(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 646 838 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
06.05.2020 Bulletin 2020/19

(51) Int Cl.:
A61G 7/10 *(2006.01)*

(21) Application number: **19202883.5**

(22) Date of filing: **13.10.2019**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **13.10.2018 NL 2021809**

(71) Applicant: **STLT Beheer BV**
3014 DB Rotterdam (NL)

(72) Inventor: **Rinkking, Mark Gerald**
3014DB Rotterdam (NL)

(74) Representative: **Verhees, Godefridus Josephus Maria**
Brabants Octrooibureau B.V.
De Pinckart 54
5674 CC Nuenen (NL)

(54) **LIFT FOR LIFTING A DISABLED PERSON OUT OF A WHEELCHAIR**

(57) A lift has a frame 3 provided with two uprights 5, 7 and a bridge part 9 extending there between. At the lower ends of the uprights two elongated feet 11, 13 are attached. These feet extend perpendicular to the bridge part and are at the ends provided with swivel wheels 15. The bridge part is formed by a horizontal guide 19, one of the posts 7 is slidable along the horizontal guide so that the distance between the posts can be adjusted. The lift further has a hoisting device 17 for lifting the disabled person, said hoisting device is connected to the bridge part and is slidable along the horizontal guide. Each foot has a guide 21 extending in the longitudinal direction of the foot. Each swivel wheel 15 is connected to a guide element 23 which is displaceable in the guide in order to be able to vary the distance between the two swivel wheels connected to the foot.

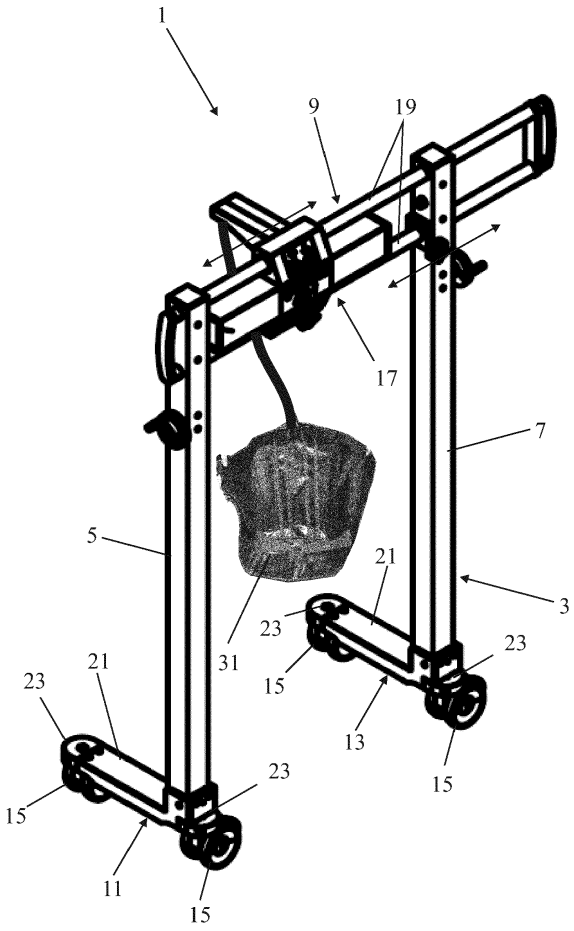

FIG. 1

EP 3 646 838 A2

Description

Technical field of the invention

[0001] The invention relates to a lift for lifting a disabled person from a wheelchair, moving the person to an aircraft seat and lowering the person onto the aircraft seat.

Background of the invention

[0002] Such a lift is generally known.

Summary of the invention

[0003] An object of the invention is to provide a light, compact, manually movable hoist. To this end, the lift according to the invention is characterized in that it:

- comprises a frame provided with two uprights and a bridge part extending between them, as well as
- two elongated feet which are attached to the lower ends of the uprights and extend perpendicular to the bridge part and are provided with swivel wheels at the ends, and
- a hoisting device for lifting the disabled person, which hoisting device is connected to the bridge part,
- wherein the bridge part comprises a horizontal guide, and
- wherein one of the uprights is slidable along the horizontal guide in order to be able to adjust the distance between the uprights.

