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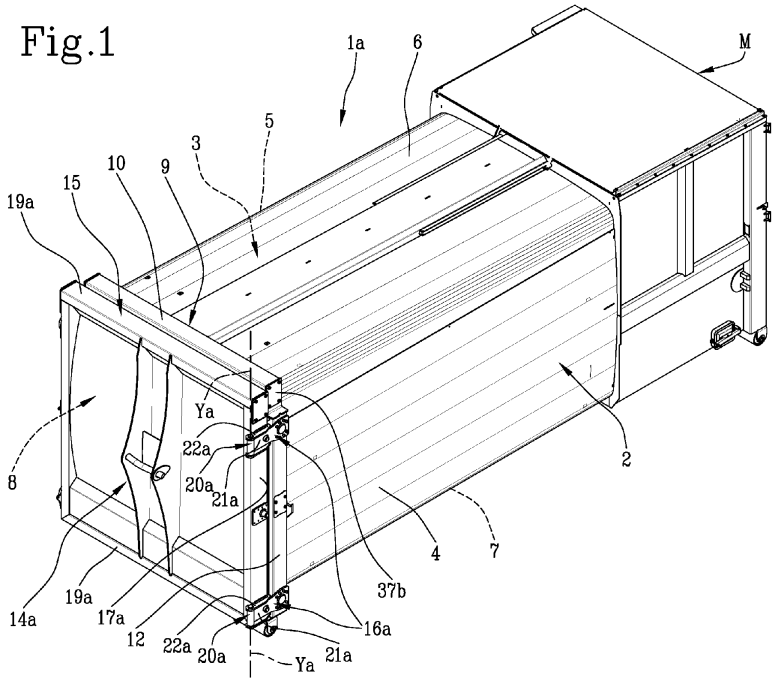
(54) PROCESS FOR MANUFACTURING A VEHICLE TRANSPORT CONTAINER, AND VEHICLE TRANSPORT CONTAINER OBTAINABLE BY SAID PROCESS

(57) By assembling a plurality of metal components, a first containment box (2) is made having at least one open wall (8). After painting the first containment box (2), first mounting accessories (16a) are fastened near an open wall (8) of the box itself, in the absence of welding. In a diversified production, a first and a second closing door (14a, 14b) and second mounting accessories (16b) are also provided. Upon acquisition of a work order, the first mounting accessories (16a) or the second mounting accessories (16b), selectively chosen according to the indications given in the work order, and subsequently the first or second closing door (14a, 14b) to the corresponding first or second mounting accessories, are fastened to the containment box (2) being processed.

Fig.1



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Description

[0001] The present invention relates to a process for manufacturing vehicle transport containers, and a vehicle transport container obtainable by said process.

[0002] The object of the present invention particularly relates to the field of waste disposal, and in particular to the separate collection thereof with the aid of roll-off containers possibly equipped with a compaction system.

[0003] For the purposes of the present description, "vehicle transport container" or more simply "container" means a parallelepiped box-like structure adapted to be installed on the frame of an industrial vehicle used for the transport of goods or materials. For example, typical containers are those made according to ISO standards.

[0004] The object of the present invention is conveniently applicable to roll-off containers used for the collection of waste, and in particular the separate collection thereof. However, different uses are not to be excluded.

[0005] For the purpose of waste collection, the use of vehicles equipped with containers is known, which are suitable for receiving waste, for example emptied from collection containers, to provide for the transport thereof to the treatment sites.

[0006] The use of roll-off containers is equally widespread which, placed in the recycling areas or at other collection sites, lend themselves to receiving the waste delivered by citizens and/or by personnel responsible for the collection service.

[0007] The periodic unloading of the waste accumulated inside the container is typically through an open rear wall, equipped with an openable door to allow the waste to escape.

[0008] Depending on the type of use and user requests, the door can be created in different forms, which contemplate at least two basic creation solutions. A first embodiment solution envisages the presence of at least one hinged door along a vertical side of its perimetral extension, on a corresponding side of the containment box which delimits the storage compartment of the container. Clamping devices operate along a side opposite the hinging side of the door, to retain it in the closing condition. A second embodiment envisages that the door panel is hinged about a horizontal axis along an upper side of its perimetral extension, to a corresponding upper side of the containment box. In this case the clamping devices can operate along the vertical sides and/or near the lower horizontal side of the perimetral extension of the door.

[0009] The need to create containers with different closing systems to meet the different needs of users implies significant logistical and organizational difficulties in the production sites, which can significantly penalize productivity and production flexibility.

[0010] In fact, it should be noted that the manufacture of each container occurs through a rather long and complex industrial process, which from the first processing steps requires a specific planning of the components to be used and the operations to be carried out according to the production needs.

[0011] In particular, the manufacture of the container initially envisages the manufacture of the containment box by assembling metal structural components, generally obtained by shearing and bending metal sheets, panels and/or profiles, which are made integral with each other by welding. During the processing of the individual components and/or after their assembly, certain mounting accessories are installed, again by welding operations, such as hinges and/or components of the clamping devices, by means of which the door and any accessory parts, such as opening/closing actuators and/or clamping devices, will be operatively engaged in the containment box.

[0012] In order to protect the metal components from corrosion, as well as to offer a product which is aesthetically compliant with expectations, a painting treatment is necessary. The operations aimed at this treatment must necessarily be performed after performing the welding operations of the accessory members, before mounting the door.

[0013] Since the manufacturing process of each container is rather long and complex, it may occur that during the production thereof particular production requirements arise which make a different production planning desirable. For example, during the processing of containers intended to satisfy a given work order, more often than not the need to satisfy in a short time a new order occurs, which requires one or more containers of a different type from those being processed.

[0014] The current state of the art does not allow real-time production planning to be modified to meet these types of needs. The applicant has found that these limitations in production flexibility are essentially attributable to the fact that one of the first operations performed in the processing process consists of the application of the attachment members, which once installed irreversibly determine the type and/or final use of the container being manufactured.

[0015] The applicant has also perceived the possibility of achieving significant advantages in terms of operational flexibility by postponing the application of the mounting accessories to a more advanced stage in the sequence of operations envisaged in the production cycle, i.e., to a moment after the painting operations and preferably immediately before mounting the closing door.

