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Australia

Patents Act 1990

NOTICE OF ENTITLEMENT

I, John Gordon Hinde, of 31 Market Street, Sydney, New South Wales, 2000, Australia, being the patent attorney, for the Applicant/Nominated Person in respect of Application No. 34905/93 state the following:-

The Applicant/Nominated Person has entitlement from the actual inventor as follows:-

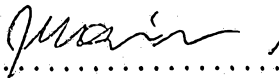
Swap-Lizenz AG is the assignee of Victor Traber AG which is the assignee of the actual inventor.

The Applicant(s)/Nominated Person(s) is/are entitled to rely on the application(s) listed in the Declaration under Article 8 of the PCT as follows:

Victor Traber AG made each of the basic applications as assignee of the actual inventor and assigned its rights in the invention including the priority rights accruing from the said basic applications to Architecture Project Idea AG. Architecture Project Idea AG subsequently changed its name to Swap-Lizenz AG.

The basic applications listed on the Declaration under Article 8 of the PCT are the first, second and third applications made in a Convention country in respect of certain aspects of the invention. Priority is claimed from respective said basic applications only in respect of subject matter first disclosed therein.

DATED this 10th day of November 1995


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PALLET MADE OF CARDBOARD
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- (56) Prior Art Documents
AU 43755/93 B65D
AU 91495/91 B65D
US 2432295
- (57) Claim

1. A cardboard pallet comprising:
- a rectangular plate comprising a plate core of single-row, one-sided corrugated cardboard layers which are glued together and the corrugations of which extend in their entirety perpendicular to the plane of the plate;
 - a cardboard blank glued to each of the upper side and the under side of said plate core; strips of cardboard glued onto all four end faces of said plate core and cardboard blanks;
 - said cardboard blanks and said strips being wrapped with kraft paper blanks which are folded around all longitudinal and transverse edges of said plate;
 - at least four rectangular feet glued to said underside of said plate, said feet comprising corrugated cardboard; and
 - at least two laths glued to the underside of at least two feet each, said laths comprising a lath core of cardboard.

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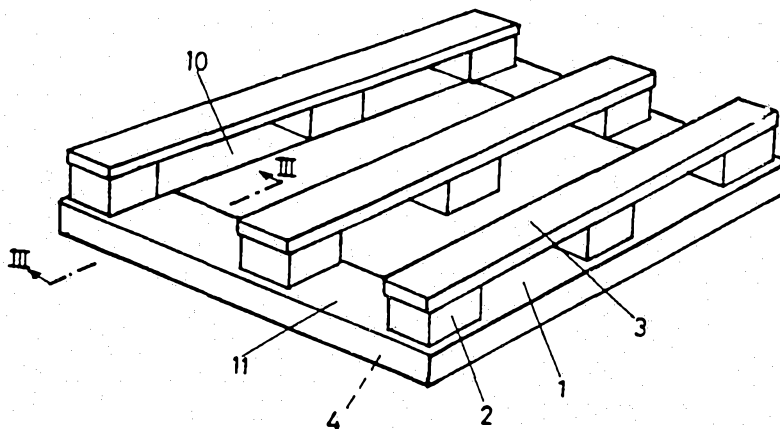
<p>(51) Internationale Patentklassifikation ⁵ : B65D 19/34</p>	<p>A1</p>	<p>(11) Internationale Veröffentlichungsnummer: WO 93/16927 (43) Internationales Veröffentlichungsdatum: 2. September 1993 (02.09.93)</p>
<p>(21) Internationales Aktenzeichen: PCT/CH93/00048 (22) Internationales Anmeldedatum: 24. Februar 1993 (24.02.93) (30) Prioritätsdaten: 626/92-8 27. Februar 1992 (27.02.92) CH 9210483.5 6. August 1992 (06.08.92) EP (34) Länder für die die regionale oder internationale Anmeldung eingereicht worden ist: DE usw. 9213681.8 12. Oktober 1992 (12.10.92) EP (34) Länder für die die regionale oder internationale Anmeldung eingereicht worden ist: DE usw. (71) Anmelder (für alle Bestimmungsstaaten ausser US): ARCHITECTURE PROJECT IDEA AG [CH/CH]; Rorschacherstrasse 150, CH-9006 St. Gallen (CH).</p>	<p>(72) Erfinder: und (75) Erfinder/Anmelder (nur für US) : ISEL1, Fredy [CH/CH]; Im Waidacker, CH-8592 Uttwil (CH). (74) Anwalt: MÜNCH, Otto; Isler AG, Postfach 6940, CH-8023 Zürich (CH). (81) Bestimmungsstaaten: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, europäisches Patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG). Veröffentlicht Mit internationalem Recherchenbericht. Mit geänderten Ansprüchen.</p> <p style="text-align: center; font-size: 2em; font-weight: bold;">665807</p>	

(54) Title: PALLET MADE OF CARDBOARD

(54) Bezeichnung: PALETTE AUS KARTON

(57) Abstract

The pallet proposed consists of a top deck (1), at least four feet (2) bonded to the underside of the top deck (1) and at least two connecting strips (3), each bonded to at least two feet (2). The top deck (1) has a core made of corrugated cardboard, the longitudinal axis of the corrugations running preferably at right angles to the plane of the top deck, and a sheath made preferably of paperboard which encloses the top deck (1) on all sides. The feet contain corrugated cardboard with corrugations at right angles to the plane of the top deck. The connecting strips (3) are of the same type of construction as the top deck (1). The pallet is stable and can be manufactured to standard dimensions.



(57) Zusammenfassung

Die Palette besteht aus einer Platte (1), mindestens vier auf die Unterseite der Platte (1) aufgeleimten Füße (2) und mindestens zwei auf je mindestens zwei Füße (2) aufgeleimten Leisten (3). Die Platte (1) hat einen Plattenkern aus Wellkarton, dessen Wellenlängsrichtung vorzugsweise senkrecht zur Plattenebene verläuft und eine Plattenhülle vorzugsweise aus Graukarton, die sämtliche Stirnflächen umhüllt. Die Füße (2) enthalten Wellkarton mit Wellen senkrecht zur Plattenebene. Die Leisten (3) sind analog zur Platte (1) aufgebaut. Die Palette ist stabil und kann in Normabmessungen hergestellt werden.

Cardboard pallet

It has already been proposed on various occasions to make pallets from corrugated cardboard. Such a proposal is contained, for example, in the EP-A-283 799. However, until now such pallets have not proved successful in practice, either because they are not stable enough or, as for example those according to EP-A-283 799, they do not have dimensions that correspond to the norm.

It is the object of the present invention to make a pallet from cardboard in such a way that it is stable and can also be produced in the standard dimensions.

This invention in one broad form provides a cardboard pallet comprising:
a rectangular plate comprising a plate core of single-row, one-sided corrugated cardboard layers which are glued together and the corrugations of which extend in their entirety perpendicular to the plane of the plate;

a cardboard blank glued to each of the upper side and the under side of said plate core; strips of cardboard glued onto all four end faces of said plate core and cardboard blanks;

said cardboard blanks and said strips being wrapped with kraft paper blanks which are folded around all longitudinal edges of said plate;

at least four rectangular feet glued to said underside of said plate, said feet comprising corrugated cardboard; and

at least two laths glued to the underside of at least two feet each, said laths comprising a lath core of cardboard.

This invention in a further broad form provides a pallet according to any one of claims 1 to 9, wherein the cardboard blanks and the strips of the plate consist of gray cardboard.

