Aug. 28, 1951 A. LEVINE 2,565,862

COMBINED SIDE CATCH AND LOCK FOR BAG FRAMES

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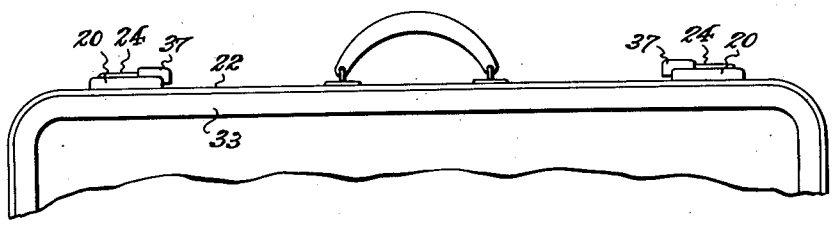


Fig. 1

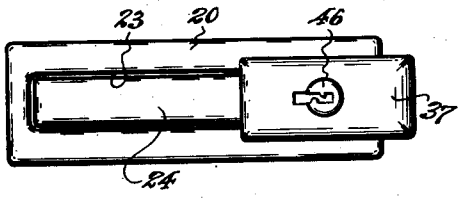


Fig. 2

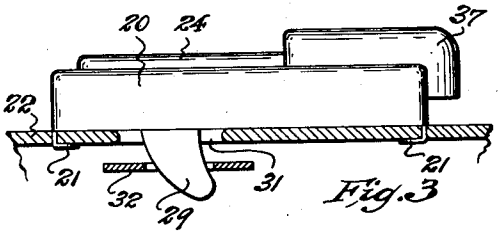


Fig. 3

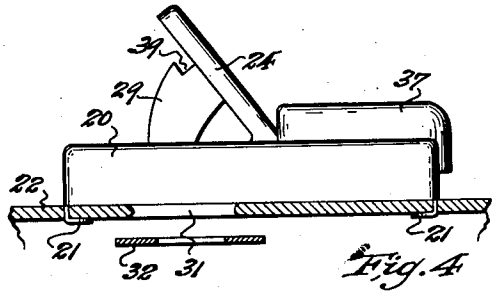


Fig. 4

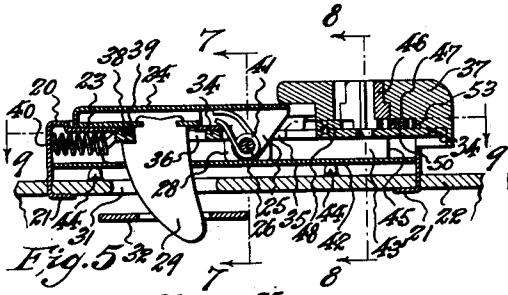


Fig. 5

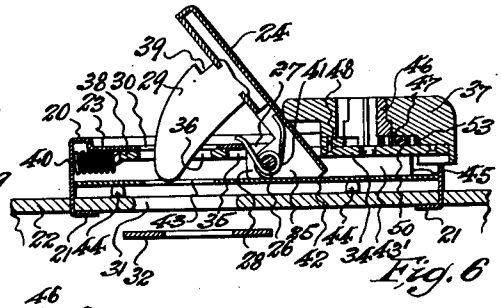


Fig. 6

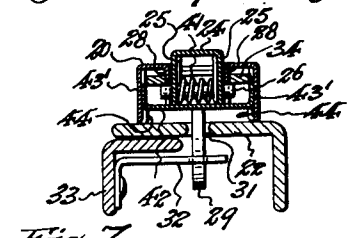


Fig. 7

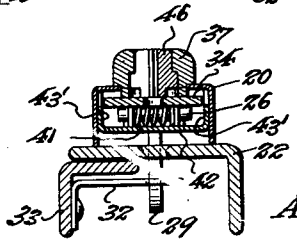


Fig. 8

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COMBINED SIDE CATCH AND LOCK FOR BAG FRAMES

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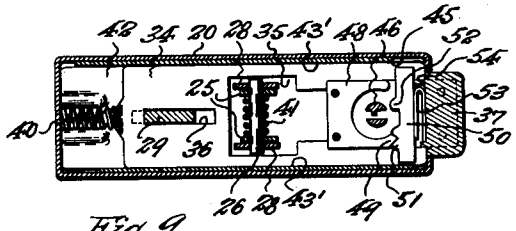


