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(54) Title: CARRIER FOR PET OF SMALL OR MEDIUM SIZE

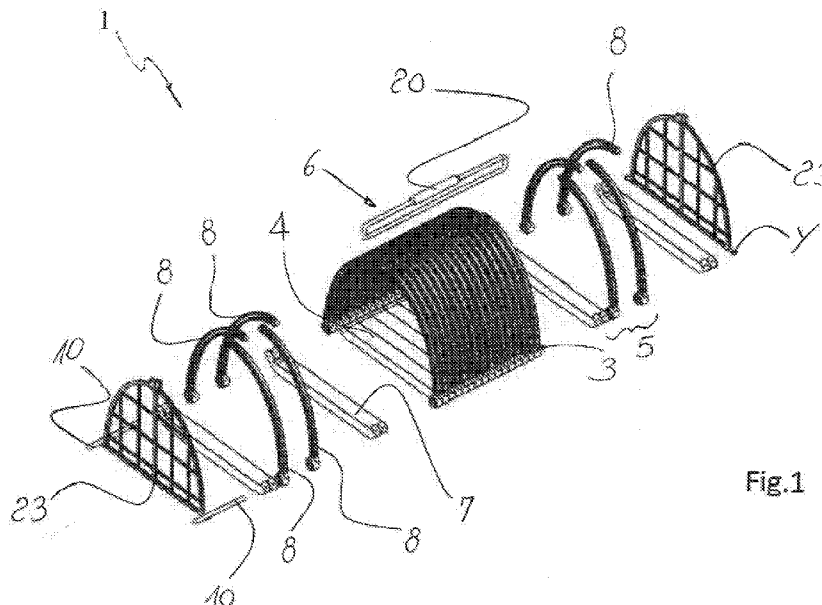


Fig.1

(57) Abstract: A carrier for pets of small or medium size comprises a housing (2) for at least one animal having a side wall (3) which extends along a longitudinal axis and at least one longitudinal end adapted to be opened for the access thereinside. The side wall (3) comprises a plurality of modules (5) longitudinally adjacent to each other and anchored in a removable manner to a same longitudinal support element (6) to vary the number of modules (5) forming the walside (3) and adjust the length thereof to adapt the volume of the housing (2) to the size of the animal to be carried.



CARRIER FOR PET OF SMALL OR MEDIUM SIZE

Description

Technical Field

The present invention finds application in the field of the accessories for animals and it particularly relates to a carrier for pets of small or medium size, such as but not limited to dogs, cats, rabbits and pets in general.

State of the art

As known, the devices suitable for the transport of domestic animals of small and medium size, commonly referred to as "carriers", are widespread since many time, which devices may have different shapes, sizes and materials of construction but are all generally characterized by a shell-shape with an opening access for the animal adapted to be closed by a removable grid.

Such carriers, made for example of plastic, wood, woven wood, fabric, leather, metal wires, have also side slits and/or slits placed on the roof, so as to allow an easy passage of air thereinside.

A first limit of the known carriers is constituted by their bulkiness and particularly by the fact that they have a not reducible encumbrance even when they are not used.

In order to reduce the volume occupied when not used, some models of carriers available on the market, and among these in particular those made of plastic, may be disassembled, usually through a horizontal section that divides the carrier into two halves: a lower shell, or base, and an upper shell, or lid.

The upper part, suitably upside down, is inserted upside down in the lower base so as to reduce its volume and to make easier their storage or transport.

Even if this solution is oriented to solve the problem of the reduction of the overall dimensions, it does not solve it fully but at the most it reduces by half the maximum encumbrance.

Otherwise, the carriers made of fabric or leather, when not in use, are stored upon the crushing and bending of the fabric due to the own flexibility of the used materials.

However, the flexibility of the material makes them impractical during transport of the animal as they tend to close and to restrict the inner space for the animal itself.

Another drawback of almost all carriers on the market and in particular on the most popular models in plastic, is the lack of visibility of the animal due to a closed structure with only smaller grids placed laterally or on the roof.

Another drawback of the products actually on the market is related to the ratio between

the dimensions of the inner housing and those of the animal to be carried.

In fact, on the market there are carriers segmented by weight and size of the animal. This solution often obliges the pet's owner to buy several carriers during the phases of growth of the pet or the buy carriers that are oversized compared to the pet size, with

5 obvious risk for the animal itself during transport.

