

[54] **ORIENTATION SENSITIVE LUGGAGE LATCH**

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[51] **Int. Cl.**..... **A45c 3/02**

[58] **Field of Search**..... 190/41 R, 61, 1, 35; 150/1.6; 206/1.5; 70/67; 292/130, 131, 230, 231, 250, DIG. 48

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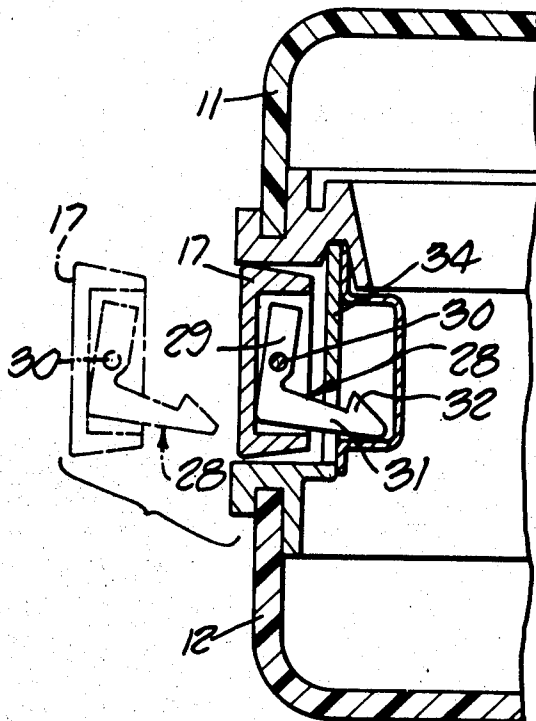
Attorney, Agent, or Firm—George J. Netter, Esq.

