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(56) Documents Cited:
GB 2545124 A **US 4261447 A**
US 4254850 A **US 20190008254 A1**

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(54) Title of the Invention: **Luggage item**
Abstract Title: **Luggage item handle**

(57) A luggage item comprises a rigid shell comprising front (6, fig 1b), back 8, top 10, bottom 12 and opposing sides 14 & 16 which defines an enclosure for receipt of the luggage. A handle assembly 18 is provided for manoeuvring the luggage item by a user. The handle assembly comprises first and second arms 20,22 and a handle portion 23 extending between the arms where the handle assembly is expandable and retractable relative to the shell in a longitudinal axis defined between the top and the bottom. The arms are at least partially received within the shell in the retracted configuration and extend outwardly from the shell in the expanded configuration. There is a transverse span across the enclosure between the opposing sides and the arms are spaced transversely such that the span between the arms is greater than 60% of the span between the sides. The arms may be positioned directly adjacent internal walls of the sides.

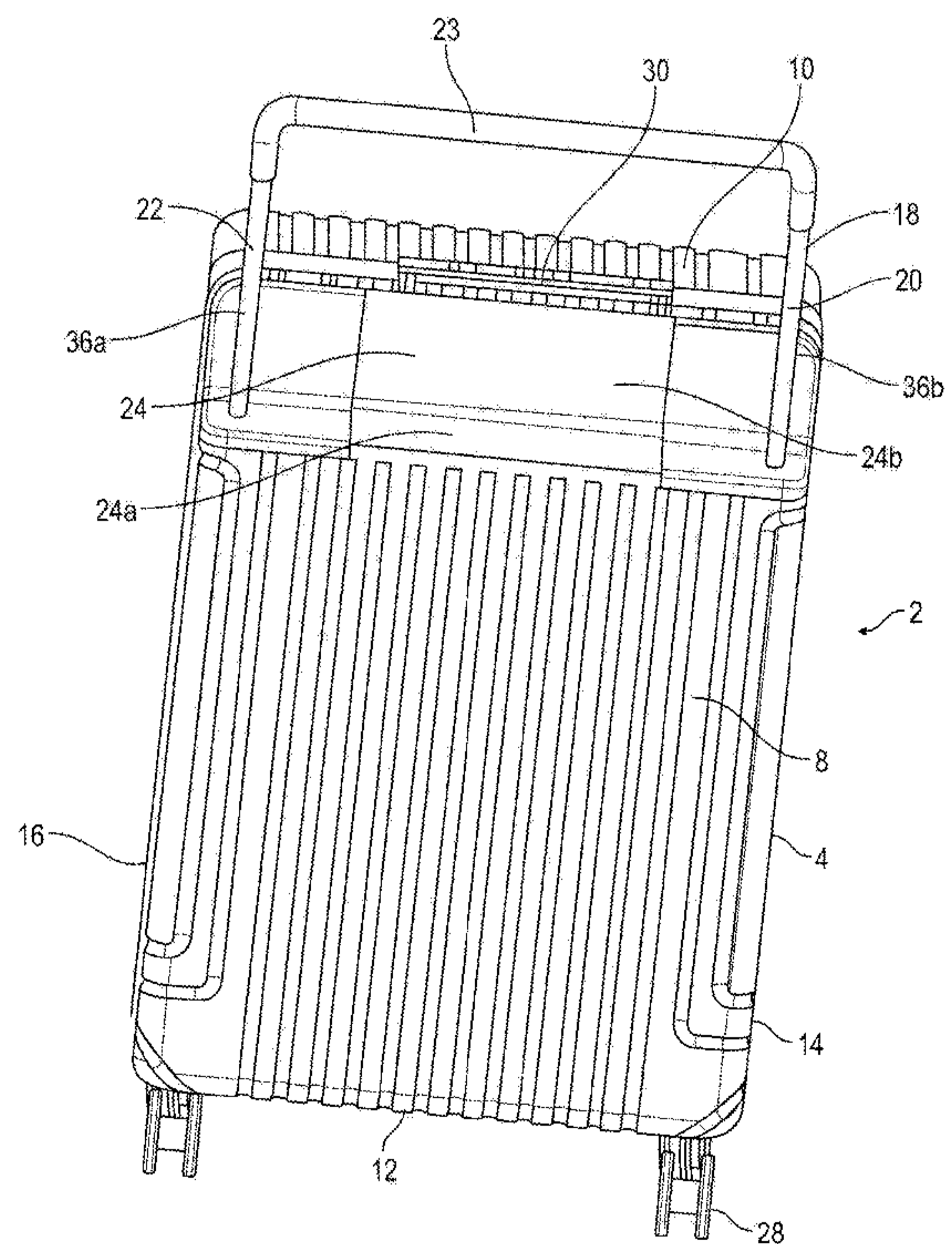


Fig. 1a

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18 03 20

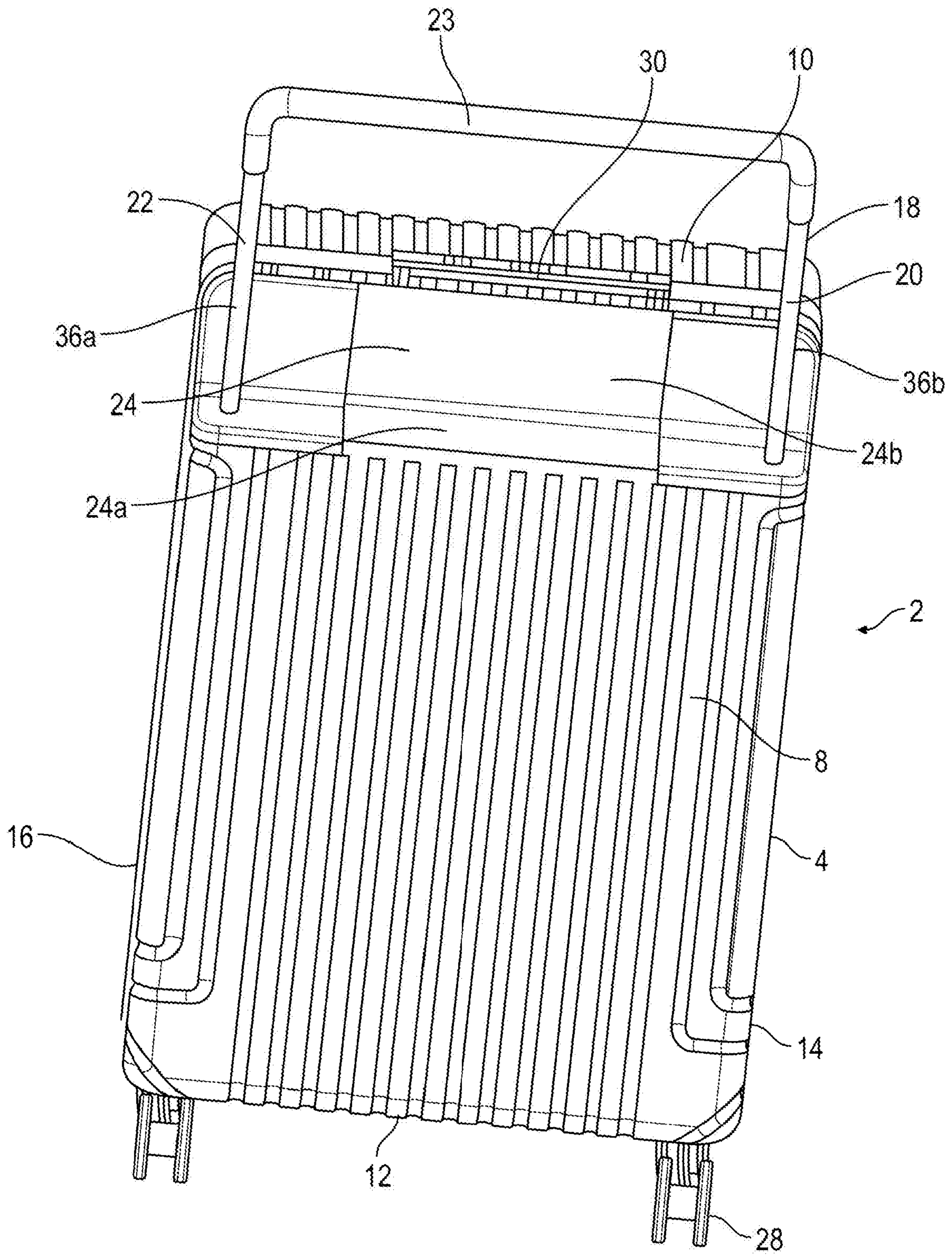


Fig. 1a

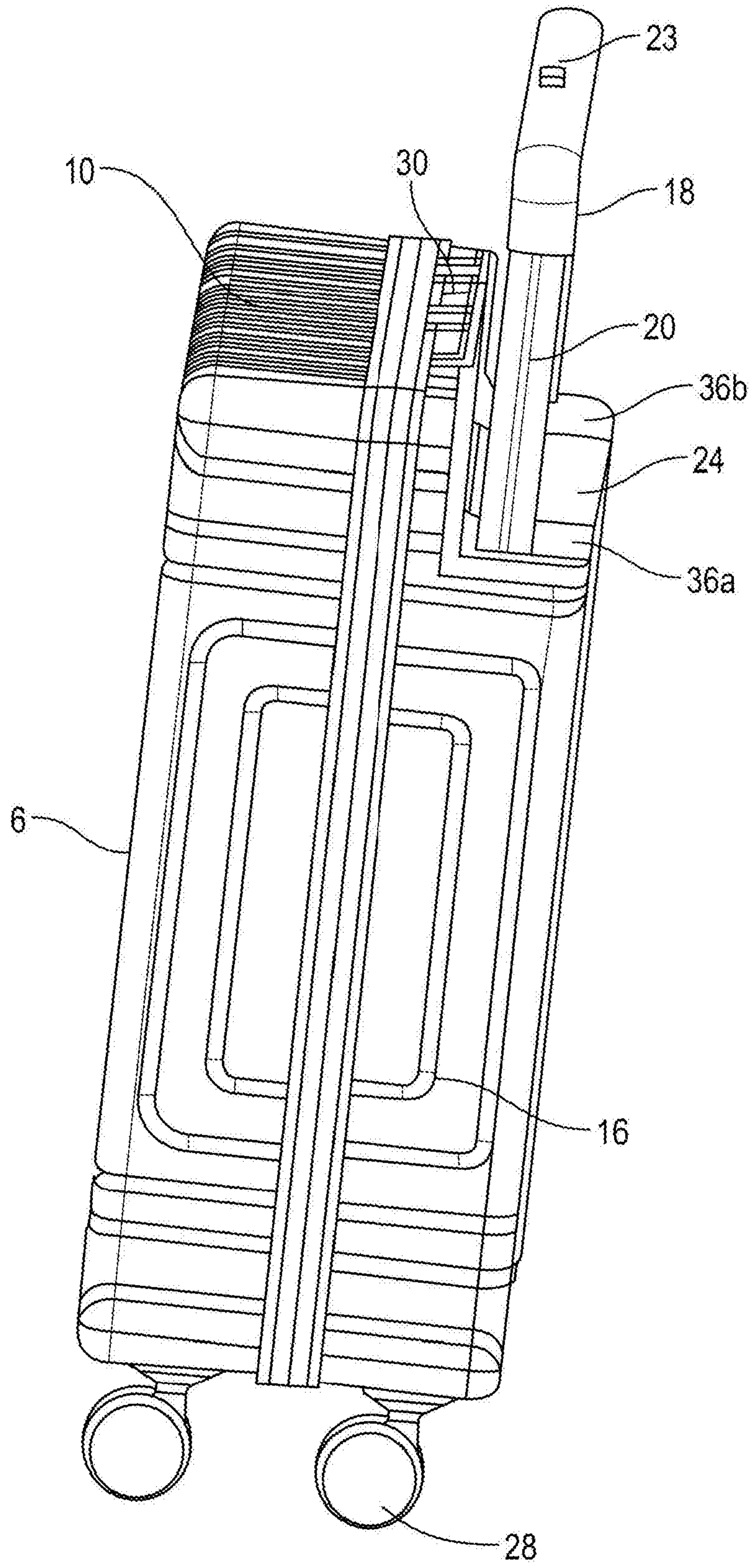


Fig. 1b

18 03 20

3/5

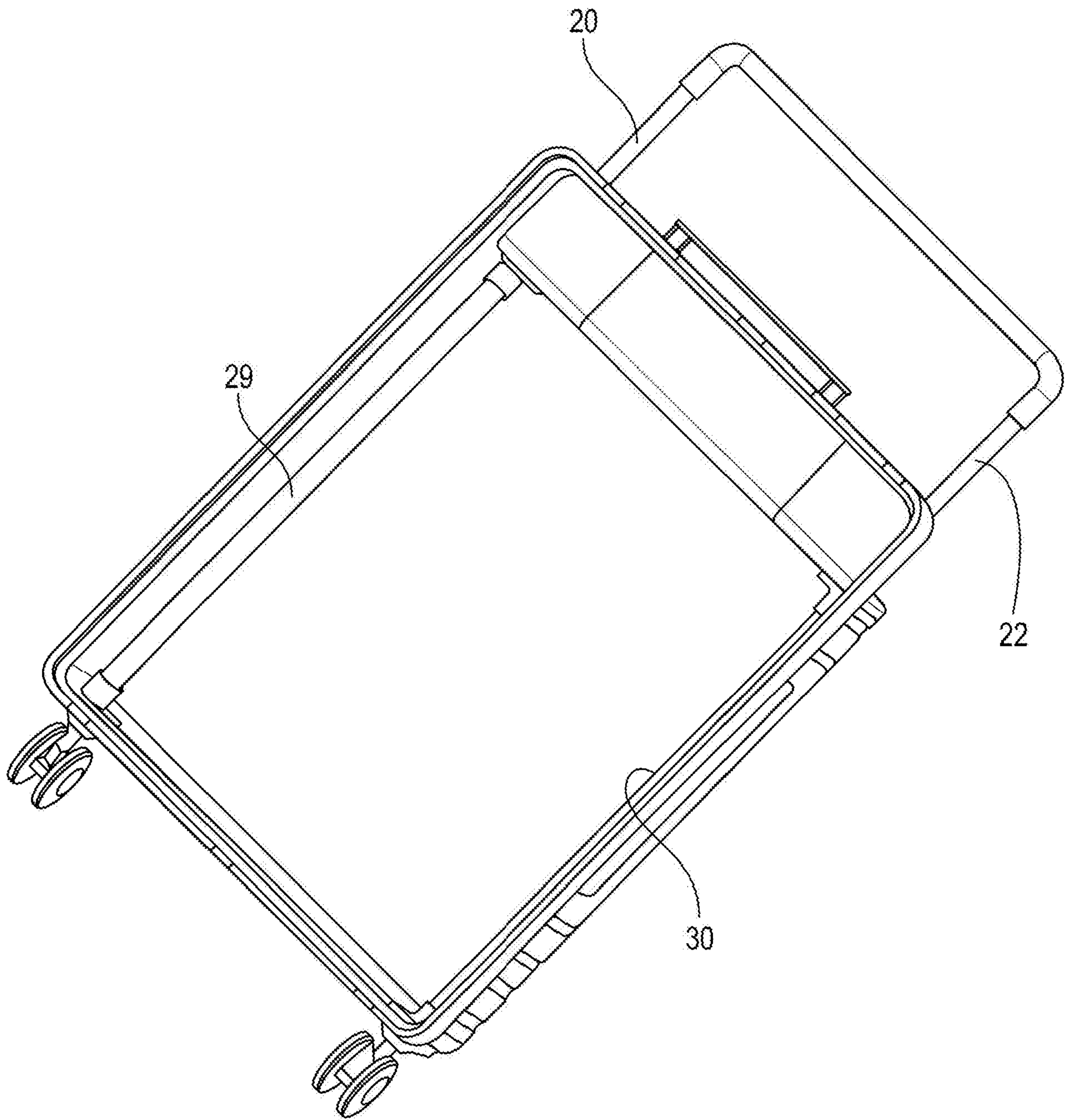


Fig. 2a

18 03 20

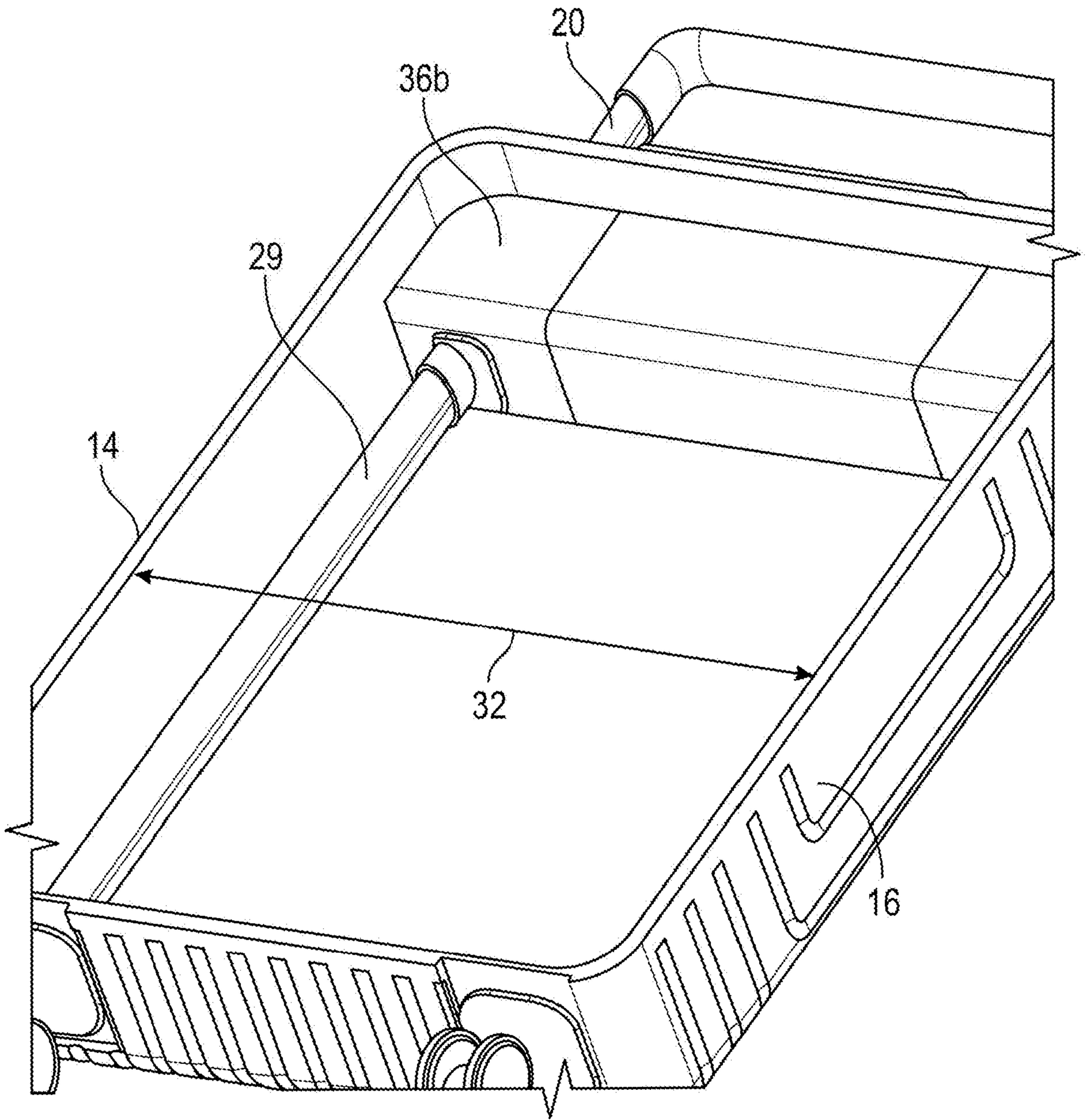


Fig. 2b

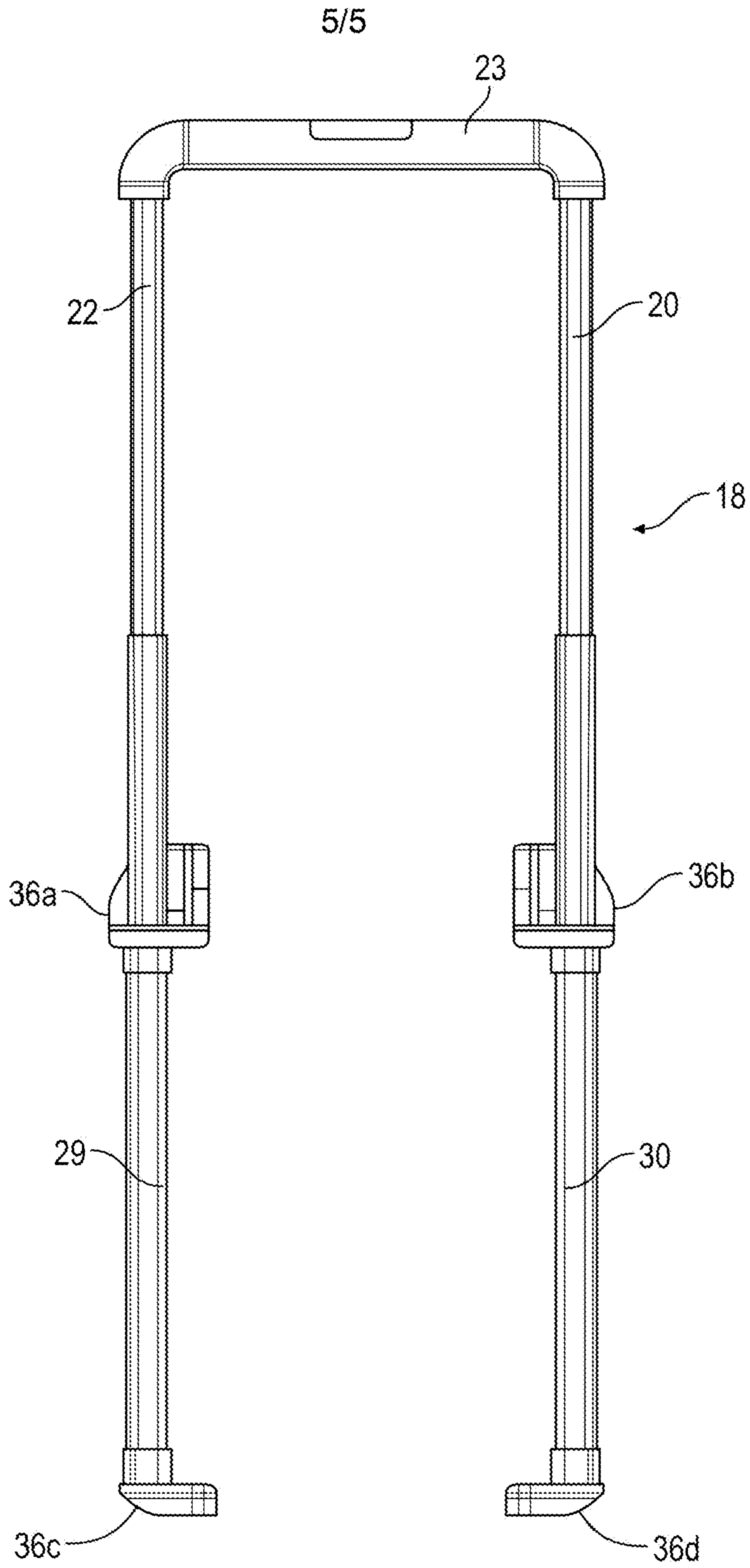


Fig. 3

Luggage Item

The present invention relates to an item of luggage.

5 Luggage items typically comprise a shell made of either a flexible fabric material that when empty does not retain its shape, or a rigid material that when empty does retain a substantially consistent shape. Such luggage items often comprise at least two wheels and an extending handle arrangement that when extended allows the luggage item to be dragged across a surface. This aids in usability as a user does not have to carry the luggage
10 item.

Handle arrangements typically comprise first and second arms received into arm guides when the arms are received within the arm guides in the retracted configuration, and project from the arm guides in the extended configuration. A handle extends between the
