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(54) Packaging blank and packing made therefrom

(57) The invention relates to a packaging blank comprising two large panels (1,2), linked by one narrow panel (3) about which the large panels are to be folded at substantially right angles to wrap a flat object, wherein, when the blank is folded, the large panels are held together by at least one interlocking (13,18) means formed using the material of the blank only, whereas the invention further relates to a packaging made from such a packaging blank.

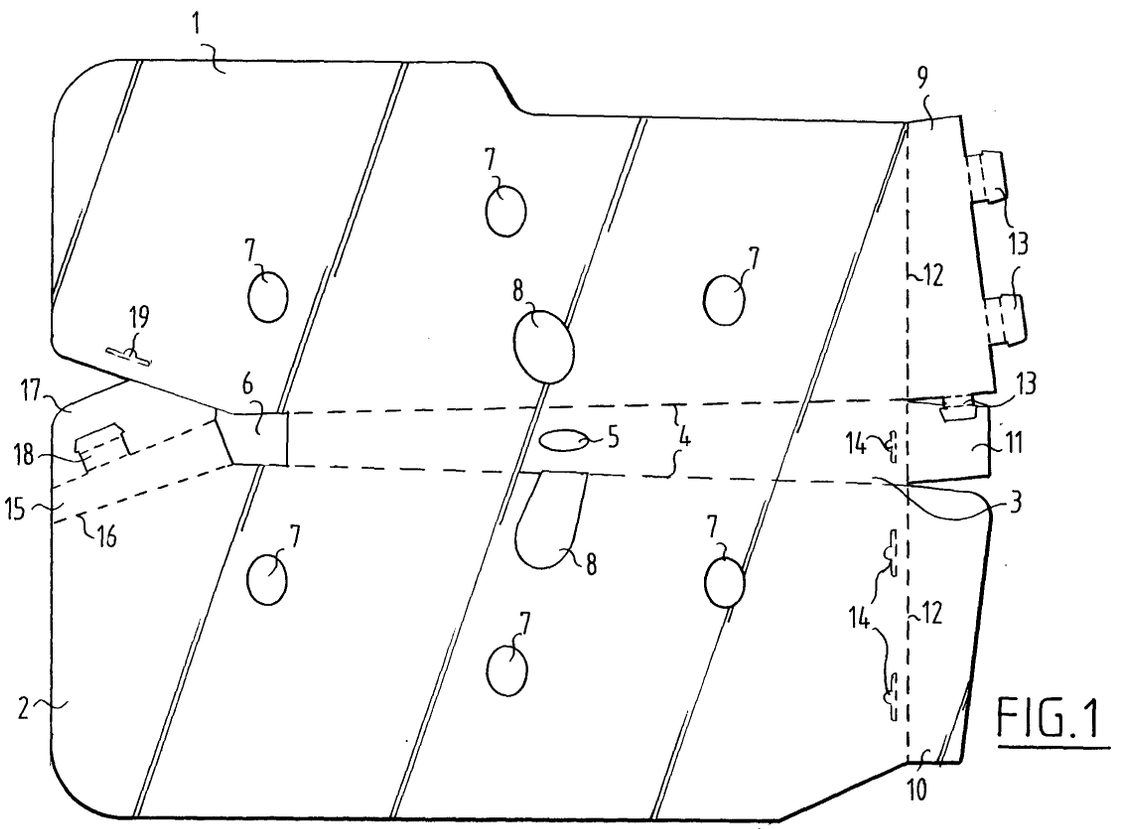

FIG.1

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Description

[0001] The present invention relates to a packaging blank comprising two large panels, linked by one narrow panel about which the large panels are folded at substantially right angles to wrap over a flat object and particularly a two-wheeled vehicle such as a bicycle. Furthermore the invention relates to a packing made from such a packaging blank.

