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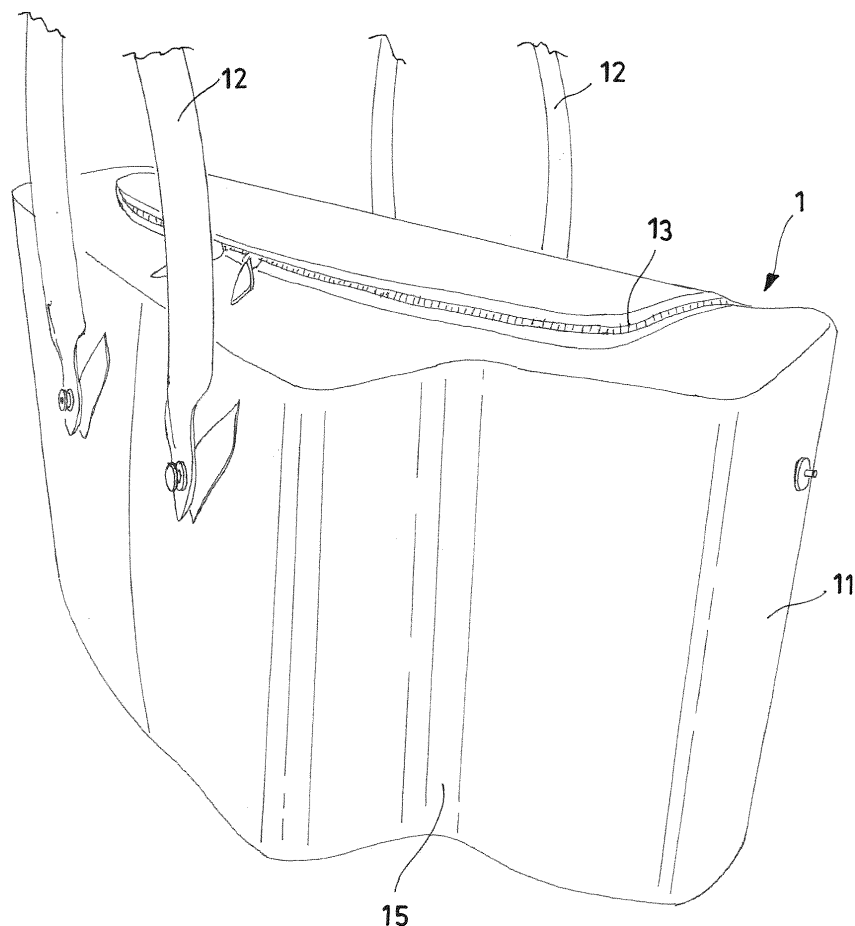
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(54) **LUGGAGE CASE SHAPED TO FIT FOR CAR BOOTS AND EQUIPPED WITH WHEELS FOR ITS TRANSPORTABILITY**

(57) A luggage suitcase (1) that is irregularly shaped to match the shape of a vehicle trunk. This suitcase in-

cludes a support structure (2) for wheels (21) that allow the case to be transported, this structure being removable from the case, as it has means (B) for hooking/unhooking from the suitcase itself.



**Fig.1**

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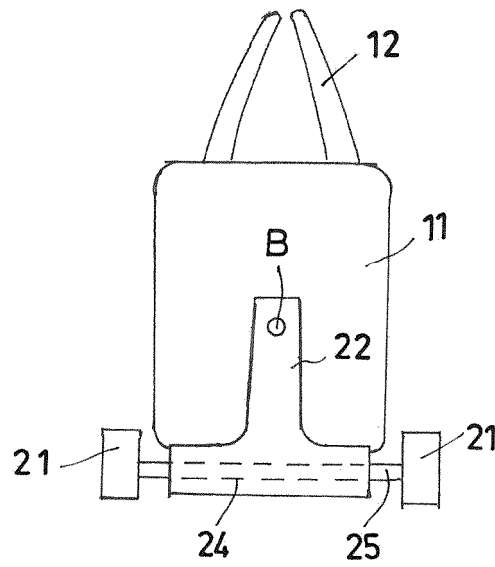


Fig.3a

## Description

**[0001]** The present invention relates to a luggage suitcase that has a shape to match car trunks. In addition, such a suitcase is equipped with wheels or castors that allow it to be easily transported.

**[0002]** It is well known that some car trunks have particularly irregular shapes due, for example, to the arrangement of mechanical parts that are essential to the vehicle. For example, in sports cars, convertibles or cars designed to reach high top speeds and high performance levels, the trunk is often small to the rear or front of the passenger compartment.

