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2,720,772

BAG FRAME END CATCH LOCK

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Fig. 1.

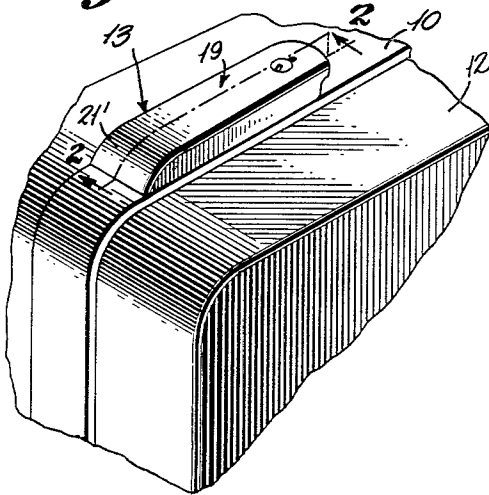


Fig. 2.

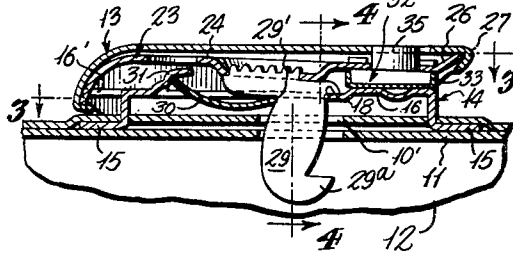


Fig. 3.

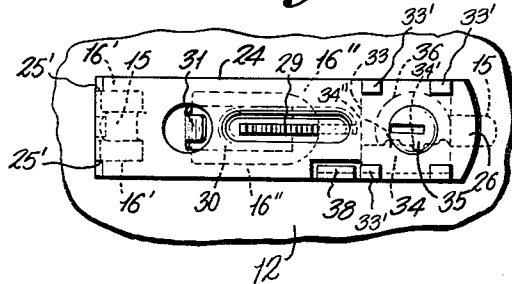


Fig. 4.

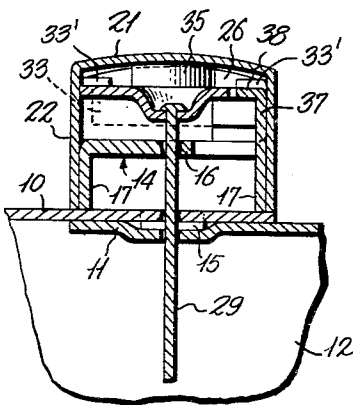


Fig. 5.

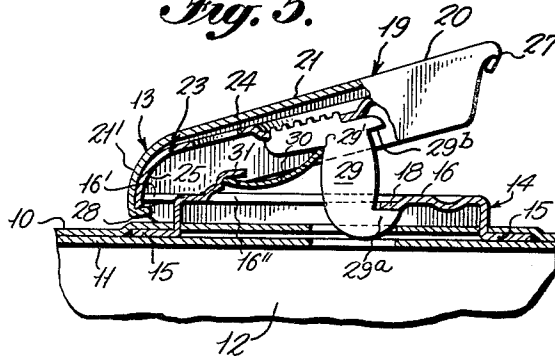
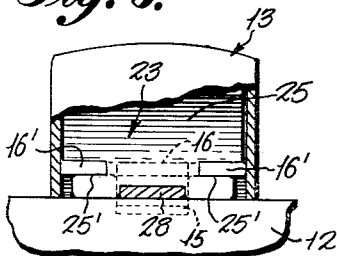


Fig. 6.



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BAG FRAME END CATCH LOCK

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4 Claims. (Cl. 70—66)

The present invention relates in general to combined side catches and locks for the frames of travelling bags and similar articles of luggage, with special reference to bags having a pair of hinged channel frames.

Side catch locks of the types heretofore available on the commercial market for use with luggage having a pair of hinged channel frames to be secured together in confronting relation have generally been of rather complex construction and do not lend themselves readily to ease or economy of manufacture. Many of such locks require a spring loaded mechanism to open the catch, which is by its nature highly susceptible to jamming when the luggage is overpacked, which renders the lock subject to opening under the influence of a slight blow or jar, and which requires frequent servicing to keep the mechanism in proper working order. Further, the lock components of such devices which receive the key and secure the catch usually are provided on the stationary portion of the device necessitating removal of the key before the movable portion carrying the catch can be shifted to unlocking position.

An object of the present invention is the provision of a novel side catch and lock mechanism for use with luggage which obviates the above mentioned disadvantages.

