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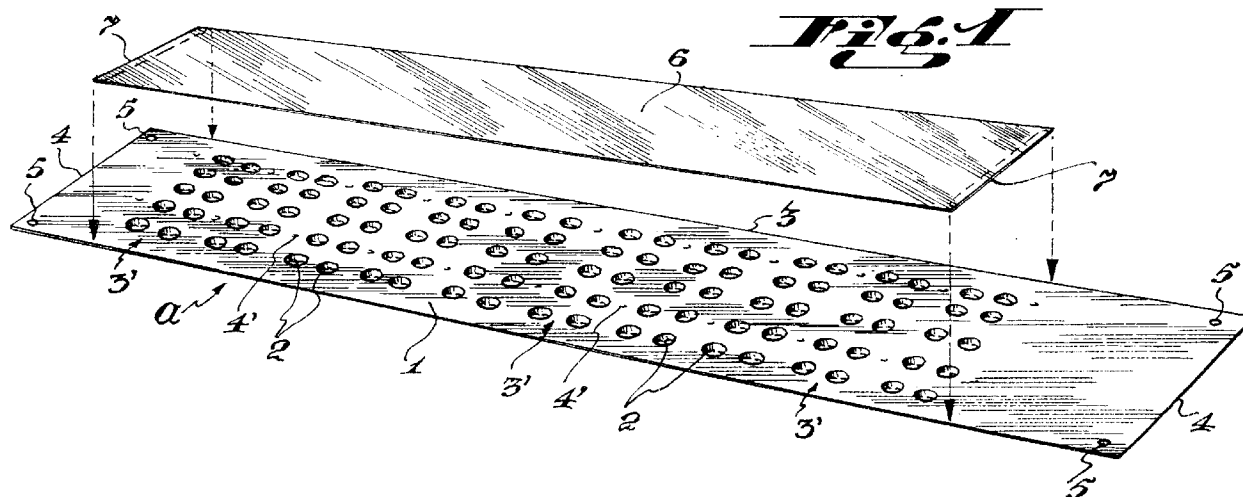
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(54) **Set of combinable foils, for the packaging of tablets and capsules**

(57) 1. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICRO-GRANULES IN GENERAL; destined to feed a packaging machine of the packable material, forming groups (3') of holders (2) that, fractionable to each other and closed by a tearable sheet (6), form packed units ["blisters"] (a') of tablets or capsules; characterized because it includes a main laminar single piece (a) —with lengthened rectangular configuration—which, affecting

end perforations (5), starting from one of its faces (1) presents depressions (2) defining preconformed alveolar groups (3'), as unitary holders of the packable material; and this main laminar single piece is supplemented with the tearable laminar cover (6) that, having a surface at least compatible with the covering of the entirety of the alveolar mouths (2), in their extreme borders (4) presents self-adherent fixation bands (7) to the main laminar single piece (a).



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Description

I-BACKGROUND OF THE INVENTION

Usually the big production In general terms the present utility model consists on a set of combinable foils, for the packaging of tablets and capsules for micro-granules in general which allows to pack small production in packaging units known as "blisters."

of substances conformed in tablets or capsules, such as pharmaceutical products, are carried out in highly automated machines where, at their exit one can find corresponding automatic packaging machines. In some cases the producer of the tablets and the packaging machines are integrated, in one unit, in a such way that in the entrance of the machine the loading of the compressible substance is made, on one hand, and the loading of rolls of plastic and metallic sheets, on another.

In both cases inside the packaging the plastic foil undergoes to the conformation of alveolar depressions on which the tablets or pills are then disposed in units. In the following station, the machine carries out the sealing of the laminar cover against the plastic foil, then to make the division by which the "blisters" are conformed.

However these machines and devices that are dedicated to big productions, have a very high cost, as well as more appropriate dimensions for industrial enterprises than for shops, clinics or drugstores.