From EP0941653 it is known a carrier having a containing side wall formed by two sliding parts in order to adjust the volume of the housing space of the animal.

The range of usable volumes is however not sufficient to cover the different needs during the growth of the animal.

10 Furthermore, when not in use, the carrier maintains a relevant encumbrance corresponding to the minimum volume of the housing space in the condition of use.

GB2439138 discloses a carrier having a foldable side wall so as to minimize the dimensions when not used. However, the volume of the housing space is not adjustable in function of the real needs of the animal to be carried.

15 Scope of the invention

The object of the present invention is to overcome the above mentioned drawbacks by providing a carrier for pets of small or medium size that is particularly economical and effective.

20 A particular object is to provide a carrier for pets of small or medium size that has a housing space of the pet with adjustable volume in function of the space requirements of the animal and which can be incremented following the growth thereof or reduced in the case the carrier has to be used with a different pet of smaller size.

A further object is to provide a carrier for pets of small or medium size that when not used may assume a condition of minimum overall dimensions.

25 Still another object is to provide a carrier for pets of small or medium size that is easy to transport and adapted to be stored in an economical way.

A particular object is to provide a carrier for pets of small or medium size that can be produced using a significantly limited number of types of elements, dramatically reducing the cost of the molds.

30 Not least object is to provide a carrier for pets of small or medium size that ensures high visibility of the animal, so that it is possible always to keep it under control and at the same time to ensure high comfort to the animal during transport.

These objects, as well as others which will appear more clearly hereinafter, are achieved by a carrier for pets of small or medium size which, according with claim 1, comprises a

housing for at least one pet, said housing having a side wall which extends along a longitudinal axis and at least one longitudinal end adapted to be opened for the access to said housing, wherein the length of said side wall is adjustable to adapt the volume of said housing to the size of the pet to be carried.

- 5 The side wall comprises a plurality of modules longitudinally adjacent to each other and anchored in a removable manner to a same longitudinal support element to vary the number of said modules forming said side wall and adjust the length thereof.

Thanks to this combination of features the carrier may be modulated in its length even during time in order to adjust the volume of the housing in function of the actual size of
10 the pet to be carried, to follow the growth of the animal or to transport animals of different sizes, always assuring maximum safety for the animal.

Conveniently, each of said modules may comprise a transverse base adapted to define with the bases of the other modules the bottom wall of said housing and a pair of ribs having a lower end anchored to said base by hinge means to rotate from an operative
15 raised condition to a lowered resting condition.

In this way when not used the carrier can be brought into a lowered position in which the overall dimensions are greatly reduced, facilitating storage and transport.

Advantageous embodiments of the invention are obtained according to the dependent claims.

20 Brief disclosure of the drawings

Further features and advantages of the invention will become more apparent in light of the detailed description of a preferred but not exclusive embodiment of a carrier according to the invention, illustrated in way of not limiting example with the aid of the accompanying drawings, wherein:

25 FIG. 1 is an exploded perspective view of the carrier;

FIG. 2 is an assembled perspective view of the carrier of Fig. 1 in opened condition of use;

FIG. 3 is an assembled perspective view of the carrier of Fig. 1 in closed condition for its storing;

30 FIG. 4 is a cross sectional perspective view of the carrier of Fig. 2;

FIG. 5 is a perspective view of a first detail of the carrier;

FIG. 6 is a perspective view of a second detail of the carrier;

la FIG. 7 is a perspective view of a carrier during mounting.

Best mode of carrying out the invention

With reference to the figures a preferred but not exclusive embodiment of a carrier for pats of small or medium size is illustrated, which carrier is adapted to be realized with any of the materials commonly usable for the common carriers, without particular limitations.

- 5 The carrier, generally shown with 1, comprises in a typical manner a housing 2 for at least one animal having a side wall 3 which extends along a longitudinal axis L. The side wall 3 is closed at the bottom by a bottom wall 4 and is open at the longitudinal ends to allow access to the housing 2.

As it can be observed from Fig. 1, the side wall 3 comprises a plurality of modules,
10 generically indicated with 5, longitudinally in side by side relationship with each other and anchored in a removable manner to a same longitudinal support element 6 to vary the number of modules 5 used from time to time to form the side wall 3.