In the following exemplified embodiments of the invention will be explained with reference to the drawings, wherein:

Fig. 1 is a perspective view of a turned over pallet,

Fig. 2 shows a blank for a pallet,



- Fig. 3 shows a section along the line III-III in Fig. 1,
- Fig. 4 shows a blank for a lath,
- Fig. 5 shows a blank for a foot,
- Fig. 6 is a top view onto a folded foot,
- Fig. 7 is a section similar to Fig. 3 through a second embodiment,
- Fig. 8 is a top view onto the foot of the second embodiment,
- Fig. 9 is a cross-section through the lath of the second embodiment,
- Fig. 10 is a cross-section similar to Fig. 3 through a third embodiment of a plate,
- Fig. 11 shows a section along the line XI-XI in Fig. 10,
- Fig. 12 shows a variant of the plate according to Fig. 10,
- Fig. 13 shows a further embodiment of the lath,
- Fig. 14 shows a further embodiment of the plate,



Fig. 15 is a partial view of the plate according to Fig. 15, and

Fig. 16 is a diagrammatic representation of the manufacture of the core of a plate or lath.

The pallet illustrated in Fig. 1 consists of a flat, rectangular plate 1, nine feet 2 glued to the underside of the plate 1, and three laths 3 glued to the underside of three feet each.

The plate 1 consists of three sandwiched and glued together rectangular corrugated cardboard blanks 15, 16 and of a further blank 7 as a cover (Fig. 3). The longitudinal direction of the corrugations of the middle blank 16 and of the cover blank 7 extend crosswise to the longitudinal direction of the plate 1, those of the blanks 15 parallel thereto. The blanks 15 consist of triple-corrugation cardboard and are about 12 mm thick, the blank 16 consists of double-corrugation cardboard and is about 10 mm thick. The cover blank consists of single-corrugation cardboard and is only about 3 mm thick. The overall thickness of the plate 1 is about 35 mm.

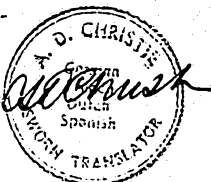
As shown in Fig. 2 and 3, the cover blank 7 has flaps 10, 11 delimited by fold-lines 9 stamped-in in pairs, which project beyond the edges of the blanks 15, 16, are folded up along the faces thereof and glued to the underside 5 of the plate 1 (Fig. 3). The length of the broad-side flap 11 glued onto the underside 5 corresponds at least to the length of the feet 2, and the width of the long-sided flap 10 at least



to the width of the feet 2. The entire outside surface of the plate 1 is coated with the same water based, waterproof glue with which the blanks 15, 16, 7 are glued together. As a result thereof a waterproof impregnation is obtained without using foreign materials. This type of impregnation furthermore has the advantage that the glueing inside the corrugated cardboard layers and of the layers among one another is not adversely affected by solvents, as is the case, for example, when varnishing with the usual varnishes. The faces of the plate 1 are sealed so that no water or foreign substances can penetrate into the corrugations of the layers 15, 16. Because of the cross-wise layer construction the plate 1 is resistant to bending in both directions. Alternatively, also a water based varnish can be used for the impregnation.

The laths 3 are made from blanks 22, 18 (Fig. 4) in the same way as the plate 1, except that here the intermediate layer 16 has been left out. With the two rectangular, triple-corrugation cardboard blanks 22 the corrugations 23 extend lengthwise, those of the single-corrugation, thin cover blank 18 crosswise. The folded over flaps 21 of the blank 18 here cover the entire upper side of the lath 3. The surface of the laths 3 is impregnated with glue in the same manner.

Fig. 5 shows a blank 28 for a foot 2. It consists of double-corrugation cardboard, is rectangular and at one end has a separating cut 29 for cutting off a section 30, as well as eight fold-lines 32. The corrugations 33 extend crosswise to the longitudinal direction of the



blank 28. In the middle of the section 30 and of the adjoining part incisions 31 are provided up to half the width of the blank 28.

Fig. 6 shows a front view of the folded foot. The last part and the inserted section 30 serve as diagonal reinforcing. The walls of the foot 2 are glued right around in two layers. Also the feet 2 are impregnated with glue.

The described pallet is strong and waterproof and can be produced with the existing standard dimensions, e.g. as a Euro-pallet with the dimensions 120 cm x 80 cm or 60 cm x 80 cm. The pallet is type-pure and consists exclusively of paper and glue. As a result thereof it can without problem be reused and recycled. The pallet with a mass of about 12 kg (at 120 x 80 cm) is very much lighter than corresponding wooden pallets which weigh about 25 kg. This considerably simplifies the handling of the empty pallets. Because of its sturdiness the pallet can be used as a multiple-use pallet.

For special uses the plate 1 may, for example, also be made hexagonal.

With the embodiment according to Fig. 7 to 9 identical parts have been given the same reference numerals, so that it is not necessary to give a detailed description of these parts. The embodiment according to Fig. 7 to 9 differs from that according to Fig. 1 to 6 with regard to the construction of the plate 1, the feet 2 and the laths 3.



The plate 1 according to Fig. 7 has a centrally arranged blank 51 of gray cardboard and on either side thereof a total of three alternately sandwiched, single-corrugation blanks 15, 16. The cover is formed by two inner rectangular blanks 52 of gray cardboard, each of which covers half of the upper side and underside as well as the narrow faces, and an outer rectangular blank 53 of single-corrugation cardboard which on the upper side 4 is continuous, envelopes the long faces, and the narrow edges of which butt against one another in the middle on the underside.

This construction of the plate 1 has, compared to that of Fig. 1 and 3, the advantages that because of the solid cardboard layers it is more impact resistant to shocks from the side, as well more puncture resistant in respect of sharp objects. The rectangular blanks 52, 53 have only parallel fold-lines and can be produced more easily.

The foot according to Fig. 8 differs from that of Fig. 6 in that the blank 28 overlaps on only one narrow side, and in that in addition it comprises a blank 56 of gray cardboard which also increases the impact resistance. Tests have shown that the blank 28 in the form illustrated in Fig. 8 can easily be stuck, unglued, into the glued cover blank 56. The glueing of the foot 2 to the plate 1 and the lath 3 gives it sufficient stability.

The lath 3 according to Fig. 9 differs from that of Fig. 1 and 4 in that it has a construction similar to that of the plate 1 according to



Fig. 7, except that all corrugated cardboard layers have longitudinally directed corrugations. Also provided is a middle blank 60 of gray cardboard as well as an inside cover blank 61 of gray cardboard. This envelopes the narrow faces. The outer cover blank 62 of single-corrugation cardboard is on the upper side overlapped over its entire surface. The gray cardboard layers 60, 61 also increase the impact resistance. The face ends of the cover blank 62 are advantageously squashed flat during the glueing to close the corrugations of this blank at the faces. The cross-section of the lath 3 according to Fig. 9 is trapezoidal. This has the advantage that the rollers of a pallet truck can more easily move over the lath 3.

The plate 1 according to Fig. 10 and 11 consists of a core 70 of glued together, single corrugation, one-sided corrugated cardboard 71, the corrugations of which extend perpendicularly to the plane of the plate, i.e. to the upper side 4 and underside 5, as well as of a cover 52, 53, which is constructed the same as the cover 52, 53 of the embodiment according to Fig. 7. The corrugated cardboard 71 of the core 70 may consist of 100% old paper. It may in addition be impregnated with a flame-inhibiting and/or a water-repelling agent. Advantageously it is first made as a large block and then sawn into disks according to the required core thickness, e.g. by means of a bandsaw.