[0004] By being able to vary the distance between the uprights, the frame can be moved over a row of aircraft seats, with a foot present at the front and rear of the row of seats.

[0005] An embodiment of the lift according to the invention is characterized in that the hoisting device is slidable between the uprights along the horizontal guide in order to be able to position the disabled person exactly above the desired aircraft seat and to allow the hoisting installation to move near each of the uprights in case the uprights are moved apart to a maximum extend, so that the lift is suitable for placing both a disabled person in a seat in the right-hand row of seats and in a seat in the lefthand row of seats. This determines namely with which upright should be driven forward in the aisle or on which side of the bridge part the disabled person must be present.

[0006] A further embodiment of the lift according to the invention is characterized in that each foot comprises a guide extending in longitudinal direction of the foot and at least one of the two swivel wheels connected to the foot is connected to a guide element which is displaceable out of the guide in order to be able to increase the distance between the two swivel wheels connected to the foot. When driving through the aisle in an aircraft, the width is limited and the track width must therefore be sufficiently small. When turning the lift over a row of seats, the track width can be increased to give the lift more stability.

[0007] Yet a further embodiment of the lift according to the invention is characterized in that the lift comprises an adjustable harness which can be fitted around the disabled person and whose size is adjustable, which harness is provided with a seat, which comprises two pivotally connected stiff seat parts, as well as a jacket part connected to the seat, which jacket part can be fitted around the torso of the disabled person and is provided with at least two parallel, spaced strips, which are attached to the jacket part and which on one edge are provided with zipper elements which can be connected to each other by a closing element, in order to make the size of the jacket part smaller.

Brief description of the drawings

[0008] The invention will be explained in more detail below with reference to an exemplary embodiment of the lift according to the invention shown in the drawings. In the drawings:

Figure 1 shows an embodiment of the lift according to the invention;
Figures 2-7 show the lift shown in Figure 1 in various views and in various positions; and
Figure 8 shows the harness of the lift shown in Figure 1.

Detailed description of the drawings

[0009] Figure 1 shows an embodiment of the lift 1 according to the invention for lifting and moving a disabled person. The lift has a frame 3 provided with two uprights 5, 7 and a bridge part 9 extending there between. Two elongated feet 11 and 13 are attached at the lower ends of the uprights. These feet extend perpendicular to the bridge part and are at the ends provided with swivel wheels 15. The lift also has a hoisting device 17 connected to the bridge part for lifting the disabled person.

[0010] The bridge part is formed by a horizontal guide 19 consisting of two parallel horizontal rods. One of the uprights 7 is provided with holes in which bearings are located and through which the rods protrude. This upright 7 is slidable over the horizontal guide so that the distance between the uprights can be adjusted. The hoisting installation 17 can be slid along the horizontal guide between the uprights 5 and 7.

[0011] Each foot 11 and 13 has a guide 21 extending in the longitudinal direction of the foot and located in a tubular housing. Each castor wheel 15 is connected to a guide element 23 which is movable in and out of the guide in order to be able to vary the distance between the two swivel wheels connected to the foot. The two swivel wheels of a foot can be pushed in and out of the housing synchronously.

[0012] For illustrative purposes, Figures 2-7 show the lift in various views and in various positions.

[0013] The lift further has an adjustable harness 31, see also figure 8, which can be fitted around the disabled person and whose size is adjustable. The harness is provided with a seat 33, which comprises two hinged seat parts 35 pivotally connected to each other, as well as a jacket part 37 which is connected to the seat and which can be fitted around the body of the disabled person. The jacket part is provided with two pairs of parallel strips 39 which are spaced apart and attached to the jacket part and which are each provided with zipper elements 41 on a free edge, which elements can be connected to each other by a closing element 43, in order to reduce the size of the jacket part to make it smaller.

[0014] Although the present invention is elucidated above on the basis of the given drawings, it should be noted that this invention is not limited whatsoever to the embodiments shown in the drawings. The invention also extends to all embodiments deviating from the embodiments shown in the drawings within the scope of the invention defined by the appended claims.