15 arms for grasping by a user. A number of problems exist with known luggage items. A first problem is that arm guides, if present, extend longitudinally between a top and bottom of the luggage item and are offset from the midpoint of the back of a luggage item. The arm guides therefore provide substantial ridges on the bottom surface of the enclosure and clothes packed are removed in a creased state. In addition, packing is difficult meaning
20 there are significant spaces left unfilled. Furthermore, arm guides are provided externally of the shell meaning that they are susceptible to damage.

The present invention provides an improved arrangement for overcoming at least the abovementioned problems, or at least providing an alternative option.

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According to the present invention there is a luggage item comprising a rigid shell comprising front, back, top, bottom and opposing sides defining an enclosure for receipt of luggage, the luggage item further comprising a handle assembly for manoeuvring the luggage item by a user, the handle assembly comprising first and second arms and a handle
30 portion extending between the arms where the handle assembly is expandable and retractable relative to the shell in a longitudinal axis defined between the top and the bottom, the arms being at least partially received within the shell in the retracted

configuration and extending outwardly from the shell in the expanded configuration, wherein there is a transverse span across the enclosure between the opposing sides and the arms are spaced transversely such that the span between the arms is greater than 60% of the span between the sides.

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In an alternative definition, according to the present invention there is a luggage item comprising a rigid shell comprising front, back, top, bottom and opposing sides defining an enclosure for receipt of luggage, the luggage item further comprising a handle assembly for manoeuvring the luggage item by a user, the handle assembly comprising first and second
