July 30, 1963 J. V. PASTVA, JR 3,099,473

DOOR CONTROL MECHANISM

Filed Dec. 5, 1961 3 Sheets-Sheet 1

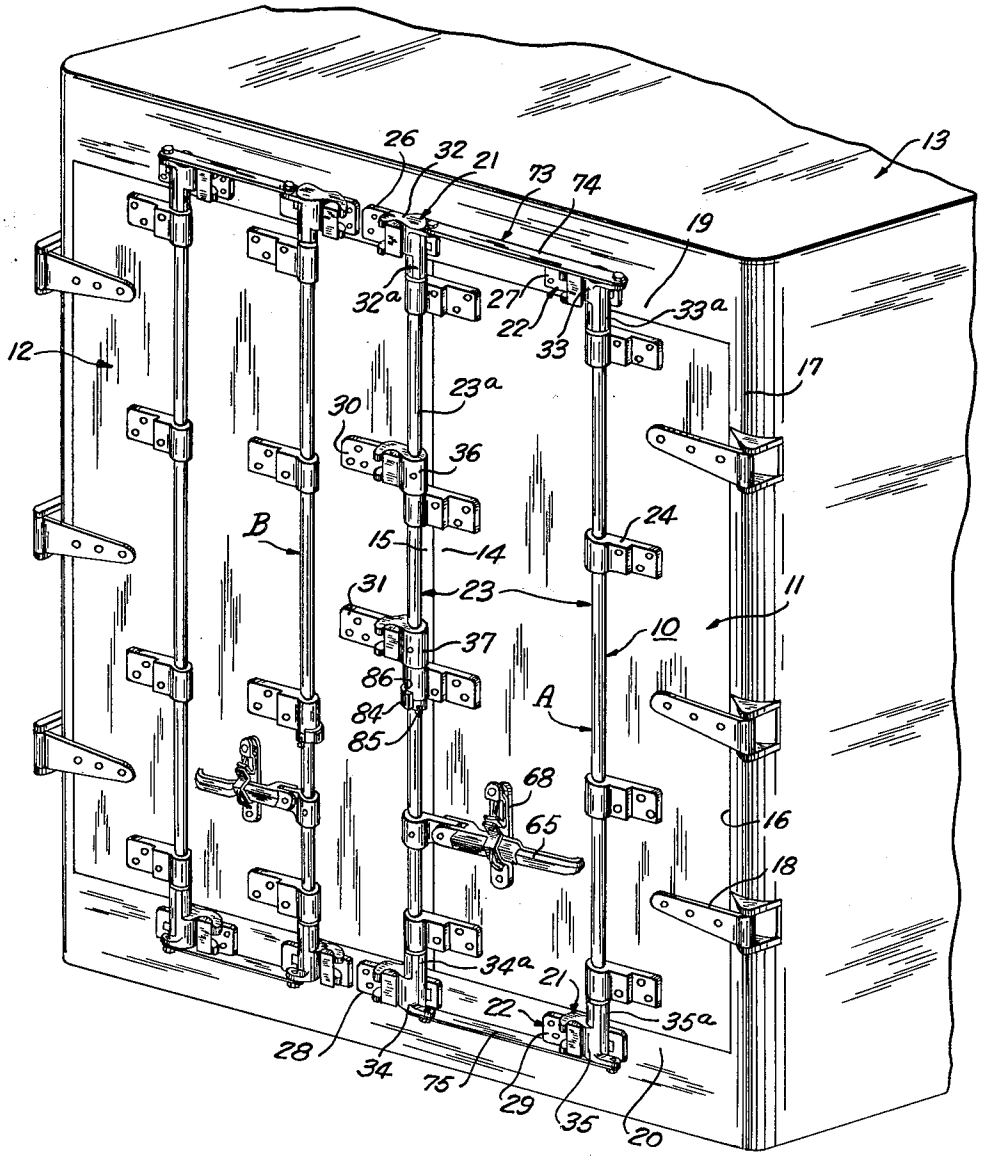


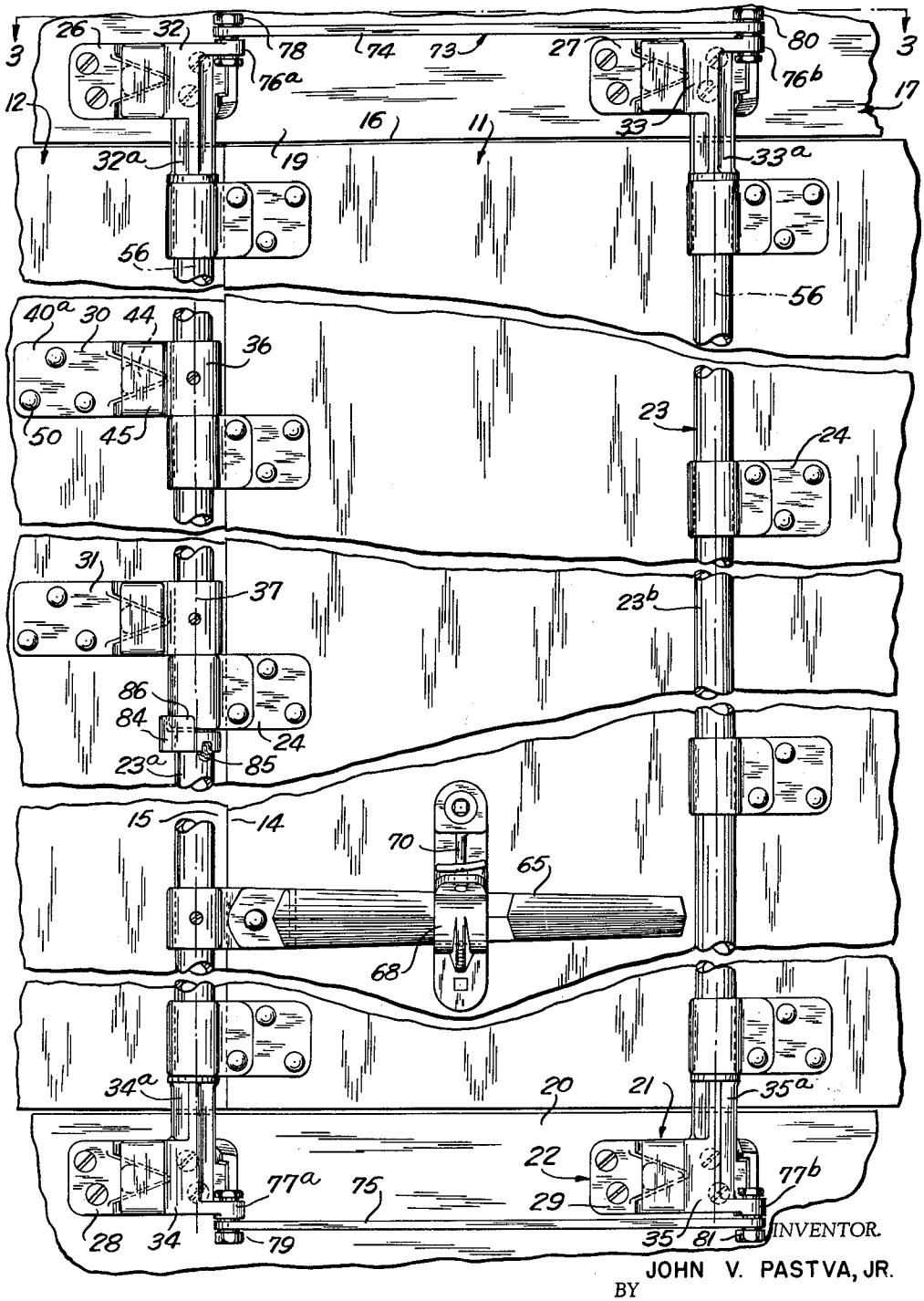
FIG. 1

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DOOR CONTROL MECHANISM

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FIG. 2

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DOOR CONTROL MECHANISM

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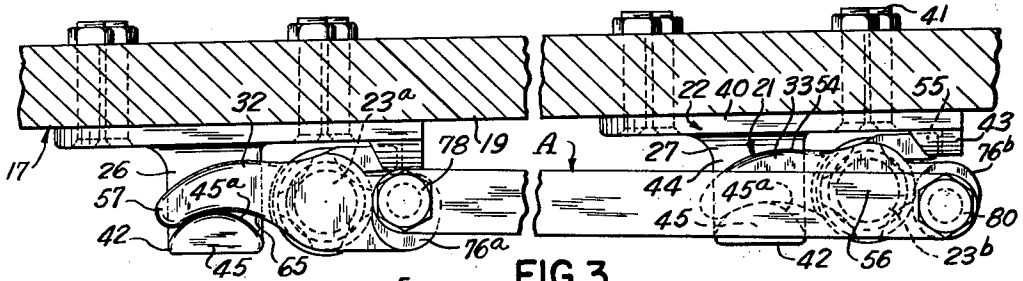


