(19) DANMARK

(10) **DK/EP 4341516 T3**

Patent- og Varemærkestyrelsen

(12) Oversættelse af europæisk patentskrift

(51) Int.Cl.: ***E 04 H 4/08 (2006.01)*** ***B 65 D 88/34 (2006.01)*** ***E 04 H 4/10 (2006.01)***

(45) Oversættelsen bekendtgjort den: **2025-05-19**

(80) Dato for Den Europæiske Patentmyndigheds bekendtgørelse om meddelelse af patentet: **2025-02-12**

(86) Europæisk ansøgning nr.: **22724405.0**

(86) Europæisk indleveringsdag: **2022-05-13**

(87) Den europæiske ansøgnings publiceringsdag: **2024-03-27**

(86) International ansøgning nr.: **AT2022060168**

(87) Internationalt publikationsnr.: **WO2022241492**

(30) Prioritet: **2021-05-20 AT 503992021**

(84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**

(73) Patenthaver: **Hof, Georg, Uferstrasse 25, 3011 Purkersdorf, Østrig**

(72) Opfinder: **Hof, Georg, Uferstrasse 25, 3011 Purkersdorf, Østrig**

(74) Fuldmægtig i Danmark: **Patrade A/S, Ceresbyen 75, 6., 8000 Århus C, Danmark**

(54) Benævnelse: **AFDÆKNINGSANORDNING**

(56) Fremdragne publikationer:
CH-A5- 580 733
DE-U1- 8 212 252
DE-U1- 8 429 962
GB-A- 2 253 184
US-A1- 2017 198 486

Covering device

The invention relates to a covering device for liquid containers, in particular for swimming pools, which protects the container against heat loss, vapour loss, as well as the ingress of foreign objects or contamination.

Covering devices of this type are known and are configured to assume a compact configuration when not in use. The prior art describes covering devices that can be rolled up or folded to achieve the compact form. Covering devices are also known which are designed as a roofed structure spaced above the liquid surface and which can be telescoped into one another when not in use.

Such roofed structures for swimming pools are typically substantially vapour-tight, but in contrast to the rollable or foldable solutions, they are bulky. Moreover, the vapour space formed between the liquid surface and the roofed structure often results in significant heat loss. Film-type covering devices take up less space and can be placed directly on the water surface, thereby preventing evapourative heat loss. However, to be compactly storable, they are typically rather thin and therefore generally provide poor thermal insulation properties.
Lamella-type covering devices are also known. These offer a greater thickness of insulating material and may be rolled up, but they are not configured to be vapour-tight due to their articulated connecting elements, which again results in heat loss.

Disadvantages of known structures therefore include at least that the thermal insulation properties are inadequate or that they may not take up a compact configuration when not in use.

CH 580 733 A5 and DE 84 29 962 U1 show pool covers. GB 2 253 184 A shows a weather protection cover for buildings.

It is an object of the invention to overcome this conflict and to provide a covering device which offers good thermal insulation properties while also being simple and compact to store.

According to the invention, these and other objects of the invention are achieved by a device according to the independent claim.

According to the invention, a covering device comprises a carrier layer and an insulating layer, wherein the covering device is flexible and can be brought from a rolled-up state into a flat state for covering the liquid container. The carrier layer and the insulating layer extend along a main extension plane of the covering device in the flat state. According to the invention, the insulating layer comprises a plurality of transverse slits which, in the flat state, extend substantially parallel to one another and orthogonally to the main extension plane. The term "parallel" also includes curved transverse slits that have the same curvature.

The insulating layer is divided by the transverse slits into a plurality of insulating layer segments. The insulating layer segments are preferably of substantially equal size. The main extension plane of the covering device is to be understood as any plane parallel to the plane spanned by the length and width of the covering device in space.

Orthogonal to the main extension plane is the thickness direction, in which the thickness of the a layer extends. In one specific embodiment, the geometrical shape of the unrolled layer can be understood as a flat cuboid, wherein the thickness is a small fraction of the length and width of the cuboid. The thickness direction, longitudinal direction and width direction form an orthogonal coordinate system in three-dimensional space, wherein the covering device is preferably designed to be rolled up along the longitudinal direction and the transverse slits preferably run in the width direction.

The design according to the invention ensures that the covering device has a good thermal insulation effect in the flat state, since the insulating layer segments are only slightly apart in this state or are even in direct contact with each other. At the same time, the covering device can easily be brought into the compact rolled-up state, as in this state the transverse slits, which reduce the bending stiffness of the covering device, allow the covering device to be curved. In addition, the insulating layer segments in contact in the flat state lead to an increased bending stiffness of the covering device with regard to an inner curvature.

Optionally, transverse slit surfaces are formed by the transverse slits, wherein the transverse slit surfaces of adjacent insulating layer segments run substantially parallel to each other in the flat state and are preferably in direct contact with each other. In the rolled-up state, the transverse slit surfaces are spaced apart and do not run parallel. As a result, the necessary flexibility is achieved in order to achieve the respective configurations with little effort by the user. Optionally, the transverse slits have a depth that is less than or equal to the thickness of the insulating layer. As a result, design-critical notch stress in the carrier layer is avoided.

Optionally, the carrier layer and insulating layer are formed integrally from a common material. Alternatively, the carrier layer and the insulating layer may also be formed from different materials.

The carrier layer and insulating layer may be connected to each other over their surfaces, wherein preferably the insulating layer segments are formed as separate insulation elements arranged on the carrier layer.

Optionally, the insulating layer segments are compressively prestressed in the flat state by surface pressure of the transverse slits in the main extension plane, in particular with at least 2 N/cm^2, preferably with at least 5 N/cm^2. In particular, the volume of the insulating layer segments increases with increasing temperature. For example, the insulating layer segments may be compressively prestressed in the flat state at a temperature above 20 °C, and not compressively prestressed at a lower temperature, about below 10 °C or below

0 °C. If the temperature rises, the insulating layer segments therefore automatically become prestressed and ensure an increased thermal insulation effect. This effect may already be achieved during the production of the insulating layer segments by producing the cross slits at a low temperature, about below 10 °C.

Optionally, the carrier layer is formed from a flexible polymer comprising a UV stabilizer and/or is UV-stabilized.

The insulating layer may comprise or consist of a closed-pore plastic material, such as, for example, a polyethylene foam or a chloroprene rubber. As a result, a long service life of the covering device is ensured and it is achieved that the covering device may be configured to float on water. Furthermore, closed-pore plastic material is suitable for use in a humid, oxygen-containing environment with seasonal temperature fluctuations due to its chemically inert material properties.

Optionally, the insulating layer also has longitudinal slits in addition to the transverse slits, which divide the insulating layer segments into further segments and form a grid shape with the transverse slits. As a result, it is also possible to wrap the covering device around non-cylindrical, for example barrel-shaped, winding devices with optionally centering rolling up.