10 arms and handle portion extending between the arms where the handle assembly is expandable and retractable relative to the shell in a longitudinal axis defined between the top and the bottom, the arms being at least partially received within the shell in the retracted configuration and extending outwardly from the shell in the expanded configuration, where the arms are directly adjacent internal walls of the sides.

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It will therefore be appreciated that due to the positioning of the arms the inner surface of the back can be substantially planar without interruption meaning luggage such as clothes can be packed flat. This provides the further advantage that more luggage can be packed due to the removal of the interruption typically associated with bars running longitudinally
20 near the centre of the back.

The span between the arms is preferably greater than 65%, preferably greater than 70%, and even more preferably greater than 75% and even more preferably approximately 80% of the span between the sides.

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It will be appreciated that the arms extend through the top of the luggage item. In the expanded configuration the arms project from the top of the luggage item.

The arms are preferably positioned adjacent the sides.

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Each of the arms are preferably received in respective longitudinally extending arm guides provided within the shell. The arm guides may each be provided immediately adjacent to

their respective sidewall. The arm guides may be contiguous with the sides of the luggage item, and may be contiguous with respective sidewalls of the sides. Alternatively, the arm guides may be provided integral with the sidewalls. It is preferable that there is no space between the arm guides and sidewalls in order to minimise the space occupied by the arm
5 guides and arms, and maximise the space for luggage storage.

The arm guides preferably project from the top to the bottom of the luggage item, and the arm guides are preferably secured to the bottom. It will be appreciated that as the arm guides are provided inside the shell, the arm guides are secured to an internal wall of the
10 bottom. As the arm guides are therefore integral to the design of the luggage item and are fixed to the bottom, the structural integrity of the luggage item is increased.

