MULTI-LEVEL EXPANDABLE SUITCASE

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ABSTRACT
A suitcase comprises a receptacle portion and a flap portion connected thereto. An access fastener is provided between the receptacle portion and the flap portion so as to releasably connect the flap portion to the receptacle portion to allow close access to an interior of the receptacle portion. A first and a second level of lateral expansion are provided on the flap portion and/or the receptacle portion, with respectively a first-expansion and a second-expansion fastener extending about a periphery of the suitcase and operable to release suitcase material to increase a volume of the suitcase, whereby the volume of the suitcase is cumulatively increased by the first and the second level of lateral expansion.
MULTI-LEVEL EXPANDABLE SUITCASE
CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present patent application claims priority on U.S. Provisional Patent Application No. 60/797,774, filed on May 5, 2006.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention
[0003] The present invention relates to luggage and, more particularly, to suitcases and like pieces of luggage expandable in size, to increase the volume thereof.
[0004] 2. Background Art
[0005] The amount of luggage used by a traveler often varies in round trips. A traveler will typically pack some gifts, business documents or the like, that are destined to being given at the trip’s destination. Likewise, travelers will often return home with additional luggage, to carry items such as souvenirs. Similarly, travelers will frequently shop while on vacation, to benefit from locally unavailable merchandise, to save on high local taxes, and/or simply for the pleasure of it.
[0006] Accordingly, expandable compartments have been developed on suitcases and like pieces of luggage. For such expandable compartments, a zip fastener surrounds the periphery of a soft-shell suitcase, and is openable to release folded material. This results in an increase in the volume of the suitcase. The zip fastener is simply closed to reduce the size of the suitcase back to its original non-expanded dimensions.
[0007] Therefore, the size of the piece of luggage may be adjusted to some extent in order to adjust the carrying volume of the suitcase as a function of the items to be accommodated within the suitcase. However, the level of expansion is somewhat limited by the single zip fastener with respect to the overall configuration of the suitcase.

SUMMARY OF INVENTION

[0008] It is therefore an aim of the present invention to provide a suitcase or like piece of luggage that addresses issues associated with the prior art.
[0009] Therefore, in accordance with the present invention, there is provided a suitcase comprising: a receptacle portion having wheels at a bottom for rolling displacement of the suitcase, and a retractable handle projecting from a top of the suitcase for manipulating the suitcase during the rolling displacement; a flap portion connected to the receptacle portion; an access fastener between the receptacle portion and the flap portion so as to releasably connect the flap portion to the receptacle portion to allow/close access to an interior of the receptacle portion; a first level of lateral expansion on any one of the flap portion and the receptacle portion, the first level of lateral expansion having a first expansion fastener extending about a periphery of the suitcase and openable to release suitcase material to increase a volume of the suitcase; and a second level of lateral expansion on any one of the flap portion and the receptacle portion, the second level of lateral expansion having a second-expansion fastener extending about a periphery of the suitcase and openable to release suitcase material to further increase a volume of the suitcase; whereby the volume of the suitcase is cumulatively increased by the first and the second level of lateral expansion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Having thus generally described the nature of the invention, reference will now be made to the accompanying drawings, showing by way of illustration a preferred embodiment thereof and in which:
[0011] FIG. 1 is a front view of a multi-level expandable suitcase constructed in accordance with a preferred embodiment of the present invention, as twice expanded;
[0012] FIG. 2 is a left-side view of the multi-level expandable suitcase of FIG. 1;
[0013] FIG. 3 is a right-side view of the multi-level expandable suitcase of FIG. 1;
[0014] FIG. 4 is a rear view of the multi-level expandable suitcase of FIG. 1;
[0015] FIG. 5 is a bottom view of the multi-level expandable luggage of FIG. 1, with a stand device in a retracted position; and
[0016] FIG. 6 is a bottom view of the multi-level expandable luggage of FIG. 1, with the stand device in an extended support position.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] Referring now to FIGS. 1 to 4, a multi-level expandable suitcase in accordance with the preferred embodiment is generally shown at 10. In the illustrated embodiment, the suitcase 10 is of the upright type, and is in the upright position in FIGS. 1 to 4.
[0018] The suitcase 10 has a generally rectangular body. In the illustrated embodiment, it is seen that the suitcase has a trapezoidal shape (i.e., flared) from a front viewpoint. Accordingly, the center of mass of the suitcase 10 is lower with this trapezoidal shape, resulting in additional stability for the suitcase 10. The suitcase 10 has a receptacle portion A and a flap portion B, separable to allow access to an interior of the suitcase 10. In FIGS. 1 to 4, the receptacle portion A and the flap portion B are connected, whereby the suitcase 10 is closed. The suitcase 10 has a front surface 14 and a rear surface 16. The periphery of the suitcase 10 is defined by a left lateral surface 18, a top surface 20, a right lateral surface 22 and a bottom surface 24.
[0019] The front surface 14 is provided with a pouch 26 and a main face pocket 28. The main pocket 28 has a transverse zip fastener 30.
[0020] A retractable handle system 32 is positioned on the top surface 20 adjacent to the rear surface 16. A retractable handle 32' extends upwardly from the top surface 20 of the suitcase 10. In FIGS. 1 to 4, the retractable handle 32' is generally at a midpoint of its full extension. Although not shown, the handle 32' may be fully retracted into the suitcase 10.
[0021] Caster systems 34 are associated with the handle 32, and are positioned at the intersection of the rear surface 16 and the bottom surface 24 of the suitcase 10, with a rotational axis of casters 34' being generally parallel to the intersection edge between the rear surface 16 and the bottom surface 24. As is well known, the suitcase 10 may be tilted so as to rest on the casters 34' while being supported and handled using the handle 32', in a rolling configuration of the suitcase 10.
Referring to FIGS. 1 and 2, legs 36 are provided on the bottom surface 24, adjacent to the front surface 14. When the suitcase 10 is in the upright position as is shown in FIGS. 1 and 2, the suitcase 10 is supported by the casters 34 and the legs 36.