Further, it may be provided that the insulating layer has an elastic film or an elastic net covering the transverse slits, which is optionally connected to the insulating layer segments via fastening elements. Preferably, the film covers the transverse slits in a flat state and also in the rolled-up state in order to protect the transverse slits from dirt. In particular, this enables the covering device to be rolled up gently on both sides.

The invention further relates to an arrangement comprising a winding device and a covering device, wherein the winding device comprises a lateral surface for placing the covering device. In the wound-up state of the covering device, the carrier layer is in contact with the lateral surface of the winding device. As a result, the winding device may adopt a compact configuration with minimal force required.

Optionally, the winding device is designed as a substantially rotationally symmetrical, in particular cylindrical, body. As a result, the risk of creasing during winding is reduced.

Optionally, the winding device is designed as a substantially barrel-shaped body. As a result, a self-centering effect is achieved during the winding process.

Optionally, the insulating layer is in contact with the water surface when unrolled. However, the carrier layer may also be in contact with the water surface when unrolled.

The entire covering device is preferably substantially fluid-tight and optionally vapour- and/or watertight. Preferably, the carrier layer forms the water- and vapour-impermeable layer of the covering device and further serves to support the insulating layer. The insulating layer serves to reduce the heat loss of the container to be covered. The insulating layer may have a thickness of at least 1 cm, preferably 3 cm, or at least about 10 cm. Further, the thickness of the covering device may be at least 1 cm, preferably at least 3 cm, or at least 6 cm.

Both the insulating layer and the carrier layer may be formed from or comprise a plastic, in particular a hydrophobic plastic. Preferably, the covering device floats independently on water and therefore has an average density of less than 1.0 g/cm^3.
As a result, vapour formation under the covering device is prevented, which may subsequently lead to critical ice formation under the covering device at an ambient temperature of below 0 °C.

The carrier layer may comprise or consist of a flexible plastic material, such as polyethylene with or without stabilizing mesh inserts. The insulating layer segments may have a length in the direction of the main extension plane of about 3 cm to 15 cm, preferably about 5 cm or about 8 cm. As a result, a flexibility of the covering device is achieved which is suitable for swimming pools.

The carrier layer may be thinner than the insulating layer. Preferably, the carrier layer is at least 70% thinner, in particular at least 85% thinner than the insulating layer. The carrier layer thickness may, for example, be less than 2 cm, preferably less than 1 cm.

It may be provided that the transverse slits have a depth that is less than the thickness of the insulating layer or that the transverse slits have a depth that ist equal to the thickness of the insulating layer. As a result, the structurally critical locations of the transverse slit notches are positioned either in the insulating layer or at the transition surface between the carrier layer and the insulating layer. Consequently, the extent of the maximum notch root stresses is reduced. The transverse slits may be configured as incisions in the material.

It may be provided that the carrier layer and the insulating layer are formed from different materials, which are preferably bonded to each other over their surfaces, about by e.g. material bonding, positive bonding and/or force bonding. A material bonding connection is preferably made by gluing or welding, a positive bonding connection preferably by mechanical connecting elements such as screws or bolts.

Optionally, in an embodiment with different materials for the carrier layer and insulating layer, the carrier layer is formed from a material with a higher tensile strength than that of the insulating layer. As a result, two different materials may be selected for the carrier layer and the insulating layer, resulting in optimizing the fluid tightness, thermal insulation capacity and fatigue strength of the covering device.

The insulating layer segments or insulation elements are preferably rectangular or prismatic in shape. As a result, the insulating layer may be joined on the carrier layer in a flat state, and the insulation elements may be applied to the carrier layer in a prestressed manner.

The insulating layer segments are either applied to the carrier layer in a prestressed manner or at a lower temperature. Optionally, the insulating layer may also be attached to the carrier layer in a compressed form along the main extension plane.

In the former case, the prestressing leads to elastic deformation of the insulation elements. The prestressing remains in place even after joining, as the insulation elements may not repel and release in front of each other due to the connection with the carrier layer.

The elastic deformation and the limited degrees of freedom of the insulation elements lead to compressive stress in the material of the insulating layer and to surface pressures on the transverse slit surfaces. Compressive stress and surface pressure optionally decrease with decreasing temperature, in particular if the thermal expansion coefficient of the carrier layer is greater than that of the insulating layer. Surface pressure and compressive prestressing result in a wider temperature range down to below the freezing point, in which the transverse slits expand. As a result, increased heat loss is prevented at low ambient temperatures, where the insulating effect is particularly important.

In the second case, the insulating layer is applied to the carrier layer at a lower temperature than the carrier layer. After connecting the carrier layer and insulating layer, a compressive stress occurs in the insulating layer as soon as the two layers reach thermal equilibrium and the degrees of freedom of the insulating layer segments are restricted. The insulating layer segments are under compressive stress in the same way as the insulation elements in the first case.

Further, it may be provided that the covering device has at least one peripheral region where no insulating layer is provided. The peripheral region extends

within the outer contour of the covering device and extends in the longitudinal direction or in the width direction. As a result, there is at least one optionally bulging sealing lip, which is sufficiently elastic and flexible to cushion and also seal movements of the covering device in the longtitudinal direction and/or width direction towards a container edge. As a result, the vapour tightness and insulation effect may be improved in the peripheral region of the covering device. Optionally, two peripheral regions may also be provided, which extend along two opposite sides of the covering device, wherein the peripheral regions optionally run substantially orthogonal to the transverse slits.
A peripheral region that is implemented in double configuration centers the covering device on the liquid surface of the liquid container and at the same time acts as a sealing lip against the inner side of the container.

Optionally, at least one peripheral region has a sealing tape designed as a hose or cord. Alternatively, a sealing body with a sealing lip row may also be provided there. These parts may be made of rubber or comprise rubber. As a result, excellent thermal insulation capacity is also ensured in the peripheral region.

In addition, it may be provided that the heat transfer coefficient of the covering device, in particular the heat transfer coefficient of the insulating layer, is less than 5 W/m^2K, in particular less than 2 W/m^2K, preferably less than 1 W/m^2K,. The heat loss of the covered container to the environment is reduced to a minimum by a covering device or an insulating layer with the aforementioned heat transfer coefficient.

It may be provided that the width of the transverse slits in the flat state at a temperature below 10 °C is less than 500 µm, preferably less than 200 µm. The width of the transverse slits relates to the normal distance between the transverse slit surfaces. In a preferably limiting case, the width may also be zero; in this limiting case, the transverse slit surfaces are in contact with each other.

According to the invention, the covering device may be formed by providing an integrally formed starting material for a carrier layer, connecting an integrally formed starting material for an insulating layer to the carrier layer, and creating a plurality of transverse slits arranged parallel to one another by cutting into the starting material for the insulating layer, wherein the transverse slits extend substantially along the thickness direction of the starting material.

