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(54) **CORNERITE DEVICE FOR SUITCASE AND SUITCASE**

(57) A suitcase cornerite device and a suitcase belong to the field of cases and bags. The suitcase cornerite device includes: first cornerites configured to wrap top corners of a case body of a suitcase and second cornerites configured to wrap bottom corners of the case body, with side edges of the first cornerites and/or the second cornerites abutting against respective opening-closing frames of the suitcase. With this structural design, one side edges of the first cornerite and the second cornerite may abut against respective opening-closing frames of the case body, such that the case body can obtain, when withstanding a compressive force, an additional supporting force provided by the cornerite device. The suitcase provided by the application includes the aforementioned suitcase cornerite device, and thus has good compression resistance, ruggedness and durability; furthermore, the large-area cornerite contributes to improve the friction resistance of the case body.

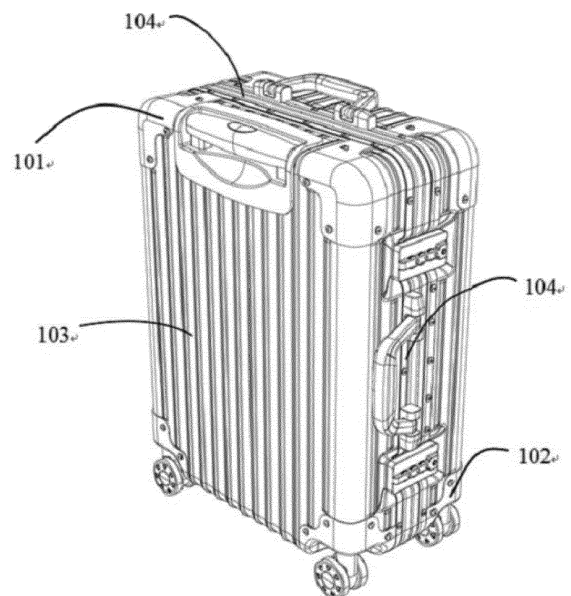


Fig. 6

Description

Technical Field

[0001] The present application relates to the field of cases and bags, and particularly to a cornerite device for a suitcase and a suitcase.

Background Art

[0002] At present, with the rapid pace of social life and the progress of economy, science, and technology, people travel more frequently. Tourisms, vacation aboard, business trips, friend visiting, off-site learning, home-returning and so on are very common. As more travels are needed, suitcases for storing goods become essential items for people.

[0003] People expect the suitcase to have not only a large carrying capacity, ruggedness and durability, but also an aesthetic appearance. In the prior art, depending on different carrying capacities, suitcases of different sizes are available in the market for consumers to choose; moreover, the suitcases may be in various colors and appearances, in terms of aesthetics.

[0004] The ruggedness and durability are mainly reflected in aspects, such as a case body of the suitcase being difficult to be deformed, wearable and difficult to be damaged. At present, in addition to wheels, regions of the suitcase, where wearing occurs firstly, are eight corners respectively located at a top surface and a bottom surface of the case body. Each corner is a region where three surfaces of the case body are connected. When placing suitcases at a corner, under beds, into cabinets, in carriages, onto shelves of trains or into cargo storages of planes, it would be such corners which are subjected to wear, or in other words, severely worn out.

[0005] It is found by the inventor in his/her research that some of suitcases in the prior art are designed to have cornerite for the case body by covering a layer of wear-resistant material on individual corners of the case body. However, this design only enables the corners to be protected from being worn out, but incapable of improving the compression resistance of the case body.

[0006] Prior suitcases achieve the anti-deformation ability mainly by means of an outline frame or a supporting frame of the case body, since the case body would be easily broken if designed to be made from hard plastic, or the cost would be high and the weight is difficult to be controlled if designed to be made from metal.

Disclosure of the Invention

[0007] An object of the present application is to provide a cornerite device for a suitcase and a suitcase, to improve the above-mentioned problems.

[0008] The present application is achieved as follows.

[0009] A cornerite device for a suitcase, comprising at least one first cornerite configured to wrap a top corner

of a case body of a suitcase and at least one second cornerite configured to wrap a bottom corner of the case body, with a side edge of the first cornerite and/or a side edge of the second cornerite abutting against respective opening-closing frames of the suitcase.

[0010] The cornerite device includes two types of cornerites, i.e., the first cornerite wrapping the top corner and the second cornerite wrapping the bottom corner, to protect the corners of the case body from being worn out.

The difference between the first cornerite and the second cornerite lies in that a fixation mode of wheels provided at the bottom of the case body needs to be considered for the bottom corner, so they have different structures. Since the side edges of the first cornerites and the second cornerites abut against the opening-closing frames of the suitcase, counterforces applied by the first cornerites and the second cornerites must be overcome when the case body of the suitcase tends to deform, thereby improving the compression resistance of the case body to make the suitcase rugged and durable.

[0011] Further, the first cornerite comprises a first cornerite plate, a second cornerite plate and a third cornerite plate perpendicular to each other, the first cornerite plate, the second cornerite plate and the third cornerite plate are used to fit with three surfaces forming the top corner of the case body respectively, and one end of the first cornerite plate away from the second cornerite plate abuts against the opening-closing frame of the suitcase.

[0012] The first cornerite wraps a part of regions of the three surfaces of the case body on the basis of the corner, and has one side edge abutting against the opening-closing frame of the suitcase, thereby increasing wrapped area, and improving the compression resistance of the case body.