Claims

1. A lift (1) for lifting a disabled person out of a wheelchair, moving the person to an aircraft seat and lowering the person onto the aircraft seat, comprising:

   - a frame (3) provided with two uprights (5, 7) and a bridge part (9) extending between them,
   - two elongated feet (11, 13) which are attached to the lower ends of the uprights and extend perpendicular to the bridge part and are provided with swivel wheels (15) at the ends,
   - a hoisting device (17) for lifting the disabled person, which hoisting device is connected to the bridge part,
   - wherein the bridge part comprises a horizontal guide (19), and
   - wherein one of the uprights (7) is slidable along the horizontal guide in order to be able to adjust the distance between the uprights.

2. A lift according to claim 1, **characterized in that** the hoisting device (17) is slidable between the uprights (5, 7) along the horizontal guide.

3. A lift according to claim 1 or 2, **characterized in that** each foot (11, 13) comprises a guide (21) extending in longitudinal direction of the foot and at least one of the two swivel wheels (15) connected to the foot is connected to a guide element (23) which is displaceable out of the guide in order to be able to increase the distance between the two swivel wheels connected to the foot.

4. A lift according to claim 1, 2 or 3, **characterized in that** the lift comprises an adjustable harness (31) which can be fitted around the disabled person and whose size is adjustable, which harness is provided with a seat (33)), which comprises two pivotally connected stiff seat parts (35), as well as a jacket part (37) connected to the seat, which jacket part can be fitted around the torso of the disabled person and is provided with at least two parallel, spaced strips (39), which are attached to the jacket part and which on one edge are provided with zipper elements (41) which can be connected to each other by a closing element (43), in order to make the size of the jacket part smaller.

