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(54) **MULTIFUNCTIONAL SUITCASE**

(57) A multifunctional suitcase is provided, the multifunctional suitcase includes: a suitcase body and fences disposed on the suitcase body, and the fences and a top of the suitcase body are configured to constitute a seat. The fences include: a front fence, a left fence, a right fence and a rear fence. The rear fence defines a second hollow part, which is configured to extend legs of a user sitting on a seat. When a child sits on the top of the suitcase body, the child can lean against the front fence, legs extend out of the second hollow part on the rear fence, so that the child can rest conveniently, and parents can free hands to do other things, fatigue during traveling is reduced, and the front, left, right and rear fences protect the child together, which not only has a sample structure, but also high safety and reliability.

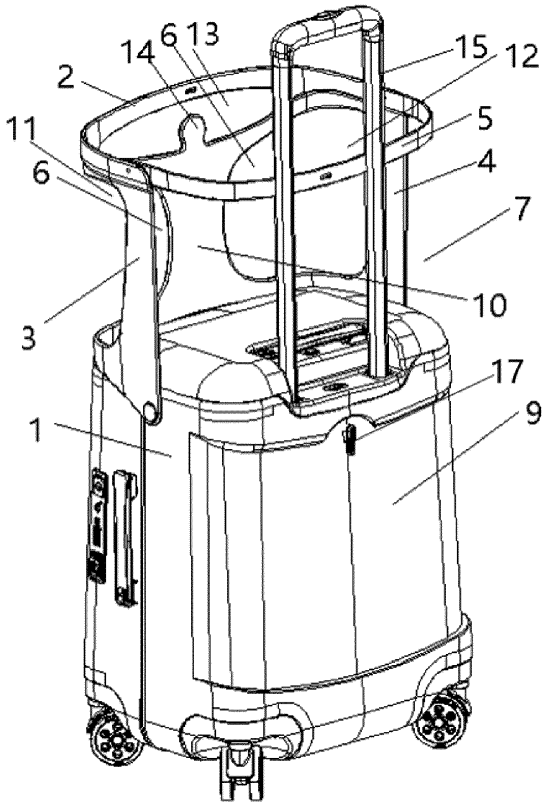

FIG. 2

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Description

Technical Field

[0001] The disclosure relates to the technical field of suitcases, and more particularly to a multifunctional suitcase.

Background of the Invention

[0002] At present, with an increasing trend of population mobility, it is not uncommon for parents to travel with their children. A scene of pulling or holding a child with one hand and pushing a suitcase with the other hand frequently appears at a transportation station. This situation not only increases inconvenience of travel, but also increases fatigue of the parents, and children does not get enough rest.

[0003] Most suitcases on a market are containers for storing luggage and cannot carry children at the same time; and baby strollers on the market can only carry children and cannot carry too much luggage at the same time. When the parents travel with children, they hold a suitcase with one hand and pushing a baby stroller with the other hand, making it inconvenient to have free time to handle other tasks such as answering and making calls, checking tickets at the station, taking care of children, or buying things, which is very inconvenient.

Summary of the Invention

[0004] A purpose of the disclosure is to provide a multifunctional suitcase, to solve a technical problem that existing suitcases cannot carry a child.

[0005] The disclosure provides a multifunctional suitcase, and the multifunctional suitcase includes: a suitcase body and fences. The fences are disposed on the suitcase body, and the fences and a top of the suitcase body are configured to constitute a seat. The fences include: a front fence, a left fence, a right fence and a rear fence. The rear fence defines a second hollow part, and the second hollow part is configured to extend legs of a user sitting on the seat.

[0006] In an embodiment, the front fence defines a first hollow part, and the first hollow part is configured to extend the legs of the user sitting on the seat.

[0007] In an embodiment, the rear fence is U-shaped, two ends of the rear fence are rotatably connected to the left fence and the right fence, respectively, and the rear fence is configured to be flipped relative to the front fence through rotation of the rear fence. At least one of the left fence and the right fence (i.e., the left fence and/or the right fence) are provided with a first limit structure thereon, and the first limit structure is configured to limit a flip angle of the rear fence.

[0008] In an embodiment, the left fence and the right fence are rotatably connected to the suitcase body, and the left fence and the right fence are configured to flip the front fence relative to the suitcase body through rotation of the left fence and the right fence. A second limit structure is disposed between the front fence and the suitcase body, and the second limit structure is configured to limit a flip angle of the front fence.

[0009] In an embodiment, the second limit structure includes: an abutment part disposed on an outer rim of the suitcase body; and the abutment part is configured to abut against a lower end of the front fence.

[0010] In an embodiment, a rear side wall of the suitcase body defines an accommodating part, and the accommodating part is configured to accommodate the fences.

