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(71) Applicant (for all designated States except US): **TECH VIEW A/S** [DK/DK]; Toldbodgade 51C, 3, DK-1252 Copenhagen K (DK).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **THOSTRUP, Christian** [DK/DK]; Nyhavn 43A, DK-1051 Copenhagen K (DK).

(74) Agent: **HOLME PATENT A/S**; Vesterbrogade 20, DK-1620 Copenhagen V (DK).

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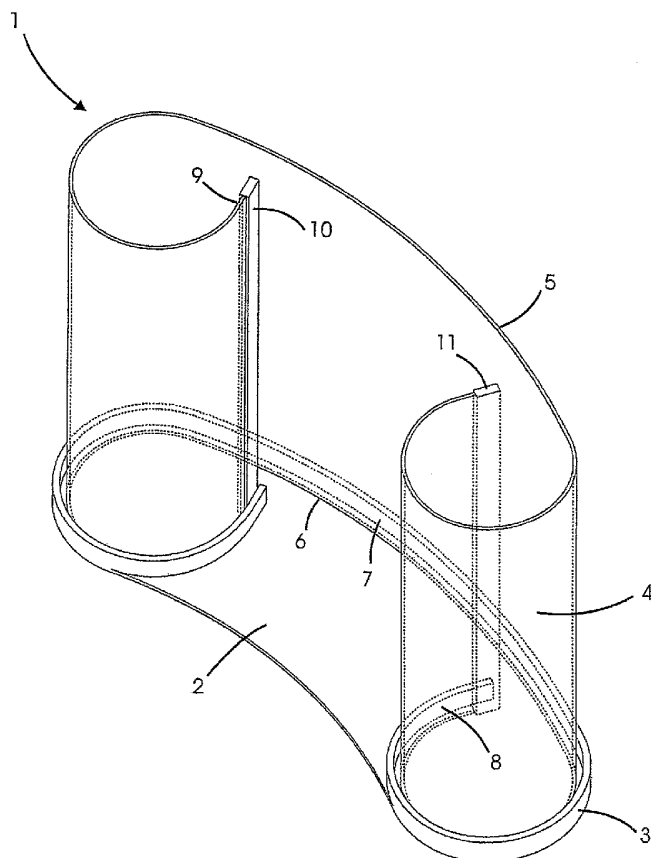
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(54) Title: A COUNTER



(57) Abstract: A counter comprising a, in use, mainly horizontal top plate and bottom plate (2) arranged with a mutual spacing and a mainly vertical support plate (4) extending between the top and bottom plates and following the rims of these plates at least a distance of their extent. The support plate is made up of a relatively thin, elastic material with a non-stressed initial condition and a clamped mounted condition. The counter has a simple, light and inexpensive structure, and it allows light from a light source in the counter to penetrate the support plate and illuminate an information on this plate. The counter takes up very little space during transportation and storage, and it can be mounted quickly and easily upon use.



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Counter

The invention relates to a counter of the kind comprising a, in use, mainly horizontal top plate and bottom plate arranged with a mutual spacing and a mainly vertical support plate extending between the top and bottom plates.

Such a counter is known. The support plate of this known counter is flexible in the horizontal direction and is therefore not subjected to stresses in mounted state. The support plate is made with a close packed row of vertical bars or ribs to absorb the load on the top plate which functions as the table top of the counter. Therefore, the support plate has a relatively large thickness and will therefore be comparatively heavy and expensive. Another disadvantage is that it does not, or only to an insufficient extent allows light from a light source in the counter to penetrate to illuminate a message on the support plate, for example an advertisement for a product.

The object of the invention is to provide a counter of the kind mentioned in the opening paragraph, that has a simple, light and inexpensive structure and that allows light from a light source in the counter to penetrate the support plate and illuminate a message on this plate.

The novel and unique feature according to the invention, whereby this is achieved, is the fact that the support plate is made up of a relatively thin, elastic material with a non-stressed initial condition and a stressed mounted condition. If the support plate is stressed in this way, it will be able to absorb relatively large loads on the top plate even if it has a relatively small thickness.

According to the invention, the thin support plate can be transparent so that it allows light from a light source in the

counter to penetrate and illuminate a message on the plate, for example an advertisement.

According to the invention, the different components of the counter can be arranged to be detachably joined to a complete counter and be mounted quickly and easily upon use. In demounted state, the counter takes up very little space. Thereby, a significant saving in storage and transportation costs is advantageously obtained.

The top and bottom plates can preferably have curved rims and upright edges that extend along these rims for at least a distance. According to the invention, the thin support plate can be clamped by these edges.

