May 1, 1962 A. LEVINE 3,031,874

FASTENER DEVICE FOR LUGGAGE CASES AND THE LIKE

Filed Aug. 2, 1960 2 Sheets-Sheet 1

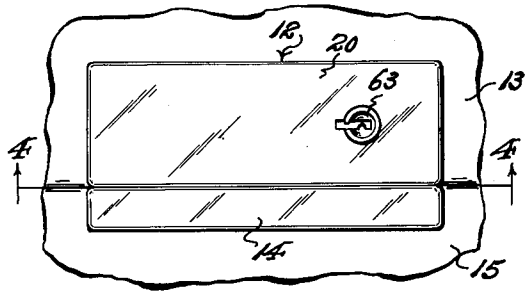


Fig. 1

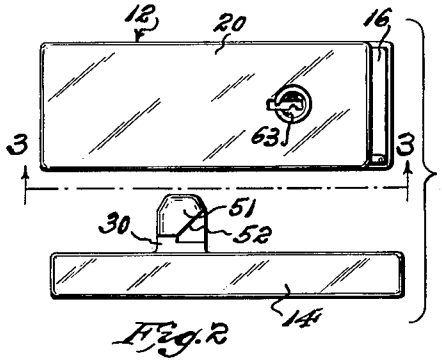


Fig. 2

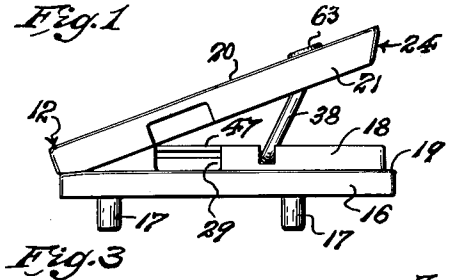


Fig. 3

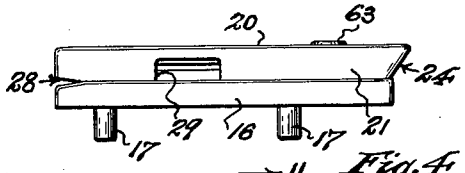


Fig. 4

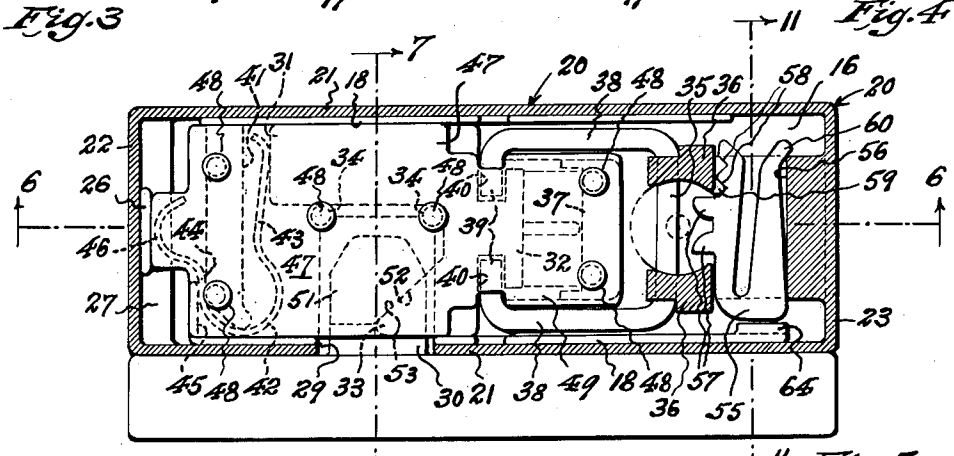


Fig. 5

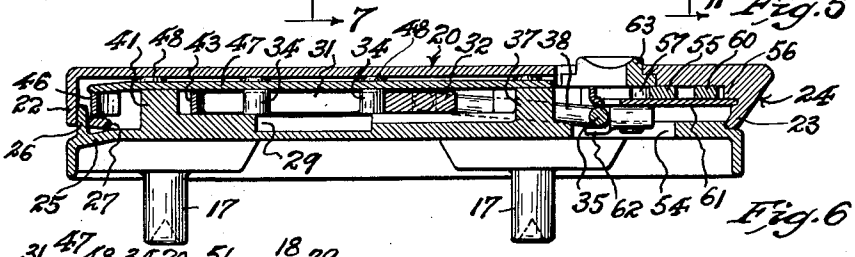


Fig. 6

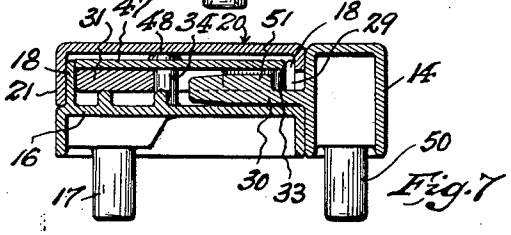


Fig. 7

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May 1, 1962 A. LEVINE 3,031,874