[0016] More in particular, the object of the present invention is a process for manufacturing a vehicle transport container, comprising: building a first containment box by assembling a plurality of metal components, said first containment box having at least one open wall; after building the first containment box, fastening first mounting accessories near the open wall; painting the first containment box; engaging on the first mounting accessories at least a first closing door of the open wall. Conveniently, said painting step is performed after the building the first box is accomplished and before fastening the first mount-

ing accessories, and the fastening of the first mounting accessories on the first containment box is performed in the absence of welding.

[0017] In a further aspect, an object of the invention is a vehicle transport container, comprising: a containment box having at least one open wall; mounting accessories, at least partially fastened near the open wall; a closing door, preferably configured to completely close the open wall, engaged to the containment box by means of said mounting accessories; in which the mounting accessories are fastened on the containment box in the absence of welding, on the outside of a layer of paint applied externally to the containment box itself.

[0018] The application of the mounting accessories in the absence of welding and after the execution of the painting of the containment box, offers the possibility of postponing the assignment of the type and/or intended use to the container being manufactured. In other words, the assignment of the type and/or intended use of each container being manufactured can, if desired, be kept pending until after the completion of painting, when it will be appropriate to apply the mounting accessories.

[0019] It will also be possible to prepare on the containment boxes during the processing step two or more separate series of attachment seats for the engagement of different mounting accessories, to be selectively applied at a time after painting according to the type of container to be made.

[0020] In at least one of the above aspects, a convenient embodiment of the invention can also comprise one or more of the preferred features listed below.

[0021] Conveniently, it is also envisaged to provide first attachment seats on the first containment box, configured for the engagement of the first mounting accessories.

[0022] Conveniently, it is also envisaged to provide second attachment seats on the first containment box, configured for the engagement of second mounting accessories, having different construction features from those of the first mounting accessories.

[0023] Conveniently, it is also envisaged to assemble a second plurality of metal components to create a second containment box having at least one open wall.

[0024] Conveniently, it is also envisaged to paint the second containment box. Conveniently, it is also envisaged to fasten second mounting accessories near the open wall, having different construction features from those of the first mounting accessories.

[0025] Conveniently, it is also envisaged to engage at least one second closing door on the second mounting accessories.

[0026] Conveniently, the second closing door has the same construction features as the first closing door.

[0027] Conveniently, the second closing door has different construction features from the first closing door.

[0028] Conveniently, the fastening of the second mounting accessories on the second containment box is performed in the absence of welding. Conveniently, said first and second attachment seats are also arranged on the second containment box.

[0029] Conveniently, it is also envisaged to: provide said at least a first closing door; provide said at least a second closing door; provide said first mounting accessories; provide said second mounting accessories; acquire a work order containing indications on the type of mounting accessories, chosen between said first and second mounting accessories, to be associated with the first or second containment box being processed. Conveniently, it is also envisaged to fasten the first or second mounting accessories to the containment box being processed, selectively chosen according to the indications given in the work order.

[0030] Conveniently, it is also envisaged to engage the closing door to the first or second mounting accessories fastened to the containment box being processed.

[0031] Conveniently, the closing door engaged to the mounting accessories is selectively chosen according to the indications given in the work order. Conveniently, the first and second attachment seats are arranged independently of the indications given in the work order.

[0032] Conveniently, the first and second attachment seats are arranged prior to the acquisition of the work order.

[0033] The manufacture of one or more containment boxes can therefore be completed even in the absence of a specific work order.

[0034] Conveniently, the work order also comprises indications on the type of closing door, chosen between said first and second closing door. Conveniently, the fastening of the first mounting accessories on the first containment box is performed by means of threaded members. Conveniently, the fastening of the second mounting accessories on the second containment box is performed by means of threaded members. Conveniently, the containment box has first and second attachment seats configured for the selective engagement of first mounting accessories and second mounting accessories, respectively different.

[0035] Conveniently, the first attachment seats are arranged along vertical segments perimetrally delimiting the open wall.

[0036] Conveniently, the mounting accessories comprise first hinges each engaged with one of the first attachment seats, at a predetermined distance from a joining end of the respective vertical segment with a horizontal segment perimetrally delimiting the open wall.

[0037] Conveniently, the mounting accessories comprise first hinges configured to engage the door about a first hinging axis vertically arranged in correspondence with a vertical segment perimetrally delimiting the open wall.

[0038] Conveniently, the first hinges are engaged to the first attachment seats. Conveniently, the second attachment seats are each arranged at a respective end of an upper horizontal segment perimetrally delimiting the open wall, in correspondence with the junction with the respective vertical segment.

[0039] Conveniently, the mounting accessories comprise second hinges configured to engage the door about a second hinging axis horizontally arranged in correspondence with an upper horizontal segment perimetrally delimiting the open wall.

[0040] Conveniently, the second hinges are engaged to the second attachment seats.

[0041] Conveniently, the mounting accessories are applied against an external surface of a perimeter delimiting frame of the open wall.

[0042] Further features and advantages will become more apparent from the detailed description of a preferred, but not exclusive, embodiment of a process for the manufacture of a vehicle transport container, and of a container obtainable by means of such a process, in accordance with the present invention. Such a description will be set out hereinafter with reference to the accompanying drawings given only for illustrative and, therefore, non-limiting purpose, in which:

- figure 1 schematically shows a first type of container obtainable in accordance with the present invention;
- figure 2 shows the front of the first type of container with the door partially open and viewed from a laterally opposite angle with respect to figure 1;
- figure 2a shows an enlarged detail of figure 2, with the mounting accessories partially removed:
- figure 3 schematically shows a second type of container obtainable in accordance with the present invention;
- figure 4 shows the front part of the second type of container with the door partially open;
- figure 4a shows an enlarged detail of figure 4, in the absence of the mounting accessories;
- figure 5 is a block diagram illustrating different processing steps actuated in accordance with a process for manufacturing containers according to the present invention.

[0043] Figures 1 and 4 respectively show, and together indicated with 1a and 1b, a first and a second type of container obtainable by a process according to the present invention. In such figures, identical parts of the containers of the first and second type, respectively, are indicated by the same numerical references. Where such parts are mutually different, the same numerical references are respectively accompanied by the suffix "a" for the container 1a of the first type, and by the suffix "b" for the container 1b of the second type.