**[0003]** Therefore, it can be a problem to fit ordinary suitcases of standard regular shape and size (usually parallelepiped or semi-circular) into such types of boots.

**[0004]** One solution to this problem may be to make a customised suitcase with dimensions and shape corresponding to those of the trunk inside which it is to be housed.

**[0005]** A further problem is that of the transportability of such a suitcase, which must therefore be equipped with wheels, like a trolley. However, the particular shape of the suitcase and the irregular shape of the trunk would not allow it to fit into the trunk itself, as the wheels and the structure supporting them would be an impediment to its proper housing.

**[0006]** The solution proposed by the present invention is to equip such a bag of a predetermined shape and size to fit into an irregularly shaped trunk with a support structure for wheels that allow the bag itself to be transported, and which can be freely and easily attached to and removed from the suitcase.

**[0007]** The present invention sets out to overcome the above-mentioned drawbacks by proposing a luggage suitcase shaped to fit car trunks having the characteristics of the appended claim 1.

**[0008]** Further features of the present invention are contained in the dependent claims.

**[0009]** The characteristics and advantages of the present invention will become more apparent from the following description of an embodiment of the invention, provided by way of non-limiting example, with reference to the schematic attached drawings, wherein:

Figure 1 illustrates a perspective view of a suitcase according to an embodiment of the invention;  
Figure 2 illustrates a perspective view of a suitcase according to a further embodiment of the invention;  
Figures 3a and 3b schematically illustrate a suitcase provided with a support structure for wheels according to a first embodiment of the present invention;  
Figure 3c schematically illustrates a suitcase provided with the support structure for wheels according to a second embodiment of the present invention;  
Figure 4a schematically illustrates the support structure for wheels according to the embodiment of figures 3a and 3b;

Figure 4b schematically illustrates the support structure for wheels according to the embodiment of figure 3c;

Figure 5 schematically illustrates the support structure for wheels of figure 4a constrained to an edge of a suitcase;

Figure 6 schematically illustrates a detail of the hooking of the support structure for wheels of figure 4a to a suitcase;

Figure 7 schematically illustrates the mechanism for hooking wheels to the support structure for wheels according to the present invention.

**[0010]** With reference to the above-mentioned figures, the suitcase 1 according to the present invention has a casing 11 for holding luggage and is usually provided with handles 12 and an opening 13 (which can be closed, for example, by means of a zip) to allow objects to be inserted into and removed from the casing.

**[0011]** Such suitcases have an irregular shape to match the shape of a vehicle trunk. For example, in the suitcase illustrated in figure 1, there are two substantially convex protrusions 14 on the top of the suitcase. In the suitcase illustrated in figure 2, the casing on one side has a substantially vertical recess 15.

**[0012]** Some car trunks have particularly irregular shapes due, for example, to the arrangement of mechanical parts that are essential to the vehicle. For example, in sports cars, convertibles or cars designed for high top speed and high performance, the boot is often small and irregularly sized, and is built at the rear or front of the passenger compartment.

**[0013]** The suitcase according to the present invention comprises a support structure 2 for wheels 21 which enable the suitcase to be transported. This structure is removable from the case, as it has hooking/unhooking means comprising for example an automatic press-stud B which fits into its corresponding seat obtained on the suitcase, or vice versa.

**[0014]** This structure is advantageously shaped to be associated with a lower edge 16 of the suitcase.

**[0015]** In particular, the structure comprises a body (e.g. made of the same material as the suitcase) that can be folded into two flaps 22 and 23 at about 90°, thus embracing the edge of the suitcase. Along the folding line 24 of the body the rotation shaft 25 is provided, which has wheels 21 at its ends and hooking means comprising automatic press-studs B present on the flaps (e.g. of the Tenax type).

**[0016]** The body along this folding line includes a transverse housing into which this shaft is inserted. The housing can be created by the overlapping of several layers 26 and 27 of material of which the body is made.

**[0017]** According to the embodiment of figures 3a, 3b and 4a, the flaps 22 and 23 are elongated longitudinally and the body along this folding line is enlarged with respect to its longitudinal ends, so as to have a width substantially corresponding to the width of the edge 16 of

the suitcase to which the structure is applied. The suitcase includes at least a loop 17 under which at least one of the flaps 22 and 23 is inserted.

**[0018]** According to the embodiment of figures 3c and 4b, the flaps 22' and 23' are enlarged in a transverse direction and along the folding line 24' of the body there is a rotation shaft 25 which has wheels 21 at its ends and on the flaps there are hooking means comprising snap fasteners B (e.g. of the Tenax type).

**[0019]** Figure 7 shows a detail of the shaft 25 which is hollow and internally threaded so as to accommodate pins 28 also threaded with a spherical head, on which the wheels are engaged.