Further, the covering device may be formed by providing an integrally formed starting material for a carrier layer, connecting individual insulation elements for an insulating layer to the carrier layer, such that transverse slits running substantially parallel to one another are formed between the insulation elements.

In addition, the covering device may be formed by providing a common integrally formed starting material for a carrier layer and an insulating layer and producing a plurality of transverse slits arranged parallel to one another by cutting into the starting material, wherein the transverse slits run substantially along the thickness direction of the starting material.

According to the invention, the manufacturing method of a covering device according to the invention may comprise features of the first-mentioned and/or second-mentioned case for achieving the surface pressure at the transverse slit surfaces as well as further features of the specification.

Further features of the invention become apparent from the claims, the figures and the description of the exemplary embodiment.
In the following, the invention is explained in detail with reference to non-exclusive exemplary embodiments.

Fig. 1a - 1c show schematic sectional representation of covering devices according to the invention;
Fig. 2 shows a schematic representation of an embodiment of an arrangement according to the invention;
Fig. 3a - 3d show schematic representations of covering devices according to the invention;

Fig. 4 shows a schematic representation of an embodiment of an arrangement according to the invention;
Figs. 5a - 5b show two further schematic representations of an embodiment of an arrangement according to the invention in the wound-up and rolled-up state;
Fig. 6 shows a further exemplary embodiment of a covering device according to the invention.

Fig. 1a shows a schematic sectional view of a first embodiment of a covering device 1. A covering device 1 is illustrated in the unrolled and flat state. The carrier layer 2 is connected to the insulating layer 3 by joining, in particular by adhesive bonding. The main extension plane 7 runs along the lower side of the carrier layer 2 and spans a plane in space, which in the selected view represents a line and also the lower edge of the carrier layer 2. The path of this illustrated line of the main extension plane 7 indicates the longitudinal direction of the covering device 1.

The insulating layer 3 is divided into insulating layer segments 8. In the illustrated embodiment, the depth of the transverse slits 4 substantially corresponds to the thickness of the insulating layer 3. In this embodiment, the insulating layer segments 8 are formed by individual insulation elements. Transverse slits 4 are provided between the insulating layer segments 8.
The width of the illustrated transverse slits 4 is zero, such that the two transverse slit surfaces 9 of a transverse slit 4 are adjacent to each other. In other embodiments not illustrated, this width may also be greater than zero.

In this schematic representation, the thickness of the carrier layer 2 is substantially smaller than the thickness of the insulating layer 3. The thickness of the carrier layer and the thickness of the insulating layer are not illustrated to scale in the embodiment shown in Fig. 1a. In particular, the carrier layer 2 is configured as a film and the insulating layer 3 is formed from individual insulating layer segments 8 made of closed-pore plastic. The material of the covering device 1 is weather-resistant and inert in an oxygen-containing environment.

The insulation elements were bonded to the carrier layer 2 in a pre-stressed manner or at a low temperature, as a result of which there is a positive compressive stress in the insulation elements at an ambient temperature of 25 °C in the flat state and thus a positive surface pressure on the transverse slit surfaces 9 of the transverse slits 4. As the ambient temperature drops, the compressive stress optionally decreases, but a small positive surface pressure remains at least up to a lower limit of the ambient temperature of 0 °C. As a result, the transverse slits do not open substantially as the temperature drops to 0 °C.

Fig. 1b shows a schematic sectional view of a second embodiment of a possible covering device 1. In contrast to the embodiment of Fig. 1a, the depth of the transverse slits 4 is less than the thickness of the insulating layer 3. The insulating layer 3 is integrally formed and divided into insulating layer segments 8 by transverse slits 4. The insulating layer 3 is connected to the carrier layer 2 by means of adhesive.

Fig. 1c shows a schematic sectional view of a third embodiment of a covering device 1. The entire covering device 1 consisting of carrier layer 2 and insulating layer 3 integrally formed. The transverse slits 4 and insulating layer segments 8 are formed according to the embodiment shown in Fig. 1b.

Fig. 2 shows a schematic representation of an embodiment of an arrangement of a covering device 1 on a winding device 5 according to the invention. The winding device 5 has a lateral surface 6 which is in contact with the carrier layer 2.

In the illustrated embodiment, the winding device 5 is a cylindrical body which is set in rotation in order to wind up the covering device 1. When a covering device 1 is arranged on the winding device 5, the insulating layer segments 8 are spread open and the transverse slits 4 form wedge-shaped openings.

Fig. 3a shows a schematic representation of the covering device 1 according to the invention from Fig. 1a in a swimming pool containing water. The carrier layer 2 in in direct contact with the water surface of the swimming pool, wherein the water surface is surrounded by a pool edge 11. The water surface extends about parallel to the main extension plane 7 of the covering device 1.

Further, the covering device 1 has a peripheral region 10 at which only the carrier layer 2 is provided. The peripheral region 10 seals the water surface against the pool edge 11. When the peripheral region 10 comes into contact with the pool edge 11, the peripheral region 10 bulges up and forms a sealing lip, which reduces the heat dissipation at the peripheral regions 10 of the covering device 1.

Fig. 3b shows a schematic representation of the covering device 1 according to the invention from Fig. 1a in a swimming pool containing water. In the illustrated embodiment, the insulating layer 3 is in direct contact with the water surface, wherein the water surface is surrounded by a pool edge 11.

Further, the covering device 1 has a peripheral region 10 at which no insulating layer 3 is provided. The peripheral region 10 seals the water surface against the pool edge 11. When the peripheral region 10 comes into contact with the pool edge 11, the peripheral region 10 bulges down and forms a sealing lip, which reduces the heat dissipation at the peripheral regions 10 of the covering device 1.

Fig. 3c shows a schematic representation of the covering device 1 according to the invention from Fig. 1a in a swimming pool. Here, the water surface between the peripheral region 10 and the pool edge 11 is sealed by a sealing tape 13.
In the embodiment shown, the sealing tape 13 is configured as a rubber hose with a slit. The hose is slipped over the peripheral region 10 of the carrier layer 2. In other embodiments, the sealing tape 13 does not have a slit but is connected to the peripheral region 10 on its outer side.

Fig. 3d shows a schematic representation of the covering device 1 according to the invention from Fig. 1a in a swimming pool. Here, the water surface between peripheral region 10 and pool edge 11 is sealed with a sealing lip row 15 of a sealing body 14. The sealing body 14 is made of rubber and is connected to the peripheral region 10 or to the sealing lip.

Fig. 4 shows a further schematic representation of an embodiment of an inventive arrangement of a covering device 1 on a winding device 5. The carrier layer 2 and insulating layer 3 are configured in the illustrated arrangement according to Fig. 1a. The winding device 5 has a lateral surface 6 which is in contact with the lower side of the carrier layer 2.