[0044] Each of the containers of the first type 1a and the second type 1b essentially comprises a substantially parallelepiped containment box 2, internally having at least one storage compartment 3 laterally delimited between a pair of vertical walls, respectively right 4 and left 5, and a pair of horizontal walls, respectively upper 6 and lower 7, extending parallel to a longitudinal extension direction starting from an open wall 8.

[0045] A compaction mechanism M, not described in detail as not relevant for the purposes of the invention, can be associated with an end of the containment box 2 on the opposite side with respect to the open wall 8. Preferably, the open wall 8 is perimetrally delimited by a frame 9 lying substantially in a closing plane orthogonal to the longitudinal extension direction of the containment box 2. Along the perimeter extension of the open wall 8, i.e., of the frame 9, an upper horizontal segment 10, a lower horizontal segment 11, and two vertical segments, right 12 and left 13, respectively, can be identified.

[0046] At least a first type of door 14a and a second type of door 14b are alternatively associable with the open wall 8. Each door of the first type 14a and second type 14b is essentially defined by at least one door having a perimeter frame 15 whose extension substantially coincides with that of the frame 9. First and second mounting accessories 16a, 16b associated with one and the other containers of the first type 1a and, respectively, of the second type 1b, rotatably constrain the door 14a, 14b to the frame 9, so as to allow the movement thereof between a closing condition in which it abuts against the frame 9 and an opening condition in which the door itself is moved away from the open wall 8.

[0047] The doors of the first type 14a and of the second type 14b can conveniently have substantially identical construction features, but their mode of engagement with respect to the containment box can be different, respectively, in accordance with different functional needs.

[0048] More in particular, along the perimeter frame 15 of the first type of door 14a shown in figure 1, a vertical hinging side 17a and an abutting side 18a opposite and parallel to the hinging side 17a can be identified. The hinging side 17a corresponds to one of the vertical segments, e.g., the right vertical segment 12, of the open wall 8. The other of the vertical segments, e.g., the left vertical segment 13, corresponds to the abutting side 18a. Between the hinging side 17a and the abutting side 18a extend two horizontal connecting sides 19a, to which correspond the horizontal segments 10 and 11 respectively of the open wall 8.

[0049] The first mounting accessories 16a comprise one or more first hinges 20a arranged along the vertical hinging side 17a. In the example illustrated there are two first hinges 20a suitably spaced along the hinging side 17a and the corresponding right vertical segment 12 of the open wall 8.

[0050] Each first hinge 20a has a fixed part 21a rigidly carried by the containment box 2 and a movable part 22a rigidly carried by the door 9. The fixed part 21a can be conveniently made in the form of a plate fastened in correspondence with a respective first attachment seat 23a arranged on the containment box 2. Each of the first attachment seats 23a engaging the first hinges 20a is preferably arranged along one of the vertical segments 12, 13 at a predetermined distance from the joining end of the latter with the respective horizontal segment 10, 11 preferably on the external surface of the frame 9. The fastening of each first hinge 20a at the respective first

attachment seat 23a, is conveniently carried out against the external surface of the frame 9 so as to be easily accessible for the purposes of installation and maintenance, and in the absence of welding, preferably through threaded members.

[0051] The movable part 22a of each first hinge 20a is in turn fastened on the door of the first type 14a, in the absence of welding and preferably by means of threaded members, along the hinging side 17a at a predetermined distance from the joining angle of the latter with the respective closest horizontal connecting side 10, 11.

[0052] The fixed part 21a and the movable part 22a of each first hinge 20a are rotatably constrained with respect to each other, so that the door of the first type 14a is constrained with respect to the containment box 2 rotatably about a first vertical hinging axis Ya.

[0053] The first mounting accessories 16a can further comprise first clamping devices 24a operating on the opposite side with respect to the first hinges 20a, to retain the door of the first type 14a in the closed position. The first clamping devices 24a can for example comprise one or more first hooking elements 25a engaged along one of the vertical segments of the open wall 8, also preferably against an external surface of the frame 9, and movable on the action of a first control lever 26a to engage with respective first clamping pins 27a carried by the abutting side 18a.

[0054] Along the perimeter frame 15 of the second type of door 14b shown in figures 3 and 4, a horizontal hinging side 17b and a horizontal abutting side 18b, opposite and parallel to the hinging side 17b, can be identified. The upper horizontal segment 10 of the open wall 8 corresponds to the hinging side 17b. The other horizontal segment, namely the lower one 11, of the open wall 8, corresponds to the abutting side 18b. Between the horizontal hinging side 17b and the horizontal abutting side 18b two vertical connecting sides 19b extend, to which the vertical segments 12 and 13 of the open wall 8 respectively correspond.

[0055] The second mounting accessories 16b comprise one or more second hinges 20b arranged along the horizontal hinging side 17b. In the example illustrated there are two second hinges 20b operating along the hinging side 17b and on the corresponding upper horizontal segment 10 of the open wall 8.

[0056] Each second hinge 20b has a fixed part 21b rigidly carried by the containment box 2 and a movable part 22b rigidly carried by the door of the second type 14b. The fixed part 21b can be conveniently fixed in correspondence with a respective second attachment seat 23b arranged on the containment box 2. Each of the second attachment seats 23b is preferably arranged at a respective end of the upper horizontal segment 10 of the open wall 8, in correspondence with the junction with the respective vertical segment, preferably on the external surface of the frame 9. The fastening of each hinge in correspondence with the respective attachment seat is conveniently created against the external surface of the frame 9 and in the absence of welding, preferably by means of threaded members.

[0057] The movable part 22b of each second hinge 20b is in turn fastened, in the absence of welding and preferably by means of threaded members, on the horizontal hinging side 17b, in correspondence with the joining angle of the latter with the respective vertical connecting side 19b.

[0058] The fixed part 21b and the movable part 22b of each second hinge 20b are rotatably constrained with respect to each other so that the door of the second type 14b is constrained with respect to the containment box 2 rotatably about a second hinging axis Yb horizontally arranged in correspondence with the upper horizontal segment 10.

[0059] One or more hydraulic control actuators 28 operate on the movable portion 22b of at least one of the second hinges 20b to determine the opening and closing movement of the door of the second type 14b.