[0002] Such a packing is used to pack complete products, especially bicycles coming from a production line in the factory, for transportation from factory to store and protection during transportation and handling. The current packing, used for 30 years or more, comprises two panels joined by a central narrow panel, so that they hang and protect each side of the bicycle. Once the blank is positioned on the bicycle, the packing is closed by means of tape and/or staples which needs relatively much time and handling. Because additional tools and other materials are required, there is a risk of poor positioning or incorrect or inadequate fixing of the packing. Because the current way of packing cost relatively much time, it constitutes a bottleneck in the production process of manufacturing bicycles.

[0003] The object of the invention is to solve these problems.

[0004] This object is achieved in accordance with the invention with a packaging blank defined in the introduction which is characterised in that when the blank is folded about the flat object, the large panels are held in place together by at least one interlocking means formed using the material of the blank only. Thus, a bicycle can be packed using only the inventive blank and not requiring any tools or other fixing materials, glue, staples, tapes or strapping bands. The wrapping of bicycles can be carried out faster resulting in increased production. Furthermore, the absence of tools for packing removes the chance of damage to the finished bicycle by tools.

[0005] According to one preferred embodiment of the packaging blank, an aperture for a projecting part of the flat object to be packed is provided. In case of bicycle, the blank preferably comprises apertures for projections such as the handlebar stem, pedal mounts and saddle post of the bicycle.

[0006] According to a second embodiment, a further aperture is provided, which aperture facilitates assembling, handling and/or identification of the object packed. Through these apertures the bicycle can be easier and better identified, handled and/or assembled.

[0007] The packaging blank according to the invention is further preferably characterised in that the or each interlocking means comprises a tab on one panel which is to be inserted into a slot in the panel to which it is to be linked. The mutual connection between panels is unambiguous through given locations of tabs and corresponding slots. Correct and adequate fixing of the packing is guaranteed. Furthermor, this design of interlocking means can be readily disconnected, e.g. by manually reversing the process of insertion of a tab in a slot, in order to unpack the object at the retailer.

[0008] According to a further embodiment, the or each interlocking means comprises a tab projecting from a flap attached to one panel. Precise positioning of opposed panels is guaranteed.

[0009] Preferably a flap is also attached to the other panel or panels, whereas the flaps form together a part of the packing structure. The packing made of this blank has one closed end face.

[0010] According to a still further embodiment, one projecting tab is cut from a further flap attached to the flap from which said tap is projecting, and said further flap also forms a part of the packing structure. The packing made of this blank also has its other end closed.

[0011] The material of the blank is carton board, corrugated container board or a material with similar properties. This kind of material gives sufficient strenght during handling and transportation in order to protect the object packed. Proper choice of material, e.g. the grade of corrugated, can permit the connection to be ruptured using a tool or some reasonable manual force applied to the interlocking means to tear it of or overcome the resistance provided by the engagement of the interlocking means.

[0012] The invention also relates to a packing made from the packaging blank as defined in one of the claims 1-7, which packing is held in an erected condition by use of one or more interlocking means.

[0013] In an embodiment of the packing according to the invention, the two large panels may be held in their folded position by use of one or more interlocking means at one end of the narrow panel, so as to allow the flat object which is to be packed to be inserted into the pre-erected packing from the other end.

[0014] In a further embodiment of the packing, one interlocking means holds together the large panels at the other end of the narrow panel, so as to close the packing after insertion of the flat object into the pre-erected packing.

[0015] The invention will now be described with reference to the accompanying drawings, in which

Fig. 1 illustrates from above a preferred embodiment of an inventive packaging blank; and
Fig. 2 is a perspective view of a packing made from the packaging blank shown in Fig. 1.

[0016] Fig. 1 illustrates one embodiment of a packaging blank for a packing of a bicycle. The blank includes two large flat panels 1,2 and an intermediate narrow panel 3. The narrow panel 3 is joined to each large panel 1,2 by means of a folding line 4. In the narrow panel 3 an aperture 5 is provided for the saddle post of the bicycle to be packed. At the one end of the narrow panel 3 there is provided an aperture 6 in which the handlebar stem of the bicycle will protrude when the bicycle is

packed with the packing made from the blank. Furthermore the large panels 1,2 are provided with apertures 7 for ease of identification of the bicycle packed. Finally each large panel 1,2 comprises an aperture 8 for ease of mounting a saddle to the saddle post after the bicycle is packed in the packing.