Fig. 9

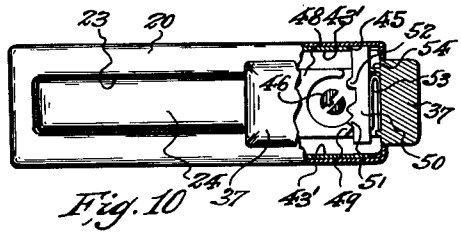


Fig. 10

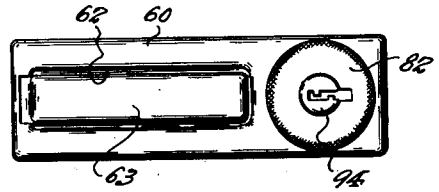


Fig. 11

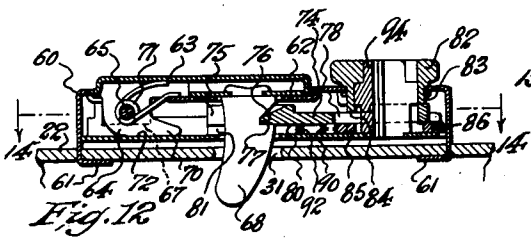


Fig. 12

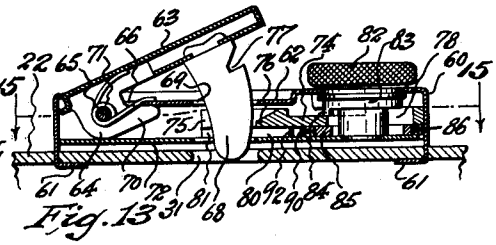


Fig. 13

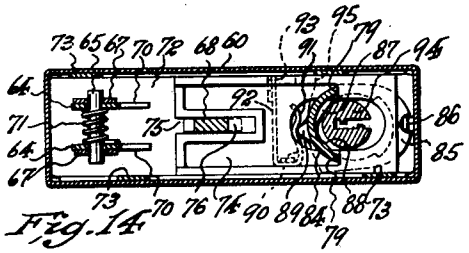


Fig. 14

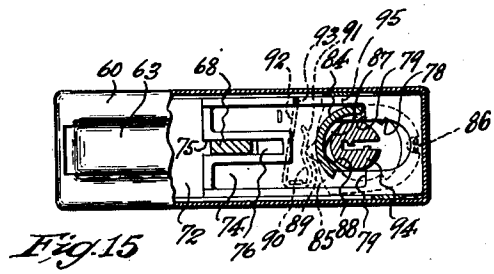


Fig. 15

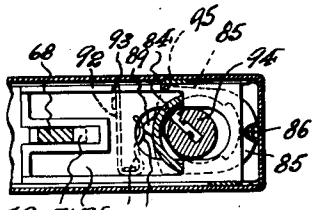


Fig. 16

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UNITED STATES PATENT OFFICE

2,565,862

COMBINED SIDE CATCH AND LOCK FOR BAG FRAMES

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Application July 9, 1947, Serial No. 759,729

3 Claims. (Cl. 70—66)

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This invention relates to a novel construction of combined side catch and lock for the frames of traveling bags and similar articles of luggage.

The invention has for an object to provide a novel side catch means including a movable latch means for holding the same in operative relation to closed bag-frame members served thereby, whereby to secure the latter in closed condition; said latch means having means for manipulating the same to release the side catch means for opening movement, whereby to release the bag frame members so as to permit opening thereof; and said manipulating means including key actuated means for locking the same against operation, thereby to prevent unauthorized release of the side catch means from bag frame securing position.