8. The suitcase according to claim 1, in which the flaps (22', 23') are widened in a transverse direction and along the folding line (24') of the body the rotation shaft (25) is provided which at its ends it has the wheels (21) and the hooking means are present on the widened edges.

9. The suitcase according to claim 1, in which the shaft (25) is hollow and internally threaded so as to accommodate pins (28) also threaded with a spherical head, on which the wheels are engaged.

## Claims

1. A luggage suitcase that has an irregular shape to match the shape of a vehicle trunk, said suitcase comprising a support structure (2) for wheels (21) which allow the suitcase itself to be transported, said structure being removable from the suitcase, since it has means for hooking/unhooking from the suitcase itself.
2. The suitcase according to claim 1, wherein said hooking/unhooking means comprise at least an automatic press-stud which fits into its corresponding seat obtained on the suitcase, or vice versa.
3. The suitcase according to claim 1, wherein said structure is shaped so as to be associated with a lower edge (16) of the suitcase.
4. The suitcase according to claim 1, wherein the structure comprises an elongated body which can be folded into two flaps (22,23) at about 90° thus embracing the edge of the suitcase, along the folding line (24) of the body is provided with a rotation shaft (25) which has wheels (21) at its ends and hooking means are present on the flaps.
5. The suitcase according to claim 1, wherein the body along said folding line (24) comprises a transverse housing in which said shaft is inserted.
6. The suitcase according to claim 4, in which the flaps (22,23) are elongated in a longitudinal direction and the body along this folding line (24) is widened with respect to its longitudinal ends, so as to have a substantially corresponding width with the width of the edge (16) of the case to which the structure is applied.
7. The suitcase according to claim 6, comprising at least a loop (17) under which at least one of the flaps (22,23) is inserted.

