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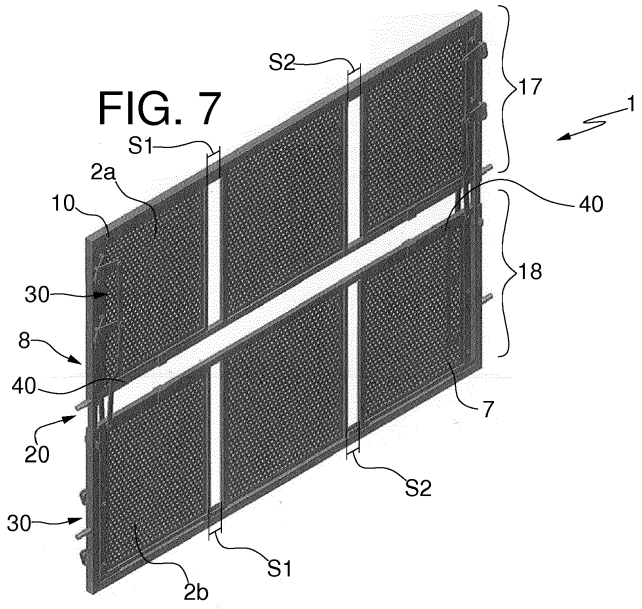
(54) FRAME FOR DRYING SKINS

(57) Frame (1, 100, 200) for the attachment of animal skins for a drying plant or a chamber for the skins themselves, wherein the frame (1, 100, 200) comprises a perimeter framework (10, 110, 210), at least one panel (2, 2a, 2b, 102, 102a, 102b, 202), a portion that is upper during use (17, 117) and a portion that is lower during use (18, 118), wherein the upper portion (17, 117) comprises at least one first panel (2a, 102, 102a, 202) and/or the lower portion (18, 118) comprises at least one second panel (2b, 102, 102b, 202), wherein the at least one first panel (2a, 102, 102a, 202) is separable and/or moveable away from the portion that is lower during use (18, 118) and/or from the at least one second panel (2b, 102, 102b, 202) along a first direction or direction that is vertical during use for a distance (D), wherein the frame (1) comprises movement means (30, 300) adapted to move the at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) along a second direction or direction that is longitudinal or horizontal during use of the frame (1, 100, 200) for a displacement (S), so as to widen the extension of the skin during use fixed on the frame (1, 100, 200) along the first direction and along the second direction in the passage for the frame (1, 100, 200) from a first operating position to a second operating position.

FIG. 7



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Description

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention refers to a frame for drying skins, in particular a frame capable of extending skins applied thereto in an improved manner.

STATE OF THE PRIOR ART

[0002] Tanning is a long and complex process, during which the skins of the animals undergo numerous physical and chemical treatments, in order for the skin to become imputrescible.

[0003] Such process provides for various steps that use water, according to a series of so-called "moist" operations, at the end of which the skins are wet and must be dried so to be able to undergo further treatments until it is obtained a finished product and useable as is or further treated by many different industries.

[0004] The drying process can occur in various ways, e.g. by suspending and/or hanging the skins from suitable frames, possibly by means of the use of suitable attachment grippers, and then passing such frames in a tunnel or in a chamber in which hot air circulates at controlled temperature and humidity.

[0005] In particular, such frames have two faces, on which one or more skins are applied.

[0006] Since the frames are made of a metal material provided with holes, the skins are fixed on the faces of the frame by means of suitable fixing grippers, which in addition to having one end able to fix a flap or edge of the skin, are also equipped, at the other end for example, with a pin that allows the fixing of the grippers in the holes provided in the frame itself.

[0007] During this step, which can occur manually, the skins are extended in a manner so as to have no overlapping portions. In addition, they undergo a first light tightening.

[0008] Another method for drying the skins is termed "vacuum drying", in which the skins, possibly fixed as stated above, are inserted in a chamber in which a depression is created to facilitate the evaporation of the water and the consequent suction of the produced vapor.

[0009] Another type of drying occurs by means of microwaves.

[0010] Beyond that on economic factors, the selection of the drying system depends also on the type of skin and on its use destination.

[0011] Once dried, the skin is subjected to further finishing treatments, up to obtaining a product ready-for-use or to be washed in order to attain a finished product.

[0012] During the drying step, the skin - which is an elastic material - must be tightened in a manner such to increase its surface area. In such a manner, a more uniform thickness of the skin is obtained, along with a more efficient drying and a greater extension of the skin, thus rendering the product of higher quality and/or more profitable for the subsequent working operations.

[0013] The object of the present invention, therefore, is to provide a frame for drying the skins that is improved with respect to the frames used up to now and which confers improved results.

[0014] The frame according to the present invention therefore allows overcoming the drawbacks of the prior art.

OBJECTS OF THE INVENTION

[0015] One object of the present invention is to improve the state of the prior art.

[0016] A further object of the present invention is to provide a frame capable of tightening or extending the skin applied thereto along (at least) two directions.

[0017] A further object of the present invention is to provide a frame capable of tightening or extending skin applied thereto in an effective and simple manner.

[0018] A further object of the present invention is to provide a frame which is substantially simple to attain and of ready use, in a manner so as to obtain a skin with greater extension and uniform.

[0019] In accordance with one aspect of the present invention, a frame according to claim 1 is provided.

[0020] The dependent claims refer to preferred and advantageous embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] The characteristics of the invention will be better understood by any man skilled in the art from the following description and from the enclosed drawing tables, given as a nonlimiting example, in which:

figure 1 illustrates a perspective view of a frame for drying at least one skin according to the present invention, according to a first operating position,
figure 2 illustrates a front view of the frame of figure 1,
figure 3 illustrates an enlarged detail of the upper right corner of the frame of figure 2,
figure 4 illustrates an enlarged detail of the lower right corner of the frame of figure 2,
figure 5 illustrates a side view of the frame pursuant to the preceding figures,
figure 6 illustrates an enlarged detail of the central part of the frame of figure 5,
figure 7 illustrates a perspective view of a frame for drying at least one skin according to the present invention, according to a second operating position,
figure 8 illustrates a front view of the frame of figure 7,
figure 9 illustrates an enlarged detail of the upper right corner of the frame of figure 8,
figure 10 illustrates an enlarged detail of the lower right corner of the frame of figure 8,
figure 11 illustrates a side view of the frame pursuant to the preceding figures,
figure 12 illustrates an enlarged detail of the central

part of the frame of figure 11,
figure 13 illustrates a perspective view of a frame for drying at least one skin according to the present invention, according to a second operating position,
figure 14 illustrates a side view of the frame pursuant to figure 13,
figure 15 illustrates an enlarged detail of the upper part of the frame of figure 14,
figure 16 illustrates an enlarged detail of the upper right corner of the frame of figure 13,
figure 17 illustrates a front view of a further version of a frame for drying at least one skin according to the present invention, according to a first operating position,
figure 18 illustrates a front view of the frame of figure 17, according to an intermediate operating position,
figure 18A illustrates an enlarged detail of the upper right corner of the frame of figure 18,
figure 19 illustrates a front view of the frame of figure 17, according to a second operating position,
figure 19A illustrates an enlarged detail of the upper right corner of the frame of figure 19,
figure 20 illustrates a front view of a further version of a frame for drying at least one skin according to the present invention, according to a first operating position,
figure 20A illustrates an enlarged detail of the upper right corner of the frame of figure 20,
figure 21 illustrates a front view of the frame of figure 20, according to a second operating position,
figure 21A illustrates an enlarged detail of the upper right corner of the frame of figure 21.

EMBODIMENTS OF THE INVENTION

[0022] The present invention refers to a frame, overall indicated with 1 in the enclosed figures, for the attachment of animal skins for a drying plant or chamber for the skins themselves.

[0023] By animal skins it is intended, usually but not exclusively, the skins/hides of cows, sheep, goats, pigs, horses, fish, reptiles and more rarely kangaroo, deer and ostrich. The frame 1 according to the present invention has two larger faces, from each of these at least one animal skin can be suspended and/or hung.

[0024] Such larger faces are a front face 7 and a rear face 8.

[0025] During a first operating embodiment, the frame 1 is positioned in a horizontal manner, so as to have its larger faces 7, 8 arranged in a manner parallel to the ground, and one or more skins are set and applied on such faces. The frame 1 can then be moved (e.g. it can be rotated around an axis thereof, possibly median) and positioned according to a vertical position, in which its larger faces 7, 8 are arranged in a manner perpendicular to the ground; in such position, the frame 1 is then sent along a movement line within the drying plant or chamber, in a manner such that the skin or skins applied thereto can be duly dried.

[0026] Inside the drying plant or chamber, in fact, the skins lose the water contained therein and are thus subjected to a drying process, e.g. drying by means of hot air or other methods such as vacuum, microwaves, etcetera.