[0013] Further, any two of the first cornerite plate, the second cornerite plate and the third cornerite plate are connected with each other via an arc wall, and integrally formed.

[0014] Any two of the individual cornerite plates of the first cornerite are connected with each other via an arc wall, to integrally formed, so that there is a smooth transition at the edges, people around the suitcase may be less prone to injury, collisions may be reduced, and meanwhile, the appearance is more aesthetic.

[0015] Further, each of the first cornerite plate and the second cornerite plate is of an L-shaped structure.

[0016] The L-shaped structure requires less consumed material, and has a unique appearance.

[0017] Further, the second cornerite comprises an outer cornerite and an inner cornerite, the outer cornerite comprises a fourth cornerite plate, a fifth cornerite plate and a sixth cornerite plate perpendicular to each other, the fourth cornerite plate, the fifth cornerite plate and the sixth cornerite plate are used to fit with three surfaces forming the bottom corner of the case body respectively, any two of the fourth cornerite plate, the fifth cornerite plate and the sixth cornerite plate are connected with each other via an arc wall, a gap is left between the inner

cornerite and the outer cornerite, and one end of the fifth cornerite plate away from the fourth cornerite plate abuts against the opening-closing frame of the suitcase.

[0018] The second cornerite is designed with a double layered structure having an inner layer and an outer layer. The case body may be embedded at the gap between the inner cornerite and the outer cornerite and fixed, facilitating installation.

[0019] Further, the sixth cornerite plate comprises a stepped surface providing a space required for steering of a universal wheel, a first through hole which a support shaft of the universal wheel passes through is provided within the stepped surface of the sixth cornerite plate, a threaded hole is provided at a top end of the support shaft, a second through hole which a fixed bolt passes through is provided in the inner cornerite, and the fixed bolt is screwed into the threaded hole through the second through hole.

[0020] A connecting channel provided between the inner cornerite and the outer cornerite makes it possible for the second cornerite to fix the universal wheel. Meanwhile, the sixth cornerite plate is designed to be step-shaped, so as to provide a space required for steering of the universal wheel and lower the center of gravity of the case body, to reduce the probability of rolling over. The support shaft of the universal wheel extends into the case body of the suitcase. In conjunction with the structure of the second cornerite, it is possible to better limit the support shaft, thereby achieving a good connection and fixation result.

[0021] Further, the first cornerite and the second cornerite are fixedly or detachably connected with an outer wall of the case body.

[0022] In the case of fixed connection, the cost is relatively low and the connection relation is relatively stable. In the case of detachable connection, replacement of cornerites is convenient, and the service life of the suitcase is prolonged.

[0023] Further, the first cornerite is riveted with the case body, and the second cornerite is riveted with the case body.

[0024] Rivet connection is widely used, and the effect thereof is reliable.

[0025] Further, the first cornerite and the outer cornerite are made from aluminum.

[0026] Due to strong plasticity, aluminum has good advantages in production and manufacture, and also has good castability and surface treatment performance, stable chemical property, no magnetism, reusability, and a low coefficient of elasticity, generates no fire by friction, and is nontoxic.

[0027] A suitcase, comprising a case body, opening-closing frames and the cornerite device for a suitcase, wherein the case body comprises an upper case body and a lower case body rotatably connected with each other, both contact surfaces of the upper case body and the lower case body are connected to the opening-closing frames, the cornerite device for a suitcase comprises

at least two first cornerites and at least two second cornerites, the first cornerite is provided at a top corner of the case body, the second cornerite is provided at a bottom corner of the case body, and side edges of the first cornerite and the second cornerite abut against the respective opening-closing frames.

[0028] In conjunction with the cornerite device for a suitcase, the pressure applied to the suitcase may be shared by the cornerite device for a suitcase, thereby optimizing the force situation of the suitcase.

[0029] The present application has the following beneficial effects: the cornerite device for a suitcase provided by the present application changes the structure of a conventional cornerite, in such a manner that an area of the cornerite is increased, scratches of a case body produced in use can be reduced and the wear resistance of the case body can be improved; furthermore, one side edge of a cornerite abuts against the opening-closing frame of the case body, so that the case body can obtain, when withstanding a compressive force, an additional supporting force provided by the cornerite device. The suitcase provided by the present application includes the above-mentioned cornerite device for a suitcase, and thus has good compression resistance, ruggedness and durability.

Brief Description of Drawings

[0030] For more clearly illustrating technical solutions provided in embodiments of the present application, accompanying drawings required in the embodiments will be simply introduced hereinafter. It should be understood that only certain embodiments of the present application are illustrated in the following accompanying drawings, which should not be interpreted as limiting the scope. Other related accompanying drawings may also be obtained according to these accompanying drawings by those skilled in the art without paying any creative work.

Fig. 1 is a schematic structural diagram of a first cornerite of a cornerite device for a suitcase provided by Embodiment 1 of the present application;

Fig. 2 is a plan view of a second cornerite of the cornerite device for a suitcase provided by Embodiment 2 of the present application;

Fig. 3 is a schematic structural diagram of an outer cornerite shown in Fig. 2;

Fig. 4 is a schematic structural diagram of Fig. 3 from another viewing angle;

Fig. 5 is a schematic diagram showing the assembling of the second cornerite provided by Embodiment 1 of the present application and a universal wheel; and

Fig. 6 shows a suitcase provided by Embodiment 2 of the present application.