According to the invention, the upright edges and thereby the support plate can have a centre part having a relatively large, first radius of curvature and two end parts having a relatively small, second radius of curvature at least along a portion. Having this shape, the end parts of the support plate will be able to function as solid legs that can absorb even large loads on the top plate of the counter.

The free vertical rim areas of the support plate are not clamped as the rest of the plate and therefore tend to bend outwards. According to the invention, this problem is solved by stiffening each of these rim areas with a vertical bar bearing against the upright edges of the bottom plate and the top plate at the ends.

According to the invention, the end parts of the support plate can furthermore support each other by means of at least one brace rod or at least one shelf extending between the two parts.

The invention will be explained in greater details below, describing only exemplary embodiments and giving further advantageous characteristics and technical effects according to the invention with reference to the drawing, in which

Fig. 1 is a perspective view obliquely from above of a part of a counter according to the invention;

Fig. 2 is a view from above of a first embodiment of the counter in fig. 1;

Fig. 3 is a view from above of a second embodiment of the counter in fig. 1;

Fig. 4 is a view from above of a third embodiment of the counter in fig. 1.

In fig. 1 it is seen that the counter 1 according to the invention has a bottom plate 2 with an upright edge 3 and a support plate 4 of a relatively thin, elastic material. The counter furthermore has a top plate which for clarity reasons is not shown in the figure. The top and bottom plates are substantially identical, and their upright edges are facing each other.

Prior to mounting the support plate is relieved of stresses. For example, it can assume a two-dimensional state. Mounting of the support plate takes place by placing its upper and lower rim areas 5 and 6 between the upright edges 3 of the top and bottom plates. Thereby, the support plate is placed in a clamped state, in which it will be able to absorb large loads that might be resting on the top plate even with a modest thickness.

The upright edges on the top and bottom plates have a curved centre part 7 having a large radius and two curved end parts 8

each having a small radius of curvature and extending over a relatively large arch angle, for example 275° or more. The end parts will thereby form solid legs to the counter.

An advantageous embodiment of the counter is obtained if the large radius of curvature is between three and fifteen times larger than the small radius of curvature, preferably between five and ten times larger.

The support plate is single curved. The internal stresses in the support plate force its rim areas out towards the inside of the upright edges on the top and bottom plates. Seen in a horizontal section, the support plate therefore assumes the same radii of curvature as these edges.

The vertical rim areas 9 of the support plate are free and therefore not clamped. Therefore they tend to bend outwards as columns.

As shown in fig. 2, this problem is eliminated according to the invention by stiffening each of them with a vertical stiffening bar 10. The end parts 11 of the vertical bars are forced in towards the inside of the upright edges on the top and bottom plates whereby the vertical rim areas of the support plate are stabilized and positioned effectively in the counter.

Within the scope of the invention the end parts of the vertical bars can however be fixed in any other appropriate way, for example by being fitted into complementarily made recesses in the top and bottom plates, respectively, (now shown).

In fig. 3, a brace rod is extending between the two end parts of the support plate for further ensuring that the end parts maintain their curved state. Only one brace rod is shown in

the figure. However, the support plate can be provided with several brace rods located vertically offset relative to each other.

In fig. 4, the brace rod is replaced by a shelf 13 resting on a bracket 14 fastened on the vertical bars on either side by means of a hook.

CLAIMS

1. A counter of the kind comprising a, in use, mainly horizontal top plate and bottom plate (2) arranged with a mutual spacing and a mainly vertical support plate (4) extending between the top and bottom plates, **characterized** in that the support plate is made up of a relatively thin, elastic material with a non-stressed initial condition and a stressed mounted condition.
2. A counter according to claim 1, **characterized** in that the rims of the top and bottom plates (2) are made with upright edges (3) facing in opposite directions, and that the upper and lower rims (5;6) of the support plate are located between these edges in mounted state.
3. A counter according to claim 2, **characterized** in that the upright edges (3) have a centre part (7) having a relatively large, first radius of curvature and two end parts (8) having a relatively small, second radius of curvature at least along a portion.
4. A counter according to claim 2 or 3, **characterized** in that the first radius of curvature is between three and fifteen times larger than the second radius of curvature, preferably between five and ten times larger.
5. A counter according to claim 2, 3 or 4, **characterized** in that the support plate (4), seen in horizontal section, is single curved in mounted state with a centre part having a first radius of curvature corresponding to the first radius of curvature of the upright edges and two end parts having a second radius of curvature corresponding to the second radius of curvature of the upright edges.