[0060] The second mounting accessories 16b can further comprise second clamping devices 24b operating along the vertical connecting sides 19b and/or on the abutting side 18b opposite the second hinges 20b, to retain the second type of door 14b in the closed position. The second clamping devices 16b can for example comprise one or more second hooking elements 25b engaged along each of the vertical segments 12, 13 of the open wall 8, preferably against the external surface of the frame 9, and movable on the action of a second control lever 26b possibly activated by the aforesaid hydraulic actuator 28 to engage with respective second clamping pins 27b carried by the vertical connecting sides 19b. At least a part of the second hooking elements 25b, such as those installed along the left vertical side 19b, can be identical to the first hooking elements 19a usable for the first type of door 14a. The second hooking elements 25b installed along the opposite vertical side 19b, i.e., the right one in the example illustrated, can have a mirrored structure and/or positioning with respect to those on the left vertical side 19b.

[0061] In accordance with the present invention, the manufacture of the containers of the first and/or second type 1a, 1b occurs by means of a process whose main steps are shown in figure 5.

[0062] In a first work area 29, a plurality of metal components are assembled to create, for example, a first containment box 2. This assembly step can be obtained, for example, by the usual welding operations of the various metal components, for example obtained by shearing and bending sheets, panels and/or metal profiles.

[0063] In the first work area, at least a second plurality of metal components is also assembled, to create at least a second containment box 2. Thus, several containment boxes 2 can be made, possibly stored in a box warehouse 30, pending the subsequent processing steps in order to obtain containers of the first type 1a and/or the second type 1b.

[0064] In conjunction with the assembly operations,

the first and/or second attachment seats 23a, 23b adapted to accommodate the first and/or second mounting accessories 16a, 16b can be conveniently arranged in each of the containment boxes 2. More precisely, it is preferably envisaged that both the first and second attachment seats 16a, 16b are arranged on each containment box 2. Each containment box 2 is thus suitable to be used for the manufacture of containers of both the first type 1a and the second type 1b.

[0065] Simultaneously with the assembly of the containment boxes 2, the assembly of metal and/or other components can be performed in a second work area 31, for the manufacture of at least a first closing door and at least a second closing door, of the first type 14a and/or of the second type 14b. As stated for the containment boxes 2, multiple closing doors 14a, 14b can be stored in a respective door warehouse 32, pending subsequent processing.

[0066] Upon completion of assembly, before the engagement of the mounting accessories 16a, 16b, the containment boxes 2 are subjected to a painting treatment. Such a treatment can be performed in a painting area 33a possibly integrated in the same production line of the containers, or located in a remote position. A similar painting treatment can also be envisaged for the closing doors, in the same painting area 33a used for the containment boxes 2 or in a separate section 33b. Following the painting treatment, the containment boxes 2 and/or the doors 14a, 14b will be covered by a layer of protective paint.

[0067] A plurality of first mounting accessories 16a and a plurality of second mounting accessories 16b are provided in at least one mounting accessory warehouse 34.

[0068] A computer interface 35 or other type integrated in the production line allows the acquisition of one or more work orders, completed in accordance with production requests. Each work order contains indications on the type of container, of the first type 1a or of the second type 1b, to be manufactured, and the consequent type of mounting accessories 16a, 16b to be used in order to couple the closing door 14a, 14b with the containment box 2. If the closing doors 14a, 14b respectively intended for containers of the first and second type are different from each other, the work order can also include indications related to the type of closing door to be used.

[0069] In correspondence with a set-up area 36 operatively downstream of the warehouses, the first and/or second mounting accessories 16, 16b useful for setting up the desired type of container 1a, 1b, selectively chosen according to the indications contained in the work order, are taken from the accessories warehouse 24 and fastened to the containment box 2 and/or to the respective door 14a, 14b. More in particular, when the manufacture of a container of the first type 1a is required, the first mounting accessories 16a are fastened in the absence of welding and preferably by screwing, on the first attachment seats 23a arranged near the open wall 8 and on the perimeter frame 15 of the door. The door 14a, 14b is then engaged to the containment box 2, in correspondence with the first mounting accessories 16a previously installed. Similarly, when the manufacture of a container of the second type 1b is required, the second mounting accessories 16b are fastened, always in the absence of welding and preferably by screwing, on the second attachment seats 23b and/or on the same first attachment seats 23a present near the open wall 8 and on the perimeter frame 15 of the door, to allow the preparation of the second type of container 1b following the engagement of the door on the second mounting accessories 16b. It should be noted that in both cases the attachment accessories will be engaged externally with respect to the layer of paint applied on the containment box 2 and/or on the door 14a, 14b due to the painting treatment previously carried out. Cover plates 37a, 37b can be applied to the first attachment seats 23a and/or the second attachment seats 23b, not used for the purpose of engaging the door 14a, 14b.

Claims

1. Process for manufacturing a vehicle transport container, comprising:

   assembling a plurality of metal components to make a first containment box (2) having at least one open wall (8);
   fastening first mounting accessories (16a) near the open wall (8);
   painting the first containment box (2);
   engaging, on the first mounting accessories (16a), at least a first closing door (14a, 14b) of the open wall (8);
   wherein said painting step is performed before fixing the first mounting accessories (16a); and
   fastening of the first mounting accessories (16a) on the first containment box (2) is performed in the absence of welding.

2. Process according to claim 1, further comprising:

   providing, on the first containment box (2), first attachment seats (23a) configured for engagement of the first mounting accessories (16a),
   providing, on the first containment box (2), second attachment seats (23b) configured for engagement of second mounting accessories (16b) having construction features different from those of the first mounting accessories (16a).

3. Process according to claim 1 or 2, further comprising:

   assembling a second plurality of metal components to make a second containment box (2) having at least one open wall (8);
   painting the second containment box (2);

fastening near the open wall (8), preferably in the absence of welding, second mounting accessories (16b) having construction features different from those of the first mounting accessories (16a);
engaging at least a second closing door (14a, 14b) on the second mounting accessories (16b).