It has been found that with the plate construction according to Fig. 10 and 11, in which the core 70 acts as a honeycomb structure, a very



high bending resistance can be obtained at a lesser mass than with the embodiment according to Fig. 7. In addition the embodiment according to Fig. 10 and 11 can be produced even more economically.

The core construction according to Fig. 10 and 11 can also be used for the feet 2 in that with the embodiment according to Fig. 8 the blank 28 is replaced by a core corresponding to the core 70 of Fig. 10 and 11.

The embodiment according to Fig. 12 is intended mainly for economically priced disposable pallets. In this case only a gray cardboard 75 is glued to the upper side and the underside of the core 70. The faces of the core 70 are not covered.

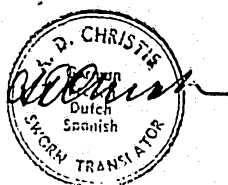
The laths 3 can either be constructed the same as with the embodiment according to Fig. 9, or they may also have the honeycomb structure according to Fig. 10. Preferably, the laths 3 have the trapezoidal cross-section shown in Fig. 9.

The cardboard sandwich construction according to Fig. 12 is also suitable for other applications, e.g. for stable cardboard cases. With this application the cover blanks 75 may also both consist of corrugated cardboard. These sandwich plates with a honeycomb core have at a low mass a high strength and rigidity. In addition the honeycomb core 70 offers a good protection against knocks as it forms a crusher zone.



In Fig. 13 a further embodiment of the lath 3 is shown in perspective in its detail parts. The core 80 of the lath 3 is constructed the same as the core 70 of the plate 1 according to Figures 10, 11 and 12, i.e. with corrugations which all extend perpendicularly to the plane of the plate. It has a trapezoidal cross-section. Glued onto the upper side and the underside of the core 80 are gray cardboard blanks 81, 82. Glued onto the two narrow sides and the faces of the core 80 and the blanks 81, 82 are laths 83, 84 of gray cardboard. In this way the entire core 80 is enveloped in gray cardboard. Next a blank 85 of kraft paper is folded around each of the faces and glued on. Finally, also the upper side and underside as well as the narrow sides are still covered with two rectangular kraft paper blanks 86. Subsequently, the faces are expediently dipped in a relatively viscous glue bath with waterproof glue. By doing so the two short faces are sealed.

The plate 1 according to Figure 14 is constructed the same as the lath 3 according to Figure 13: The plate core 70 is the same as that of Figures 10-12. A gray cardboard blank 75 is glued onto both sides of this core 70. Then strips 90, 91 of gray cardboard are glued onto all the faces of the core 70 and blanks 75. As a result thereof also here the entire core 70 is enveloped in gray cardboard. The cover is completed by four glued on, rectangular kraft paper blanks 92, 93 which encase the longitudinal edges 95 and the broad edges 96 and each cover half of the upper side and underside. The fibre direction 94 of the blanks 92, 93 cross one another. The kraft paper of the



blanks 92, 93 has a relatively high cellulose content of 70-90 percent and an area mass of about 0,3 kg per m². As a result thereof it has a high tensile strength. This results for the plate 1 according to Figure 14 in a high bending resistance at a low mass. To seal the short corner edges 98, the corners of the plate 1 according to Figure 14 are dipped in a waterproof, relatively viscous glue. This results in a sealing layer 97, which is indicated in Figure 15.

The pallet with the plate 1 according to Figure 14, the feet 2 according to Figure 8 and the laths 3 according to Figure 13 is preferably also impregnated with a waterproof glue or a water based varnish. At the same mass it has a higher carrying capacity and impact resistance than the pallet according to Figures 1-6.

Figure 16 illustrates diagrammatically the making of the core 70 or 80 for the plate 1 according to Figures 10 and 11 or 12 or 14 and for the lath 3 according to Figure 13. First rectangular, single corrugation, one-sided corrugated cardboard blanks are glued together, all corrugations extending in the same direction. This results in a large block 100. The block 100 is then sawn into disks 101. Used for the sawing is a thin wire 102 of, for example, 0,5 mm diameter coated with hard substance grains, preferably with diamond, which wire is guided over two deflection rollers 103, 104. The one roller 104 is driven by a motor 105. The cutting side 106 of the wire 102 is perpendicular to the corrugation direction 107 of the corrugated cardboard blanks and perpendicular to the feed direction 108 of a



carriage 109 on which the block 101 is clamped in.

This type of core manufacture is very rational. Because of the thin, diamond-coated wire 102 only very little cutting waste is produced.



The claims defining the invention are as follows:

1. A cardboard pallet comprising:
a rectangular plate comprising a plate core of single-row, one-sided corrugated cardboard layers which are glued together and the corrugations of which extend in their entirety perpendicular to the plane of the plate;
5 a cardboard blank glued to each of the upper side and the under side of said plate core; strips of cardboard glued onto all four end faces of said plate core and cardboard blanks;
said cardboard blanks and said strips being wrapped with kraft paper blanks
10 which are folded around all longitudinal and transverse edges of said plate;
at least four rectangular feet glued to said underside of said plate, said feet comprising corrugated cardboard; and
at least two laths glued to the underside of at least two feet each, said laths comprising a lath core of cardboard.
- 15 2. Pallet according to claim 1, wherein the short edges of the plate are sealed with a waterproof glue.
3. Pallet according to claim 1 or claim 2, wherein the feet each consist of a foot cover of gray cardboard folded around vertical edges and a core of corrugated cardboard.
- 20 4. Pallet according to any one of claims 1 to 3, further comprising a lath cover consisting of gray cardboard blanks glued to the upper side and underside of said lath core and to all end faces of the lath core, and of at least one cover of kraft paper or single-corrugation cardboard which encases at least the longitudinal edges of the laths.
5. Pallet according to claim 4, wherein the two end faces of each lath are
25 sealed with waterproof glue.
6. Pallet according to any one of claims 1 to 5, wherein the laths have a trapezoidal cross-section.
7. Pallet according to any one of claims 1 to 6, wherein the plate, the feet and the laths are impregnated with a waterproof compound.
- 30 8. Pallet according to claim 7, wherein the waterproof compound is a waterproof glue or a water based varnish.
9. Pallet according to any one of claims 1 to 8, wherein the cardboard blanks and the strips of the plate consist of gray cardboard.
10. A rectangular plate pallet platform comprising a plate core of single-
35 row, one-sided corrugated cardboard layers which are glued together and the corrugations of which extend in their entirety perpendicular to the plane of the plate;



a cardboard blank glued to each of the upper side and the under side of said plate core; strips of cardboard glued onto all four end faces of said plate core and cardboard blanks;

5 said cardboard blanks and said strips being wrapped with kraft paper blanks which are folded around all longitudinal edges of said plate.

11. A pallet as defined in claim 1 and substantially as herein described with reference to any one of the illustrated embodiments.