The invention has for another object to provide a novel combined side catch means and lock characterized as above stated, wherein the movable latch means is spring urged into holding relation to the closed side catch means, and said side catch means is spring urged to its open or bag frame releasing position.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

Illustrative embodiments of this invention are shown in the accompanying drawings, in which—

Fig. 1 is a fragmentary side elevational view of a bag frame equipped with the novel combined side catch means and lock according to the invention.

Fig. 2 is a top plan view of one form of combined side catch means and lock according to the invention; Fig. 3 is a side elevational view of the same in closed condition; Fig. 4 is a side elevational view of the same in open or released condition; Fig. 5 is a longitudinal sectional view of the same in closed condition; Fig. 6 is a longitudinal sectional view of the same in open or released condition; Fig. 7 is a transverse sectional view, taken on line 7—7 in Fig. 5; Fig. 8 is another transverse sectional view, taken on line 8—8 in Fig. 5; Fig. 9 is a horizontal sectional view, taken on line 9—9 in Fig. 5; and Fig. 10 is a top plan view in part horizontal section, showing the key actuatable means operative to lock the means for manipulating the side catch latch means against operation.

Fig. 11 is a top plan view of another form of the combined side catch means and lock according to the invention; Fig. 12 is a longitudinal sectional view of the same in closed condition; Fig. 13 is a longitudinal sectional view of the same in open or released positon; Fig. 14 is a horizontal sectional view, taken on line 14—14 in Fig. 12; Fig. 15 is a horizontal sectional view, taken on line 15—15 in Fig. 13; and Fig. 16 is a fragmentary horizontal view, similar to that of Fig. 14, but showing the key actuatable means operative to lock the side catch latch means and manipulating means therefor against operation.

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Similar characters of reference are employed in the hereinabove described views, to indicate corresponding parts.

Referring to Figs. 1 to 10 inclusive, in the embodiment of this invention thereby illustrated, the novel combined side catch means and lock comprises, a hollow casing 20 having clenching lugs 21 dependent from its ends. Said clenching lugs 21 are adapted to pass through the external frame member 22 of a pivoted bag frame structure, whereby to be clenched over the under side thereof, and thereby affix the casing 20 to said frame member.

The top wall of the casing 20 is preferably countersunk in part to provide a seat 23 for a superposed, longitudinally extending catch member which includes a catch plate 24. Dependent from the sides of said catch plate at one end thereof (in this case the inner end thereof) are laterally spaced hinging knuckles 25, through which extends a transverse hinging pin 26. The bottom of said seat 23 is cut away to provide an opening 27, dependent from the side margins of which are laterally spaced apart bearing lugs 28 having notched extremities in and between which is journaled said hinging pin 26, thus pivotally connecting said catch plate 24 for uplifting swing about the latter. The catch member 24 includes a catch tongue or horn 29 which is suitably affixed to said catch plate 24 to depend from the underside thereof. The bottom of said seat 23 is provided with an opening or slot 30 through which said catch tongue or horn 29 extends. When the catch plate 24 is down swung to operative closed position, said catch tongue or horn 29 is projected through the slot 31 with which the external frame member 22 of the bag frame structure is provided, and thence through a slotted hasp plate 32 with which the internal frame member 33 of said bag frame structure is provided; which slotted hasp plate 32 is aligned with the slot 31 of the external frame member 22, when the internal frame member 33 is disposed in closed relation to the latter (see Figs. 3, 5 and 7).