FASTENER DEVICE FOR LUGGAGE CASES AND THE LIKE

Filed Aug. 2, 1960 2 Sheets-Sheet 2

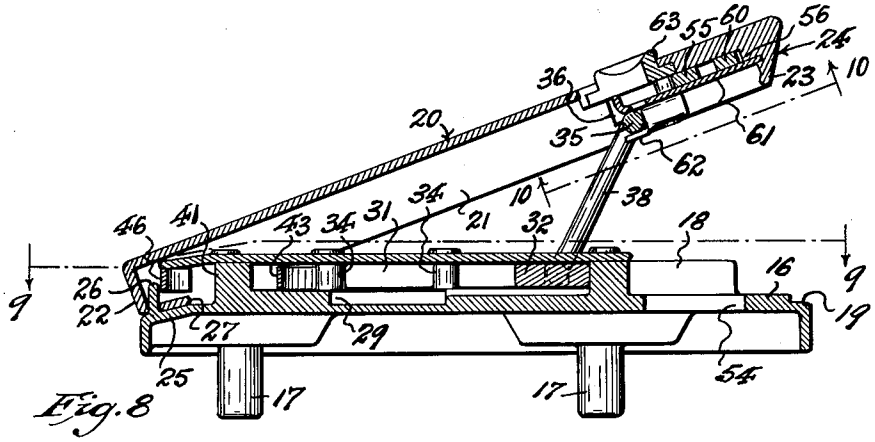


Fig. 8

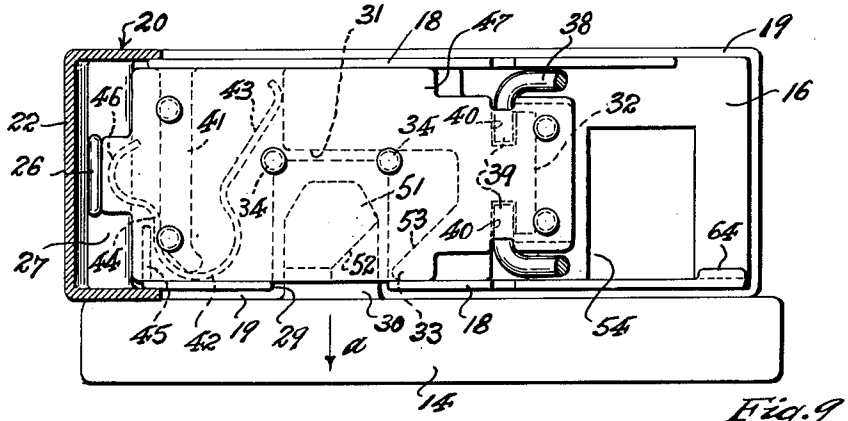


Fig. 9

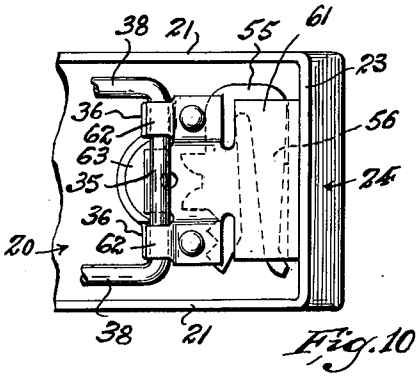


Fig. 10

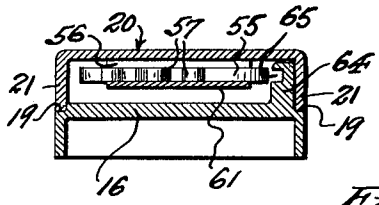


Fig. 11

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FASTENER DEVICE FOR LUGGAGE CASES AND THE LIKE

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Filed Aug. 2, 1960, Ser. No. 46,967
8 Claims. Cl. 70—70)