[0027] Before starting the drying process, the skin can undergo a tightening, since the frame - usually divided into an upper part and a lower part separable from each other - moves its upper part (in a relative manner) away from the lower part by a specific section.

[0028] The frame 1 according to the present invention can be made of a metal sheet material, capable of withstanding the conditions of temperature and/or pressure and/or microwaves present within the drying plant or chamber.

[0029] The frame 1 can also be made with a net material, possibly metallic, and takes on the conformation of a substantially flat sheet.

[0030] The frame 1 comprises a series of metal sections which, as better explained hereinbelow, contribute to determining the structure and/or the conformation of the frame itself.

[0031] In addition, the frame 1 has a series of through holes 12, perpendicular to its larger extension and/or to its larger faces 7, 8, which are present in the possible metal sheet or net which, as stated, forms the frame 1.

[0032] Such holes 12 serve both for the fixing of grippers for attaching and/or tightening the skins, and for circulating the air present in the drying plant or chamber.

[0033] The frame 1 has a surface extension much greater than its thickness W. The frame 1 therefore has a substantially polygonal conformation, e.g. square, rectangular (as is for example illustrated in the enclosed figures), triangular, rhombus-shaped or rhomboidal, circular, octagonal, etcetera.

[0034] In one version of the invention, the frame 1 has a parallelogram conformation, having the sides two-by-two parallel.

[0035] The conformation of the frame 1 substantially corresponds to the conformation of each of its larger faces 7, 8.

[0036] In particular, the frame 1 has two first sides or heights 3, 4 and two second sides or widths 5, 6. Each first side or height 3, 4 is alternated with each second side or width 5, 6.

[0037] According to the present description, with horizontal or horizontal direction it is intended a direction substantially parallel to the ground or which goes from right to left, while with vertical or vertical direction it is intended a direction which goes from bottom to top, substantially perpendicular to the ground.

[0038] The frame 1 has a longitudinal symmetry plane P which cuts into two substantially symmetrical parts the frame 1 and/or its larger faces 7, 8 and/or passes through the median points of the sides or heights 3, 4. The plane P is perpendicular to the larger faces 7, 8 of the frame 1 and cuts into two parts the first sides or heights 3, 4.

[0039] The frame 1 also has a longitudinal axis which is parallel to the two second sides or widths 5, 6 of the frame 1 and/or parallel to the longitudinal symmetry plane P and/or is a horizontal axis.

[0040] In particular, the second sides or widths 5,6 are situated on opposite sides with respect to the longitudinal symmetry plane P and are parallel to the longitudinal axis of the frame 1.

[0041] When the frame 1 is situated in horizontal position, i.e. with its faces 7, 8 parallel to the ground, the front face 7 is situated upward during use while the rear face 8 is situated downward during use. In such a manner, it is possible to load, on the upper face 7, a skin (or multiple skins if necessary), fixing it to the frame itself. Once the skin has been loaded, the frame 1 is rotated along a median longitudinal axis passing through the center of the frame 1 and/or through the median points of its first sides or heights 3, 4, along the longitudinal symmetry plane P and is arranged in horizontal position by placing the rear face 8 upward during use. Then, the operation of loading and fixing of the skin is repeated and, once completed, the frame 1 is rotated along the median longitudinal axis and arranged in vertical position, i.e. with its faces 7, 8 perpendicular to the ground.

[0042] The frame 1 can be moved manually around its median longitudinal axis or it can comprise suitable rotation means, e.g. mechanical, robotized or electronic rotation means.

[0043] The frame 1 comprises a perimeter framework 10. Such perimeter framework perimetrically surrounds the frame 1 and therefore is placed along all the sides of the frame 1, e.g. along its first sides 3, 4 and along its second sides 5, 6.

[0044] The perimeter framework 10 surrounds both the front face 7 and the rear face 8. Therefore, the perimeter framework 10 comprises two first sides or heights 13, 14 and two second sides or widths 15, 16.

[0045] The perimeter framework can be attained by means of a metal section bent as a C, having its concavity directed towards the center of the frame 1.

[0046] The frame 1 can pass from a first operating position, e.g. illustrated in figures 1 to 6, to a second operating position, e.g. illustrated in figures 7 to 16.

[0047] In the first operating position the frame 1, in at least one version of the invention, is in closed position while in the second operating position, the frame 1 is in open position. The frame 1 can then take on various intermediate operating positions between the first or closed position and the second or open position.

[0048] In more detail, the frame 1 can be divided, during use, into two portions, an upper portion 17 and a lower portion 18.

[0049] These two portions are better identifiable when the frame 1 is positioned in a vertical manner, as indicated above.

[0050] The upper portion 17 comprises the part that is upper during use of the front 7 and rear 8 faces while the lower portion 18 comprises the part that is lower during use of the front 7 and rear 8 faces.

[0051] According to one version of the invention, the upper portion 17 is divided and/or can be divided from the lower portion 18 at the longitudinal symmetry plane P.

[0052] Analogously, the perimeter framework 10 comprises an upper part 10a and a lower part 10b, corresponding substantially to the upper portion 17 and to the lower portion 18 of the frame 1.

[0053] Therefore, each upper part 10a and lower part 10b of the perimeter framework 10 has a substantially C-shaped conformation, in which the concavity of each C is directed upward.

[0054] The upper 10a and lower 10b parts of the perimeter framework 10 substantially correspond to the external perimeter of the upper 17 and lower 18 portions of the frame 1.

[0055] Each portion 17, 18 is formed by at least one panel 2. The at least one panel 2, in at least one version of the invention, is movable with respect to the perimeter framework 10 or to a part thereof.

[0056] In particular, the upper portion 17 comprises at least one first panel 2a and/or the lower portion 18 comprises at least one second panel 2b.

[0057] The upper portion 17 is separated and/or separable from the lower portion 18. Therefore, each at least one first panel 2a of the upper portion 17 is separated or separable from each at least one second panel 2b of the lower portion 18.

[0058] Indeed, the perimeter framework 10 can be extended at least along a first direction or direction that is vertical during use of the frame 1.

[0059] Such at least one panel 2 is formed by a flat sheet-like element, e.g. metal sheet, or net. As anticipated above, each panel is provided with a plurality of holes 12.

[0060] The frame 1 is provided with movement means 20. The portion that is upper during use 17 and/or its at least one first panel 2a is separable and/or moveable away from the portion that is lower during use 18 and/or from its at least one second panel 2b by means of the movement means 20 along a first direction or direction that is vertical during use. The movement means are thus adapted to move the frame 1 or some parts thereof along a first direction or direction that is vertical during use.

[0061] The movement means 20 allow, in the passage from the first operating position (possibly closed) to the second (possibly open) operating position of the frame 1, moving the first upper portion 17 away from the second lower portion 18. Consequently, the skin fixed on the frame 1 is extended height-wise or along a first direction or direction that is vertical during use of the frame itself.

[0062] The movement of the upper portion 17 with respect to the lower portion 18 is a relative movement.

[0063] The movement direction, vertical during use, of the upper portion 17 with respect to the lower portion 18 is parallel to the direction of the first sides or heights 3, 4 of the frame 1. Such direction is perpendicular to the longitudinal direction of the frame 1 which passes through

its longitudinal symmetry plane P.

[0064] The upper portion 17, therefore, in the first operating position, is in contact with the lower portion 18, creating a front 7 and/or rear 8 face having a substantially continuous surface, on which the skin is set and/or fixed.

[0065] In the passage towards the second operating position, as stated, the upper portion 17 is moved away from the lower portion 18 by a distance D.

[0066] The movement between upper portion 17 and lower portion 18 is a relative and reversible movement, since the frame 1 can also pass from the second operating position (open) to the first operating position (closed) if necessary or at the end of the drying process.

[0067] In one version of the invention, in the second (open) operating portion, the first sides or heights 13, 14 of the perimeter framework 10 pass from an initial size to a size larger than the initial, e.g. equal to the initial size + D. Indeed, the upper part 10a of the framework 10 is actually moved away from the lower part 10b.

[0068] Therefore, the first sides 13, 14 of the perimeter framework 10 each have at least one first upper section at the upper part 10a and at least one second lower section at the lower part 10b.

[0069] In the first operating position, the at least one upper section of each side or height 13,14 is in contact with at least one respective lower section. In the second operating position, the at least one upper section is separated from the at least one lower section by a distance D.

[0070] The movement means 20 can comprise telescopic movement means, adapted to slide within the cavity of the respective sides or heights 13, 14 of the framework 10. In particular, the movement means 20 slide within the cavity of the C-shaped sections that constitute such sides.

[0071] The movement means 20 can possibly be in the form of a piston, possibly with hydraulic or mechanical guide, capable of carrying out such reversible movement.