Another object of the present invention is the provision of a novel side catch and lock mechanism for use with hinged luggage frames, in which the movable parts have the appearance of substantial mass and depth, but wherein substantially all parts are composed of sheet metal shaped by ordinary stamping processes to insure uniformity and economy of manufacture.

Another object of the present invention is the provision of a novel side catch lock mechanism for luggage frames, which is highly dependable over a long period of use and in which the lock and associated components are integrated in a manner permitting the lock to be concealed in the movable portion of the mechanism.

Other objects, advantages and capabilities of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawing, showing only a preferred embodiment of the invention.

In the drawing:

Figure 1 is a fragmentary perspective view of a bag frame equipped with a side catch lock mechanism embodying the present invention;

Figure 2 is a longitudinal section view of the side catch lock mechanism, taken along the lines 2—2 of Figure 1, and illustrating the same in closed condition;

Figure 3 is a sectional view taken along the lines 3—3 of Figure 2, showing the construction of the catch plate;

Figure 4 is a vertical transverse section view taken along the lines 4—4 of Figure 2;

Figure 5 is a longitudinal section similar to Figure 2 but illustrating the mechanism in open position; and

Figure 6 is a rear elevation of the side catch lock mechanism with parts broken away.

Referring to the drawing, wherein like reference characters designate corresponding parts throughout the several

figures, the reference characters 10 and 11 designate the two channel shaped frame members of a suit case 12 or the like, which are hinged together at their ends in the usual manner. The combined side catch means and lock are generally indicated by the reference character 13, and comprise an elongated catch housing member 14 stamped from sheet metal and having a pair of clinching lugs 15 depending from its opposite ends. The lugs 15 are adapted to be passed through registering apertures in the outermost channel frame 10 and clenched over the underside of the channel frame member 10 to secure the catch housing 14 to the frame member. The catch housing 14 is formed with a top panel 16 bounded by downwardly depending side flanges 17 adapted to rest edgewise on the outermost frame member 10. The top panel 16 is provided with a central aperture bounded along one end thereof by a depressed portion 18 serving as an upper and lower limit stop for a catch tongue to be later described, and a pair of laterally spaced, rearwardly projecting ears 16' lying in the plane of the top panel 16.

The catch housing 14 serves as the support for the movable catch plate assembly 19 which comprises a catch plate cover 20 preferably formed of sheet metal, having a top wall 21 bounded laterally by side walls 22 of substantial depth, the top wall 21 curving downwardly at one end, as indicated at 21' to the lower edges of the side walls 22. The side walls 22 of the cover 20 are of sufficient height to give the cover the appearance of a block of considerable mass and are spaced laterally a sufficient distance to accommodate and overlie the side flanges 17 of the catch housing 14.

A catch plate 23 is disposed in nested relation within the catch plate cover 20 and is carried thereby. The catch plate 23 comprises a plate member 24 having a downwardly curved portion 25 at one end to conform substantially to the curved portion 21' of the cover 20 and an upwardly curved formation 26 at the opposite end to bear against the outer end of the top cover panel 21, the top panel 21 being bent downwardly over the end 26, as indicated at 27, to secure that end of the catch plate 23 within the cover 20.

The downwardly curved end 25 of the plate 24 is provided with a pair of transversely aligned notches 25' in the edge thereof to accommodate the pair of spaced ears 16' projecting from the catch housing 14, and the lowermost edge of the downwardly curved portion 25 is centrally notched to receive the lug 28 bent inwardly from the curved end 21' of the cover 20 to secure the catch plate 23 within the cover.

A catch tongue 29 is fixed to the catch plate 23 in downwardly projecting relation to extend through the aperture 16'' in the top panel 16 of the catch housing 14 and be selectively projected through the aligned apertures 10', 11' of the bag frames 10, 11 on pivotal movement of the catch plate assembly 19 about the ears 16' of the housing 14. A bowed leaf spring 30 having one end seated in a notch 29' at the back of the tongue 29 and its other end bearing against a lug 31 struck up from the top panel 16 of the catch housing 14 and bounding the rearmost end of the aperture 16'', is provided to resiliently urge the catch plate 23 upwardly and downwardly respectively when the end of the spring 30 seated in the notch 29' is disposed above and below a position substantially midway between the upper and lower limits of its travel. A shoulder 29a on the tongue 29 engages the limit stop depression 18 on the top panel 16 of the catch housing 14 to limit the upward travel of the catch plate assembly 19, and a shoulder 29b engages the stop 18 to limit downward travel.

