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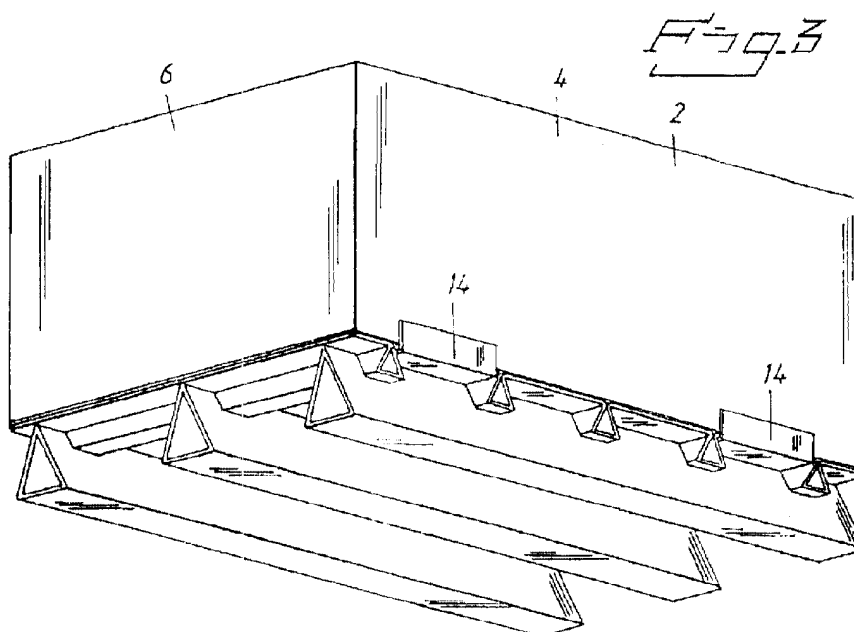
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(54) **Pallet box container for goods**

(57) The present invention relates to a container for holding goods and being made of carboard, preferably of corrugated cardboard, said container having two pairs of opposing side walls and a base made up of base flaps connected to the adjoining side walls. The container is adapted to be placed on and combined with a pallet, preferably of carboard and disposable, said pallet having a deck bearing on a plurality of parallel base girders and being connected with said girders by means of projecting elements arranged on the underside of the deck and perpendicular to said girders. Securing tabs (14) are

provided in the box container (2), at least at one pair of the opposing side walls (4, 6), said securing tabs (14) being adapted to secure and lock the box container (2) to the pallet (30) by abutting the underside of the deck between adjacent projecting elements (36) and by being inserted between the deck and the nearest base girder (34), such that the securing tab secures and lock the box container (2) to the pallet (30) when goods are loaded in the container (2).

The invention also relates to a method to secure a pallet box container for holding goods on a pallet.



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Description

Field of the invention

[0001] The present invention relates to a pallet box container for holding goods to be carried, said container being made of cardboard, preferably of corrugated cardboard, and having two pairs of opposing side walls and a base made up of base flaps connected to the adjoining side walls. The container is adapted to be placed on and combined with a pallet, preferably of cardboard and disposable, said pallet having a deck which bears on a plurality of parallel base girders and is joined with said girders by means of longitudinal projecting elements arranged on the underside of the deck and perpendicular to said girders. The invention also relates to a method to secure a pallet box container for goods to a pallet.

Background of the invention

[0002] For an efficient handling of different kinds of goods, different types of pallets are being used and an increasing number of the pallets constitute disposable pallets. The disposable pallets must be stable, have a high load-bearing capacity and be easy to handle, while they must also be produced of an inexpensive and environment friendly material and with low manufacturing costs. A pallet of this type, which is made of cardboard, paper or millboard and is adapted to be finally produced at the site of the user, is disclosed in SE-C2-503 535. This pallet comprises a plurality of parallel base girders and a deck, which is joined with the base girders. The underside of the deck has a plurality of parallel, longitudinal projecting elements, arranged perpendicular to the base girders. The projecting elements correspond to recesses in the top portion of the base girders, said recesses having the same cross-section as the projecting elements on the underside of the deck. The deck is joined with the base girders by means of the longitudinal projections being inserted in the recesses in the base girders.