The handle portion extends between the first and second arms. A user can therefore grasp the handle at multiple positions. The handle preferably comprises a bar.
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The luggage item preferably comprises a plurality of wheels for enabling movement across a surface. The wheels are preferably located such that they project from the bottom of the luggage item, meaning that the luggage item is capable of standing in an upright position without being held. There are preferably four wheels. The wheels are preferably rotatably
20 mounted to the bottom surface to allow change of direction as required.

The luggage item preferably comprises a recess for receipt of the handle in the retracted configuration. The recess may be in the form of a channel. The recess is provided to receive the handle when retracted which reduces the chance of the handle being damaged
25 when the luggage item is being used. The recess is preferably open to the top of the luggage item, and open to at least one of the sides and/or back of the luggage item. The recess is preferably open to the top, sides and back of the luggage item. The recess may have the appearance of being provided as a cut away from the luggage item.

30 Aspects of the present invention will now be described by way of example only with reference to the accompanying Figures where:

Figures 1a, b and c are schematic perspective representations of a luggage item in rear perspective, side perspective and bottom perspective views according to an illustrative embodiment of the present invention.

5 Figures 2a and b are schematic plan and perspective representations of a luggage item according to an illustrative embodiment with the front removed for clarity purposes.

Figure 3 is a schematic representation of a handle assembly and arm guides for use as part of an illustrative embodiment of the present invention.

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Referring to Figures 1a-c there is a luggage item 2. The luggage item 2 comprises a rigid shell 4 comprising front 6, back 8, top 10, bottom 12 and opposing sides 14, 16 defining an enclosure for receipt of luggage. The luggage item 2 further comprises a handle assembly 18 for manoeuvring the luggage item by a user, the handle assembly 18 comprising first and second arms 20, 22 and handle portion 23 extending between the arms 20, 22 where the handle assembly 18 is expandable and retractable relative to the shell 4 in a longitudinal axis defined between the top 10 and the bottom 12. Figures 1a-c show the handle assembly 18 in the expanded configuration for manoeuvring by a user. The arms 20, 22 are at least partially received within the shell in the retracted configuration and extend outwardly from the shell 4 in the expanded configuration.

The luggage item comprises a recess 24 for receipt of the handle in the retracted configuration. The recess 24 is in the form of a channel, and as shown in the Figures is open to the top 10, opposing sides 14, 16 and back 8 of the luggage item. The recess 24 has the appearance of being provided as a cut away from the luggage item. This allows ease of access for a user allowing quick and simple reconfiguration between the retracted and extended configuration. The recess 24 comprises an upwardly facing surface 24a and a rearwardly facing surface 24b. The arms 20, 22 project from the upwardly facing surface 24a of the recess. In the retracted configuration, the handle portion 23 seats adjacent the upwardly and rearwardly facing surfaces, and parallel to a transverse axis between opposing sides 14, 16 of the luggage item.

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Wheels 28 are provided for enabling movement across a surface. The wheels 28 are located such that they project from the bottom 12 of the luggage item 2, meaning that the luggage item is capable of standing in an upright position without being held. The wheels 28 are rotatably mounted to the bottom surface to allow change of direction as required, and the provision of four wheels 28 towards each corner of the bottom 12 means that the luggage item 2 may be pushed or pulled across the surface in an upright configuration, or may be tilted and pushed or pulled using a pair of wheels 28.

An additional handle 30 is provided for lifting the luggage item 2.

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Referring to Figures 2a and 2b, schematic plan and perspective views are presented of the luggage item 2 without the front 10 shown for clarity purposes. The front is typically hingedly mounted to the edge found between one side and the front. The front may be opened and closed, whereby the edges between the opposing side, top and bottom have a releasable fastening such as a zip to selectively allow access to the enclosure 30 within the luggage item 2.

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Provided within the enclosure and immediately adjacent to the inner walls of the sides 14, 16 are provided arm guides 29, 30 for receipt of corresponding arms 20, 22. Each of the arm guides 29, 30 is secured at opposing ends to the shell 4. By securing at opposing ends to the upper and lower ends of the shell, the arm guides 29, 30 are integral in the luggage item design and provide additional structural stability. They are also provided within the shell meaning they are not susceptible to damage. The arm guides 29, 30 are secured to an inner facing wall of the upwardly facing surface 24a of the recess 24.

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The arm guides project in a longitudinal axis defined between the top 10 and the bottom 12. It will be appreciated that the arm guides are positioned immediately adjacent to the walls of the shell in order to maximise the space for positioning of luggage with the luggage being impeded. There is a transverse span across the enclosure 30 indicated by arrow 32 extending between the opposing sides 14,16 and the arms 20,22 within the arm guides 29,30 are spaced transversely such that the span between the arms 20,22 is greater than 60% of the span between the sides. It is beneficial that the span be maximised, and

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therefore the span is preferably greater than 65%, preferably greater than 70%, and even more preferably greater than 75% and even more preferably approximately 80% of the span between the sides. Clothes for example can then be packed flat inside the shell such that they are less creased on arrival, and effective space is maximised as there are no
5 interruptions down the inside of the shell affecting the ability to tightly pack the luggage.