12. A plate pallet platform substantially as herein described with reference to Fig. 14 of the accompanying drawings.

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DATED this Thirteenth Day of November 1995

Swap-Lizenz AG

Patent Attorneys for the Applicant/Nominated Person

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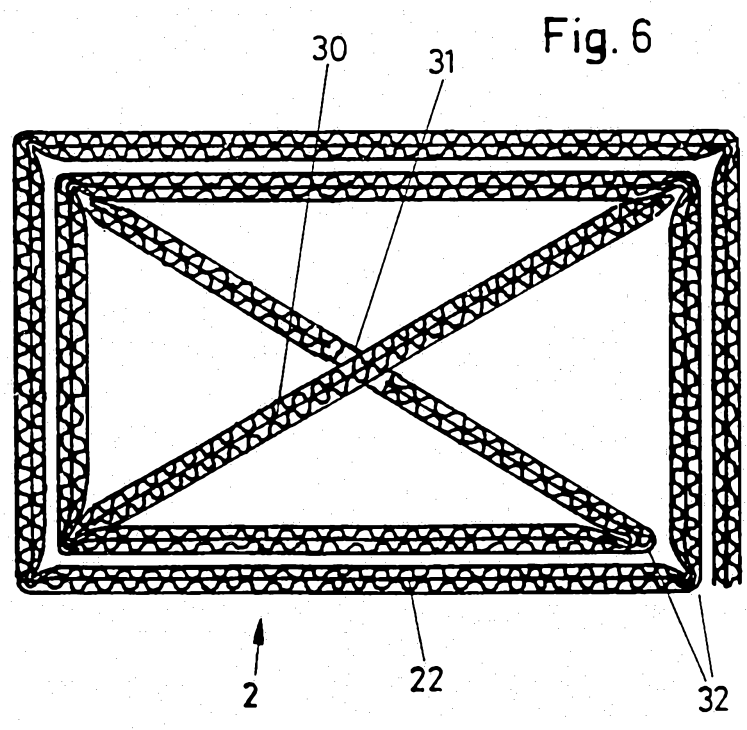
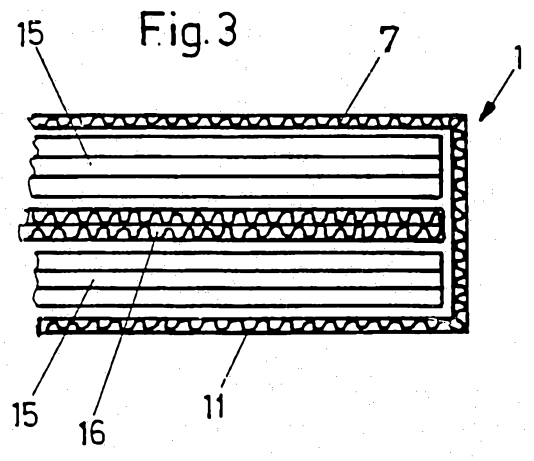
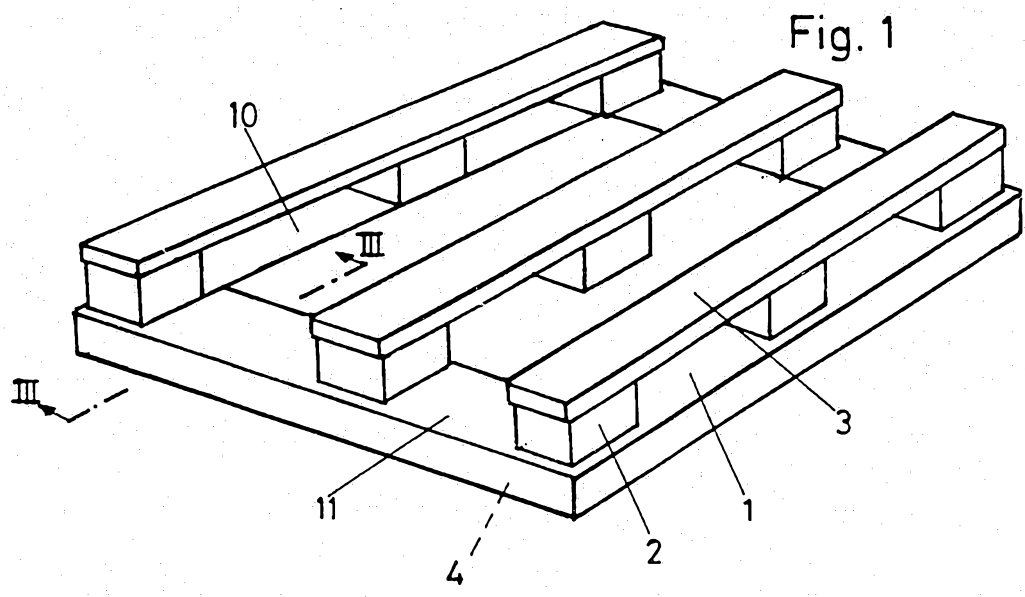
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Abstract

The pallet consists of a plate (1), at least four feet (2) glued to the underside of the plate (1) and laths (3) glued to at least two feet (2) each. The plate (1) has a plate core of corrugated cardboard, the longitudinal direction of the corrugations of which extends preferably perpendicularly to the plane of the plate, and a plate cover, preferably of gray cardboard, which envelopes all faces. The feet (2) comprise corrugated cardboard with corrugations perpendicular to the plane of the plate. The laths (3) are constructed in the same way as the plate (1). The pallet is stable and can be produced in the standard dimensions.





