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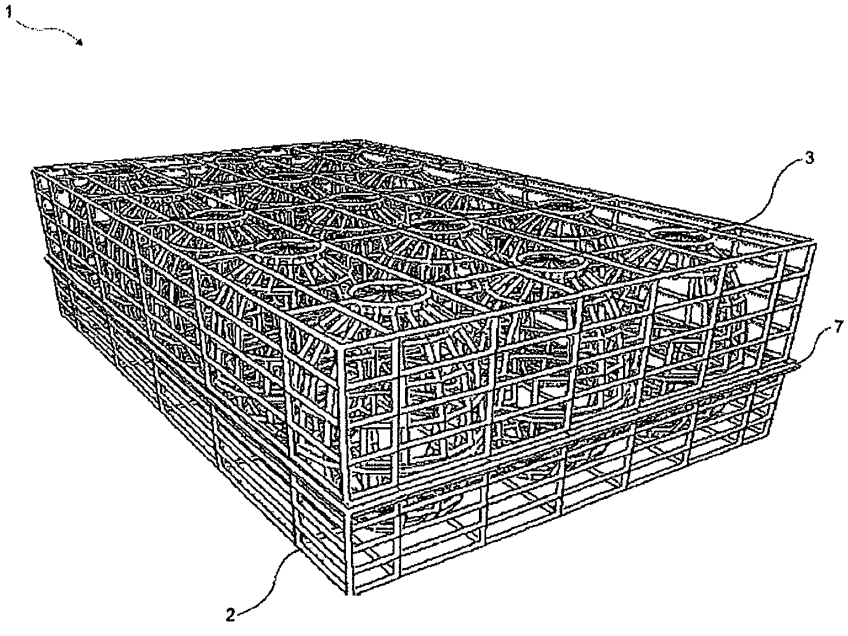
(54) An egg box

(57) The present invention relates to an egg box (1) which enables the eggs placed therein to be stored for a long time, to be carried and preserved. The inventive box (1) comprises cages (2) (3) which are resistant to impacts, have lattice structure with windows allowing air ventilation and prevent the eggs from being hit from the lower part. By means of the resistance barriers (6) provided in the lattice structure with windows, it prevents the eggs from being damaged by enabling the extra load on the lower boxes (1) to be absorbed when the egg boxes (1) are stacked on top of each other.

Figure 1



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Description

Field of the Invention

[0001] The present invention relates to an egg box which enables the eggs placed therein to be stored for a long time, to be carried and preserved.

Background of the Invention

[0002] Cardboard egg box is a thermal formed packing type. Since the cardboard boxes prevent the eggs therein to get air, the shelf life of the eggs is short. The cardboard boxes are not resistant to humidity since the raw material used in its production is waste paper. Apart from the damp boxes give off unpleasant smell, they reduce the storing life of the eggs and cause lots of eggs to get damaged during transport since they lose their resistance. Since all egg producers in the market use cardboard boxes, the brand awareness is low. Therefore, the egg producers have difficulty in meeting requirements for being a brand such as making difference and recognition.

[0003] Large part of egg production, 60%, is consumed by large enterprises. Large enterprises purchase eggs in large quantities. Cracks are formed on the eggs inside the boxes because of the eggs being subjected to lots of impacts inside the boxes and overloading during stacking. In the state of the art stretch wrapping is commonly used. However the wrapped boxes prevent the eggs from getting air and the shelf life of eggs that do not get air will be short.

[0004] Canadian patent document no CA2282136, an application known in the state of the art, discloses an egg carton having various nesting/denesting features, a ventilation system, reinforced portions, and capability of accommodating and protecting various sized eggs, which is manufactured from reinforced cardboard. The corners of the lid are ticker and indented. There are egg cells aligned on top of each other on the tray. The ventilation is provided by means of air channels present on the carton. The cells are surrounded with high elastic walls and can hold larger eggs.

[0005] South Korean Patent document no KR20090079361, an application known in the state of the art, discloses a packing container for eggs the lid part of which is manufactured from cardboard. By means of the ventilation holes on the egg tray the eggs can remain without degeneration. The lid part of the container which is manufactured from cardboard can be opened or closed.

[0006] United States Patent document no US2007256954, an application known in the state of the art, discloses an egg container which is manufactured from thin plastic. There are recesses on the base on which the eggs will be put and the eggs are closed with a cover which can be locked with a latch. There are chimneys on the cover for the ventilation of the eggs. Each egg-receiving recess in the base has inclined ribs that limit sideward egg movement and allow air circulation.