FIG.3

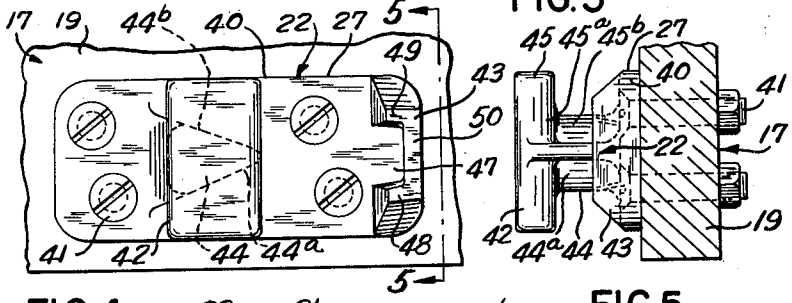


FIG.4

FIG.5

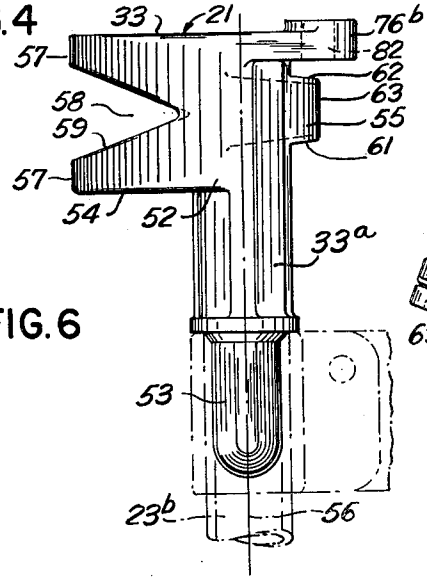
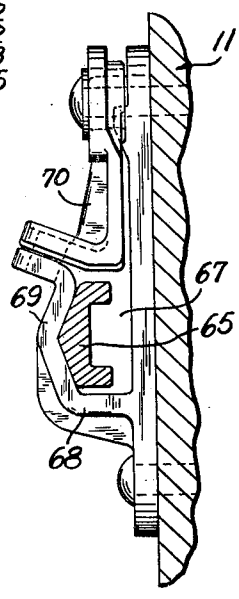


FIG.6



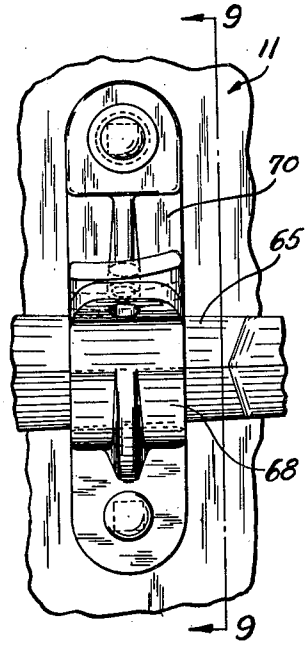


FIG.9 FIG.8

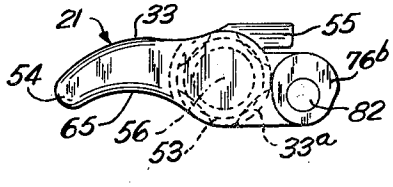


FIG.7

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3,099,473

DOOR CONTROL MECHANISM

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Filed Dec. 5, 1961, Ser. No. 157,148
12 Claims. (Cl. 292—240)

This invention relates to control mechanism for the doors of containers or vehicles and, more particularly, to door control mechanism of the latch and keeper type.

It frequently happens that a door sags or otherwise becomes misaligned with respect to the support structure or doorframe with which it is associated, with the result that a latch on the door will not co-operate properly with its keeper and the door may consequently be difficult to close. This condition can readily occur when the door is a part of a truck or other vehicle and the vehicle is standing in an uneven position. The door control mechanism of this invention meets this problem and, by reason of the novel construction provided therein, the entry of the latch into its keeper is assured and a self-centering thrust co-operation between the latch and keeper is achieved and will be reactively effective on the door to shift the latter back to proper alignment for easier closing thereof.

Certain vehicle operating conditions, such as travel over an uneven pavement, may produce an objectionable weaving of a door of the vehicle relative to an adjacent door or relative to its associated doorframe. This novel door control mechanism eliminates or minimizes such weaving tendency by means embodied therein for supporting and holding the door in a substantially rigid condition in addition to the function of maintaining the door in a latched condition.

It is therefore an object of this invention to provide novel door control mechanism of the co-operating latch and keeper type which is of a simple yet strong and durable form, is capable of being economically produced and readily installed, is capable of safe and easy actuation, and which will align and securely hold the door when the mechanism is actuated to its door-latched condition.

Another object is to provide novel door control mechanism comprising a pair of co-operating latch and keeper members, one of which includes a stem portion and a transversely disposed portion connected therewith and the other member comprises a forked portion engageable beneath the transverse portion in straddling relation to such stem portion when the mechanism is actuated to its door-latched condition.

A further object is to provide novel door control mechanism of the kind above referred to wherein the forked portion and stem of the latch and keeper members have tapers thereon which are co-operatively effective for correcting door misalignment.

Still another object is to provide novel door control mechanism of the character mentioned above wherein the pair of latch and keeper members have co-operating second portions for further maintaining the door in a securely latched and rigidly held condition and which second portions comprise a recess on one of the members and thrust shoulder means alongside the recess and lug means on the other member receivable in the recess for thrust engagement with the shoulder means.

Additionally, this invention provides novel door control mechanism comprising spaced keepers on the doorframe and spaced latch members actuatable by parallel shafts rockably mounted on the door, and link means connected between the shafts for transmitting actuating movement therebetween.

