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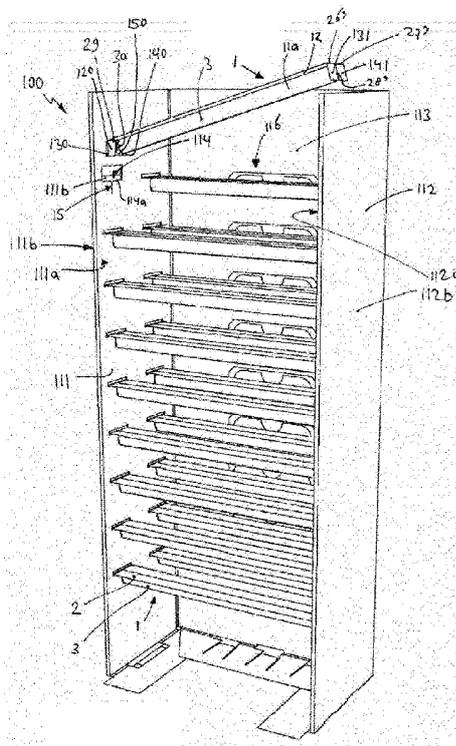
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**Support beam, point-of-sale display, and method.**

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The invention relates to a support beam for supporting a shelf or a tray in a point-of-sale display. The support beam is substantially made of a cardboard sheet material. Said support beam is convertible from a first position, in which said support beam is substantially collapsed, into a second position, in which said support beam is erected and has a substantially horizontally extending flange section for supporting a shelf or a tray thereon and a web section for supporting the flange section in order to counteract bending of said flange section, said web section extending away from the flange section in a downward direction.



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Title: Support beam, point-of-sale display, and method

5 The invention relates to point-of-sale displays (POS displays), especially point-of-sale displays substantially made of board, particularly cardboard, especially paperboard.

Point-of-sale displays are for instance used in outlets, such as supermarkets, to display products for sale, such as for instance food products, such as candy, chocolate, crisps (chips), biscuits (cookies), or  
10 drinks, batteries, DVDs, toys, cleaning products, other household goods, other commodities, etc.

Usually, a point-of-sale display is substantially made of paper-pulp based board or so-called cardboard, especially corrugated fiberboard, which may be at least partly covered with prints and/or  
15 branding for the products on display. Such point-of-sale displays can for instance comprise a pallet, e.g. a wooden pallet, on which a cardboard structure is mounted. Often, the cardboard structure comprises a frame having two side walls extending upwardly from two opposite sides of the pallet, and can additionally comprise a rear wall, wherein the walls may  
20 then be provided with branding and/or other prints. Between the walls, one or multiple cardboard trays or shelves can be mounted on which the products on sale can be displayed. In order to ensure that the trays or shelves can withstand the load of the products, the point-of-sale displays can  
25 comprise one or multiple support beams for supporting such trays or shelves.

Different beams for supporting such trays or shelves in point-of-sale displays are known. For example, in some displays, wooden sticks are used, of which two ends can each for instance be provided with a notch into which an edge portion of a respective opening in a respective one  
30 of two opposite side walls of the display can be inserted in order to attach the stick to said side walls. However, because only a small area of the side

wall can be slit into the notch, a relatively small area of the side wall may bear a relatively high load, which may result in a torn side wall and even in a collapsed display. Therefore, in alternative known displays, the ends of the wooden support stick may be suspended by means of two plastic clips  
5 attached to the ends of the stick, wherein an attachment portion of a respective one of said clips can be inserted into a slit provided in a respective one of two opposite side walls of the display in order to mount said plastic clip to the respective side wall. Because the plastic clip can be relatively wide with respect to the width of the stick, tearing of cardboard  
10 material of the side walls can be counteracted and the sticks, and thus the trays supported thereby, may be loaded relatively heavily.

Since it is often desired that a POS display can be easily disposable in order to replace it, e.g. when a promotion and/or a specific season has ended, especially in a recyclable manner, it can be a  
15 disadvantage when it takes a lot of effort to demount the POS displays and to separate the different materials used in the POS display. For example, when the wooden sticks and/or plastic clips are disposed together with the cardboard walls and shelves or tray into a single refuse container, the recycling process can become relatively laborious, cumbersome, time-  
20 consuming and/or expensive. This, for instance because it can be difficult or even impossible to recycle the wooden and/or plastic parts together with the cardboard display parts within a single waste stream. Hence, POS displays comprising non-paper-pulp based parts that are relatively hard to remove are usually not quick to dispose in an easily recyclable manner.

25 In order to counteract this problem associated with POS displays comprising non-paper-pulp based parts that are relatively hard to remove, some time ago, the applicant of the present patent application has introduced a POS display comprising cardboard support beams for supporting shelves in said display. Said support beams are made of  
30 corrugated fiberboard solidly glued together into a substantially triangular

beam having an integrated T-shaped core and reinforced mounting lips for insertion into slits provided in respective walls of the POS display. Although said cardboard beams can be recycled together with the other cardboard parts of the POS display, it is difficult and expensive to manufacture said support beams. For example, after die-cutting and creasing a pattern from the corrugated cardboard, portions of said cardboard pattern are to be glued together at seven different locations. Actually, the applicant had to provide a relatively complex machine to allow to produce these support beams. Nevertheless, manufacturing the beams is laborious, cumbersome, time-consuming and expensive. Moreover, such prefab support beams are relatively voluminous, thereby taking up relatively a lot of space, e.g. during storage and/or during transport to a co-packer, a manufacturer of food products or other commodities, or another party assembling the POS display.

It is an object of the invention to provide an alternative POS display and/or an alternative support beam for a POS display. In particular, it can be an object of the invention to provide a POS display and/or a support beam, wherein at least one of the disadvantages of above-mentioned and/or other prior art POS displays and/or support beams is counteracted. More in particular, the invention may aim to provide a POS display, wherein at least one of the disadvantages mentioned above is counteracted. In embodiments, the invention aims at providing a POS display, preferably one being substantially made of cardboard material, that can be recycled relatively easily, and that can be manufactured in a relatively efficient and/or cheap manner and/or transported and/or stored in a relatively efficient and/or cheap manner.

Thereeto, the invention provides for a support beam for supporting a shelf or a tray in a point of sale display, wherein the support beam is substantially made of a cardboard sheet material and is convertible from a first position, in which said support beam is substantially collapsed, into a

second position, in which said support beam is erected and has a substantially horizontally extending flange section for supporting a shelf or a tray thereon and a web section for supporting the flange section in order to counteract bending of said flange section, said web section extending away  
5 from the flange section in a downward direction.

By arranging the support beam such as to be erectable into a working state in which it has a substantially horizontally extending flange section supported by a web section that can counteract bending or sagging of said flange section, said support beam can be brought into a use state in  
10 which it can effectively support a shelf or tray in a point-of-sale display. By arranging the support beam such that it can be in a collapsed state, preferably in a substantially flat packed manner, said support beam can be stored and transported in a relatively compact, efficient and cheap manner, e.g. until the point-of-sale display is to be assembled and packed, thereby  
15 delivering significant supply chain savings. By making the support beam substantially of a cardboard sheet material, it can not only be facilitated that the support beam may be relatively cheap to produce, but also that it can be disposed together with one or more other substantially cardboard parts of a point-of-sale display, such as for instance a substantially  
20 cardboard frame or structure and/or one or more substantially cardboard shelves or trays of said display, into a single waste stream, e.g. in order to recycle it together with said one or more other substantially cardboard parts.

Hence, said support beam can at the one hand take up relatively  
25 little space when being stored or transported, and can at the other hand be disposed easily together with other cardboard parts of said display.

By making the support beam at least substantially of massive cardboard sheet material or solid cardboard sheet material, and thus for instance not of a corrugated cardboard material, the collapsible support  
30 beam can at the one hand be relatively strong, thereby counteracting failure

of its supportive function when in use in its second position, e.g. failure due to accidental snapping of one or more sheet portions of the support beam, whereas said collapsible support beam made of massive or solid cardboard material can at the other hand be recycled together with corrugated cardboard material of which the frame or structure and/or the trays or shelves of the display advantageously can be made.

