retracted position, the head portion being urged by the said one edge portion of the window or

the like into its third and retracted position as the window moves from its opened to closed position so that upon movement of the window to its closed position, the head portion is automatically received in the locking opening even when the slider assembly is in its operative position.

3. A mechanism according to claim 2, when the housing includes a body of square cross-section having a front and a rear portion and a pair of side portions interconnecting the front and rear portions at their respective lateral edges, the aperture extending through one of the side portions, the housing being secured to the said portion of the inner peripheral edge of the window frame at the other side portion, the longitudinal slot extending through said front portion.

4. A mechanism according to claim 3, wherein the housing comprises a first structural member of channel-shaped cross-section having a pair of spaced arms and a base interconnecting the arms at one of their lateral edges, and a second structural member of L-shaped cross-section having a pair of legs, there being a notch of a channel-shaped contour in one of said arms, there being an opening through one of said legs, the other leg having the longitudinal slot, and the first and second structural members being connected together, with the said one leg disposed in contiguous, overlapping relation to the said one arm and with the notch and the opening in alignment with each other to provide the aperture.

5. A mechanism according to claim 3 or 4, wherein the head portion of the latch bolt includes a body of generally right-angled triangular cross-section having a front face, a rear face inclined with respect to the front face and acting as a cam surface, a top face extending at a right angle to the front face, and a pair of side faces extending at a right angle to the top face, wherein a pair of corners of the head portion into which the side faces and the top face merge are extended in a direction away from each other to provide a pair of ridges engaging those opposite marginal edges of the aperture spaced in the longitudinal direction of the housing, to prevent the movement of the latch bolt away from the housing through the aperture, wherein a corner of the head portion into which the rear and top faces merge is rounded to provide an arcuate cam surface, wherein the base portion is of a generally channel-shaped configuration having a front wall extending from the top face of the head portion in coplanar relationship to the front face and a pair of side walls extending from the top face generally in respective planes in which the side faces lie and the side walls being interconnected by the front wall, the front wall engaging the keeper portion when



the spring guide member 50a, respectively. The base 51a of the guide member 50a and the pair of flanges 52a, 52a are held in sliding contact with the arms 24 and 25 of the first structural member 23, respectively.

While the latch window unit 10 according to this invention has been specifically shown and described herein, the invention itself is not to be restricted by the exact showing of the drawing or the description thereof. For example, the first and second structural members 23, 27 can be replaced by a one-piece housing identical in configuration to the housing 18. Also, the keeper portion 42 of the rear plate 35 can be removed.

WHAT WE CLAIM IS:—

1. A latch mechanism for a window or the like comprising a latch bolt movable between a first position in which it protrudes for engagement with a cooperating aperture to lock the window or the like and second and third positions in which it is retracted by opening or closing of the window or the like respectively and a slider having a central position in which the latch is prevented from taking up its second position and two side positions in which the latch bolt is freed to take up both of its two retracted positions, the slider being biased towards its central position.

2. A mechanism according to claim 1 wherein an elongated, hollow housing is mounted on the inner peripheral edge of the window frame, the housing having an aperture therethrough which is alignable with a locking opening in the window or the like when the window or the like is in its closed position, and having a longitudinal slot, wherein the latch bolt has a base portion and a head portion extending from the base portion and disposed in the aperture of the housing so as to prevent the longitudinal movement of the latch bolt along the housing, wherein the slider is slidably mounted within the housing for movement therealong, the slider including a body having a keeper portion engageable with the base portion of the latch bolt when the slider assembly is in its central position whereby the head portion is held in its extended position, wherein biasing means are provided acting on the base portion of the latch bolt and normally biasing the head portion into its extended position and wherein actuation means are operatively associated with the slider assembly through the longitudinal slot for actuating the slider to move in either direction along the housing from its central operative position to bring the keeper portion out of engagement with the base portion of the latch bolt so as to enable the window or the like to be opened and move the latch bolt into its second and retracted position, the head portion being urged by the said one edge portion of the window or

the like into its third and retracted position as the window moves from its opened to closed position so that upon movement of the window to its closed position, the head portion is automatically received in the locking opening even when the slider assembly is in its operative position.

3. A mechanism according to claim 2, when the housing includes a body of square cross-section having a front and a rear portion and a pair of side portions interconnecting the front and rear portions at their respective lateral edges, the aperture extending through one of the side portions, the housing being secured to the said portion of the inner peripheral edge of the window frame at the other side portion, the longitudinal slot extending through said front portion.