A handle 38 is provided on the left lateral surface 18 (FIGS. 1 and 2) in combination with four legs 40 (FIGS. 3 and 4) on the right lateral surface 22. The suitcase 10 may therefore be put down on the ground to be supported by the four legs 40 after being transported using the handle 38.

The receptacle portion A is separated from the flap portion B by an access zip fastener 42 provided on the periphery of the suitcase 10 in combination with a tab 44 (FIGS. 3 and 4). By opening the access zip fastener 42, access is provided to an interior of the suitcase 10. The access zip fastener 42 is typically provided with a pair of pullers (not shown).

In order to increase the volume of the suitcase 10, a first level of expansion is provided by way of a first-expansion zip fastener 50. The zip fastener 50 is provided on the flap portion B and surrounds the full periphery of the suitcase 10. Accordingly, to expand the suitcase 10 to the first level of expansion, the zip fastener 50 is opened by being pulled about the full periphery of the suitcase 10. The front surface 14 is then pulled outwardly to expand the suitcase 10. Loose suitcase fabric 52 is provided to define the additional volume of the suitcase 10. Otherwise, when the zip fastener is closed, the loose suitcase fabric 52 is in an accumulated condition within the suitcase 10.

Similarly, a second level of expansion is provided by way of a second-expansion zip fastener 54. As is the case for the first-expansion zip fastener 50, the zip fastener 54 is provided on the flap portion B and extends about the full periphery of the suitcase 10. Accordingly, to expand the suitcase 10 to the second level of expansion, the zip fastener 54 is opened by being pulled about the full periphery of the suitcase 10. The front surface 14 is further pulled outwardly to expand the suitcase 10. Loose suitcase fabric 56 is provided to define the additional volume of the suitcase 10.

As best seen in FIG. 2, the two levels of expansion allow a significant increase in the volume of the suitcase 10. Moreover, either one of the two levels of expansion can be used alone, to reduce the expansion by half.

It is pointed out that the width of expansion is a function of the width of the loose suitcase fabric 52 that is provided. In FIG. 3, it is seen that the widths of expansion for the first and the second level of expansion are generally equal. However, it is considered to have two different widths of expansion, to provide an additional overall width for the suitcase 10 as opposed to the embodiment of FIG. 3. More specifically, if the levels of expansion each provide an additional width of value X, the expansion is either X or 2X in value. On the other hand, if the first level of expansion has a value X, the second level of expansion has value Y, then the suitcase 10 can be expanded by X, Y or X+Y.

It is seen from FIG. 2, that the expanded flap portion B is smaller in length than the receptacle portion A of the suitcase 10 (i.e., from the rear surface 16 to the zip fastener 42). This is to reduce the risk of tilting of the suitcase 10 while in the upright position. The risk of tilting of course depends on the contents of the suitcase 10 and their effect on the center of mass, but a smaller flap portion B to a larger receptacle portion A will nonetheless reduce the risk of tilting.

Also, the capacity of the pockets provided on the front surface 14, namely pouch 26 and main face pocket 28, must be limited in view of balancing the suitcase 10 with respect to tilting. By limiting the size of these pockets, only small items can be fitted therein. For instance, the main face pocket 28 is narrow, such that relatively light items such as documents, shoes (e.g., loafers) can be accommodated therein. In view of the risk of tilting, it is also contemplated to remove the main face pocket 28.

