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(54)

Multipurpose protective element for furniture and domestic appliances

(57)

A protective element (1) for a product (9) such as a furniture or an appliance during its handling, which incorporates fold lines (3a-3c) and a belt (2), in such a manner that the product is protected by surrounding it

with the belt tightened around. The protective element has recesses (8) and a minor height in the lateral areas (5) than in the central areas (4), in such a manner that it allows the manipulation and grip of the product during the handling.

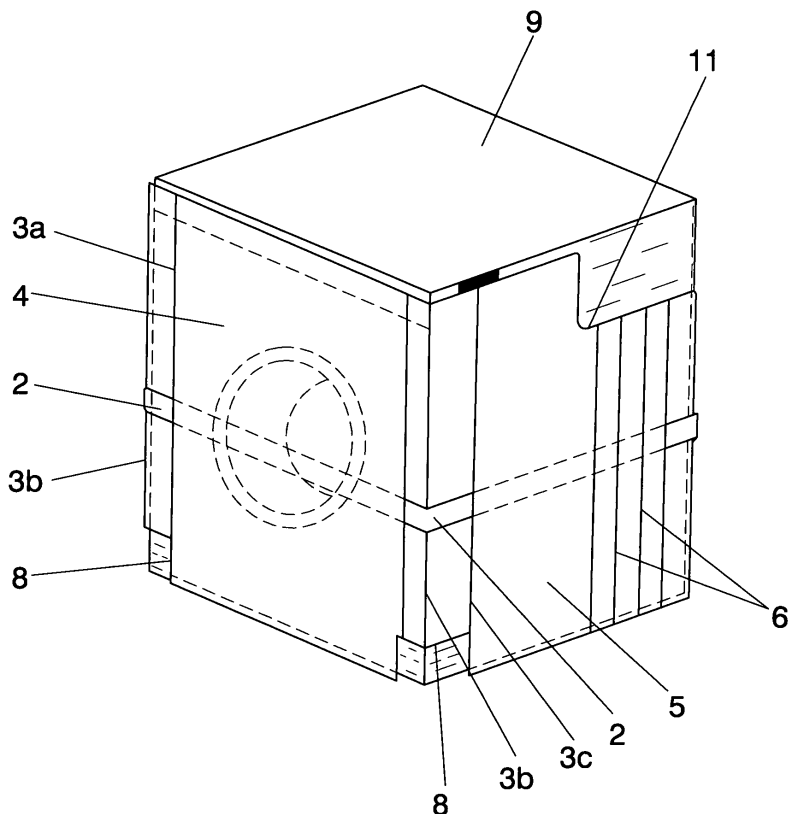


FIG. 4

Description

FIELD OF THE INVENTION

[0001] The following invention, as stated in wording of this description, refers to a multipurpose protective element for furniture and domestic appliances, being particularly useful to protect washing machines, dishwashers, dryers, vertical freezers, refrigerators and wine coolers during handling, since they are unpacked at the foot of the truck or at the logistics operator in charge of its delivery, up to its transfer to the domicile itself. Equally, for any future removals that it could have.

[0002] It is about protecting mainly washing machines, dishwashers, dryers, vertical freezers, refrigerators and wine coolers during the transfer of the product from the street of the recipient or logistics operator to the domicile itself. It is basically in its transfer by the truck and in the street, elevator, patio and/or staircase.

[0003] In this way, it is to avoid those accidental damages that household furniture, such as washing machines, dryers, vertical freezers, wine merchants, and dishwashers, mainly refrigerators, suffer in their removal from the logistics operator or from the streets of the recipient until domicile itself and that sometimes causes them to be rejected by the recipient with the corresponding economical loss for the manufacturer, distributor and carrier.

[0004] An important aim is also to protect the household furniture in its possible return trip, i.e. from domicile to the store if rejected, as a result of having a small defect and that during this return it will not suffer major damages, even more so because it lacks packaging.

[0005] Finally, it is outstanding the fact that all companies belonging to the Spanish National Association of Appliances Producers (ANFEL) have tested and validated this product by functional and field-testing and confirmed a substantial reduction in their historic damages rates.

PRIOR ART OF THE INVENTION

[0006] As known furniture and domestic appliances and more specifically washing machines, dryers, dishwashers, freezers vertical, wine coolers and refrigerators in its distribution process from factory to the buyer have a long journey in which they do not suffer the slightest damage because they are properly packaged at the factory.