The winding device 5 is a cylindrical body that winds up the covering device 1 when it rotates about the axis of rotation D. When a covering device 1 is arranged on the winding device 5, the insulating layer segments 8 gape apart and the transverse slits 4 form wedges. The covering device 1 spirals around the winding device 5 until the entire length of the covering device 1 wraps around the winding device 5. As a result, a compact configuration is achieved.

In an embodiment not illustrated, the winding device 5 is designed as a hollow cylinder or as a non-cylindrical body, for example as a cuboid or hollow parallelepiped.

Fig. 5a shows a further schematic representation of an embodiment of an inventive arrangement of a covering device 1 on a winding device 5 in the rolled-up state.
The winding device 5 is designed to be barrel-shaped. The transverse slits 4 of the covering device 1 are not visible and extend substantially at right angles to the illustrated longitudinal slits 12. Transverse slits 4 and longitudinal slits 12 form a rectangular grid. The longitudinal slits 12 extend through the entire insulating layer 3. Upon rolling up, the covering device 1 centers itself on the winding device 5, as it rotates around the axis of rotation D, due to the barrel-shaped design of the winding device 5.

Fig. 5b shows a schematic top view of an embodiment of an inventive arrangement of a covering device 1 on a winding device 5 in a flat state. Transverse slits 4 and longitudinal slits 12 cross each other and form a substantially rectangular grid.

Fig. 6 shows a further exemplary embodiment of a covering device according to the invention. In this embodiment, an elastic film 16 or an elastic net covering the transverse slits 4 is provided, which is connected to the insulating layer segments 8 via fastening elements 17. The fastening elements 17 are, for example, nails or pins and are preferably arranged centrally on the surface of the insulating layer segments 8 in order to achieve maximum elongation of the film 16 over the transverse slits 4. The film 16 covers the transverse slits 4 in the illustrated rolled-up state in order to protect them from dirt and mechanical damage. The film 16 is weather-resistant and may therefore also be used on the side facing away from the water surface. This embodiment facilitates rolling up and unrolling on both contact sides, such that either the insulating layer 3 or the carrier layer 2 may lie on the water surface.

List of reference numbers

1	Covering device
2	Carrier layer
3	Insulating layer
4	Transverse slit
5	Winding device
6	Lateral surface
7	Main extension plane
8	Insulating layer segments
9	Transverse slit surfaces
10	Peripheral region
11	Pool edge
12	Longitudinal slit
13	sealing tape
14	Sealing body
15	Sealing lip row
16	Film
17	Fastening elements

Patentkrav

1. Afdækningsanordning (1) til væskecontainere, særligt til swimmingpools, omfattende et bærelag (2) og et isolationslag (3), hvor afdækningsanordningen (1) er fleksibel og til afdækning af væskecontaineren kan bringes fra en oprullet tilstand til en plan tilstand, og hvor bærelaget (2) og isolationslaget (3) i plan tilstand strækker sig langs et hovedudstrækningsniveau (7) af afdækningsanordningen (1), kendetegnet ved, at isolationslaget (3) har en flerhed af tværslidser (4), som i plan tilstand i det væsentlige forløber parallelt med hinanden og ortogonalt til hovedudstrækningsniveauet (7), sådan at isolationslaget (3) via tværslidserne (4) er opdelt i en flerhed af isolationslagssegmenter (8), foretrukket i det væsentlige af samme størrelse.

2. Afdækningsanordning (1) ifølge krav 1, kendetegnet ved, at der via tværslidserne (4) dannes tværslidsflader (9), hvor tværslidsfladerne (9) af naboliggende isolationslagssegmenter (8) i plan tilstand i det væsentlige er parallelle med hinanden og foretrukket er i direkte kontakt med hinanden, og i oprullet tilstand ikke er parallelle med hinanden og foretrukket har afstand til hinanden, og/eller
at tværslidserne (4) har en dybde, som er mindre end eller lig med tykkelsen af isolationslaget (3).

3. Afdækningsanordning (1) ifølge et af kravene 1 til 2, kendetegnet ved, at bærelaget (2) og isolationslaget (3) er udformet integreret af et fælles materiale.

4. Afdækningsanordning (1) ifølge et af kravene 1 til 2, kendetegnet ved, at bærelaget (2) og isolationslaget (3) er udformet af forskellige materialer, som er forbundet med hinanden, foretrukket over hele fladen, hvor isolationslagssegmenterne (8) foretrukket er udformet som separate isolationselementer, anbragt på bærelaget (2).

5. Afdækningsanordning (1) ifølge krav 1 til 4, kendetegnet ved, at isolationslagssegmenterne (8) i plan tilstand er tryksammensat med hinanden ved hjælp af fladepresning af tværslidserne (4) i hovedudstrækningsniveauet (7), særligt med mindst 2 N/cm^2, foretrukket med mindst 5 N/cm^2, særligt at isolationslagssegmenterne (8) i plan tilstand er tryksammensat ved en temperatur over 20°C og ikke er tryksammensat ved en temperatur på under 10°C.

6. Afdækningsanordning (1) ifølge et af kravene 1 til 5, kendetegnet ved, at afdækningsanordningen (1) har i det mindste et kantområde (10), i hvilket der ikke er tilvejebragt et isolationslag (3), eller at der er tilvejebragt to kantområder (10), som strækker sig langs to modsatliggende sider af afdækningsanordningen (1), hvor kantområderne (10) i givet fald i det væsentlige forløber ortogonalt til tværslidserne (4).

7. Afdækningsanordning (1) ifølge et af kravene 1 til 6, kendetegnet ved, at i det mindste et kantområde (10) har et tætningsbånd (13), udformet som slange eller snor, særligt af gummi, eller et tætningslegeme (14) forsynet med en række af tætningslæber (15), særligt af gummi.

8. Afdækningsanordning (1) ifølge et af kravene 1 til 7, kendetegnet ved, at bærelaget (2) er udformet af en fleksibel polymer, som omfatter en UV-stabilisator, og/eller er UV-stabiliseret, og/eller at isolationslaget (3) omfatter et plastmateriale med lukkede porer eller består heraf, eksempelvis et polyethylen-skumstof eller en chloroprengummi.

9. Afdækningsanordning (1) ifølge et af kravene 1 til 8, kendetegnet ved, at isolationslaget (3) har længdeslidser (12), som foretrukket strækker sig i det væsentlige ortogonalt til tværslidserne (4), og deler isolationslagssegmenterne (8) i yderligere segmenter.

10. Afdækningsanordning (1) ifølge et af kravene 1 til 9, kendetegnet ved, at isolationslaget (3) har en elastisk folie (16), der dækker tværslidserne (4), hvilken folie i givet fald er forbundet med isolationslagssegmenterne (8) via fastgørelsesmekanismer (17).

11. Indretning, omfattende en afdækningsanordning (1) ifølge et af kravene 1 til 10 og en opviklingsanordning (5), hvor opviklingsanordningen (5) omfatter en kappeflade (6) til kontakt med afdækningsanordningen (1), hvor bærelaget (2) i opviklet tilstand af afdækningsanordningen (1) er i kontakt med opviklingsanordningens (5) kappeflade (6).