[0011] In an embodiment, a number of the first hollow part is two, and the two first hollow parts are located on two sides of the front fence, respectively. A support part is disposed between the two first hollow parts.

[0012] In an embodiment, the left fence defines a third hollow part, and the third hollow part is configured to extend the legs of the user sitting on the seat.

[0013] In an embodiment, the right fence defines a fourth hollow part, and the fourth hollow part is configured to extend the legs of the user sitting on the seat.

[0014] In an embodiment, the front fence defines a fifth hollow part, a hanging part is disposed on the fifth hollow part, and the hanging part is configured to hang articles.

[0015] Compared to the related art, technical advantages of the multifunctional suitcase provided by the disclosure are as follows.

[0016] The multifunctional suitcase provided by the disclosure includes: the suitcase body and the fences disposed on the suitcase body, and the fences and the top of the suitcase body are configured to constitute the seat. The fences include: the front fence, the left fence, the right fence and the rear fence, the rear fence defines the second hollow part, and the second hollow part is configured to extend the legs of the user sitting on the seat.

[0017] Since the fences disposed on the suitcase body and the top of the suitcase body constitute the seat, and the rear fence defines the second hollow part, when a child sits on the top of the suitcase body, the child can lean against the front fence, legs of the child extend out of the second hollow part on the rear fence, so that the child can rest conveniently, and parents can free hands to do other things, fatigue of the parents during traveling is reduced, and the front fence, the left fence, the right fence and the rear fence protect the child together, which not only has a simple structure, but also high safety and reliability.

[0018] Other features and advantages of the disclosure will be described in detail in subsequent embodiments.

Brief Description of the Drawings

[0019] In order to provide a clearer description of technical solutions in embodiments of the disclosure or relat-

ed art, drawings required in embodiments or the related art descriptions will be introduced below. Apparently, the drawings in the following descriptions are some of the embodiments of the disclosure, for those skilled in the art, other drawings can be obtained according to the drawings without creative work.

FIG. 1 illustrates a schematic structural diagram of a multifunctional suitcase when fences are folded according to an embodiment of the disclosure.

FIG. 2 illustrates a schematic structural diagram of the multifunctional suitcase when a type of fences are opened according to an embodiment of the disclosure.

FIG. 3 illustrates a schematic structural diagram of the multifunctional suitcase when other fences are opened and a rear fence is folded according to an embodiment of the disclosure.

FIG. 4 illustrates a schematic structural diagram of the multifunctional suitcase when another type of fences are opened according to an embodiment of the disclosure.

[0020] List of reference numbers:
1-suitcase body; 2-front fence; 3-left fence; 4-right fence; 5-rear fence; 6-first hollow part; 7-second hollow part; 8-abutment part; 9-accommodating part; 10-support part; 11-third hollow part; 12-fourth hollow part; 13-fifth hollow part; 14-hanging part; 15-telescopic pull rod; 16-first limit structure; 17-third limit structure.

Detailed Description of Embodiments

[0021] Technical solutions of the disclosure are clearly and completely described in conjunction with embodiments below. Apparently, the described embodiments are some of the embodiments of the disclosure, not all of them. Based on the embodiments of the disclosure, all other embodiments obtained by those skilled in the art without creative work fall within a scope of protection of the disclosure.

[0022] In the descriptions of the disclosure, it should be noted that terms "center", "up", "down", "left", "right", "vertical", "horizontal", "inner", "outer" and the like indicate orientation or positional relationships based on the orientation or positional relationships shown in drawings and are intended merely to facilitate the description of the disclosure and simplify descriptions, not to indicate or imply that the device or element referred thereto must have a particular orientation or be constructed and operated in a particular orientation, and therefore are not to be construed as limiting the disclosure. Moreover, terms "first", "second" and "third" are merely used to describe purposes, cannot be understood to indicate or imply relative importance.

[0023] In the descriptions of the disclosure, it should be noted that unless otherwise specified and limited, terms "install", "connected" and "connection" should be understood in a broad sense. For example, the term "connection" can be a fixed connection, a detachable connection, or an integrally formed; it can be a mechanical connection, or an electrical connection; It can be a direct connection or an indirect connection through an intermediate medium, which can be an internal communication between two components. For those skilled in the art, the specific meanings of the above terms in the disclosure can be understood based on specific circumstances.

[0024] Furthermore, the technical solutions between various embodiments can be combined with each other, but must be based on what those skilled in the art can achieve. When the combination of the technical solutions conflicts or cannot be achieved, it should be considered that the combinations of such technical solutions does not exist and is not within the scope of protection required by the disclosure.