[0007] From the several factories that a manufacturer uses, products are transferred to a warehouse for subsequent transfer to a central warehouse of distributors, and from there to regional warehouses, so that in this way virtually all of the domestic appliances have arrived at the store without suffering damages or scratches, i.e. it can be considered that the number of domestic appliance rejected because of a defect is minimal, which confirms the perfect factory packaging.

[0008] However in the last distribution stage of the product from the logistics operator or the store to the user's domicile, there are a significant number of damage claims and rejections.

[0009] These damage claims and rejections are given as a result of small damages or scratches that occur in the transfer of the equipment from the logistics operator or from the streets until the recipient's home, namely during the transfer in the truck, streets, stairs, patio and/or elevators.

[0010] This is given as a consequence of the products, mainly, refrigerators (including "bottom freezers"), which are larger, being unpacked at the logistics operator or on the street, in order to pass through the doors, so that when they moved into the truck, streets, elevators, patio and/or stairs, inevitably, they sometimes suffer damages or scratches and as a result they are rejected by the client.

[0011] Once appliances are unpacked, it is necessary for the carriers to handle more carefully the product in order to avoid possible damages or scratches that may occur during the transport of the product. For this purpose, in some cases some kind of protective elements are improving such as blankets, cardboard, bubble paper accompanied by strings or packing tape. However protective measurement of these improvised protective elements lacks from a technical design and do not offer enough safety. Thus, although these improved protective elements being used, the rate of damaged products is over 3% of the total delivered units in the Spanish market.

[0012] Thus, the product already unpacked, may be returned to the store so the problem is aggravated, because without packaging the product may suffer new damages or scratches.

[0013] Faced with this situation manufacturers seek to minimize losses by trying to sell the products at a lower cost, either through the store of purchase, second quality outlets or through own stores, in which case the product must be moved again at the risk of possible damages or scratches, so that, finally the product can be sold at a much lower cost or even only be use as scrap.

[0014] Therefore, in the state of the art there is a need for a protective element that overcome the problems above indicated, with the following purposes:

[0015] **1ST. Universality:** it should be adaptable to all models and product measures of appliances market or products that require manipulation without packaging.

[0016] **2ND. Protection:** it should capable of avoiding scratches and assuring the absorption of usual handling hits.

[0017] **3RD. Ergonomy:** it should provide a proper handling of the product and consequently reduce the probability of work risks and accidents.

[0018] **4TH. Productivity:** it should be easy and quickly to install and consequently allow a substantial reduction of delivery time, meaning the time since the unpacking of product until the installation of it in the end-user home.

[0019] These purposes will be met by the present invention as will be apparent from the following description.

[0020] Additionally, the present invention allows to provide other technical advantages and purposes, like:

- Distributor image: The invention would confer image of professionalism.
- Advertising support: The design of the invention would allow logos and other advertisements through prints and embroidery on its external surface.
- Life expectancy: The design of the invention and the utilisation of convenient materials would ensure a minimum of 10,000 uses.

DESCRIPTION OF THE INVENTION

[0021] The present document describes a multipurpose protective element for a product such as a furniture and a domestic appliance, being of particular use to protect washing machines, dryers, dishwashers, vertical freezers, wine coolers and refrigerators during handling, since they are unpacked at the logistics operator or on the street, until its transfer to the domicile itself, and where appropriate, in the return trip, and whose protective element is shaped by a shock absorber body made for example of plastic foam.

[0022] The protective element will be adaptable at the front, lateral sides of the product, and depending on the width of the product, to the rear to a greater or lesser extent. The protective element shows longitudinal fold lines between the central area and both sides in order to allow it to bend and adapt to the widths of most universal appliances, and on the extreme of its lateral areas shows a various fold lines in order to adapt to the back depending on the width of the product that is being protected by it.

[0023] The protective element in transverse direction is crossed from side to side by a fixing belt that goes interlacing interior and exterior, entering and leaving the protective element across the extreme longitudinal fold lines defined between the central and lateral areas and being overlapped by its outer surface. While in the central and lateral areas is overlapped by its inner surface, so that once the belt fits the appliance, it adapts to its contour allowing in this way to grip the belts and so raise and handle the appliance as well as to protect it.

[0024] The area corresponding to the various fold lines where both sides of the protective element are finished off showing a lower height and forming a notch in its assembly with relation to the upper rear vertexes in order to make possible to carriers the direct grip from appliance without finding the protective appliance between the appliance and their hands.