12. Indretning ifølge krav 11, kendetegnet ved, at opviklingsanordningen (5) er udformet som et i det væsentlige rotationssymmetrisk, særligt cylindrisk, legeme.

13. Indretning ifølge krav 11, kendetegnet ved, at opviklingsanordningen (5) er udformet som et i det væsentlige tøndeformet legeme.

14. Indretning ifølge et af kravene 11 til 13, kendetegnet ved, at afdækningsanordningen (1) er anbragt sådan på opviklingsanordningen (5), at isolationslaget (3) i udrullet tilstand af afdækningsanordningen (1) er i kontakt med overfladen af mediet, der befinder sig i væskecontaineren.

15. Indretning ifølge et af kravene 11 til 13, kendetegnet ved, at afdækningsanordningen (1) er anbragt sådan på opviklingsanordningen (5), at bærelaget (2) i udrullet tilstand af afdækningsanordningen (1) er i kontakt med overfladen af mediet, der befinder sig i væskecontaineren.

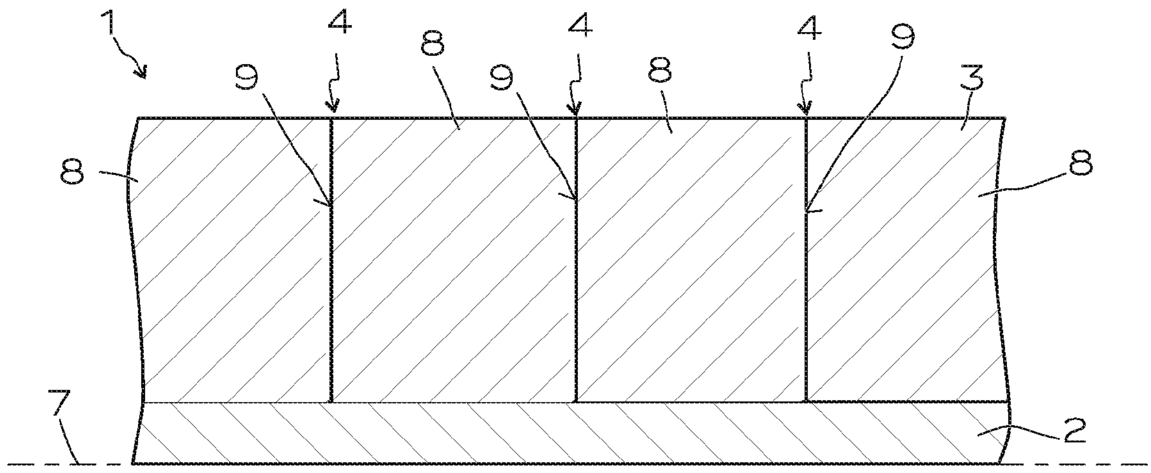

Fig. 1a

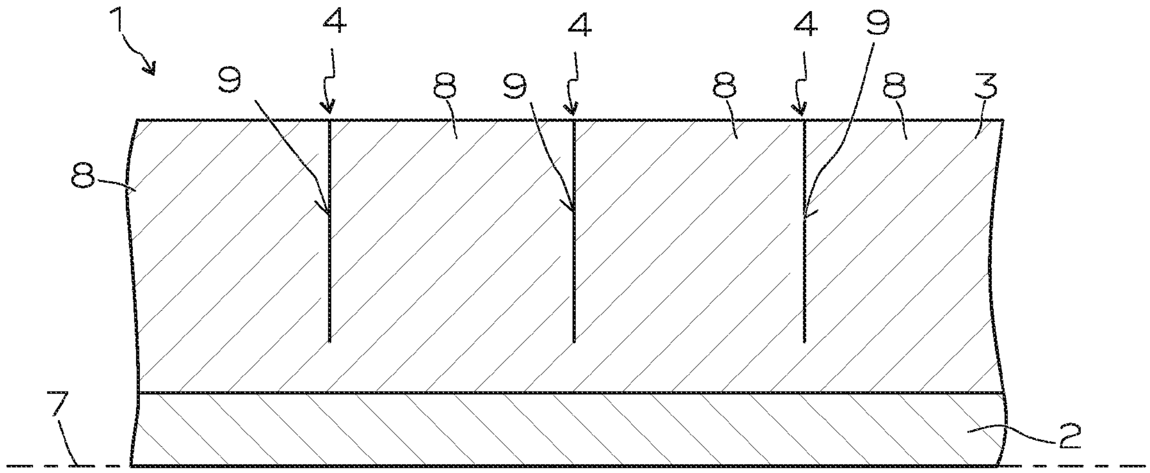

Fig. 1b

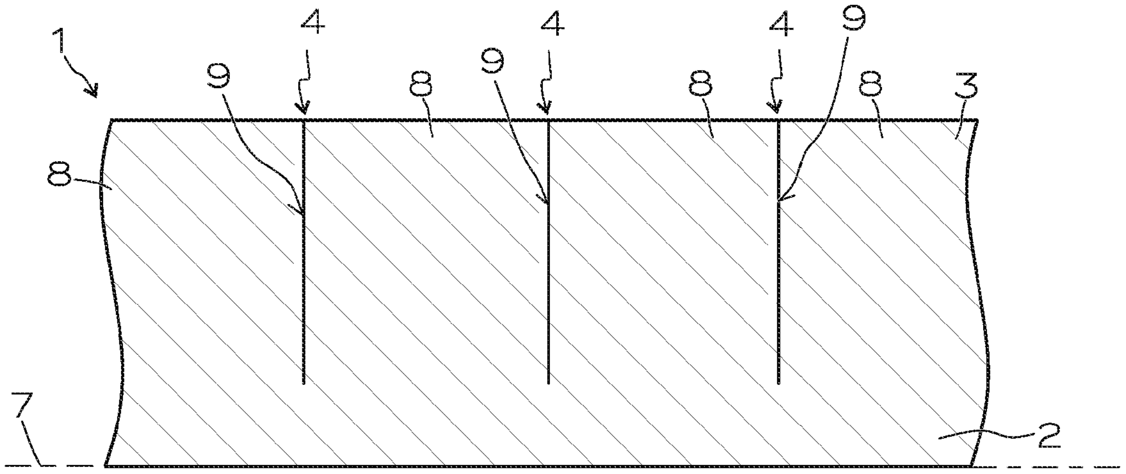

Fig. 1c

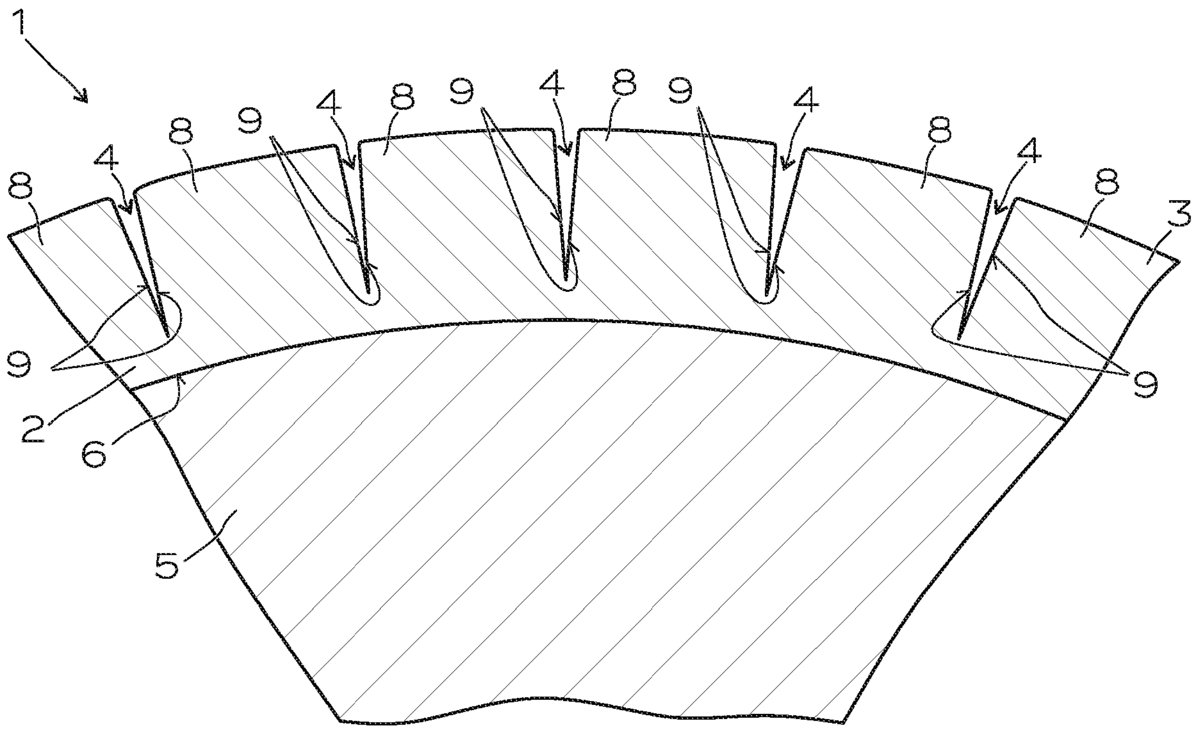

Fig. 2

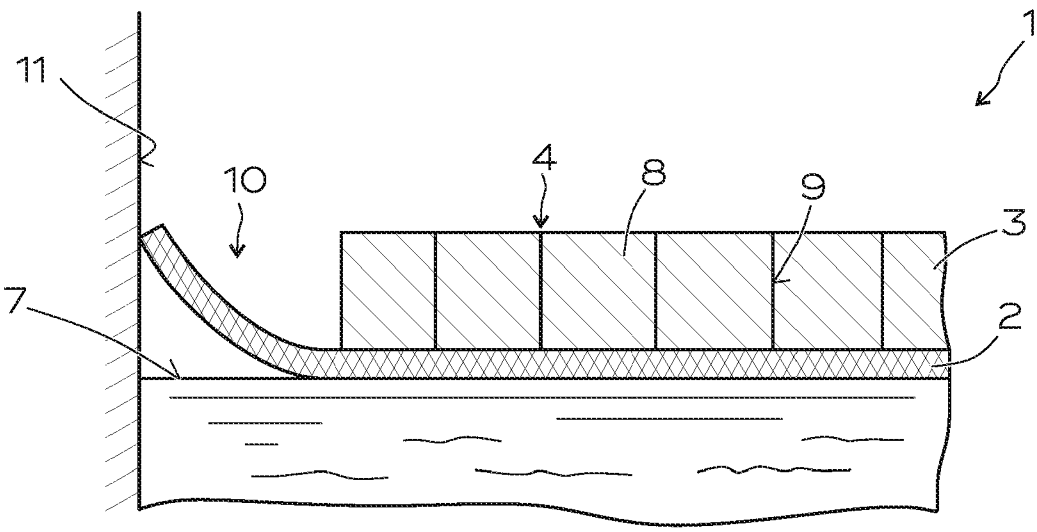