[0025] The disclosure is further described in detail in conjunction with the drawings through specific embodiments below.

[0026] A specific structure of a multifunctional suitcase provided by the disclosure is shown in FIGS. 1 to 4.

[0027] The disclosure provides a multifunctional suitcase, and the multifunctional suitcase includes: a suitcase body 1 and fences. The fences are disposed on the suitcase body 1, and the fences and a top of the suitcase body 1 are configured to constitute a seat (e.g., when the fences are disposed vertically on the top of the suitcase body, that is, when the fences are in an open state, the fences and the top of the suitcase body 1 constitute the seat).

[0028] The fences include: a front fence 2, a left fence 3, a right fence 4 and a rear fence 5, the rear fence 5 defines a second hollow part 7, and the second hollow part 7 is configured to extend legs of a user sitting on the seat (e.g., when the fences are disposed vertically on the top of the suitcase body, that is, when the fences are in the open state, the legs of the user can pass through the second hollow part 7).

[0029] In the embodiment, since the fences disposed on the suitcase body 1 and the top of the suitcase body 1 constitute the seat, and the rear fence 5 defines the second hollow part 7, when a child sits on the top of the suitcase body 1, the child can lean against the front fence 2, legs of the child extend out of the second hollow part 7 on the rear fence 5, so that the child can rest conveniently, and parents can free hands to do other things, fatigue of the parents during traveling is reduced, and the front fence 2, the left fence 3, the right fence 4 and the rear fence 5 protect the child together, which not only has a simple structure, but also high safety and reliability.

[0030] In the disclosure, a longitudinal section of the suitcase body 1 is trapezoidal, that is, an overall structure of the suitcase body 1 is narrow at the top and wide at the bottom, which makes the seat stable, and improves the safety of the child sitting on the seat.

[0031] In the embodiment, a bottom of the suitcase body 1 is installed with four universal wheels, and the

four universal wheels are respectively located on four corners of the bottom of the suitcase body 1, which is beneficial for movement of the suitcase.

[0032] In an embodiment, the front fence 2 defines a first hollow part 6, and the first hollow part 6 is configured to extend the legs of the user sitting on the seat (e.g., when the fences are disposed vertically on the top of the suitcase body, that is, when the fences are in the open state, the legs of the user can pass through the first hollow part 6).

[0033] In the embodiment, the front fence 2 defines the first hollow part 6, when the child sits on the top of the suitcase body 1, the child can lean against the rear fence 5, the legs of the child extend out of the first hollow part 6 on the front fence 2, and the child can also lean against the front fence 2, the legs of the child extend out of the second hollow part 7 on the rear fence 5, so that the child can sit facing towards or facing backwards, so as to improve an applicability of the seat.

[0034] In an embodiment, the rear fence 5 is U-shaped, two sides of the rear fence 5 are rotatably connected to the left fence 3 and the right fence 4 respectively, and the rear fence 5 is configured to be flipped relative to the front fence 2 through rotation of the rear fence 5.

[0035] The left fence 3 is provided with a first limit structure 16 thereon, and/or the right fence 4 is provided with a first limit structure 16 thereon, and the first limit structure 16 is configured to limit a flip angle of the rear fence 5.

[0036] In the embodiment, the front fence 2, the left fence 3 and the right fence 4 are integrally formed and are U-shaped as a whole, which is convenient to manufacture and stable in structure. The rear fence 5 is in a strip shape and in a U-shape. A left end of the rear fence 5 is rotatably connected to a top of the left fence 3, a right end of the rear fence 5 is rotatably connected to a top of the right fence 4, the rear fence 5 can rotate to be in a same plane as the top of the left fence 3, a top of the front fence 2 and the top of the right fence 4, thereby to form a circumferential closed structure, and the rear fence 5 is in an open state (FIG. 2 or 4) at this time. The rear fence 5 can rotate to be folded with the top of the front fence 2, that is, an opening orientation of the U-shaped structure of the rear fence 5 is the same as an opening orientation of a U-shaped structure constituted by the front fence 2, the left fence 3 and the right fence 4, and the rear fence 5 is in a folded state (FIG. 3) at this time. It should be noted that when the rear fence 5 is in the folded state, the child can sit on the seat facing backwards, and the child leans against the front fence 2 and the rear front 5, so as to improve the applicability of the seat.

[0037] In the embodiment, the first limit structure 16 can be disposed on the left fence 3, and can be also disposed on the right fence 4, and the first limit structure 16 is configured to limit rotation of the rear fence 5 between the open state and the folded state. Specifically, the left fence 3 and the right fence 4 are provided with the first limit structures 16 thereon, which can improve the stability of the rotation of the rear fence 5. Meanwhile, the first limit structure 16 is disposed on a connection position between the left fence 3 and the rear fence 5, and another first limit structure 16 is disposed on a connection position between the right fence 4 and the rear fence 5, which ensures stability for limiting.