In this way it is possible to adjust the length of the side wall 3 in order to adapt the volume of the housing 2 to the size of the animal to be carried.

- 15 The particular configuration of the modules 5 will allow not only to change the maximum volume of use of the carrier 1 but also to configure the carrier 1 in the assembled condition in a raised or open use, shown in Fig. 2, or in the collapsed or closed condition of Fig. 3, useful for its transport in the absence of animal and/or storage, as will become clearer hereinafter.

- 20 Suitably the modules 5 will be all equal to each other so as to be manufactured with a single mold or with a limited number of molds.

In particular, each module 5 comprises a transverse base 7, shown in Fig. 6, adapted to define with the bases 7 of the other modules 5 the bottom wall 4 of the housing 2. In particular, the transverse bases 7 will be positioned parallel to each other and in
25 longitudinally aligned positions.

Each module 5 also comprises a pair of arcuate ribs 8 designed to define, together with the ribs 8 of the other modules 5, the side wall 3 of the housing 2.

Each ribs 8 has a lower end 9 hinged to the base 7 by means of a hinging pin 10 and the upper end 11 adapted to be anchored to the support element 6.

- 30 The transverse base 7 has at each ends a pair of seats 12 for housing a lower end 9 of a pair of side by side ribs 8.

Furthermore, the housing seats 12 comprise a substantially longitudinal passage 13 adapted to be crossed by the pin 10 which extends for the overall maximum longitudinal length of the side wall 3.

Preferably there are two hinge pins 10 arranged symmetrically with respect to a longitudinal plane of symmetry p of the side wall 3 and are adapted to pass through respective mutually opposite longitudinal passages 13 of the bases 7.

Each rib 8 has at its lower end 9 a small radiused cylinder 14 adapted to be inserted in a corresponding housing seat 12 and centrally crossed by a passing through hole 15 adapted to be aligned with the passages 13 of the respective seats 12 to allow the passage of the pin 10.

Then, a pair of side by side ribs 8 will be inserted into the seats 12 formed at the transverse ends of the base 7 by aligning the longitudinal passage 13 in the base 7 with the end hole 15 of the ribs 8 and by making the pin 10 with length equal to the length of the carrier 1 crossing both the holes 15 and the passages 13.

At their ends the pins 10 have threads which are screwed on the bolt heads 16 so as to lock in a pack shape the single modules 5.

The ribs 8 of each single module 5 will be arranged asymmetrically to each other with respect to a middle plane of the base 7 orthogonal in use to the longitudinal axis L to rotate between the raised condition of use of Fig. 2 and the resting lowered condition of Fig. 3, in which the carrier 1 reduces its volume of more than 2/3, enabling a real space saving.

Then, each module 5 will be constituted by a base 7 and two pairs of ribs 8 mutually side by side.

As it can be seen from Fig. 5, the base cylinder 14 of the ribs 8 is asymmetric to allow the pair of ribs 8 mounted on opposite sides of the base 7 to be staggered by a distance equal to the thickness of the rib 8 and to penetrate with each other at the time of the closure.

The space defined between two consecutive ribs 8 placed on the same side of the side wall 3, equal to the thickness of the rib 8, allows to create a succession of slits 17, which let light and air to enter and thus confer a good visibility both to the animal and to the proprietor in order to control the animal itself. In addition, the arcuate shape of the ribs 8 provides space, visibility and protective sense for the animal.

Not least the asymmetrical positioning of the ribs allows to use ribs 8 of the same shape on both sides of the side wall 3, so as to use a single mold for all the ribs 8.

The support element 6 comprises a lower longitudinal rod 18 adapted to be fastened to the upper ends 11 of the ribs 8 and an upper longitudinal rod 19 provided with gripping handle 20 adapted to be grasped by a user.

The two rods 18, 19 are connected together by end bends 21, at least one of which is removable for inserting and/or removing one or more modules 5.

The ribs 8 have also a guide for the relative sliding of the longitudinal support element 6 during the rotation of the ribs 8 in the transition between the condition of use and the resting one.

In particular, each rib 8 has a groove or slot 22 extending for at least part of its longitudinal extension.

The lower longitudinal rod 18 will be designed to be inserted in a sliding manner into the slots 22 of all the ribs 8 belonging to the modules 5 used for assembling the side wall 3.