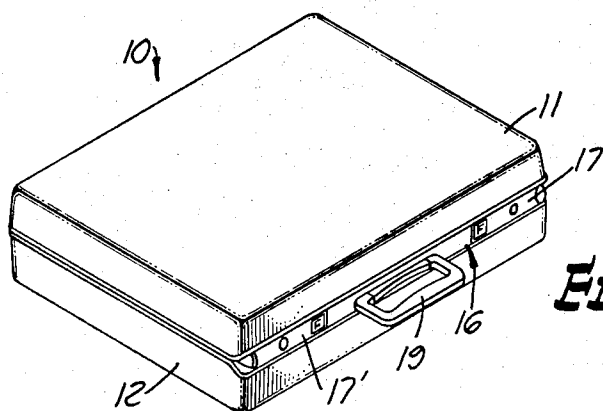
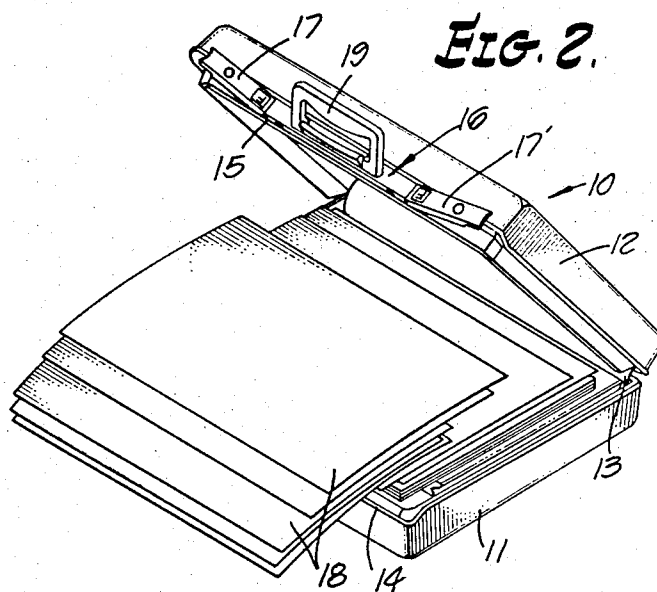
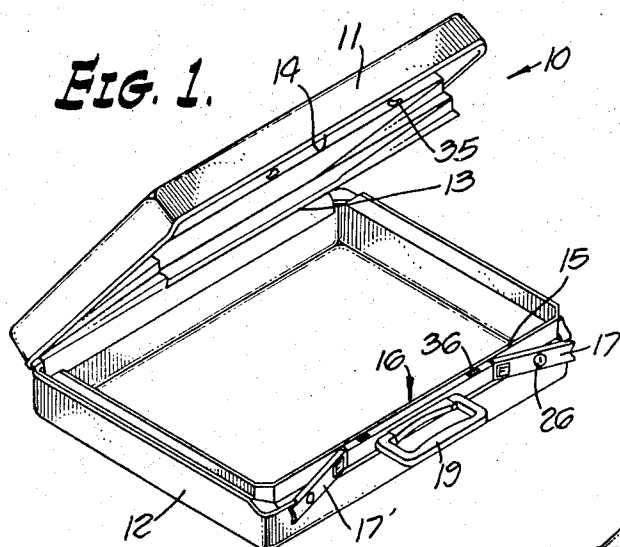
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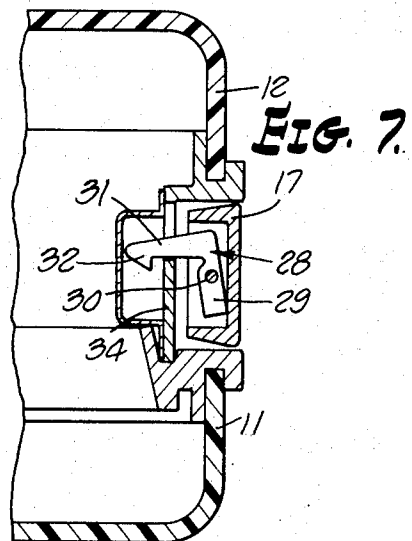
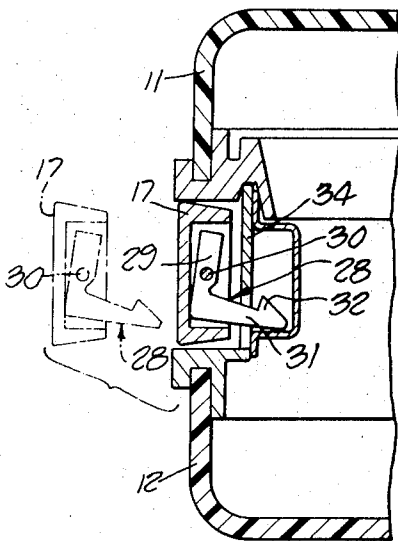
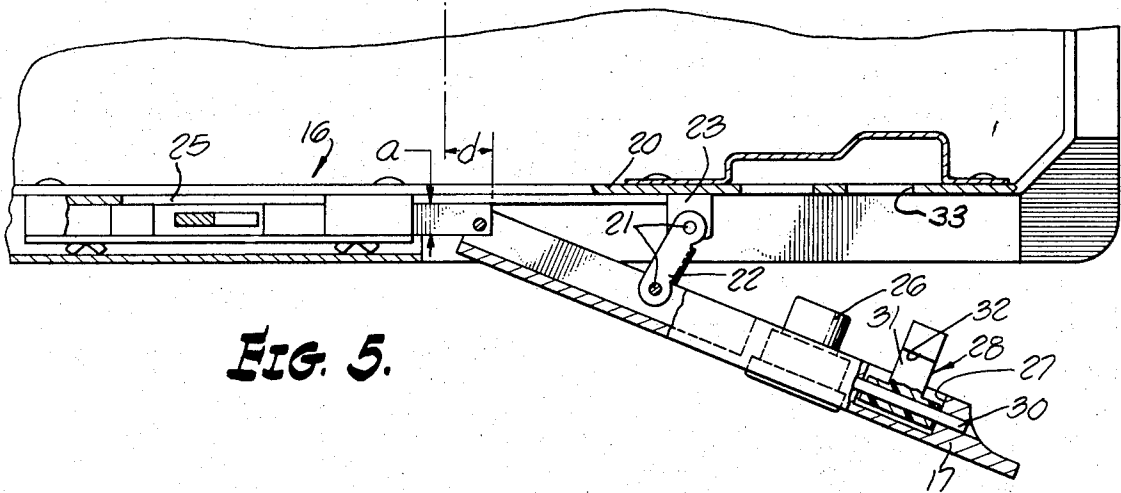
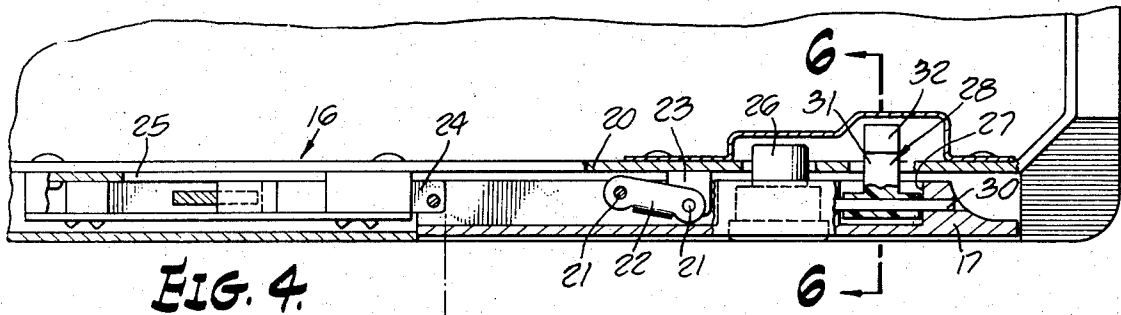
ABSTRACT