The invention also relates to a point-of-sale display. In embodiments, the point-of-sale display can comprise a support beam and a frame, wherein said frame comprises two opposite walls facing each other, wherein the support beam extends from a first one to a second one of said two opposite walls. The two opposite walls may for instance be side walls of the frame of the point-of-sale display.

Moreover, the invention relates to a kit of parts for assembling a point-of-sale display.

The invention further relates to a method for forming a support beam.

By way of non-limiting examples only, exemplary embodiments of aspects of the present invention will now be described with reference to the accompanying figures in which:

Fig. 1 shows a schematic perspective, partly cut-away view of an embodiment of a point-of-sale display comprising multiple support beams according to an aspect of the invention;

Fig. 2 shows a schematic perspective view of an embodiment of a blank for forming two support beams according to an aspect of the invention;

Fig. 3 shows a schematic perspective view of the blank of Fig. 2 being formed into two still interconnected support beams;

Fig. 4 shows a schematic perspective view of two support beams according to an aspect of the invention in a collapsed position;

Fig. 5 shows a schematic perspective view of an embodiment of four support beams, each in their erected position;

Fig. 6 shows a schematic cross-sectional view of one of the support beams of Fig. 4 in a collapsed position;

5 Fig. 7 shows a schematic cross-sectional view of the support beam of Fig. 6 in an intermediate position; and

Fig. 8 shows a schematic cross-sectional view of the support beam of Figs. 6 and 7 in an erected position.

It is noted that the figures show merely preferred embodiments according to aspects of the invention. In the figures, the same or similar  
10 reference signs or numbers refer to equal or corresponding parts.

Figure 1 shows a schematic perspective, partly cut-away view of a point-of-sale display 100, or so-called PoS display 100, according to an aspect of the invention. Here, the display 100 comprises eighteen support  
15 beams 1 for supporting nine shelves. It is apparent that in alternative embodiments, the PoS display 100 may comprise another number of support beams, e.g. one or multiple support beams. As can be understood from Fig. 1, two or more support beams 1 may together support a shelf or tray (not shown). Nevertheless, in alternative embodiments a tray or shelf can be  
20 supported by a single support beam. Additionally or alternatively, multiple trays or shelves can be supported by a single or multiple common support beams. Besides, the support of the one or more support beams, the tray or shelf can additionally be suspended and/or supported by other parts of the display 100, e.g. by a structure which may comprise a frame 110 and/or one  
25 or multiple walls, e.g. side walls 111, 112 and/or a rear wall 113 of the display.

The point-of-sale display 100 may for instance be used in an outlet, such as a supermarket, for example to display products for sale, such as for instance food products, such as candy, chocolate, crisps (chips),  
30 biscuits (cookies), or drinks, batteries, DVDs, toys, cleaning products, other

household goods, other commodities, etc. The one or more shelves or trays of the display 100 can be arranged for supporting products for sale, and may for instance be substantially made of cardboard material, preferably corrugated cardboard material.

5                    Advantageously, the point-of-sale display 100 can be substantially made of paper pulp based board or so-called cardboard. For example, its structure and/or walls 111, 112, 113 can be made substantially of cardboard, especially corrugated fiberboard, which may be at least partly covered with prints and/or branding for the products on display. In embodiments, the PoS  
10 display 100 may additionally comprise a pallet, e.g. a wooden pallet or a plastic pallet, on which the cardboard structure and/or frame can be mounted. The pallet can be located at the bottom side of the display 100. Said pallet can for instance facilitate that the PoS display 100 can be handled relatively easily once it is assembled, and once it for instance is  
15 packed with commodities as well, e.g. at a moment before the packed PoS display is shipped to a shop where it is to be placed and/or at said shop. For example, the pallet can facilitate that the display 100 can be for instance handled by means of a pallet jack or a forklift. Additionally or alternatively, the pallet can provide a relatively solid base for counteracting that the PoS display  
20 100 falls over or shoves aside unintentionally. For instance in order to ensure that the trays or shelves can withstand the load of the products, the point-of-sale display 100 can comprise one or multiple support beams 1 for supporting such trays or shelves.

                    In advantageous embodiments, the PoS display 100 can comprise  
25 a frame 110, which may be made substantially of a cardboard material, such as for instance a corrugated cardboard material. Said frame 110 can for instance comprise two side walls 111, 112, between which the one or more support beams 1 may be mounted. Additionally or alternatively, the PoS display 100 may comprise a rear wall 113.

Preferably, the display 100 can be a disposable display, or at least the substantially cardboard frame and/or structure, the one or more support beams 1 and the one or more trays or shelves can be disposable, preferably by integrally disposing them in a paper recycling container, e.g. after  
5 removing the pallet, which pallet may be reused. In case the PoS display is substantially integrally returned to the manufacturer of said display, the manufacturer can relatively easily separate the cardboard parts from the pallet and reuse the pallet while having the cardboard recycled.

The structure or frame of the display 100 can be provided with  
10 mounting means for mounting the support beam to said frame or structure. For example, the support beam, especially at its ends, may be clamped and or and/or suspended by such mounting means. Additionally or alternatively, the support beam may fixed to the structure or frame in by using an adhesive, glue, staples, etc.

15 In embodiments, at least a wall portion of a wall 111, 112 of the frame 110 can have at least two facing cardboard layers 111a, 111b; 112a, 112b and an opening 114 for inserting one or more folding tab portions 130, 140; 131, 141 between said two facing cardboard layers 111a, 111b of said wall portion 11. Said tab portions 130, 140; 131, 141 can for instance be  
20 provided at the end of the flange section 2 of the support beam 1. For example, said opening 114 can be formed by means of a slot or slit in a proximal one 111a, 112a of the two facing cardboard layers 111a, 111b; 112a, 112b of the wall portion of the frame 110 of the display 100.

Advantageously, two opposite side walls 111, 112 can be provided  
25 with such openings 114 or other mounting means, especially wherein both mounting means are placed at substantially the same height level.

Preferably, said opening 114 can have at least one lower edge 114a, which may extend substantially horizontally, on which the support beam 1 can be suspended at least partly during use. Due to the flange  
30 section 2 of the support beam 1, which, in the erected position of the support

beam 1, can be relatively wide, e.g. relatively wide in comparison to a slit in a conventional wooden support stick, loads born by the support beam 1 can be distributed over a relatively wide area of a side wall 111, 112 and/or over a relatively wide area of one or more layers 111a thereof.

5           As can be seen in Fig. 1, a proximal one 111a of the two facing cardboard layers of the wall portion of the frame of the display, e.g. not the outwardly facing layer 111b, but the inwardly facing layer 111a, can be provided with a receiving opening 115, especially a downwardly extending slit or slot 115, for receiving a distal end piece 3a of the web section 3 of the support beam 1. Once said distal end piece 3 of the web section 3 is secured  
10           in said receiving opening 115, it can be counteract that the web section 3 can pivot with respect to the flange section 2 of the support beam 1.

          Furthermore, the structure or frame 110 of the display 100 can be provided with mounting means for mounting the tray or shelf to said frame  
15           or structure. For example, a wall, such as for instance the rear wall 113, can be provided with mounting means 116, such as openings and/or tabs for mounting a shelf or tray thereon. In embodiments, the tray or shelf may be provided with corresponding mounting means, e.g. tabs for insertion into such opening in a wall and/or in the frame 110 of the display 100.  
20           Additionally or alternatively, the tray or shelf may be mounted to the support beam 1 supporting it, e.g. by means of mounting means provided at said support beam 1 and/or mounting means provided at said tray or shelf.

          Figs. 2-3 shows a preferred embodiment of a method according to an aspect of the invention, said method being for forming a support beam 1,  
25           e.g. a support beam according to another aspect of the invention.

