June 2, 1964 L. BRODY 3,135,105

LUGGAGE CASE

Filed July 23, 1962 2 Sheets-Sheet 1

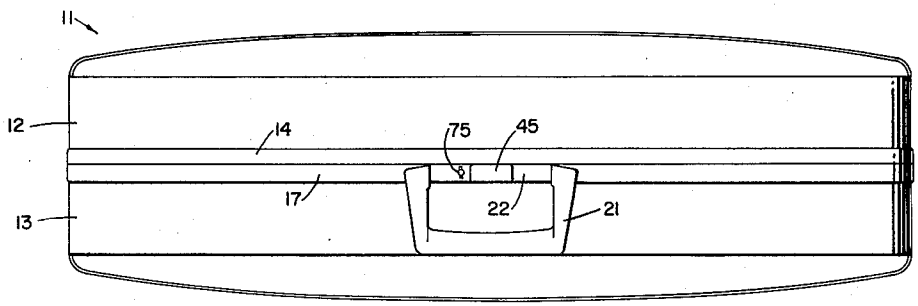


FIG. 1

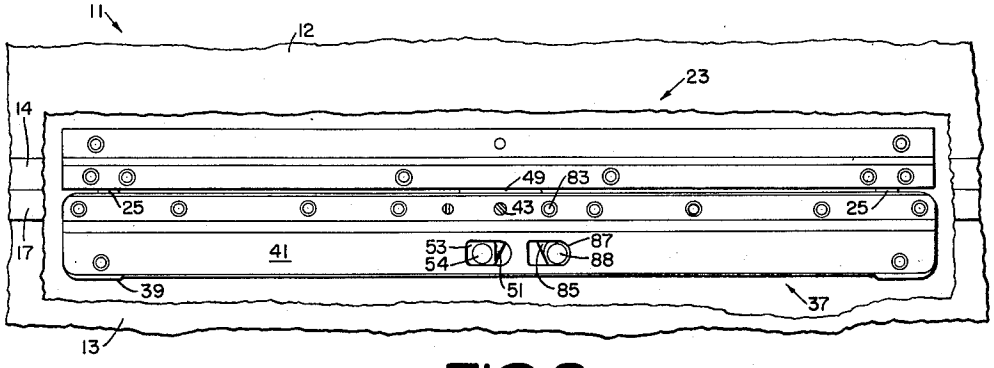


FIG. 2

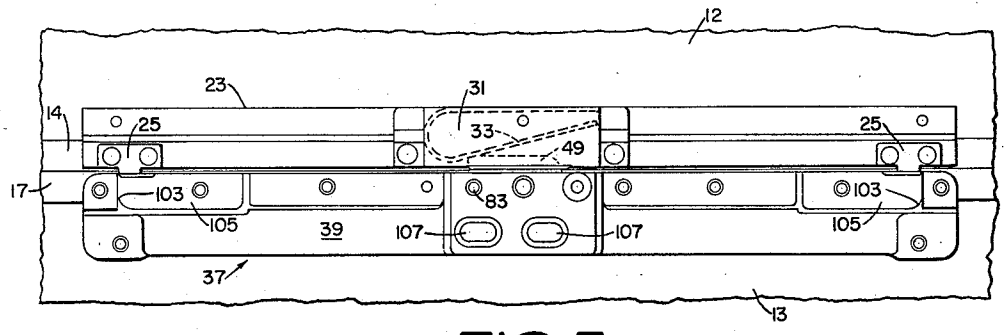


FIG. 3

INVENTOR,
Leo Brody
BY
Weatherford & Weatherford
attys

June 2, 1964 L. BRODY 3,135,105

LUGGAGE CASE

Filed July 23, 1962 2 Sheets-Sheet 2

FIG. 4

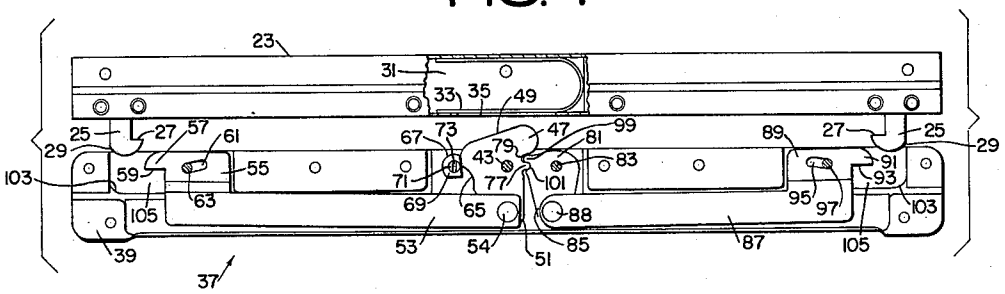
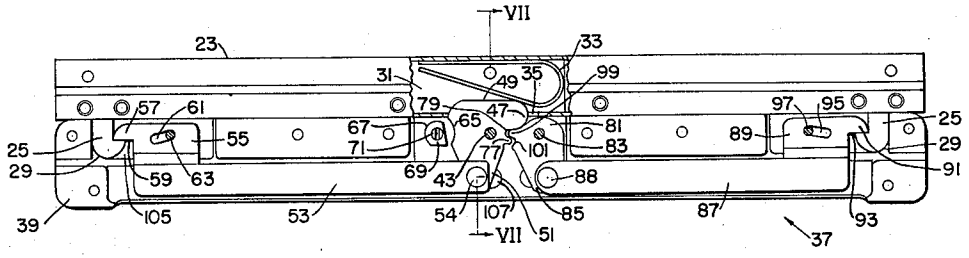


FIG. 5



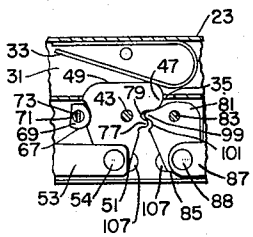


FIG. 6

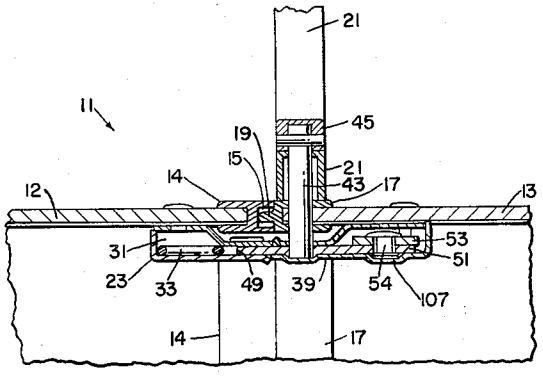


FIG. 7

INVENTOR,

Leo Brody

BY

Weatherford & Weatherford

Attys

United States Patent Office 3,135,105 Patented June 2, 1964

3,135,105

LUGGAGE CASE

Leo Brody, 508 E. Bodley Ave., Memphis, Tenn.

Filed July 23, 1962, Ser. No. 211,690
6 Claims. (Cl. 70—71)

This invention relates to certain new and useful improvements in luggage cases, and particularly relates to closure means adapted for use with luggage cases for enhancing the utility and usability of such devices.

In prior luggage cases there has been a severe problem on account of exposed release mechanisms for latching devices intended to retain the luggage cases in closed condition. As is well known, in many of the transportation media which are presently in vogue, luggage is handled with a great deal of lack of care so that often the exposed release mechanisms on luggage cases are activated so as to effect release of the case and to effect opening thereof in an undesired manner, as for example in the luggage compartment of an airplane.

It is particularly desirable, therefore, that a luggage case be provided with closure means in which the release mechanism is centrally located and is shielded by the conventional handle of the luggage case by which it is normally moved from place to place. Prior devices have had their difficulties on account of these exposed release mechanisms, and the present device principally contemplates a luggage case in which the closure mechanism has its only operating device extending beyond the case arranged in the neighborhood of the conventional handle of the luggage case so as to be shielded thereby.

The principal object of the present invention is to provide a new and novel luggage case.

A further object of the invention is to provide a luggage case having a new and novel closure means incorporated therein.

A further object of the invention is to provide such a luggage case in which the closure means are operated from a central control so as to effect a latching of longitudinally displaced latch elements to hold the case in closed condition when latched.

A further object of the invention is to provide such a device in which the closure means includes spring means adapted upon release of the latching means to spring apart the portions of the luggage case so as to provide for ready access thereinto.

A further object of the invention is to provide such a device in which the latching means includes a separable fixture of cooperating sections in which a fixed pair of hooks are connected with one section of the fixture device which may also house and carry the spring means for the separation of the luggage case and the one fixture section is mounted within the top of one part of the case adjacent its rim, and in which the other part of the luggage case may carry the other fixture section which includes shiftable latching means positioned and adapted to engage with the fixed hooks in order to effect the fixation of the case as desired; and

A further object of the invention is generally to improve the design, construction and efficiency of luggage cases and of closure means associated therewith.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will be readily understood from the following specification upon reference to the accompanying drawings, in which:

FIG. 1 is a top plan view of a luggage case with closure means of the present invention installed therein.