The quick closing and opening movement of the carrier 1 is provided by the handling and support element 6 that, when pulled upward, allows to lift the ribs 8 in the "open" working configuration of Fig. 2, while when pushed downwards obliges the opposing ribs 8 to slide against one another until to close the carrier 1 in the resting or "closed" condition of Fig. 3.

The side wall 3 is closed at its longitudinal ends by a pair of grid front walls 23 that allow selective access to the housing 2.

The closing front walls 23 are adapted to be hinged to the bases 7 of the modules 5 placed at the longitudinal ends of the side wall 3 in the assembled condition to rotate about a respective transverse axis between a substantially horizontal position of non-use or of opened housing 2 and a substantially vertical condition for closing the housing 2.

Apart from the function of closing the housing 2, the grids 23 will have the function of stabilizing the side wall 3 in the open condition, when arranged vertically.

To this end, the front walls 23 have respective means 24 for stable and removable coupling to a respective end module 5.

In the exemplificative but not limiting embodiment of the figures the coupling means 24 are of the snap type and comprise for each grid 23, a pair of teeth 25 formed on the structure of the grid itself and arranged symmetrically with respect to the longitudinal plane of symmetry p to fit into respective slots 22 of the ribs 8 of the end modules 5.

In the resting or "closed" position, the grids 23 are placed inside the housing 3 and rest on the bottom wall 4 after a rotation towards the inside. To open and put in the working position the carrier 1 it is therefore sufficient to hold the upper rod 19 through the handle 20 and lift it. In such a working configuration it is possible to rotate upwards the grids 23 up to bring them to close the end openings.

Once in the vertical position, the grids 23 are locked on the ribs 8 by means of the teeth 25. In this configuration, the grids 23 provide a stop for the ribs 8 in the open position, preventing the mutual opposed translational and the consequent unintentional closing of the carrier 1.

- 5 The unlocking of the grids 23 is performed by tightening the teeth 25 with two fingers through a pressure in opposition so as to take them out of the slots 22, allowing the ribs 8 to translate in opposition for closing the carrier 1 by means of a pressure on the handle 20.

From the above it appears evident that the invention achieves the intended objects.

- 10 The carrier according to the invention is susceptible of numerous modifications and variations, all falling within the inventive concept expressed in the accompanying claims. All the details may be replaced with other technically equivalent elements, and the materials may be different according to requirements, without departing from the scope of the present invention.

15

Claims

1. A carrier for pets of small or medium size, comprising a housing (2) for at least one animal, said housing (2) having a side wall (3) which extends along a longitudinal axis (L) and at least one longitudinal end adapted to be opened for the access to said housing (2), wherein the length of said side wall (3) is adjustable to adapt the volume of said housing (2) to the size of the animal to be carried;
characterized in that said side wall (3) comprises a plurality of modules (5) longitudinally adjacent to each other and anchored in a removable manner to a same longitudinal support element (6) to vary the number of said modules (5) forming said wall side (3) and adjust said length.
2. Carrier as claimed in claim 1, characterized in that each of said modules (5) comprises a transverse base (7) adapted to define with the bases (7) of the other modules (5) the bottom wall (4) of said housing (2) and a pair of arcuate ribs (8) having a lower end (9) anchored to said base (7) and the upper end (11) adapted to be anchored to said longitudinal support element (6).
3. Carrier as claimed in claim 2, characterized in that said lower ends (9) of said ribs (8) are connected to said base (7) by means of hinge means (10).
4. Carrier as claimed in claim 3, characterized in that said ribs (8) are arranged asymmetrically with respect to a middle plane of said base (7) orthogonal during use to said longitudinal axis (L) to rotate from a raised condition of use to a resting lowered condition.
5. Carrier as claimed in claim 4, characterized in that each of said transverse bases (7) has at each end a seat (12) for housing a corresponding lower end (9) of a corresponding rib (8), said housing seats (12) comprising a substantially longitudinal passage (13) for said hinge means (10).
6. Carrier as claimed in claim 5, characterized in that said hinge means (10) comprise a pair of pins arranged symmetrically with respect to a longitudinal symmetry plane (p) of said side wall (3) and adapted to cross respective longitudinal passages (13) of said bases (7).
7. Carrier as claimed in claim 2, characterized in that said longitudinal supporting element (6) comprises a longitudinal lower rod (18) adapted to be fastened to said ribs (8) and an upper longitudinal rod (19) adapted to be grasped by a user, said rods (18, 19) being connected together by end bends (21) at least one of which is removable for inserting and/or removing one or more of said modules (5).