A luggage case latch mechanism is provided with a gravity operated detenting device which prevents unlatching when the case is wrongside-up.

5 Claims, 7 Drawing Figures







ORIENTATION SENSITIVE LUGGAGE LATCH

The present invention relates generally to luggage latch mechanisms, and, more particularly, to a latch mechanism that is automatically locked when the luggage is inverted and operable in all other orientations.

BACKGROUND OF THE INVENTION

A frequent occurrence in the handling of luggage, particularly a luggage piece having an external symmetrical appearance, is to open it and find the contents wrongside up. For example, it is customary to pack luggage, valises, attache' cases or the like so that the materials contained therein have an "up" or "top" and to have the materials correctly presented the luggage must be properly oriented on opening.

The wrongside-up problem is especially acute with valises or attache' cases which typically open into symmetrical halves. Attempts in the past to solve this problem have been directed to providing identifying markings, e.g., owner's initials, that can only be properly read when the case is correctly oriented, or the manufacturer's name is applied to the case such that it can only be read when the case is rightside-up.

SUMMARY OF THE INVENTION

In accordance with the practice of the present invention the luggage latch mechanism includes a gravity positioned detent. When the luggage is properly oriented, i.e., upright, the detent moves to a position permitting normal latch opening. With the luggage wrongside-up, the detent locks the latch.

DESCRIPTION OF THE DRAWINGS

FIG. 1 depicts a correctly oriented attache' case opened.

FIG. 2 shows the case of FIG. 1 opened when improperly oriented.

FIG. 3 is a perspective view of the case of FIGS. 1 and 2 shown closed.

FIG. 4 is a sectional, elevational view of the luggage latch mechanism of this invention.

FIG. 5 is a sectional, elevational view of the latch mechanism of FIG. 4 depicted open.

FIG. 6 is a sectional, elevational, partially fragmentary view taken along the line 6-6 of FIG. 4, showing the luggage case rightside-up and the latch mechanism releasable.