FIG. 2 is a top fragmentary plan view with additional parts broken away for purposes of illustration on a somewhat enlarged scale illustrating the relationship of the

parts of the closure means of the present invention with the luggage case.

FIG. 3 is an inverted plan view on a scale similar to that of FIG. 2 further illustrating the parts and relationships of the closure means with the luggage case.

FIG. 4 is a plan view of the closure means on a scale similar to that of FIGS. 2 and 3 illustrating the closure means in unlatched condition.

FIG. 5 is a view similar to FIG. 4 illustrating the closure means in latched condition.

FIG. 6 is a fragmentary plan view similar to FIGS. 4 and 5 illustrating the device not only in latched, but also in locked condition.

FIG. 7 is a fragmentary sectional view taken as on the line VII—VII of FIG. 5 on a further enlarged scale illustrating details of the device.

Referring now to the drawings in which the various parts are indicated by numerals, the present device comprises a luggage case **11** composed of separable sections **12**, **13**, which are conventionally hinged together at the bottom (not shown) and which are provided with the closure means of the present invention at the top in order to hold in closed condition.

To one section **12** of the luggage case **11** is fixed an inner peripheral rim **14** which is provided with an elongated groove **15** extending coextensively with the rim; and the opposite section **13** of luggage case **11** is provided with a mating rim **17**, rim **17** having a coextensive tongue **19** adapted to mate with groove **15** to provide a snug seal for the case when closed. Case **11** is provided with a suitable handle **21** which is substantially centrally located and preferably is pivotally connected to a housing **22** mounted on one of the rims, as the rim **17**.

Attached to the respective sections **12** and **13** of case **11** are the interengaging closure means of the present device comprising a pair of cooperating fixture sections. One section **23** is affixed to case section **12** adjacent rim **14**, section **23** including a pair of extending hook-shaped catches **25** which project beyond the limits of case section **12** and of rim **14** so as to extend into the area of case section **13** when the case is closed. Each of catches **25** is provided with a flat substantially straight edge **27** which faces toward rim **14** and is parallel to and spaced therefrom. The outer parts of each of catches **25** are provided with curved edge portions **29**, curves **29** being adapted to effect guiding and steadying of the device during its movement in use so as to stabilize the position of fixture section **23** and thereby of case section **12**.

Intermediate its length fixture section **23** is provided with a chamber **31** within which is housed a spring **33**. Chamber **31** has an access opening **35** adjacent the edge of the fixture section to permit the limited entry of abutment means into engagement with the spring. Access opening **35** is adjacent to and immediately below rim **14** and is open toward the opposite case section **13**. Mounted on case sections **13** and positioned for cooperative engagement with catch fixture section **23** is a latch fixture section **37**, which is mounted adjacent to and within rim **17** of case section **13**.

Latch section **37** includes a bottom plate **39** and a top plate **41** between which are shiftably mounted the latching elements of the fixture. Substantially at the longitudinal center of latch section **37** an upstanding turnpost **43** is pivoted upon bottom plate **39**, extends upwardly therefrom through top plate **41**, and beyond and through rim **17** and housing **22**, and upwardly beyond case section **13**. To the upper end of post **43** a knob **45** is rigidly attached and available to effect rotation of the post as desired, the knob seating slidably rotatably on housing **22** between the extremities of handle **21**.

Between plates **39** and **41** of latch section **37**, an irregularly shaped lobe **47** is fixed to turnpost **43** and rotatable

therewith. Lobe 47, beyond turnpost 43, is provided with an abutment enlargement 49 which extends outwardly beyond case section 13 toward case section 12, and is positioned to enter access opening 35 when the case is in closed condition so as to abut against spring 33.

Inwardly opposite from abutment 49, lobe 47 is extended in an ear 51, to the innermost end of which, within latch section 37, is pivotally attached one end of a link 53, as by a pin 54. The link 53 is slidably and limitedly swingably mounted within latch section 37 between plates 39 and 41.