[0025] Also at the bottom on the area between the lines of longitudinal fold among the central and lateral areas of the protective element shows a recess, so that in assembling the protective element in the corresponding product in relation to the front vertexes it shapes a notch through which facilitates its handling by the carrier.

[0026] By assembling and using the protective element around the corresponding product already un-

packed product, it will be adapted to the front and side faces extending, where appropriate and depending on its width, the rear face of the product in order to protect them from possible damages or scratches during the transfer from the logistics operator or the recipient's street to his home, that is, in its transportation by truck, the streets, elevators, patio and/or stairs and a possible return trip if rejected.

[0027] Ultimately, through the use of the protective element is to avoid damages or scratches in the transfer of household furniture, such as washing machines, dryers, vertical freezers, wine coolers, dishwashers and, mainly, refrigerators, in the truck, street, in elevators, patio and/or stairs-that will make them be rejected by the recipient. Also if it would be already damage and must be returned the protective element would prevent further damage occurring until being sold again.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] To complement the description that is going to be done, and to have a better understanding of the features of the invention, this description is accompanied by a set of drawings, whose figures in a illustrative way and not limitative, shows the most characteristic details of the invention.

[0029] Figure 1. It shows a front view of the multipurpose protective element for furniture and domestic appliance on its inner surface. The belt intertwined, as well as the fold lines between the frontal area and lateral areas and on the extreme of both lateral areas, can be seen.

[0030] Figure 2. It shows a floor view of the protective element of the previous figure, being able to observe the provision of the intertwined fixing belt at its assembly in the protective element.

[0031] Figure 3. It shows a front view of the multipurpose protective element for furniture and domestic appliance from the previous figure, on its outer side. The fixing belt intertwined and the fold lines between the frontal area and lateral areas and in the end areas on both sides, are clearly seen.

[0032] Figure 4. It shows a perspective view of the assembly of a protective element around a washing machine, being able to observe how the lower front vertexes and the upper rear vertex are free from the protective element in order to facilitate its handling.

[0033] Figure 5. It shows a perspective view of the assembly of two elements protectors around a refrigerator, being able to observe how the lower front vertex and upper rear vertexes are free from the protective element in order to facilitate its griped.

PREFERRED EMBODIMENT OF THE INVENTION

[0034] In view of the commented figures and in accordance with the adopted numbering we can see the protective element 1 is particularly useful for protecting furniture and domestic appliance such as washing ma-

chines, dryers, dishwashers, vertical freezers, refrigerators and wine coolers during handling, since they are unpacked before its transfer to domicile itself as well, if rejected for damages, on its return route.

[0035] Thus, the protective element 1 conforms basically an adaptable body to the front, to the lateral sides and where appropriate to the back of the appliance 9 to protect, presenting between the central area 4 and the lateral ones 5, longitudinal fold lines 3a, 3b and 3c and in its two lateral areas 5 is finished in a plurality of fold lines 6.

[0036] Thus, through the longitudinal fold lines 3a, 3b and 3c allows the protector element an easy bending to adapt to the widths of most universal appliance of the industry and through multiple fold lines 6 its adaptation to the back depending on the width of the product that this is protecting.

[0037] Then through the longitudinal fold lines 3a the protective element 1 will be adapted easily to 60 cm wide products, through the fold lines 3b it will be adapted easily to 70 cm wide products and through longitudinal fold lines 3c it will be adapted easily to 90 cm. wide products. However, the rigid nature of the material does not allow the fold of the protective cover any other different width to the commented ones and on the role of this, the protective element runs from the back to a greater or lesser extent.

[0038] Moreover, the protective element 1, in transverse direction, incorporates a fixing belt 2 interlaced to it for fixing the product to protect, so that the interlacing of fixing belt 2 is determined so that the fold lines between the 3a and 3c defined between the central area 4 and the two lateral areas 5 is its outer surface (avoiding damage to the vertex of the product to protect). While the fixing belt is in the inner surface of the protective element in the central area 4 and 5 lateral ones. From one of the fold lines 6 in those where the sides are finished off, the fixing belt extends by its outer surface.

[0039] Thus, in figures 1, 2 and 3 of the designs it can be seen how the fixing belt 2 is mounted so intertwined in the protective element 1 through respective openings and being properly fixed by a sewn 10, at both ends, one of the stretch, as defined by adaptable fold lines 6, in which its sides finished off 5.