4. Process according to one or more of the preceding claims, further comprising:

providing said at least one first closing door (14a, 14b);
providing said at least one second closing door (14a, 14b);
providing said first mounting accessories (16a);
providing said second mounting accessories (16b);
acquiring a work order containing information on the type of assembly accessories, chosen among said first and second mounting accessories (16a, 16b), to be associated with the first or second containment box (2) being processed;
fastening, to the containment box (2) being processed, the first assembly accessories (16a) or the second assembly accessories (16b) selectively chosen according to the information contained in the work order;
engaging the closing door (14a, 14b) to the corresponding first or second mounting accessories (16a, 16b) fixed to the containment box (2) being processed.

5. Process according to claim 4, wherein said first attachment seats (23a) and second attachment seats (23b) are provided independently of the information contained in the work order, preferably before acquiring the same.

6. Method according to one or more of the preceding claims, wherein fastening of the first and/or second mounting accessories (16a, 16b) on the first and/or second containment box (2) is carried out by threaded members.

7. Vehicle transport container, comprising:

a containment box (2) having at least one open wall (8);
mounting accessories (16a, 16b) at least partially fixed in proximity to the open wall (8);
a closing door (14a, 14b) of the open wall (8), engaged to the containment box (2) by said mounting accessories (16a, 16b);
wherein the mounting accessories (16a, 16b) are fastened on the containment box (2) in the absence of welds, outside a layer of paint applied externally to the containment box (2) itself.

8. Container according to claim 7, wherein the containment box (2) has first and second attachment seats (23a, 23b) configured for selective engagement of mutually different first mounting accessories (16a) and second mounting accessories (16b).

9. Container according to claim 8, in wherein the first attachment seats (23a) are arranged along vertical segments (12, 13) perimetrally delimiting the open wall (8).

10. Container according to claim 8 or 9, wherein the mounting accessories (16a, 16b) comprise first hinges (14a) each engaged to one of the first attachment seats (23a), at a predetermined distance from a joining end of the respective vertical segment (12, 13) with a horizontal segment (10, 11) perimetrally delimiting of the open wall (8).

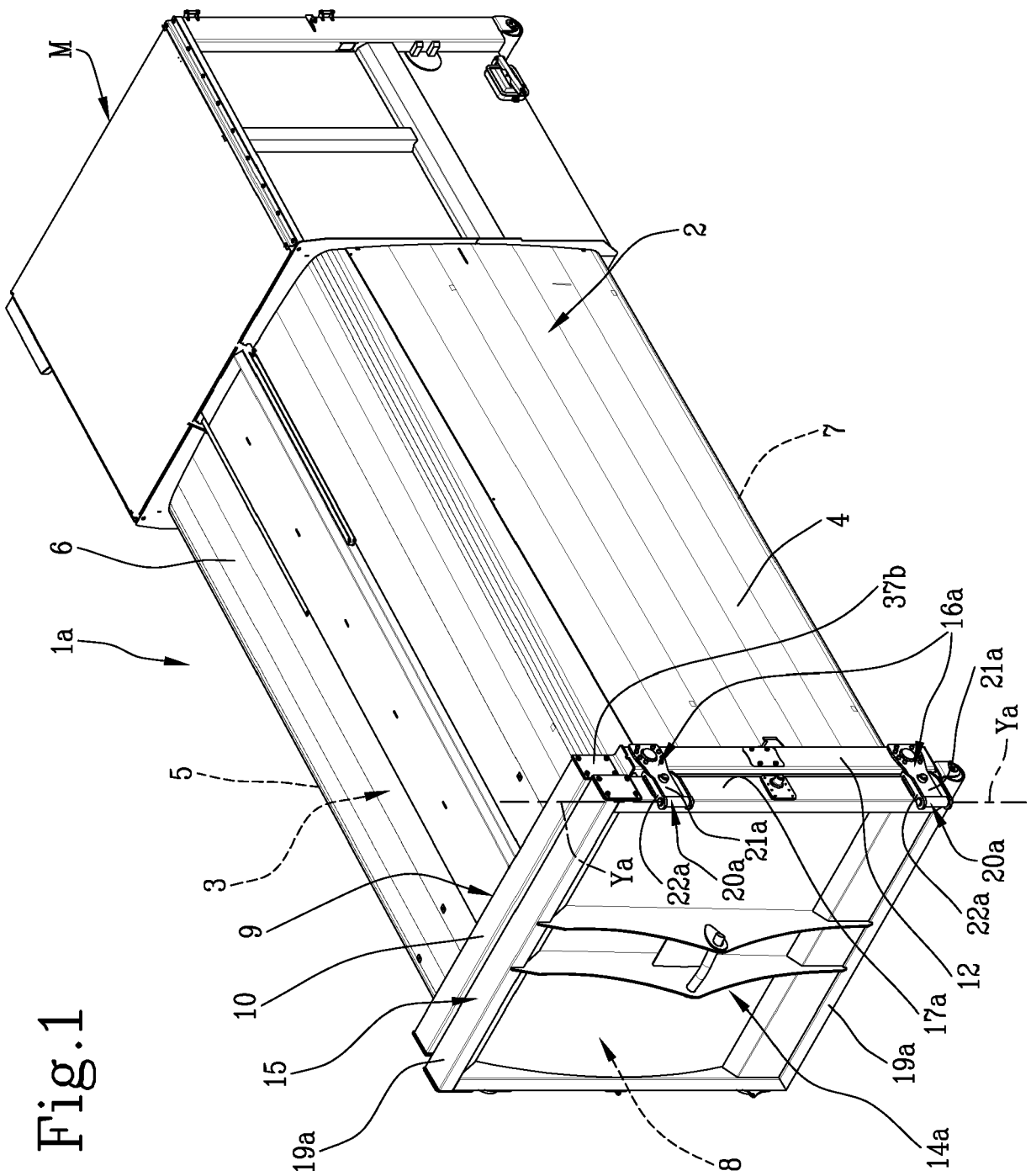
11. Container according to one or more of claims 7 to 10, wherein the mounting accessories (16a, 16b) comprise first hinges (14a) configured to engage the closing door (14a, 14b) around a first hinging axis (Ya) vertically arranged in correspondence with a vertical segment (12, 13) perimetrally delimiting the open wall (8).

12. Container according to one or more of claims 8 to 11, wherein the second attachment seats (23b) are each arranged at a respective end of an upper horizontal segment (10) perimetrally delimiting the open wall (8), in correspondence of a junction with a respective vertical segment (12, 13).