The present invention makes use of the features and advantages above referred to particularly in latch mechanism of the kind in which latch members, located on the upper and lower ends of a rockable shaft means pivotally mounted on a door, are actuatable thereby to door-latched engagement with keepers mounted on top and bottom portions of an associated doorframe, and the invention is described herein as embodied in latch mechanism of this kind.

Other objects, new results and advantages of this invention will be apparent in the following detailed description and in the accompanying drawings forming a part of this specification and in which,

FIG. 1 is a perspective view of door control mechanism embodying this invention, the mechanism being shown in its door-latched position and applied to a pair of rear doors of the body of a vehicle of the truck type;

FIG. 2 is a front elevation showing one of the latch assemblies of the door control mechanism of FIG. 1 on a larger scale and with portions broken away;

FIG. 3 is a partial horizontal section taken on section line 3—3 of FIG. 2;

FIG. 4 is a fragmentary front elevation of one of the keepers of the mechanism;

FIG. 5 is a fragmentary vertical sectional view taken on section line 5—5 of FIG. 4 and showing the keeper in end elevation;

FIG. 6 is a front elevation of one of the latch members;

FIG. 7 is a top plan view of such one latch member;

FIG. 8 is a front elevation of a retainer means for an actuating handle of the mechanism; and

FIG. 9 is a sectional view taken on section line 9—9 of FIG. 8 and showing the retainer means in side elevation.

As one practical embodiment thereof, the accompanying drawings show the door control mechanism 10 of this invention applied to a pair of movable doors 11 and 12, in this case the rear doors of the body 13 of a vehicle of the truck type, for releasably holding the doors in a closed and door-latched position as represented in FIGS. 1 and 2.

The doors 11 and 12 have co-operating upright free edge portions 14 and 15 and are here shown as being swingable doors movable into an aligned coplanar relation in a doorway opening 16 of a doorframe portion 17 of the body 13. The doors 11 and 12 have upright outer edge portions connected with upright portions of the doorframe 17 by suitable hinges 18 for swinging of the doors to their open and closed positions. The doorframe 17 includes top and bottom frame portions 19 and 20 extending across the opening 16 at the top and bottom edges thereof.

The door control mechanism 10 makes use of co-operating latch and keeper members 21 and 22, and shaft means 23 pivoted for rocking movement and to which the latch members 21 are secured for actuation thereby to door-latched and door-unlatched positions relative to the keepers 22. More specifically, this invention provides door latch assemblies A and B for the respective doors 11 and 12 and which assemblies are made up of similar or identical components so as to reduce to a minimum the number of different parts needed by the assemblies for right-hand and left-hand installations thereof as represented in FIGS. 1 and 2. Since the latch assemblies A and B comprise identical or similar parts, only the latch assembly A and the components thereof will need to be described in detail.

The latch assembly A comprises, as the shaft means 23 thereof, a pair of upright parallel shafts 23^a and 23^b which are suitably mounted on the door 11, as by bearing brackets 24, for pivotal rocking about their own axes. The shafts 23^a and 23^b thus have a translatory movement with

the door 11 during the swinging thereof as well as the pivotal rocking movement about their own axes. The latch members 21 of the assembly A are connected with the shafts 23a and 23b at appropriate locations for co-operation with their associated keepers as explained hereinafter.

The latch assembly A also comprises a plurality of the keepers 22 disposed in a spaced relation and certain of which are mounted on the doorframe 17 and others of which are mounted on the door 12. The individual keepers of the latch assembly A comprise top and bottom pairs of keepers 26, 27 and 28, 29 (see FIGS. 1 and 2). The keepers 26 and 27 comprising the top pair are mounted on the upper doorframe portion 19, and the keepers 28 and 29 comprising the bottom pair are mounted on the lower doorframe portion 20. The latch assembly A is shown as also comprising a pair of vertically spaced keepers 30 and 31 mounted on the door 12 adjacent the free edge portion 15 thereof. The keepers 26, 27, 28 and 29 are all shown as being of the same construction but the keepers 30 and 31 are a somewhat different form, as will be further explained hereinafter.

The individual latch members of the latch assembly A comprise top and bottom pairs of latch members 32, 33 and 34, 35 on the upper and lower ends of the shafts 23a and 23b. The top and bottom latch members 32 and 34 are actuatable by the shaft 23a and include stub portions 32a and 34a which are welded or otherwise secured to the shaft 23a and form shaft end portions which project above and below the top and bottom edges of the door 11. Similarly, the top and bottom latch members 33 and 35 are actuatable by the shaft 23b and have stub portions 33a and 35a which are welded or otherwise secured to the shaft 23b so as to form shaft end portions which project above and below the top and bottom edges of the door 11. The assembly A further comprises a pair of vertically spaced latch members 36 and 37 secured on the intermediate portion of the shaft 23a for co-operation with the keepers 30 and 31.