[0072] In a further version, not illustrated in the figures, the movement means 20 could comprise a leverage or articulated arms system, suitable for obtaining the separation of the upper portion 17 from the lower portion 18.

[0073] In substance, at least according to one version of the invention, the movement means 20 determine a lifting of the upper portion 17 during the passage to the second operating position and a lowering of the upper portion 17 in returning to the first operating position.

[0074] In addition, such movement could occur due to the weight force or to the gravity force, which lowers the lower portion 18 with respect to the upper portion 17. The latter, in such case, is constrained in a specific position, so as to not undergo the same action caused by the weight force.

[0075] Therefore the distance D between such portions 17, 18 passes from 0, when such portions are in contact, to a maximum distance D, in the operating position of maximum opening of the frame 1. The distance D can also have intermediate sizes between 0 and the maximum distance D, when the frame 1 is situated in positions of partial opening. The frame 1 according to the present invention also advantageously comprises second movement means 30.

[0076] Such second movement means 30 are adapted to move at least one panel 2a of the upper portion 17 and/or at least one panel 2b of the lower portion 18 along a second direction or horizontal longitudinal direction of the frame 1.

[0077] The second movement means 30 can comprise, in one version, a leverage or articulated arms system.

[0078] Such horizontal longitudinal direction is parallel to the second sides or widths 5, 6 of the frame 1 and/or second sides or widths 15, 16 of the perimeter framework 10.

[0079] Such during use horizontal longitudinal direction is perpendicular to the direction that is vertical during use of the frame 1.

[0080] Therefore, by means of the movement carried out by the second movement means 30, the skin fixed to the frame 1 undergoes an enlargement.

[0081] Thus, the skin fixed to the frame 1 according to the present invention undergoes an extension along two directions that are perpendicular to each other, obtaining improved results with regard to uniformity of its thickness, efficiency and rapidity of drying, and total extension obtainable at the end of the drying itself. Consequently, the skin obtained with the frame 1 according to the present invention, in addition to having greater sizes with respect to those obtainable with the same piece of skin but by means of frames and methods of known type, is also dried in a more efficient manner and provided with a thickness with greater uniformity, hence resulting in a material of higher and improved quality.

[0082] The frame 1, by means of the movement carried out by the second movement means 30, can, according to one version, be enlarged since the second sides or widths 5, 6 can pass from an initial size (first or closed operating position) to a final size greater than the initial (second or open operating position).

[0083] In addition, by means of the movement carried out by the second movement means 30, the frame can, according to a further version, be enlarged since - even if the second sides or widths 5, 6 maintain a specific size - at least one first panel is moved away from at least one second panel or from a side of the perimeter framework 10 when passing from a first or closed operating position to a second or open operating position.

[0084] Further embodiments are described hereinbelow and, even if they are referred to the upper portion 17 of the frame 1, they can be intended as valid also for the lower portion 18 of the frame 1 or for both portions 17, 18.

[0085] If the upper portion 17 has a single panel 2a, by means of the movement means 30 this can be made movable with respect to the perimeter framework 10. In such a manner, with respect to a zone considered fixed in the upper portion of the frame 1, the panel 2a slides along or on the perimeter framework 10, being longitu-

dinally or horizontally moved away or translating with respect to the fixed zone of the upper portion 17.

[0086] Since the skin is fixed both on the fixed zone of the frame 1 and on the panel 2a, when the latter is moved away from the fixed zone, the skin is extended along the same direction of movement of the panel 2a, hence it is enlarged along a second direction or horizontal longitudinal direction.

[0087] In the version in which the upper portion 17 comprises two panels 2a, one of these can be movable and adapted to translate along or on the perimeter framework 10 while the other panel can be fixed.

[0088] Alternatively, both panels 2a can be movable and translate away from each other along a second direction or horizontal longitudinal direction.

[0089] Also in this manner, one attains the enlargement of the skin which is fixed to both panels 2a.

[0090] In such a manner, the movement means 30 have a slide portion fixed to the panel 2a, and such slide portion is adapted to be moved or slide within the C-shaped cavity of the perimeter framework 10.

[0091] According to a further version of the invention, the panel 2a can be fixed and/or integral with, for example, a right section of the side or width 15 of the perimeter framework 10. In such case, it is the right section of the side or width 15 to be movable (together with the panel 2a), due to the movement means 30, with respect to a left section or to the remaining section of the side or width 15, causing a corresponding displacement of the panel 2a with respect to the left section or to the remaining section of the side or width 15 of the perimeter framework 10 and/or with respect to a second panel 2a, or vice versa.

[0092] In a further embodiment, e.g. illustrated in the enclosed figures, the upper portion 17 comprises three panels 2a, one left lateral 2a1, one right lateral 2a2 and one central 2ac. In such case, the left and right lateral panels 2a1, 2a2 can be respectively moved to the right or left with respect to the central panel 2ac.

[0093] The movement, also in this case, of the left and right lateral panels 2a1, 2a2 occurs along a second direction or horizontal longitudinal direction of the frame 1.

[0094] The central panel 2ac can be fixed or it too movable along the same direction.

[0095] The panels 2a of the upper portion 17 can also be in a number greater than two or three, and they can act in a manner entirely analogous to that indicated above.

[0096] Naturally, that described above holds true in the passage from the first (closed) operating position to the second (open) operating position of the frame 1. In the reverse passage, from the second operating position to the first, the at least one panel 2a is moved in an analogous manner but along an opposite direction, approaching a fixed zone and/or the perimeter framework 10 and/or a second panel 2a, 2a2, 2ac of the frame 1.

[0097] In the illustrated figures, the central panel 2ac is fixed.

[0098] The movable panels 2a1, 2a2 or the at least one movable panel 2a can translate in an integral manner with at least one section of the side or width 15 of the perimeter framework 10. In an alternative version, the perimeter framework 10 can have a fixed and invariable size and the at least one panel 2a, by sliding along the same, can determine the enlargement of the skin 2.

[0099] In such case, the perimeter framework 10 contains the at least one panel 2 and the space S necessary for the movement thereof.

[0100] In such case, the size of the second sides or widths 15, 16 of the perimeter framework 10 corresponds with the size of the at least one panel 2 present respectively in the upper portion 17 or in the lower portion 18 of the frame 1, and with the size of the relative lateral displacement S of the latter with respect to the perimeter framework 10.

[0101] For example, in the figures 7 and 8, the lateral displacement S is given by the sum of the displacements S1 and S2 of the two lateral panels 2a1, 2a2 with respect to the central panel 2ac (which is fixed).

[0102] In the corresponding figure 1, in which the frame 1 is in a first operating position, the panels 2a1, 2a2 are in contact with the central panel 2ac and therefore the sizes S1 and S2 are positioned between the lateral panels and the first sides or heights 13, 14 of the framework 10.

[0103] In the corresponding figure 13, instead, in which the panels 2a1, 2a2 are situated in an intermediate operating position, the sizes S1 and S2 are further divided into S1a, S1b, S2a, S2b, being situated between the lateral panels 2a1, 2a2 and the framework 10 (S1a, S2a) as well as between the lateral panels 2a1, 2a2 and the central panel 2ac (S1b, S2b). Each movable panel 2, 2a, or each lateral movable panel 2a1, 2a2 can have a perimeter framework 9 thereof made of metal section, which surrounds a greater or central portion 9a of the panel itself.

[0104] In this or in any one of the described versions, the panels 2, 2a, 2a1, 2a2, etc. can overall substantially occupy nearly all of the space inside the perimeter framework 10, in a manner so as to determine a surface with width adapted to contain the hanging skins. The greater or central portion 9a of the movable panel 2, 2a, or each lateral movable panel 2a1, 2a2 has the holes 12.

[0105] The perimeter framework 9 confers structure to the panel itself, allowing it to easily slide in the passage from a first operating portion to a second operating position.

[0106] In one version of the invention, for example considering the top right corner of the enclosed images (from which the respective details of figures 3 and 9 are taken), the second movement means 30 comprise a bar 31 and/or a plate 32.

[0107] The plate 32 is constrained to the perimeter framework 10, in particular - considering the above-indicated corner of frame 1 - to the first side or height 14.

[0108] In particular, the plate 32 is constrained to the perimeter framework 10 at at least one constraint point A.

[0109] The constraint point A is a rotating or pivoting or hinge connection point between two elements, i.e. the plate 32 and the framework 10.

[0110] The bar 31 is constrained to the lower portion 18 of the frame 1. Therefore, the bar 31 is constrained to the portion - upper or lower - of the frame 1 that is opposite to that on which it acts.

[0111] The bar 31 is constrained to the lower portion 18 of the frame 1 in a constraint point E, which can be a rotating or pivoting or hinge connection point between these two elements.

[0112] The bar 31 is also constrained to the plate 32 at at least one point B.

[0113] The constraint point B is a rotating or pivoting or hinge connection point between the two elements, i.e. the plate 32 and the bar 31.