13. Container according to one or more of claims 7 to 12, wherein the mounting accessories comprise second hinges (14b) configured to engage the closing door (14a, 14b) around a second horizontally arranged hinge axis (Yb) in correspondence with an upper horizontal segment (10) perimetrally delimiting the open wall (8).

14. Container according to one or more of claims 7 to 13, wherein the mounting accessories (16a, 16b) are applied against an external surface of a perimeter delimiting frame (9) of the open wall (8).

Fig.1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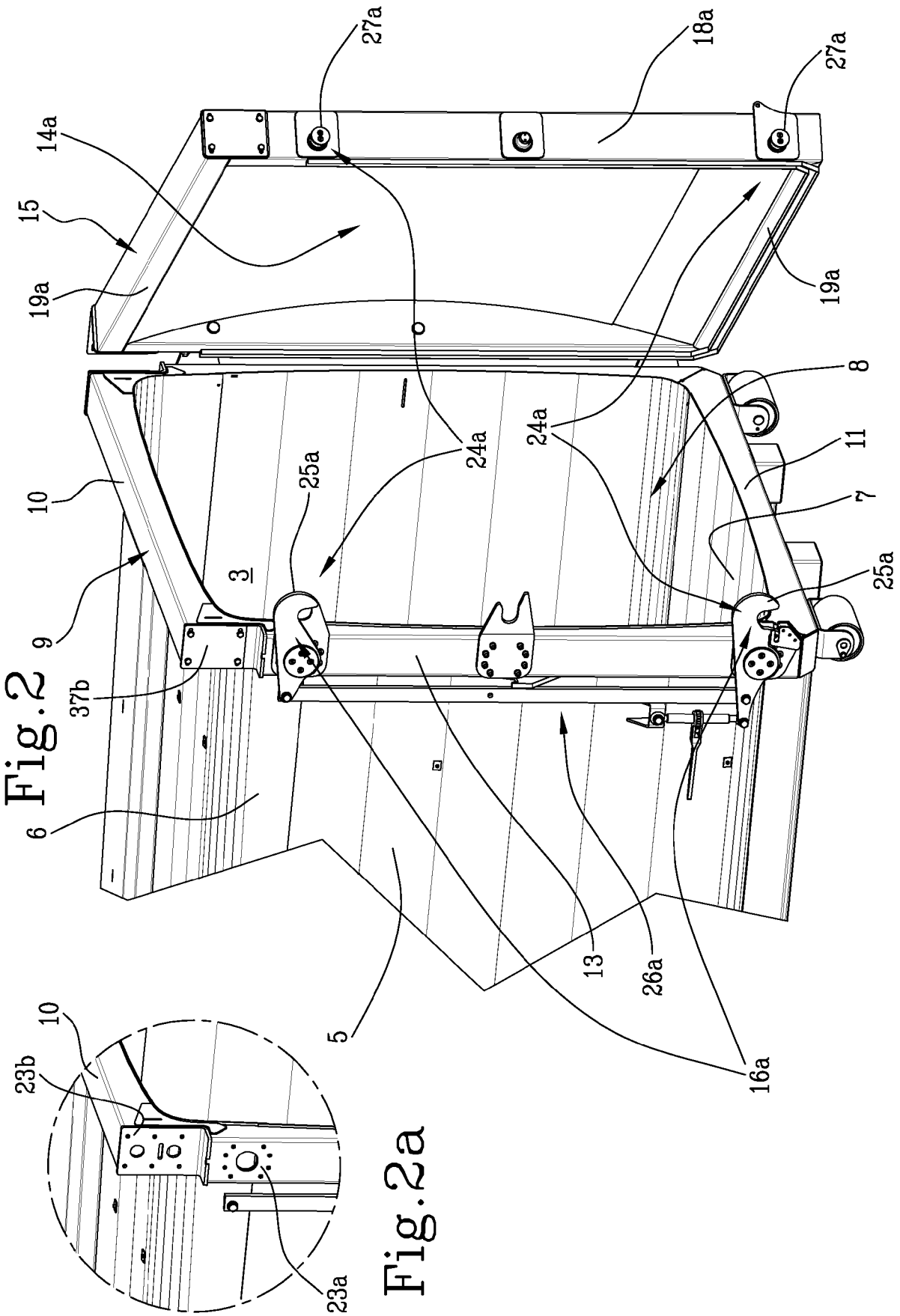
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19a
19a
8
24a
24a
11
10
25a
7
3
9
25a
37b
6
13
26a
5
16a
10
23b
23a