6. A counter according to any of the claims 1 - 5, **characterized** in that at least one of the vertical rim areas (9) of the support plate (4) is stiffened by a stiffening rod (10), the two ends of which are supported by support means (3) on the top and bottom plates (2).
7. A counter according to claim 6, **characterized** in that the support means are the upright edges on the top and bottom plates.
8. A counter according to any of the claims 1 - 7, **characterized** in that it comprises a support structure (12; 13, 15) extending between the two end parts of the support plate (4).
9. A counter according to claim 8, **characterized** in that the support structure is made up of at least one brace rod (12).
10. A counter according to claim 8, **characterized** in that the support structure is made up of at least one shelf (14,15).

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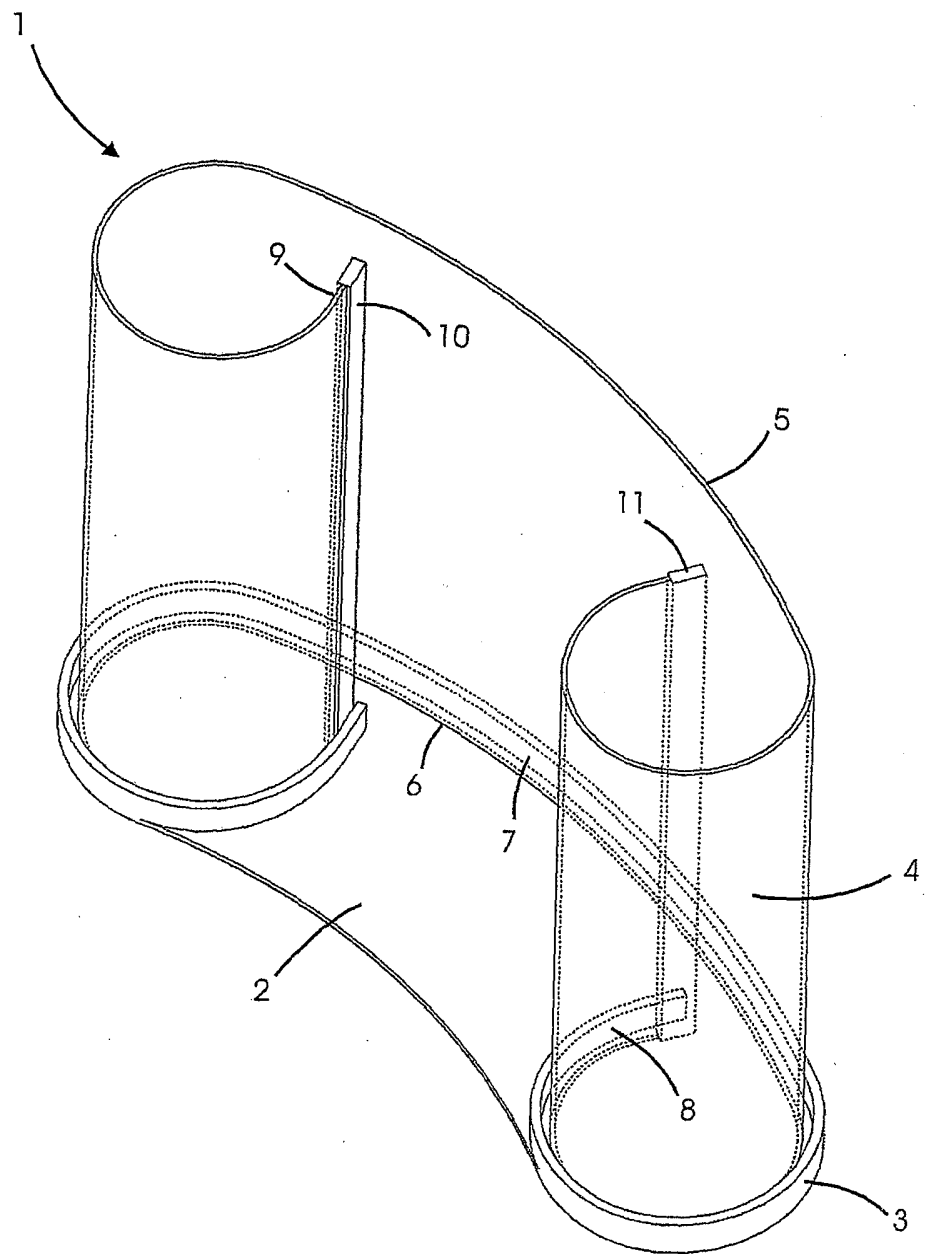