[0017] Flaps 9,10 and 11 respectively are attached to the panels 1,2 and 3 by means of folding lines 12. Three tabs 13 project from one flap 9, whereas three slots 14 are provided in the panels 2,3 abutting the other two flaps 10,11. Each tab 13 is to be inserted into a slot 14 in the panel 10,11 to which it is to be linked (see also Fig. 2). At the other end of the narrow panel 3, another flap 15 is attached to one of the large panels 2. This flap 15 is connected to the panel 2 by means of a folding line 16. Furthermore the flap 15 is extended with a further flap 17 which in the final packing lies against the inside surface of panel 1. In flap 17 another tab 18 is cut. Tab 18 on panel 2 is to be inserted into a slot 19 cut in panel 1 to which panel 2 is to be linked.

[0018] By folding the large panels 1,2 at right angles to the narrow panel 3 and inserting the tabs 13 into the corresponding slots 14, after flap 11 is folded in (see Fig. 2), the packing is held in an erected condition. The bicycle which is to be packed can be inserted into this pre-erected packing from the open end, i.e. the end of the packing being opposed the end closed by the interlocking means 13,14. This end is then closed by folding in flaps 15,17 and inserting tab 18 into slot 19 so that the large panels 1,2 are also held together at the other end of the narrow panel 3. The packing is open at the bottom so that it still allows the bicycle packed to be wheeled along. Instead of holding the packing pre-erected, it is also possible to fold the blank over the bicycle directly from the pallet and then lock the tabs 13,18 into the corresponding slots 14,19.

[0019] It will be understood that the interlocking means 13,14 and 18,19 resp. can differ in number and shape from the preferred embodiment shown. The same applies for the apertures 5,6 for projecting parts of the bicycles and the apertures 7,8 for ease of assembling, handling and/or identification. The invention is therefore restricted solely by the content of the accompanying claims.

Claims

1. A packaging blank comprising two large panels, linked by one narrow panel about which the large panels are to be folded at substantially right angles to wrap a flat object, **characterised in that**, when the blank is folded, the large panels are held together by at least one interlocking means formed using the material of the blank only.

2. A packaging blank according to claim 1, further comprising an aperture for a projecting part of the flat object which is to be packed.

3. A packaging blank according to claim 1 or 2, further comprising an aperture for ease of assembling, handling and/or identification of the object packed.

4. A packaging blank according to one of the preceding claims, wherein the or each interlocking means comprises a tab on one panel which is to be inserted into a slot in the panel to which it is to be linked.

5. A packaging blank according to one of the preceding claims, wherein the or each interlocking means comprises a tab projecting from a flap attached to one panel.

6. A packaging blank according to claim 5, wherein a flap is also attached to the other panel or panels, whereas the flaps form together a part of the packing structure.

7. A packaging blank according to claim 5 or 6, wherein one projecting tab is cut from a further flap attached to the flap from which said tap is projecting, and wherein said further flap also forms a part of the packing structure.

8. A packaging blank according to one of the preceding claims, wherein the material of the blank is carton board, corrugated container board or a material with similar properties.

9. A packing made from the packaging blank according to one of the claims 1-8, wherein the packing is held in an erected condition by use of one or more such interlocking means.

10. A packing according to claim 9, wherein the two large panels are held in their folded position by use of one or more interlocking means at one end of the narrow panel, so as to allow the flat object which is to be packed to be inserted into the pre-erected packing from the other end.

11. A packing according to claim 10, wherein one interlocking means holds together the large panels at the other end of the narrow panel.