4. A mechanism according to claim 3, wherein the housing comprises a first structural member of channel-shaped cross-section having a pair of spaced arms and a base interconnecting the arms at one of their lateral edges, and a second structural member of L-shaped cross-section having a pair of legs, there being a notch of a channel-shaped contour in one of said arms, there being an opening through one of said legs, the other leg having the longitudinal slot, and the first and second structural members being connected together, with the said one leg disposed in contiguous, overlapping relation to the said one arm and with the notch and the opening in alignment with each other to provide the aperture.

5. A mechanism according to claim 3 or 4, wherein the head portion of the latch bolt includes a body of generally right-angled triangular cross-section having a front face, a rear face inclined with respect to the front face and acting as a cam surface, a top face extending at a right angle to the front face, and a pair of side faces extending at a right angle to the top face, wherein a pair of corners of the head portion into which the side faces and the top face merge are extended in a direction away from each other to provide a pair of ridges engaging those opposite marginal edges of the aperture spaced in the longitudinal direction of the housing, to prevent the movement of the latch bolt away from the housing through the aperture, wherein a corner of the head portion into which the rear and top faces merge is rounded to provide an arcuate cam surface, wherein the base portion is of a generally channel-shaped configuration having a front wall extending from the top face of the head portion in coplanar relationship to the front face and a pair of side walls extending from the top face generally in respective planes in which the side faces lie and the side walls being interconnected by the front wall, the front wall engaging the keeper portion when



the slider assembly is in its operative position, whereby, when the window is moved from its closed to opened position, the said one edge portion of the window acts on the front face of the head portion to angularly move the latch bolt about one edge of the aperture in engagement with the front face to thereby urge the head portion to its retracted position, with the arcuate cam surface urging the biasing means away from the aperture, and whereby, when the window is moved from its opened to its closed position and when the slider assembly is in its operative position, the said one edge portion of the window slides over and moves past the inclined rear face to permit the head portion to be received in the locking opening to effect the locking of said window.

6. A mechanism according to claim 5, wherein the body of the slider assembly includes a front plate extending along the housing and disposed in opposed relation to the front portion of the housing, and a pair of end plates each extending from the front plate towards the rear portion of the housing, the end plates being held in sliding contact with the side portions of the housing at their opposite sides, and the front plate having a pair of recesses spaced along the length thereof to define the keeper portion therebetween.

7. A mechanism according to claim 6, wherein the urging means comprises a pair of compression spring elements acting respectively between the side walls of the base portion of said latch bolt and the end plates of the slider assembly body.

8. A mechanism according to claim 6 or 7, wherein the slider assembly body further includes a rear plate secured to the end plates at their one ends remote from the front plate, the rear plate being identical in configuration to the front plate, and the front and rear plates being disposed symmetrically with respect to the longitudinal axis of the slider assembly so that the respective keeper plates are in registration with each other.

9. A mechanism according to claim 6, 7 or 8, wherein the body of the slider assembly includes a base plate extending between and interconnecting the end plates at their one sides adjacent to the other side portion of the housing.

10. A mechanism according to claim 8, in which the slider assembly further includes a pair of spring guide members of a channel-shaped cross-section having a base and a pair of arms interconnected by the base, respective one ends of the compression spring elements remote from the end plates bearing against the bases of the spring

guide members to urge the same against the side walls of the base portion of the latch bolt, and the arms of each of the spring guide members being in sliding contact with the one side portion of the housing and the base plate of the slider assembly body, respectively.

11. A mechanism according to any one of claims 7 to 8 wherein the slider assembly comprises a spring guide member of U-shaped cross-section having a pair of arms and a base interconnecting the arms at one of their edges, the base portion of the latch bolt being received in the U-shaped spring guide member, respective one ends of the compression spring elements remote from the end plates bearing against the arms of said U-shaped spring guide members, respectively.

12. A mechanism according to any one of claims 6 to 11, wherein the biasing means comprises a compression spring member acting between the said other arm of the first structural member and the top face of the head portion.

13. A mechanism according to claim 11, in which the slider assembly further includes a hollow bearing member of square cross-section having an open top, into which bearing member one end of the compression spring member extends through the open top to urge the bearing member against the top face of the head portion.

14. A mechanism according to any one of claims 6 to 13, in which the actuating means comprises a rectangular plate having a pair of pins formed integrally on one surface facing the housing, the pairs of pins extending through the longitudinal slot into the recesses in the front plate of the slider assembly body whereby upon movement of the actuator plate in either direction along the housing, the slider assembly is moved in a corresponding direction along the housing.

15. A mechanism according to claim 14, further including a wire rope connected to the actuator plate intermediate opposite ends thereof and operable to actuate the actuator plate to move in either direction, and wherein the housing has a pair of lugs extending from the front portion at its opposite ends in a direction away from the rear portion and having a pair of guide recesses at their distal ends, the guide recesses receiving said wire rope for guiding the movement thereof.

16. A mechanism substantially as herein described with reference to the drawings.

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