Longitudinally movable within the casing 20,

beneath the top wall thereof, is a latch plate **34** having an opening **35** to straddle the bearing lugs **28** and the hinging knuckles **25** of the catch plate **24**. Said latch plate **34** is also provided with another opening or slot **36** to straddle the catch tongue or horn **29**. Said latch plate **34** is affixed by its rearward end to the underside of a push or finger piece **37** which projects exteriorly from the casing **20** behind and substantially contiguous to the catch plate **24**. The walls of said casing **20** are suitably cut away to accommodate said push or finger piece **37**. Said latch plate **34** is further provided with a latching portion **38** which is adapted to enter and engage in a latching notch **39** with which the catch tongue or horn **29** is provided, whereby to interlock with the same when the catch plate **24** is downswung to dispose said catch tongue or horn **29** in position for cooperation with the closed bag frame members, so as to secure said members against opening movement. The latch plate **34** is yieldably urged rearwardly from released position (Fig. 6) to latching position (Fig. 5) by a compression spring **40**, which is disposed between the forward end thereof and the adjacent end wall of the casing **20**, whereby to enter and engage the latching notch **39** of the catch tongue or horn **29**.

The catch plate **24** and its catch tongue or horn **29** is yieldably urged to out swung open or released position by a torsion spring **41** which is mounted around the hinging pin **26**, so that one arm of said spring thrusts in one direction against the top wall of the casing **20** and the other arm thereof thrusts in the opposite direction against the body of said catch plate **24**.

Arranged within the casing **20**, to underlie said latch plate **34**, is a frame plate **42** having a suitably located slot **43** through which the catch tongue or horn **29** may project. Said frame plate **42** is provided along its longitudinal margins with upstanding side flanges **43'** which bear against the top wall of the casing **20**. Said frame plate **42** may be affixed to and within the casing **20** by any suitable fastening means, but preferably by keeper lugs **44** which are upturned from the bottom margins of the side walls of said casing **20** to abut and support said frame plate **42**. One side flange **43'** is cut away at an end adjacent the push or finger piece **37** to provide a stop shoulder **45** for purposes presently to be described.

The push or finger piece **37** is provided with a key operable locking mechanism operative, as accordingly actuated, to lock said push or finger piece against latch plate releasing manipulation or to release said push or finger piece subject to latch plate releasing manipulation. One illustrative form of such key operable locking mechanism comprises key pivoting means such as a rotatable key barrel **46** which is mounted to rotate about a perpendicular axis in a supporting bore with which the push or finger piece is provided. Formed in the inner end portion of the push or finger piece, so as to be disposed intermediate the body of the same and an underlying portion of the latch plate **34** which is secured to said push or finger piece, is a laterally open chamber **47**. Affixed to the push or finger piece, as a unitary part thereof, and so as to lie within said chamber **47**, is a detent plate **48** which straddles the key barrel **46**. Said detent plate **48** is provided at one side thereof with a detent arm **49**. Disposed in the inner rearward end portion of said chamber **47**, behind said detent plate **48**, subject to transverse sliding movement therein, is a lock tumbler bolt **50**. Formed at the side of said bolt, which faces toward the detent plate **48** and key barrel **46**, is a detent projection **51** which is adapted to cooperate with the chamfered extremity of said detent arm **49**. Said lock bolt is further provided with a key bit engageable nosing portion **52**, which also projects therefrom toward the key barrel **46**. Purchased against the rear end wall of said chamber **47** is a U-shaped spring **53**, the operative arm of which engages the back of said lock bolt **50**, whereby to yieldably thrust the rearward end portion of the latter laterally toward the detent arm **49**, so as to cooperatively engage the detent projection **51** of said lock bolt with the chamfered extremity of said detent arm **49**. The lock bolt is fulcrumed for yieldable swinging movement of its rearward end portion by a fulcrum projection **54**, with which the push or finger piece is provided, against which the forward end portion of said lock bolt may bear (see Figs. 9 and 10).