[0038] In an embodiment, the left fence 3 and the right fence 4 are rotatably connected to the suitcase body 1, and the left fence 3 and the right fence 4 are configured to flip the front fence 2 relative to the suitcase body 1 through rotation of the left fence 3 and the right fence 4. A second limit structure is disposed between the front fence 2 and the suitcase body 1, and the second limit structure is configured to limit a flip angle of the front fence 2.

[0039] In the embodiment, a lower end of the left fence 3 is rotatably connected to a top of a left side wall of the suitcase body 1, and a lower end of the right fence 4 is rotatably connected to a top of a right side wall of the suitcase body 1. After folding the rear fence 5, the left fence 3 and the right fence 4 (i.e., the integrated structure of the front fence 2, the left fence 3, and the right fence 4) can be stuck at a rear side of the suitcase body 1 through the rotation of the left fence 3 and the right fence 4, that is, the rear side of the suitcase body 1 is embedded in the U-shaped structure constituted by the front fence 2, the left fence 3 and the right fence 4, and the fences are in the folded state at this time. The left fence 3 and the right fence 4 (i.e., the integrated structure of the front fence 2, the left fence 3, and the right fence 4) can stand vertically at the top of the suitcase body 1 through the rotation of the left fence 3 and the right fence 4, that is, the integrated structure of the front fence 2, the left fence 3, and the right fence 4 stand vertically at the top of the suitcase body 1, and the fences are in the open state. Therefore, the fences can be opened and folded, which is convenient to use, easy to operate, and save space.

[0040] In an embodiment, the second limit structure includes: an abutment part 8 disposed on an outer rim of the suitcase body 1, and the abutment part 8 is configured to abut against a lower end of the front fence 2. Thus, the fences are stable when the fences are opened, so as to improve safety.

[0041] In an embodiment, a rear side wall of the suitcase body 1 defines an accommodating part 9, and the accommodating part 9 is configured to accommodate the fences. The fences are accommodated in the accommodating part 9 when folding the fences, so as to avoid collision and damage, save space, and improve space utilization rate.

[0042] In an embodiment, a third limit structure 17 is disposed in the accommodating part 9, and the third limit structure 17 is configured to fix the fences in the accommodating part 9 when the fences are folded into the accommodating part 9.

[0043] In an embodiment, a number of the first hollow part 6 is two, and the two first hollow parts 6 are located on two sides of the front fence 2, respectively, which are

convenient for extending out the legs of the seat user. A support part 10 is disposed between the two first hollow parts 6, which can improve an overall strength.

[0044] In an embodiment, the left fence 3 defines a third hollow part 11, and the third hollow part 11 is configured to extend the legs of the user sitting on the seat. The child can sit facing towards left, and lean against the right fence 4, and the legs of the child can be extended out from the third hollow part 11 and the second hollow part 7. Specifically, the third hollow part 11 is in communication with the first hollow part 6 located on a left side of the front fence 2, which is easy to make, and convenient for extending out the legs of the user sitting on the seat.

[0045] In an embodiment, the right fence 3 defines a fourth hollow part 12, and the fourth hollow part 12 is configured to extend the legs of the user sitting on the seat. The child can sit facing towards right, and lean against the left fence 4, and the legs of the child can be extended out from the fourth hollow part 12 and the second hollow part 7. Specifically, the fourth hollow part 12 is in communication with the first hollow part 6 located on a right side of the front fence 2, which is easy to make, and convenient for extending out the legs of the seat user.

[0046] In an embodiment, the front fence 2 defines a fifth hollow part 13, a hanging part 14 is disposed on the fifth hollow part 13, and the hanging part 14 is configured to hang articles.

[0047] Specifically, the fifth hollow part 13 is defined above the support part 10, the hanging part 14 is disposed on a top of the support part 10, and the hanging part 14 is disposed in the fifth hollow part 13, which is convenient for hanging the articles. The hanging part 14 can be a protrusion protruding from the top of the support part 10, but not limited to this, the hanging part 14 can be also a hook disposed on a top of an inner rim of the fifth hollow part 13.