[0114] The second movement means 30 and/or the plate 32 comprise an extension 33, of connection between the plate 32 and the panel 2, and/or the movable panel 2a and/or the lateral movable panel 2a2.

[0115] The extension 33 has at least one constraint point C with the plate 32 and at least one constraint point D with the panel 2.

[0116] The constraint points C, D can be rotating connection points between the two elements, i.e. respectively the plate 32 and the extension 33 and between the extension 33 and the panel 2.

[0117] According to one version of the invention, the constraint point C might not be rotating.

[0118] In one version of the invention, considering the position that is vertical during use of the frame 1 in a first operating position thereof, the constraint point B is positioned above or at the same height as the constraint point A, considering a first direction or direction that is vertical during use.

[0119] The constraint point C can be positioned below or at the same height as the point A. In at least one version of the invention, the point B is positioned above point C.

[0120] During use, the first movement means 20 induce a lifting of the upper portion 17 of the frame 1 with respect to the lower portion 18 along a first direction or direction that is vertical during use.

[0121] Such lifting determines a lifting, along the same direction, of the constraint point A, integral with the framework 10. The point B - since the bar 31 has a given length and is fixed to a portion of the frame during use that is stable height-wise - is not lifted by the lifting of the upper portion 17.

[0122] During the lifting of the constraint point A, the plate 32 rotates around the constraint point B.

[0123] In the above-indicated case, the constraint point A completes a maximum lifting section equal to D. The bar 31, during such movement, completes a rotation movement with center corresponding to point E. The bar 31 is in fact pivoted in point E. In particular, the movement of the bar 31 is coplanar with the plane on which the frame 1 lies, along an anti-clockwise direction.

[0124] The constraint point B, in the above-indicated case, is moved by an arc of circumference in anti-clockwise sense. The constraint point C, during such movement and in the current case, is lifted as a consequence of the lifting of the framework 10 and of the plate 32 along a first direction or direction that is vertical during use but, at the same time, the constraint of the plate 32 to the bar 31 determines a driving of the extension 33 which causes a lateral displacement (towards the right) of the panel 2 constrained to the extension 33 itself. In such a manner, it is inferred that the panel 2 undergoes a displacement along a second direction or direction that is horizontal longitudinal during use. The extension 33 is pivoted to the point C and therefore, in addition to being driven upward, also completes (in particular the point D) an approaching movement towards the perimeter framework 10.

[0125] It is thus seen that, in this version, the movement means 20 and the second movement means 30 and/or the at least one movable panel 2 and the peripheral framework 10 of the frame 1 are kinematically connected.

[0126] In the second operating position, the lateral section of the framework 9 of the panel 2 comes into contact with the internal surface (i.e. directed towards the panel itself) of the perimeter framework 10 or better yet of the side or height 14 thereof.

[0127] If useful, for a greater movement safety, or due to the dimensions (and/or weight of the panel), at least one second plate 32 can be provided, i.e. 32' entirely analogous to the plate 32. Such second plate 32' is constrained to the bar 31 (or to an extension 31' of the bar 31) and/or to the panel 2 respectively at the constraint points B' and D'.

[0128] The plate 32' is constrained at point A' to the framework 10 of the frame 1, e.g. in a position higher than the point A of constraint with the plate 32.

[0129] The plate 32' is then provided with an extension 33', which is constrained to the plate 32' at the constraint point C'.

[0130] That described above is - as stated - relative to the top right corner of the enclosed figures but it could also be present, in an opposite manner, for the upper left corner of the frame 1 of the enclosed figures, with reference to the movement of the lateral panel 2a1.

[0131] Analogous movement can also be present in the lower portion 18 of the frame 1, where a bar 31a is constrained at a point Ea to the upper portion 17 of the frame 1.

[0132] A plate 32a is then present that is constrained to the perimeter framework 10 of the frame 1 at the point Aa and an extension 33a constrained both to the plate 32a at the point Ca and to the panel (2b2 in the case of figures 4 and 10) at the point Da.

[0133] In at least one version of the invention, the plate 32, 32a has a substantially polygonal conformation. Preferably, the plate 32, 32a has a parallelogram conformation, e.g. rectangular, rhomboidal or triangular, regular or irregular.

[0134] In the enclosed figures the plate 32, 32a has a

triangular conformation, with vertex at the constraint point B and the two larger sides substantially corresponding to the distance B-A and B-C.

[0135] The extension 33, 33a has an extension substantially corresponding to the size B-A or B-C.

[0136] The dimensions of the second movement means 30 depend on the size of the distance D and of the displacement S.

[0137] In substance, the second movement means 30, which comprise at least one plate 32, 32', 32a constrained to the perimeter framework 10, are able during the lifting of the upper part of the frame and/or during the lifting of the at least one panel 2, possibly by means of the first movement means 20, to determine the lateral displacement of the at least one movable panel 2 (in one version towards the framework 10 or towards the first side or height 13, 14 closer to the movable panel 2) and the consequent tightening of the skin.

[0138] The frame 1 can comprise, in further versions of the invention, other movement means 30 different from those previously described.

[0139] For example, linear actuators can be present that are able to move the at least one panel 2 with respect to the perimeter framework 10 of the frame 1.

[0140] Such linear actuator can be of mechanical or hydraulic or pneumatic type, such as for example a piston, or of electromechanical type too.

[0141] Naturally, the movement means 30 can also be of manual type, even if such embodiment has the drawback of being more expensive (due to the cost of labor) and less precise with respect to the other embodiments.

[0142] In addition, robotized means can be present that are able to determine the movement of the movement means 20, and/or of the movement means 30 and/or of the at least one panel 2 with respect to the perimeter framework 10 of the frame 1.

[0143] Indeed, in a simplified version of the present invention, the first movement means 20 could be simply constituted by a telescopic rod fixed to the upper part 17 of the frame 1 and adapted to slide for example within the perimeter framework 10, in particular its first sides or heights 13, 14 (or vice versa). Further movement means could then be present, e.g. of manual or mechanical or robotized type, outside the frame 1 but capable of being applied if necessary to the same (e.g. by means of the protuberance 43a and/or the protrusion 43b described below) and adapted to lift or space the upper portion 17 of the frame 1 with respect to its lower portion 18.

[0144] Such movement could cause the sliding and/or translation, along the telescopic rod, of the upper portion 17 and/or of the lower portion of the frame 1 with respect to each other.

[0145] A reversible stop means could then be present, adapted to maintain the upper portion 17 in a lifted and stable position, when the desired displacement D is reached or when the frame 1 reaches its second (open) operating position.

[0146] In the same manner, it is possible to provide that the movement means 20 and the second movement means 30 act in a concomitant manner (i.e. simultaneously) or at subsequent times (e.g. first there is the elongation of the height of the frame 1 by means of the movement means 20 and then the widening of the frame 1 by means of the second movement means 30, or vice versa).

[0147] When the actuation of the movement means 20 and of the second movement means 30 occurs at the same time, the displacement or translation of the at least one panel 2 can occur along a diagonal trajectory, given by the sum of the movement forces along the first and along the second direction.

[0148] According to one version of the invention, in the zone of separation of the upper portion 17 from the lower portion 18 of the frame 1, at least one support bar 40 can be present. Such at least one support bar 40 (two in the enclosed figures, as is visible for example in figure 7) is horizontal or arranged longitudinally with respect to the frame 1. The at least one support bar 40 is parallel to the longitudinal symmetry plane P of the frame 1. Naturally, the upper portion 17 can have greater size with respect to that lower 18 (or vice versa) without departing from the protective scope of the present invention. In other words, according to one example, the second sides or widths 15, 16 of the framework 10 of the frame 1 substantially have the same size while the first upper sections of the first sides 13, 14 of the perimeter framework 10 can have a size (equal to each other) larger or smaller than the second lower sections of the first sides 13, 14 themselves.

[0149] The at least one support bar 40 can be positioned below the at least one panel 2 of the upper portion 17 of the frame 1 and/or above the at least one panel 2 of the lower portion 18 of the frame 1.

[0150] The at least one support bar 40 can then be in contact, above and/or below, with the framework 9 of the at least one panel 2. The at least one bar 40, therefore, can act as a support and base for the at least one panel 2, allowing the upper portion 17 and/or the lower portion 18 of the frame 1 to be moved by the section D as a single or integral piece.

[0151] The at least one bar 40 can be made of metal sheet, for example extruded or shaped as a tubular element with preferably parallelogram section, e.g. square or rectangular.

[0152] The at least one bar 40 can have an extension equal to the second sides or widths 15, 16 or it can project or have protuberances 43a towards the exterior from one or both sides or heights 13, 14. In such case, the at least one support bar 40 and/or the possible protuberances 43a thereof could act as engagement for the possible abovementioned auxiliary or external movement means capable of determining the lifting or moving away of the upper part 17 with respect to the lower part 18 of the frame 1.