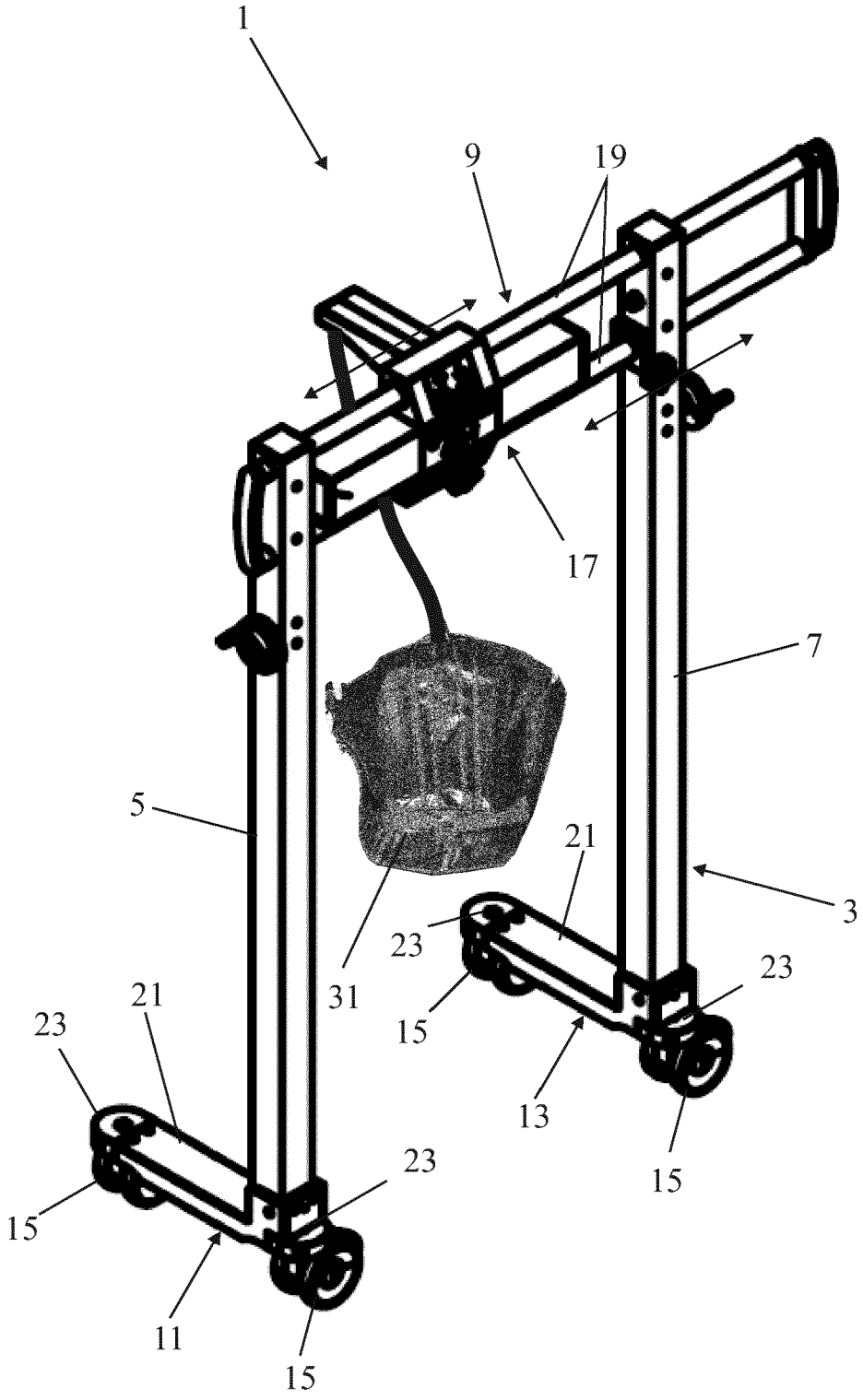

FIG. 1

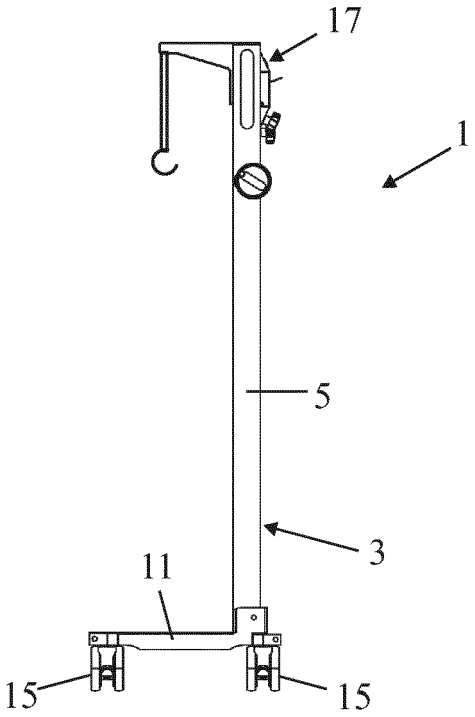

FIG. 2