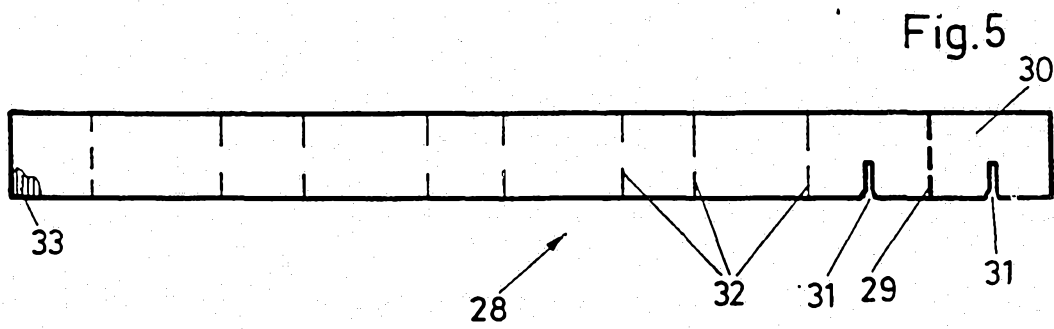
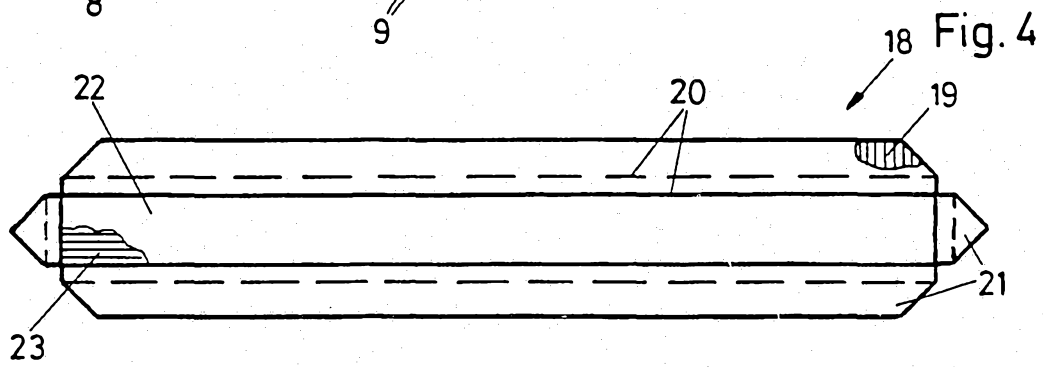
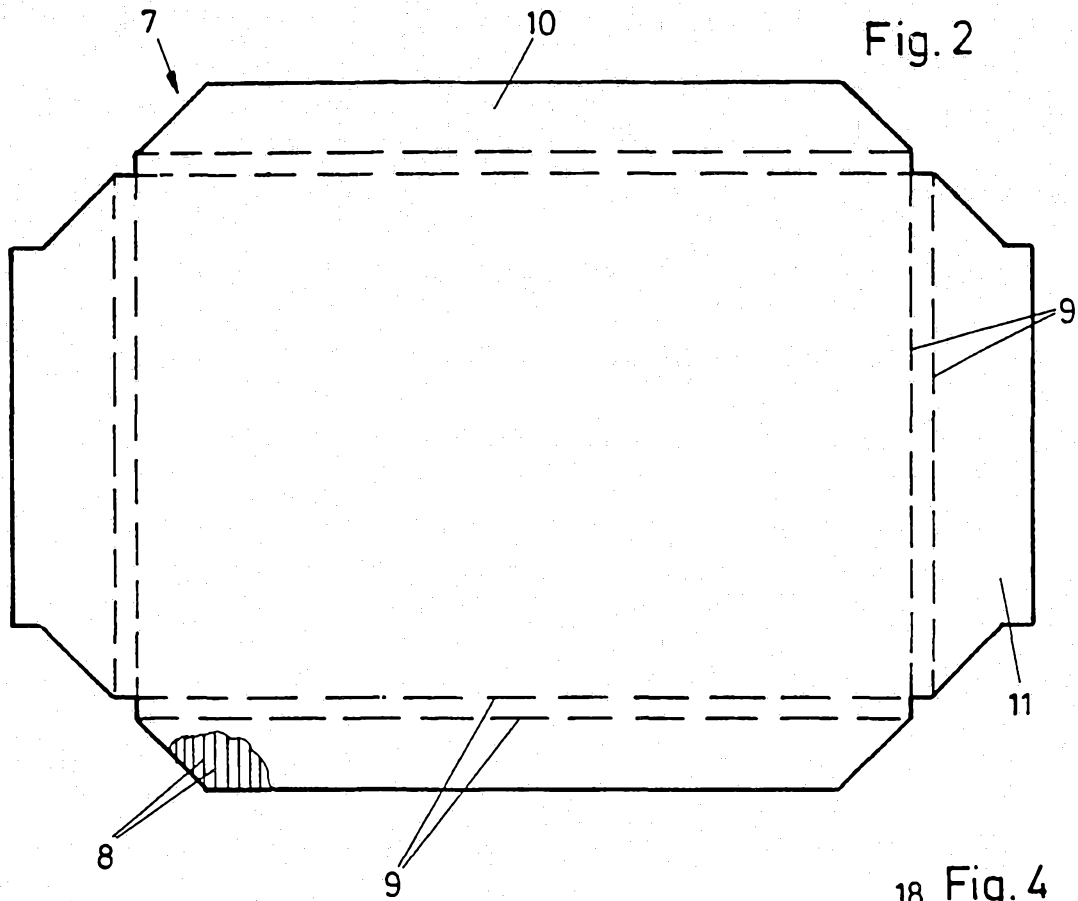