[0153] At the lower part 18 of the frame 1 and in particular at its sides or heights 13, 14, protrusions or pins

43b can be present which, in collaboration with the protuberances 43a, determine the movement of the frame by means of the movement means 20.

[0154] In particular, these protrusions 43b act as a block for the height-wise sliding of the frame itself and/or act as further coupling for possible external movement means capable of carrying out such displacement.

[0155] A further embodiment of the frame according to the present invention is illustrated in figures 17 to 19A. In such embodiment, corresponding elements have the same numbering as the preceding embodiment, increased by 10 or 100.

[0156] If not expressly indicated, corresponding elements can have the same characteristics as described above.

[0157] The frame 100 has two larger faces, a front face 7 and a rear face 8, two first sides or heights 3, 4 and two second sides or widths 5, 6. The frame 1 has a longitudinal symmetry plane P that cuts the frame 100 and/or its larger faces 7, 8 into two substantially symmetrical parts and/or passes through the median points of the sides or heights 3, 4.

[0158] The frame 100 comprises a perimeter framework 110. Such perimeter framework perimetrically surrounds the frame 100.

[0159] The perimeter framework 110 comprises two first sides or heights 113, 114 and two second sides or widths 115, 116.

[0160] The perimeter framework 110 can be made by means of a C-shaped or tubular metal section or by means of metal bars.

[0161] The frame 100 can pass from a first operating position, e.g. illustrated in figure 17, to a second operating position, illustrated in figure 19, passing through a plurality of intermediate positions, for example one of which being illustrated in figure 18.

[0162] In the first operating position, the frame 100 is in closed position while in the second operating position, the frame 100 is in open or enlarged position.

[0163] As also indicated for the preceding embodiment, the frame 100 can have two portions, an upper portion 117 and a lower portion 118. Analogously, the perimeter framework 110 comprises an upper part 110a and a lower part 110b, substantially corresponding to the upper portion 117 and to the lower portion 118 of the frame 100.

[0164] Therefore, in plan view, each upper part 110a and lower part 110b of the perimeter framework 110 has a substantially C-shaped conformation, in which the concavity of each C is directed upward.

[0165] Each portion 117, 118 is formed by at least one panel 102, movable with respect to the perimeter framework 110 or to a part thereof. Each panel 102 can have a perimeter framework 9 thereof, made of metal section, which surrounds a larger or central portion 9a of the panel itself.

[0166] In particular, the upper portion 117 comprises at least one first panel 102a and/or the lower portion 118 comprises at least one second panel 102b.

[0167] In this embodiment, the upper portion 117 is not separated and/or separable from the lower portion 118. Nevertheless, each at least one first panel 102a of the upper portion 117 is separated or separable from each at least one second panel 102b of the lower portion 118.

[0168] The frame 100 is provided with movement means 300, capable of moving at least one panel 102a of the upper portion 117 along a first vertical direction and along a second horizontal direction, with respect to at least one panel 102b of the lower portion 118.

[0169] In the first operating position illustrated in figure 17, the panels 102 are all in contact with each other. In particular, the lateral panels 102a, 102b are in contact, respectively below and above, with the support bar 140. In addition, the lateral panels 102a1, 102a2, 102b1, 102b2 are in contact with the respective central panels 102ac, 102bc.

[0170] In the second operating position (illustrated in figure 19), the support bar 140 has remained in position.

[0171] In such second operating position (opened or enlarged), at least the lateral panels 102a1, 102a2, 102b1, 102b2 are moved via translation and are in contact at least with the second sides or widths 115, 116 of the framework 110.

[0172] In such position, the lateral panels 102a1, 102a2, 102b1, 102b2 can be in contact or not in contact at least with the first sides or heights 113, 114 of the framework 110. In any case, however, they are approached thereto.

[0173] The central panels 102ac, 102bc can be in contact with the second sides or widths 115, 116 and can be approached or not approached to at least one of the first sides or heights 113, 114. In one version of the invention, the central panels 102ac, 102bc are fixed with respect to the lateral panels 102a1, 102a2, 102b1, 102b2, in the sense that they are lifted integral therewith until coming into contact with the second sides or widths 115, 116, respectively, but they are not displaced along a second direction that is horizontal with respect to the same sides.

[0174] Consequently, the skin fixed on the frame 100 is elongated height-wise or along a first direction or direction that is vertical during use of the frame itself and it is extended width-wise, or along a second horizontal longitudinal direction.

[0175] Therefore, in the first operating position of the frame 100, the panels 102 are spaced from the second sides or widths 115, 116 by a space overall indicated with D and from the first sides or heights 113, 114 by a space overall indicated with S (given by the sum of S1 and S2).

[0176] In the passage towards the second operating position, as stated, the panels 102a are moved away from the panels 102b along a vertical direction by a distance D.

[0177] The movement means 300 can comprise, in one version, a leverage or articulated arms system.

[0178] That described below holds true in the passage from the first (closed) operating position to the second

(open) operating position of the frame 100. In the reverse passage, from the second operating position to the first, the at least one panel 102 is moved in an analogous manner but along an opposite direction with respect to that indicated below.

[0179] In the second operating position and/or in the intermediate operating position, the sizes S1 and S2 are further divided into S1a, S1b, S2a, S2b, being situated between the lateral panels 102a1, 102a2 and the framework 110 (S1a, S2a) as well as between the lateral panels 102a1, 102a2 and the central panel 102ac (S1b, S2b).

[0180] In one version of the invention, for example considering the top right corner of the enclosed images (from which the respective details of figures 18A and 19A are taken), the movement means 300 comprise a plate 132 and an extension 133.

[0181] The plate 132 can be constrained to the perimeter framework 110 at at least one constraint point A, in particular - considering the abovementioned corner of frame 1 and a version of the invention - to the second side or width 115.

[0182] The constraint point A is a rotating or pivoting or hinge connection point between the two elements, i.e. the plate 132 and the framework 110.

[0183] The extension 133 connects between the plate 132 and the panel 102.

[0184] The extension 133 has at least one rotating constraint point C with the plate 132 and at least one rotating constraint point D with the panel 102.

[0185] In one version of the invention, considering the position that is vertical during use of the frame 100 in a first operating position thereof, the constraint point C is positioned above the constraint point D, considering a first direction or direction that is vertical during use.

[0186] The plate 132 is capable of rotating around its own center A. In such a manner, in the passage from a first to a second operating position, the constraint point C completes an arc of circumference in clockwise sense (considering the corner of the frame illustrated in the details of figures 18A and 19A).

[0187] Such movement determines a lifting of the constraint point D, integral with the panel 102, and a displacement thereof in direction of the first side or height 114 of the framework 110.

[0188] Therefore, one obtains the movement and/or translation of the panel 102 along a first vertical direction and along a second horizontal direction or along a diagonal direction, given by the sum of the two vertical and horizontal movements.

[0189] In the abovementioned case, the constraint point D completes a maximum lifting section equal to D or half of D. The extension 133, during such movement, completes an oscillating movement around an axis passing through D, first to the left and then to the right (considering the corner of the frame illustrated in the details of figures 18A and 19A) and coplanar with the plane on which the frame 100 lies.

[0190] Indeed, extension 133 and/or constraint point C and/or constraint point D are situated in the middle of the plate 132 closest to the panel 102.

[0191] Also the constraint point C, during such movement and in the current case, is lifted as a consequence of the rotation of the plate 132, up to being substantially situated in the apical point of the plate 132 in the second operating position.

[0192] Then, at least one small bar 131 can be present, pivoted both to the panel 102 and to the second side or height 115, 116 of the framework 110, capable of acting as a guide for the translation of the panel 102.

[0193] In at least one version of the invention, the central panel 102ac, 102bc is not directly moved by the movement means 300 but it is integral, for example by means of a base bar not illustrated in the figures, with the movable panels 102a1, 102a2.

[0194] Therefore, the rotation of the plate 132 determines a driving of the extension 133 which causes a displacement of the panel 102 constrained to the extension 133 itself.

[0195] It is therefore seen that, in this version, the movement means 300 and/or the at least one movable panel 102 and the peripheral framework 110 are kinematically connected.

[0196] That described above is - as stated - relative to the top right corner of the enclosed figures but it can also be present, in opposite manner, for the upper left corner of the frame 100 of the enclosed figures, with reference to the movement of the lateral panel 102a1.

[0197] Analogous but opposite movement can also be present in the lower portion 118 of the frame 100.

[0198] In at least one version of the invention, the plate 132 has a substantially circular conformation.

[0199] The extension 133 has an elongated conformation of size at least C-D or substantially corresponding to the distance D or S.

[0200] The movement means 300 can also comprise a lever or grip 135, adapted to facilitate or determine the rotation of the plate 132.