This invention relates to fastener devices which are well suited for use to releasably secure the hinged lid of a luggage case or other container in closed condition relative to the body of the case or container; this application being a continuation in part of my patent application Ser. No. 839,220, filed September 10, 1959, now abandoned.

An object of this invention is to provide a fastener device of symmetrical and preferably of oblongate shape and of low height in its closed condition, and of a type comprising a bolt means and a manipulatable latching member to receive the bolt means, said latching member operating in such manner that the same is actuated by swinging movements of a pivoted lever which forms an external overlying cover for said latching member.

Another object of this invention is to provide a construction such that the closing of the latching member relative to the received bolt means tends to draw the luggage or container body and its lid into tight fitting closed together relationship.

The manner in which these and other objects are attained according to the invention will be apparent from the following description of the invention taken with reference to the accompanying drawings wherein an illustrative embodiment of the invention is shown. This embodiment shown by said drawings is merely representative of the invention, the full scope of said invention being according to the claims appended hereto.

In said drawings, FIG. 1 is a top plan view of a fastener device according to this invention and including a bolt means and latching member shown in mutually engaged closed condition as mounted on the body and lid of a luggage case or like container; FIG. 2 is a similar view showing the fastener device in open condition; FIG. 3 is a side elevational view of the open latching member, viewed in the direction of line 3—3 in FIG. 2; and FIG. 4 is a similar view of closed latching member, taken on line 4—4 in FIG. 1.

FIG. 5 is an enlarged plan view of the fastener device with the pivoted cover portion of the closed latching member shown in horizontal section, this view being drawn on an enlarged scale; FIG. 6 is a vertical longitudinal sectional view, taken on line 6—6 in FIG. 5; and FIG. 7 is a transverse vertical sectional view, taken on line 7—7 in FIG. 5.

FIG. 8 is a vertical longitudinal sectional view, similar to that of FIG. 6, but showing the latching member in open condition; FIG. 9 is a horizontal sectional view, taken on line 9—9 in FIG. 8; and FIG. 10 is a fragmentary underside view of the pivoted cover portion of the latching member, viewed in the direction of line 10—10 in FIG. 8.

FIG. 11 is a transverse vertical sectional view, taken on line 11—11 in FIG. 5, the bolt means being omitted.

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

It will be understood that ordinarily the fastener devices of this invention are furnished and used in pairs, comprising a right hand fastener device and a left hand fastener device, respectively affixed to the luggage case or like container, usually is spaced away relative to the opposite ends of a carrying handle with which the case or container is provided. Since, structurally, said right and left fastener devices are similar, the showing of one thereof, as depicted in the accompanying drawings, is deemed to suffice for both.

Referring now to said drawings, the fastener device comprises a latching member **12** adapted to be affixed to the marginal edge portion of one of the separable parts of a luggage case or like container, such as the body **13** thereof, and a bolt means **14** adapted to be affixed the meeting marginal edge portion of the other of said separable parts of the luggage case or like container, such as the lid **15** thereof.

The latching member comprises an oblongate body member or plate **16** of suitable length and width, the same being secured in place on the case or container body **13** by suitable fastening means, such as rivet studs **17** dependent therefrom. Upstanding from the side marginal portions of the body member or plate **16** are side flanges or walls **18**, the same being inwardly offset from the margins or edges of the body member or plate **16**, whereby to provide seating surfaces **19** engageable by a pivoted cover member **20**, when closed, and which forms a part of the latching member **12**. This cover member is of downwardly open hollow formation having side walls **21**, a rear end wall **22**, and downwardly and inwardly inclined forward wall **23**; the latter providing an undercut finger piece **24** by means of which the cover member can be manipulated, as and for the purposes hereinafter described.