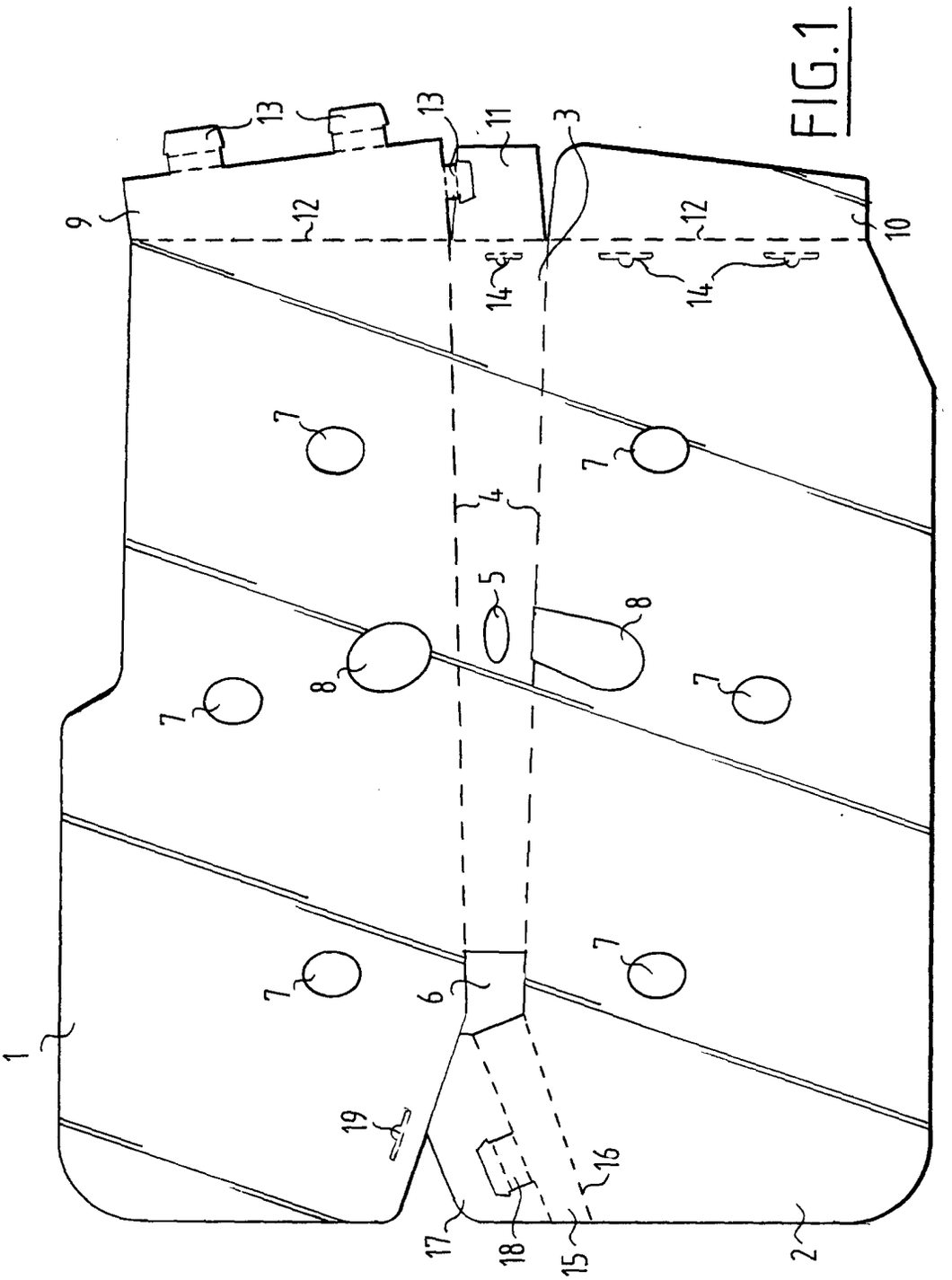

FIG.1

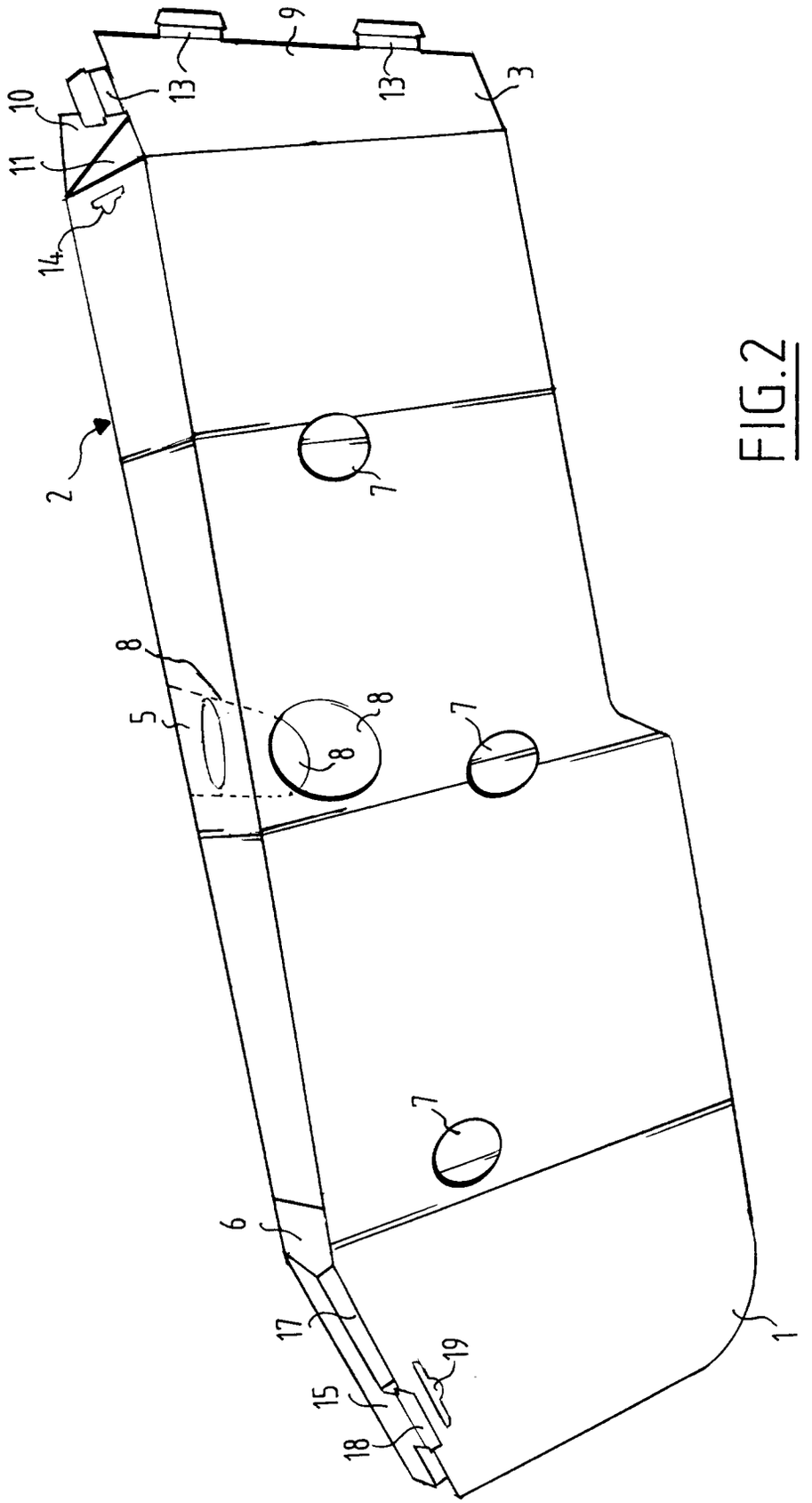

FIG.2

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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 4800

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.7)
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A	* the whole document *	4-8	
A	DE 33 43 467 A (THIMM KG) 13 June 1985 (1985-06-13) * page 10, line 7 - page 14, line 8; figures *	1-3,8,9	
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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	19 March 2002	SERRANO GALARRAGA, J

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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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19-03-2002

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