

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 865 997 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
23.09.1998 Bulletin 1998/39

(51) Int Cl.⁶: **B65D 85/18, A45C 5/12**

(21) Application number: **98830117.2**

(22) Date of filing: **05.03.1998**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**

Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **11.03.1997 IT BO970138**

(71) Applicant: **Promotech S.r.l.**
60021 Camerano (AN) (IT)

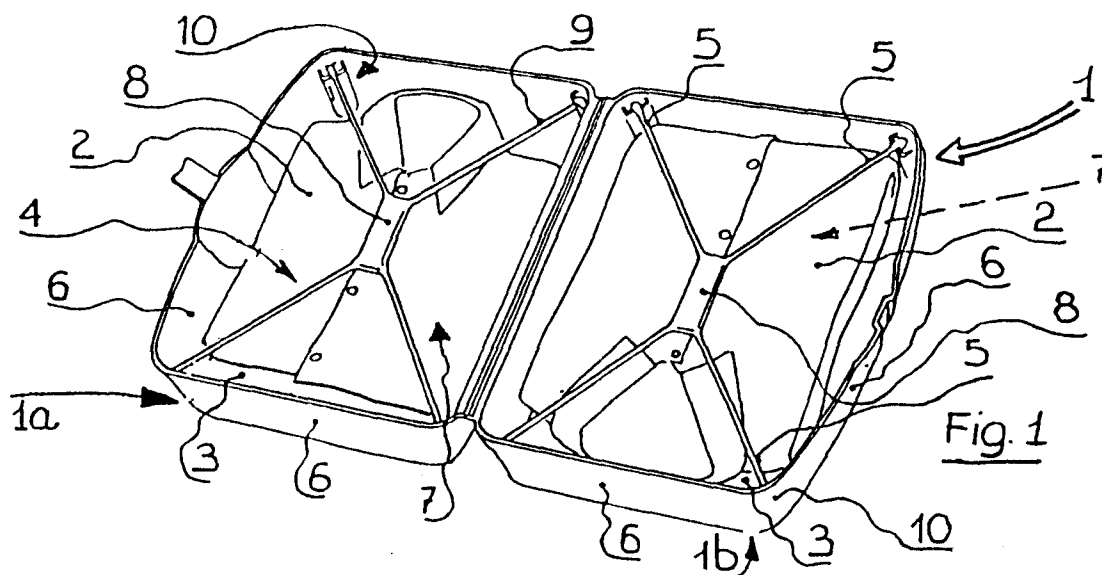
(72) Inventor: **Ugolini, Roberto**
47900 Rimini RN (IT)

(74) Representative: **Lanzoni, Luciano**
c/o BUGNION S.p.A.
Via Cairoli, 107
47900 Rimini (Forlì) (IT)

(54) **Box for the protective containment of clothing items, in particular shirts**

(57) A box for the protective containment of clothing items (2), in particular of shirts, wherein the clothing items (2) are held stably in position with respect to a base wall (3) and to side walls (6), comprises an elastically extendible holding element (4) which is provided with ends (5) able removably to be latched onto the side

walls (6) of the box (1), and moreover delimits in combination with the walls (3,6) a containment space (7) wherein the displacements of the clothing item (2) are prevented by the friction reaction developed in the areas of contact of the clothing item (2) with the holding element (4) and with the base wall (3).



Description

The present invention relates to a box for the protective containment of clothing items, in particular shirts.

In the luggage sector, and in that of travel bags in general, suitcases made of rigid material able to provide the products contained therein with adequate protection during transportation and the related handling are known.

The aforesaid suitcases are moreover provided with means able to provide also an adequate immobilisation to the products contained therein. For this purpose they are fitted with belts, or with equivalent holding means, which present ends fastened to the side walls of the suitcase and which normally close in correspondence with the central part thereof. These elements, after being conveniently tightened, allow collectively to hold the products in an immutable condition during the trip. The aforesaid holding means all have the effect of producing an indiscriminate holding action which crumples the clothing items with the evident disadvantages deriving thereby.