The cover member **20** is pivotally connected by its rear end to the rear end of the body member or plate **16**. The rear end portion of the body member or plate **16** is formed to provide a downwardly and outwardly inclined beveled portion **25**. The means for pivotally connecting the cover member **20** to the body member or plate **16** comprises a fulcrum lug **26** which upstands from said beveled portion **25** of the latter. Extending inwardly from the rear end wall **22** of the cover member **20** is an inwardly and downwardly inclined transverse hinging flange **27** having an opening through which said fulcrum lug **26** projects. Means hereinafter described is provided to retain the hinging elements **26** and **27** against separation and displacement from their cooperative relationship. The beveled portion **25** of the body member or plate **16** as opposed to the inclined hinging flange **27** of the cover member **20** define a clearance recess **28** (see FIG. 4), which permits upswinging of the cover member relative to the body member or plate from a closed position shown in FIG. 4 to an open position shown in FIG. 3.

Intermediate the ends of the body member or plate **16**, one of the side walls thereof is provided with an entranceway opening **29**, through which a bolt tongue **30** of the bolt means **14** can enter the interior of the latching member **12** when the cover member **20** is upswung and the separable parts of the case or container are closed together.

Slidably supported within the body member or plate **16**, in a horizontal plane parallel to the horizontal plane of said body member or plate, for longitudinal movements relative to the entranceway of opening **29**, is a latch member comprising a guide arm **31**, a tail portion **32** and a latch nosing **33**. The guide arm **31** is slidably engaged between the other or opposite side wall **18** of the body member or plate and studs **34** which upstand from said body member or plate. Said guide arm **31** extends toward the hinge end of the latching member **12**.

The forward or free end of the cover member **20** and the latch member tail portion **32** are interconnected by linkage means, so that movements of the latch member between engaging and disengaging positions relative to the bolt tongue **30** of the bolt means **14**, when said bolt tongue is entered in the latching member **12**, can be effected by swinging movements of the cover member **20**.

The linkage means comprises a link member having a transverse end bar 35 which is pivotally connected with the cover member 20 adjacent to the forward free end thereof. Such pivotal connection is provided by transversely spaced bearing studs 36 which depend from the top wall of the cover member, and in connection with which the end bar 35 of the link member is journaled. Upstanding from the body member or plate 16 is a transverse stop boss 37 which limits retractive or releasing movement of the latch member. The side arms 38 of the link member straddle this stop boss 37, and terminate in inturned trunnion portions 39 which engage in journaling notches 40 with which the sides of the tail portion 32 of the latch member is provided. It will be understood, from an inspection of the drawings, that, when the pivoted cover member 20 is manually swung upward to open position (see FIG. 3 and 8), the link member will exert a forward or retractive drag upon the latch member, whereby to withdraw its latch nosing 33 away from the entranceway opening 29 of the latching member 12, thus leaving said entranceway opening unobstructed for entrance of the bolt tongue 30 of bolt means 14 with the latching member 12, or for withdrawal therefrom. When the pivoted cover member 20 is down swung from a raised open position to a closed position relative to the body member or plate 16, the link member will exert rearward thrust upon the latch member, operative to engage the bolt tongue 30 of bolt means 14 which has been entered in the latching member 12 (see FIGS. 5 and 7).