          The method comprises a step of providing a blank 4 of a cardboard sheet material, especially massive cardboard sheet material. The blank 4 comprises at least six substantially parallel substantially strip-shaped portions 11a, 12, 13, 14, 15, 11b which are interconnected by five  
30           substantially parallel fold lines 21, 22, 23, 24, 25, especially substantially

straight fold lines, which can advantageously be formed at least partly by  
prefab creases or double creases. The second strip-shaped portion 12 and the  
fourth strip-shaped portion 14 both have substantially the same width and  
the third strip-shaped portion 13 and the fifth strip-shaped portion 15 both  
5 have substantially the same width. It is noted that it can be understood that  
said widths extend substantially transverse to the direction in which the  
fold lines extend and/or the direction in which the strip-shaped portion  
extend. In embodiments, the blank 4 may further comprise other portions.  
For instance, said blank can comprise one or multiple tab portions 120, 130,  
10 140, 150, 121, 131, 141, 151 or other portions that form portions of the  
support beam 1 to be formed. Additionally or alternatively, the blank 4 can  
comprise portions that are not to be included in the support beam 1 and that  
can be removed from the blank 4 during the forming of the support beam. In  
embodiments, such as in the exemplary embodiment of Fig. 2, such portions  
15 may themselves form portions of a further support beam 1.

With respect to the fold lines provided in the blank 4 it is noted that  
each of these fold lines can be formed at least partly by means of a crease or  
alternatively by a so-called double crease, e.g. creases creased into the  
cardboard material previous, during or after the desired pattern of the  
20 blank is cut. Additionally or alternatively, the fold lines may be formed at  
least partly by means of perforations and/or cuts or notches in order to  
locally weaken the cardboard sheet material in order to facilitate relatively  
easy folding or pivoting of the cardboard sheet material at the respective  
location of the respective fold line. Creases can for instance be formed by  
25 means of a creasing rule or other suitable means. It is noted that it will be  
apparent to the skilled person that the word 'line' in the term 'fold line' does  
not mean that the fold lines or creases have no width and/or no depth.  
Actually, in embodiments, the fold line, especially when formed by a double  
crease, can have a width of for instance up to two, three, four or even five  
30 time the thickness of the cardboard sheet material.

The method further comprises a step of attaching the first strip-shaped portion 11a and the sixth strip-shaped portion 11b to each other in an at least partly overlapping manner, and in a manner such that the first and the fifth fold lines 21, 25 will practically coincide, such that the second, third, fourth and fifth strip-shaped portions 12, 13, 14, 15 together form a collapsible parallelogram 8 (see Figs. 6-8). It is noted that during use of the support beam 1, the parallelogram 8; 12, 13, 14, 15 can form a flange 2 substantially transverse to a web 3 that during use of the support beam 1 is being formed by the attached first and sixth strip-shaped portions 11a, 11b, as will be further discussed below.

For example, the blank 4 can be folded over the third fold line 23, as can for instance be understood from the exemplary embodiment of Fig. 3, in order to enable attachment of the first strip-shaped portion 11a to the sixth strip-shaped portion 11b. By attaching the first strip-shaped portion 11a and the sixth strip-shaped portion 11b a combined strip-shaped sheet portion 11 can be formed, see Fig. 4 showing two support beams in their collapsed state. Preferably, the first strip-shaped portion 11a and the sixth strip-shaped portion 11b can be attached to each other by means of an adhesive, e.g. a glue and/or a double-side tape and/or any other suitable means. For example, before overlaying the first and sixth strip-shaped portions 11a, 11b, an adhesive 6, such as glue, can be applied to at least one of said portions 11a, 11b, i.e. at a surface facing the other of said portions when being attached.

By forming a strip-shaped sheet portion 11 at least partly build up from multiple layers, a relatively strong web section 3 can be provided.

Additionally, the method may comprise one or multiple additional steps. For example, the method can comprise a step of detaching the support beam 1 from additional portions. In the exemplary embodiment of Figs. 2 and 3, the support beam 1 is for instance being detached from a second support beam 1 being formed from the same blank 4. Detaching can for

instance take place by cutting the respective portions from each other, e.g. by cutting along a line 7 connecting the two support beams 1.

It is noted that the method, or at least certain steps of the method, may advantageously be executed in a machined manner, preferably at least partly by means of a carton folding and gluing machine. It is noted that one or more steps of cutting, e.g. cutting loose the support beam 1 and/or cutting the blank 4, especially die cutting the blank 4, may be performed by the same machine that does the folding and gluing or can be executed by another machine. For example, the cutting of the blank 4 may be done by a die cutting and creasing machine, which machine can also crease the fold lines into the cardboard material for forming the blank.

It will be apparent to the skilled person that the method may also comprise one or more printing steps for providing the support beam material with appropriate prints, if so desired, and/or that in the step of providing a blank 4, the blank 4 to be provided may be formed of printed cardboard material sheet.

Although, two support beams 2 are formed together from a single blank 4 in the shown embodiment, it will be apparent that less beams 1, i.e. a single, or that more, e.g. three, four or even more, support beams can be formed from a single blank.

Fig. 3 shows a schematic perspective view of the blank 4 of Fig. 2 being formed into two interconnected support beams 1. After being cut apart, two collapsed support beams 1 are formed, as can for example be seen in Fig. 4, which show an exemplary embodiment of a support beams 1 according to an aspect of the invention.

In Fig. 4, said support beams 1 are shown in a collapsed position, and in Fig. 5, said support beams 1 are shown in an erected position.

It is noted that the support beam 1 according to an aspect of the invention is for supporting a shelf or a tray in a point of sale display 100, such as for instance the display 100 of the embodiment of Fig. 1. The

support beam 1 is substantially made of a cardboard sheet material, especially a paperboard sheet material. Advantageously, the support beam 1 can be substantially made of massive cardboard sheet material or solid cardboard sheet material. For example, said massive or solid cardboard may  
5 be formed from multiple layers of cardboard attached to each other.

The support beam 1 is convertible from a first position, in which said support beam 1 is substantially collapsed, see Fig. 4, into a second position, in which said support beam 1 is erected, see Figs. 1 and 5, and in which position it has a substantially horizontally extending flange section 2  
10 for supporting a shelf or a tray thereon and a web section 3 for supporting the flange section 2 in order to counteract bending of said flange section 2. Regarding the bending is noted that said bending can in particular be understood as bending seen in a plane in which the web section 3 extends.

Further, it is noted that the web section 3 can start at the flange  
15 section 2, e.g. a one or two fold lines or pivot lines 21, 25 connecting the flange section portions 11 to the adjacent web section portions 12, 15. The web section 3 can further extend away from said flange section 2 in a downward direction in the second position, i.e. in the erected position in which the support beam 1 can be used in a PoS display 100. Preferably, the  
20 web section 3 can be extending substantially vertically and/or substantially transverse to the flange section 2 in said second position.

With respect to Fig. 5, it is noted that two of the four support  
beams 1 shown in said figure (the one at the bottom of the figure and the one at the top right corner of the figure) are turned over about  $90^\circ$  in order  
25 to provide good views on different sides of said beam 1.

In the first position, the support beam 1 can be substantially flat packed. For example, the support beam 1 can have multiple sheet portions 11, 12, 13, 14, 15, 120, 130, 140, 150, 121, 131, 141, 151, especially  
substantially flat sheet portions, wherein each of said sheet portions can  
30 include at least one layer of cardboard sheet material or multiple layers

overlying each other at least partly, wherein the multiple sheet portions 11, 12, 13, 14, 15, 120, 130, 140, 150, 121, 131, 141, 151 are interconnected by means of fold lines, e.g. formed at least partly by creases or double creases, respectively, and wherein, in the first position, the sheet portions  
5 are extending substantially parallel to each other. As a result, the support beam 1 may take up relatively little space in the first position.

In a preferred embodiment of the support beam 1, the support beam 1 may comprises at least five substantially strip-shaped sheet portions 11, 12, 13, 14, 15 extending substantially along each other, a first one 11 of  
10 said sheet portions having a first layer 11a being connected to a second one 12 of said sheet portions by means of a first fold 21 line, the second sheet portion 12 being connected to a third sheet portion 13 by a second fold line 22, the third sheet portion 13 being connected to a fourth sheet portion 14  
15 by a third fold line 23 , the fourth sheet portion 14 being connected to fifth sheet portion 15 by a fourth fold line 24, the fifth sheet portion 15 being connected to a second layer 11b of the first sheet portion 11 by a fifth fold line 25. Said first and second layers 11a, 11b of the first sheet portion 11 can be substantially parallel and interconnected, e.g. by being adhered or glued  
20 onto each other, either with or without one or multiple intermediate layers in between them. Said layers 11a, 11b can thus at least partly overlay each other.