Fig. 7

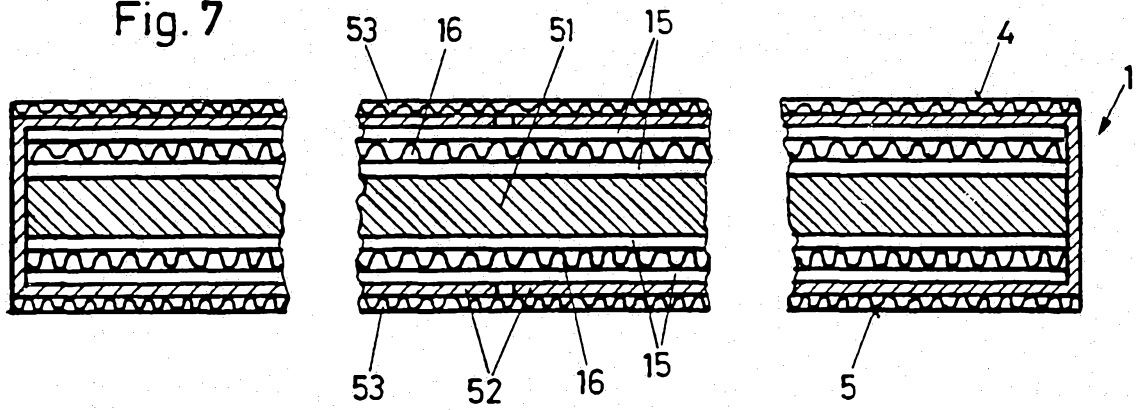


Fig. 8

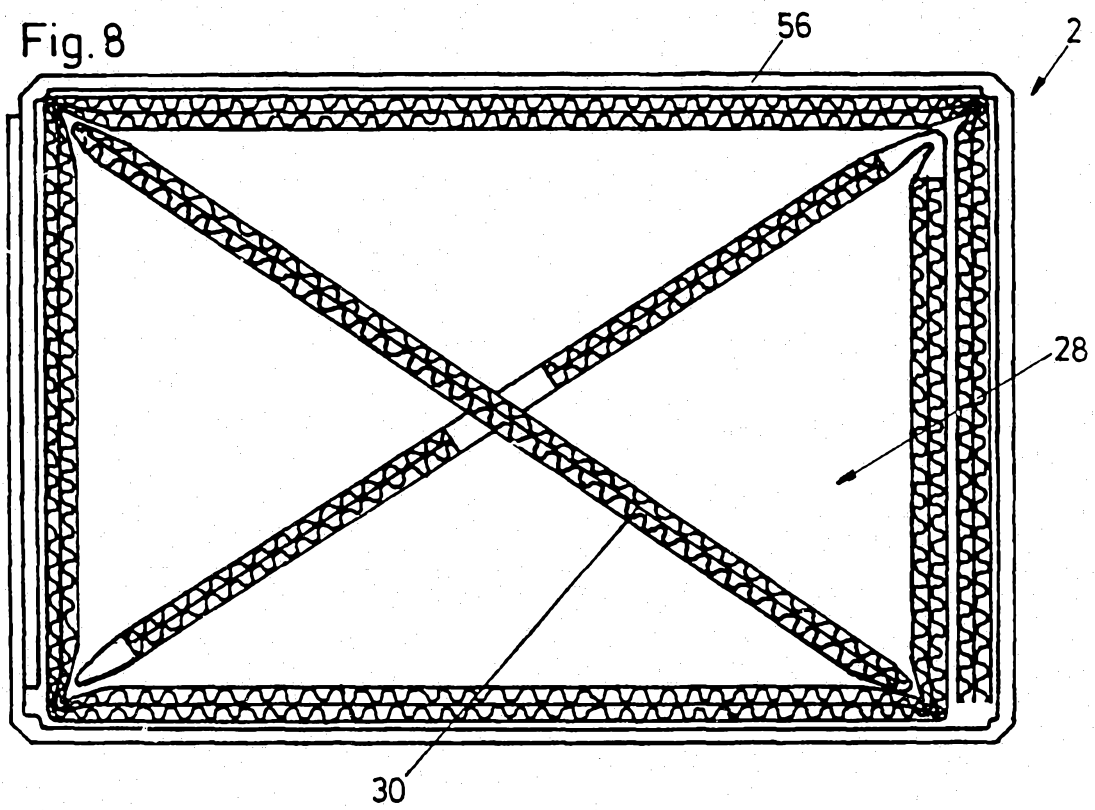


Fig. 9

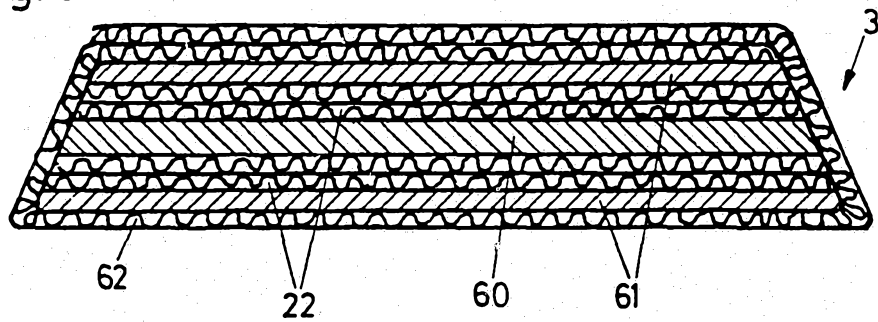


Fig. 10

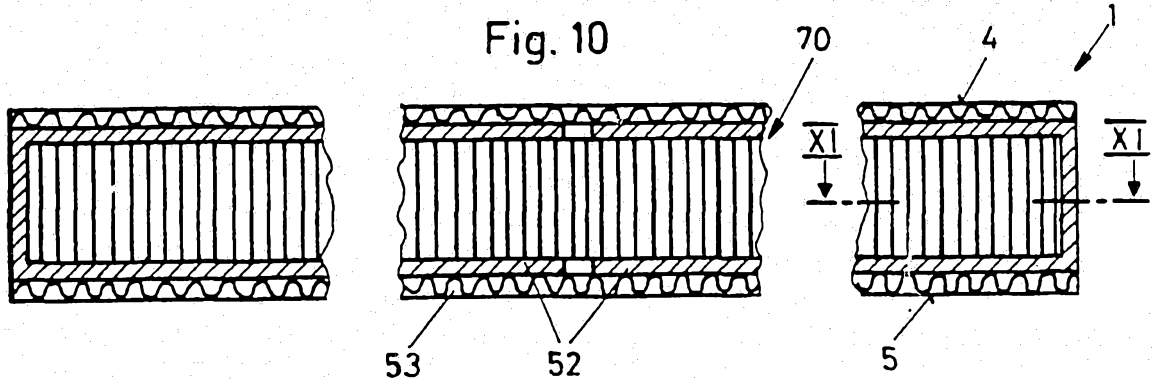


Fig. 12

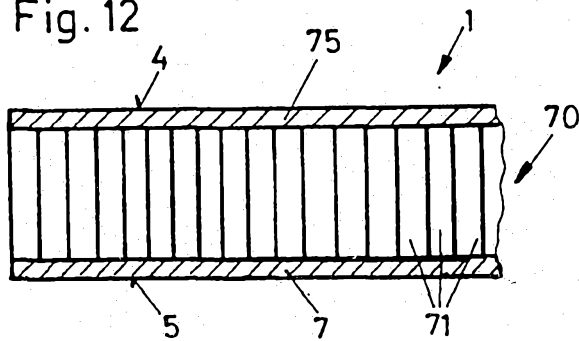


Fig. 11

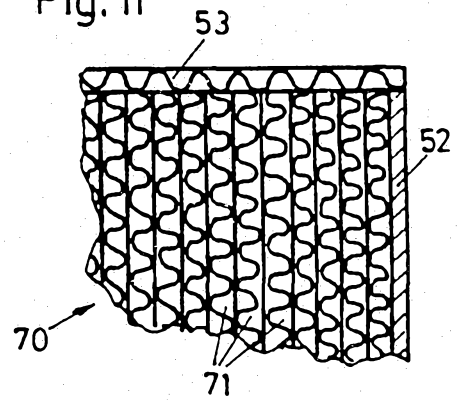
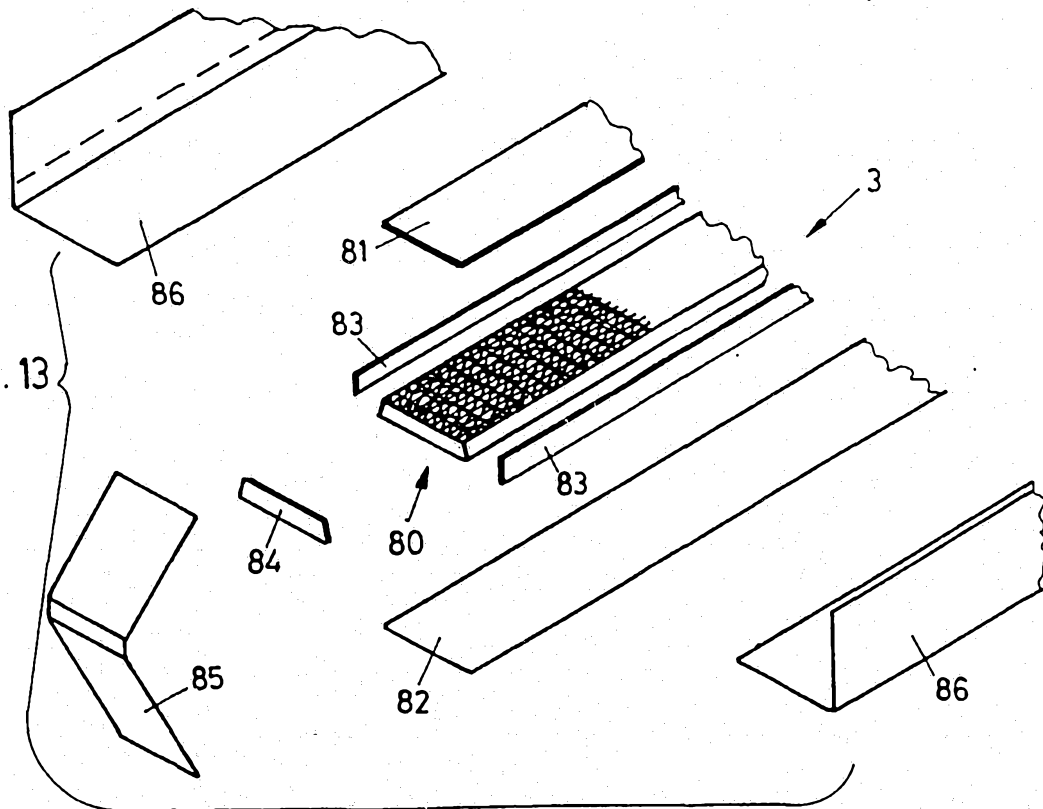