8. Carrier as claimed in claim 2, characterized in that each of said ribs (8) has a guide (22) for the relative sliding of said longitudinal supporting element (6).

9. Carrier as claimed in claim 8, characterized in that said guide (22) comprises a slit extending for at least part of the longitudinal extension of the respective ribs (8), said lower longitudinal rod (18) of said support element (6) being adapted to be slidably inserted in the slit of the ribs (8) of said longitudinal modules (5) in mutual side by side positions.

10. Carrier as claimed in claim 1, characterized by comprising a pair of end walls (23) for closing said openable longitudinal ends of said housing (2).

11. Carrier as claimed in claim 10, characterized in that its said front walls (23) are grids.

12. Carrier as claimed in claim 10, characterized in that said closing end walls (12) are adapted to be hinged to the bases of the modules (5) placed at the longitudinal ends of said side wall (3) in the assembled condition to rotate around a respective transverse axis (Y) between a substantially horizontal resting position or of opened housing (2) and a substantially vertical condition for closing said housing (2).

13. Carrier as claimed in claim 11, characterized in that each of said end walls (23) has respective means (24) for the stable and removable coupling to a respective end module (5) when they are in a vertical position.

14. Carrier as claimed in claim 13, characterized in that said coupling means (24) are of the snap type.

15. Carrier as claimed in claim 14, characterized in that said coupling means (24) comprise a pair of teeth (25) arranged symmetrically with respect to said longitudinal plane of symmetry (p) to fit in respective grooves (22) of the ribs (8) of the end modules

(5).