With respect to said five fold lines 21, 22, 23, 24, 25, it is noted that they can extend in substantially parallel directions, and can for instance be formed by prefab or preformed creases or double creases.  
25 Advantageously, the first and the fifth fold lines 21, 25 can be formed by prefab creases or double creases allowing the cardboard to be fold at least in a first direction, whereas the second, third and forth fold lines 22, 23, 24 can then be formed as prefab creases or double creases allowing the cardboard to be fold at least in a second direction, e.g. a direction opposite to said first  
30 direction.

Additionally, in a cross-section transverse to the elongated direction of the strip-shaped sheet portions 11, 12, 13, 14, 15 and/or transverse to the directions of the respective fold lines 21, 22, 23, 24, 25 there between, the second, third, fourth and fifth sheet portions 12, 13, 14, 5 15 may substantially form a collapsible parallelogram 8, as can be seen relatively well in Figs. 6-8, especially in Fig. 7. In preferred embodiments, said parallelogram 8 may have four sides 12, 13, 14, 15 of substantially equal length, wherein the second and third sheet portions 12, 13 are lying substantially in line with each other in the first position (see Fig. 6) and are 10 substantially parallel and facing each other in the second position (see Fig. 8), wherein the fourth and fifth sheet portions 14, 15 are lying substantially in line with each other in the first position (see Fig. 6) and are substantially parallel and facing each other in the second position (see Fig. 8), and wherein the second and fifth sheet portions 12, 15 are substantially parallel and facing each other in the first position (see Fig. 6) and are lying 15 substantially in line with each other in the second position (see Fig. 8), and wherein the third and fourth sheet portions 13, 14 are substantially parallel and facing each other in the first position (see Fig. 6) and are lying substantially in line with each other in the second position (see Fig. 8) of the 20 support beam 1.

As for instance can be understood from Figs. 6 and 8, the collapsible parallelogram 8 can thus be collapsed in the first position (see Fig. 6), in which the support beam 1 is collapsed and may stackable, e.g. in order to be stored and/or transported in a relatively efficient manner. The 25 collapsible parallelogram 8 can thus also be collapsed in the second position (see Fig. 8) in which the support beam 1 is erected, and in which the support beam 1 can for instance substantially form a T-beam. It is noted that the collapsible parallelogram 8 may in the second position of the support beam be collapsed in another manner as in the first position of the support beam 30 1. During erecting the support beam 1 from its first position into its second

position, the support beam 1 is transitioned via intermediate positions (see Fig. 7), in which the collapsible parallelogram 8 forms a parallelogram.

Since the flange 2 may advantageously be formed as a collapsible parallelogram 8, it can be counteracted that the flange 2 unintentionally bends about the first fold line 21 and/or fifth fold line 25, which may be coincide substantially in the second, erected position (see Figs. 5 and 8). This is, in case the second and fifth sheet portions 12, 15 tend to sag, the third and fourth sheet portions 13, 14, which interconnect the lateral ends of the second and fifth sheet portions 12, 15 in the second position of the support beam 1, work as a tensioning means for counteracting that the second and fifth sheet portions 12, 15 can tend to a substantial degree.

Although in embodiments, such as the shown embodiment, the four sheet portions 12, 13, 14, 15 forming the four arms of the collapsible parallelogram 8 may all have substantially the same width, e.g. in order to provide a substantially symmetrical support beam that therefore for instance may be mounted into a PoS display structure or frame relatively easily, the second and fourth sheet portion 12, 14 may in alternative embodiments have different width as the third and fourth sheet portions 13, 15. Although the support beam 1 may then not be substantially symmetrical, it can then have the advantage that the fold line 23 between the third and fourth sheet portions 13, 14 may in the second position of the support beam 1 then not be positioned substantially straight above the top edge of the web section 3, thereby counteracting even further that the flange section 2 can unintentionally bend.

As for instance can be seen in Fig. 5, in embodiments, a first folding tab portion 130 may be provided at least at one distal end 13' of the third substantially strip-shaped sheet portion 13 of the support beam 1. Said first folding tab portion 130 may be connected to said third sheet portion 13 by means of a sixth fold line 26. Further, at least a second folding tab portion 140 can be provided at a corresponding distal end 14' of the

fourth substantially strip-shaped sheet portion 14, wherein said second folding tab portion 140 can then be connected to said fourth sheet portion 14 by means of a seventh fold line 27. Preferably, said first and second folding tab portions 130, 140 may be interconnected by means of an eighth fold line 5 28 that then can lie in line with the third fold line 23 in the first position (see Fig. 4) of the support beam 1. More preferably, said sixth and seventh fold lines 26, 27 can then extend in line with each other in the second position of the support beam 1 (see Fig. 5). With respect to said two sets of fold lines 23, 28; 26, 27 that can lie in line with each other in the respective 10 positions of the support beam 1, and/or in a potential blank in case the support beam 1 is made from a blank 4, is noted that the intersection of said sets of fold lines may be cut out of the cardboard material in order to counteract that the support beam is difficult to fold at the location of said intersection due to an excessive amount of material. For example, a cut-out 15 9, e.g. shaped as a circular through-hole or formed as any other suitable hole, can be provided at said intersection.

Preferably, said cut-out 9 may be provided in a potential blank 4 in case the support beam 1 is formed from at least a portion of at least one blank 4.

20 It is noted that the opposite ends of the substantially strip-shaped third and fourth sheet portions 13, 14 can advantageously be provided with corresponding folding tab portions 131, 141, which can be connected to said sheet portions 13, 14 and to each other by means of corresponding fold lines 26', 27', 28'. It is apparent that also an intersection of said fold lines may be 25 provided with a cut-out 9.

Actually, at any intersection of fold lines, which may in preferred embodiment be formed at least partly by creases, the local material can be cut away in order to facilitate bending, pivoting or folding of material of the blank 4 and/or of the support beam 1.

With respect to the folding tab portions 130, 140; 31, 141 is noted that they may facilitate to reinforce the support beam 1, e.g. in order to counteract that the support beam 1 can bend or sag to a too large extent, for instance counteracting bending or sagging in a direction transverse to a plane in which the flange 2 can substantially extend in the second position of the support beam 1 and/or for instance counteracting bending or sagging in a direction transverse to a plane in which the web 3 can substantially extend in the second position of the support beam 1 (see e.g. Fig. 5).

Alternatively or additionally, in embodiments one or more further folding tab portion 120, 121, 150, 151 may be provided at least at one, and preferably at both, distal ends of the second and/or fifth substantially strip-shaped sheet portion 12, 15 of the support beam 1. The respective folding further tab portion 120, 121, 150, 151 may be connected to the respective sheet portion 12, 15 by means of a further fold line 29. Preferably, the respective further tab portions 120, 150; 121, 151 located near each other are not interconnected. Said further tab portions 120, 121, 150, 151 can be for reinforcing the support beam 1 during use, e.g. in the second position of said beam 1, and/or for facilitating that said support beam 1 can be mounted to the frame 110 and/or structure of a PoS display 100.

Advantageously, the support beam 1, or at least a part of said support beam 1, can substantially forms a T-beam. For example, the four sheet portions 12, 13, 14, 15 that can form the sides of the collapsible parallelogram 8 can form the flange 2 of the T-beam in the second position of the support beam (see Fig. 8). Additionally, the two layers 11a, 11b of the first sheet portion 11 can then form at least a part of the web 3 of the T-beam in said second position.

Additionally, the support beam 1 can substantially form an I-beam, or a so-called double T-beam. For example, the four sheet portions 12, 13, 14, 15 that can form the sides of the collapsible parallelogram 8 can form the top flange of the I-beam. Additionally, the two layers 11a, 11b of

the first sheet portion 11 can then form at least a part of the web 3 of the I-beam. In embodiments a lower flange of the I-beam may also be formed by a collapsible parallelogram, e.g. a collapsible parallelogram corresponding to the collapsible parallelogram 8 forming the top flange.