[0048] In an embodiment, the multifunctional suitcase further includes: a telescopic pull rod 15, and the telescopic pull rod 15 is disposed on the rear side of the suitcase body 1. A rear side wall of the rear fence 5 can be adhered to the telescopic pull rod 15 when the telescopic pull rod 15 is extended out. A back of the child is supported by the rear fence 5 and the telescopic pull rod 15 when the child sits facing forwards and the telescopic pull rod 15 is extended out, which improves stability, and is convenient to pull the suitcase body 1 when using the seat. When the child sits facing backwards, the telescopic pull rod 15 is located between the two legs of the child, and the telescopic pull rod 15 and the rear fence 5 together to prevent the child from falling forwards, so as to improve the safety and the stability.

[0049] In the embodiment, when the fences are not used, the rear fence 5 is folded forward and flipped over to overlap with the front fence 2, and a semi-fence is constituted at this time. The semi-fence is flipped backward and folded to be accommodated in the accommodating part 9 on the rear side wall of the suitcase body 1, without affecting storage and transportation, and without occupying an accommodating space of the suitcase body 1. When the fences are used, the semi-fence is flipped upwards, the rear fence 5 is opened, and a full fence is constituted at this time. The lower end of the front fence 2 is stuck on the abutment part 8 on the outer rim of the suitcase body 1, so that the fences are stably erected at the top of the suitcase body 1, the suitcase body 1 is like a child seat or a child stroller at this time, the child can sit facing towards the telescopic pull rod 15, can also sit facing away from the telescopic pull rod 15, can sit facing away from the left fence 3, and can also sit facing away from the right fence 4, the front fence, the rear fence, the left fence and the right fence prevent the child from falling, and the parents can push the suitcase body 1 and the child to travel safely and conveniently by holding the telescopic pull rod 15.

[0050] Finally, it should be noted that the above embodiments are merely used to illustrate the technical solutions of the disclosure, not to limit it. Although the disclosure is described in detail with reference to the above embodiments, those skilled in the art should understand that the technical solutions described in the above embodiments can still be modified, or some or all of the technical features can be replaced equivalently. However, these modifications or substitutions do not deviate an essence of a corresponding technical solution from the scope of the technical solution of each embodiment of the disclosure.

Claims

1. A multifunctional suitcase, comprising:

a suitcase body (1); and
fences, disposed on the suitcase body (1); wherein the fences and a top of the suitcase body are configured to constitute a seat;
wherein the fences comprise: a front fence (2), a left fence (3), a right fence (4) and a rear fence (5); and the rear fence (5) defines a second hollow part (7), and the second hollow part (7) is configured to extend legs of a user sitting on the seat; and
wherein the front fence (2) defines a first hollow part (6), and the first hollow part (6) is configured to extend the legs of the user sitting on the seat.

2. The multifunctional suitcase as claimed in claim 1, wherein the rear fence (5) is U-shaped, two ends of the rear fence (5) are rotatably connected to the left fence (3) and the right fence (4) respectively, and the rear fence (5) is configured to be flipped relative to the front fence (2) through rotation of the rear fence (5); and
wherein the multifunctional suitcase further comprises: a first limit structure (16) disposed on at least one

of the left fence (3) and the right fence (4), and the first limit structure (16) is configured to limit a flip angle of the rear fence (5).

3. The multifunctional suitcase as claimed in claim 2, wherein the left fence (3) and the right fence (4) are rotatably connected to the suitcase body (1), and the left fence (3) and the right fence (4) are configured to flip the front fence (2) relative to the suitcase body (1) through rotation of the left fence (3) and the right fence (4); and
wherein the multifunctional suitcase further comprises: a second limit structure disposed between the front fence (2) and the suitcase body (1), and the second limit structure is configured to limit a flip angle of the front fence (2).

4. The multifunctional suitcase as claimed in claim 3, wherein the second limit structure comprises: an abutment part (8) disposed on an outer rim of the suitcase body (1); and the abutment part (8) is configured to abut against a lower end of the front fence (2).

5. The multifunctional suitcase as claimed in claim 3, wherein a rear side wall of the suitcase body (1) defines an accommodating part (9), and the accommodating part (9) is configured to accommodate the fences.

6. The multifunctional suitcase as claimed in claim 1, wherein a number of the first hollow part (6) is two, and the two first hollow parts (6) are located on two sides of the front fence (2), respectively; and the multifunctional suitcase further comprises: a support part (10) disposed between the two first hollow parts (6).

7. The multifunctional suitcase as claimed in claim 1, wherein the left fence (3) defines a third hollow part (11), and the third hollow part (11) is configured to extend the legs of the user sitting on the seat.

8. The multifunctional suitcase as claimed in claim 1, wherein the right fence (3) defines a fourth hollow part (12), and the fourth hollow part (12) is configured to extend the legs of the user sitting on the seat.

9. The multifunctional suitcase as claimed in claim 6, wherein the front fence (2) defines a fifth hollow part (13), the multifunctional suitcase further comprises: a hanging part (14) disposed in the fifth hollow part (13), and the hanging part (14) is configured to hang articles.