[0040] The fixing means of the belt 2 to the product may materialise in any conventional way, such as a closure of click (male-female), an adjustable buckle, a Velcro® 7 or similar. So the fixing belt 2 shows a slight flexibility and facilitates its fixing to the product since it keep perfectly tightened once fixed.

[0041] The area corresponding to the plurality of fold lines in which both lateral areas 5 of protective element 1 finished off shows a lower height so that the assembly of the protective element 1 defines a notch 11, in relation to the upper rear vertexes 5 of the product, which will facilitate the grip and contact by the carrier.

[0042] At the bottom on the area bounded roughly between the lines 3a and 3c of longitudinal fold lines carried out between the central area 4 and the lateral area 5 of

the protective element 1 presents a recess 8 that when the protective element 1 is assembled, it defines a notch, in relation with the lower front vertexes, which allows the grip and direct contact to the product by the carrier.

5 [0043] Thus, as we can see in Figure 4 of design, assembly and use of protective element 1 in the corresponding product 9, it will be adapted to the front and both sides and extending by the rear face of the product, depending on its width already unpacked, fixed by the belt 2, while the recesses 8 define a notch leaving the free points below the front of the product to facilitate its grip by the carrier.

10 [0044] It also can be seen as the fixing belt 2 is outside in the side edges of the product, so that in the edges of the product the pressure is done on the protective element allowing the manipulation through it and preventing the pressure is concentrated on the edges of the product.

15 [0045] The protective element 1 may be manufactured in plastic foam with a variable thickness and density, so that the greater the thickness and density greater the protection it supplies, so that its production may be effected by any conventional means, as thermo-molding or stamping.

20 [0046] Moreover, the protective element 1 may be covered on one or both sides, by a tissue-based polyester, polyamide or polypropylene, with a variable grammage.

25 [0047] Also, the protective element 1 can be manufactured using different types of foam, including polyolefin foam, reticulated or not, polyurethane foam based polyester or polyether, or similar.

30 [0048] Moreover, through fold lines 3 and 6, the protective element 1 may be adapted to the different sizes of the domestic appliances and in the case of a refrigerator or "bottom freezer" can have two protective elements 1 covering the full height for its correct protection.

Claims

- 40 1. **MULTIPURPOSE PROTECTIVE ELEMENT FOR FURNITURE AND DOMESTIC APPLIANCES**, being particularly useful to protect a product such as a washing machine, a dryer, a dishwasher, a vertical freezer, a wine cooler and a refrigerator during handling, since they are unpacked at the logistics operator or on the street, until its transfer to domicile, and possibly, in the return route back to the manufacturer, being the protective element shaped by a body, for example of foam plastic, adaptable to the front face of the product to protect, to the side faces and, depending on its width, as well protecting the rear face of the product; the protective element having a central area and two lateral areas with longitudinal fold lines between said areas in such a manner that it facilitates the bend of the protective element; the prospective element having a plurality of fold lines finishing off in its both lateral sides; **characterized**
- 45
- 50
- 55 **in that** the protective element (1) incorporates along

its transversal direction a intertwined fixing belt (2) to the product (9); said belt is mounted on the outer surface of the protective element in the area defined between the central area (4) and the two lateral areas (5), that is between the more external longitudinal fold lines (3a) and (3c), while in the central area and in lateral areas said belt is mounted on its inner surface and, from one of the fold lines (6) in which the sides (5) of the protective element are finished off, said belt is prolonged through its outer surface; in such a manner that the belt is mounted by tightening it around the product to be protected, allowing the manipulation and grip of the product and its handling.

- 2. MULTIPURPOSE PROTECTIVE ELEMENT FOR FURNITURE AND DOMESTIC APPLIANCE**, according to claim 1, **characterized in that** each area corresponding to the plurality of fold lines in which both sides of protective element finished off has a lower height, leaving a free area of the protective cover to grip the furniture or appliance.

- 3. MULTIPURPOSE PROTECTIVE ELEMENT FOR FURNITURE AND DOMESTIC APPLIANCE**, according to claim 1, **characterized in that** each area defined between the central area and the lateral areas of the protective element, that is between the more external longitudinal fold lines, has a recess (8) in its bottom part.

- 4. MULTIPURPOSE PROTECTIVE ELEMENT FOR FURNITURE AND DOMESTIC APPLIANCE**, according to any of the previous claims, **characterized in that** in the assembly and use of the protective element on the product, the protective element is adapted to the front and side faces of the corresponding product extending, depending on the width of the product, to the rear face of the product, already unpacked, and fixed by the belt.