At its distal end, link 53 is provided with an outwardly extending enlargement 55, which terminates in a latch 57 rigidly fixed to enlargement 55 of link 53, and having a latching surface 59 extending laterally therebeyond and adapted to mate with the edge 27 of one of the catches 25. It will be observed that the catches 25 and the latch 57 are disposed in substantially coplanar relationship, and that latching surface 59 is substantially parallel to rim 17 of case section 13. The link 53 is provided in its enlargement with a diagonally disposed slot 61, which is shiftably mounted upon a fixed pin 63 rigidly mounted in latch section 37 between the plates 39 and 41.

Lobe 47, laterally outwardly away from post 43, is provided with an arcuately formed recess 65 which is adapted to receive a mating arcuate surface 67 of a lock member 69, which is rigidly connected to a lock post 71 pivotally supported in latch section 37 and extending upwardly with a key-receiving notch 73 into communication with an opening 75, formed upwardly through the case section, its rim, and housing 22, for access by a removable key (not shown) for the purpose of rotating the lock post and thus the lock member as desired.

On the side of lobe 47 opposite to recess 65, and substantially in longitudinal alinement with turnpost 43, the lobe is provided with a tooth 77. Adjacent to tooth 77 a notch 79 is formed in lobe 47. In contact with lobe 47 is a follower lobe 81 which is pivoted as by a suitable pin 83 to latch fixture 37.

Follower 81 is extended inwardly with an ear 85 similar to ear 51 on lobe 47, and to ear 85 a link 87 is pivotally connected as by a pivot pin 88. At its opposite end, link 87 is provided with an enlargement 89 similar to the enlargement 55 of link 53, at the terminal of which is formed a latch 91 similar to latch 57 and adapted to engage with the other of catches 25. Latch 91 has a latching surface 93, which is substantially parallel to rim 17 and is spaced inwardly therefrom and is coplanar with and adapted to engage with the straight edge 27 of the other catch 25.

Like enlargement 55, enlargement 89 is provided with a diagonalled slot 95 which rides upon a pin 97, the pin being fixed to latch fixture 37. It will be seen that slot 95 slants oppositely, but substantially equally, with slot 61.

Follower lobe 81 is provided with a tooth 99 positioned to mesh with notch 79 in lobe 47, and with a notch 101 adjacent to tooth 99 adapted to mesh with tooth 77 on lobe 47. At the opposite ends of latch fixture 37 are provided a pair of curved abutments 103 adapted to receive and snugly engage with the curved edges 29 of catches 25. In this manner the catches are steadied in their travel toward the latch section, and as a result case section 12 is alined with case section 13 for ready interengagement of the tongue and groove of rims 14, 17. Furthermore, this interengagement tends to aline the sections of the closure means for proper interengagement upon closing of the case 11.

Intermediate enlargements 55 and 89, latch section 37 is further provided with additional abutment plates 105, which are disposed to lie in the path of movement of the enlargements upon link retraction so as to assist in preventing overtravel and accordingly to prevent strain upon the respective pins 63, 97, and also to engage with the upper edges of the respective links 53, 87 to prevent misalinement of the links during shift under retraction or extension movements pursuant to the operation of the turning knob and of the lobes.

In addition, pivot pin 54 and pivot pin 88 respectively are extended into guides 107, formed in bottom plate 39 and being of an oval shape to guide and restrict the respective link movements to and from latched condition from and to unlatched condition. Additionally it will be seen that the disposition of lock member 69 lies in the path of the distal end of abutment 49 so that the lock member serves to limit and prevent overtravel of lobe 47 during movement toward unlatched condition.

In construction of a luggage case in accordance with the present invention the case 11 and its sections 12, 13 are set up with their mating rims 14, 17, and the fixture sections 23, 37 are mounted respectively within the case sections and adjacent the respective rims. When so mounted the catches 25 of section 23 extend beyond the limits of rim 14, and the elements of latch section 37 are housed within section 13 with the exception that abutment portion 49 of lobe 47 extends beyond the extremity of rim 17. The fixtures are mounted so that catches 25 are alined with curved abutments 103 of latch section 37, and abutment portion 49 of lobe 47 is alined with access opening 35 of spring chamber 31.

With the fixtures so mounted spring 33 is not under compression and the links 87 are in retracted condition so that tooth 99 on follower lobe 81 is meshed with notch 79 on lobe 47 and tooth 77 on lobe 47 is meshed with notch 101 on the follower lobe. With the links thus retracted latches 57, 91 are drawn back from the ends of the fixture with the diagonalled slots 61, 95 moved along the pins 63, 97. It will be observed that this movement of the links swings the distal ends of the respective links and accordingly the latches carried thereby slightly outwardly on account of the diagonal disposition of the respective slots.