10. The multifunctional suitcase as claimed in claim 9, wherein the fifth hollow part (13) is defined above the support part (10), the hanging part (14) is disposed on a top of the support part (10), and the hanging part (14) is a protrusion protruding from the top of the support part (10).

11. The multifunctional suitcase as claimed in claim 9, wherein the hanging part (14) is a hook disposed on a top of an inner rim of the fifth hollow part (13).

12. The multifunctional suitcase as claimed in claim 5, wherein the multifunctional suitcase further comprises: a third limit structure (17) disposed in the accommodating part (9), and the third limit structure is configured to fix the fences in the accommodating part (9) when the fences are folded into the accommodating part (9).

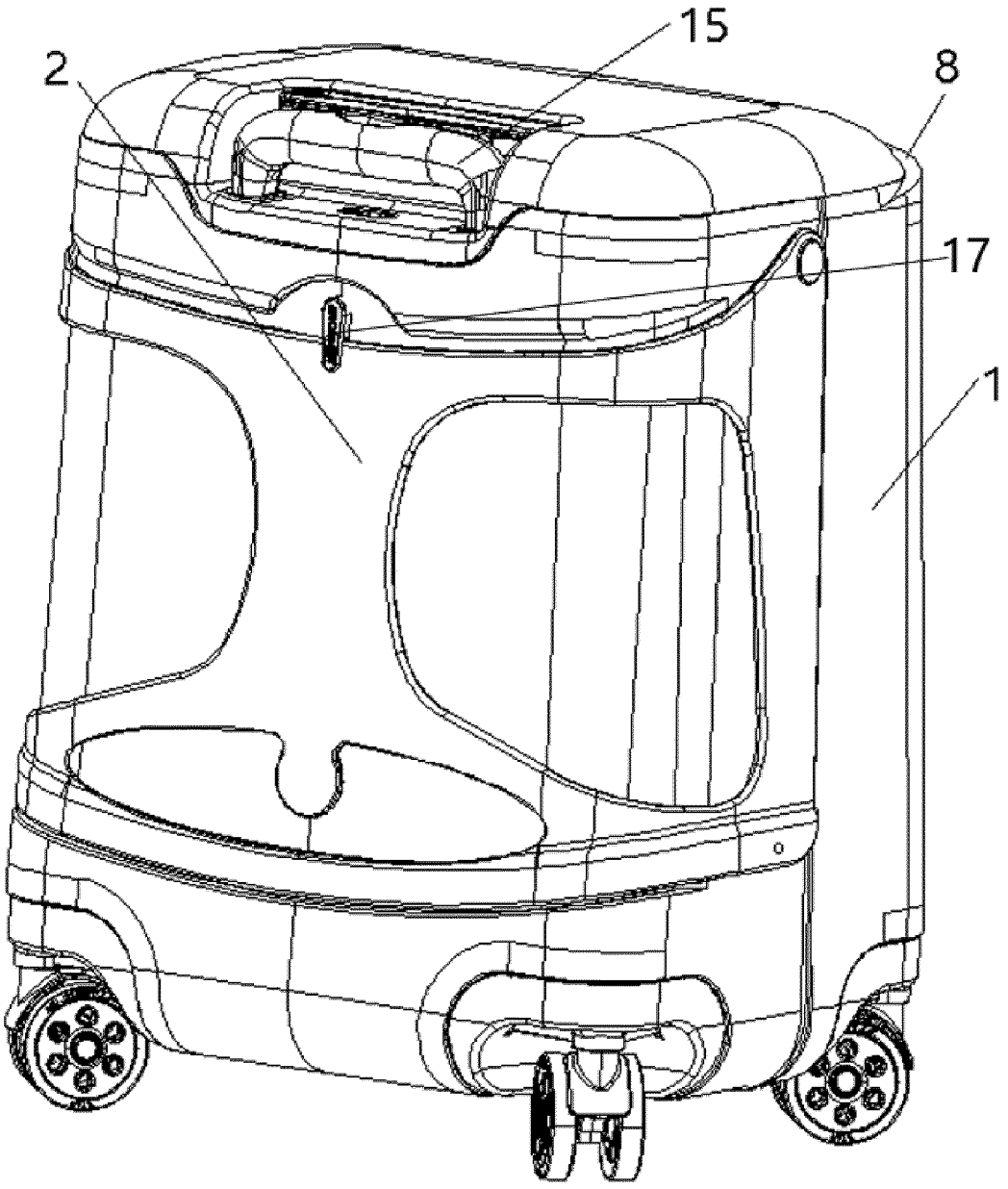

FIG. 1

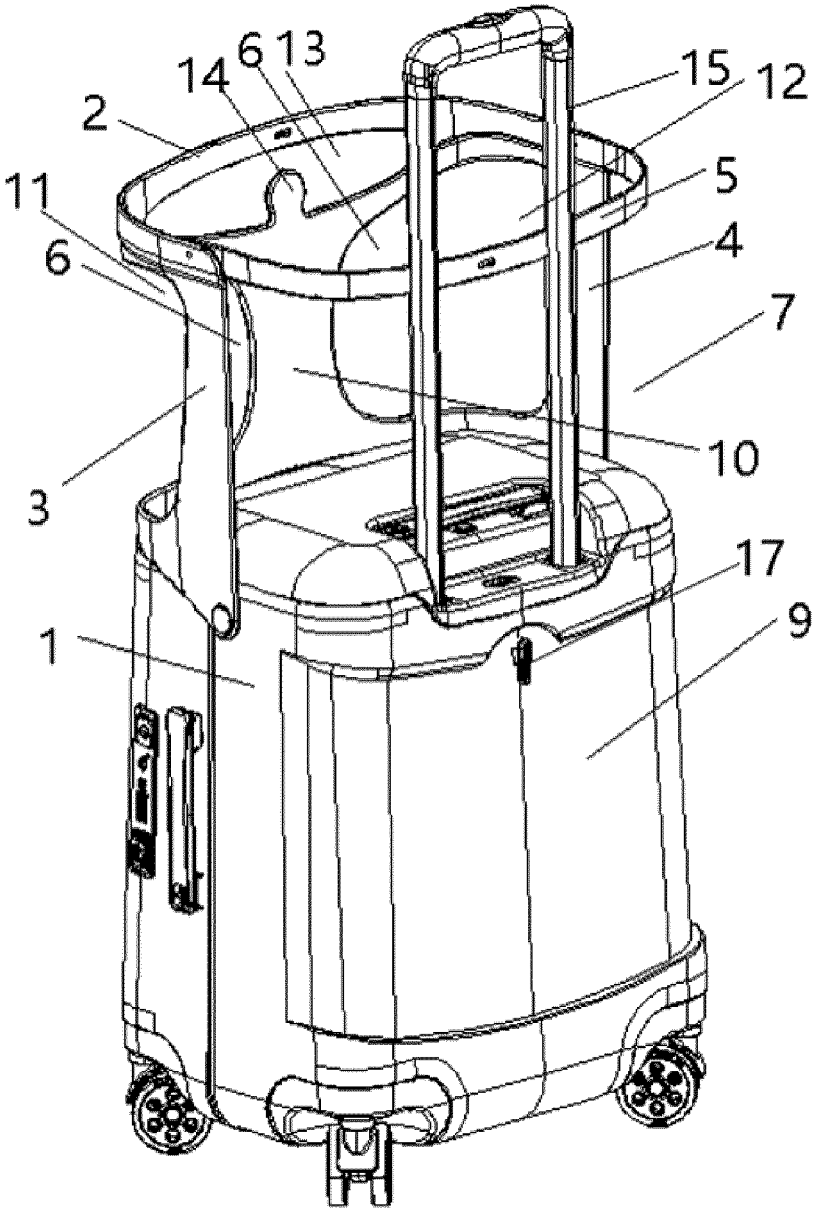

FIG. 2

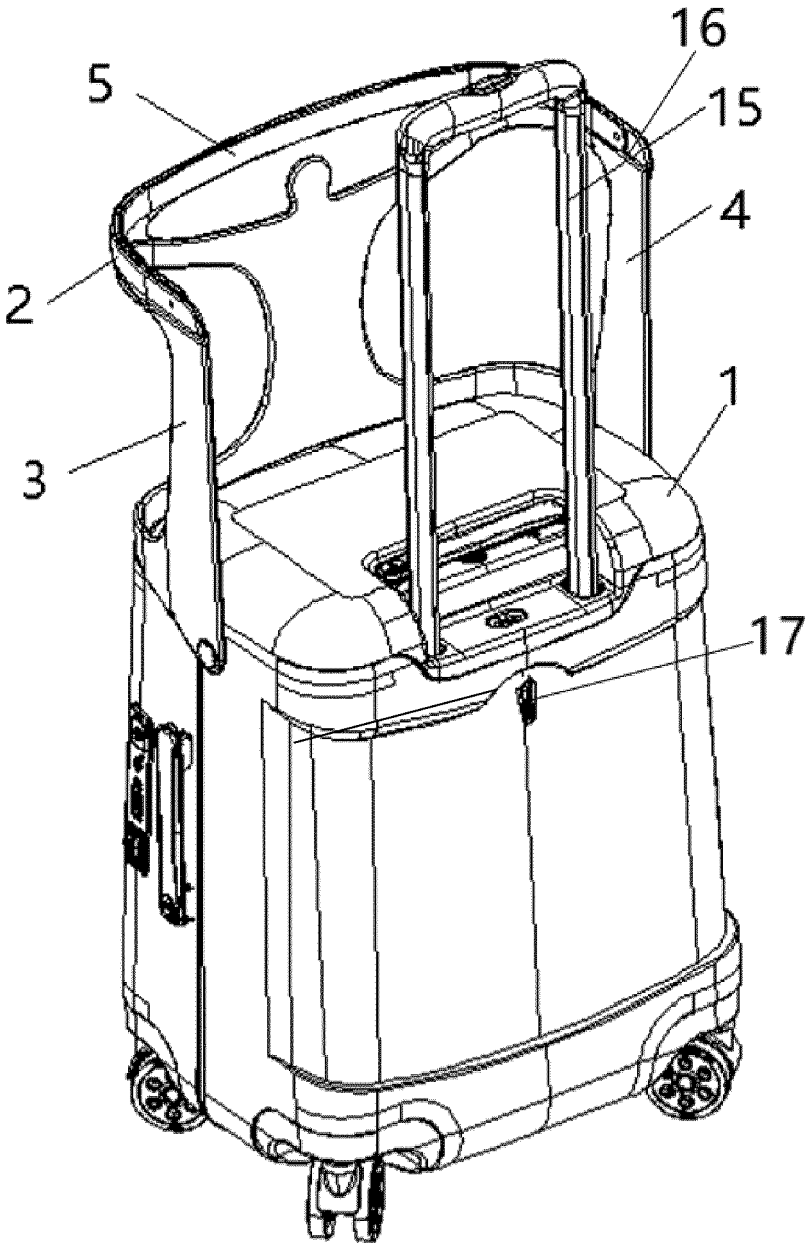