Preferably, spring means is provided to assist retracted releasing movement of the latch member. In the novel form and arrangement of such spring means as shown in the drawings, the same not only exerts retractive releasing thrust upon the latch member, but also serves as a means for locking the hinging elements 26 and 27 against separation or displacement from their operative relationship. To these ends, the body member or plate 16 is provided with an upstanding transverse spring mounting or positioning boss 41, which is located intermediate the hinge end of the latching member 12 and the slidable latch member contained within its body member or plate 16. This boss 41 terminates short of the entranceway provided side wall or flange 18 of the body member or plate 16, whereby the bight of a substantially U-shaped spring member 42 can be housed intermediate these parts (see FIGS. 5 and 9). The forward arm 43 of this spring member yieldably bears against the rearward end of the latch member guide arm 31. The rearward arm 44 of this spring member is anchored between the boss 41 and an abutment lug 45 which upstands from the body member or plate 16 (again see FIGS. 5 and 9). Said rearward arm 44 of the spring member is provided with a rearwardly bowed keeper section 46 which is adapted to overlie the hinging flange 27 of the cover member 20 after it is engaged with the fulcrum lug 26, thereby locking these hinging parts against separation or relative displacement (see FIGS. 6 and 8).

The movable latch member 31—32—33 and the cooperative spring member 42 are retained in operative relation to the body member or plate 16 by an overlying cover plate 47, which is supported by the studs 34, stop boss 37 and spring mounting or positioning boss 41, and is affixed to these parts by suitable fastening means, such as rivet elements 48 connected therewith. Said cover plate 47 has an end portion 49 of reduced width which is straddled by side arms 38 of the aforesaid link member.

The bolt means 14 desirably corresponds in length to that of the latching member 12, and said bolt means is adapted to be affixed to the lid 15 of a case or container by suitable fastening means, such as rivet studs 50 which are dependent therefrom. The bolt tongue 30 projects laterally from the body of the bolt means 14 in such location as to enter the latching member 12, when the body and lid of the case or container are closed together.

It will be understood that the underside, of the latching member 12 and/or the bolt means 14 may be shaped to conform to the contours of the marginal portions of the case or container body and its lid, as the case may be. For example, if such marginal portions include raised beading, as is sometimes the case, the undersides of the body member or plate 16 or of the bolt means 14, as the case may be, may be shaped to conform to and fit in overlying relation to such beading.

The bolt tongue 30 is shaped to provide a latching boss 51 which is adapted to be engaged by the latch nosing 33 of the latch member. This latching boss 51 is shaped to provide an inclined cam edge 52 that is adapted to be engaged by a correspondingly inclined cam edge 53 with which the latch nosing 33 of the latch member is provided. As the latch member is moved into engagement with the bolt tongue 30, these engaging cam edges 52 and 53 will cooperate to draw inwardly the bolt tongue 30, and thereby will cause the body and lid of the case or container to be forced into tightly closed relationship.

As is disclosed in FIG. 6 of the drawings, the relationship between the pivotal connection of the link member 35—38—39 with the cover member 20 and the pivotal connection of said link member with the tail portion 32 of the latch member is such that, when the cover member is closed and the latch member is moved into holding engagement with the bolt tongue 30 of bolt means 14, the pivotal connection of the link member with the cover member will cross a dead center alignment with the pivotal connection of the link member with the latch member. By reason of this, and under the thrust of the spring member 42 as transmitted through the latch member and link member, the cover member 20 will be firmly held against accidental displacement from its closed position, and can be opened only by countervailing manually applied lifting force. To permit such disposition of the pivotal connection of the link member with the cover member 20, the body member or plate 16 of the latching member 12 is cutaway, if necessary, to provide an opening or recess 54 giving clearance to receive the pivotal connection of the link member with the cover member when the latter is closed.

In most cases it is desirable to provide a key actuatable means for locking down the cover member 20 in closed position against releasing manipulation, when the bolt tongue 30 is engaged by the latch member to hold the separable parts of a case or container in closed condition, thus preventing unauthorized opening of said case or container. To this end, the cover member is provided adjacent to its forward free end with a key actuatable lock bolt 55, which is slidably supported in a slideway formed between a ledge or shoulder 56 and the bearing studs 36 with which the cover member 20 is provided. Said lock bolt 55 is provided with key engageable projections 57, and with positioning notches 58 which cooperate with a stop nosing 59 with which one of the bearing studs 36 is provided. The lock bolt 55 has a spring arm 60 which exerts yieldable lateral thrust upon the same to effect cooperative engagement of the notches 58 with the stop nosing 59. A suitably shaped cover plate 61 is secured to and bridges between said bearing studs 36 and ledge or shoulder 56, whereby to overlie the lock bolt 55, and thus hold the latter in its slideway. This cover plate 61 is also provided with keeper projections 62 to overlie the end bar 35 of the link member, whereby to retain the latter in pivotal connection with the bearing studs 36 of the cover member 20. The cover member 20 is provided with a key barrel 63 rotatably mounted in its top wall, and so located as to admit a key (not shown) for engagement with the actuating projections 57 of the lock bolt 55. A side wall or flange 18 of the body member or plate 16 of the latching member 12 is provided with a locking boss 64 having a lock bolt receiving notch 65 which is opposed to the lock bolt (see FIG. 11). It will be obvious that, when the