In the specific case of shirts, such drawback is even more pronounced. Such clothing items being manufactured with light fabric are more prone than others to crumple. Moreover, because of their disposition obligated by the need not to crumple the collar, and because of the fact that the securing means are connected in the central part of the suitcase, they crumple more easily in correspondence with their front part, which is more visible when the item is worn.

Also known are packaging boxes, very common in the sales of shirts and of similar products, wherein the protective containment of the shirts is effected by the rigidity of the walls and the shirt is held by the presence of a sheet of rigid material, normally cardboard, which having a size correlated with the box, prevents the motion of the shirt parallel to the bottom of the box.

Such packaging boxes have the disadvantage of not being normally meant to be reused, moreover, the stabilisation of the shirt therein is obtained solely by fastening the shirt to the cardboard sheet with pins or clamps which are revealed to be wholly disadvantageous and inconvenient in their employment subsequent to the first packaging of the product.

The object of the present invention is to eliminate such drawbacks by providing a box for the protective containment of clothing items, in particular of shirts, wherein the clothing item is held in a secure and stable manner, during handling and transportation, without causing the clothing item to be crumpled.

In accordance with the invention, such object is attained with a box according to the preamble to claim 1, comprising an elastically extendible holding element, which is provided with ends that can be removably latched onto walls of the box lateral to the base wall, such holding element delimiting, in combination with the base wall and with the side walls whereonto it is latched,

at least one containment space wherein the displacements of the clothing item parallel to the base wall are prevented by the friction reaction developed in the contact areas of the clothing item with the holding element and with the base wall.

The technical characteristics of the invention, according to the aforesaid purposes, can be clearly seen from the content of the claims reported below and its advantages shall be made more evident in the detailed description that follows, made with reference to the accompanying drawings, which show an embodiment provided purely by way of non limiting example, in which:

- Figure 1 is an axonometric perspective view of a box realised according to the invention, shown in open condition;
- Figures 2, 3 and 4 are partly sectioned overall views of a holding element shown with top view and with two side views;
- Figures 5 and 6 are enlarged scale views of some details of the holding element as per the previous figures;
- Figures 7 and 8 are partial views of some details of the box in Figure 1.

In accordance with the figures of the accompanying drawings, the number 1 indicates in its entirety a box for the protective packaging of clothing items 2, in particular for shirts.

The box 1, preferably made of plastic material, presents two semi-shells 1a, 1b hinged together in such a way as to be able mutually to superimpose in a closed condition, and it is moreover provided with conventional means for stable closure, with elastic snapping, not shown as they do not interest the present invention. The semi-shells 1a and 1b have essentially parallelepiped shape delimited by a base wall 3 surrounded by side walls 6, oriented transversely to the base wall 3. The side walls 6, (Figures 7 and 8), present in correspondence with the corners 10 of each semi-shell 1a; 1b of the box 1, engagement seats 11, which are open and accessible along a direction Y essentially parallel to the side walls 6 themselves. Each semi-shell 1a, 1b is fitted with a holding element 4 made of elastically extendible material, for instance silicone rubber, which is provided with ends 5 which can be latched onto the side walls 6 of the box 1 engaging removably with the related engagement seats 11.

The holding elements 4, more specifically comprise (Figures 2,3,4,5,6) a central body 8, with rectangular plan and cross section, fitted with four side arms 9, each bearing the aforementioned latching ends 5.

The central body 8 and the side arms are made in a single body and of the same material. The size and the shape of such parts are however differentiated so as to allow to obtain an elastic behaviour, with respect to the extension stress, differing from one area to the other of the holding elements 4. More specifically the

arms 9, with circular cross section of reduced diameter, present a more pronounced deformability than the central body 8 which, as shall be made clearer farther on, allows to prevent the clothing items 2 contained in the box 1 from crumpling during the application of the holding element 4 to the box 1 itself.