Fig.2

Fig.2a

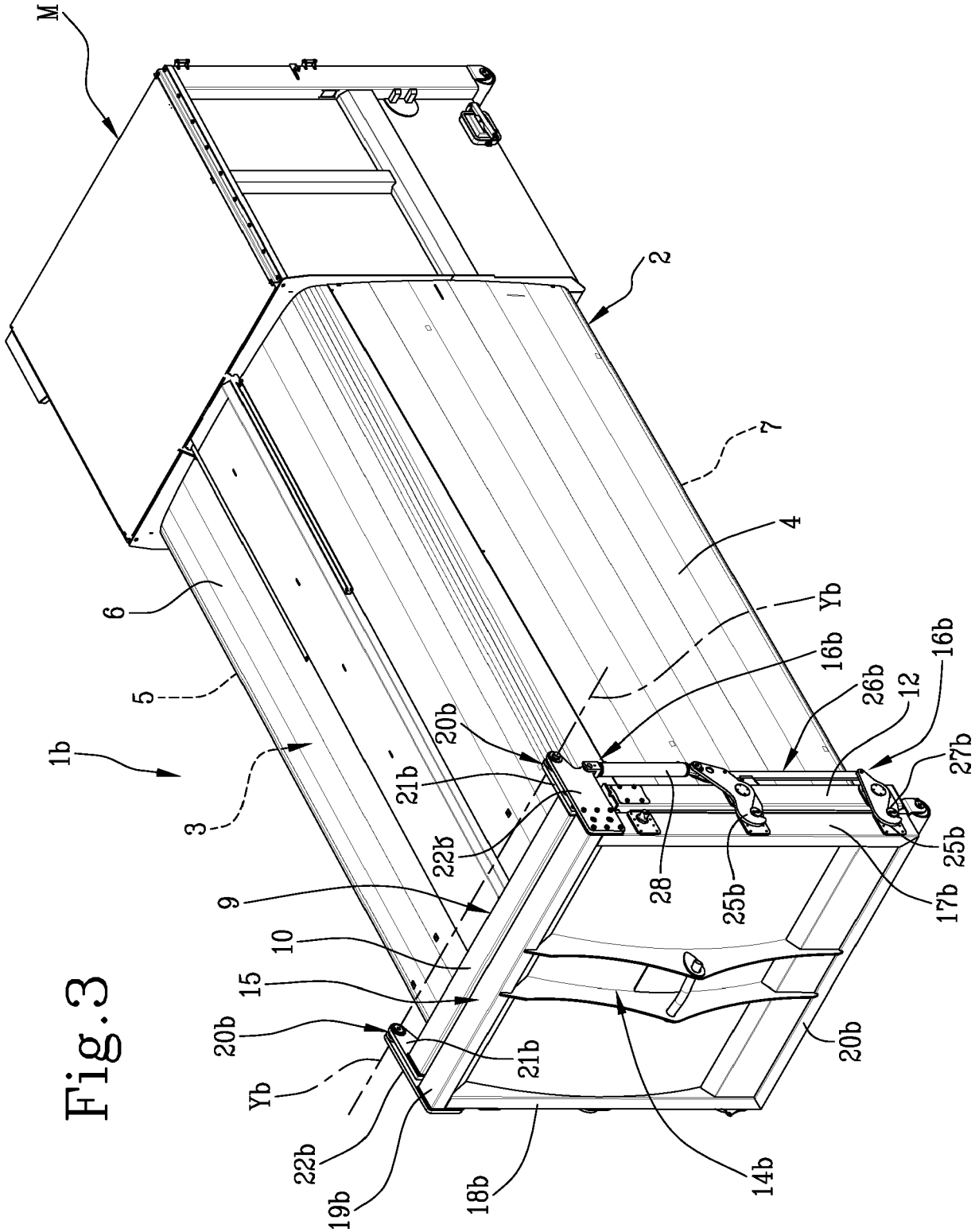
M
2
7
4
6
5
1b
3
9
10
15
20b
Yb
22b
19b
18b
14b
21b
20b
22b
21b
20b
Yb
16b
26b
12
16b
27b
25b
17b
28
25b

Fig.3

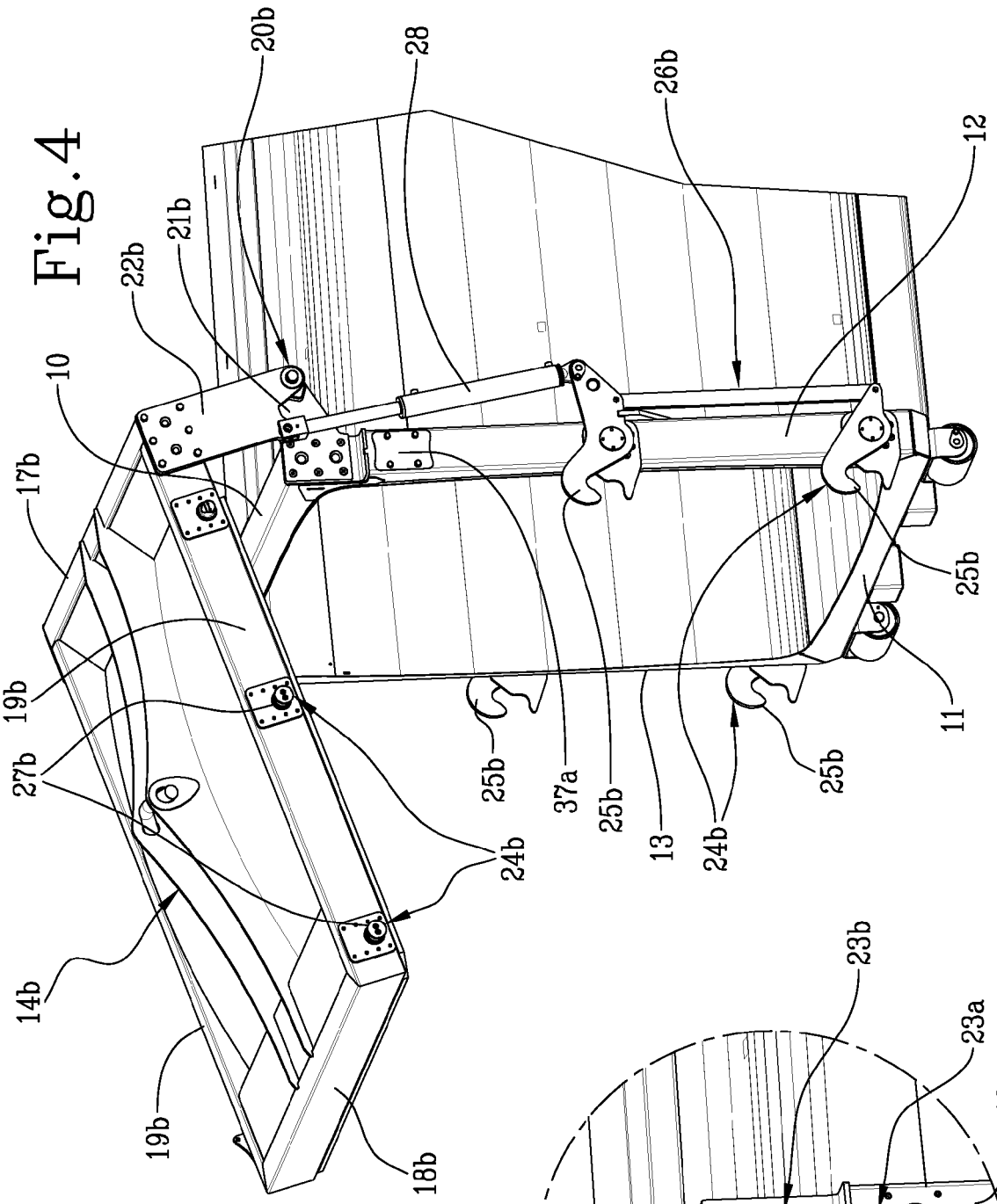
20b
28
26b
12
21b
22b
10
17b
19b
27b
14b
19b
18b
24b
25b
37a
25b
13
24b
25b
11
25b