At the same time, it should be kept in mind that, together with the employment of medications of last generation, medicine also requires of the competition of well-known medicinal preparations as "magistral", pharmaceutical products that are dispatched according to a recipe or specific formula indicated by the doctor. The same thing happens to homeopathic preparations whose composition is variable in accordance with the patient's individualization and of the medication on the part of the professional. In all these cases it is small productions of products that vary their composition between a patient and another. For this reason the big automatic machines are not capable neither of the production, neither of the packaging of these medications.

It is so the packaging of the mentioned products is carried out in bulk in plastic or glass flasks with removable cap. However, this system has such inconveniences as that the opening and closing of the flask to take out the tablet corresponding to each dose, implies the handling of the other tablets, as well as the entrance of humidity and polluting agents.

These inconveniences at the moment are solved by means of the packaging of the tablets in those mentioned "blisters" although the limitations already pointed, imposed by the characteristics of the big machines, has limited the employment of those mentioned "blisters", for small productions.

The present set of combinable foils exactly points to provide of the means necessary so that small manual, semiautomatic or automatic machines can carry out

small productions packing them under the same conditions than those of the products of massive production.

In order to comply with this it includes a main laminar single piece of lengthened rectangular configuration whose ends present extreme perforations that allow to prepare it in a frame or support. Starting from one of its faces, the single piece presents alveolar depressions that define preconformed alveolar groups, as unitary holders of the material to be packaged.

The mentioned laminar single piece is supplemented with a tearable laminar cover that, having a surface at least compatible with the covering of the totality of the alveolar mouths, in their extreme borders it presents self-adherent fixation bands to the mentioned main laminar single piece.

In this way on has a set of foils that, once the material to be packaged is disposed, it can undergo thermosealing and division, with which said "blisters" are conformed.

II-ILLUSTRATIONS

For better clarity and understanding of the object of the utility model, it has been illustrated with several figures in which it has been represented in one of its favorite embodiments, everything as a simple illustrative example, not limitative:

Figure 1 is a view in perspective of the set of combinable foils. In the inferior part, the laminar single piece can be observed, on whose main face the groups of alveolar depressions can be observed. In the superior part the laminar cover can be seen.

Figure 2 is a lateral view of the set of combinable foils, with a partial longitudinal cross section. In the main laminar single piece the profile of the alveolar depressions can be seen, while in the end of the tearable laminar cover a car-adherent band can be observed.

Figure 3 is a top view of the laminar single piece, in an embodiment in which the alveolar depressions that have a rounded form, form two alveolar groups.

Figure 4 is a top view of a laminar single piece, in an embodiment in which the alveolar depressions have a long form.

Figure 5 is a top view that illustrates three packed units or "blisters" resultant of the division of the combinable foils. In case A the alveolar group is disposed forming two arrays. In case B the group includes three arrays. Finally, in case C there are also two arrays but with smaller alveolar depressions than in case A.

In the different figures, the same reference numbers indicate same or corresponding parts, and the groups of several elements have been pointed out with letters.

Listing of the main references:

- (a) main laminar single piece.
- (a') packed unit or "blister."
- (1) main face of (a).
- (2) alveolar depression [holder].

- (3) longitudinal border of (a).
- (3') alveolar group.
- (4) end traverse border of (a).
- (4') cutting guides.
- (5) end perforations.
- (6) tearable laminar cover.
- (7) self-adherent bands of (6).

III - MAIN OBJECT

To the specified ends the set of combinable foils, for the packaging of tablets and capsules of micro-granules in general; destined to feed a packaging machine of the packable material, forming groups (3') of holders (2) that, fractionable to each other and closed by a tearable sheet (6), form packed units["blisters"] (a') of tablets or capsules; characterized because it includes a main laminar single piece (a) —with lengthened rectangular configuration— which, affecting end perforations (5), starting from one of its faces (1) it presents depressions (2) defining preconformed alveolar groups (3'), as unitary holders of the packable material; and this main laminar single piece (a) is supplemented with the tearable laminar cover (6) that, having a surface at least compatible with the covering of the entirety of the alveolar mouths (2), in their extreme borders (4) presents self-adherent fixation bands (7) to the main laminar single piece (a).

IV-DESCRIPTION

The set of combinable foils, for the packaging of tablets and capsules of micro-granules in general of the present utility model, is destined to feed a packaging machine that is the receptor of the packable material.