In the use and operation of the form of combined side catch and lock above described, when the catch plate **24** is down swung to project the catch tongue or horn **29** to inter-lockingly engage the closed bag frame members **22** and **23**, the latch plate **34** will engage the latching notch **39** of the catch tongue or horn **29**, thus securing the latter and the catch plate **24** against release (see Fig. 5). Under these circumstances, if the lock bolt **50** is retracted to occupy its non-locking position (see Fig. 9), the push or finger piece **37** may be manipulated to effect inward forward movement relative to the casing **20**, and, when so manipulated, will operate to slide forward the latch plate **34**, against the tension of spring **40**, whereby to withdraw the latching portion **38** of said latch plate from the latching notch **39** of the catch tongue or horn **29**, whereupon the catch plate **24** is freed to swing up under the urge of spring **41** to open position (see Fig. 6), thus withdrawing the catch tongue or horn **29** from its holding relation to the bag frame members **22** and **23**, so that the latter are freed for opening movement.

When the catch plate and catch tongue or horn are down swung to frame securing positions, the same may be locked against release therefrom by the described key actuated locking means. To accomplish this, a key (not shown) is inserted into the key barrel **46** and then turned counterclockwise, whereby the operative bit of the key will engage and thrust against the nosing **52** of the lock bolt **50**, thereby moving the latter longitudinally outward. As said lock bolt is thus moved outward, its rearward end portion yields laterally against the tension of the spring **53**, so that the detent projection **51** of the bolt rides over the extremity of the detent arm **49** to the advanced position shown in Fig. 10. Such outward movement of the lock bolt **50** disposes its forward extremity behind the stop shoulder **45** of a side flange **43'** of the frame plate **42** (see Fig. 10), thus, by abutment thereupon, being operative to obstruct and prevent forward sliding movement of the push or finger piece **37** and the latch plate **34** connected therewith, and thus preventing removal of the latching portion **38** of said latch plate from the latching notch **39** of the catch tongue or horn **29**, so that the side catch means is thereby locked against release, until said lock bolt **50** is retracted to initial position by reverse operation of the actuating key.

Referring now to Figs. 11 to 16 inclusive of the drawings, the same show a somewhat modified form of combined side catch or lock which nevertheless embodies the general principles of the instant invention. This modified construction comprises a hollow casing 60 having clenching lugs 61 to affix the same to the external frame member 22 of a bag frame. The top wall of the casing 60 is preferably countersunk in part to provide a seat 62 for a superposed, longitudinally extending catch member or plate 63. Dependent from the sides of said catch plate 63 at one end thereof (in this case the outer end thereof) are laterally spaced hinging knuckles 64, through which extends a transverse hinge pin 65. The bottom of the seat 62 is cut away to provide an opening 66, dependent from side margins of which are laterally spaced bearing lugs 67 in which said hinge pin is journaled. Suitably affixed to the catch plate 62, to depend from the under side thereof, is a catch tongue or horn 68 for cooperation with closed bag frame members in substantially the manner hereinbefore set forth as to the first described construction of combined side catch and lock. The bottom of said seat 62 is provided with an opening or slot 69 to pass said catch tongue or horn 68. The hinging knuckles 64 are provided with stop projections 70 which, by abutment upon the casing top wall, limit the out swinging movement of the catch plate 63 from closed operative position to open or released position. Said catch plate 63 is yieldably urged to out swung open or released position by the torsion spring 71.

Fixed within said casing 60 is a frame plate 72 having side flanges provided with portions 73 to bear against the top wall of said casing 60. Slidably supported by said frame plate 72 is a latch plate 74 which is provided in its forward end portion with an indenting longitudinal slot 75 which straddles the catch tongue or horn 68, and at the inner end of said slot with a latching member 76 which is adapted to enter and engage in a latching notch 77 with which the catch tongue or horn 68 is provided, whereby to interlock with the latter when said latch plate is in its forward latching position and the catch plate 63 is disposed in operative bag frame securing position. Said latch plate 74 is provided in its rearward end portion with a central longitudinally extending elongated opening 78, through which may pass a key barrel as herein later described. Said latch plate is further provided, on its upper side or face, and disposed to intersect said opening 78, with transverse cam engageable shoulders 79. The medial longitudinal portion of the under side of the latch plate 74 is cut away to provide a chamber 80 extending longitudinally and intermediate side runner flanges 81 by which the latch plate is slidably supported upon the frame plate 72.