FIG. 7 is a view similar to FIG. 6, with the luggage wrongside-up depicting the latch mechanism in locked relation in accordance with this invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

With reference now to the drawings and particularly FIGS. 1-3, the luggage case of the invention is enumerated generally as at 10. As shown there, the case includes a pair of substantially identically appearing open-shell halves or parts 11 and 12 pivotally connected together along an edge 13. Typically, a pair of edges 14 and 15 of the respective parts 11 and 12 are secured together by a latch mechanism 16 which is selectively detachably engaged and disengaged by hand operated actuators 17 and 17'.

In the usual situation, materials are stacked in the case in a preferred arrangement, intending that when

the case is opened the materials will be presented for removal in a given order. However, as shown in FIG. 2, if the case is opened wrongside-up, the materials 18 tend to fall out in disarray, or, at the least, are presented upside down, requiring closing of the case, reorientation of the case and then reopening. Although this problem can arise in a wide variety of luggage styles, the probability of such an occurrence is increased where the luggage case has an outward bilateral symmetry, as, for example, can be seen best in FIG. 3. That is, as shown there, the valise halves or parts 11 and 12, latch mechanism 16 and placement of the handle 19 are such that, unless special means are adopted, correct orientation of the luggage cannot be determined, or, at least, is very difficult to determine by visual inspection along. Initials "F" have been added to the various figures of the drawings for ease of presentation herein, so that the luggage case orientation shown in different views may be ascertained and thereby an understanding of the operational condition of the latch mechanism of this invention in the associated views is obtained. That is, where the initial "F" is oriented for reading, the case is properly oriented with its rightside up.

Referring now to both FIGS. 4 and 5, the latch mechanism 16 is shown in section, viewing in plan as the luggage case is illustrated in FIG. 1. Actually, there are typically two such latching mechanisms for the case referenced in FIG. 1, one at the right and one at the left, which are individually operable. However, since the construction is identical for each of the latch mechanisms, except that the component parts of each have a mirror image relation to the other, only that mechanism associated with the actuator 17 will be described in detail.

As shown in FIGS. 4 and 5, the latch mechanism includes a channel 20, generally L-shaped in cross-section, affixed to the outer surface of the central portion edge 15 of the luggage case part 12. The actuator 17 is a generally elongate member pivotally connected at approximately its midpoint 21 with one end of a toggle link 22, the other end of which link pivotally connects to an upstanding arm of a yoke 23 integral with the inner wall surface of the L-shaped channel 20. The inwardly directed end of the actuator is pivotally related to the outer end of a latch bolt 24 slidably received within a housing 25 secured within the L-shaped channel 20 inwardly of the yoke 23. Typically, the outer end of the actuator 17 includes a key operated locking means 26 which cooperates with the channel 20 in conventional manner.

As will be more fully described, when the luggage case 10 is properly oriented as in FIG. 1, the actuator 17, with the locking means unlocked, may be transferred from the closed or latched position shown in FIG. 4 to the open position depicted in FIG. 5. It is to be noted that when the actuator is in the closed position (FIG. 4), it is parallel with the channel 20 and thereby maintains the latch bolt at its leftmost position. When the actuator is moved to the open position (FIG. 5), it is then angularly disposed to the channel 20 and this movement serves to transfer the latch bolt 24 to the right a distance d which, as will be shown, disengages the latch mechanism and permits the luggage case to be opened.

Also, as will be more particularly described, in the event the luggage is oriented wrongside-up, the actuator 17 is prevented from being transferred from the

closed to the open position and, therefore, the luggage case cannot be opened.

The actuator 17 body member is provided with a cavity 27 located outwardly of the locking means 26 which faces inwardly toward the case proper. An L-shaped member 28 has one leg 29 pivotally mounted via pin 30 within the cavity 27, which pin is rotatably mounted within openings formed in the cavity walls to extend generally longitudinally of the actuator 17. The other leg 31 of the member 28 has its extremity formed into a hook 32 for a purpose to be described.

An opening 33 is formed in the wall of the channel 20 for receiving the leg 31 and hook 32. The channel wall portion 34 engages with the hook when the member 28 is rotated counterclockwise to its extremity, or as shown in FIG. 7, which prevents removal or disengagement of the actuator 17.