The form of construction used in the keepers 26, 27, 28 and 29 will now be described with reference to FIGS. 4 and 5 of the drawings which illustrate one of these keepers, namely, the keeper 27. The keeper 27 is shown as comprising a platelike base 40, which is secured to the associated portion 19 of the doorframe 17 by suitable screws 41, and laterally spaced first and second keeper portions 42 and 43 with which certain portions of the associated latch member 33 co-operate as will be explained hereinafter.

The first keeper portion 42 comprises a stem 44 in the form of a web projecting from the base 40, and a transverse portion or head 45 on the outer end of such stem and disposed in a transversely extending relation to the stem. For a purpose which will appear hereinafter, the stem 44 is of a generally triangular cross-sectional shape as indicated in dotted lines in FIG. 4 so that the surfaces 44a and 44b on opposite sides thereof provide a bevel on the stem which diverges in a direction away from the keeper portion 43. Likewise for a purpose which will appear hereinafter, the transverse portion 45 has a convex curvature 45a thereon and extending therealong on the side thereof facing toward the base 40.

The second keeper portion 43 is a thrust portion rising above the base 40 and having a recess 47 extending thereinto from the top surface thereof and lying in a substantially laterally opposed relation to the stem 44 of the first keeper portion 42. The recess 47 is defined on the sides thereof by opposed shoulder portions 48 and 49 and on the end thereof by an end wall portion 50. The shoulder portions 48 and 49 are on vertically opposite sides of the recess 47 with respect to the installed position of the keeper 27 on the doorframe 17. The shoulder portions 48 and 49 are beveled on the adjacent sides thereof so that the recess 47 is of a converging shape for a direction of movement into the recess toward the base 40.

The keepers 30 and 31, which were referred to above as being somewhat different from the keepers 26, 27, 28 and 29, have the same stem 44 and transverse portion 45 but do not have any thrust portion corresponding with the thrust portion 43 of the keeper 27. The keepers 30 and 31 have a base 40a which is similar to the base 40 but somewhat shorter because of the omission of the thrust portion 43. Suitable fasteners 50 secure the keepers 30 and 31 on the door 12.

The form of construction used in the latch members 32, 33, 34 and 35 will now be described with reference to FIGS. 6 and 7 which illustrate one of these latch members, namely, the latch member 33. The latch member 33 comprises a latch body 52 formed integral with the stub portion 33a by which this latch member is connected with its associated shaft 23b. The shafts 23a and 23b are shown as being hollow and the stub portion 33a is shown as having an axially ribbed projection 53 which extends into the associated hollow shaft 23b and is connected therewith as by welding.

The latch member 33 has first and second latch portions 54 and 55 formed integral with the body 52 and lying on opposite sides of the common pivot axis 56 of the stub portion 33a and the associated shaft 23b. The first latch portion 54 is a forked portion having a pair of vertically spaced arms 57 and a fork recess 58 extending longitudinally between such arms. The walls of the recess 58 are formed by vertically spaced beveled surfaces 59 on the adjacent sides of the latch arms 57 and disposed so that the fork recess 58 converges in the direction of entering movement into such recess from the open outer end thereof.

From the construction of the latch members 33 and the keeper 27 as described above it will be recognized that the first keeper portion 42 comprising the stem and transverse portions 44 and 45 and the first latch portion 54 comprising the arms 57 and the fork recess 57 are of a co-operative shape appropriate for latching engagement of the member 33 with the member 27 in response to swinging of the member 33 by its associated shaft 23b. During such swinging movement of the latch member 33, the arms 57 engage beneath the transverse portion 45 of the keeper 27 and in a straddling relation to the stem 44. The web forming the stem 44 is elongated in the direction of the length of the recess 58, and the width of the recess in relation to the thickness of the web is such that the stem 44 is snugly receivable in the fork recess. During such movement of the latch member 33 into door-latched engagement with the keeper 27, the relative movement between these members is an entering movement for the stem 44 into the fork recess 58 in a direction such that the beveled surfaces of the stem and the beveled side walls of the recess come into a co-operative wedging engagement in a direction along the pivot axis 56 of the shaft 23b and thus produce a reaction force on the door 11 tending to center and align the same relative to the opening 16 of the doorframe 17.

The second latch portion 55 is in the form of a lug projecting from the latch body 52 (see FIGS. 6 and 7) in a substantially laterally aligned relation to the inner end of the fork recess 58 but offset somewhat from the pivot axis 56 toward the plane of the door 11. The lug 55 is of an appropriate shape for entry into the recess 47 of the keeper 27. The perimeter of the lug 55 is defined by vertically opposed beveled side surfaces 61 and 62 and an end surface 63. The side surfaces 61 and 62 are disposed so that the inclination thereof provide a bevel on the lug 55 which converges in the direction of the entering movement of the lug into the keeper recess 47.