Referring to Figure 3, handle assembly 18 and arm guides are presented in isolation from the luggage item. The laterally spaced arms 20, 22 are connected via the handle 23 which provides multiple locations as appropriate for a user to grasp. The arms 20, 22 are received
10 into the corresponding arm guides 29, 30 which are each secured inside the shell with brackets 36a, b, c and d. Brackets 36a and b are arranged to be secured to the upper end of the shell, and in particular to an inner facing wall of the upwardly facing surface 24a of the recess 24, and have an external surface visible as shown in Figures 1a and b. Brackets 36c and d are arranged to be secured to an inner wall of the bottom 12 of the shell.

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The laterally spaced arms 20, 22 are extendable from a retracted configuration whereby the handle portion 24 is adjacent the upwardly facing surface 24a to an expanded configuration as shown in Figure 3 where the handle portion 24 is spaced apart from the upwardly facing surface 24a. The laterally spaced arms 20, 22 may be telescopically extendable as shown
20 in Figure 3 to accommodate the expansion and retraction.

Aspects of the present invention have been described by way of example only and it will be appreciated to the skilled addressee that modifications and variations may be made without departing from the scope of protection afforded by the appended claims.

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Claims

1. A luggage item comprising a rigid shell comprising front, back, top, bottom and opposing sides defining an enclosure for receipt of luggage, the luggage item further
5 comprising a handle assembly for manoeuvring the luggage item by a user, the handle assembly comprising first and second arms and a handle portion extending between the arms where the handle assembly is expandable and retractable relative to the shell in a longitudinal axis defined between the top and the bottom, the arms
10 being at least partially received within the shell in the retracted configuration and extending outwardly from the shell in the expanded configuration, wherein there is a transverse span across the enclosure between the opposing sides and the arms are spaced transversely such that the span between the arms is greater than 60% of the span between the sides.
- 15 2. A luggage item according to claim 1 wherein the span between the arms is preferably greater than 65%, preferably greater than 70%, and even more preferably greater than 75% and even more preferably approximately 80% of the span between the sides.
3. A luggage item according to any preceding claim wherein the arms extend through
20 the top of the luggage item.
4. A luggage item according to any preceding claim wherein the arms are positioned adjacent the sides.
- 25 5. A luggage item according to any preceding claim wherein each of the arms are received in respective longitudinally extending arm guides provided within the shell.
6. A luggage item according to claim 5 wherein the arm guides are each provided immediately adjacent to their respective sidewall.
- 30 7. A luggage item according to any of claims 5-6 wherein the arm guides are provided integral with the sidewalls.

8. A luggage item according to any of claims 5-7 wherein the arm guides project from the top to the bottom of the luggage item, and the arm guides are preferably secured to the bottom.
- 5 9. A luggage item according to any preceding claim wherein the handle portion extends between the first and second arms.
10. A luggage item according to any preceding claim comprising a plurality of wheels for enabling movement across a surface.
- 10 11. A luggage item according to any preceding claim comprising a recess for receipt of the handle in the retracted configuration.
- 15 12. A luggage item according to claim 11 wherein the recess is open to the top of the luggage item, and open to at least one of the sides and/or back of the luggage item.
13. A luggage item according to claim 12 wherein the recess is open to the top, sides and back of the luggage item.
- 20 14. A luggage item comprising a rigid shell comprising front, back, top, bottom and opposing sides defining an enclosure for receipt of luggage, the luggage item further comprising a handle assembly for manoeuvring the luggage item by a user, the handle assembly comprising first and second arms and handle portion extending between the arms where the handle assembly is expandable and retractable relative to
25 the shell in a longitudinal axis defined between the top and the bottom, the arms being at least partially received within the shell in the retracted configuration and extending outwardly from the shell in the expanded configuration, where the arms are directly adjacent internal walls of the sides.



Application No: GB1902673.1

Examiner: Mr Paul Makin

Claims searched: 1-14

Date of search: 20 August 2019

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-14	GB 2545124 A (MAGMATIC LTD) whole document
X	1-14	US 4261447 A (ARIAS) whole document
X	1-6,8-14	US 2019/0008254 A1 (NEWSON) whole document
X	1-6,8-14	US 4254850 A (KNOWLES) whole document

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

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Worldwide search of patent documents classified in the following areas of the IPC

A45C

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
A45C	0005/03	01/01/2006
A45C	0013/26	01/01/2006