With the fixtures so mounted on the respective case sections the device is ready for use, and the case section 12 may be moved toward case section 13, catches 25 moving along the curved abutments 103 to seat within latch fixture 37, and lobe enlargement 49 protruding into opening 35 effecting compression of the spring 33. As the movement continues the pressure of spring 33 against enlargement 49 of lobe 47 forces a rotation of the lobe about its pivot on turnpost 43, the intermeshing of follower 81 with lobe 47 causing a similar reverse rotation of the follower, thus effecting extension movement of the respective links 53, 87, moving latches 57, 91 toward catches 25 for engagement of the catch edges 27 by the latching edges 59, 93.

As this longitudinal movement takes place it will be observed that the respective latches are spaced slightly away from the catch surfaces to provide a greater facility of movement into engagement therewith. As the longitudinal movement is continued and completed, the slots 61, 95 are moved relatively to their respective pins 63, 97, swinging the distal ends of the respective latches inwardly relatively to the case section and more tightly engaging with the catches so as to pull the sections into proper tight relationship, with the rims in mating sealing engagement. With the fixtures thus latched the case is held in closed condition, and if it is desired to prevent manual dislodgment of this engagement, lock member 69 may then be rotated, moving its arcuate surface 67 into engagement with arcuate recess 65 of lobe 47, thus firmly holding the lobes against rotation and consequently against accidental movement to unlatched condition.

When it is desired to open the case, if it has been locked, the lock member is reversely rotated relieving the restraint of its arcuate surface 67 on the recess 65 of lobe 47. Knob 45 may then be rotated, effecting rotation of lobe 47 and consequently the rotation of lobe follower 81, retracting the links and moving the respective latches

away from the catches. When the latch-catch relationship has been relieved, spring 33, bearing against abutment 49, urges and forces the case sections apart into open condition.

I claim:

1. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sections are in closed condition, a catch fixture mounted within one of said sections having a pair of longitudinally spaced catches projecting transversely beyond the rim of said one section toward the other said section, a latch fixture mounted within said other section, said latch fixture including a lobe, a turnpost extending vertically through the rim of said other section, said turnpost being pivotally supported by said latch fixture, said lobe fixed to said turnpost and turnable therewith, said lobe having an enlargement projecting beyond the rim of said other section toward said one section and extending oppositely beyond said turnpost in an extension, a shiftable link connected at one end to said extension for longitudinal shift under rotation of said lobe, a second lobe pivoted to said latch fixture adjacent the first said lobe, a second shiftable link connected at one end to said second lobe and extending away from the first said link in substantial alinement therewith, each of said links at its opposite end having a latch, said latches positioned to engage said catches upon longitudinal shift of said links, each said link having a diagonal slot adjacent its said opposite end, said slots slidably riding pin means carried by said latch fixture effecting limited swing of said links under said longitudinal link shift, said lobes including tooth and notch means intermeshing and transmitting rotation of the first said lobe to the second said lobe for simultaneous longitudinal shift of said links, said latches engaging said catches in closed condition of said case latching said case in said condition, said limited swing moving said latches toward and tightly into engagement with said catches pulling said rims into intermating seal, a spring mounted in said catch fixture opposite said lobe enlargement, said enlargement extending through the edge of said catch fixture into abutment with said spring in closed condition of said case, said spring urging separation of said rims to open said case on unlatching of said case, means for rotating said turnpost to counter-rotate said lobes and retract said latches from engagement with said catches to unlatch said case, and lock means releasably engaging one of said lobes to prevent lobe counter-rotation.

2. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sections are in closed condition, a catch fixture mounted within one of said sections having a pair of longitudinally spaced catches projecting transversely beyond the rim of said one section toward the other said section, a latch fixture mounted within said other section, said latch fixture including a lobe, a turnpost extending vertically through the rim of said other section, said turnpost being pivotally supported by said latch fixture, said lobe fixed to said turnpost and turnable therewith, said lobe extending beyond said turnpost in an extension, a shiftable link connected at one end to said extension for longitudinal shift under rotation of said lobe, a second lobe pivoted to said latch fixture adjacent the first said lobe, a second shiftable link connected at one end to said second lobe and extending away from the first said link in substantial alinement therewith, each of said links at its opposite end having a latch, said latches positioned to engage said catches upon longitudinal shift of said links, each said link having a diagonal slot adjacent its said opposite end, said slots slidably riding pin means carried by said latch fixture effecting limited swing of said links

under said longitudinal link shift, said lobes including tooth and notch means intermeshing and transmitting rotation of the first said lobe to the second said lobe for simultaneous longitudinal shift of said links, said latches engaging said catches in closed condition of said case latching said case in said condition, said limited swing moving said latches toward and tightly into engagement with said catches pulling said rims into intermating seal, means for rotating said turnpost to counter-rotate said lobes and retract said latches from engagement with said catches to unlatch said case, and lock means releasably engaging one of said lobes to prevent lobe counter-rotation.

3. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sections are in closed condition, a catch fixture mounted within one of said sections having a pair of longitudinally spaced catches projecting transversely beyond the rim of said one section toward the other said section, a latch fixture mounted within said other section, said latch fixture including a lobe, a turnpost extending vertically through the rim of said other section, said turnpost being pivotally supported by said latch fixture, said lobe fixed to said turnpost and turnable therewith, said lobe extending beyond said turnpost in an extension, a shiftable link connected at one end to said extension for longitudinal shift under rotation of said lobe, a second lobe pivoted to said latch fixture adjacent the first said lobe, a second shiftable link connected at one end to said second lobe and extending away from the first said link in substantial alinement therewith, each of said links at its opposite end having a latch, said latches positioned to engage said catches upon longitudinal shift of said links, each said link having a diagonal slot adjacent its said opposite end, said slots slidably riding pin means carried by said latch fixture effecting limited swing of said links under said longitudinal link shift, said lobes including tooth and notch means intermeshing and transmitting rotation of the first said lobe to the second said lobe for simultaneous longitudinal shift of said links, said latches engaging said catches in closed condition of said case latching said case in said condition, said limited swing moving said latches toward and tightly into engagement with said catches pulling said rims into intermating seal, means for rotating said turnpost to counter-rotate said lobes and retract said latches from engagement with said catches to unlatch said case.

4. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sections are in closed condition, a catch fixture mounted within one of said sections having a pair of longitudinally spaced catches projecting transversely beyond the rim of said one section toward the other said section, a latch fixture mounted within said other section, said latch fixture including an enlargement projecting beyond the rim of said other section toward said one section, a pair of longitudinally shiftable latches carried by said latch fixture and positioned to engage said catches upon longitudinal shift, means for effecting simultaneous longitudinal shift of said latches, said latches engaging said catches in closed condition of said case latching said case in said condition, a spring mounted in said catch fixture opposite said enlargement, said enlargement extending through the edge of said catch fixture into abutment with said spring in closed condition of said case, said spring urging separation of said rims to open said case on unlatching of said case.

5. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sec-

tions are in closed condition, catch means mounted within one of said sections projecting transversely beyond the rim of said one section toward the other said section, longitudinally shiftable latch means mounted within said other section including an enlargement projecting beyond the rim of said other section towards said one section, said latch means positioned to engage said catch means upon longitudinal shift, means for effecting longtudinal shift of said latch means, said latch means engaging said catch means in closed condition of said case latching said case in said condition, a spring mounted in said catch means opposite said enlargement, said enlargement extending beyond the edge of said catch means into abutment with said spring in closed condition of said case, said spring urging separation of said rims to open said case on unlatching of said case.

6. In a luggage case which comprises a pair of sections hingedly interconnected for movement to and from closed condition of said case, said sections having intermatable rims to provide a snug intersectional seal when said sections are in closed condition, catch means mounted within one of said sections projecting transversely beyond the rim of said one section toward the other said section, shiftable latch means mounted within said other section including an enlargement projecting beyond the

rim of said other section toward said one section, link means connected to said latch means, said latch means positioned to engage said catch means upon shift, said link means being diagonally slotted with the slot slidably riding upon pin means carried by said latch means effecting limited swing of said link means under shift thereof, means for effecting shift of said latch means and said link means, said latch means engaging said catch means in closed condition of said case latching said case in said condition, said limited swing moving said latch means toward and tightly into engagement with said catch means pulling said rims into said intermating seal, a spring mounted in said catch means opposite said enlargement, said enlargement extending beyond the edge of said catch means into abutment with said spring in closed condition of said case, said spring urging separation of said rims to open said case on unlatching of said case.

References Cited in the file of this patent

UNITED STATES PATENTS

1,827,060	Albert	Oct. 13, 1931

FOREIGN PATENTS

901,509	Germany	Jan. 11, 1954
1,008,996	France	Jan. 23, 1950