The ends 5 of the arms 9 present an essentially ogival shape (Figure 5), and are provided with a groove 20 geometrically complementary with the engagement seat 11 of the side walls 6. Moreover, they are provided with fins 12 by means of which it is possible to grip the ends 5 and to perform the elastic extension of the arms 9. In use, after positioning a shirt 2 in support against the base surface of each of the semi-shells 1a, 1b in the condition with the box 1 open horizontally, and after causing the elastic extension of the arms 9, the ends 5 are associated to the engagement seats 11, with motion directed along the vertical direction Y, thus remaining latched onto the side walls 6.

In this condition of association, each holding element 4 is borne by the box 1 in a condition wherein it delimits in combination with its semi-shell 1a, 1b a containment space 7 wherein the shirt is held stably in position. The elastic tensioning of the holding element 4 presses the shirt 2 against the base wall of the respective semi-shell 1a, 1b. Such action allows to develop in the areas wherein the clothing item 2 is placed in contact with the arms 9 of the holding element 4 and with the base wall 3, friction reactions sufficient to stabilise the clothing item 2 in the box 1, regardless of the motion imparted thereto during handling.

It should also be noted that, since the latching areas of the arms 9 are positioned in proximity to the side walls 6, the dilation of the holding element 4 is greatest in correspondence with those areas and it is smallest in correspondence with the central body 8. Such characteristic allows advantageously to avoid any possible crumpling of the clothing item 2 in correspondence with the front central part of the shirt which is most prone to that drawback and which in use is most exposed to observation.

The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept. Moreover, all components may be replaced with technically equivalent elements.

Claims

1. Box for the protective containment of clothing items (2), in particular of shirts, wherein the clothing items (2) are held stably in position with respect to a base wall (3) and to side walls (6) of the box (1), characterised in that it comprises at least one elastically extendible holding element (4), which is provided with ends (5) able to be removably latched onto the side walls (6) of the box (1), said holding element

(4) delimiting, in combination with the base wall (3) and with the side walls (6) whereonto it is latched, at least one containment space (7) wherein the displacements of the clothing item (2) are prevented by the friction reaction developed in the contact areas of the clothing item (2) with the holding element (4) and with the base wall (3).

2. Box, according to claim 1, comprising two semi-shells (1a, 1b) hinged in such a way as to be able mutually to superimpose in a closed condition of the box (1), characterised in that said at least one holding element (4) is borne by the box (1) in a condition able to delimit, bilaterally thereto and in combination with said semi-shells (1a, 1b), two said containment spaces (7).

3. Box, according to claim 2, characterised in that the holding elements (4) are two and are associated each to one said semi-shell (1a, 1b).

4. Box, according to claim 1, characterised in that the holding element (4) comprises a central body (8) bearing at least two side arms (9), having opposed ends (5) that can be latched onto the side walls (6) of the box (1).