5           Although the support beam 1 may in preferred embodiments be formed from a single blank 4, e.g. a blank 4 formed by die cutting a pattern and by providing fold lines, especially creases and/or double creases, the support beam 1 may in alternative embodiments be formed from multiple blanks or separate parts, that for instance can be mounted to each other,  
10 e.g. by clamping, adhering, stapling and/or attaching them to each in any other suitable manner. It is noted that portions of the support beam, e.g. any one of the strip-shaped sheet portions 12, 13, 14, 15 described above, can be formed by multiple layers at least partly overlaying each other, wherein one layer can for instance form a mounting strip for adhering a second blank  
15 to a first blank in order to form a blank build-up from multiple blanks, e.g. two blanks or even more than two blanks.

          It is noted that the invention also relates to a kit of parts for assembling a point-of-sale display 100. Said kit of part comprises at least one frame 110, preferably a collapsible cardboard frame. Said kit of part  
20 further comprises at least one, and preferably multiple, support beams 1, especially support beams according to one or multiple embodiments of support beams 1 described above. Further, the kit of parts may comprise other parts, especially parts for assembling a point-of-sale display 100. For example, the kit may comprise one or multiple shelves or trays, which in  
25 embodiment may be integrated parts of the frame 110, e.g. pivotable connected to a rear wall 113 of the frame 110. As another example, the kit of parts may comprise a pallet, e.g. a wooden pallet or a plastic pallet, on which the frame 110, or a cardboard structure comprising the frame 110, can be mounted.

It is noted that for the purpose of clarity and a concise description features are described herein as part of the same or separate embodiments, however, it will be appreciated that the scope of the invention may include embodiments having combinations of all or some of the features described.

5           It will be apparent that features solely described in the context of the method are also deemed to be disclosed in the context of the support beam and/or the display, and vice versa.

          Further, it is noted that the invention is not restricted to the embodiments described herein. It will be understood that many variants are  
10 possible.

          Such and other variants will be apparent for the person skilled in the art and are considered to lie within in the scope of the invention as formulated in the following claims.

## Conclusies

1. Draagbalk voor het ondersteunen van een schap of bak in een verkooppunt-display, waarbij de draagbalk in hoofdzaak is gemaakt van een kartonnen velmateriaal en uitvouwbaar is vanuit een eerste stand, waarin genoemde draagbalk in hoofdzaak is opgevouwen, tot in een tweede stand, 5 waarin de draagbalk is opgericht en een in hoofdzaak horizontaal uitstrekkend flensdeel heeft voor het daarop ondersteunen van een schap of bak en een lijfdeel heeft voor het ondersteunen van het flensdeel om doorbuigen van het flensdeel tegen te gaan, waarbij genoemde lijfdeel zich van het flensdeel weg uitstrekt in een neerwaartse richting.
- 10 2. Draagbalk volgens conclusie 1, waarbij de draagbalk in hoofdzaak is gemaakt van massiefkartonnen velmateriaal of velmateriaal van niet-gegolfd karton.
3. Draagbalk volgens conclusie 1 of 2, waarbij, in de eerste stand, de draagbalk in hoofdzaak plano is.
- 15 4. Draagbalk volgens één van de voorgaande conclusies, waarbij de draagbalk meerdere velgedeelten heeft, die elk ten minste één laag kartonnen velmateriaal omvatten, waarbij genoemde velgedeelten zijn verbonden door middel van vouwen of vouwlijnen, en waarbij de velgedeelten zich in de eerste stand in hoofdzaak parallel aan elkaar 20 uitstrekken.
5. Draagbalk volgens één van de voorgaande conclusies, waarbij de draagbalk ten minste vijf in hoofdzaak strookvormige velgedeelten omvat die zich in hoofdzaak langs elkaar uitstrekken, waarbij een eerste van genoemde velgedeelten een eerste laag heeft die met een tweede van 25 genoemde velgedeelten is verbonden door middel van een eerste vouwlijn, waarbij het tweede velgedeelte met een derde velgedeelte is verbonden door

een tweede vouwlijn, waarbij het derde velgedeelte met een vierde velgedeelte is verbonden door een derde vouwlijn, waarbij het vierde velgedeelte is verbonden met een vijfde velgedeelte door een vierde vouwlijn, waarbij het vijfde velgedeelte met een tweede laag van het eerste  
5 velgedeelte is verbonden door een vijfde vouwlijn.

6. Draagbalk volgens conclusie 5, waarbij, in een doorsnede dwars op de langsrichting van de strookvormige velgedeelten, het tweede, derde, vierde en vijfde velgedeelte in hoofdzaak een inklapbaar parallellogram vormen, bij voorkeur een parallellogram met vier zijden van in hoofdzaak gelijke lengte,  
10 waarbij het tweede en derde velgedeelte in de eerste stand in hoofdzaak in lijn liggen met elkaar en in de tweede stand in hoofdzaak parallel zijn en naar elkaar zijn gekeerd, waarbij het vierde en vijfde velgedeelte in de eerste stand in hoofdzaak in lijn liggen met elkaar en in de tweede stand in hoofdzaak parallel zijn en naar elkaar zijn gekeerd, en waarbij het tweede  
15 en vijfde velgedeelte in de eerste stand in hoofdzaak parallel zijn en naar elkaar zijn gekeerd en in de tweede stand in hoofdzaak in lijn liggen met elkaar, en waarbij het derde en vierde velgedeelte in de eerste stand in hoofdzaak parallel zijn en naar elkaar zijn gekeerd en in de tweede stand van de draagbalk in hoofdzaak in lijn liggen met elkaar.

20 7. Draagbalk volgens conclusie 5 of 6, waarbij ten minste aan één distaal uiteinde van het derde in hoofdzaak strookvormige velgedeelte een eerste vouwlipgedeelte is voorzien, waarbij genoemde eerste vouwlipgedeelte met genoemde derde velgedeelte is verbonden door middel van een zesde vouwlijn, en waarbij ten minste aan een corresponderend  
25 distaal uiteinde van het vierde in hoofdzaak strookvormige velgedeelte een tweede vouwlipgedeelte is voorzien, waarbij genoemde tweede vouwlipgedeelte met genoemde vierde velgedeelte is verbonden door middel van een zevende vouwlijn, bij voorkeur waarbij genoemde eerste en tweede

vouwlipgedeelte onderling zijn verbonden door middel van een achtste vouwlijn die in de eerste stand van de draagbalk in lijn ligt met de derde vouwlijn, en bij grotere voorkeur waarbij de zesde en de zevende vouwlijn in de tweede stand van de draagbalk met elkaar in lijn liggen.

- 5 8. Draagbalk volgens één van de voorgaande conclusies, waarbij de draagbalk, of een deel daarvan, in hoofdzaak een T-balk vormt, bij voorkeur waarbij de draagbalk volgens conclusie 6 of 7 is en de vier velgedeelten, die de zijkanten van het inklapbare parallellogram vormen, in de tweede stand van de draagbalk de flens van de T-balk vormen.
- 10 9. Draagbalk volgens één van de voorgaande conclusies, waarbij de draagbalk in hoofdzaak een I-balk vormt, bij voorkeur waarbij de draagbalk volgens conclusie 6 of 7 is en de vier velgedeelten, die de zijkanten van het inklapbare parallellogram vormen, in de tweede stand van de draagbalk de boven-flens van de I-balk vormen.
- 15 10. Draagbalk volgens één van de voorgaande conclusies, waarbij de draagbalk uit een enkele uitslag is gevormd.
11. Verkooppunt-display, omvattende ten minste één draagbalk volgens één van de voorgaande conclusies.
12. Verkooppunt-display volgens conclusie 11, verder omvattende een  
20 frame, bij voorkeur een frame dat in hoofdzaak is vervaardigd uit een kartonnen materiaal, bij grotere voorkeur een golfkartonnen materiaal, waarbij het frame twee tegenover elkaar liggende wanden omvat die naar elkaar zijn gekeerd, waarbij de draagbalk zich uitstrekt van een eerste naar een tweede van genoemde tegenover elkaar liggende wanden.
- 25 13. Verkooppunt-display volgens conclusie 11 of 12, waarbij het verkooppunt-display een frame omvat, bij voorkeur een frame dat in hoofdzaak is vervaardigd uit een kartonnen materiaal, bij grotere voorkeur een golfkartonnen materiaal, waarbij het frame een wandgedeelte omvat

dat ten minste twee naar elkaar gerichte kartonnen lagen heeft en dat een opening heeft voor het tussen genoemde twee naar elkaar gerichte kartonnen lagen van het genoemde wandgedeelte inbrengen van één of meer vouwlijpgedeelten die zijn voorzien aan het einde van het flensdeel van de draagbalk.