[0201] In substance, the second movement means 300, which comprise at least one plate 132 constrained to the perimeter framework 110, are capable during the lifting of the at least one panel 102 to determine the lateral displacement (in one version towards the framework 110 or towards the first side or height 113, 114 closest to the movable panel 102) and the consequent tightening of the skin.

[0202] A further embodiment of the frame according to the present invention is indicated with 200 in figures 20 to 21A.

[0203] In this embodiment, the frame 200 can comprise the movement means 20 and the second movement means 30 or the movement means 300 illustrated in the preceding embodiments.

[0204] In this case, however, the first operating position and the second operating position are reversed, in the sense that the panel is initially in its second open or enlarged operating position (which corresponds with that

operating position for drying the skins in the drying chamber or plant) and passes to the first operating position (closed or with the panels 202 in contact with each other).

[0205] The frame 200 thus comprises elastic means 250, e.g. in the form of elastic springs, positioned and/or fixed both to the framework 210 of the frame 200 and to the at least one panel 202.

[0206] The elastic means 250 are capable of maintaining the at least one panel 202 in contact with the framework 210 or approaching the framework 210 and hence in a second operating position.

[0207] The movement means 20, 30, 300, by moving or translating the at least one panel 202 towards the center of the frame 200, determine an elongation or tightening of the elastic means 250, up to the attainment of a first operating position in which all the panels 202 are in contact with each other, possibly by means of interposition of at least one central panel 202ac, 202bc. In such operating step, which can be maintained stable for example by means of the presence of a stop means that maintains in position the at least one panel 202, the frame 200 is loaded with the skins that must be subjected to drying. Once the skins have been loaded, and the possible stop means removed, the return force of the elastic means 250 causes the return of the at least one panel 202 into the position of its second operating position, with consequent elongation and enlargement of the skins applied to the frame itself.

[0208] In such recall or return step, the movement means 20, 30, 300 in turn return into the position or configuration that they took in the second operating position or initial position of the frame 200.

[0209] For the elements that constitute the frame 200, reference can be made to the description thereof made for the preceding embodiments.

[0210] Finally, the frame 1, 100, 200 can comprise guides for sliding the at least one panel 2, e.g. placed above the panel itself (for example indicated with the number 41 in figures 2 and 3) and/or below the panel itself (for example indicated with the number 42 in figures 2 and 8) and/or with 141 in figure 17.

[0211] As seen, therefore, the frame 1 according to the present invention is more effective and efficient than the devices of conventional type.

[0212] Due to the present invention, in fact, in addition to obtaining an improved drying of the skin, the latter takes on a thickness that is more uniform and with greater extension - after drying - with respect to the extension of the wet skin.

[0213] In such a manner, one obtains - in addition to a product of higher quality - also a product with a higher commercial value with respect to that obtained with the conventional methods, since the skins take on a greater surface extension; indeed, after the tanning process has terminated, such skins are sold at a price correlated to their surface extension.

[0214] The present invention therefore sets the object of further improving such process, so as to obtain a product of even higher quality and value.

[0215] The invention thus conceived is susceptible of numerous modifications and variations, all within the protective scope of the inventive concept.

[0216] In addition, the characteristics described for one embodiment or version of the invention can also be present in other embodiments or versions described herein, without departing from the protective scope conferred by the present invention.

[0217] In addition, all the details can be substituted by other technically equivalent elements. In practice, the materials used, as well as the contingent shapes and sizes, can be of any type in accordance with the requirements without departing from the protective scope of the following claims.

Claims

1. Frame (1, 100, 200) for the attachment of animal skins for a plant or chamber for drying the skins themselves, wherein said frame (1, 100, 200) comprises a perimeter framework (10, 110, 210), at least one panel (2, 2a, 2b, 102, 102a, 102b, 202), an upper portion (17, 117) in use and a lower portion (18, 118) in use, wherein said upper portion (17, 117) comprises at least one first panel (2a, 102a, 202) and/or said lower portion (18, 118) comprises at least one second panel (2b, 102b, 202), wherein said at least one first panel (2a, 102a, 202) is separable and/or moveable away from said lower portion (18, 118) in use and/or from said at least one second panel (2b, 102b, 202) along a first direction or vertical direction in use for a distance (D), **characterized in that** said frame (1, 100, 200) comprises movement means (30, 300) adapted to move said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) along a second direction or a longitudinal or horizontal direction in use of the frame (1, 100, 200) for a displacement (S) so as to widen the extension of the skin in use attached to said frame (1, 100, 200) both along said first direction and along said second direction or along a diagonal direction resulting from the displacement along said first direction or vertical direction in use and said second direction or horizontal or longitudinal direction in use in the passage for the frame (1, 100, 200) from a first operating position to a second operating position, **and in that** said movement means (30) adapted to move at least one first panel (2a, 202) placed in said upper portion (17) of said frame (1, 200) comprise at least one bar (31, 31') and at least one plate (32, 32'), wherein said at least one plate (32, 32') is constrained to said perimeter framework (10, 210) in at least one constraint point or pin (A, A') and **in that** said at least one bar (31, 31') is constrained to said lower portion (18) of said frame (1, 200) and to said at least one plate (32, 32') in at least one rotating constraint point (B, B').

2. Frame according to claim 1, wherein said first direction is perpendicular to said second direction and/or wherein the skin extension corresponds to a stretch equal to the distance (D) and to a stretch equal to the displacement (S) of the frame (1, 100, 200) and/or wherein said movement of said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) along a second direction or longitudinal or horizontal direction in use of the frame (1, 100, 200) for a displacement (S) is a relative movement of said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) relative to said perimeter framework (10, 110, 210).

3. Frame according to claim 1 or 2, comprising two major faces (7, 8) which determine the larger extension of said frame (1, 100, 200) and/or a front face (7) and a rear face (8) and/or a plurality of through holes (12) perpendicular to the major extension of said frame (1, 100, 200) and/or its major faces (7, 8), and/or comprising a substantially polygonal or parallelogram conformation, for example square, rectangular, triangular, rhombus-shaped or rhomboidal, circular, octagonal, etc., and/or wherein said major faces (7, 8) of said frame (1, 100, 200) have a substantially polygonal or parallelogram conformation, for example square, rectangular, triangular, rhombus-shaped or rhomboidal, circular, octagonal, etc., and/or wherein said frame (1, 100, 200) has two first sides or heights (3, 4) and two second sides or widths (5, 6), wherein each of said first sides or heights (3, 4) is alternated to each of said second sides or widths (5, 6).

4. Frame according to any one of the preceding claims, wherein said perimeter framework (10, 110, 210) comprises two first sides or heights (13, 14, 113, 114) at said first sides or heights (3, 4) of the frame (1, 100, 200), and two seconds sides or widths (15, 16, 115, 116) at said second sides or widths (5, 6) of the frame (1, 100, 200) and/or wherein said perimeter framework (10) is extensible at least according to said first direction or vertical direction in use, and/or wherein said perimeter framework (10, 110, 210) comprises an upper part (10a, 110a) in use and a lower part (10b, 110b) in use corresponding substantially to said upper portion (17, 117) and to said lower portion (18, 118) of said frame (1, 100, 200) and/or wherein said perimeter framework (10, 110, 210) comprises an upper part (10a, 110a) in use and a lower part (10b, 110b) in use having a substantially C-shaped conformation, in which the concavity of each C is facing the other.

5. Frame according to any one of the preceding claims, wherein said movement means (30, 300) comprise a leverage or articulated arms system or a linear actuator capable of moving said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) with respect to said perimeter framework (10, 110, 210), wherein said linear actuator may be of a mechanical or hydraulic or pneumatic type, a piston, or of electromechanical or manual type.

6. Frame according to any one of the preceding claims, comprising movement means (20) comprising telescopic movement means and/or movement means adapted to slide within said first sides or heights (13, 14) of said framework (10) and/or at least one piston, possibly with hydraulic or mechanical driving and/or a leverage or articulated arms system, and/or a system that moves due to weight force.

7. Frame according to claim 1, wherein said at least one plate (32, 32') comprises at least one extension (33, 33') connecting said at least one plate (32, 32') and said at least one first panel (2a, 202) by at least one constraint point (D, D'), wherein said at least one extension (33, 33') has at least one constraint point (C, C') to said at least one plate (32, 32').

8. Frame according to the preceding claim, wherein said at least one constraint point (C, C') and/or said at least one constraint point (D, D') is a rotating connection point.

9. Frame according to any one of the preceding claims, wherein, in the passage of said frame (1, 200) from said first operating position to said second operating position by means of said movement means (20), said at least one bar (31, 31') causes a movement and/or rotation of said at least one plate (32, 32') about said at least one constraint point (A, A') and a translation or displacement of said at least one first panel (2a, 202) along said second direction or horizontal or longitudinal direction in use by means of said at least one extension (33, 33').