[0031] Reference signs are summed as follows:

first cornerite 101; second cornerite 102; case body 103; opening-closing frame 104; first cornerite plate 105; second cornerite plate 106; third cornerite plate 107; outer cornerite 108; inner cornerite 109; fourth cornerite plate 110; fifth cornerite plate 111; sixth cornerite plate 112; first through hole 113; second through hole 114; universal wheel 115; support shaft 116; fixed bolt 117.

Detailed Description of Embodiments

[0032] Generally, the quality of a suitcase is evaluated by determining whether the suitcase is rugged and durable. At present, corners of a case body of a suitcase are regions where are relatively severely worn. When the suitcase is subjected to an external force, the compression resistance thereof is mainly provided by means of the material of the case body itself and a built-in supporting frame.

[0033] For improving the wear resistance of suitcases, in the prior art, some of suitcases are provided, at corners of a top of the case body, with cornerites, which wrap only the part where the corner is, to protect the corners. For improving the compression resistance of suitcases, supporting frames with higher strength and stiffness are mainly replaced in the prior art. However, in this case, it is often difficult to achieve portability and high compression resistance simultaneously, in consideration of improving the portability of suitcases.

[0034] In view of this, the designer of the present application provides a cornerite device for a suitcase and a suitcase including the same. The cornerite device for a suitcase is used to wrap corners of a case body, and side edges of the cornerite device for a suitcase abut against opening-closing frames of the case body, such that the cornerite device for a suitcase can serve as a supporting frame of the case body for improving the compression resistance of the suitcase, while protecting the corners of the case body from being worn out.

[0035] In order to make the objects, technical solutions and advantages of embodiments of the present application clearer, the technical solutions in the embodiments of the present application will be described more clearly and completely hereinafter, in conjunction with accompanying drawings in the embodiments of the present application. Obviously, the described embodiments are only a part of embodiments of the present application, rather than all embodiments. Generally, components in the embodiments of the present application which are described and shown in these accompanying drawings may be disposed and designed in different configurations. Therefore, the following detailed description of the embodiments of the present application provided in the accompanying drawings are not intended to limit the scope of protection of the present application, and only represent selected embodiments of the present application. All other embodiments obtained based on the embodiments of the present application by those skilled in the art without

paying any creative work, will fall within the scope of protection of the present application.

[0036] It should be noted that, in the description of the present application, orientation or position relations indicated by terms, such as "center", "longitudinal", "lateral", "length", "width", "thickness", "up", "down", "front", "back", "left", "right", "vertical", "horizontal", "top", "bottom", "inner", "outer", "clockwise" and "anticlockwise" are orientation or position relations shown on the basis of the accompanying drawings; and they are only used for facilitating the description of the present application and simplifying the description, rather than indicating or implying that the apparatus or element in question must be in the specific orientation or must be operated or configured at the specific orientation. And they thus should not be interpreted as limiting the present application.

[0037] In addition, terms, such as "first" and "second", are only used for the purpose of description, and should not be considered as indicating or implying the relative importance or implicitly indicating the number of technical features in question. Therefore, a feature defined by the term "first", "second" may explicitly or implicitly comprise one or more such features. In the description of the present application, "multiple" means two or more, unless expressly specified otherwise.

[0038] Referring to Figs. 1 to 6, Fig. 1 is a schematic structural diagram of a first cornerite of a cornerite device for a suitcase provided by Embodiment 1 of the present application; Fig. 2 is a plan view of a second cornerite of the cornerite device for a suitcase provided by Embodiment 1 of the present application; Fig. 3 is a schematic structural diagram of an outer cornerite shown in Fig. 2; Fig. 4 is a schematic structural diagram of Fig. 3 from another viewing angle; Fig. 5 is a schematic diagram showing the assembling of the second cornerite provided by Embodiment 1 of the present application and a universal wheel; and Fig. 6 shows a suitcase provided by Embodiment 2 of the present application.

[0039] As shown in Fig. 1, the cornerite device for a suitcase provided by Embodiment 1 of the present application includes at least one first cornerite 101 and at least one second cornerite 102. The first cornerite 101 includes a first cornerite plate 105, a second cornerite plate 106 and a third cornerite plate 107. The second cornerite 102 includes an outer cornerite 108 and an inner cornerite 109. The outer cornerite 108 includes a fourth cornerite plate 110, a fifth cornerite plate 111 and a sixth cornerite plate 112. There is a gap provided between the inner cornerite 109 and the outer cornerite 108, for assembling a case body 103.

[0040] Referring to Fig. 6, the case body 103 may be divided into an upper case body and a lower case body, when it is opened. Opening-closing frames 104 are provided at edges for closing of the upper case body and the lower case body. When the case body 103 is closed, the opening-closing frames 104 of the upper and lower case bodies correspond to each other, and the two opening-closing frames abut against each other. When the

case body 103 is opened, the upper and lower case bodies are separated at the opening-closing frames 104.

[0041] In order to make the description clearer and well understood, surfaces of the case body 103 are classified here. The top corner of the case body 103 is a region where three surfaces adjacent to each other intersect, in which one surface is a top surface of the case body 103, and the other two surfaces are side surfaces of the case body 103, among which one side surface contains the opening-closing frame 104, and the other two side surfaces do not contain the opening-closing frame 104. The bottom corner of the case body 103 is also a region where three surfaces adjacent to each other intersect, in which one surface is a bottom surface of the case body 103, and the other two surfaces are side surfaces of the case body 103, among which one side surface contains the opening-closing frame 104, and the other two side surfaces do not contain the opening-closing frame 104. Herein, individual surfaces of the case body 103 are named as follows: the surface at the top of the case body 103 is named as a top surface; the surface at the bottom of the case body 103 is named as a bottom surface; and for the side surfaces other than the top surface and the bottom surface, the side surface containing the opening-closing frame 104 is named as a first side surface, and the side surface not containing the opening-closing frame 104 is named as a second side surface.