- 5. MULTIPURPOSE PROTECTIVE ELEMENT FOR FURNITURE AND DOMESTIC APPLIANCE**, according to claims 1, 2 and 3, **characterised in that** in the assembly of the protective element on the product, the lowest height of each area corresponding to the plurality of fold lines, in which both sides of protective element finished off, defines an opening in the top-back vertexes of the product and the recess of each area between the longitudinal lines fold, that is between the central area and lateral area, defines an opening in the lower-front vertexes of the product.

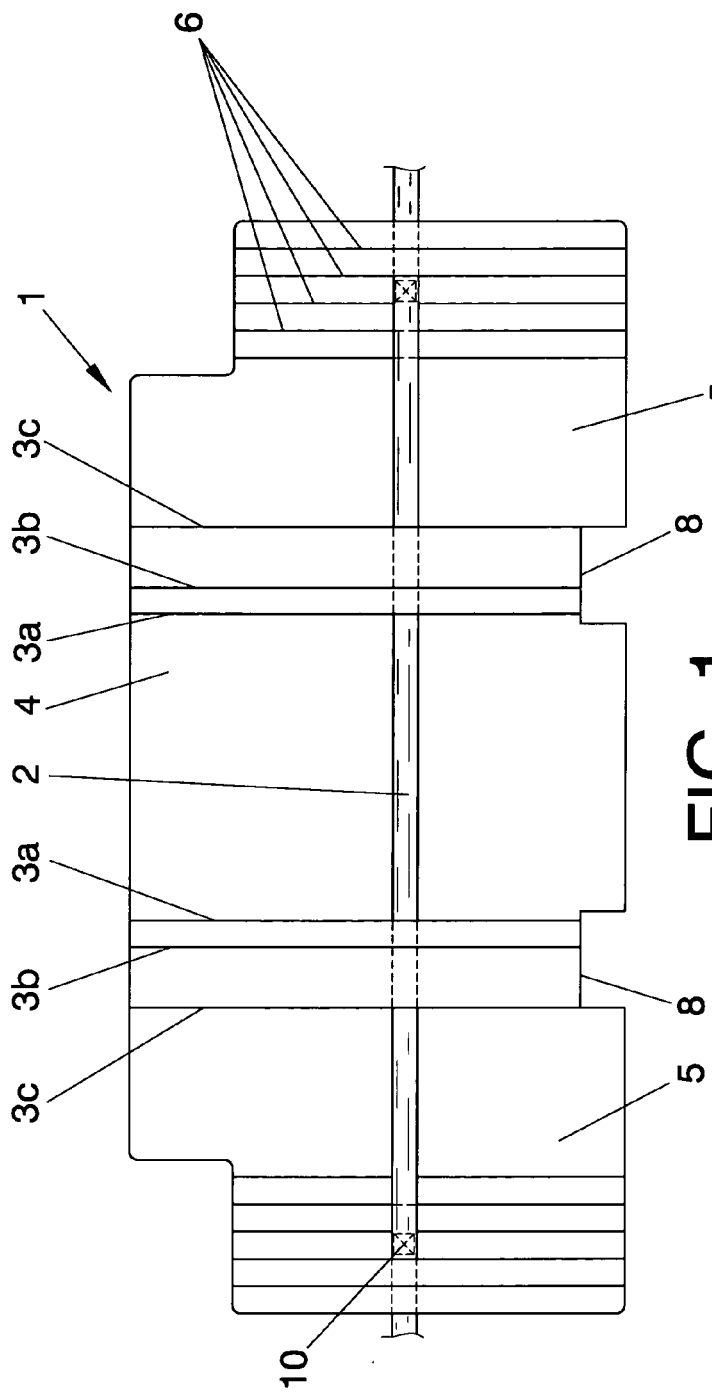


FIG. 1

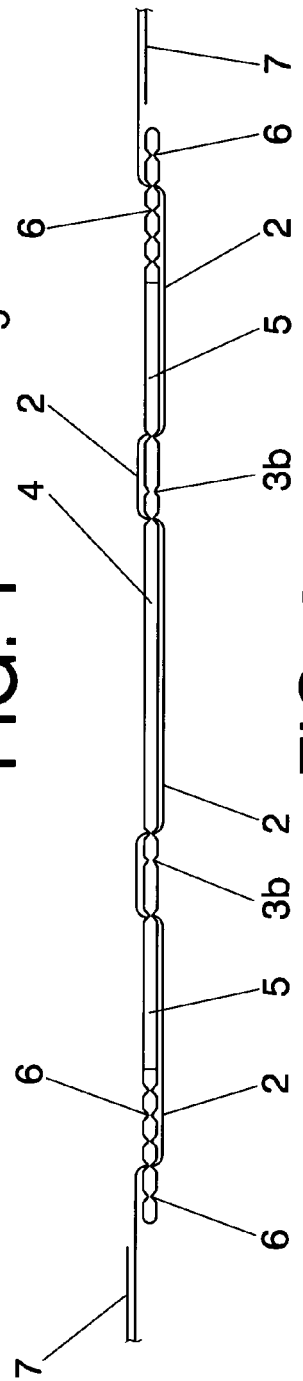


FIG. 2

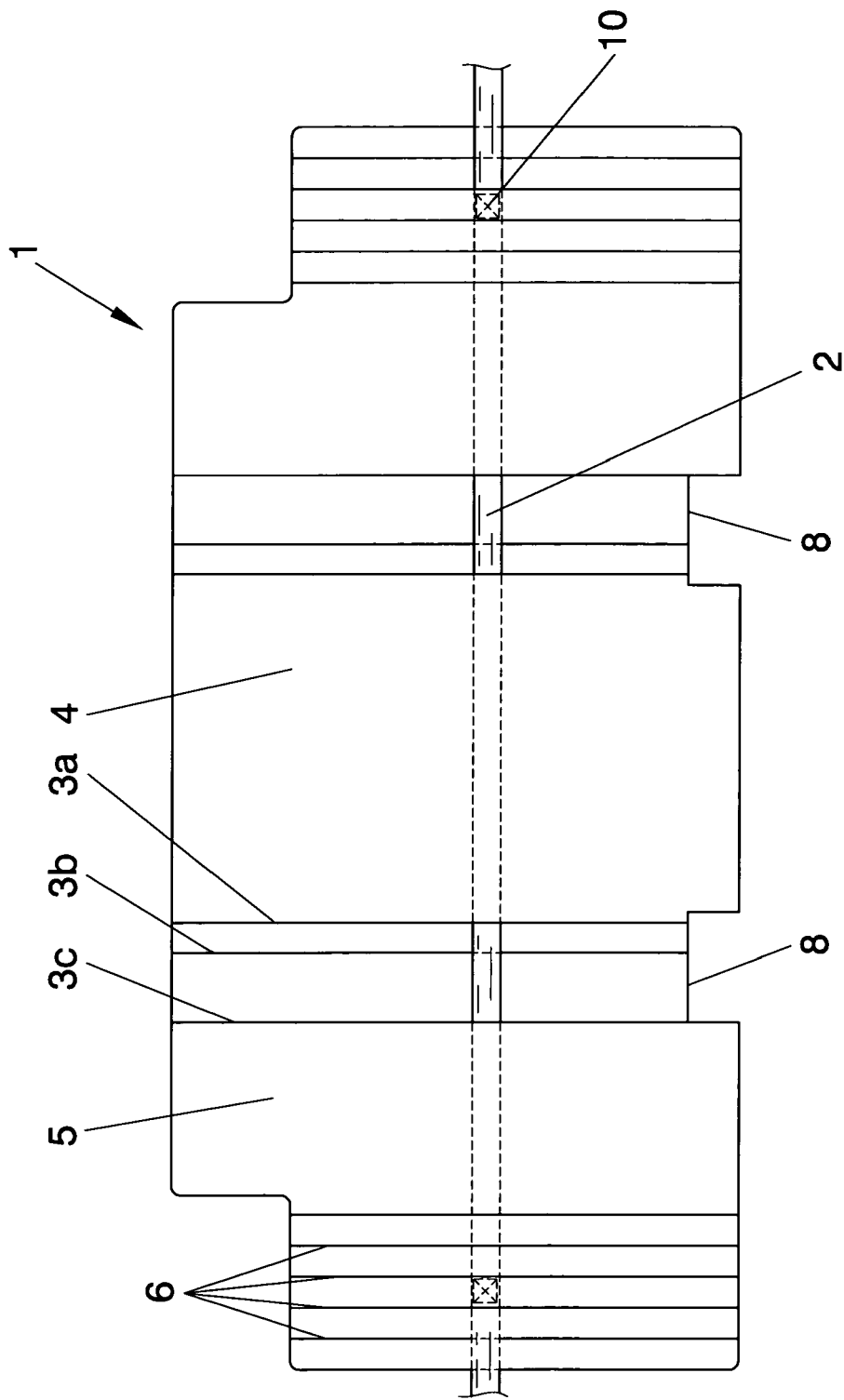


FIG. 3