Fig. 3a

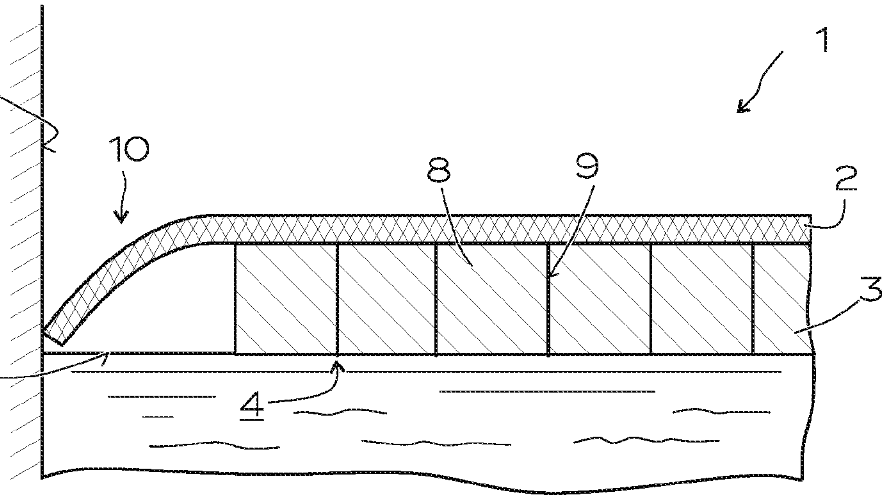

Fig. 3b

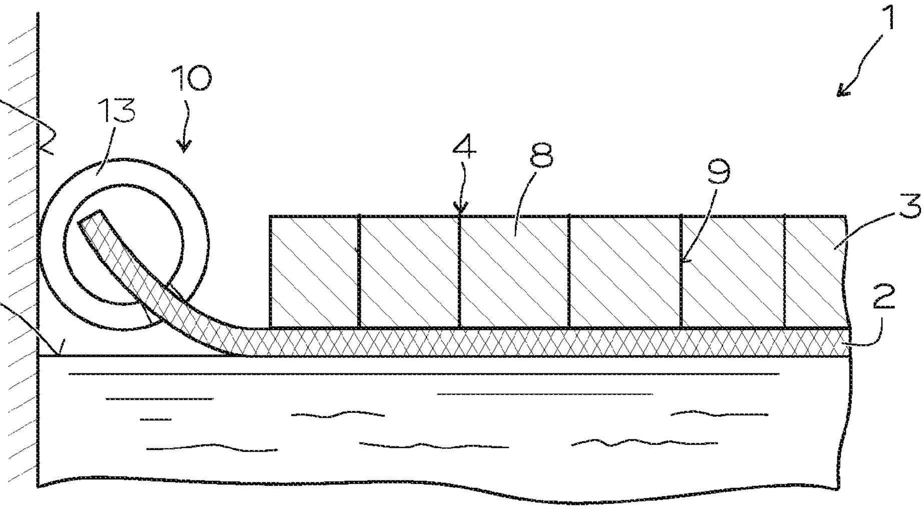

Fig. 3c

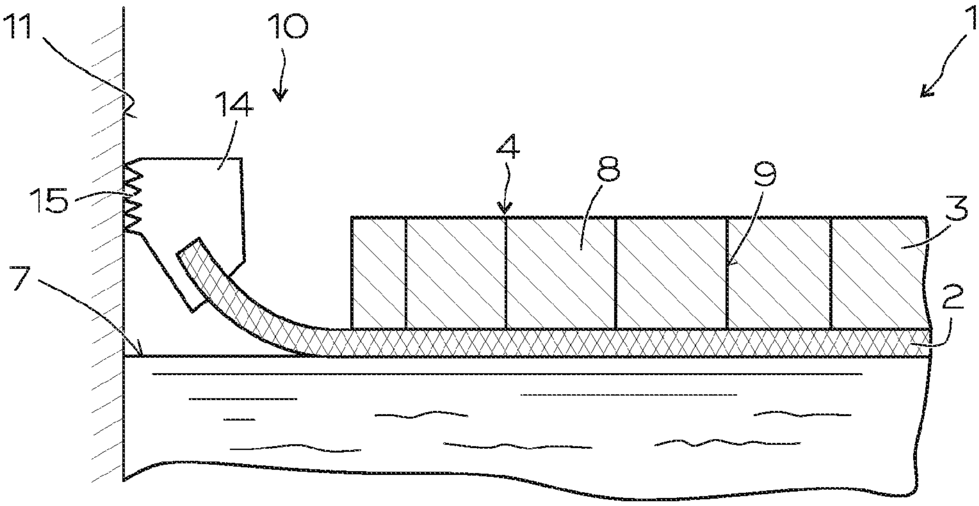

Fig. 3d

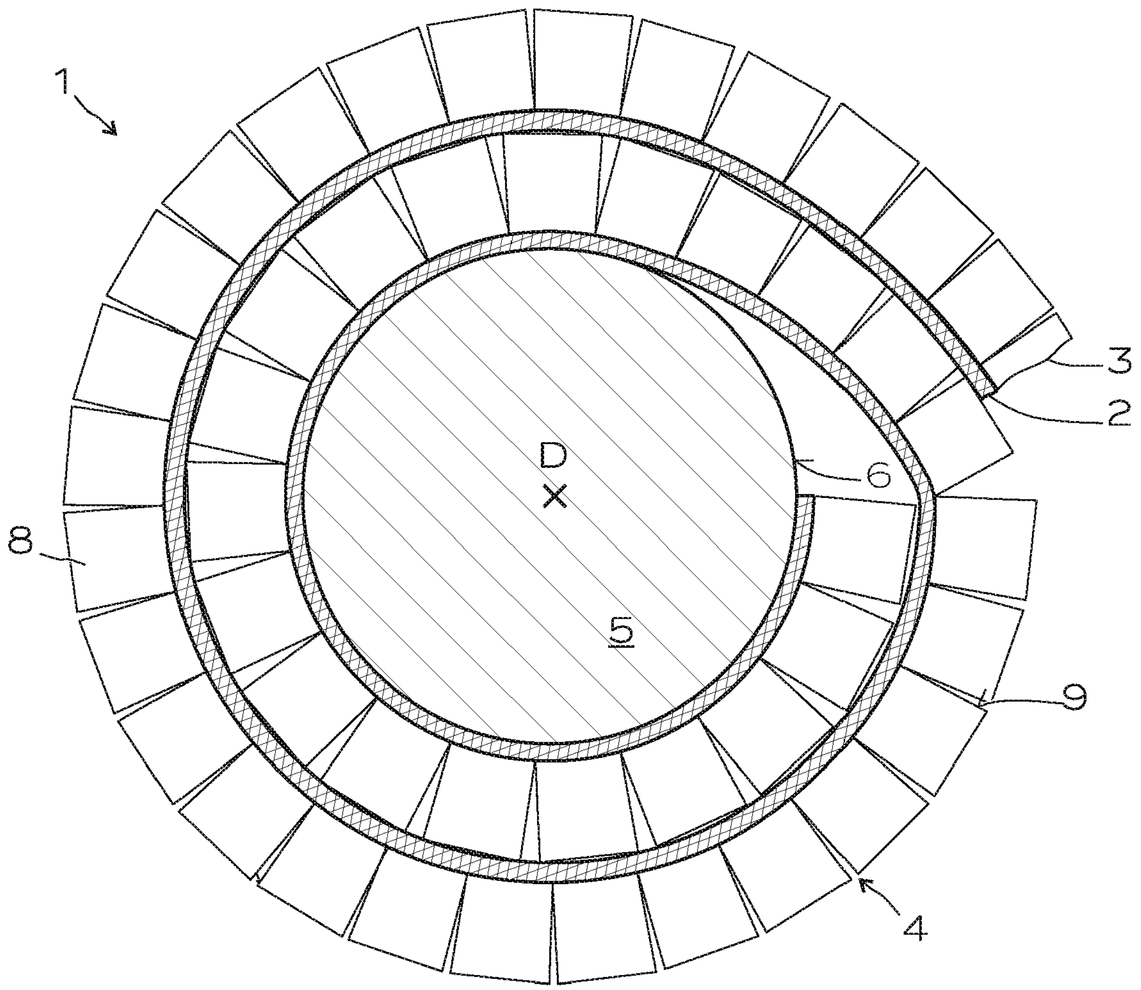

Fig. 4

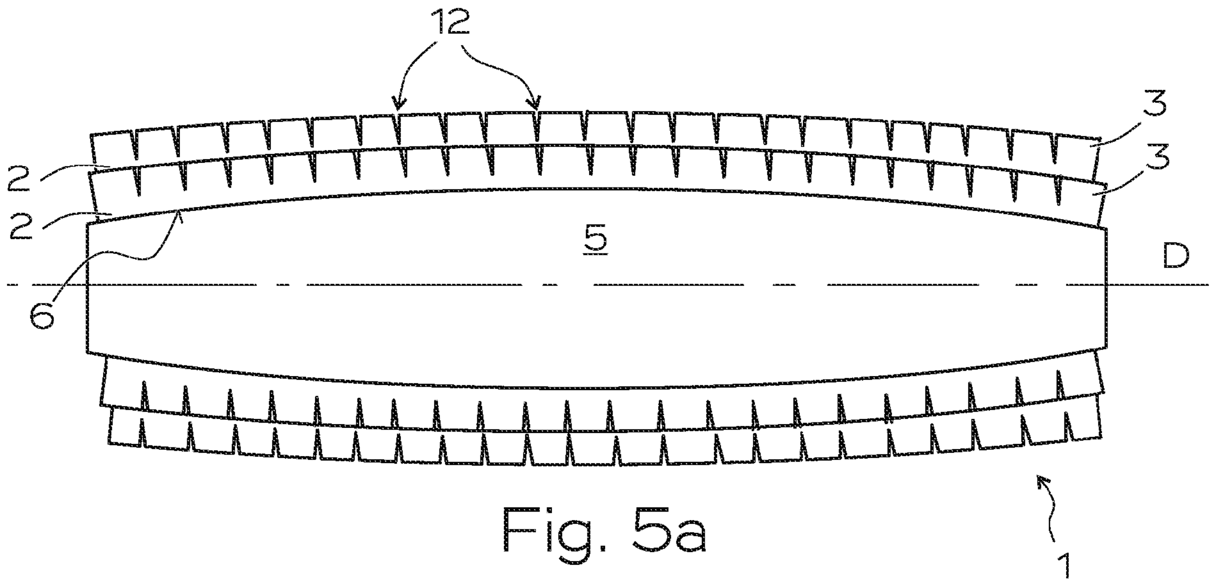

Fig. 5a

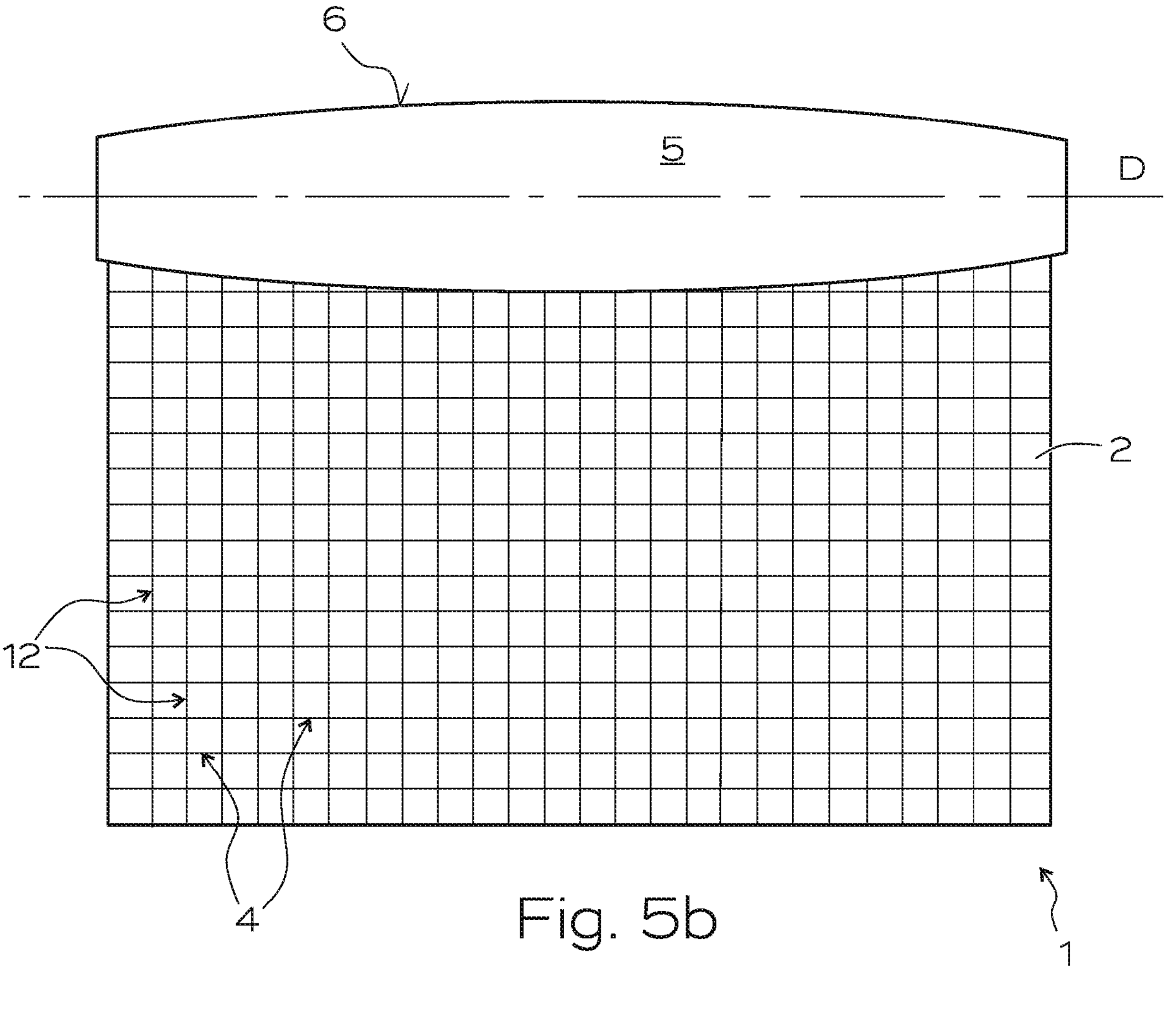

Fig. 5b

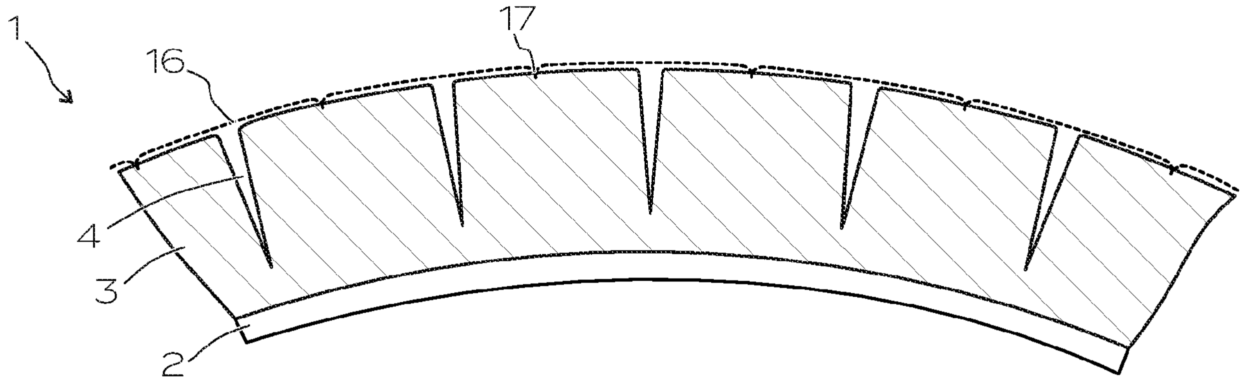

Fig. 6