[0042] Referring to Fig. 1, Fig. 1 shows the first cornerite 101 provided by embodiment 1 of the present application. The first cornerite 101 includes a first cornerite plate 105, a second cornerite plate 106 and a third cornerite plate 107. The first cornerite 101 wraps the top corner of the case body 103, with the first cornerite plate 105 fitting with the top surface of the case body 103, the second cornerite plate 106 fitting with the second side surface, and the third cornerite plate 107 fitting with the first side surface.

[0043] Structurally, the first cornerite plate 105 is of an L-shaped structure having two ends, in which one end abuts against the opening-closing frame 104, and the other end approaches a corner. The right angel of the L-shaped structure approaches an edge between the top surface and the side surface not containing the opening-closing frame 104 of the case body 103. The second cornerite plate 106 is also of an L-shaped structure, with a right angle side approaching the corner.

[0044] The structure of the third cornerite plate 107 may not be specifically defined, which is preferably of a shape of rectangle and rounded off at edges in this embodiment.

[0045] In accordance with Fig. 1, the first cornerite 101 is exquisite in structure, and convenient to process. The position where the first cornerite plate 105 of the first cornerite 101 abuts against the opening-closing frame is not located on the edge between the top surface and the first side surface of the case body, which reduces the total amount of arc walls of the first cornerite 101, thereby facilitating processing. Meanwhile, when a stress is ap-

plied to the suitcase, the stress will not be centered on edges of the case body, and a part of the stress would be transmitted along the structure of the first cornerite 101, thereby optimizing the force situation of the whole case body.

[0046] Any two of the first cornerite plate 105, the second cornerite plate 106 and the third cornerite plate 107 are connected with each other via an arc wall, and integrally formed, such that the first cornerite 101 has uniform stress distribution and smooth and aesthetic appearance.

[0047] The first cornerite 101 is made from metal, and roughly polished on the surface thereof to improve the wear resistance thereof.

[0048] Referring to Figs. 2 to 5, Fig. 2 shows the second cornerite 102 provided by Embodiment 1 of the present application.

[0049] A gap is provided between the outer cornerite 108 and the inner cornerite 109 of the second cornerite, facilitating assembling of the case body of the suitcase. The inner cornerite 109 is fixedly connected onto the outer cornerite 108, and the outer cornerite 108 is connected with the case body.

[0050] The case body is partially provided in the gap between the outer cornerite 108 and the inner cornerite 109, with the inner cornerite 109 serving as a part of an inner wall defining a storage space of the suitcase.

[0051] As shown in Figs. 3 and 4, the outer cornerite 108 includes a fourth cornerite plate 110, a fifth cornerite plate 111 and a sixth cornerite plate 112. The second cornerite 102 is used to wrap the bottom corner of the case body 103, with the fourth cornerite plate 110 fitting with the first side surface of the case body 103, the fifth cornerite plate 111 fitting with the second side surface of the case body 103, and the sixth cornerite plate 112 fitting with the bottom surface of the case body 103.

[0052] Wrapping by the first cornerite 101 and the second cornerite 102 allows the wear produced when the case body is laid flatwise to be mostly transferred onto the cornerites, thus making the suitcase more wear resistant.

[0053] Referring to Fig. 4, a stepped surface is provided at the bottom of the sixth cornerite plate 112, for the purpose of providing a space for disposing a universal wheel 115. And in this way, the center of gravity of the case body 103 will not be too high, thereby enhancing the stability of the case body 103, and reducing the probability that the suitcase rolls over when being pushed.

[0054] Pushing is one way to move the suitcase. Specifically, the suitcase is moved by directly applying a lateral thrust to the suitcase vertically positioned. This way saves effort, compared with a common way in which the suitcase is moved by tilting the case body 103 and applying a forward and upward force to the case body 103 via a draw-bar.

[0055] Referring to Fig. 5, one first through hole 113 is provided at a higher surface in the stepped surface of the sixth cornerite plate 112, and a corresponding second

through hole 114 is provided in the inner cornerite. When used, a support shaft 116, with a threaded hole provided at the top thereof, of the universal wheel 115 is inserted into the first through hole 113 from the outside of the sixth cornerite plate 112, and then screwed into a fixed bolt 117 by passing through the second through hole 114 of the inner cornerite 109, such that the fixed bolt 117 fits with the threaded hole at the top of the support shaft 116, thereby assembling the universal wheel 115 onto the second cornerite 102.

[0056] The support shaft of the universal wheel extends into the case body, and is connected by fitting with the second cornerite. Compared with the prior art, this way of connection makes it possible to provide a reliable limit to the support shaft, producing a good fixation effect.

[0057] Referring to Fig. 3, in the second cornerite 102, each of the fourth cornerite plate 110 and the fifth cornerite plate 111 is of an L-type structure, with a right angle position thereof approaching the bottom corner wrapped by the second cornerite 102. The sixth cornerite plate 112 is in a shape of tetragonum. Any two of the fourth cornerite plate 110, the fifth cornerite plate 111 and the sixth cornerite plate 112 are connected with each other via an arc wall, and integrally formed, such that the outer cornerite 108 has uniform stress distribution and smooth and aesthetic appearance.