Summary of the Invention

[0007] The objective of the present invention is to provide an egg box which enables to elongate the storage and shelf life of the eggs.

[0008] Another objective of the present invention is to provide an egg box which has high resistance.

[0009] A further objective of the present invention is to provide an egg box which does not require a third process such as stretch wrapping by means of the lid design.

[0010] Another objective of the present invention is to provide an egg box which has lower production cost.

[0011] Yet another objective of the present invention is to provide an egg box which can be produced in a desired color and different visual forms.

[0012] A further objective of the present invention is to provide an egg box which can be produced without requiring an additional process such as stretch wrapping.

[0013] Another objective of the present invention is to provide an egg box which meets the requirements of the producers such as making difference, recognition and being a brand.

[0014] Yet another objective of the present invention is to provide an egg box which can be opened and closed easily and provides possibility for retail sales.

Detailed Description of the Invention

[0015] An egg box developed to fulfill the objectives of the present invention is illustrated in the accompanying figures, in which:

Figure 1 is the view of an egg box from upper corner.
Figure 2 is the view of an egg box from upper edge.
Figure 3 is the side view of an egg box.
Figure 4 is the top view of an egg box.
Figure 5 is the view of a six-cell egg box from upper edge.
Figure 6 is the view of an egg box wherein the upper cage is open.
Figure 7 is the view of an egg box carrying handle.
Figure 8 is the view of an egg box stacking apparatus and handle for stacking boxes.

[0016] The components illustrated in the figures are individually numbered where the numbers refer to the following:

1. Egg box
2. Lower cage
3. Upper cage
4. Lower cell
5. Upper cell
6. Resistance barrier
7. Nesting lock system
8. Egg box carrying handle

9. Egg box stacking apparatus
10. Egg box stacking handle

[0017] The egg box (1), which enables the eggs put therein to be stored for a longer time by preserving them, essentially comprises
at least one lower cage (2) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being from the lower parts,
at least one upper cage (3) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being from the upper parts,
at least one lower cell (4) which has a semi elliptical shape, has lattice structure with windows allowing air ventilation, is mounted on the lower cage (2) and in which the eggs fit,
at least one upper cell (5) which has a semi elliptical shape, has lattice structure with windows allowing air ventilation, is mounted on the upper cage (3) and in which the eggs fit,
at least two resistance barrier (6) which are located in the middle part of the lower cage (2) and the upper cage (3) and which absorbs the extra load on the cages (2) (3),
at least one nesting lock system (7) which locks the lower cage (2) and the upper cage (3) to each other.

[0018] Additionally, the inventive egg box (1) essentially comprises preferably
at least one egg box carrying handle (8) which can be attached and detached from a certain point inside the cages (2) (3) having a lattice structure with windows,
at least one egg box stacking apparatus (9) which stacks the boxes (1) by keeping them together, by being attached to the cages (2) (3) having lattice structure with windows,
at least one egg box stacking handle (10) which enables the stacked egg boxes (1) to be carried together and which has U shape.

[0019] The inventive egg box (1) is used to pack and store the eggs placed therein. The box (1) enables the eggs to get air from every direction. By this means the storage and shelf life of the eggs elongates. The lower cage (2) and the upper cage (3) which are resistant to the impacts enable the eggs to be carried from one point to another inside the box (1) securely. The lower cell (4) in which the eggs are put is mounted on the lower cage (2). The lower cell (4) fixes the eggs put therein by surrounding them by means of its semi elliptical structure. Therefore it is prevented that the eggs carried from one place to another in the box (1) do not crack and break as a result of the impacts.

[0020] The upper cell (5) in which the eggs are put is mounted on the upper cage (3). The upper cell (5) fixes the eggs put therein by surrounding them by means of its semi elliptical structure. The egg box carrying handle (8) which can be used optionally enables the egg box (1) to be carried easily by being attached into the cages (2) (3). With the stacking apparatus (9) enables the boxes (1) for the use of large enterprises consuming eggs in large quantities to be attached together and stacked. Therefore, it will become safe to carry eggs in large quantities safely. It is enabled to carry egg boxes (1) stacked using U shaped box stacking handle (10).