The overall dimensions of the suitcase 10 may also be selected in view of having the suitcase 10 qualify as suitable carry-on luggage. However, the multiple levels of expansion described above can also be used on larger suitcases and like pieces of luggage.

In an embodiment, the height of the suitcase 10 ranges between 20 to 30 inches, with a height of 25 inches well suited for the suitcase 10 to be used as carry-on luggage. A suitable width of the suitcase 10 for a height of 25 inches, after the two levels of expansion have been expanded, is 14 inches, so as to obtain a preferred ratio of 1.78:1 between the height and the width, to reduce the risk of the filled suitcase 10 tipping over for a 25 inch high suitcase 10. Ratios are lower for smaller heights of the suitcase 10.

Within these considerations, it is contemplated to provide the suitcase 10 or like piece of luggage with additional levels of expansion. For instance, a third zip fastener (not shown) may be provided adjacent to the second-expansion zip fastener 54.

Although the embodiment of FIGS. 1 to 4 uses zip fasteners in the levels of expansion (e.g., metallic or plastic), other types of fasteners may be used, such as Velcro™, buttons, Ziploc™-type fasteners, tabs with male and female connectors, or the like. Also, a first level of expansion or even multiple levels of expansion may be provided on the receptacle portion A while the flap portion B has a single or no levels of expansion.

Referring to FIGS. 5 and 6, a stand device 60 is secured to the bottom surface 24 and is positioned adjacent to the legs 36. The stand device 60 has a leg 62 that is displaceable along direction X, from a retracted position (FIG. 5), to an extended support position (FIG. 6). When the suitcase 10 is expanded by one or multiple levels, the leg 62 is displaced to the extended support position of FIG. 6 so as to provide additional support to the suitcase 10 in its upright position (FIGS. 1 to 4). This reduces the possibility of tilting of the suitcase 10 while in the upright position, as the stand device 60 will participate in supporting the suitcase 10. Moreover, the trapezoidal shape of the suitcase 10 also reduces the risk of tipping over, by lowering the center of mass of the suitcase 10.

It is considered to provide straps or like structural supports (i.e., attachment means) inside the suitcase 10, both in the receptacle portion A and in the flap portion B. With such structural supports, the items can be arranged in an organized manner in the suitcase 10. Accordingly, whether the flap portion B is expanded or not, the straps or like supports can be used to retain items in the flap portion B in an organized manner.

1. A suitcase comprising:
a receptacle portion having wheels at a bottom for rolling displacement of the suitcase, and a retractable handle projecting from a top of the suitcase for manipulating the suitcase during the rolling displacement;
a flap portion connected to the receptacle portion; an access fastener between the receptacle portion and the flap portion so as to releasably connect the flap portion to the receptacle portion to allow/close access to an interior of the receptacle portion; a first level of lateral expansion on any one of the flap portion and the receptacle portion, the first level of lateral expansion having a first-expansion fastener extending about a periphery of the suitcase and openable to release suitcase material to increase a volume of the suitcase; and a second level of lateral expansion on any one of the flap portion and the receptacle portion, the second level of lateral expansion having a second-expansion fastener extending about a periphery of the suitcase and openable to release suitcase material to further increase a volume of the suitcase; whereby the volume of the suitcase is cumulatively increased by the first and the second level of lateral expansion.

2. The suitcase according to claim 1, wherein the first level of lateral expansion and the second level of lateral expansion are on the flap portion.

3. The suitcase according to claim 2, wherein an interior of the flap portion encloses attachment means to retain items stored inside the flap portion.

4. The suitcase according to claim 1, wherein an outer surface of the flap portion has at least one pocket accessible from an exterior of the suitcase.

5. The suitcase according to claim 1, wherein the first level of lateral expansion and the second level of lateral expansion both independently increase the volume of the suitcase by a same value.

6. The suitcase according to claim 1, wherein the first level of lateral expansion and the second level of lateral expansion both independently increase the volume of the suitcase by a different value.

7. The suitcase according to claim 1, wherein the flap fastener, the first-expansion fastener and the second-expansion fastener are zip enclosures.

8. The suitcase according to claim 1, wherein an undersurface of the suitcase supports to maintain the suitcase upright when self-standing, the supports including a stand device extendable laterally in a direction of the levels of lateral expansion to further support the suitcase when at least one of the levels of lateral expansion is expanded.

9. The suitcase according to claim 1, wherein an interior of the flap portion encloses attachment means to retain items stored inside the flap portion.

10. The suitcase according to claim 1, wherein the receptacle portion and the flap portion have a trapezoidal shape in a plane normal to the direction of lateral expansion.