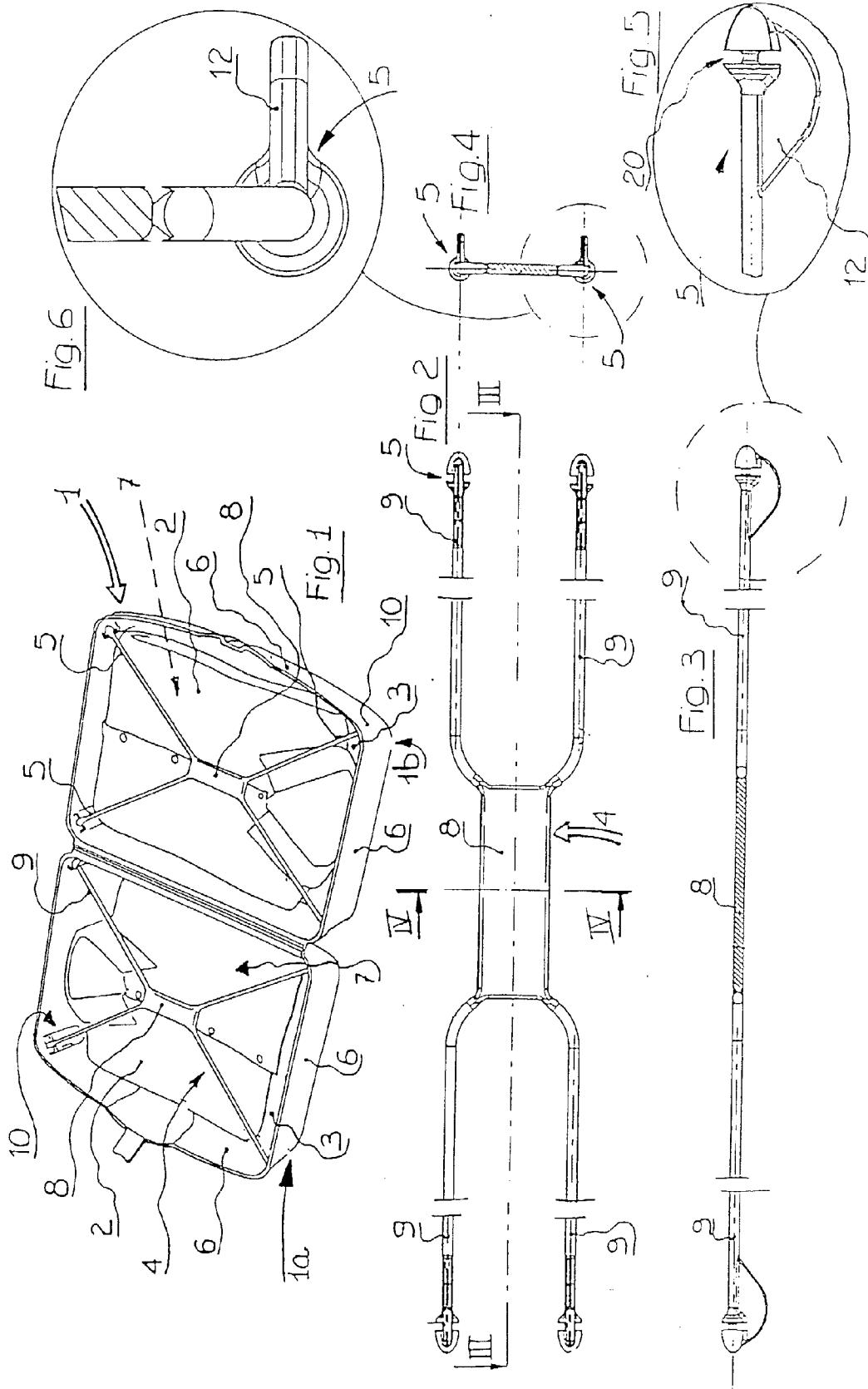
5. Box, according to claim 4, characterised in that the holding element (4) comprises four side arms (9) which can be latched onto the side walls (6) of the box (1) in correspondence with the corners (10) of the box (1).