[0058] The shape of the inner cornerite 109 is similar to that of the outer cornerite 108.

[0059] The first cornerite 101 and the second cornerite 102 are preferably riveted with the case body 103. An unbounded number of unthreaded holes are provided on the first cornerite 101 and the second cornerite 102, for compatibility with the rivet connection. In the present embodiment, there are preferably four unthreaded holes on the first cornerite 101.

[0060] For a conventional rectangular case body 103, four first cornerites 101 and four second cornerites 102 may be provided, so as to protect individual corners and improve the compression resistance of the case body 103, thereby making the suitcase more rugged, stable and durable.

[0061] In all examples illustrated and described herein, any specific value should be interpreted as only being exemplary, rather than limiting. Therefore, other examples of exemplary embodiments may have different values.

[0062] The outer cornerite of the second cornerite is made from metal, and is roughly polished on the surface thereof to improve the wear resistance thereof.

[0063] Referring to Fig. 6, Fig. 6 shows a suitcase provided by Embodiment 2 of the present application.

[0064] The suitcase provided by Embodiment 2 includes a case body 103, opening-closing frames 104, universal wheel assemblies, and a cornerite device for a suitcase. The case body 103 includes an upper case body and a lower case body rotatably connected with each other. Both contact surfaces of the upper case body and the lower case body are connected to the opening-

closing frames 104. The cornerite device for a suitcase includes at least two first cornerites 101 and at least two second cornerites 102. The first cornerites 101 are provided at top corners of the case body 103, the second cornerites 102 are provided at bottom corners of the case body 103, and side edges of the first cornerites 101 and the second cornerites 102 abut against the respective opening-closing frames 104.

[0065] The universal wheel assembly includes a universal wheel and a support shaft.

[0066] As shown in Fig. 6, the case body 103 of the suitcase provided by Embodiment 2 is a conventional rectangular case body 103, with a top and a bottom each having four corners. The number of the cornerite device can be selected as required. Preferably, there are four first cornerites 101 and four second cornerites 102.

[0067] In combination with Figs. 1 and 2, the first cornerite 101 is wrapped onto the case body 103 from outside, and is fixed via rivet connection. The second cornerite is fixed onto the case body 103 via rivet connection. The case body 103 is partially embedded in a gap between the outer cornerite 108 and the inner cornerite 109.

[0068] The opening-closing frames 104 are provided at a joint of the upper case body and the lower case body, with each of the upper case body and the lower case body provided with one opening-closing frame 104. The opening-closing frame 104 is made from hard material, which makes it stable in connection and not easy to deform.

[0069] The first cornerite and the second cornerite improve the wear resistance and compression resistance of the case body, ensuring the suitcase to be durable. Meanwhile, the structure of the second cornerite improves the reliability in connecting the support shaft of the universal wheel, reducing the probability that the support shaft fails.

[0070] As to the cornerite device for a suitcase indicated in this embodiment of the present application, the implementation principle and the resulted technical effects are the same as those of the foregoing embodiments. For simplicity, contents that the device embodiment does not mention may refer to related contents in the foregoing embodiments.

[0071] In the present application, unless expressly specified and defined otherwise, that "a first feature is 'above' or 'below' a second feature" may refer to that the first feature is in direct contact with the second feature, and also that the first feature is in contact with the second feature via an additional feature therebetween, instead of the direct contact. Furthermore, that "the first feature is 'above', 'on' or 'over' the second feature" may refer to that the first feature is directly above or inclinedly above the second feature, or only refers to that the horizontal height of the first feature is higher than that of the second feature. That "the first feature is 'below', 'under' or 'underneath' the second feature" may refer to that the first feature is directly under or inclinedly under the second feature, or only refers to that the horizontal height of the

first feature is lower than that of the second feature.

[0072] It should be noted that, like reference signs and letters represent similar items in the following drawings. Therefore, once defined in one accompanying drawing, one item will not be required to be further defined and explained in subsequent accompanying drawings.

[0073] The foregoing are only preferable embodiments of the present application, and should not be considered as limiting the present application. For those skilled in the art, various modifications and variations may be made to the present application. Any modifications, equivalent substitutions and improvements, made within the spirit and principle of the present application, should be included in the scope of protection of the present application.