Fig. 13



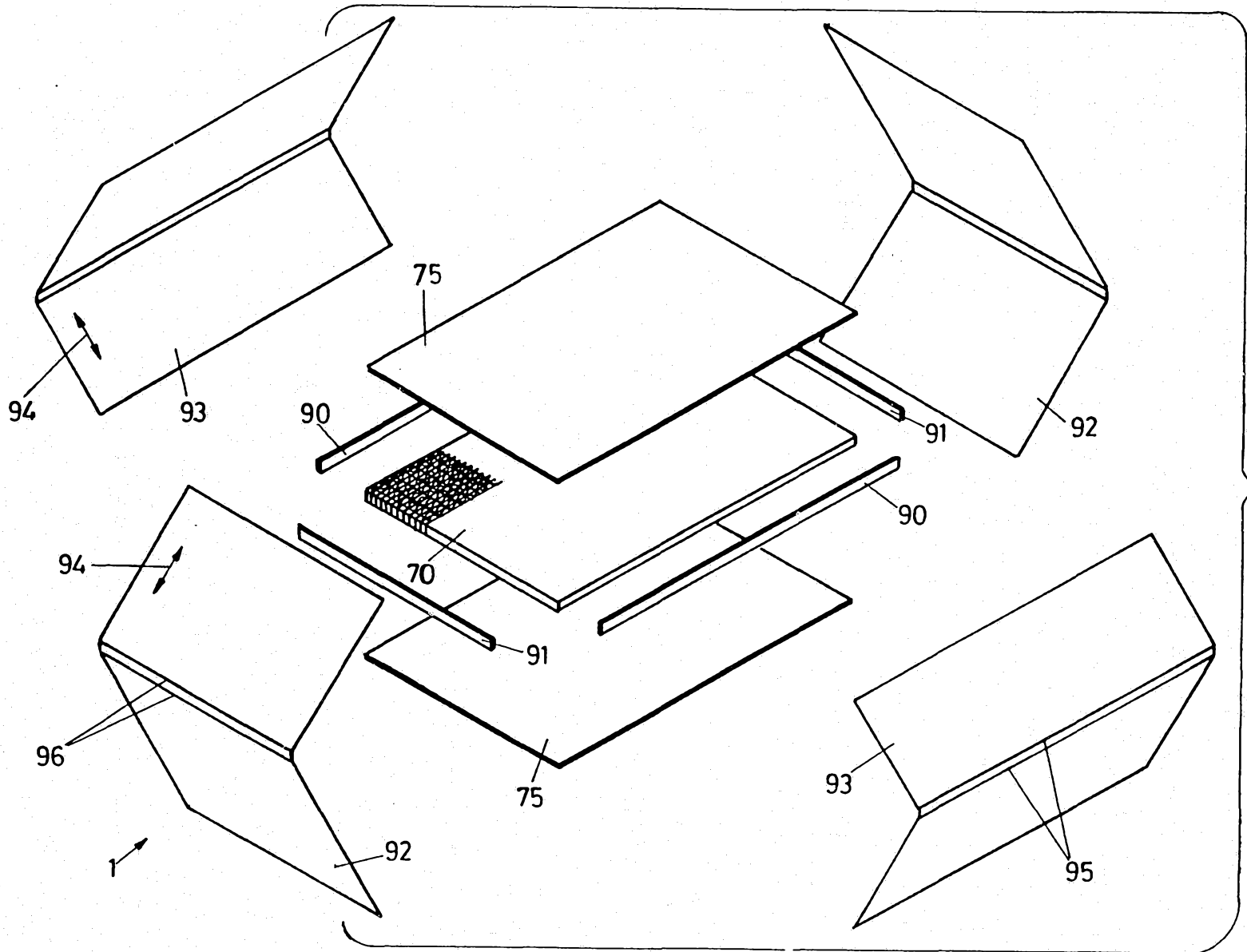
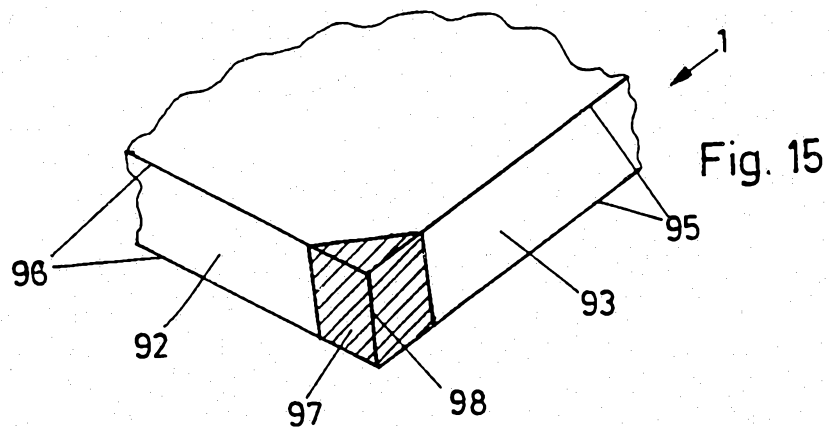
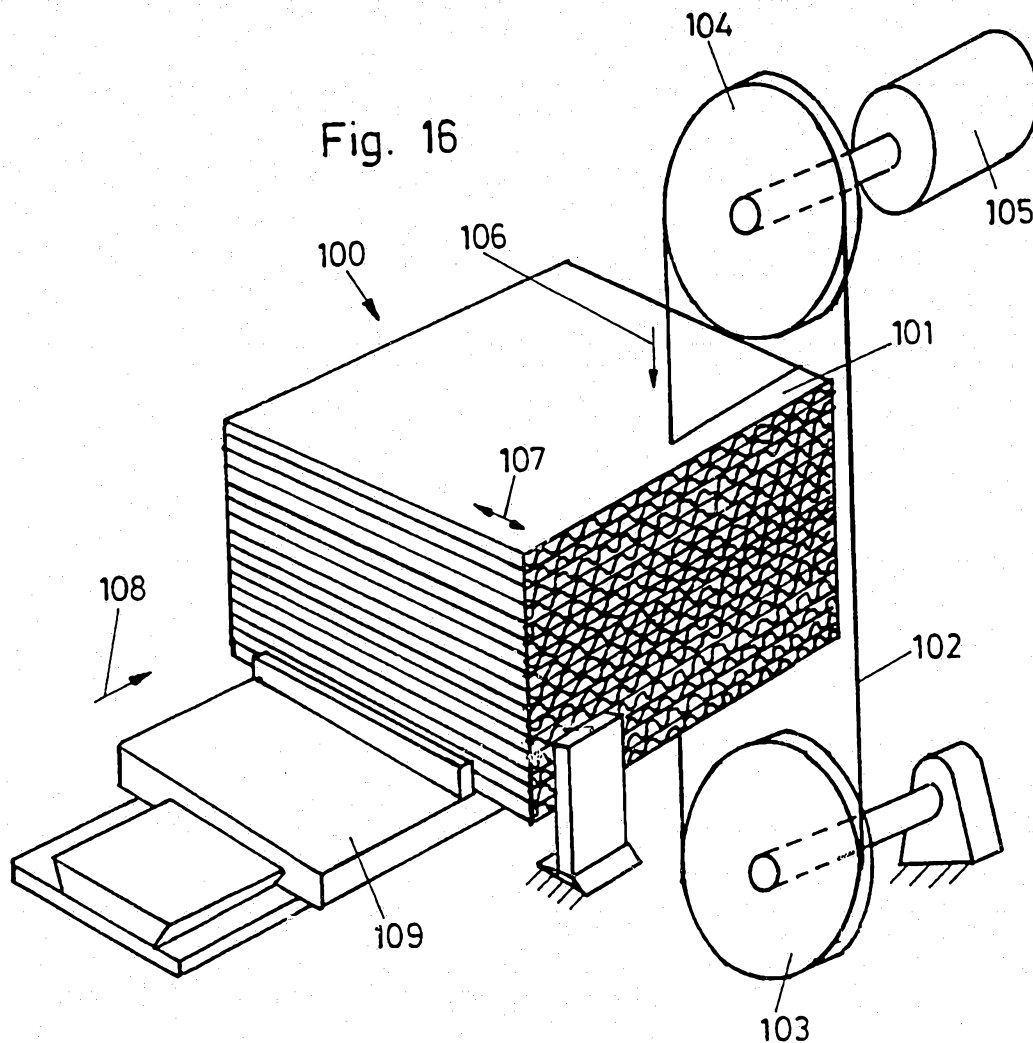


Fig.14



INTERNATIONAL SEARCH REPORT

International application No.