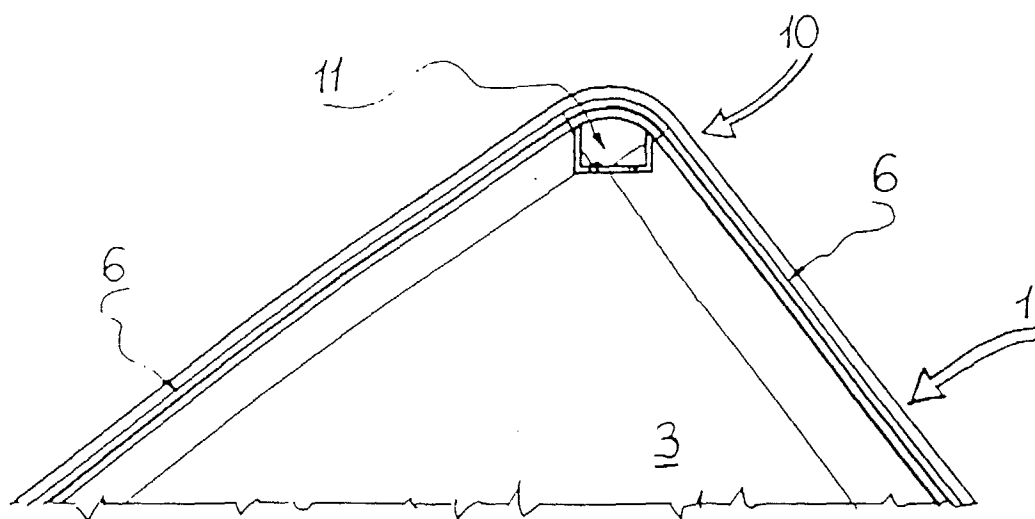
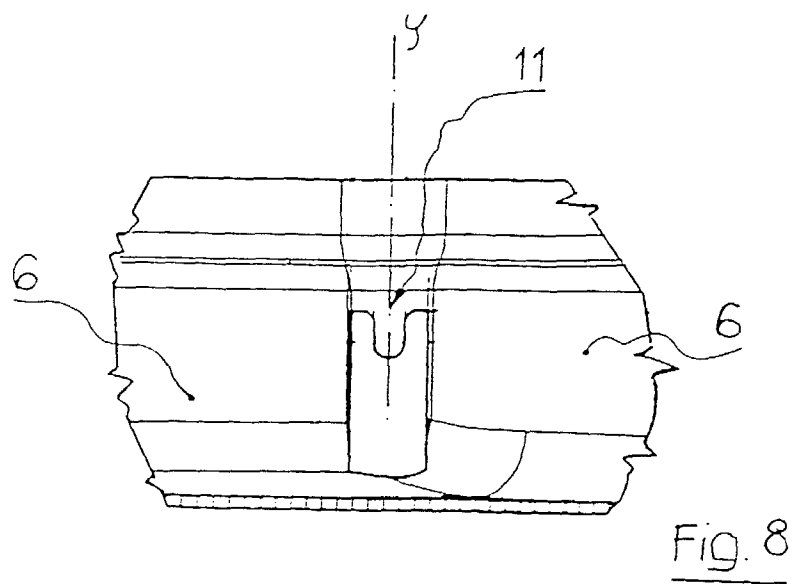
6. Box, according to claim 4, characterised in that the central body (8) and the side arms (9) of the holding element (4) are manufactured monolithically with each other.

7. Box, according to claim 1, characterised in that the ends (5) of the holding element (4) are shaped in a complementary manner with engagement seats (11) obtained on the side walls (6) of the box (1).

8. Box, according to claim 7, characterised in that the seats (11) are open in such a way as to receive the end (5) of the holding element (4) with motion directed essentially along a direction (Y) essentially parallel to the side walls (6) of the box (1).

9. Box, according to claim 1, characterised in that the ends (5) of the holding element (4) are provided with grip fins (12).







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 83 0117

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 1 960 454 A (RITTER JR.) 29 May 1934	1,2,4,6,7	B65D85/18 A45C5/12
Y	* page 2, line 16 - line 57; figures 1-3 *	3	
Y	DE 94 04 963 U (RUFFO) 4 August 1994	3	
A	* page 2, line 26 - page 3, line 4; figures 1-3 *	1	
A	DE 93 13 369 U (MCE MARKETING) 2 December 1993	1	
A	* page 2, line 26 - page 3, line 18; figures 1-3 *	1	
A	US 2 893 523 A (MITCHELL) 7 July 1959	1	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
	* column 2, line 54 - column 3, line 2; figure 4 *		
A	FR 2 137 343 A (RICCI) 29 December 1972	1	
A	* page 1, line 35 - page 2, line 28; figures 1-5 *		
A	FR 66 841 E (FIGHIERA) 10 September 1957	1	B65D A45C
	* figures 1-14 *		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 June 1998	Examiner Berrington, N
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)