In general terms, the set of combinable foils includes a main laminar single piece (a) with end perforations (5) that presents preconformed alveolar depressions (2) and a tearable laminar cover (6) provided of self-adherent bands (7).

More particularly, the laminar single piece (a) has a lengthened rectangular configuration defined by its longitudinal borders (3), which are longer, and by the traverse borders or ends (4), which are shorter. In the adjacent ends to these traverse borders (4) there are respective sets of extreme perforations (5). Starting from one (1) of its faces, denominated main, the laminar single piece (a) presents depressions (2) of alveolar conformation, as unitary holders of the packable material. These alveolar depressions (2), holders or alveolus, in different embodiments can present varied conformations such as rounded, long, etc.

Also the mentioned alveolar depressions (2) group composing alveolar groups (3') disposed in such a way that they form traverse arrays respecting the longitudinal geometric axis of the laminar single piece (a). Together with this, among an alveolar group (3') and another (3') there are cutting guides (4') for the division of the laminar single piece (a).

The latter one (a) is supplemented with a tearable laminar cover (6) that, in one in one of its embodiments, can be metallic. This laminar cover (6) that also presents a long rectangular configuration, has a surface at least compatible with the covering of the totality of the mouths of the alveolar depressions (2). In its end borders it is provided of self-adherent bands (7) in order to fix against the main face (1) of the laminar single piece (a).

The set works in the following way:

The end perforations (5) of the laminar single piece (a) allow the same one (a) to be mounted on the frame or support of a packaging machine, disposed in such way that its main face (1) is exposed upwards.

With this disposition the alveolar depressions (2) are projected downwards and their mouths exposed upwards. Under these conditions the packable material, consistent in tablets, capsules of micro-granules or similar, can be disposed distributing them, one for each alveolar depression (2), until covering all the depressions (2).

As the tearable laminar cover (6) has a surface compatible with the part of the laminar single piece (a) that is affected by the alveolar depressions (2), all the alveolar groups (3') are covered once the cover (6) and the single piece (a) are joined by means of the self-adherent bands (7).

Disposed in this way, the group is under conditions of being subjected to thermosealing operations and division by means of which each alveolar group (3') will compose a packed unit or "blister" (a').

It is certain that being the present utility model taken into practice, modifications will be introduced concerning certain details in construction and form, without implying to move away from the fundamental principles that are clearly mentioned in the claim clauses that follow:

Claims

1. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICRO-GRANULES IN GENERAL; destined to feed a packaging machine of the packable material, forming groups of holders that, fractionable to each other and closed by a tearable sheet, form packed units ["blisters"] of tablets or capsules; characterized because it includes a main laminar single piece —with lengthened rectangular configuration— which, affecting end perforations, starting from one of its faces presents depressions defining preconformed alveolar groups, as unitary holders of the packable material; and this main laminar single piece is supplemented with the tearable laminar cover that, having a surface at least compatible with the covering of the entirety of the alveolar mouths, in their extreme borders presents self-adherent fixation bands to the main laminar single piece.

2. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICROGRANULES IN GENERAL; in accordance with claim 1, characterized because the alveolar sets are disposed forming transversal arrays respecting the longitudinal geometrical axis of the main laminar single piece. 5
3. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICROGRANULES IN GENERAL; in accordance with claim 1; characterized because the alveolus have rounded form. 10
4. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICROGRANULES IN GENERAL; in accordance with the claim 1; characterized because the alveolus have long form. 15
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5. SET OF COMBINABLE FOIL, FOR THE PACKAGING OF TABLETS AND CAPSULES OF MICROGRANULES IN GENERAL; in accordance with claim 1; characterized because the tearable cover sheet is metallic. 25