Mounted on the top wall of the casing 60, adjacent the rear end thereof, is an external rotatable finger piece 82, the shank 83 of which is journaled in said casing wall so as to enter the casing interior above the latch plate 74. At its lower or inner end, said finger piece shank 83 terminates in a substantially semi-circular or arcuate cam flange 84, the respective ends of which normally abut the cam engageable shoulders 79 of said latch plate 74 (see Fig. 14).

Supported on the rear end portion of the frame plate 72, so as to lie in the chamber 80 with which the under side of the latch plate 74 is provided, is a tumbler bolt 85. The rear end of said tumbler bolt is pivotally supported by an upstanding fulcrum post 86 with which the frame plate 72 is provided, whereby to be capable of lateral swinging movements. The central portion of the tumbler bolt 85 is cut away to provide an opening shaped at its forward end to provide oppositely extending key bit engageable cam portions 87 and 88. The lock tumbler bolt 85 is provided at its forward end with a detent nosing 89. A substantially U-shaped spring member is mounted on said frame plate 72 in front of said tumbler bolt 85. Said spring member provides a rearward arm 90, shaped at its free end to provide a keeper nosing 91 for cooperation with said detent nosing 89 of the tumbler bolt 85. Said spring member further provides a forward arm 92, the free extremity of which is disposed to engage a shoulder 93 with which one of the runner flanges 81 of the latch plate 74 is provided, whereby to exert a yielding forward thrust upon said latch plate. Mounted in the finger piece 82—83, to extend axially therethrough and into the opening of said tumbler bolt 85, is a rotatable key barrel 94. One of the runner flanges 81 of the latch plate 74 terminates in a lock or stop shoulder 95, with which the tumber bolt 85 may be engaged.

In the use and operation of the last described modified form of combined side catch and lock, when the catch plate 63 is down-swung, the catch tongue or horn 68 is disposed to engage the bag frame members so as to secure the same against relative opening movement, and said catch tongue or horn 68 is held in such position by the forwardly moved latch plate 74, the latching member 76 being thereby engaged in the latching notch 77 of said catch tongue or horn (see Figs. 12 and 14). To release the catch plate and catch tongue or horn, the latch plate 74 is retracted against the tension of the spring arm 92. Such retractive movement of the latch plate is effected by turning the finger piece 82 in either direction, whereby to thrustingly engage an end of the cam flange 84 with a shoulder 79 of said latch plate (see Figs. 13 and 15).

When the catch plate and catch tongue or horn are down swung to bag frame securing positions, the same may be locked against release by key actuating the tumbler bolt 85. To accomplish this, a key (not shown) is inserted in the key barrel 94, and then turned clockwise, whereby the operative bit of the key will engage and thrust against the cam portion 87 of the tumbler bolt 85, thus swinging the latter in clockwise direction about its fulcrum post 86. As said tumbler bolt is thus moved, its detent nosing 89 rides over the keeper nosing 91 of the spring arm 90, thus holding the tumbler bolt 85 in said clockwise projected position, in which position, the end of the latter is disposed behind the lock or stop shoulder 95 of the latch plate 74 so that, by abutment thereupon, to thereby obstruct and prevent rearward sliding movement of the latch plate 74, and consequently also obstructing and preventing manipulation of the finger piece 82 and its cam flange 84. To release the tumbler bolt 85 from its described locking position, the actuating key must be again inserted in the key barrel 94 and turned counterclockwise, whereby the operative bit of the key will engage and thrust against the opposite cam portion 88 of the tumbler bolt, thereby swinging the latter counterclockwise back to normal initial position, wherein its end is withdrawn from the path of movement of the lock or stop shoulder 95 of

the latch plate 74, and thus freeing said latch plate for retractive side catch releasing movement, when the finger piece 82 is thereafter turned.