Claims

1. A cornerite device for a suitcase, comprising at least one first cornerite (101) configured to wrap a top corner of a case body (103) of the suitcase, and at least one second cornerite (102) configured to wrap a bottom corner of the case body (103), with a side edge of the first cornerite (101) and/or a side edge of the second cornerite (102) abutting against opening-closing frame(s) (104) of the suitcase.
2. The cornerite device for a suitcase according to claim 1, wherein the first cornerite (101) comprises a first cornerite plate (105), a second cornerite plate (106) and a third cornerite plate (107) perpendicular to each other, the first cornerite plate (105), the second cornerite plate (106) and the third cornerite plate (107) are used to fit with three surfaces forming the top corner of the case body (103) respectively, and one end of the first cornerite plate (105) away from the second cornerite plate (106) abuts against the opening-closing frame (107) of the suitcase.
3. The cornerite device for a suitcase according to claim 2, wherein any two of the first cornerite plate (105), the second cornerite plate (106) and the third cornerite plate (107) are connected with each other via an arc wall, and integrally formed.
4. The cornerite device for a suitcase according to claim 3, wherein each of the first cornerite plate (105) and the second cornerite plate (106) is of an L-shaped structure.
5. The cornerite device for a suitcase according to claim 1, wherein the second cornerite (102) comprises an outer cornerite (108) and an inner cornerite (109), the outer cornerite (108) comprises a fourth cornerite plate (110), a fifth cornerite plate (111) and a sixth cornerite plate (112) perpendicular to each other, the fourth cornerite plate (110), the fifth cornerite plate (111) and the sixth cornerite plate (112) are used to fit with three surfaces forming the bottom corner of the case body (103) respectively, any two of the fourth cornerite plate (110), the fifth cornerite plate (111) and the sixth cornerite plate (112) are connected with each other via an arc wall, a gap is left between the inner cornerite (109) and the outer cornerite (108), and one end of the fifth cornerite plate (111) away from the fourth cornerite plate (110) abuts against the opening-closing frame of the suitcase.
6. The cornerite device for a suitcase according to claim 5, wherein the sixth cornerite plate (112) comprises a stepped surface providing a space required for steering of a universal wheel (115), a first through hole (113) which a support shaft (116) of the universal wheel to pass through is provided within the stepped surface of the sixth cornerite plate (112), a threaded hole is provided at a top end of the support shaft (116), a second through hole (114) which a fixed bolt (117) to pass through is provided in the inner cornerite (109), and the fixed bolt (117) is screwed into the threaded hole through the second through hole (114).
7. The cornerite device for a suitcase according to claim 1, wherein the first cornerite (101) and the second cornerite (102) are fixedly or detachably connected with an outer wall of the case body (103).
8. The cornerite device for a suitcase according to claim 7, wherein the first cornerite (101) is riveted with the case body (103), and the second cornerite (102) is riveted with the case body (103).
9. The cornerite device for a suitcase according to claim 5, wherein the first cornerite (101) and the outer cornerite (108) are made from aluminum.
10. A suitcase, comprising a case body (103), opening-closing frames (104), and the cornerite device for a suitcase according to any one of claims 1 to 9, wherein the case body (103) comprises an upper case body and a lower case body rotatably connected with each other, both contact surfaces of the upper case body and the lower case body are connected with the opening-closing frames (104), the cornerite device for a suitcase comprises at least two first cornerites (101) and at least two second cornerites (102), the first cornerites (101) are provided at top corners of the case body (103), the second cornerites (102) are provided at bottom corners of the case body (103), and side edges of the first cornerites (101) and the second cornerites (102) abut respectively against the opening-closing frames (104).