A lock mechanism, generally indicated at 32 is provided in a housing 33 of generally shallow rectangular form having upstanding fastening lugs 33' bent over the

edges of the catch plate 23 at the outer end thereof. The lock mechanism 32 is preferably of the well known commercially available type comprising a lock tumbler bolt 34 having a recessed portion 34' exposed below a circular key-receiving aperture 24' in the plate 24 and a rotatable key barrel 35 mounted in the cover 20. The bolt 34 is slidable longitudinally under the influence of the operating bit of the key to selectively project the end of the bolt from the housing 32, and a resiliently biased member 36 cooperating with a projecting shoulder 34'' on the bolt 34 is provided to hold the bolt at the position to which it is shifted by the key.

As will be apparent from the drawing, the lower face of the lock housing 33 bears upon the outermost portion of the top panel 16 of the catch housing 14 when the catch plate assembly 19 is in downwardly pivoted position, and an upstruck keeper 37 is provided on the catch housing 14, having a shoulder 38 to project over the end portion of the bolt 34 when the bolt is projected outwardly of the lock housing 33 and lock the catch plate assembly 19 in closed condition.

In the use and operation of this form of combined side catch and lock, when the catch plate assembly 19 is swung to open position as illustrated in Figure 5, the lower end of the catch tongue 29 terminates above the plane of the lowermost hinged channel member 11, so that the hinged channel members 10 and 11 may be swung laterally relative to each other about their common hinge axis without interference from the catch tongue 29. The catch plate assembly 19 is resiliently held in this open position until manually shifted therefrom by the bowed leaf spring 30.

On manually forcing the catch plate assembly 19 to the closed position illustrated in Figure 2, the manual closing pressure is resiliently resisted by the bowed leaf spring 30 until the outer end of the leaf spring seated in the notch 29' passes through a point substantially midway between its limits of travel, at which point a downward resilient bias is exerted on the catch tongue 29 and catch plate assembly 19 to bring the lock housing 33 into contact with the outermost portion of the top panel 16 of the catch housing 14. In this position, the catch tongue 29 is projected through the aligned apertures 10' and 11' of the hinge channel members 10 and 11 when the channel members are in aligned relation to prevent lateral displacement of the channel members relative to each other. Insertion of the operating bit of a key through the rotatable key barrel 35 in the cover 20 and the circular aperture 24' of the catch plate 23 and rotation of the key operating bit in a clockwise direction as viewed in Figure 3 brings the bit into the recessed portion 34' of the lock tumbler bolt 34. Further rotation of the key operating bit in the same direction forces the lock tumbler bolt 34 to the left as illustrated in Figure 3, the resiliently biased member 36 riding up over the projecting shoulder 34'' and down the side of the same nearest the recess 34' to hold the bolt in projected position cooperating with the keeper 37 to lock the catch plate assembly 19 in closed position.

Reverse rotation of the key in like manner cams the lock tumbler bolt 34 to the right as viewed in Figure 3 to withdraw the projecting portion of the bolt from operative association with the keeper 37, so that upward manual pressure may be exerted against the outwardly projecting portion 27 of the catch plate assembly 19 to tilt the same upwardly to open position, withdrawing the catch tongue 29 upwardly through at least the aperture 11' of the lowermost channel member 11.

While but one particular embodiment of the invention has been particularly shown and described, it is apparent that various modifications may be made in the invention without departing from the spirit and scope thereof, and it is desired, therefore, that only such limitations shall be placed thereon as are set forth in the appended claims.

What is claimed is:

1. A combined side catch and lock for a hinged pair

of bag frames having aligned latch apertures comprising an elongated, centrally apertured catch housing member formed of sheet metal and adapted to be secured to one of said bag frame members, a catch plate assembly 5 intercoupled with said catch housing member for vertical pivotal movement about one end thereof comprising a catch plate cover member in the form of a downwardly opening casing of sheet metal and a catch plate of substantially the length of said cover member carried in nested relation in said cover member, said catch plate cover member having downwardly bent side walls defining a downwardly opening recess between the side walls and ends of said cover member to receive said catch plate, a snap action leaf spring supported in bowed condition between said catch plate and housing member and urged away from dead center to resiliently bias said catch plate to open and closed positions, said catch plate having a bag frame-engaging catch tongue dependent therefrom through the housing member aperture to be selectively projected through said bag frame apertures, lock means including a lock housing having a bolt selectively projectable therefrom in a plane parallel to said catch plate, means mounting said lock housing in depending relation on said catch plate in nested condition within said cover member recess, said lock housing being disposed adjacent the end of said catch plate remote from said pivotally intercoupled end of said catch plate assembly and having a lower wall disposed parallel to the principal plane of said catch plate to form a stop surface to bear against the upper surface of said catch housing member and limit closing movement of said catch plate assembly, and keeper means projecting upwardly from said catch housing member aligned with said bolt to receive the same when projected and lock the catch plate in closed position.