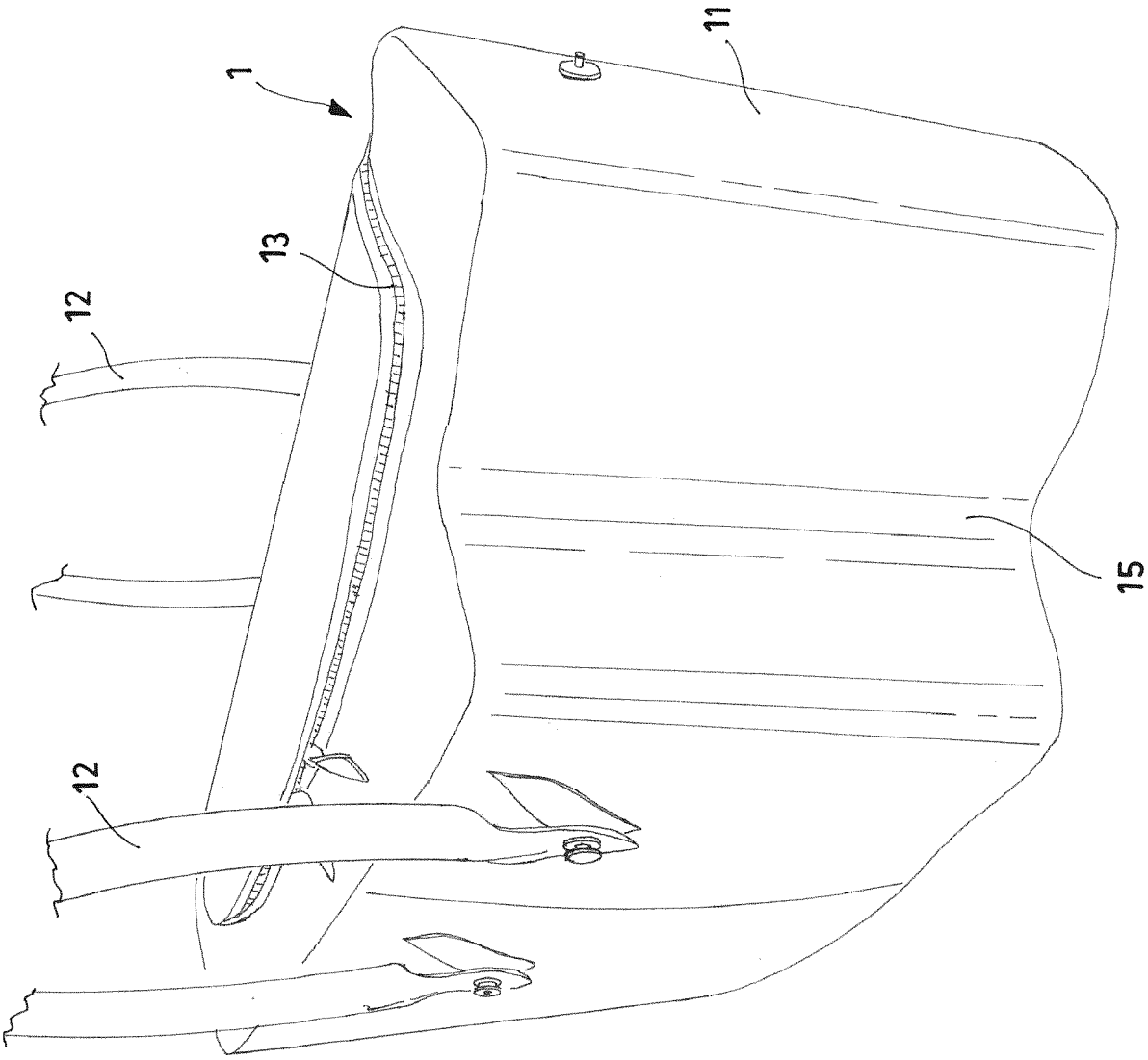


Fig.1

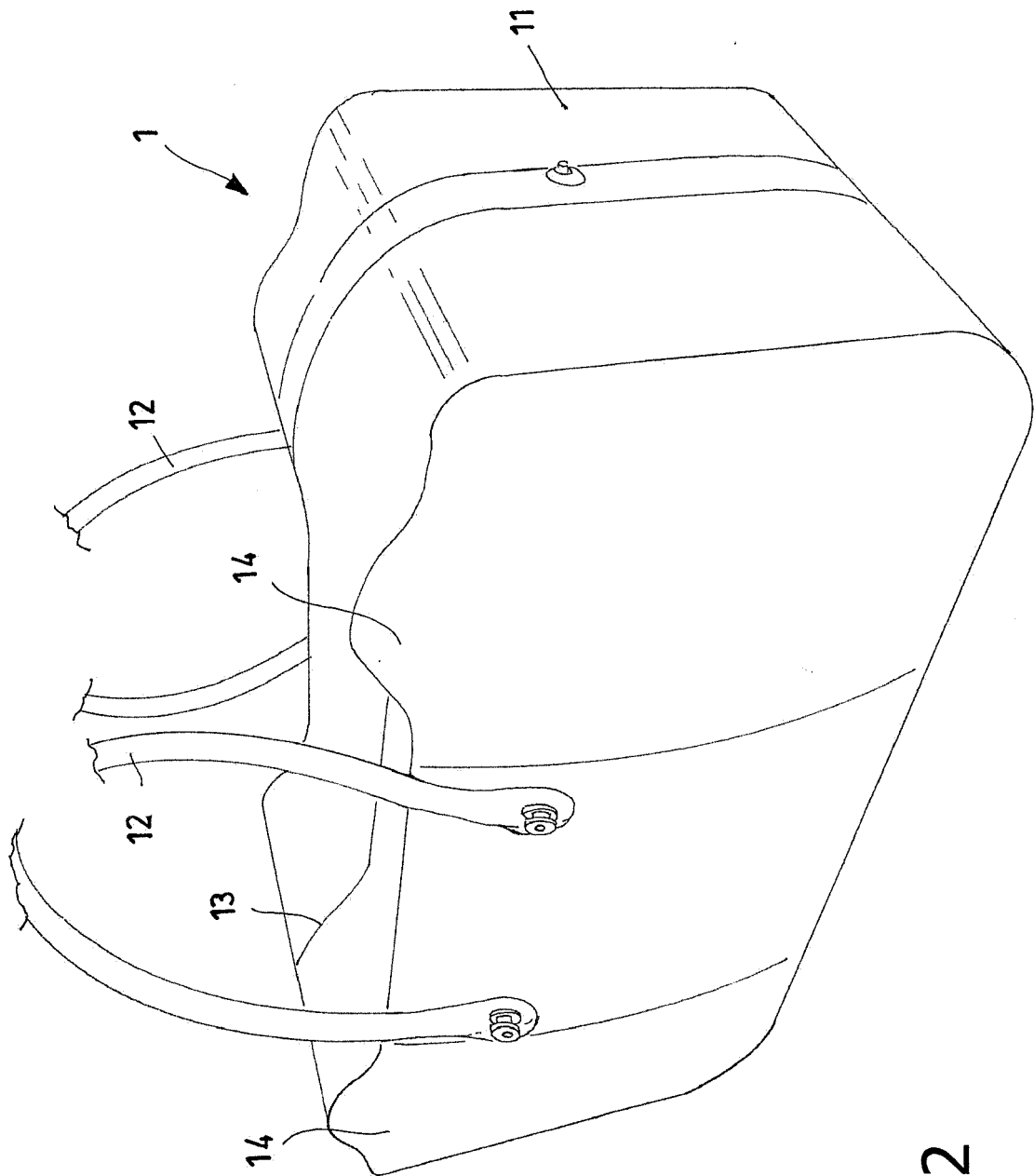


Fig.2