10. Frame according to any one of the preceding claims, wherein said movement means (30), adapted to move at least one second panel (2b, 202) placed in said lower portion (18) of said frame (1, 200) comprise at least one bar (31a, 31a') and at least one plate (32a, 32a'), wherein said at least one plate (32a, 32a') is constrained to said perimeter framework (10, 210) and/or to one of its first sides or heights (13, 14) in at least one constraint point or pin (Aa, Aa') and wherein said at least one bar (31a, 31a') is constrained to said upper portion (17) of said frame (1, 200) and to said at least one plate (32a, 32a') in at least one rotating constraint point (Ba, Ba'), wherein said at least one plate (32a, 32a') comprises at least one extension (33a, 33a') of connection between said at least one plate (32a, 32a ') and said at least one second panel (2b, 202) by at least one constraint point (Da, Da'), wherein said at least one extension (33a, 33a') has at least one constraint

point (Ca, Ca') with said at least one plate (32a, 32a'), wherein, in the passage of said frame (1, 200) from said first operating position to said second operating position by means of said movement means (20), said at least one bar (31a, 31a') causes a movement and/or rotation of said at least one plate (32a, 32a') around said at least one constraint point (Aa, Aa') and the translation or displacement of said at least one second panel (2b, 202) along said second direction or horizontal or longitudinal direction in use by said at least one extension (33a, 33a ').

11. Frame (1, 100, 200) for the attachment of animal skins for a plant or chamber for drying the skins themselves, wherein said frame (1, 100, 200) comprises a perimeter framework (10, 110, 210), at least one panel (2, 2a, 2b, 102, 102a, 102b, 202), an upper portion (17, 117) in use and a lower portion (18, 118) in use, wherein said upper portion (17, 117) comprises at least one first panel (2a, 102a, 202) and/or said lower portion (18, 118) comprises at least one second panel (2b, 102b, 202), wherein said at least one first panel (2a, 102a, 202) is separable and/or moveable away from said lower portion (18, 118) in use and/or from said at least one second panel (2b, 102b, 202) along a first direction or vertical direction in use for a distance (D), **characterized in that** said frame (1, 100, 200) comprises movement means (300) adapted to move said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) along a second direction or a longitudinal or horizontal direction in use of the frame (1, 100, 200) for a displacement (S) so as to widen the extension of the skin in use attached to said frame (1, 100, 200) both along said first direction and along said second direction or along a diagonal direction resulting from the displacement along said first direction or vertical direction in use and said second direction or horizontal or longitudinal direction in use in the passage for the frame (1, 100, 200) from a first operating position to a second operating position, **and in that** said movement means (300) adapted to move at least one first panel (102a, 202) placed in said upper portion (17, 117) of said frame (1, 100, 200) comprise at least one plate (132) and at least one extension (133), wherein said at least one plate (132) is constrained to said perimeter framework (10, 110, 210) in at least one constraint point or pin (A) and wherein said at least one extension (133) is constrained to said plate (132) in at least one rotating constraint point (C) and said at least one panel (102, 102a, 102b, 202) in at least one rotating constraint point (D).

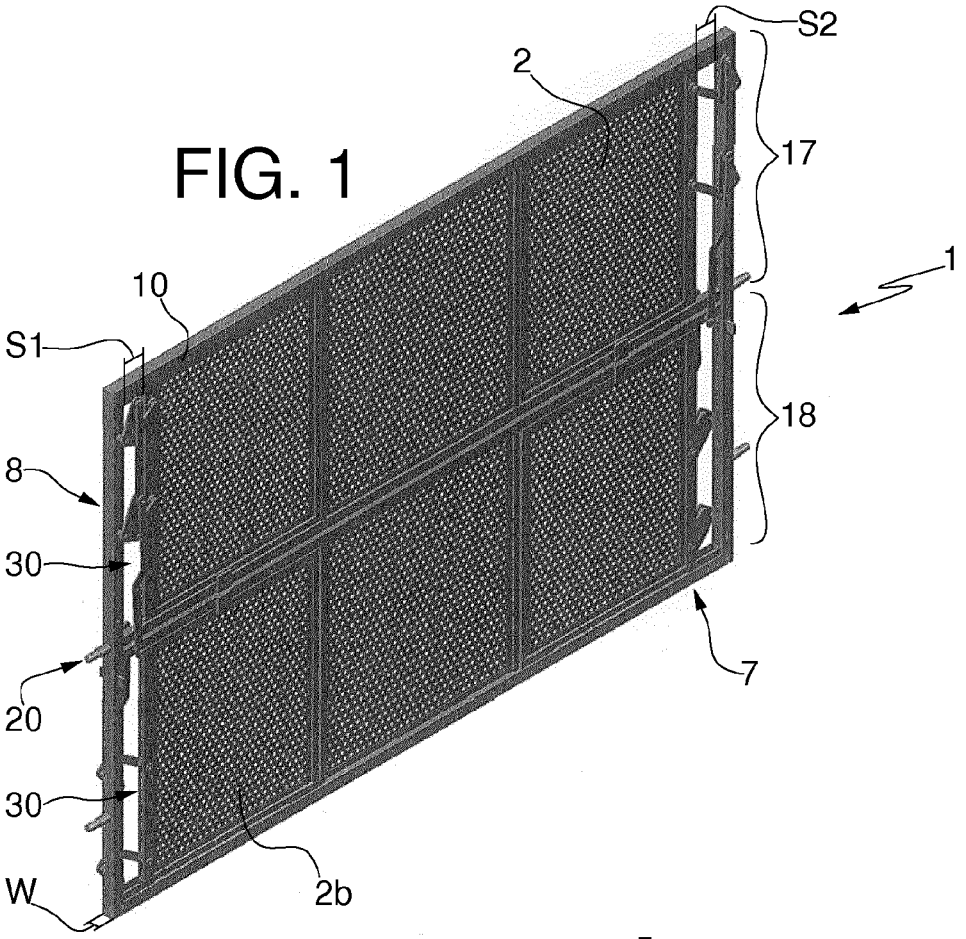
12. Frame according to the preceding claim, wherein, in the passage of said frame (1, 100, 200) from said first operating position to said second operating position by means of said movement means (300), said at least one plate (132) rotating about the constraint point (A) determines a displacement of said at least one extension (133) and the translation or displacement of said at least one first panel (2a, 102, 102a, 202) along said first direction or vertical direction in use and said second direction or horizontal or longitudinal direction in use or along a diagonal direction resulting from the displacement along said first direction or vertical direction in use and said second direction or horizontal or longitudinal direction in use.

13. Frame according to any one of the preceding claims, comprising elastic means (250), for example in the form of elastic springs, positioned and/or secured to the framework (210) of the frame (200) and to the at least one panel (202), wherein said elastic means (250) are adapted to retain said at least one panel (202) in contact with or approached towards said framework (210) in an initial second operating position.

14. Frame according to any one of the preceding claims, wherein said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) is formed by a flat sheet element, for example metal sheet, or a net element and/or provided with a plurality of holes (12), and/or wherein said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) comprises a perimeter framework (9) surrounding a greater or central portion (9a) of the panel itself.

15. Frame according to any one of the preceding claims, comprising robotic means capable of determining the movement of said movement means (20) and/or of said movement means (30, 300) and/or of said at least one panel (2, 2a, 2b, 102, 102a, 102b, 202) with respect to said perimeter framework (10, 110, 210).