[0021] The inventive egg box (1) is designed based on steel construction. Thus, the strength of the egg box (1) is increased and the materials used in design are minimized. There are resistance barriers (6) between the cells (4) (5) parallel to length of the cages (2) (3) The resistance barriers (6) absorb the extra load on the lower boxes (1) when the egg boxes (1) are stacked on top of each other and prevent the eggs from being damaged.

[0022] The inventive egg box (1) comprises a lower cage (2) which can be opened and closed, and an upper cage (3). There is a nesting lock system (7) which locks the lower cage (2) and the upper cage (3) to each other. The nesting lock system (7) is preferably mounted on the corner of the lower cage (2) and the corner of the upper cage (3). When it is desired, eggs can be taken from the box (1) by opening the lock (7) and then it can be locked by closing it again.

[0023] The inventive egg box (1) of the present invention is not limited to the above described embodiments and a person skilled in the art can easily develop different embodiments of the invention. The said embodiments should be evaluated within the scope of the protection sought for the invention with the claims.

Claims

1. An egg box (1), which enables the eggs put therein to be stored for a longer time by preserving them, essentially **comprising**
at least one nesting lock system (7) which locks the lower cage (2) and the upper cage (3) to each other.
at least one egg box stacking handle (10) which has U shape,
at least one egg box stacking apparatus (9) which is attached to the cages (2) (3) having lattice structure with windows,
at least one egg box carrying handle (8) which can be attached and detached from a certain point inside the cages (2) (3) having a lattice structure with windows, **and characterized by**
at least one lower cage (2) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being from the lower parts,
at least one upper cage (3) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being from the upper parts,
at least one lower cell (4) which has a semi elliptical shape, has lattice structure with windows allowing air ventilation, is mounted on the lower cage (2) and in which the eggs fit,
at least one upper cell (5) which has a semi elliptical

shape, has lattice structure with windows allowing air ventilation, is mounted on the upper cage (3) and in which the eggs fit,
at least two resistance barrier (6) which are located in the middle part of the lower cage (2) and the upper cage (3) and which absorbs the extra load on the cages (2) (3).

2. An egg box (1) according to claim 1, **characterized by** at least one upper cage (3) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being hit on the upper parts.

3. An egg box (1) according to claim 1 and 2, **characterized by** at least one lower cage (2) which is resistant to impacts, has lattice structure with windows allowing air ventilation and prevents the eggs from being hit on the lower parts.

4. An egg box (1) according to any one of the preceding claims, **characterized by** at least one lower cell (4) which has a semi elliptical shape, has lattice structure with windows allowing air ventilation, is mounted on the lower cage (2) and in which the eggs fit.

5. An egg box (1) according to any one of the preceding claims, **characterized by** at least one upper cell (5) which has a semi elliptical shape, has lattice structure with windows allowing air ventilation, is mounted on the upper cage (3) and in which the eggs fit.

6. An egg box (1) according to any one of the preceding claims, **characterized by** at least two resistance barrier (6) which are located in the middle part of the lower cage (2) and the upper cage (3) and which absorbs the extra load on the cages (2) (3).