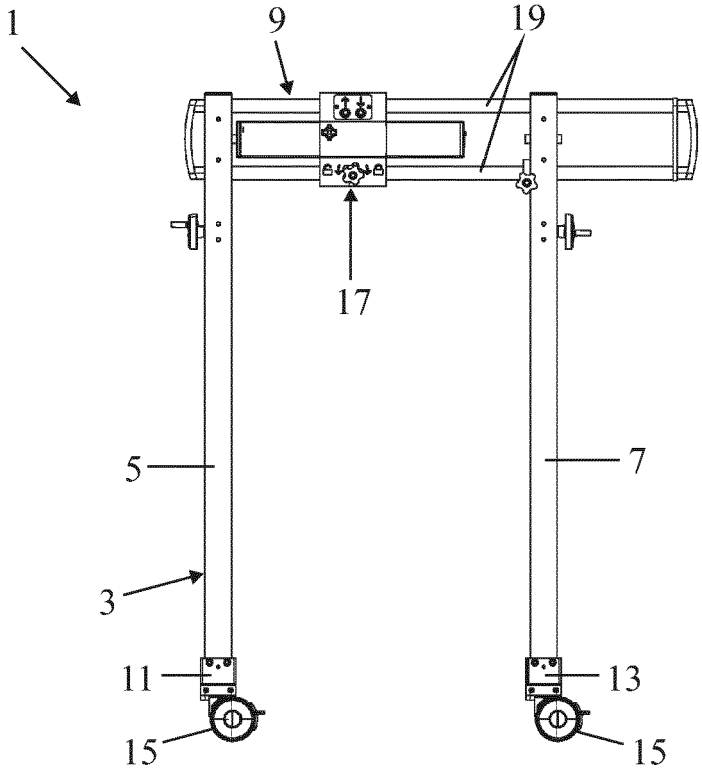

FIG. 3

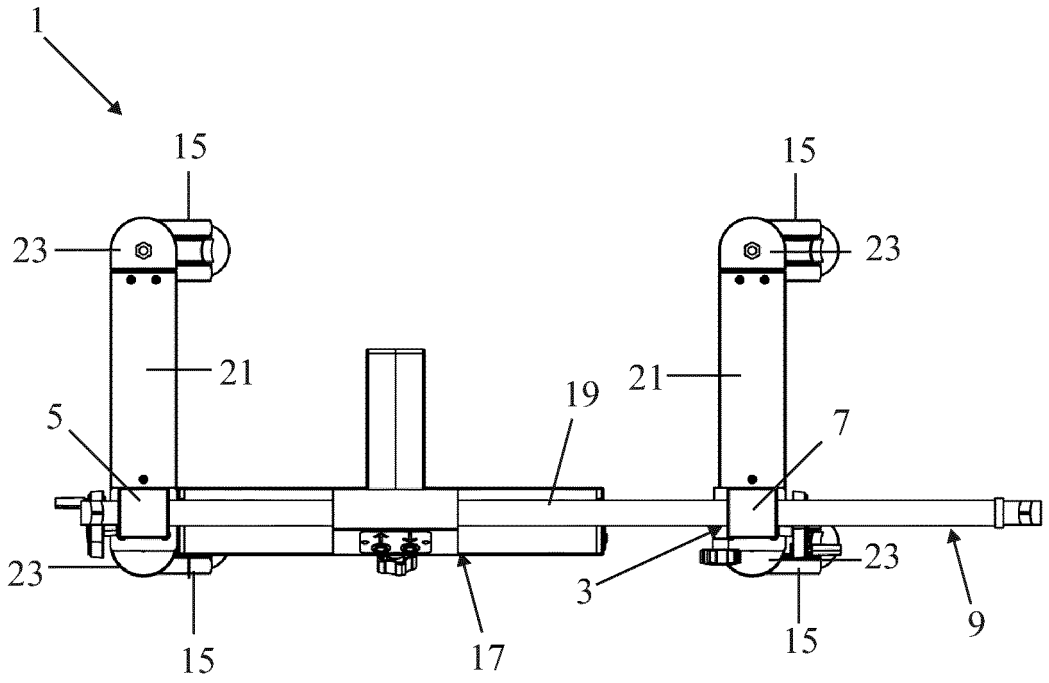
1
15
15
23
23
21
21
19
5
7
23
23