The fork arms 57 are curved therealong and have a longitudinally concave side surface 65 on the keeper-engaging side thereof. When the latch member 33 moves to a position of door-latched engagement with the keeper 27, as seen in FIG. 3, the concave surfaces 65 of the arms 57 co-operate smoothly with the convex curvatures 45a

on the transverse portion 45 of the keeper and the curved shape of the arms enables the same to engage the underside of the transverse keeper portion 45 with a hooked engagement which is both a slidable and rocking engagement as the forked portion moves to its door-latched position. Because of their longitudinally curved shape the fork arms 57 will be very strong and rigid in character and will react very effectively against the transverse keeper portion 45 to force the door 11 into the doorframe opening 16.

Since the forked portion 54 and the lug 55 of the latch member 33 lie on opposite sides of the pivot axis 56 it will also be recognized that the same swinging movement by which the forked portion is brought into engagement with the first keeper portion 42 causes the lug 55 to move into the recess 47 of the second keeper portion 43. By reason of the tapers described above for the recess 47 and the lug 55 the entering movement of the lug into the recess will result in a wedging co-operation between such tapers by which the latch member 33 will be securely positioned and held by the keeper 27 in a direction along the pivot axis 56.

The coaction thus achieved between the second keeper portion 43 and the lug 55 will result in an increased holding co-operation between the latch member 33 and its associated keeper 27 for the vertical positioning and holding of the door 11 and, since the holding co-operation between the latch member and keeper is at points located on opposite sides of the pivot axis 56, there will be little or no tendency for tilting or twisting of the latch member during its movement into door-latched engagement with the keeper.

When the latch member 33 becomes fully engaged with its associated keeper 27 the stem 44 of the latter will be located substantially entirely within the fork recess 58 and, at this time, the end wall 63 of the lug 55 will be in engagement with or lie adjacent to end wall 50 of the keeper recess 47. The abutting co-operation thus made available between the end wall 63 of the lug 55 and the end shoulder portion 50 of the keeper recess 47 will be effective for retaining the forked portion 54 of the latch member in a fully engaged position beneath the transverse keeper portion 45 and in a full wedging engagement with the stem 44. Any tendency for the forked portion 54 of the latch member 33 to become disengaged from the first keeper portion 42, without the occurrence of a pivotal actuating movement of the shaft 23^b, will be prevented by an abutting engagement of the end wall 63 of the lug 55 with the shoulder portion 50.

From the construction and co-operative functioning of the latch and keeper members 33 and 27 as described above, it will thus be recognized that the coaction between the first latch portion 54 and the first keeper portion 42 will align the door 11 relative to the doorframe opening 16 and, in addition to forcing the door into such opening, will retain the door in its closed and latched position and will also hold the door against weaving. It will now also be recognized that the cooperation of the second latch portion 55 with the second keeper portion 43 will result in a reinforcement of the door-latched engagement of the latch member 33 with its keeper 27 so that the door 11 wil be retained in its closed and latched position in the doorframe opening 16 and will be strongly held against weaving, and furthermore, any accidental disengaging movement of the latch member relative to the keeper will be strongly resisted and prevented.

The coaction between the latch members 36 and 37 and their associated keepers 30 and 31 is similar to the coaction obtained, and described above, between the first latch portion 54 and the associated first keeper portion 42. The co-operating latch members and keepers 36, 30 and 37, 31 are accordingly very effective in aligning the door 11 relative to the opening 16 and in retaining the door in its latched position, as well as in preventing a weaving action between the two doors 11 and 12.

Pivotal actuation of the shaft means 23 of the latch assembly A for engaging and disengaging the latch members 32, 33, 34, 35, 36 and 37 relative to their associated keepers 26, 27, 28, 29, 30 and 31 is produced by a suitable lever in this case a handle 65, connected with the shaft member 23^a as shown in FIGS. 1 and 2. The handle 65 is shown in its door-locked position in the recess 67 of a retaining device 68 (see FIGS. 8 and 9). The retaining device 68 is suitably mounted on the door 11 and includes a hook-shaped portion 69 defining the recess 67 and a pivoted pawl 70 for releasably retaining the handle 65 in such recess.

The shaft 23^b of the latch assembly A is actuatable by rocking movement transmitted thereto from the shaft 23^a through transmitting means 73 connected between these shafts and which will now be described. The transmitting means 73 is here shown as comprising top and bottom links 74 and 75 which have their opposite ends pivotally connected with the shafts 23^a and 23^b in an eccentric relation thereto for a push-pull transmission of pivotal movement between these shafts.

For the purpose of the actuating connections of the links 74 and 75 with the latch members 32, 33, 34 and 35, crank arms 76^a, 76^b and 77^a, 77^b are formed integral with the latch body 52 and project therefrom on the side of the pivot axis 56 remote from the forked portion 54. The top and bottom link members 74 and 75 are connected at one end thereof with the crank arms 76^a and 77^a of their associated latch members 32 and 34 by upper and lower pivot screws 78 and 79. The link members 74 and 75 are pivotally connected at the opposite end thereof with the crank arms 76^b and 77^b of their associated latch members 33 and 35 by upper and lower pivot screws 80 and 81.