[0003] In order to store and to handle goods, which have an outer configuration that makes the goods unsuitable to stack on a pallet, special pallet box containers, which are adapted to hold the goods to be carried and to be placed on the pallets, must be used. For a safe handling of these box containers, the container must be secured to the pallet in any suitable manner. In order to secure the container to the pallet, different kinds of external fixing means can be used depending on the materials used in the pallet and the box container. Fixing means like bands, adhesives, staples or nails may be used. It is previously known to provide securing means in pallet box containers of corrugated cardboard. The securing means can be folded around uncovered battens in a wooden pallet. A pallet box container of this type having securing means for a wooden pallet is known and disclosed in detail in SE-B-408 884.

Summary of the invention

[0004] The object of the present invention is to provide a pallet box container for holding goods and a method to secure a box container to a pallet, which are adapted to secure the box container to a disposable pallet, of cardboard or similar material of the type as described above and in the above-mentioned SE-C2-503 535, in a simple and safe manner.

[0005] This object of the invention is achieved by virtue of a pallet box container of the kind as disclosed above and a securing method, having the characterising features set forth in the following independent claims. Further advantageous characteristics and advantages of the invention are evident from the dependent claims and from the following description of conceivable embodiments.

Brief description of the drawing

[0006] The invention will be explained in greater detail hereinbelow with reference to the attached drawing figures, of which:

Figure 1 is a plan view of a blank of a pallet box container according to one embodiment of the invention:

Figure 2 is a perspective view showing the erected pallet box container from the blank according to Figure 1, said container having been placed on but not yet secured to a pallet;

Figure 3 is a similar view of the pallet box container to that of Figure 2 in a position when the container has been secured to the pallet.

Detailed description of a preferred embodiment of the invention

[0007] Figure 1 shows the plane blank of a pallet box container 2, preferably of cardboard or corrugated cardboard, according to one embodiment of the invention. The box container 2 has two pairs of opposing side walls, according to this embodiment, two short sides 6 and two long sides 4, and a base made up of base flaps 8, 10 connected to the adjoining side walls. A fastening tab 12 is further provided along the free edge of the plane blank.

[0008] Securing tabs 14 are cut out of the cardboard material, as shown in Figure 1, in close vicinity of fold lines 7, delimiting the side walls 4 in one pair of opposing sides from the adjoining base flaps 10. In accordance with the embodiment of Figure 1, the securing tabs 14 may have an extension on both sides of the fold line 7, i.e. both an extension in the base flap 10 and in the side wall 4. They may, however, also be entirely cut out of the base flap 10. The number of securing tabs 14 provided in each side wall and/or base flap may vary between the lowest number of at least one securing tab in

each side wall 4 and/or base flap 10 and upward. In the embodiment as shown, there are two securing tabs. The securing tab 14 is preferably provided with an outer and centrally arranged locking tongue 16.

[0009] In Figures 2 and 3, the pallet box container 2 is shown in the erected and assembled state, forming a container-like unit. In Figure 2, the pallet box container has been placed on a pallet 30 of the type as described above and which do not constitute a part of the present invention. In Figure 3 the pallet box container 2 has been secured and locked to the pallet 30.

[0010] The base of the box container is placed on and, according to the embodiment as shown, corresponds with the configuration of the deck surface of the pallet 30. The pallet may, however, have different standard configurations, such as a pallet of a whole, half, third or fourth pallet size for example, such that the box container 2 may cover only a part of the deck surface of the pallet 30. The pallet deck 32 bears on a plurality of parallel base girders 34 and is anchored in these by means of parallel, longitudinal projecting elements 36 provided on the underside of the deck. The projecting elements 36, having triangular configuration, extend perpendicular to the base girders 34 and are anchored in recesses in said base girders having the same cross-section as the projections 36.

[0011] The securing tabs 14 are cut out of the box container 2 in positions, which coincide with the portions of the deck 38 which are enclosed by two adjacent projecting elements 36 when the box container has been placed on the pallet 30. The width of the securing tabs, preferably is the same as the distance b between adjacent projecting elements 36.