2. A combined side catch and lock for a hinged pair of bag frames having aligned latch apertures comprising an elongated catch housing member formed of sheet metal and having a raised rectangular top panel bounded by vertical side walls adapted to rest in edgewise relation on one of said frame members and adapted to be secured thereto by clinching lugs projected through apertures in said frame member and clinched thereunder, said top panel having a central aperture, a catch plate assembly intercoupled with said catch housing member for vertical pivotal movement about one end thereof comprising a catch plate cover member in the form of a downwardly opening casing of sheet metal and a catch plate of substantially the length of said cover member carried in nested relation in said cover member, said catch plate cover member having lugs bent over opposite ends of said catch plate to support said plate and downwardly bent side walls extending alongside the lateral edges of and below said catch plate to overlie the side walls of said catch housing member and receive said housing member in nested relation in said cover member when same is in closed position, snap action spring means urging said catch plate to open and closed positions, said catch plate having a bag frame-engaging catch tongue dependent therefrom through the housing member aperture to be selectively projected through said bag frame apertures, lock means including a lock housing having a bolt selectively projectable therefrom in a plane parallel to said catch plate, means mounting said lock housing in depending relation on said catch plate in nested condition within said cover member recess, said lock housing being disposed adjacent the end of said catch plate remote from said pivotally intercoupled end of said catch plate assembly and having a lower wall disposed parallel to the principal plane of said catch plate to form a stop surface to bear against said top panel of said catch housing member and limit closing movement of said catch plate assembly, and keeper means on said catch housing member comprising an upwardly projecting arm having a lateral shoulder aligned with

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said bolt to operatively engage the same when projected and lock the catch plate in closed position.

3. A combined side catch and lock for a hinged pair of bag frames having aligned latch apertures comprising an elongated catch housing member formed of sheet metal and having a raised rectangular centrally apertured top panel bounded by vertical side walls adapted to rest in edgewise relation on one of said frame members and adapted to be secured thereto by clinching lugs projecting from said housing member through apertures in said frame member and clinched thereunder, a limit stop formed of a depression in said top panel bounding the central aperture therein at the forwardmost point thereof, a catch plate assembly intercoupled with said catch housing member for vertical pivotal movement about one end thereof comprising a catch plate cover member in the form of a downwardly opening casing of sheet metal and a catch plate of substantially the length of said cover member carried in nested relation in said cover member, said catch plate cover member having lugs at opposite ends thereof bent over opposite ends of said catch plate to support said plate and downwardly bent side walls extending alongside the lateral edges of and below said catch plate to overlie the side walls of said catch housing member and receive said housing member in nested relation in said cover member when said catch plate assembly is in closed position, a bag frame-engaging catch tongue dependent perpendicularly from said catch plate and extending through said aperture in said housing member to be selectively projected through said aligned latch apertures, said catch tongue having spaced facing shoulders disposed to engage said limit stop and limit upward and downward movement of said catch plate assembly, a snap action leaf spring supported in

bowed condition between said catch tongue and housing member and urged away from dead center to resiliently bias said catch plate assembly to open and closed positions, key-operated lock means including a lock housing having a bolt selectively projectable therefrom in a plane parallel to said catch plate, means mounting said lock housing in depending relation on said catch plate in nested condition within said cover member recess, said lock housing being disposed adjacent the end of said catch plate remote from said pivotally intercoupled end of said catch plate assembly and having a lower wall disposed parallel to the principal plane of said catch plate to form a stop surface to bear against said top panel of said catch housing member and limit closing movement of said catch plate assembly, and an upstruck keeper lug on said catch housing member comprising an upwardly projecting arm having a lateral shoulder aligned with said bolt to operatively engage the same when projected and lock the catch plate assembly in closed position.

4. In a combined side catch and lock the combination recited in claim 2, wherein said catch plate is provided with a downwardly curved portion adjacent one end thereof and a pair of spaced, transversely aligned notches in the lateral edges thereof, and said catch housing member is provided with a pair of laterally spaced ears projecting in the plane of said top panel from the end thereof adjacent said curved portion into said notches to pivotally support said catch plate assembly.

References Cited in the file of this patent

FOREIGN PATENTS

716,727	France	Dec. 26, 1931
741,677	Germany	Nov. 15, 1943