lock bolt 55 is advanced by key actuation, said lock bolt will be caused to enter the notch 65 of the locking boss 64, and thus the closed cover member 20 will be locked down against lifting or opening manipulation, until the lock bolt is withdrawn by reverse key actuation.

Having now described my invention, I claim:

1. A fastener device for releasably holding separable parts of a luggage case or like container in closed condition provided by a latching member and a bolt means, said latching member comprising an oblongate body member adapted to be affixed to one container part, said body member having side walls, a latch member slidably mounted within the body member in parallel plane thereto for longitudinal movement between the side walls thereof, one side wall having an entranceway opening relative to which said latch member is movable, a cover member conforming in shape to said body member, means to hingedly connect the cover member by one end to a corresponding end of the body member, a link member pivotally connected by one end to the latch member and by its opposite end to the free end portion of said cover member, said bolt means being adapted to be affixed to the other container part in opposition to a side of the body member and its cover member, and said bolt means having a laterally projecting bolt tongue adapted to enter the interior of the body member through said entranceway opening thereof in the closed condition of the container parts, up swinging opening movement of the cover member being operative to cause the link member to withdraw the latch member from bolt tongue engaging position, and downswinging closing movement of the cover member being operative to cause the link member to move said latch member into bolt tongue engaging position.

2. A fastener device according to claim 1, wherein the latch member is provided with a latch nosing and the bolt tongue is provided with a cooperating latching boss, said latch nosing and latching boss having cooperative cam edges operative, when mutually engaged, to exert indrawing pressure upon the bolt tongue, and thereby to force the separable parts of the container into tightly closed relationship.

3. A fastener device according to claim 1, including spring means mounted within the body member of said latching member, said spring member being adapted to exert yieldable releasing thrust against the latch member when the cover member is up swung relative to said body member.

4. A fastener device according to claim 1, including a key actuable lock bolt carried by the free end portion of the cover member, and a side wall of the body member of the latching member having a locking boss provided with a receiving notch releasably engageable by said lock bolt, said lock bolt, when engaged with said locking boss, being operative to lock down said cover member against lifting manipulation operative to withdraw the latch member from holding engagement with the bolt tongue of the bolt means.

5. A fastener device according to claim 1, wherein the means for hinging the cover member to the body member of the latching member comprises a fulcrum lug upstanding from the hinging end of said body member, a perforate inwardly directed hinging flange at the hinging end of the cover member through which said fulcrum lug projects, and keeper means abutting said fulcrum lug and overlying said hinging flange, said keeper means being operative to prevent relative displacement of said hinging flange from said fulcrum lug.

6. A fastener device according to claim 5, wherein the meeting surfaces of the hinging end of the body member and cover member are divergent to define a clearance recess permitting swinging movement of the cover member.

7. A fastener device according to claim 5, including a spring means having an arm to exert yieldable releasing thrust against the latch member when the cover member is upswung relative to the body member, means to anchor said spring means to and within the body member, and said spring means having a second arm provided with a projection which forms the keeper means adapted to engage over the hinging flange of the cover member, whereby to prevent relative displacement of said hinging flange from the fulcrum lug of the body member.

8. A fastener device according to claim 7, wherein the opposed surfaces of the hinging end of the body member and the hinging flange of the cover member are divergent to define a clearance recess permitting swinging movement of the cover member relative to the body member.

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