14. Verkooppunt-display volgens conclusie 13, waarbij een proximaal exemplaar van de twee naar elkaar gerichte kartonnen lagen van het wandgedeelte van het frame van het display is voorzien van een opneemopening, in het bijzonder een zich naar beneden uitstrekkende spleet of sleuf, voor het opnemen van een distaal eindstuk van het lijfdeel van de draagbalk.

15. Kit van onderdelen voor het assembleren van een verkooppunt-display, omvattende:  
ten minste één frame, bij voorkeur een inklapbaar kartonnen frame;  
en  
ten minste één, en bij voorkeur meerdere, draagbalken volgens één van de conclusies 1-10.

16. Werkwijze voor het vormen van een draagbalk, bij voorkeur een draagbalk volgens één van de conclusies 1-10, omvattende de stappen van:  
het verschaffen van een uitslag van kartonnen velmateriaal, in het bijzonder massiefkartonnen velmateriaal, waarbij de uitslag tenminste in hoofdzaak zes parallelle, in hoofdzaak strookvormige gedeelten omvat die onderling zijn verbonden door middel van vijf in hoofdzaak parallelle vouwlijnen, waarbij het tweede strookvormige gedeelte en het vierde strookvormige gedeelte beide in hoofdzaak dezelfde breedte hebben en waarbij het derde strookvormige gedeelte en het vijfde strookvormige gedeelte beide in hoofdzaak dezelfde breedte hebben; en

het op een ten minste gedeeltelijk overlappende wijze aan elkaar bevestigen van het eerste strookvormige gedeelte en het zesde strookvormige gedeelte teneinde een gecombineerd strookvormig velgedeelte te vormen en dat op een zodanige wijze dat de eerste en de vijfde vouwlijn 5 praktisch samen komen te vallen, zodat het tweede, derde, vierde en vijfde strookvormige gedeelte samen een inklapbaar parallellogram vormen.