[0012] In the embodiment as shown, the securing tabs comprise a first section 14a, which is cut out of the side wall 4, and a second section 14b, which is cut out of the base flap 10 and which has an outermost end forming the locking tongue 16. The locking tongue 16 may have the same width b as the second section of the securing tab 14, but preferably has a width that is smaller than the width b. The first section 14a of the securing tab has a length which allows the securing tab 14 to be folded up to a suitable starting position for the securing action, as shown in Figure 2. From this folded position, the second section 14b of the securing tab can be inserted between the projecting elements 36, in a substantially horizontal direction and parallel to the deck 32. The second section 14b of the securing tab has a length 1 and a width b, which allows the securing tab 14 to be inserted, from the position as shown in Figure 2, into the dovetail-formed groove 38. When inserted, the second section of the securing tab abuts the adjacent projecting elements 36 and the outer locking tongue 16 can be inserted between the outer base girder 34 and the deck 32.

[0013] In Figure 3, it is shown how the pallet box container 2 is secured and locked to the pallet 30, partly by means of the second section 14b of the securing tab 14

abutting the underside of the deck 32 in the dovetail-formed groove 38 between the projecting elements 36 and partly by means of the locking tongue 16 of the securing tab being inserted between the upper edge of the base girder 34 and the underside of the deck 32. The pallet box container 2 according to the invention and the pallet are securely held together and when the goods are loaded in the box container, the base of the container is pressed against the deck 32 and the deck is pressed against the base girder 34 and the locking tongue 16 of the securing tab thus is locked, by the weight of the goods, between the base girder and the deck. The safe securing of the pallet box container to the pallet implies that the goods can be transported and handled in different types of handling systems with no risk and without any special external fixing means.

[0014] It will be appreciated that various modifications may be made to the above described embodiment, without departing from the scope of the preceding claims. Thus, for example, the securing tabs may also be cut out and arranged in the base of the pallet box container at a distance from the edge, and those securing tabs may coact with slit-formed openings in the deck. The securing tabs are inserted into these openings and are secured in a similar way as described above in the dovetail formed groove between adjacent projecting elements and between the base girders and the deck.

Claims

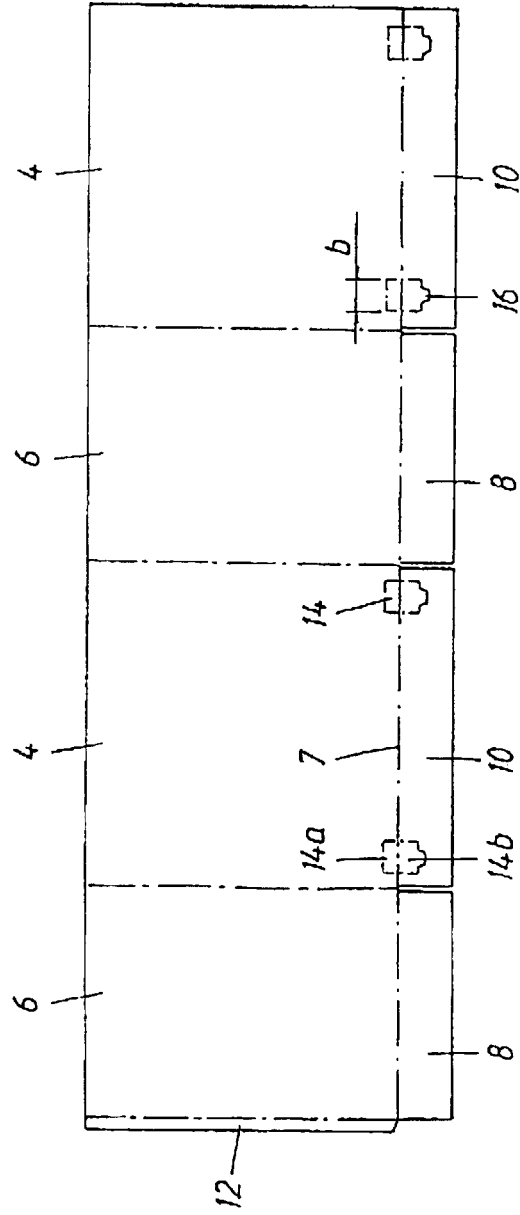
1. A pallet box container for holding goods to be carried, said container being made of cardboard, preferably corrugated cardboard, and having two pairs of opposing side walls (4, 6) and a base made up of base flaps (8, 10) connected to the adjoining side walls, said container being adapted to be placed on and combined with a pallet (30), preferably of cardboard and disposable, said pallet having a deck (32) which bears on a plurality of parallel base girders (34) and is joined with said base girders by longitudinal projecting elements (36) arranged on the underside of the deck and perpendicular to the base girders, **characterised in** that securing tabs (14) are provided in the box container (2), at least at one pair of the opposing side walls (4, 6), said securing tabs (14) being adapted to secure and lock the box container (2) to the pallet (30) by abutting the underside of the deck between adjacent projecting elements (36) and by being inserted between the deck and the nearest base girder (34), such that the securing tab locks the box container (2) to the pallet (30) when the container is loaded with the goods in the container (2).
2. A pallet box container according to claim 1, **characterised in** that the securing tab (14) has a width (b) which corresponds to the distance between ad-