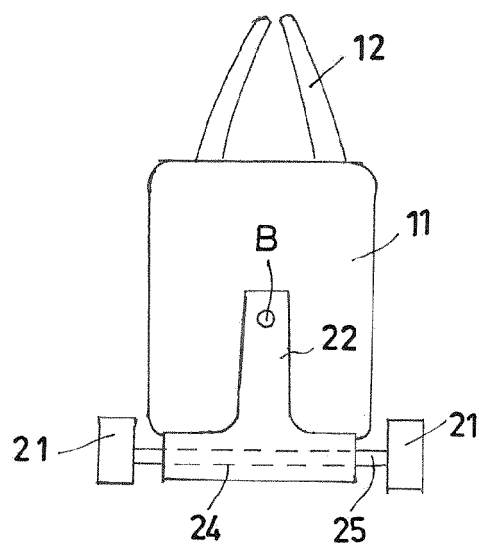


Fig.3a

Fig.3b

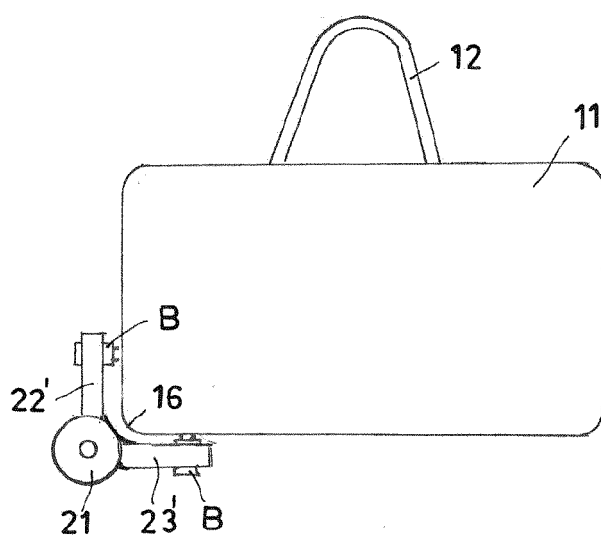