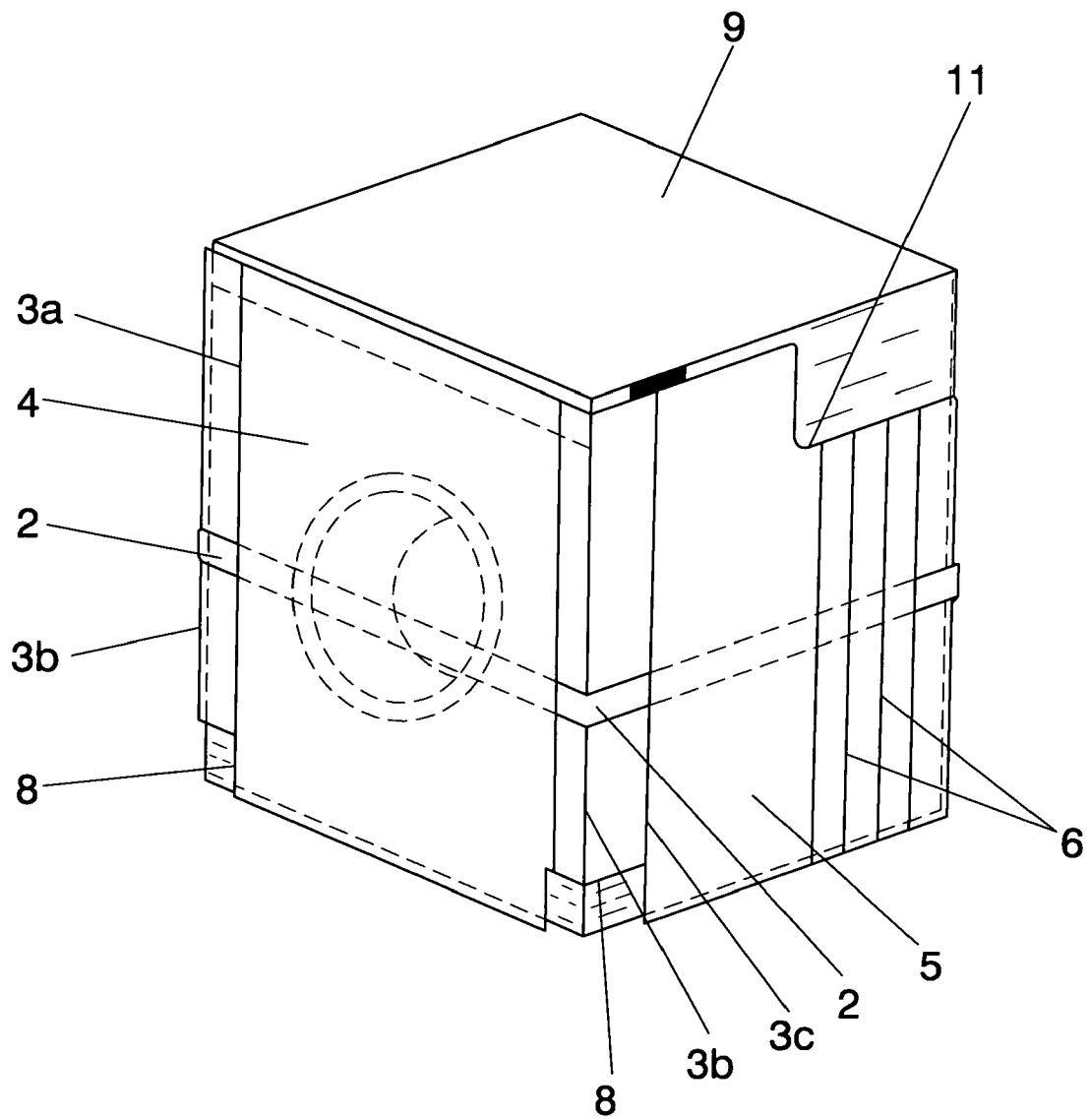


FIG. 4

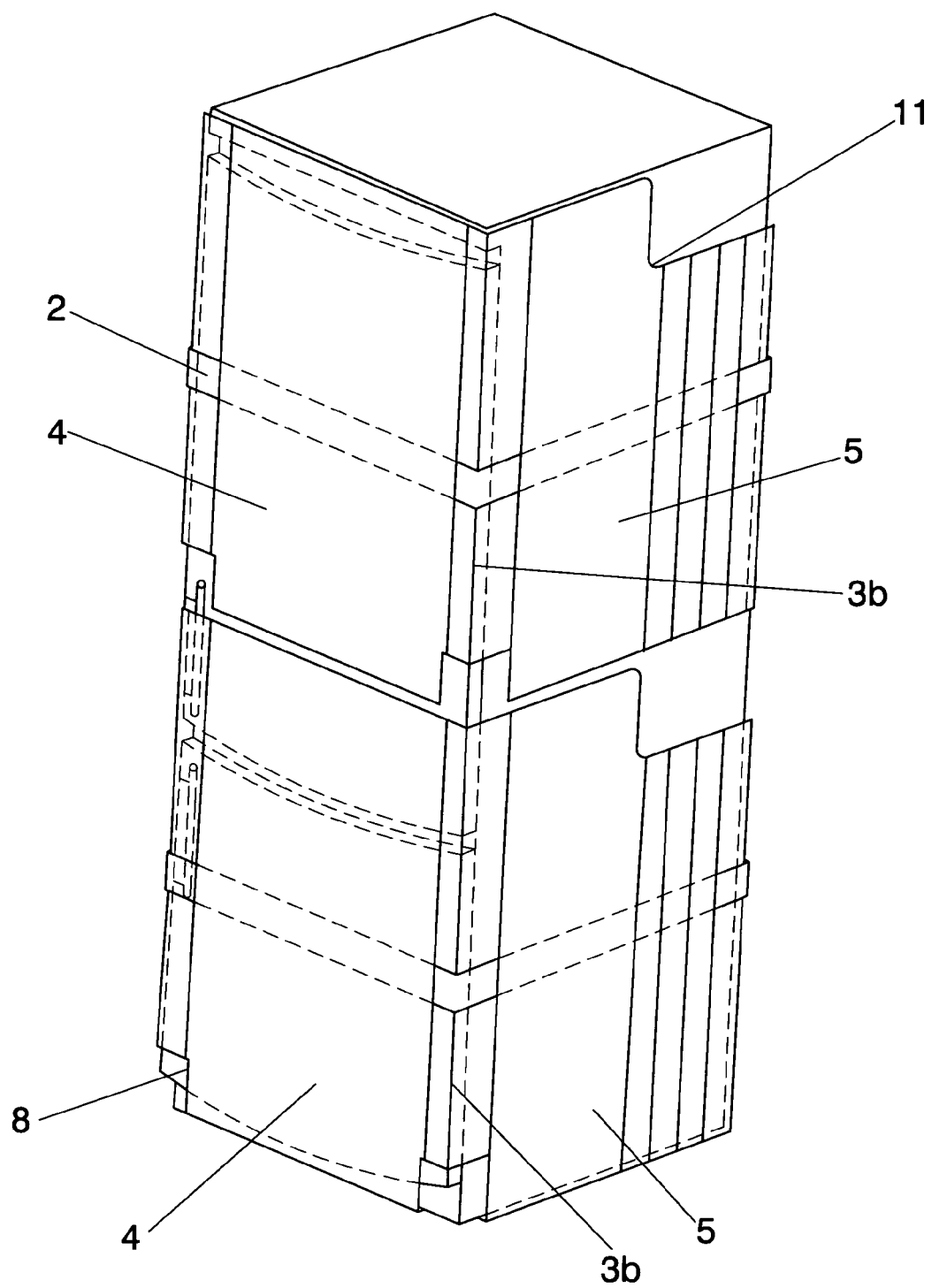


FIG. 5



EUROPEAN SEARCH REPORT

Application Number
EP 08 38 0232

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 3 949 932 A (SHORE MICHAEL B) 13 April 1976 (1976-04-13) * column 2, line 57 - column 4, line 11; figures 1-4 * -----	1-5	INV. B65D81/03 B65D81/38
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 October 2008	Examiner Cazacu, Corneliu
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 38 0232

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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14-10-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3949932	A	13-04-1976	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82