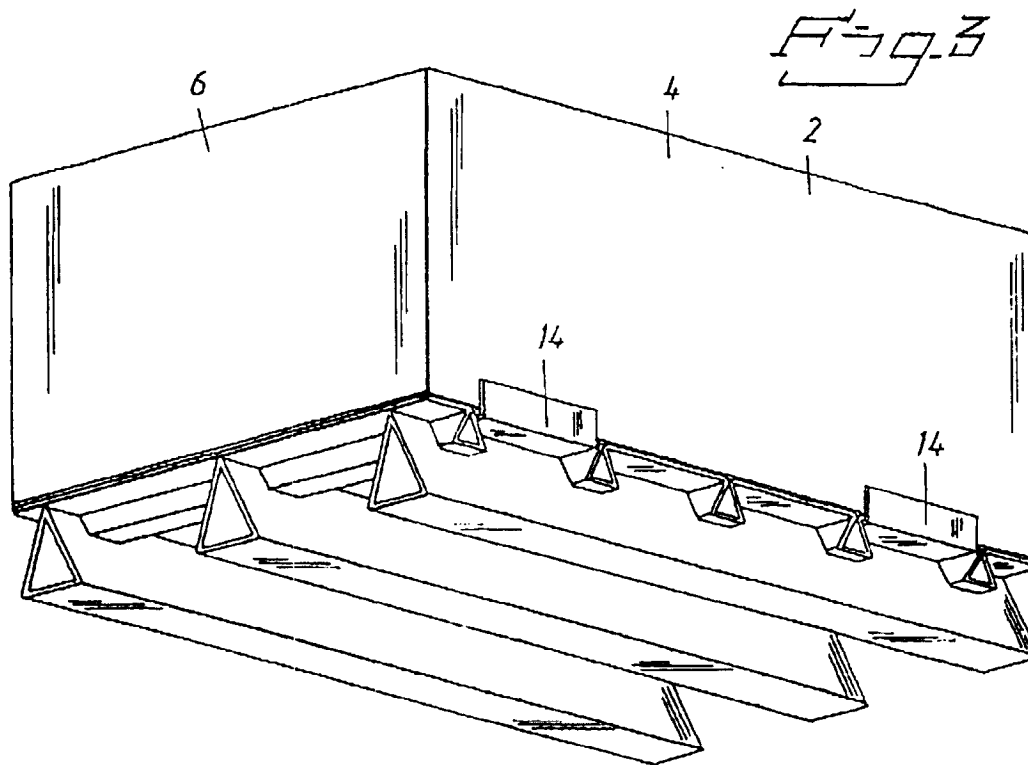
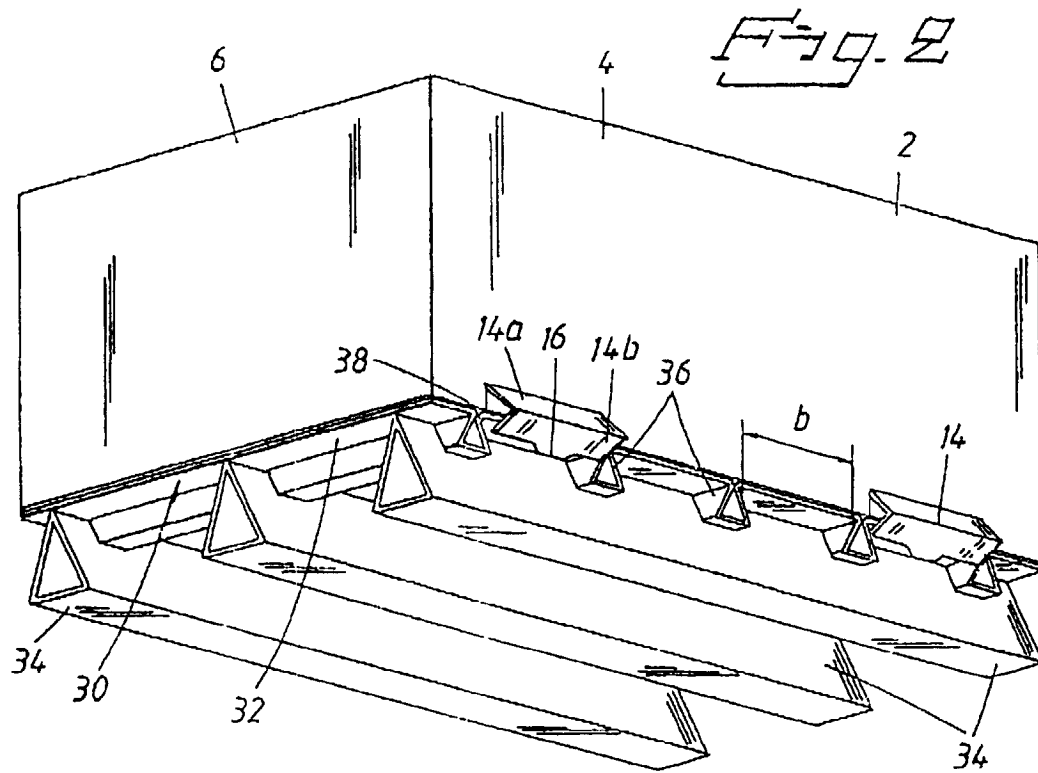
jacent projecting elements (36) and that the edges of the securing tabs (14) abut the projecting elements (36) and is secured between the elements when inserted.