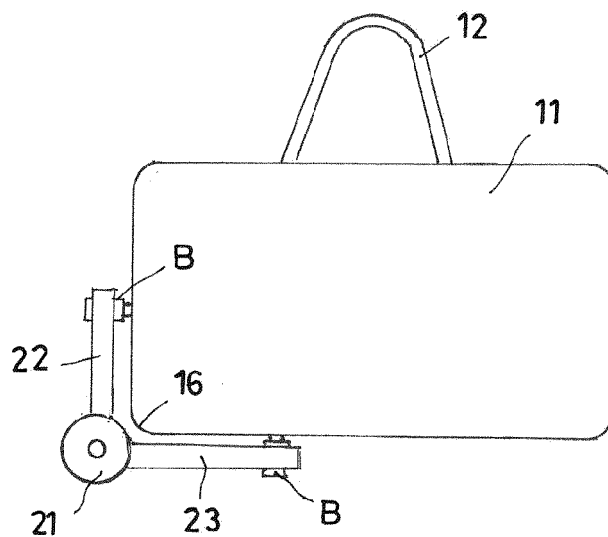
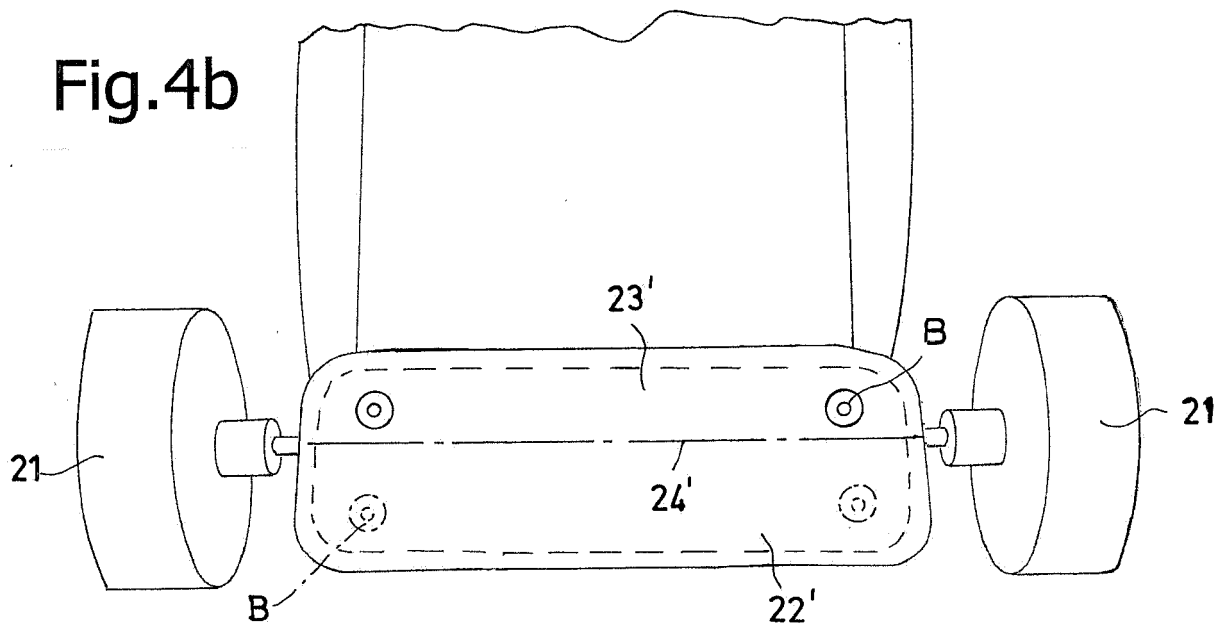
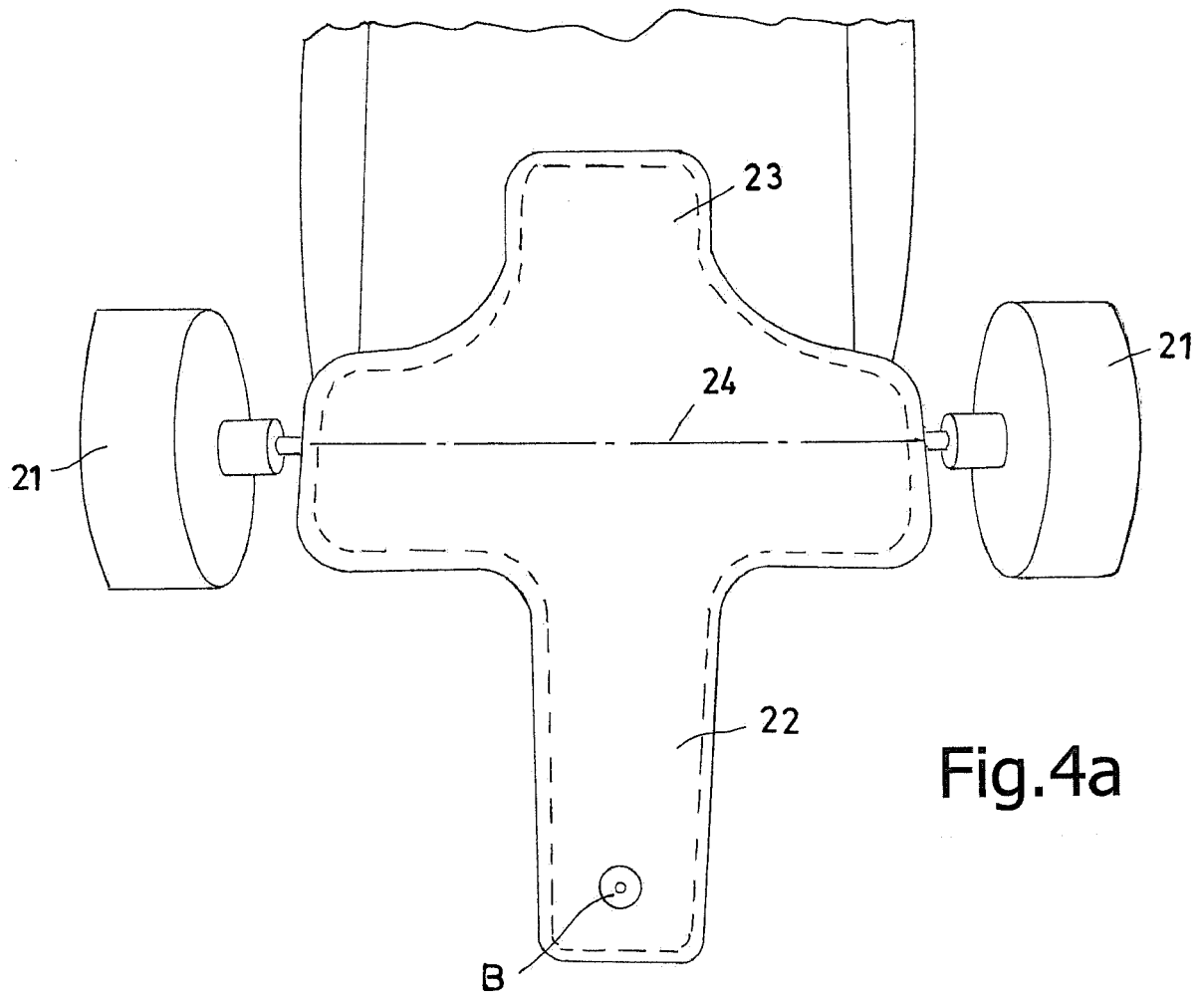