FIG. 3

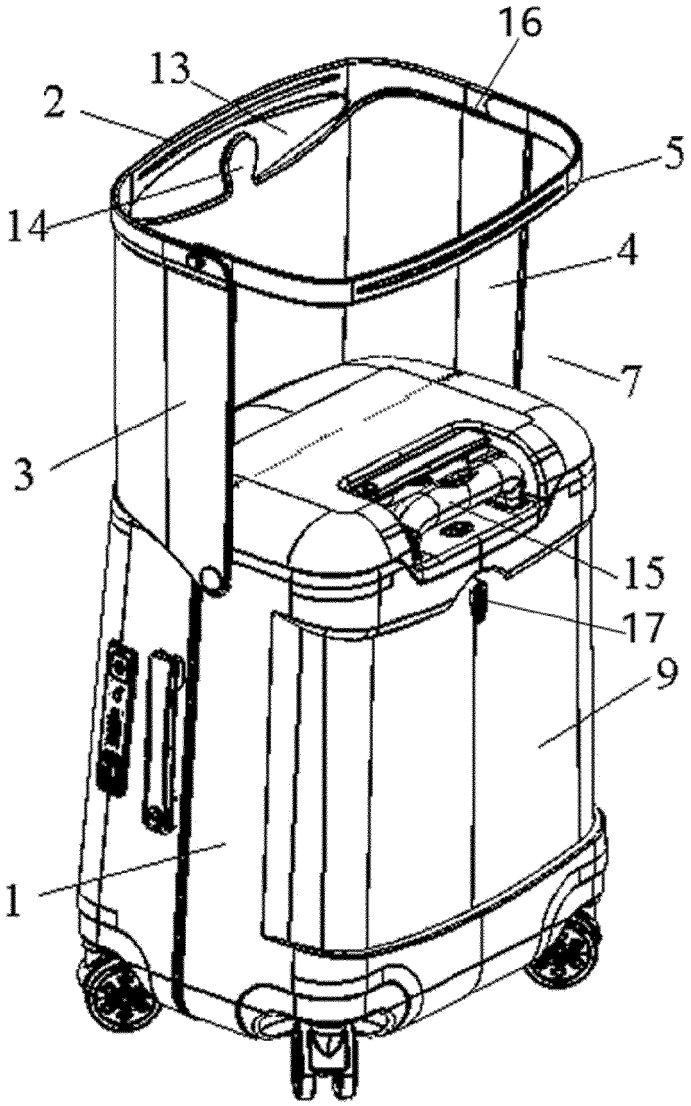

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 24 16 5286

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 August 2024	Nicolás, Carlos

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 24 16 5286

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
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19-08-2024

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