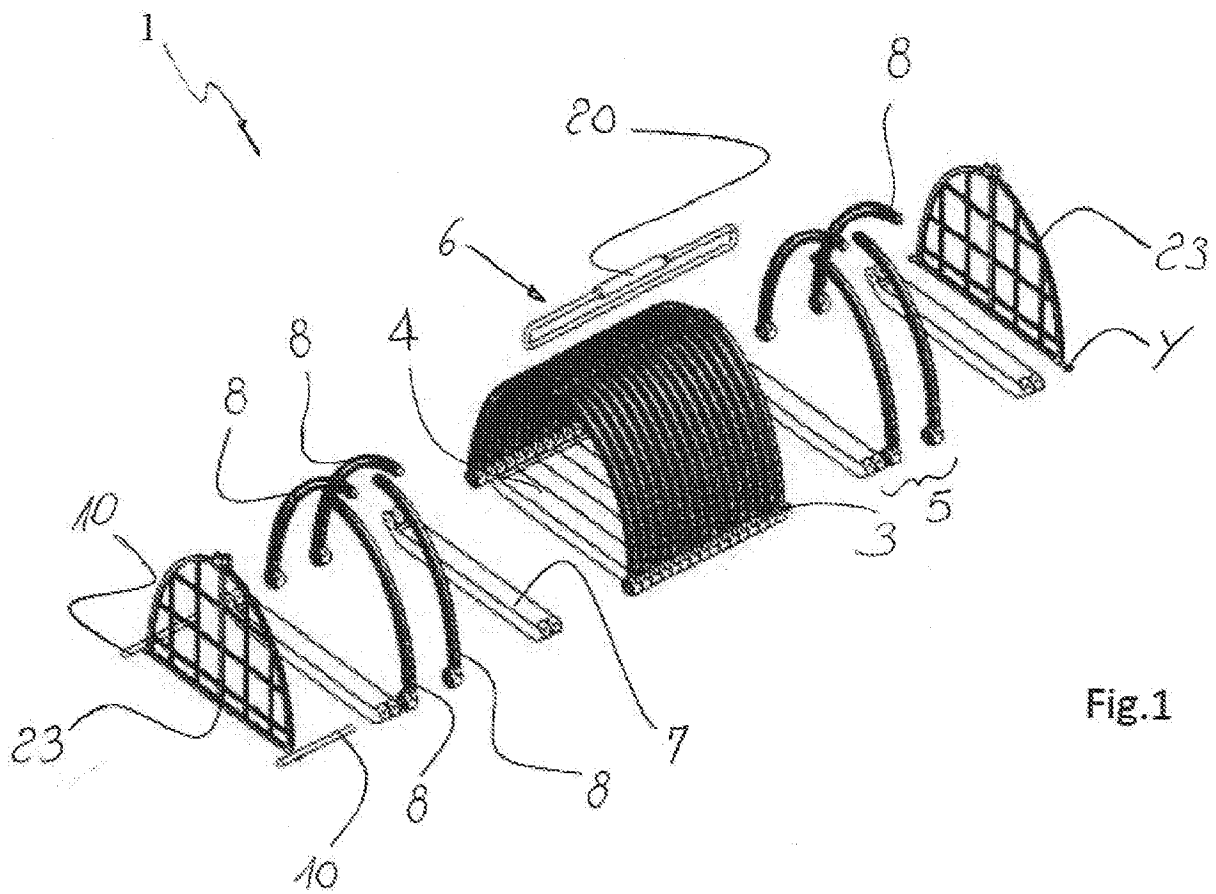


Fig. 1

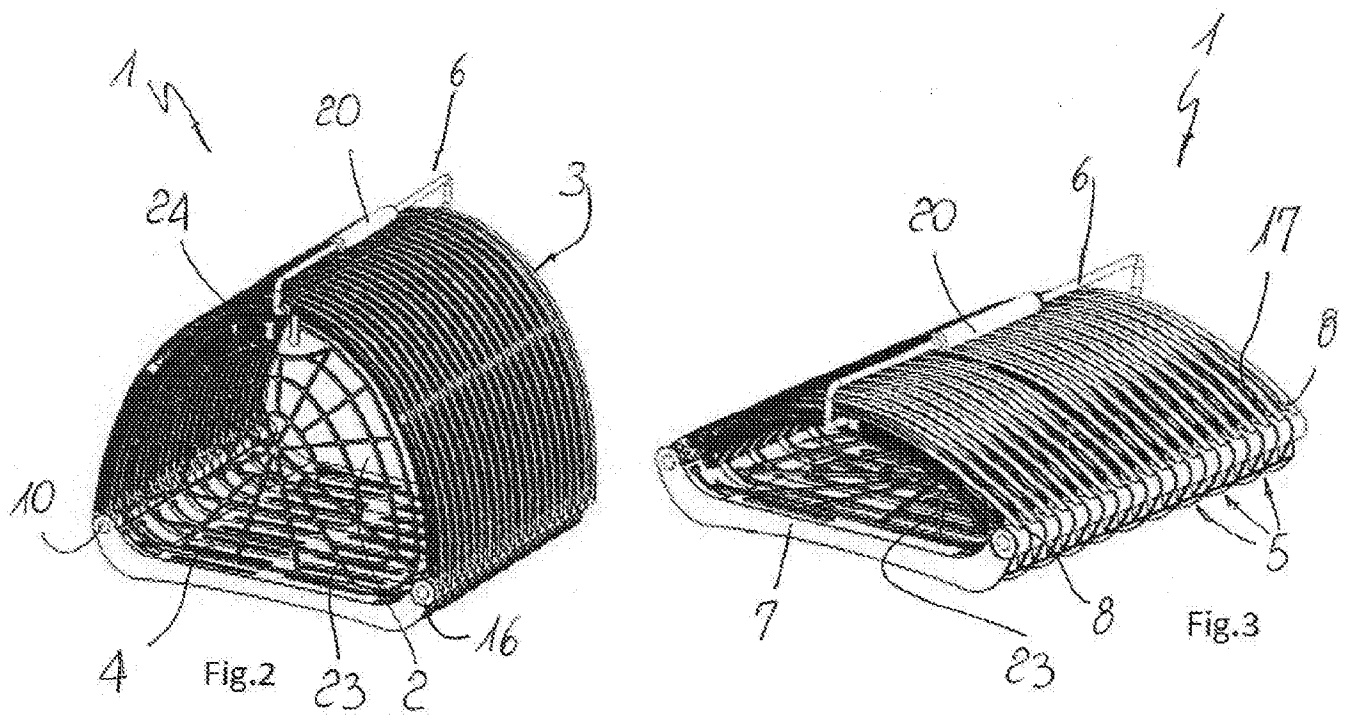
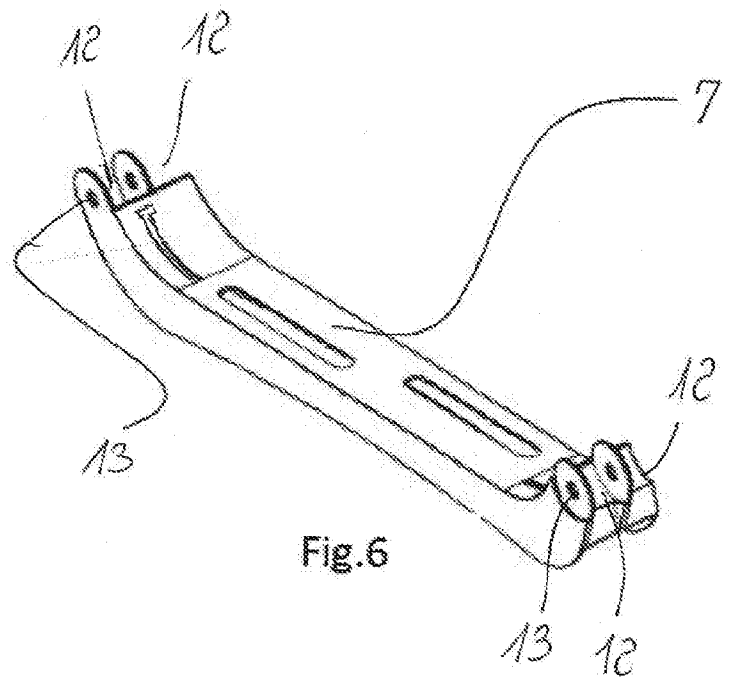
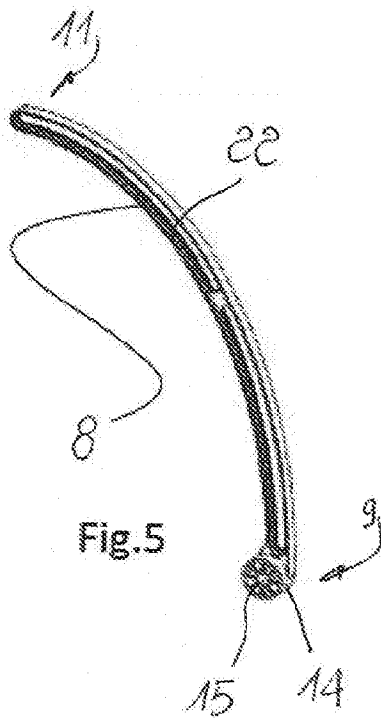
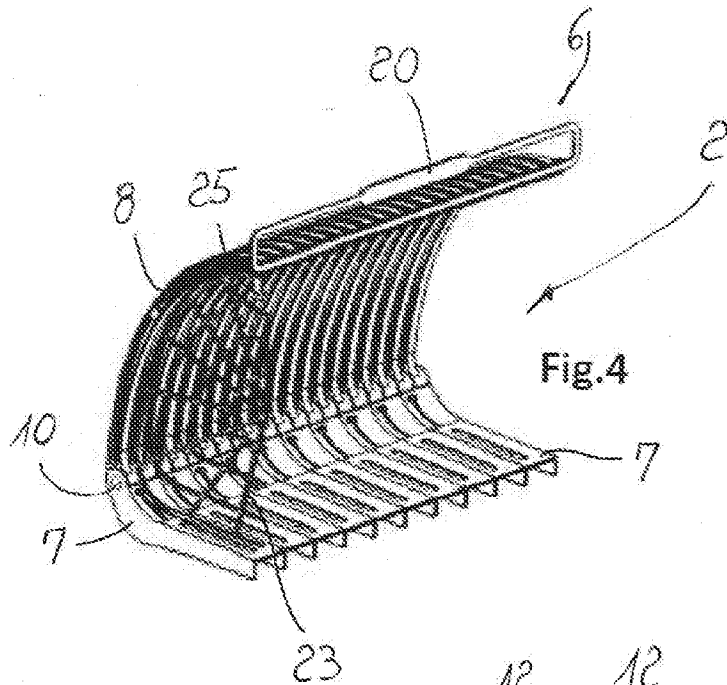
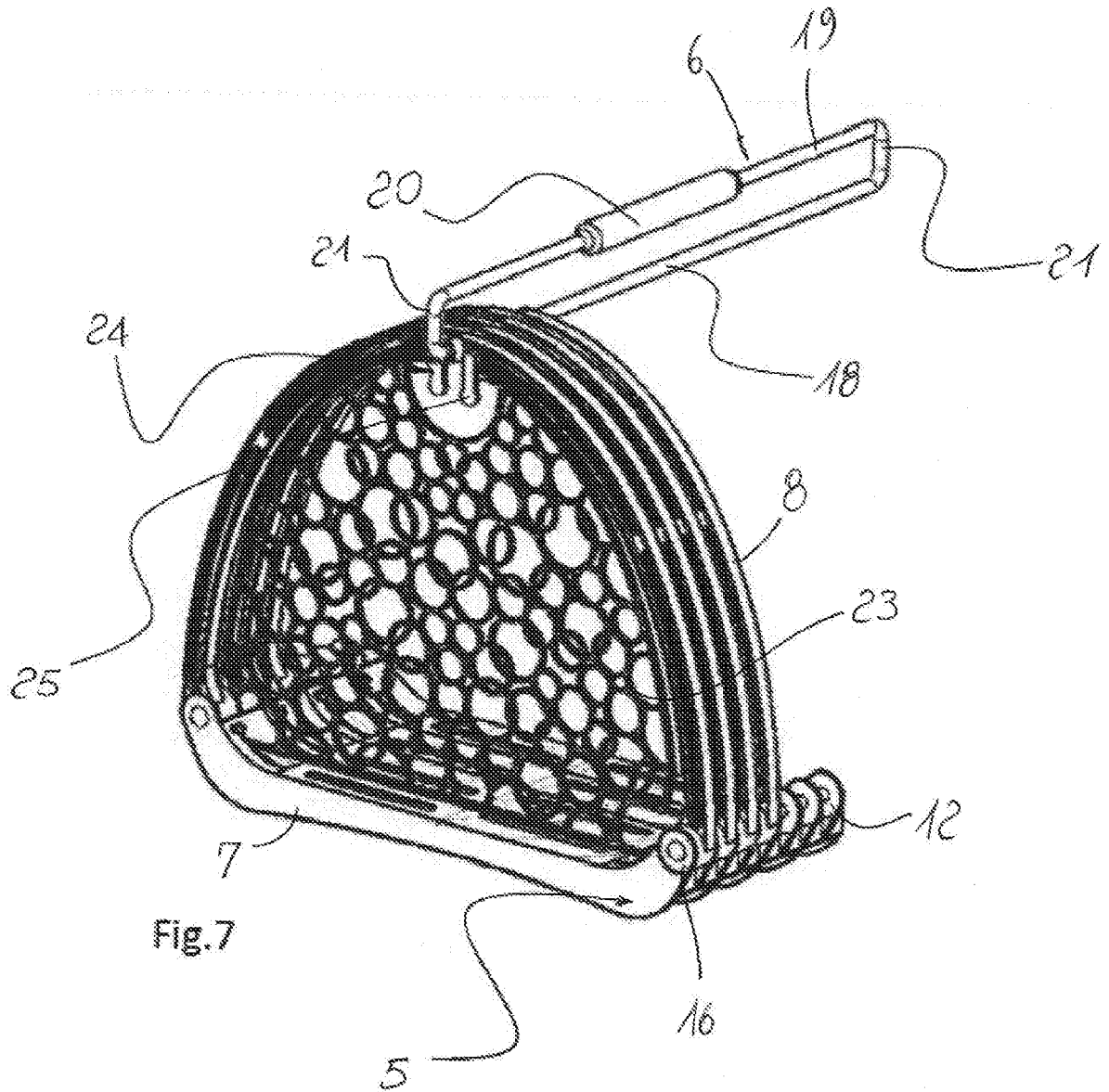


Fig. 3

2/3



3/3



INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2015/059577

A. CLASSIFICATION OF SUBJECT MATTER

INV. A01K1/02
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A01K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	paragraphs [0023] - [0039] paragraphs [0101] - [0116] figures 11-22	2-9

X	US 5 054 426 A (PANARELLI RONALD J [US] ET AL) 8 October 1991 (1991-10-08)	1,10-15
A	the whole document	2-9

	-/-	

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search

20 July 2016

Date of mailing of the international search report

01/08/2016

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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