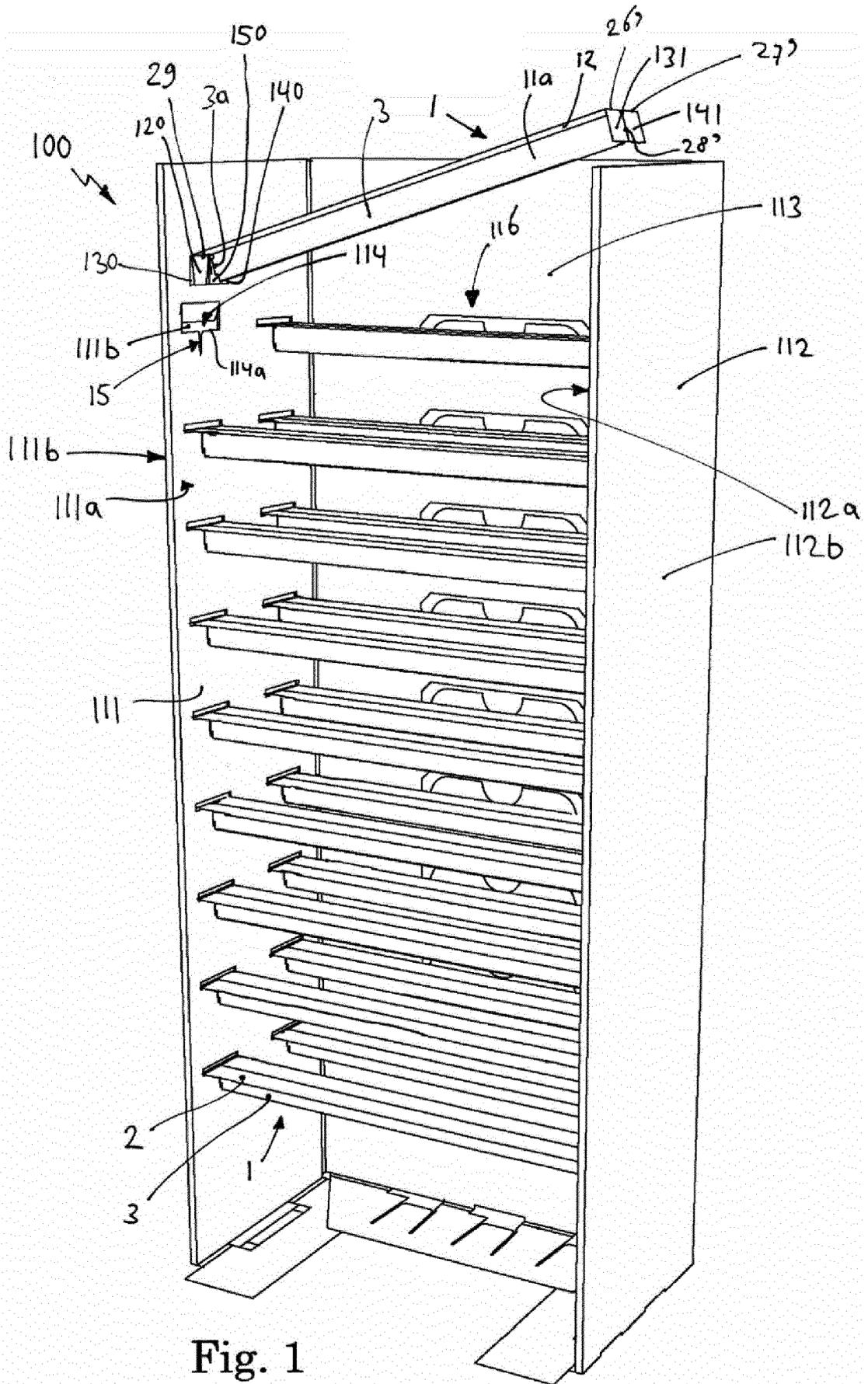


Fig. 1

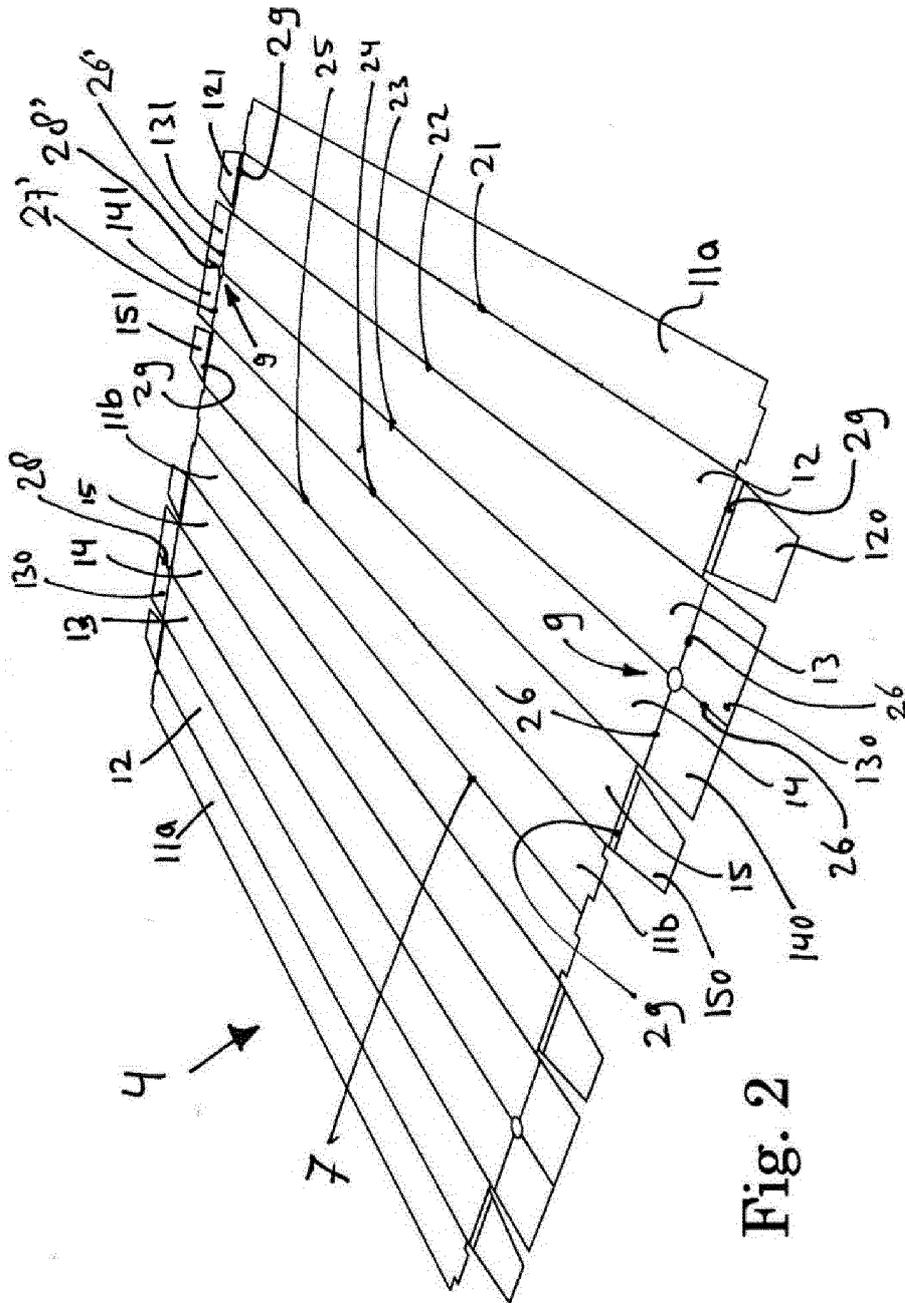


Fig. 2



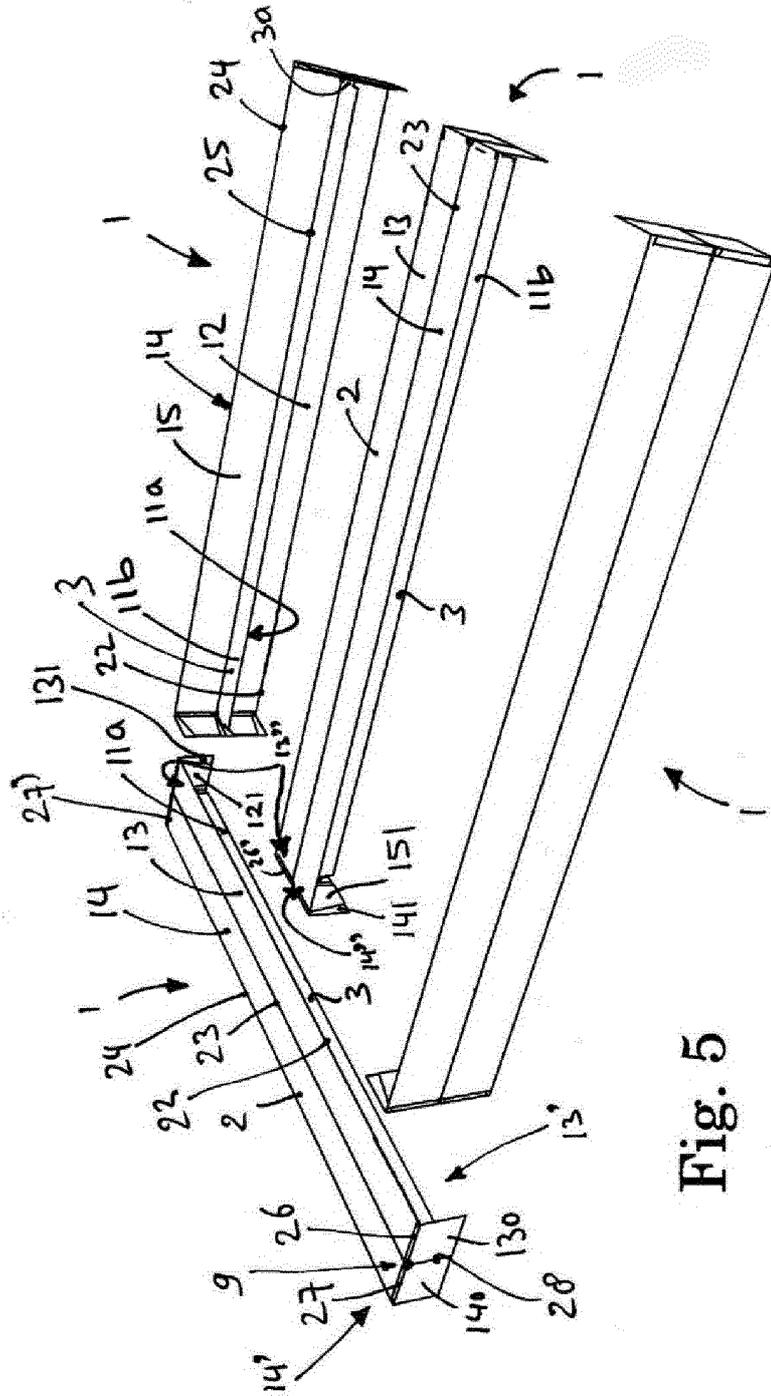


Fig. 5

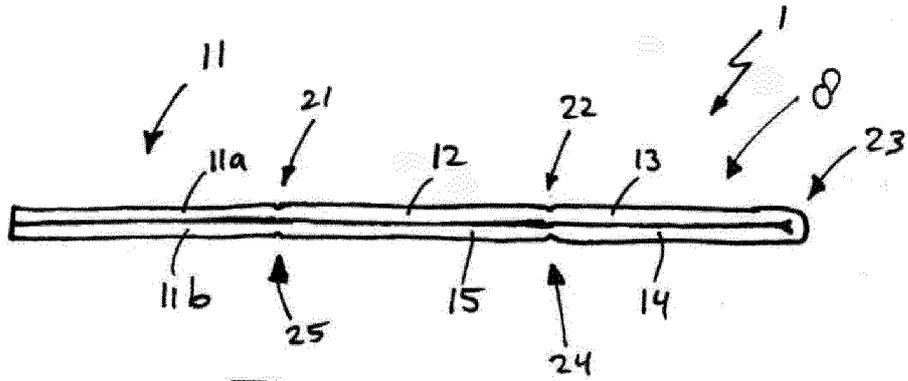


Fig. 6

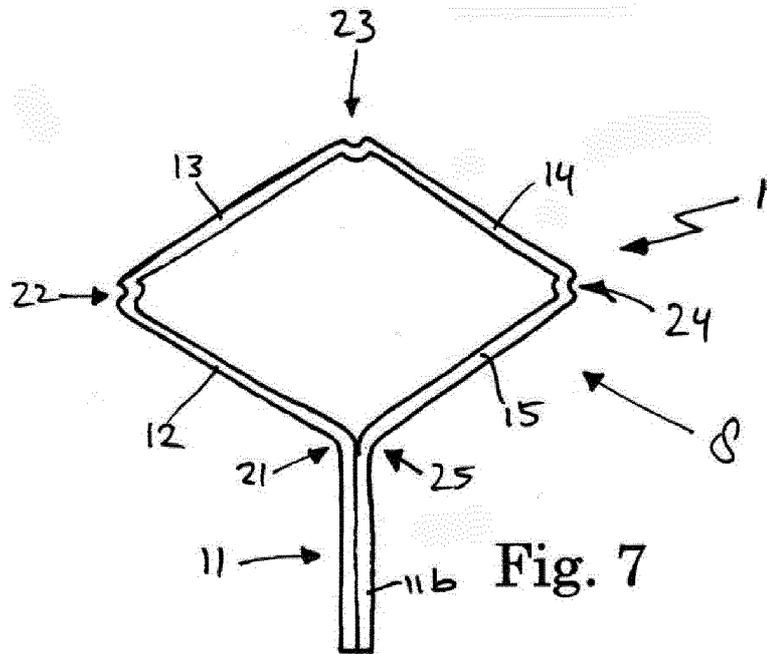


Fig. 7

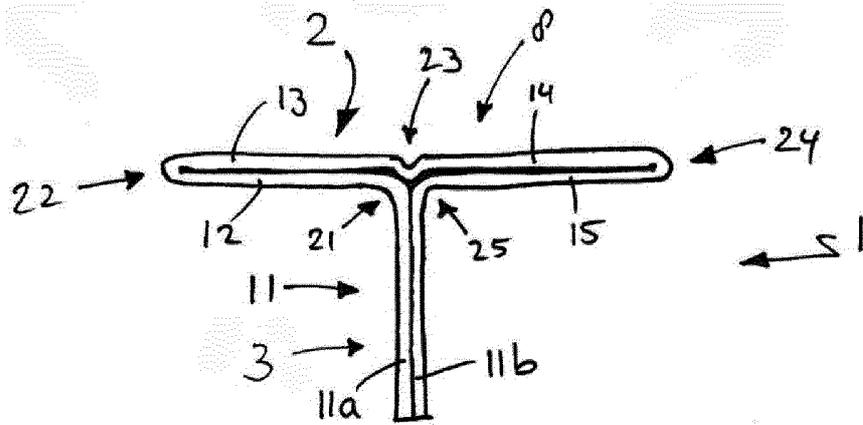


Fig. 8

Title: Support beam, point-of-sale display, and method

Abstract

The invention relates to a support beam for supporting a shelf or a tray in a point-of-sale display. The support beam is substantially made of a cardboard sheet material. Said support beam is convertible from a first position, in which said support beam is substantially collapsed, into a second position, in which said support beam is erected and has a substantially horizontally extending flange section for supporting a shelf or a tray thereon and a web section for supporting the flange section in order to counteract bending of said flange section, said web section extending away from the flange section in a downward direction.

# SAMENWERKINGSVERDRAG (PCT)

## RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE	
	<b>P107370NL00</b>	
Nederlands aanvraag nr.	Indieningsdatum	
<b>2014871</b>	<b>28-05-2015</b>	
	Ingeroepen voorrangdatum	
Aansvrager (Naam)		
<b>Smurfit Kappa Zedek B.V.</b>		
Datum van het verzoek voor een onderzoek van internationaal type	Door de instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr.	
<b>02-02-2016</b>	<b>SN 65531</b>	
<b>I. CLASSIFICATIE VAN HET ONDERWERP</b> (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)		
Volgens de internationale classificatie (IPC)		
<b>A47F5/11</b>		<b>A47B43/02</b>
<b>II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK</b>		
Onderzochte minimumdocumentatie		
Classificatiesysteem	Classificatiesymbolen	
<b>IPC</b>	<b>A47F</b>	<b>A47B</b>
Onderzocht anders documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen		
III.	<b>GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES</b>	(opmerkingen op aanvullingsblad)
IV.	<b>GEBREK AAN EENHEID VAN UITVINDING</b>	(opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2014871

**A. CLASSIFICATIE VAN HET ONDERWERP**

INV. A47F5/11 A47B43/02  
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

**B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK**

Onderzochte minimum documentatie (klassificatie gevolgd door classificatiesymbolen)

A47F A47B

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)

EPO-Internal, WPI Data

**C. VAN BELANGS GEACHTE DOCUMENTEN**

Categorie *	Geselecteerde documenten, eventueel met aanduiding van aspecten van belang zijnde passages	Van belang voor conclusie n°
X A	DE 20 2013 100231 U1 (SCHELLING AG [CH]) 26 februari 2013 (2013-02-26) * het gehele document *	1-5,8, 10-15 6,7,9,16
X A	NL 1 010 543 C1 (ANTONIA KOENDERS GEB VAN DEN H [NL]) 16 mei 2000 (2000-05-16) * het gehele document *	1-5,8 6,7,9-16
X A	US 5 335 593 A (STODDARD DAVID C F [US] ET AL) 9 augustus 1994 (1994-08-09) * kolom 4, regel 17 - regel 22; figuren 12-15 *	1-4,11, 12,15 5-10,13, 14,16

Verder documenten worden vermeld in het verzoek van vak C.

Leden van dezelfde octroofamilie zijn vermeld in een bijlage

**\* Speciale categorieën van aangehaalde documenten**

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvraag vermeld

"E" eerdere octrooi(ausvinding), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermeldde literatuur

"O" met schriftelijke stand van de techniek

"P" tussen de voortgangdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voortgangdatum gepubliceerde literatuur die niet bezwaarlijk is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geselecteerde literatuur van dezelfde categorie, waarbij de combinatie voor de verkeer voor de hand liggend wordt geacht

"Z" lid van dezelfde octroofamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

8 april 2016

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

Naam en adres van de instantie

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040  
Fax: (+31-70) 340-3218

De bevoegde ambtenaar

van Hoogstraten, S

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

informatie over leden van dezelfde octroofamilie