3
15
15
17
9

FIG. 4

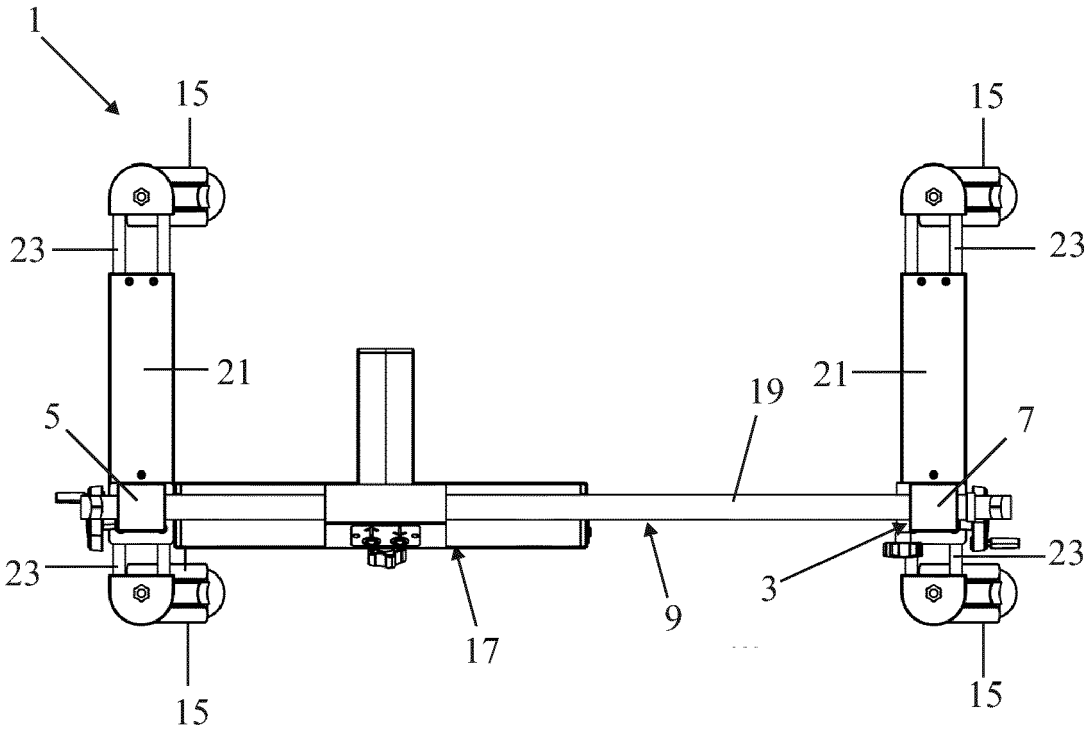
1
15
15
23
23
21
21
19
5
7
23
23
3
17
9
15
15