Figure 1

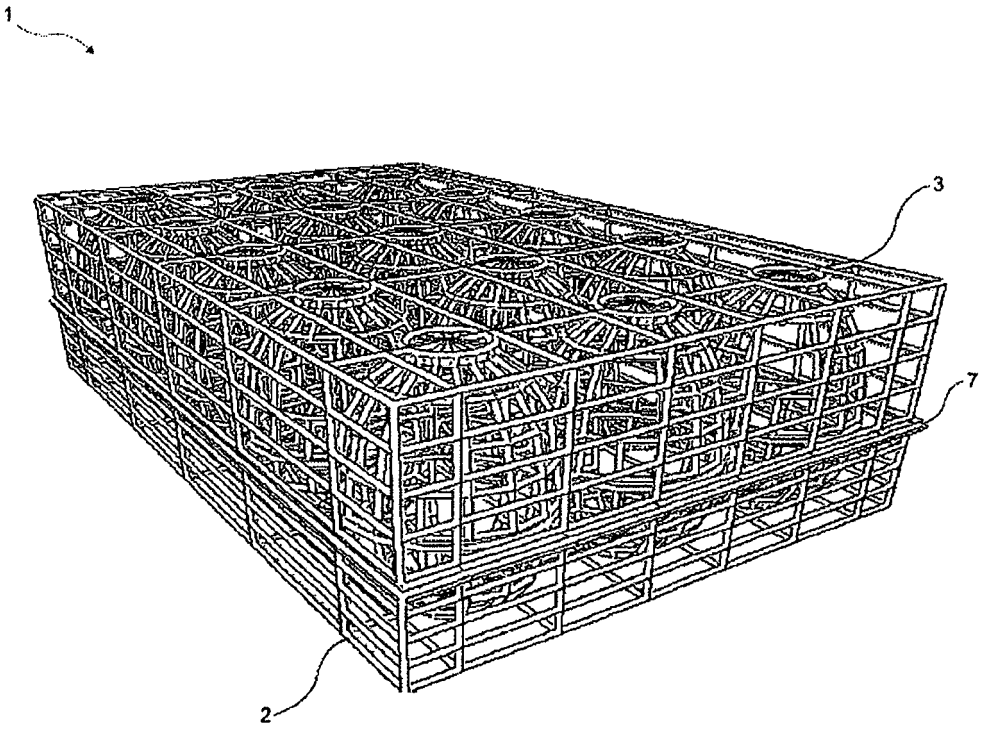


Figure 2

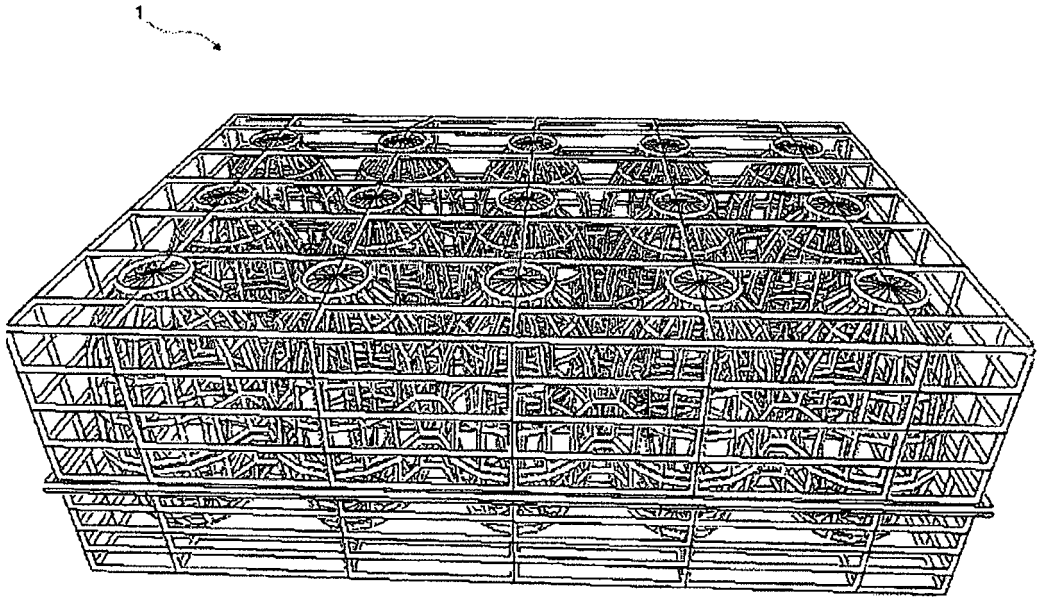


Figure 3

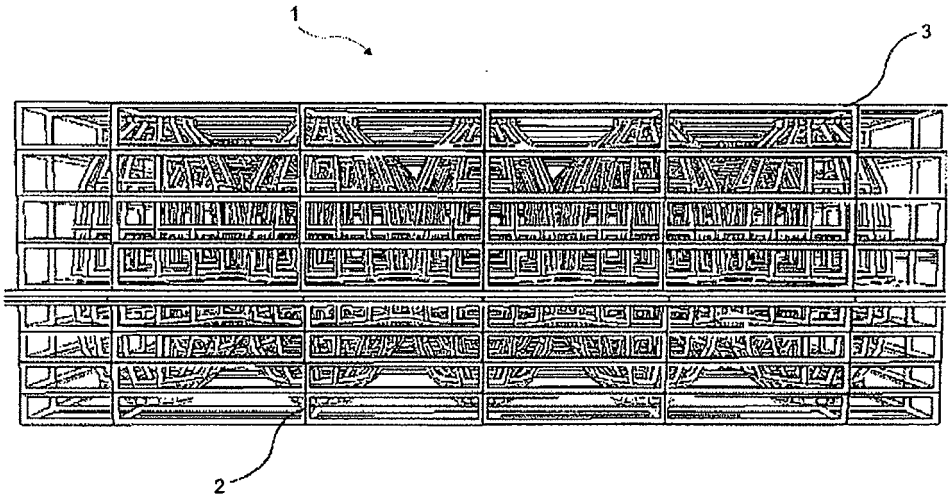


Figure 4

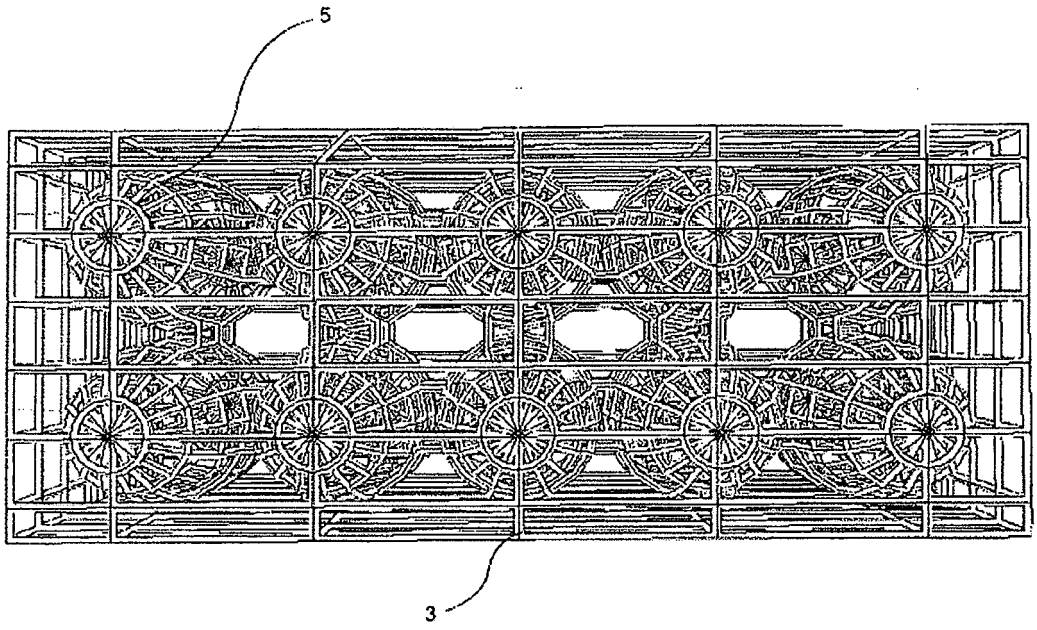


Figure 5

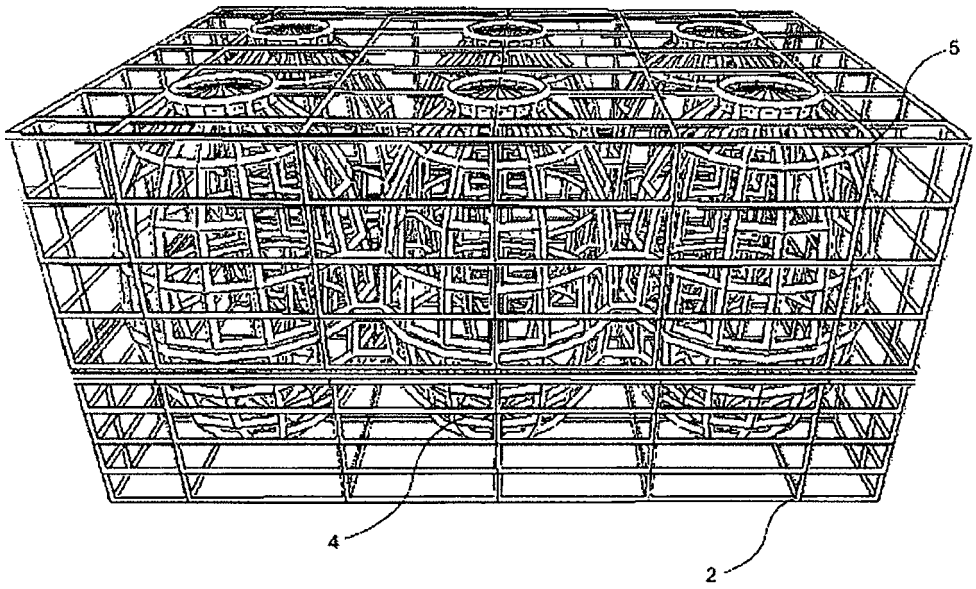


Figure 6

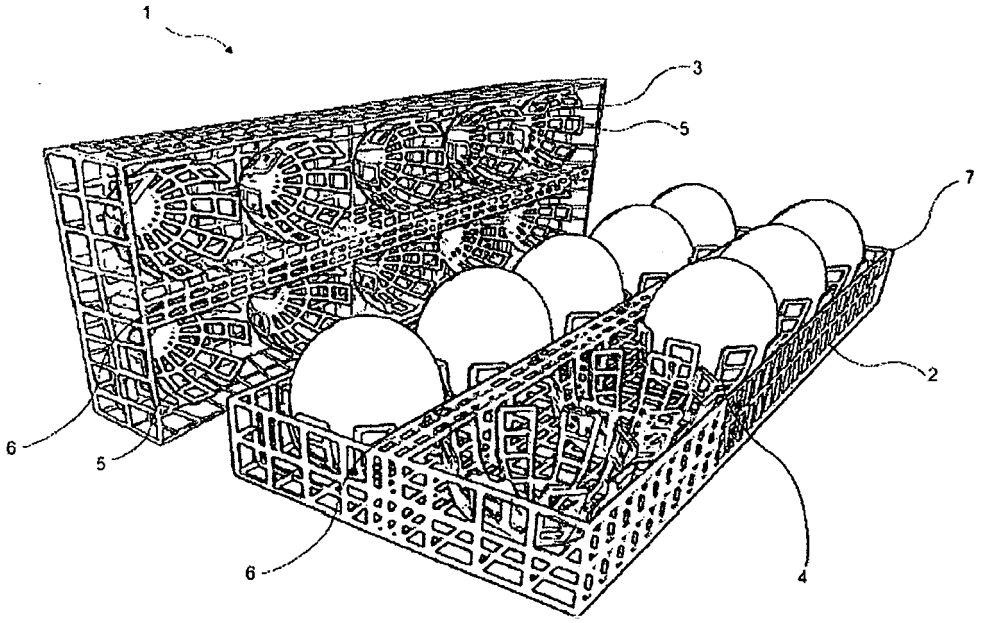


Figure 7

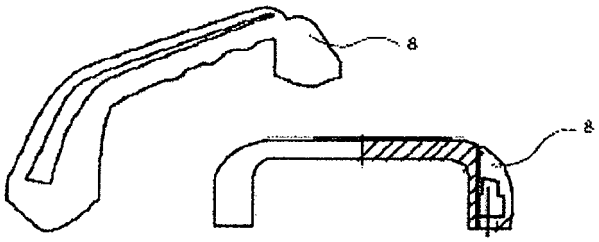