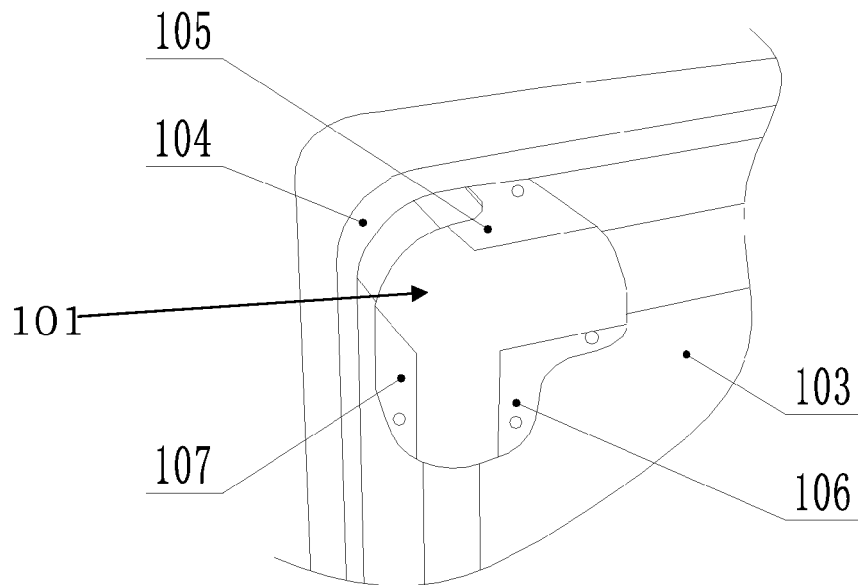


Fig. 1

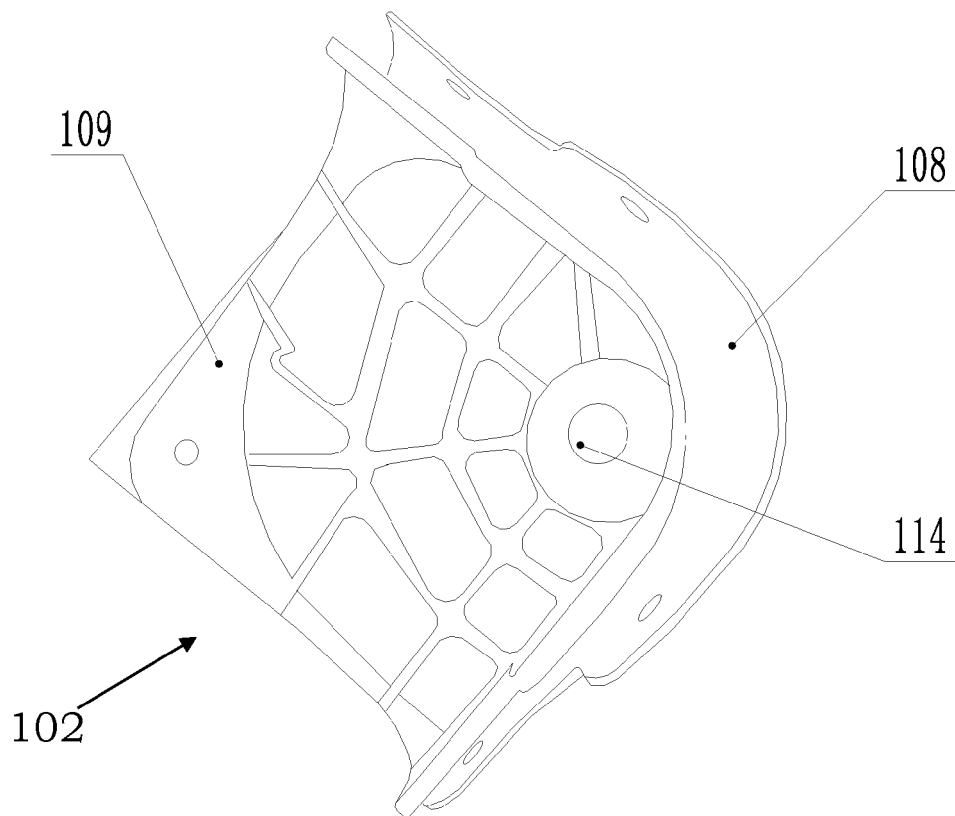


Fig. 2

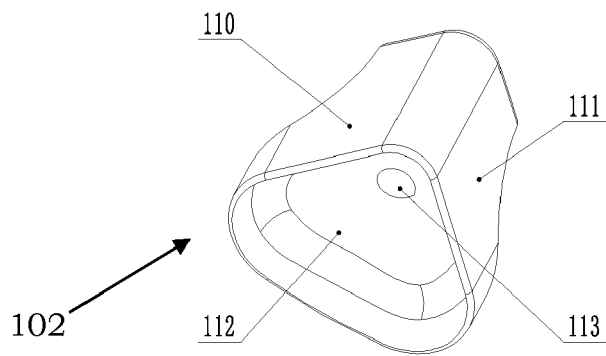


Fig. 3

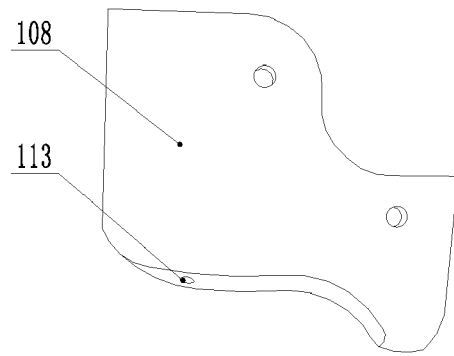


Fig. 4

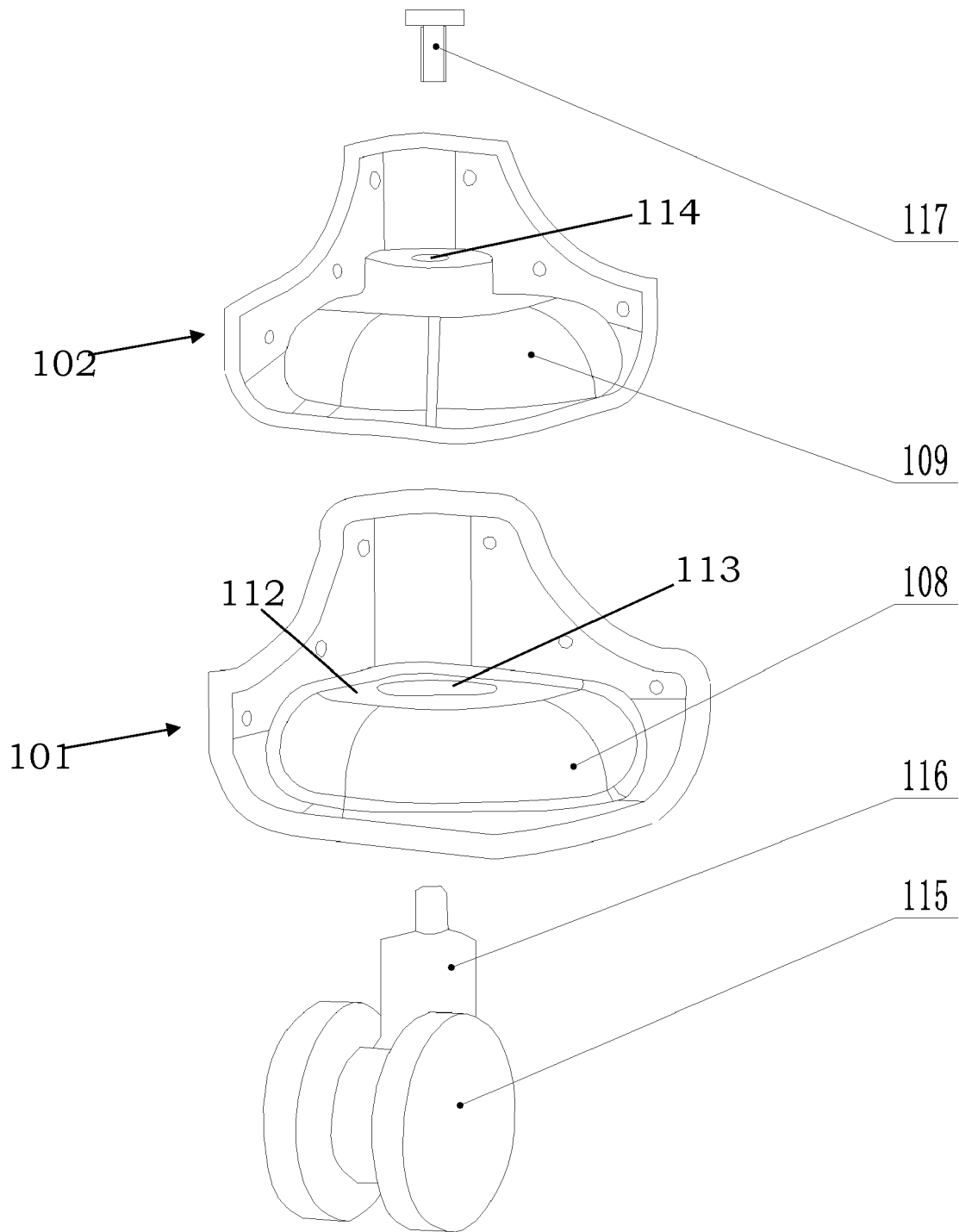


Fig. 5

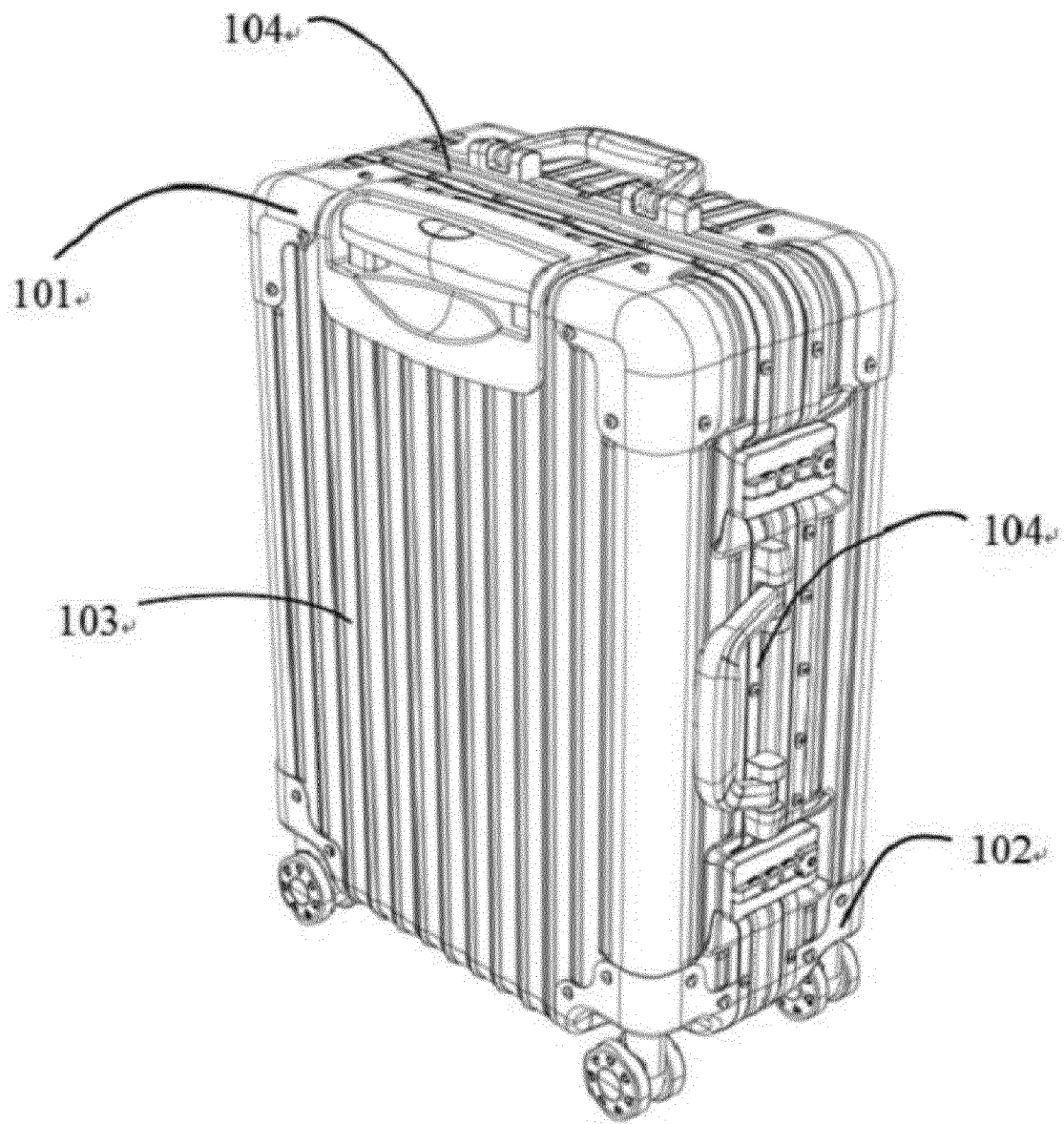


Fig. 6



EUROPEAN SEARCH REPORT

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Y	US 2005/103590 A1 (HU YAO WEN [TW]) 19 May 2005 (2005-05-19) * paragraph [0016] - paragraph [0026]; figures 1, 2, 5 *	5,6,8,9	
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			A45C
Place of search		Date of completion of the search	Examiner
The Hague		8 December 2016	Ehram, Sabine
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-12-2016

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