As shown in FIGS. 2 and 3 the crank arms 76^b and 77^b of the latch members 33 and 35 have the openings 82 thereof which receive the pivot screws 80 and 81 located in a somewhat forwardly offset relation to the pivot axis 56 of the shaft 23^b so that these pivot screws will never be in a dead-center location relative to a straight line passing through the pivot axes of the shafts 23^a and 23^b. In other words the pivot screws 80 and 81 are located in a suitably offset relation to the pivot axis of the shaft 23^b so that the crank arms 76^b and 77^b of the latch members 33 and 35 will be effective for concurrently imparting unlatching and latching pivotal movements to the shaft 23^b when the shaft 23^a is rocked by forward and backward swinging of the handle 65. The latching and unlatching pivotal movement of the shaft 23^a by the lever 65 also causes latching and unlatching actuation of the intermediate latch members 36 and 37.

If desired suitable stop means can be provided for one or both of the shafts 23^a and 23^b for limiting the rotation thereof by the handle 65. In FIGS. 1 and 2 such a stop means is shown in the form of a stop collar 84 secured on the shaft 23^a, as by welded connection 85, in a co-operating relation to one of the bearing brackets 24.

The collar 84 has a projecting lug 86 which is engageable with the associated bearing bracket 24 to limit the rotation of the shafts 23^a and 23^b to an extent desired for proper positioning of the latch members to co-operate in the intended manner with their associated keepers. An advantage obtainable from the provision of such stop collars 84 on the latch assemblies A and B is that, during unlatching swinging of the lever 65, they prevent the latch members from being actuated to a position in which they will not properly re-engage the keepers during the subsequent closing of the doors 11 and 12.

From the accompanying drawings and foregoing detailed description it will now be readily understood that this invention provides novel door control mechanism in which the co-operation of the latch members with their associated keepers will automatically produce a desired alignment of the door with the doorframe opening for facilitating the closing of the door and the actua-

tion of the latch mechanism to its door-latched condition. It will also be recognized that this novel latch mechanism will securely retain the door in its latched condition and will strongly hold the door against weaving. Additionally it will be seen that this novel door control mechanism provides co-operating latch and keeper members on the adjacent edge portions of a pair of doors, and also provides a latch assembly for each door comprising a plurality of shafts for actuating pairs of latch members to and from door-latched engagement with pairs of associated keepers, the operation of such shafts being greatly facilitated by motion transmitting means connected therebetween.

Although the novel latch mechanism of this invention has been illustrated and described herein to a somewhat detailed extent it will be understood, of course, that the invention is not to be regarded as being correspondingly limited in scope but includes all changes and modifications coming within the terms of the claims hereof.

Having described my invention, I claim:

1. In door control mechanism for use with a door and an associated doorframe; means adapted for mounting on said door including a rockable shaft and actuating means effective to rock said shaft; a keeper member adapted for mounting on said doorframe; and a latch member actuatable to and from door-latched engagement with said keeper member by rocking of said shaft; one of said members comprising a stem portion and a transverse portion connected with said stem portion in a transverse relation thereto, and the other of said members having a forked portion engageable beneath said transverse portion in straddling relation to said stem portion; said transverse portion being convexly curved on the side thereof engageable by said forked portion, and said forked portion comprising a pair of arms of a concavely curved shape on the side thereof engageable with said transverse portion; said forked portion having a recess extending longitudinally thereof between said arms, and said stem portion comprising web means elongated in the direction of the longitudinal extent of said recess and of a transverse thickness to be snugly receivable in the recess.

2. In door control mechanism for use with a door and an associated doorframe; means adapted for mounting on said door including a rockable shaft and actuating means effective to rock said shaft; a keeper member adapted for mounting on said doorframe; and a latch member actuatable to and from door-latched engagement with said keeper member by rocking of said shaft; one of said members comprising a stem portion and a transverse portion connected with said stem portion in a transverse relation thereto, and the other of said members having a forked portion engageable beneath said transverse portion in straddling relation to said stem portion; said stem portion having a first taper thereon and said forked portion having a second taper in the fork recess thereof for wedging co-operation with said first taper for producing a thrust reaction effective on said door along the pivot axis of said shaft.

3. Door control mechanism as defined in claim 2 wherein said first taper comprises a pair of relatively inclined surfaces on opposite sides of said stem portion and said second taper comprises a pair of relatively inclined walls on opposite sides of the fork recess; the inclination between said pair of surfaces and the inclination between said pair of walls being a convergent inclination with respect to the direction of entering movement of said stem portion into the fork recess.