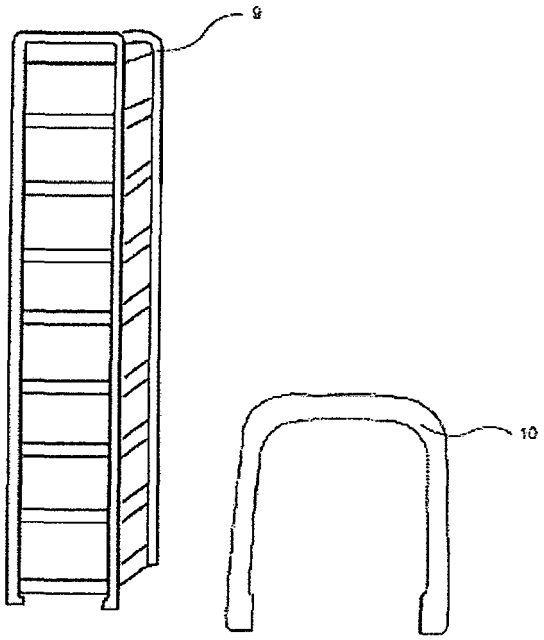


Figure 8



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EUROPEAN SEARCH REPORT

Application Number
EP 12 18 6165

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	US 1 568 435 A (BURTON WINZER CHARLES) 5 January 1926 (1926-01-05) * the whole document *	1	
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A,D	CA 2 282 136 A1 (TEKNI PLEX INC [US]) 15 March 2000 (2000-03-15) * abstract *	1	
			TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	18 December 2012	Jervelund, Niels

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

REFERENCES CITED IN THE DESCRIPTION

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- KR 20090079361 **[0005]**
- US 2007256954 A **[0006]**