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2014871

In het rapport genoemd octrooigezinsft	Datum van publicatie	Overeenkomstige geschrift(en)	Datum van publicatie
DE 202013100231	UI	26-02-2013	GEEN
NL 1010543	CI	16-05-2000	GEEN
US 5335593	A	09-08-1994	GEEN

## WRITTEN OPINION

File No. SN65531	Filing date (day/month/year) 28.05.2015	Priority date (day/month/year)	Application No. NL2014871
International Patent Classification (IPC) INV. A47F5/11 A47B43/02			
Applicant Smurfit Kappa Zedek B.V.			

This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the application
- Box No. VIII Certain observations on the application

Examiner van Hoogstraten, S
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## WRITTEN OPINION

Application number  
NL2014871

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### Box No. I Basis of this opinion

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1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material:
    - on paper
    - in electronic form
  - c. time of filing/furnishing:
    - contained in the application as filed.
    - filed together with the application in electronic form.
    - furnished subsequently for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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### Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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#### 1. Statement

Novelty	Yes: Claims	6, 7, 9, 16
	No: Claims	1-5, 8, 10-15
Inventive step	Yes: Claims	6, 7, 9, 16
	No: Claims	1-5, 8, 10-15
Industrial applicability	Yes: Claims	1-16
	No: Claims	

#### 2. Citations and explanations

**see separate sheet**

WRITTEN OPINION

Application number  
NL2014871

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Box No. VII Certain defects in the application

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see separate sheet

1 Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1.1 Reference is made to the following documents:

- D1 DE 20 2013 100231 U1 (SCHELLING AG [CH]) 26 februari 2013 (2013-02-26)
- D2 NL 1 010 543 C1 (ANTONIA KOENDERS GEB VAN DEN H [NL]) 16 mei 2000 (2000-05-16)
- D3 US 5 335 593 A (STODDARD DAVID C F [US] ET AL) 9 augustus 1994 (1994-08-09)

1.2 The present application does not meet the criteria of patentability, because the subject-matter of claim 1 is not new.

D1 discloses (the references in brackets applying to this document):

Draagbalk (20) voor het ondersteunen van een schap of bak in een verkooppunt-display (10), waarbij de draagbalk in hoofdzaak is gemaakt van een kartonnen velmateriaal (see paragraph [0006]) en uitvouwbaar is vanuit een eerste stand, waarin genoemde draagbalk in hoofdzaak is opgevouwen, tot in een tweede stand, waarin de draagbalk is opgericht en een in hoofdzaak horizontaal uitstrekkend flensdeel (42, 44) heeft voor het daarop ondersteunen van een schap of bak en een lijfdeel (54) heeft voor het ondersteunen van het flensdeel om doorbuigen van het flensdeel tegen te gaan, waarbij genoemde lijfdeel zich van het flensdeel weg uitstrekt in een neerwaartse richting.

1.3 Dependent claims 2-5, 8, 10-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and/or inventive step, see document D1.

1.4 The combinations of the features of dependent claims 6, 7 and 9 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows: there are no hints to be found in prior art which would incite the person skilled in the art to create the specific configuration of the beam (draagbalk) of these claims.

- 1.5 Independent method claim 16 relates to a method of forming the beam (draagbaik) of dependent claim 6. The configuration of the beam of claim 6 is neither known nor suggested by the available prior-art, see point 1.4, correspondingly the method of claim 16 is also neither known nor suggested by prior-art.

**2 Re Item VII**

**Certain defects in the application**

- 2.1 The features of the claims are not provided with reference signs placed in parentheses.
- 2.2 The relevant background art disclosed in D1 is not mentioned in the description, nor is this document identified therein.