Fig.4

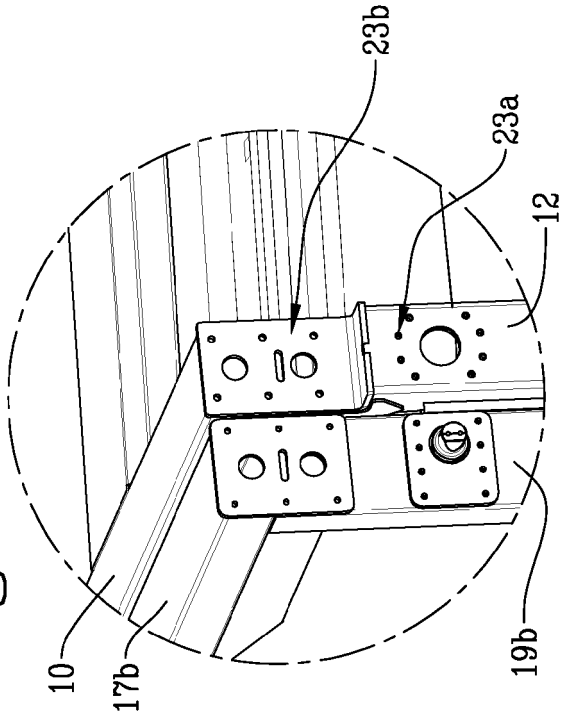
23b
23a
12
10
17b
19b

Fig.4a

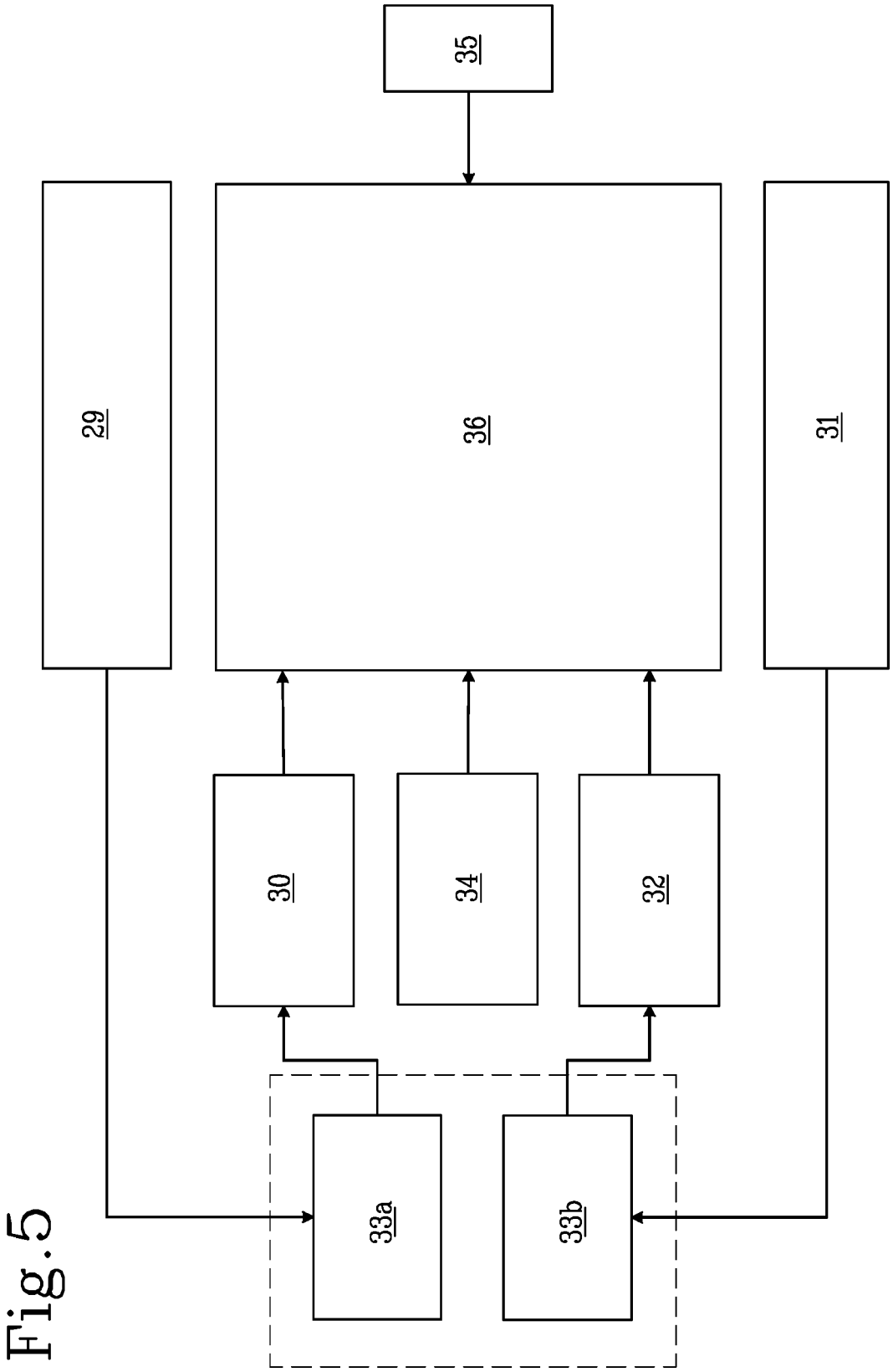

Fig.5

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EUROPEAN SEARCH REPORT

Application Number
EP 22 18 1315

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 3 971 122 A (BERTOLINI WILLIAM A ET AL) 27 July 1976 (1976-07-27) * figures 1-3 * * column 1, line 65 - column 2, line 1 * * column 3, lines 35-41 * * column 3, lines 61-64 * -----	1-14	INV. B65F1/02 B65F1/16

TECHNICAL FIELDS SEARCHED (IPC)

B65F
B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	18 November 2022	de Miscault, Xavier

CATEGORY OF CITED DOCUMENTS

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18-11-2022

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