PCT/CH 93/00048

A. CLASSIFICATION OF SUBJECT MATTER

INT. CL.⁵ B65D19/34

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)

INT. CL.⁵ B65D

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP, A, 0 283 799 (INTER-IKEA) 28 September 1988 cited in the application; see claims 1, 11; figure 1 -----	1
A	EP, A, 0 084 906 (FINSSEN) 3 August 1983 see figures 1-3 -----	1
A	US, A, 2 493 562 (YARMAN) 3 January 1950 see claim 1; figures 1-6 -----	1
X	US, A, 3 780 929 (TERRASI) 25 December 1973 see column 3, line 34 - line 51; figures 1-3 -----	11
A	FR, A, 1 346 462 (DESMAREST) 12 November 1963 see page 1, right-hand column, line 28 - see page 2, left-hand column, line 20; figures 1-3 -----	11

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

07 May 1993 (07.05.93)

Date of mailing of the international search report

18 May 1993 (18.05.93)

Name and mailing address of the ISA/

EUROPEAN PATENT OFFICE

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CH 93/00048

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB, A 697 232 (THOMPSON) 16 September 1953 -----	

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

CH 9300048
SA 70048

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 07/05/93

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0283799	28-09-88	CA-A- 1304016 DE-A- 3866389 US-A- 5156094	23-06-92 09-01-92 20-10-92
EP-A-0084906	03-08-83	None	
US-A-2493562		None	
US-A-3780929	25-12-73	None	
FR-A-1346462		None	
GB-A-697232		None	

INTERNATIONALER RECHERCHENBERICHT

Internationales Aktenzeichen

PCT/CH 93/00048

I. KLASSIFIKATION DES ANMELDUNGSGEGENSTANDS (bei mehreren Klassifikationssymbolen sind alle anzugeben) ⁶		
Nach der Internationalen Patentklassifikation (IPC) oder nach der nationalen Klassifikation und der IPC		
Int.Kl. 5 B65D19/34		
II. RECHERCHIERTE SACHGEBIETE		
Recherchierter Mindestprüfstoff ⁷		
Klassifikationssystem	Klassifikationssymbole	
Int.Kl. 5	B65D	
Recherchierte nicht zum Mindestprüfstoff gehörende Veröffentlichungen, soweit diese unter die recherchierten Sachgebiete fallen ⁸		
III. EINSCHLAGIGE VERÖFFENTLICHUNGEN ⁹		
Art. ^o	Kennzeichnung der Veröffentlichung ¹¹ , soweit erforderlich unter Angabe der maßgeblichen Teile ¹²	Betr. Anspruch Nr. ¹³
A	EP,A,0 283 799 (INTER-IKEA) 28. September 1988 in der Anmeldung erwähnt siehe Ansprüche 1,11; Abbildung 1 ---	1
A	EP,A,0 084 906 (FINSEN) 3. August 1983 siehe Abbildungen 1-3 ---	1
A	US,A,2 493 562 (YARMAN) 3. Januar 1950 siehe Anspruch 1; Abbildungen 1-6 ---	1
X	US,A,3 780 929 (TERRASI) 25. Dezember 1973 siehe Spalte 3, Zeile 34 - Zeile 51; Abbildungen 1-3 ---	11
-/--		
<p>^o Besondere Kategorien von angegebenen Veröffentlichungen ¹⁰ :</p> <p>"A" Veröffentlichung, die den allgemeinen Stand der Technik definiert, aber nicht als besonders bedeutsam anzusehen ist</p> <p>"E" älteres Dokument, das jedoch erst am oder nach dem internationalen Anmeldedatum veröffentlicht worden ist</p> <p>"L" Veröffentlichung, die geeignet ist, einen Prioritätsanspruch zweifelhaft erscheinen zu lassen, oder durch die das Veröffentlichungsdatum einer anderen im Recherchenbericht genannten Veröffentlichung belegt werden soll oder die aus einem anderen besonderen Grund angegeben ist (wie ausgeführt)</p> <p>"O" Veröffentlichung, die sich auf eine mündliche Offenbarung, eine Benutzung, eine Ausstellung oder andere Maßnahmen bezieht</p> <p>"P" Veröffentlichung, die vor dem internationalen Anmeldedatum, aber nach dem beanspruchten Prioritätsdatum veröffentlicht worden ist</p> <p>"T" Spätere Veröffentlichung, die nach dem internationalen Anmeldedatum oder dem Prioritätsdatum veröffentlicht worden ist und mit der Anmeldung nicht kollidiert, sondern nur zum Verständnis des der Erfindung zugrundeliegenden Prinzips oder der ihr zugrundeliegenden Theorie angegeben ist</p> <p>"X" Veröffentlichung von besonderer Bedeutung; die beanspruchte Erfindung kann nicht als neu oder auf erfinderischer Tätigkeit beruhend betrachtet werden</p> <p>"Y" Veröffentlichung von besonderer Bedeutung; die beanspruchte Erfindung kann nicht als auf erfinderischer Tätigkeit beruhend betrachtet werden, wenn die Veröffentlichung mit einer oder mehreren anderen Veröffentlichungen dieser Kategorie in Verbindung gebracht wird und diese Verbindung für einen Fachmann naheliegend ist</p> <p>"&" Veröffentlichung, die Mitglied derselben Patentfamilie ist</p>		
IV. BESCHEINIGUNG		
Datum des Abschlusses der internationalen Recherche	Absenddatum des internationalen Recherchenberichts	
07. MAI 1993	18. 05. 93	
Internationale Recherchenbehörde	Unterschrift des bevollmächtigten Bediensteten	
EUROPAISCHES PATENTAMT	BESSY M.J.F.M.G.	

III. EINSCHLAGIGE VERÖFFENTLICHUNGEN (Fortsetzung von Blatt 2)		
Art °	Kennzeichnung der Veröffentlichung, soweit erforderlich unter Angabe der maßgeblichen Teile	Betr. Anspruch Nr.
A	FR,A,1 346 462 (DESMAREST) 12. November 1963 siehe Seite 1, rechte Spalte, Zeile 28 - Seite 2, linke Spalte, Zeile 20; Abbildungen 1-3	11
A	GB,A,697 232 (THOMPSON) 16. September 1953	

**ANHANG ZUM INTERNATIONALEN RECHERCHENBERICHT
 ÜBER DIE INTERNATIONALE PATENTANMELDUNG NR.**

CH 9300048
 SA 70048

In diesem Anhang sind die Mitglieder der Patentfamilien der im obengenannten internationalen Recherchenbericht angeführten Patentdokumente angegeben.
 Die Angaben über die Familienmitglieder entsprechen dem Stand der Datei des Europäischen Patentamts am
 Diese Angaben dienen nur zur Unterrichtung und erfolgen ohne Gewähr.

07/05/93

Im Recherchenbericht angeführtes Patentdokument	Datum der Veröffentlichung	Mitglied(er) der Patentfamilie	Datum der Veröffentlichung
EP-A-0283799	28-09-88	CA-A- 1304016 DE-A- 3866389 US-A- 5156094	23-06-92 09-01-92 20-10-92
EP-A-0084906	03-08-83	Keine	
US-A-2493562		Keine	
US-A-3780929	25-12-73	Keine	
FR-A-1346462		Keine	
GB-A-697232		Keine	

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Für nähere Einzelheiten zu diesem Anhang : siehe Amtsblatt des Europäischen Patentamts, Nr.12/82