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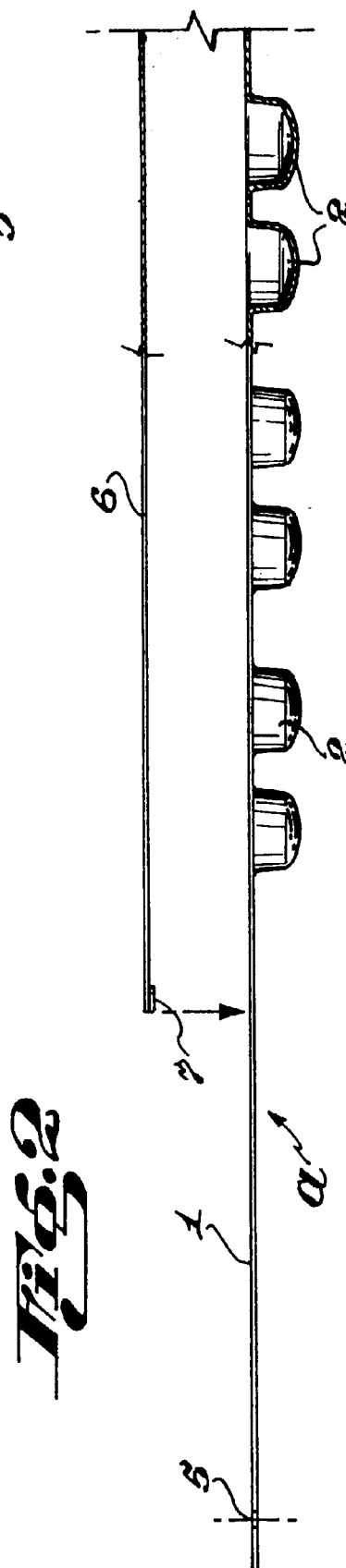
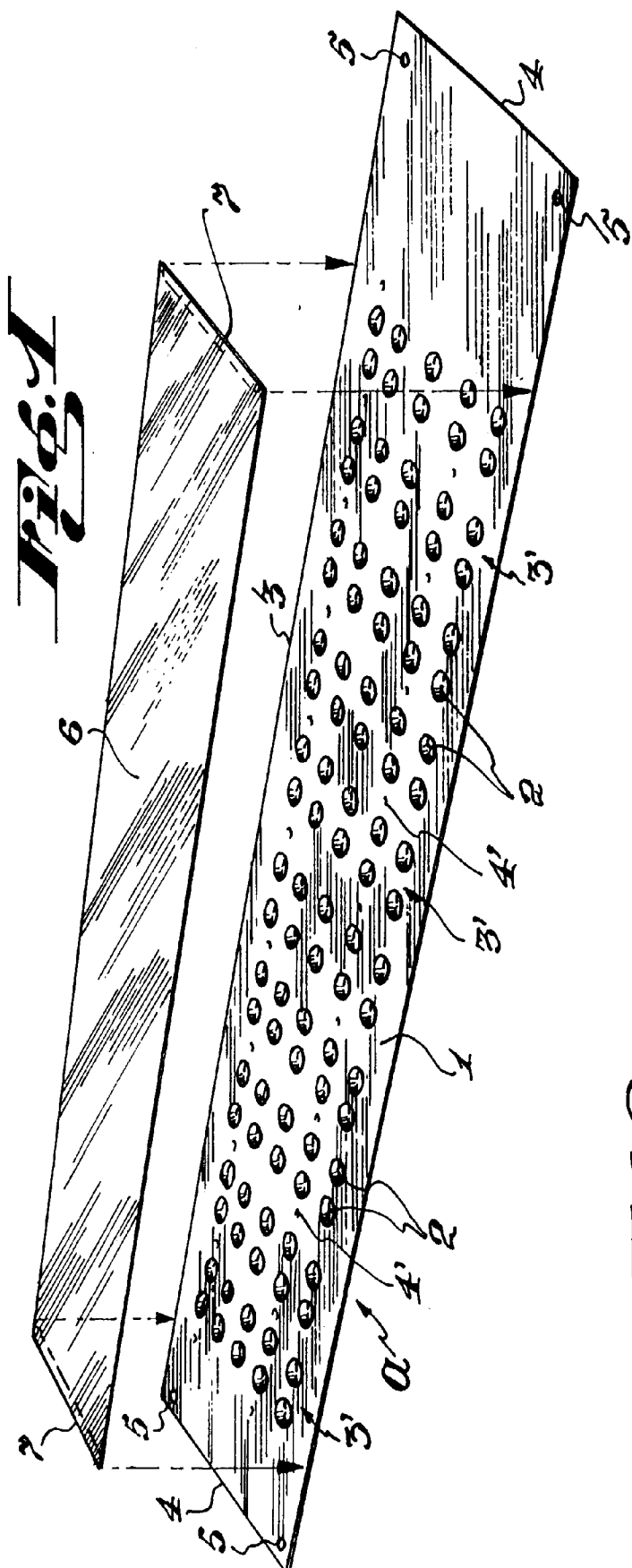
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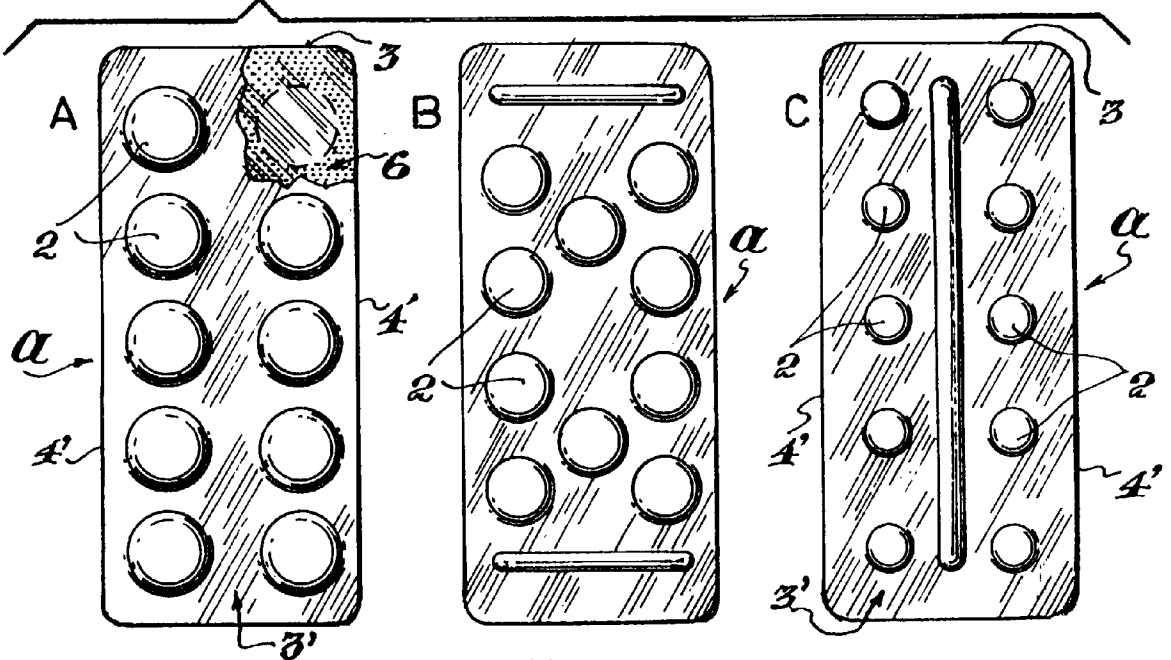
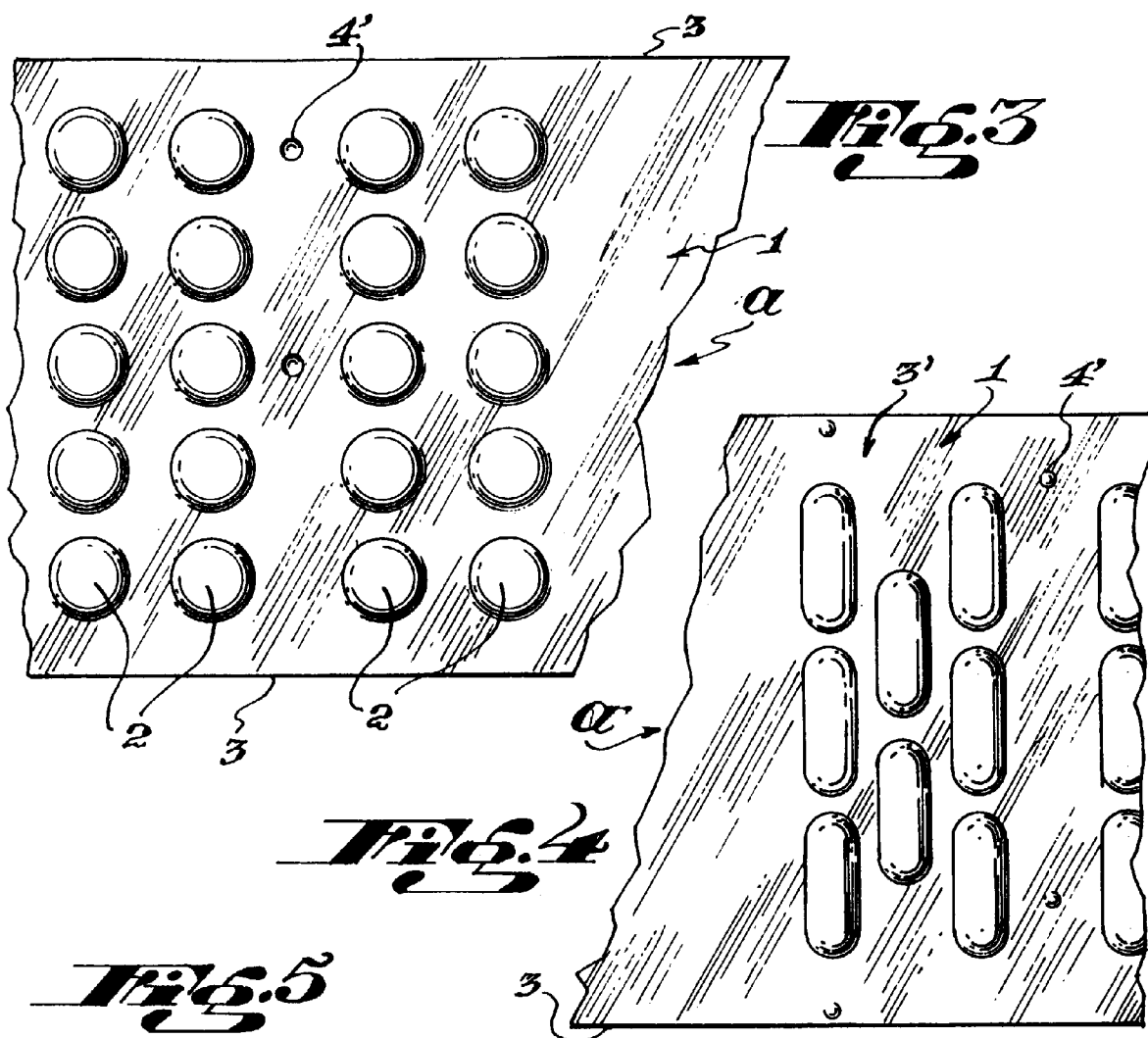
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EUROPEAN SEARCH REPORT

Application Number
EP 97 50 0148

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)
A	GB 2 064 464 A (WAN SHUI LIN) * the whole document *	1-5	B65D75/34
A	WO 81 02875 A (BRAVERMAN M;ZINK L) * page 14, line 13 - line 25; figure 11 *	1-5	
A	US 3 856 144 A (KELLY F) * the whole document *		
A	US 5 014 851 A (WICK JOHN J) * the whole document *		
A	US 4 802 584 A (HARRISON JOHN A ET AL) * the whole document *		
A	US 3 780 856 A (BRAVERMAN M) * the whole document *		
A	EP 0 093 559 A (MEDI DOSE INC)		
A	US 3 251 463 A (BODET)		
A	US 3 924 748 A (BRAVERMAN MILTON)		
A	US 3 311 229 A (TROLL)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
Place of search	Date of completion of the search	Examiner	
THE HAGUE	5 December 1997	SERRANO GALARRAGA, J	
CATEGORY OF CITED DOCUMENTS		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	
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			

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