Fig. 1

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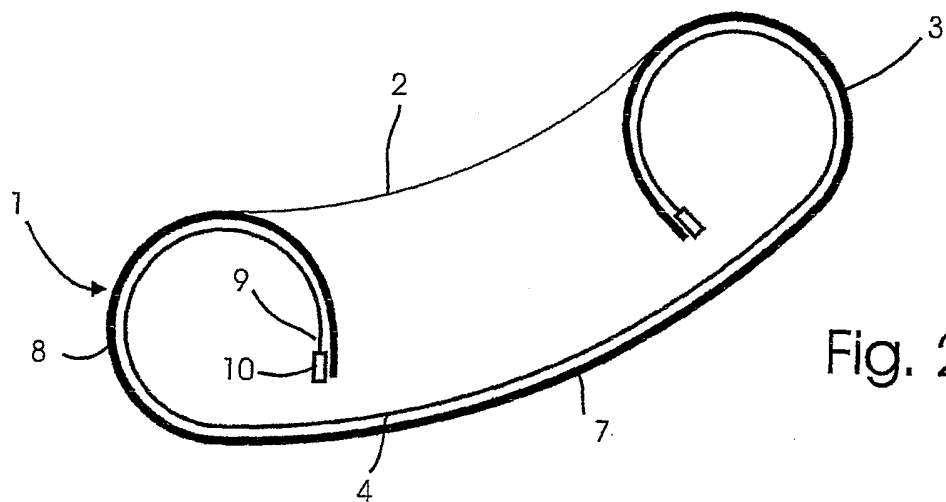


Fig. 2

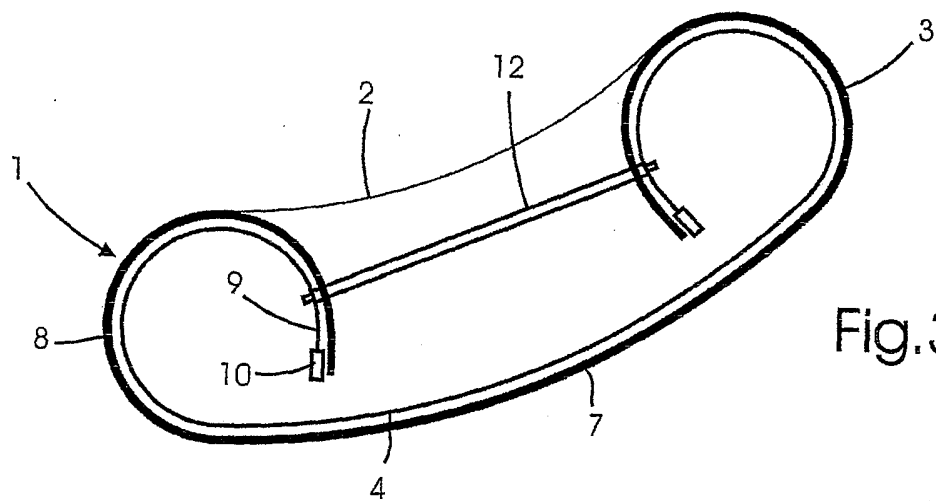


Fig. 3

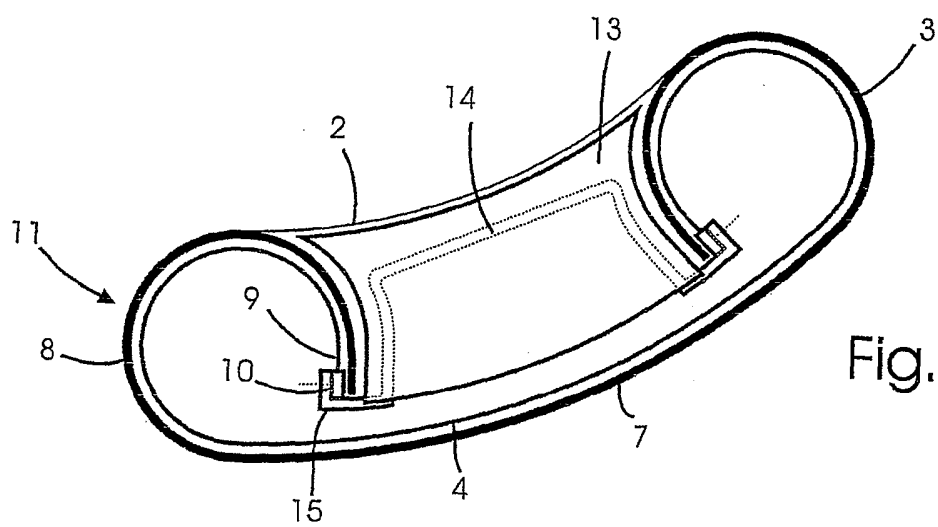


Fig. 4