Fig.3c



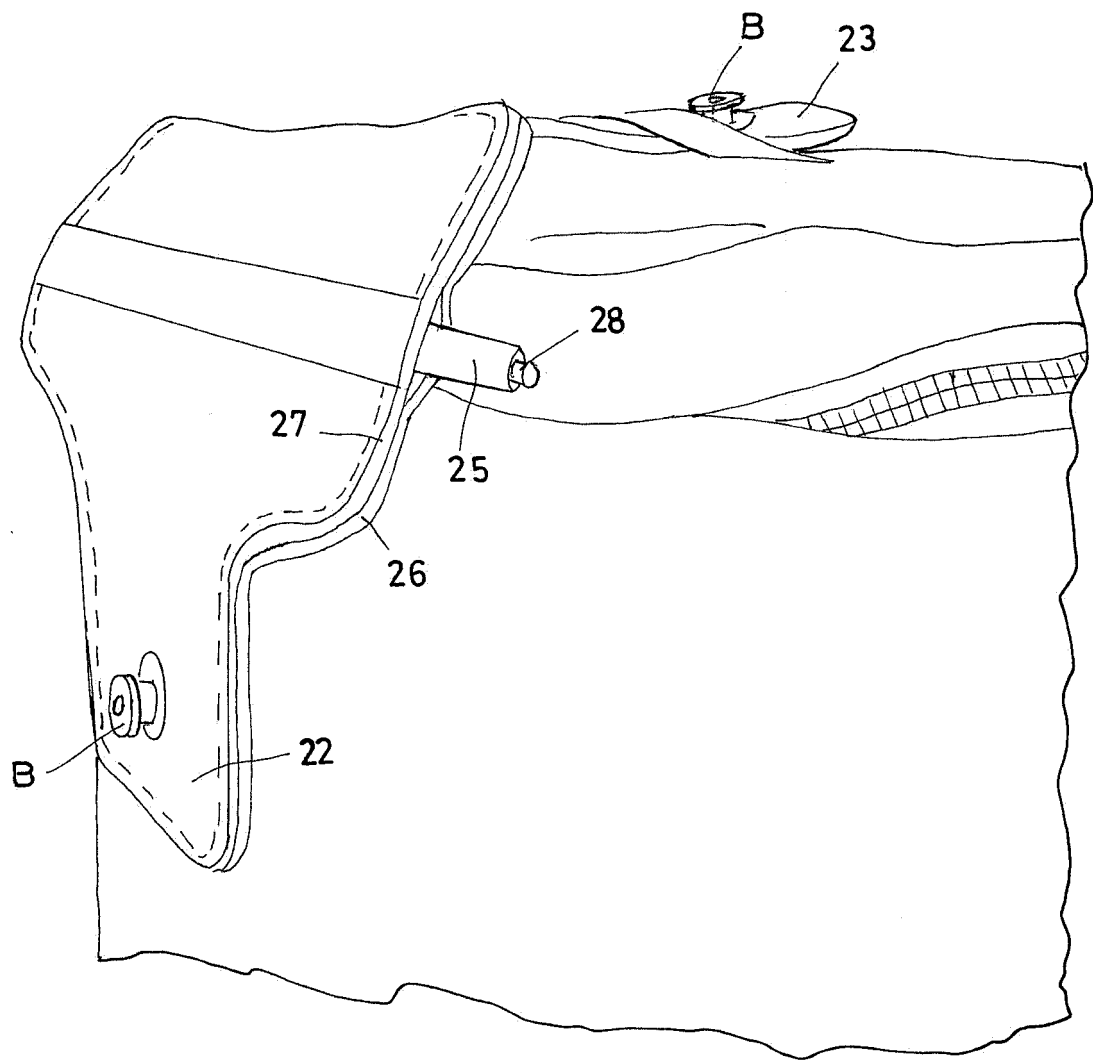


Fig. 5

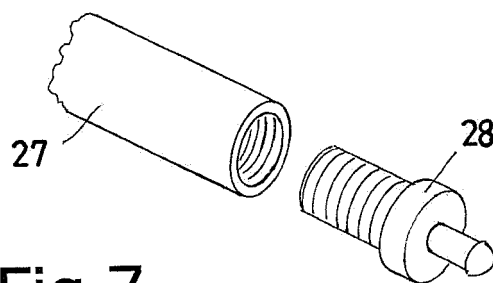


Fig. 7

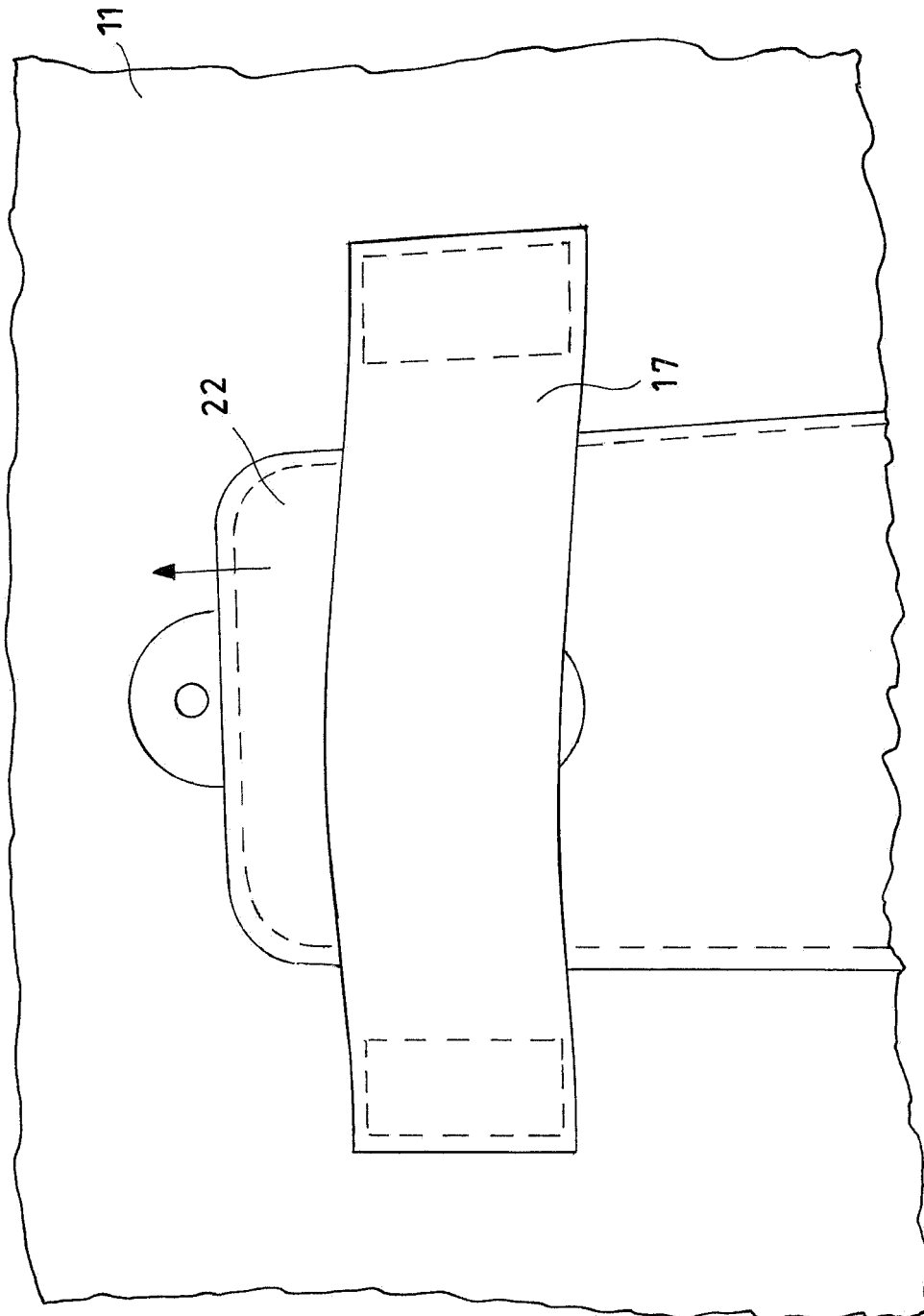


Fig.6



## EUROPEAN SEARCH REPORT

Application Number

EP 22 20 5476

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The present search report has been drawn up for all claims

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Place of search

Date of completion of the search

Examiner

The Hague

17 March 2023

Witkowska-Piela, A

## CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone  
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A : technological background  
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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