4. In door control mechanism for a door and an associated doorframe; a shaft mounted on said door for rocking about its axis; actuating means effective to rock said shaft; a keeper on said doorframe including a projecting stem portion and a transverse portion connected therewith; and a latch member connected with said shaft and movable thereby to and from a position of door-latched engagement with said keeper; said latch member having a forked portion including a fork recess and said forked portion being engageable beneath said transverse portion in straddling relation to said stem portion so that the latter is received in said fork recess; said stem portion having a first taper comprising relatively inclined surfaces on opposite sides thereof and said forked portion having a second taper comprising relatively inclined walls on opposite sides of the fork recess; the inclination between said surfaces and the inclination between said walls being a convergent inclination with respect to the direction of entering movement of said stem portion into said fork recess, and said first and second tapers having a co-operative wedging action for producing a thrust reaction effective on said door along the pivot axis of said shaft.

5. Door control mechanism as defined in claim 4 wherein said latch member is on one side of said shaft in a projecting relation thereto and is swingable thereby during movement to and from the door-latched engagement thereof with said keeper; said transverse portion being convex on the latch-engageable side thereof and said forked portion comprising a pair of arms curved concavely therealong on the side thereof engageable with said transverse portion.

6. In door control mechanism for use between a door and an associated doorframe having an opening to be closed; an actuating shaft adapted for pivotal mounting on said door for rocking about its own axis and for translatory movement with said door during movement of the latter to a door-closed position relative to said opening; a keeper adapted to be mounted on said doorframe and comprising first and second keeper portions spaced apart in a direction substantially parallel to the plane of said opening and transverse to said axis; said first keeper portion comprising a projecting stem having a transverse portion thereon, and said second keeper portion comprising a thrust portion having a recess therein and thrust shoulder means alongside said recess; and a latch member connected with said shaft and actuatable thereby to and from door-latched engagement with said keeper; said latch member having a forked portion on one side of said axis and engageable beneath said transverse portion in straddling relation to said stem, and a lug portion on the other side of said axis and receivable in said recess for thrust engagement with said shoulder means.

7. Door control mechanism as defined in claim 6 wherein said lug portion has a first taper comprising relatively inclined surfaces on opposite sides thereof and said thrust portion has a second taper comprising relatively inclined walls on opposite sides of said recess; the inclination between said surfaces and the inclination between said walls being a convergent inclination with respect to the direction of entering movement of said lug portion into said recess, and said first and second tapers having a co-operative wedging action for producing a thrust reaction effective on said door along the pivot axis of said shaft.

8. Door control mechanism as defined in claim 7 and comprising an abutment wall at one end of said recess and engageable by the end of said lug portion for preventing relative separation between said forked portion and stem.

9. In door control mechanism for a door swingable to a closed position relative to an opening of an associated doorframe having top and bottom frame portions; top and bottom keepers on said top and bottom frame portions and each comprising laterally spaced first and second keeper portions; upright shaft means mounted on said door for rocking about its own axis and for translatory movement with the door during swinging of the latter to said closed position; said shaft means having upper and lower end portions extending above and below said door so as to lie between the first and second keeper portions of said top and bottom keepers when the door is in said closed position; said first keeper portion comprising a projecting stem and a transverse portion con-

nected therewith and extending in a transverse relation thereto, and said second keeper portion comprising a thrust portion having a recess therein and thrust shoulders on vertically opposite sides of said recess; top and bottom latch members on said upper and lower end portions of said shaft means and actuatable by the latter into and out of door-latching co-operation with said top and bottom keepers; and actuating means connected with said shaft for rocking the same; said latch members each comprising a forked portion on one side of said axis and engageable beneath the transverse portion of an associated keeper in straddling relation to the stem thereof, and a lug on the other side of said axis and receivable in the recess of said associated keeper for thrust engagement with said shoulders.

10. Door control mechanism as defined in claim 9 wherein said stem portion has a first taper thereon and said forked portion has a second taper in the fork recess thereof for wedging co-operation with said first taper for producing a thrust reaction effective on said door along the pivot axis of said shaft.

11. In door control mechanism for use with a doorframe having top and bottom frame portions, and an associated pair of swingable doors having upright free edge portions in an adjacent co-operative relation when the doors are in closed position; a first keeper means comprising top and bottom keepers adapted for mounting on said top and bottom frame portions; actuating shaft means comprising an upright shaft adapted for mounting on one of said doors adjacent the free edge portion thereof for rocking about its own axis, and means connected with said shaft for rocking the same; a first latch

means comprising upper and lower latch members connected with upper and lower end portions of said shaft and actuatable thereby to and from door-latched engagement with said top and bottom keepers; other latch means cooperably effective between said doorframe and other door for releasably holding the latter in a closed position; a second keeper means comprising vertically spaced keepers adapted for mounting on said other door adjacent the free edge portion thereof; and a second latch means comprising vertically spaced intermediate latch members connected with said shaft at intermediate points thereof and actuatable thereby to and from door-latched engagement with the vertically spaced keepers of said second keeper means.

12. Door control mechanism as defined in claim 11 wherein the keepers of said first and second keeper means each include a projecting stem and transverse means connected with the stem and extending transverse thereto; the latch members of said first and second latch means each comprising a forked portion engageable beneath the transverse means of an associated keeper in a straddling relation to the stem of said associated keeper.

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