Having now described my invention, I claim:

1. A combined side catch and lock for bag frames comprising a casing, a catch member including a catch plate and a bag frame engaging catch tongue dependent from said catch plate through the interior of the casing, the catch plate of said catch member being pivotally connected to said casing for movement between downswung operative position and upswung released position, spring means for yieldably urging the catch member from operative position to released position, a latch plate mounted in the casing for movement between latching and released positions, said latch plate being adapted in latching position to engage and secure the catch member when said member is in operative position, spring means for yieldably urging the latch plate from released position into latching position, an exteriorly projecting finger piece movably mounted on the casing substantially contiguous to the catch member whereby both the finger piece and the catch plate of said catch member lie within the reach of the fingers of one hand, means operable by movement of the finger piece for moving the latch plate between latching and released positions, and locking means for the latch plate including key pivoting means provided in the finger piece, a lock tumbler bolt movably mounted in the casing and being adapted in one position to interlock the casing and latch plate when the latter is in latching position and conversely adapted in another position to permit free movement of said latch plate, and key bit engageable portions provided on the lock tumbler bolt so disposed that engagement by the bit of a key therewith when the key is rotated will cause operative movement of said lock tumbler bolt.

2. A combined side catch and lock for bag frames comprising a casing, a spring released catch member pivotally connected to said casing and including a bag frame engaging catch tongue dependent from said catch member through the interior of the casing, a latch plate slidably mounted in the casing for movement between latching and released positions, said latch plate being adapted in latching position to engage and secure the catch member when said member is in operative position, spring means for yieldably urging the latch plate from released position into latching position, an exteriorly projecting chambered finger piece mounted in the casing in fixed connection to the latch plate for movement therewith, and locking means for the latch plate including a stop shoulder provided on the casing at one side of the latch plate, a fulcrum projection provided on the finger piece adjacent to the same side of the casing as the said stop shoulder, an elongated lock tumbler bolt disposed in the finger piece in transversely extending relation to the direction of sliding movement of the latch plate and having one end portion slidably and pivotally contacting said fulcrum projection, a detent arm provided on the finger piece on the opposite side of the lock tumbler bolt with respect to the fulcrum projection and adjacent to the side of the casing opposite to the stop shoulder, spring means carried by the finger piece for yieldably urging the lock tumbler bolt against said detent arm, a detent projection provided on the lock tumbler bolt for sliding cooperation with the detent arm on the finger piece, key pivoting means provided in the finger piece, and a key bit engageable nosing portion provided on the lock tumbler bolt, said nosing portion being so constructed and arranged that rotary movement of a key engaged with the said pivoting means of the finger piece in opposite directions will cause lengthwise sliding movement of the lock tumbler bolt into and out of locking engagement with the stop shoulder on the casing.

3. In catch device for travelling bags and the like, a casing, a latch plate slidable in the casing, a chambered finger piece affixed to the latch plate and projecting exteriorly from the casing, and locking means for the latch plate including a stop shoulder provided on the casing at one side of the latch plate, a fulcrum projection provided on the finger piece adjacent to the same side of the casing as the said stop shoulder, an elongated lock tumbler bolt disposed in the finger piece in transversely extending relation to the direction of sliding movement of the latch plate and having one end portion slidably and pivotally contacting said fulcrum projection, a detent arm provided on the finger piece on the opposite side of the lock tumbler bolt with respect to the fulcrum projection and adjacent to the side of the casing opposite to the stop shoulder, spring means carried by the finger piece for yieldably urging the lock tumbler bolt against said detent arm, a detent projection provided on the lock tumbler bolt for sliding cooperation with the detent arm on the finger piece, key pivoting means provided in the finger piece, and a key bit nosing portion provided on the lock tumbler bolt, said nosing portion being so constructed and arranged that rotary movement of a key engaged with the said pivoting means of the finger piece in opposite directions will cause lengthwise sliding movement of the lock tumbler bolt into and out of locking engagement with the stop shoulder on the casing.

ABRAHAM LEVINE.

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