are secured between the projecting elements.

3. A pallet box container according to claim 2, **characterised in** that the securing tabs (14) have been cut out of the blank of the box container (2) and have an extension on both sides of the edgeline (7) delimiting the side walls (4) from the base flaps (10). 5
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4. A pallet box container according to claim 3, **characterised in** that the securing tabs (14) have a first section (14a), which is cut out from the side wall (4), and a second section (14b), which is cut out from the base flap (10), said first section (14a) of the securing tab has a length which allows the second section (14b) of the securing tab to be folded up to a position from which the second section can be inserted substantially parallel with the deck (32) and between the projecting elements (36). 15
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5. A pallet box container according to claim 4, **characterised in** that the second section (14b) of the securing tab has an outer locking tongue (16), which preferably is less wide than the width (b) of the second section (14b) of the securing tab and which is intended to be inserted and locked between the deck (32) and the base girder (34). 25
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6. A pallet box container according to one of claims 1-5, **characterised in** that at least two securing tabs are arranged at each side (4).
7. A method of securing a pallet box container for holding goods to be carried, said container being made of cardboard, preferably corrugated cardboard, to a pallet, preferably of cardboard and disposable, said pallet comprising a deck (32) which bears on a plurality of parallel base girders (34) and is joined with said base girders by longitudinal projecting elements (36) arranged on the underside of the deck and perpendicular to the base girders, **characterised in** that securing tabs (14) in the box container (2) is folded up and inserted under and substantially parallel to the deck (32) of the pallet, such that the securing tab abuts the underside of the deck, that a locking tongue (16) arranged at the outer end of the securing tab (14) is inserted between the deck (32) and the nearest base girder (34) and that the locking tongue (16) is secured and locked between the deck and the base girder when the pallet (30) is loaded by the goods in the pallet box container (2). 35
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8. A method according to claim 7, **characterised in** that the securing tabs (14) is inserted between adjacent projecting elements (36) on the underside of the deck (32) such that the securing tabs abut and 55

Fig. 1







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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 4531

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X	EP 0 302 638 A (A & W FULLARTON LTD) 8 February 1989 (1989-02-08)	1	B65D19/20
A	* column 2, line 41 - column 3, line 39 * * figures 1-5 *	7	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20 February 2001	Examiner Wennborg, J
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
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