In operation, with the luggage case oriented right-side-up as in FIG. 6, gravity moves the hook 32 to its lowermost position, permitting movement of the actuator 17 to the open position and, thus, opening of the case. However, when the luggage case is inverted to the wrongside-up position shown in FIG. 7, the hook 32 engages the channel wall portion 34 edge and prevents releasing movement of the actuator 17.

The L-shaped member 28 is proportioned relative to the pivot pin 30 such that when the case rests on its narrow long side with the handle uppermost, the hook is disengaged from the channel wall portion 34, allowing the case to be opened. That is, the leg 29 is heavier than the leg 31 so that when the case rests on its lower narrow side with the opening 27 facing downwardly, the leg 29 will move to its lowermost position which, in turn, will move the hook 32 away from the wall portion 34. Accordingly, with this version of the invention the luggage case may be opened when the case is either oriented with 11 in the upper and generally horizontal positions, or when the case rests on its lower narrow side with the handle at the top. For all other dispositions of the case, the latch mechanism is prevented from being released by engagement of the hook 32 with the wall portion edge 34.

What is claimed is:

1. A latch mechanism for releasably securing luggage case sections together, comprising:

gravity actuated member pivotally mounted onto one of said case sections, one end of said member having a hook at its terminus;

means carried by said one luggage case section including walls defining an opening therein for receiving the hook of said member therein when the luggage case sections are brought together;

said member being pivotable from a first position where said hook engages one of said walls defining said opening and locking the luggage case sections together to a second position where said hook is free from the walls defining said opening and permitting said luggage case sections to be separated.

2. In a luggage case having a pair of sections pivotally joined together along an edge with at least one hand-operated release and locking actuator carried by one of said sections, the improvement comprising:

an L-shaped lever pivotally mounted to said actuator and having a hook end extending therefrom for receipt within an opening defined by walls in said one luggage case section;

the walls defining the opening in said case section having parts which cooperate with the hooked end of said lever at one extreme of its pivotal movement to secure the case sections to one another.

3. In a luggage case having first and second case sections pivotally related to each other along an edge, said first section being the upper section when the case is properly oriented for opening, at least one actuator arm carried by one of said sections which is transferable from a first position locking the case sections to one another to a second position releasing said case sections, the improvement comprising:

a lever;

a pin passing through said lever and secured thereto with its ends extending outwardly of said lever;

means pivotally mounting the ends of said pin to said actuator;

one end of said lever being formed into a hook which is received within an opening defined by walls of said lower case section, said lever being pivotable from a first position that is free from the walls defining said opening to a second position engaging the walls of said opening and preventing release of the actuator and opening of the case.

4. In a luggage case having a pair of case sections pivotally joined together along an edge, one of said case sections being for upward disposition and the other for lower disposition when the case is open, handle means connected to one of said sections on the side opposite said edge at which said sections are joined together, latch means releasably interconnecting said case sections on the side carrying the handle means, said latch means being actuated to release said case sections by movement of an actuator arm, the improvement comprising:

a lever arm pivotally mounted to said actuator arm;

portions of the lower case section forming an opening within which one end of the lever arm is received;

said lever arm being so pivotally mounted that gravity moves the arm end received within said opening into obstructing relation with said portions defining said opening preventing case opening when said section for lower disposition is oriented to the upper position.

5. In a luggage case having first and second case sections pivotally related along an edge to bring another edge into contact, said first section being disposed above said second section when the case is properly oriented for opening, comprising:

at least one actuator arm carried by one of said sections adjacent said another edge thereof which is transferable when said another section edges are in contact from a first position locking the case sections together to a second position releasing said case sections;

a gravity actuated member pivotally mounted on said actuator arm, an end of said member having a hook thereon; and

means carried by said one case section for cooperation with said hook locking said case sections together when the first section is below the second section and releasing said case sections when the first section is above the second section.

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