FIG. 5

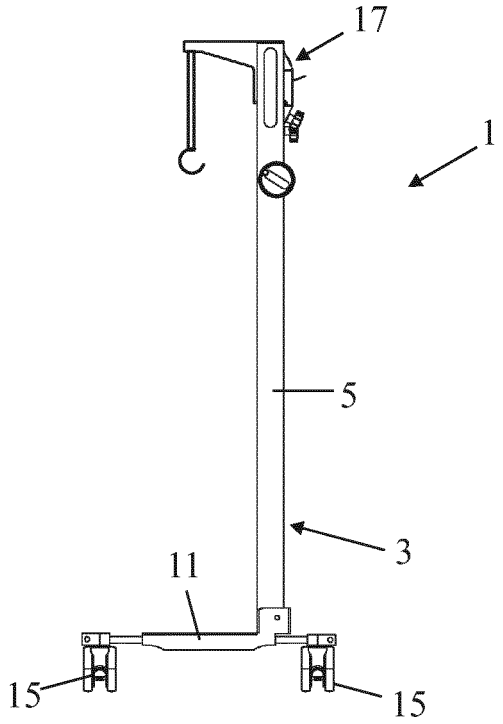

FIG. 6

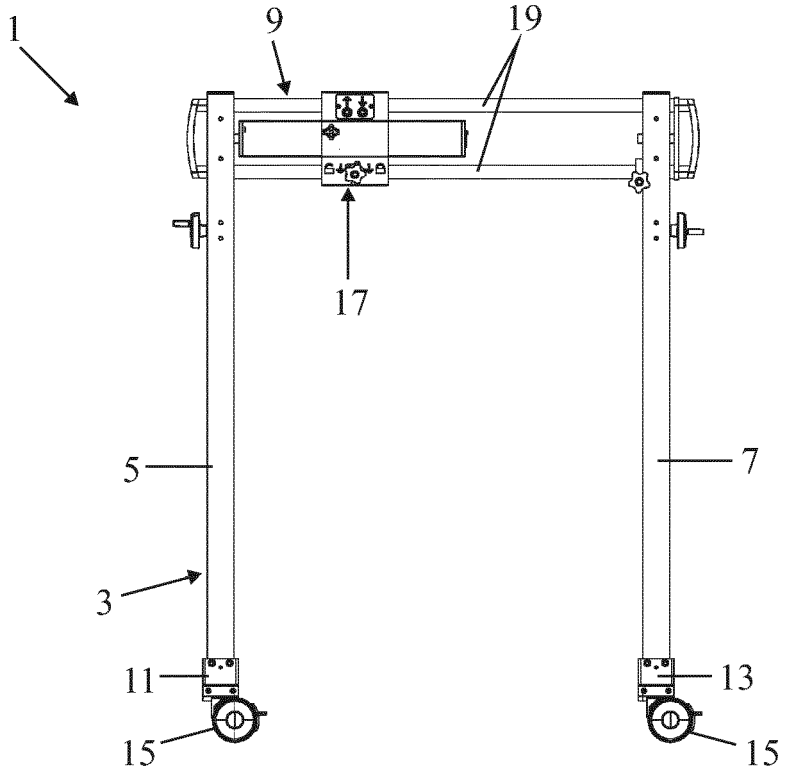

FIG. 7

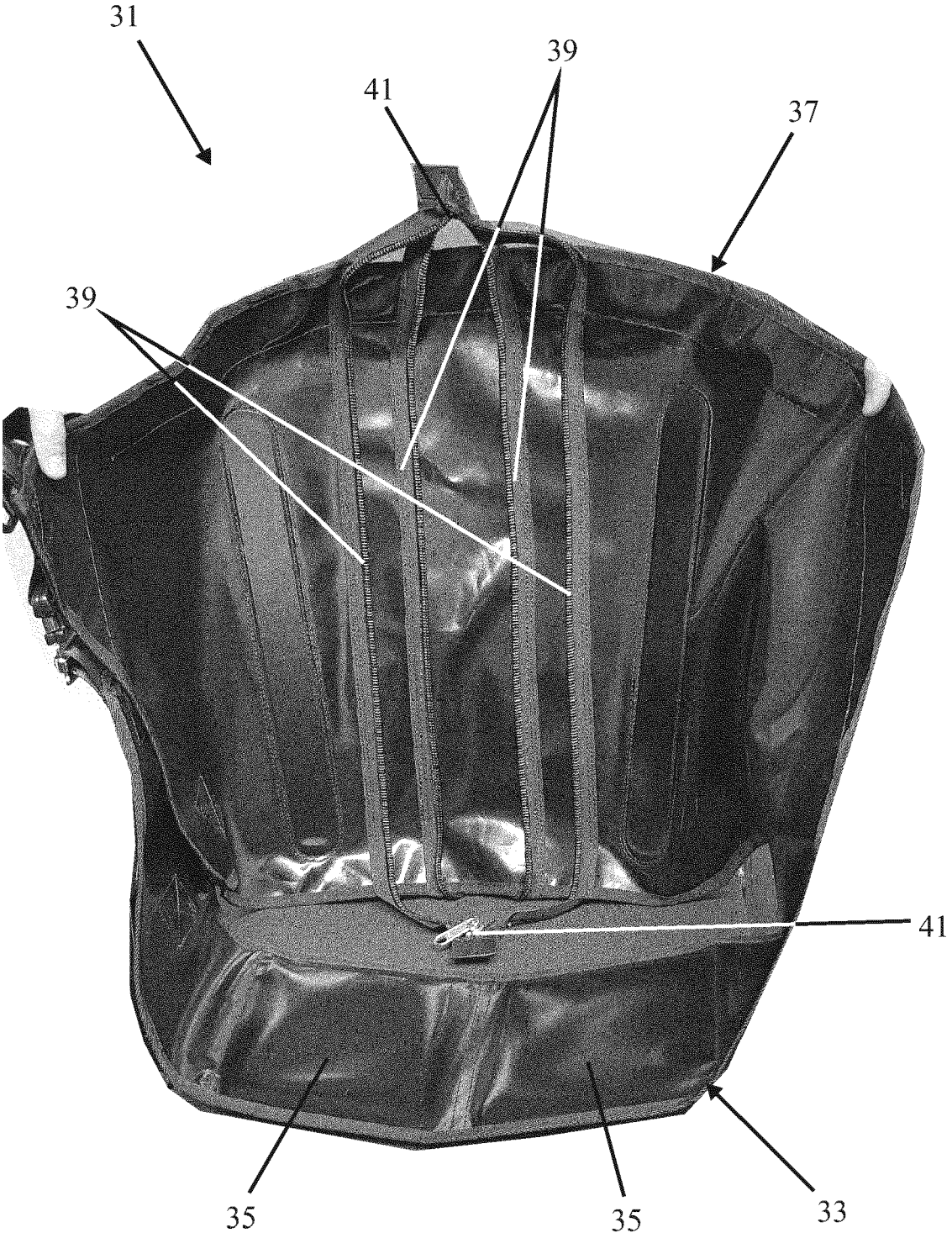

FIG. 8