FIG. 1


S2
2
17
1
10
S1
18
8
30
7
20
30
W
2b

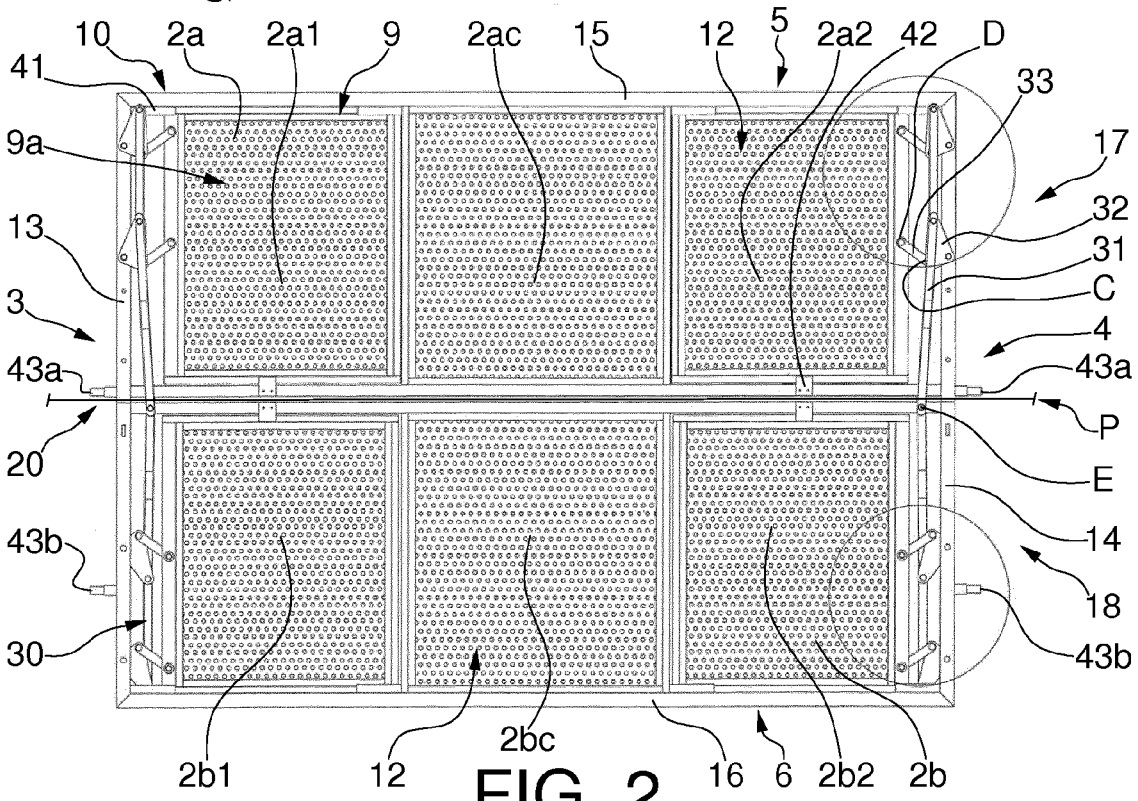

10
2a
2a1
9
2ac
15
12
5
2a2
42
D
41
33
9a
17
13
32
31
3
C
4
43a
43a
20
P
E
43b
14
18
30
43b
2b1
12
2bc
16
6
2b2
2b

FIG. 2

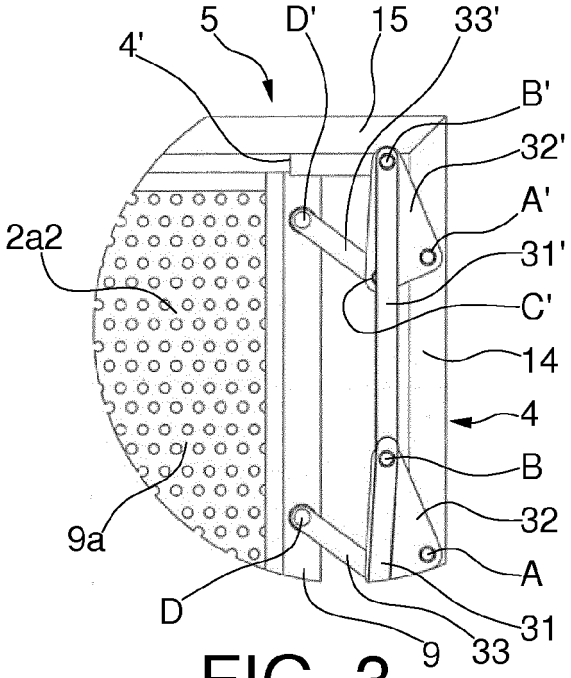


FIG. 3

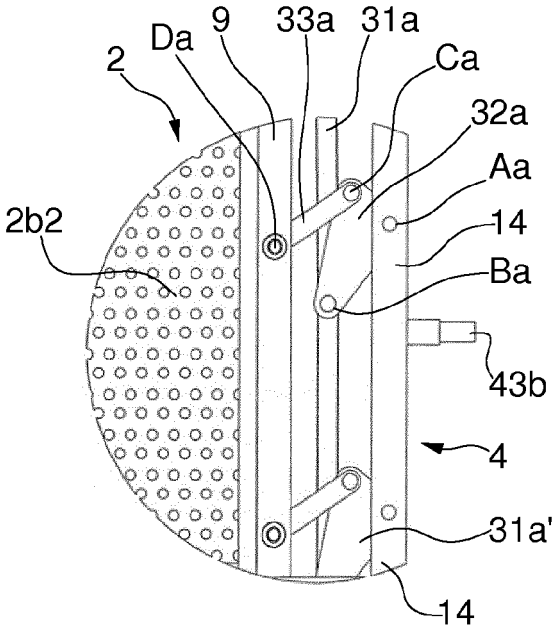


FIG. 4

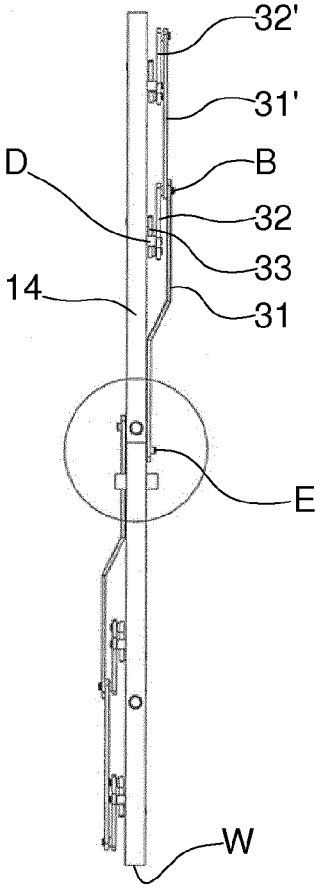


FIG. 5

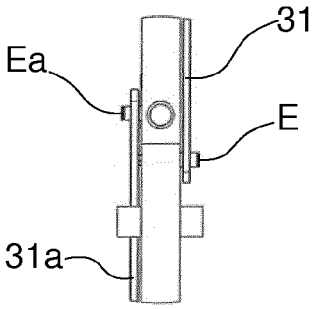
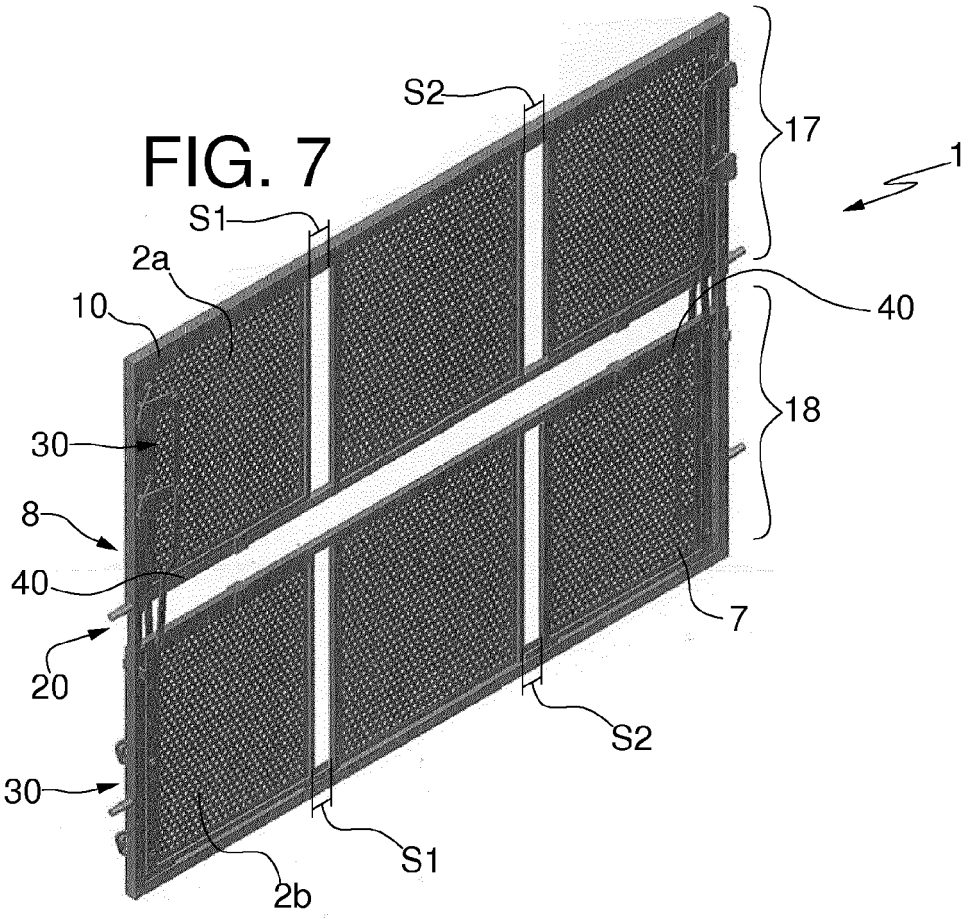


FIG. 6

FIG. 7


S2
17
1
S1
2a
10
40
18
30
8
40
7
20
S2
30
S1
2b

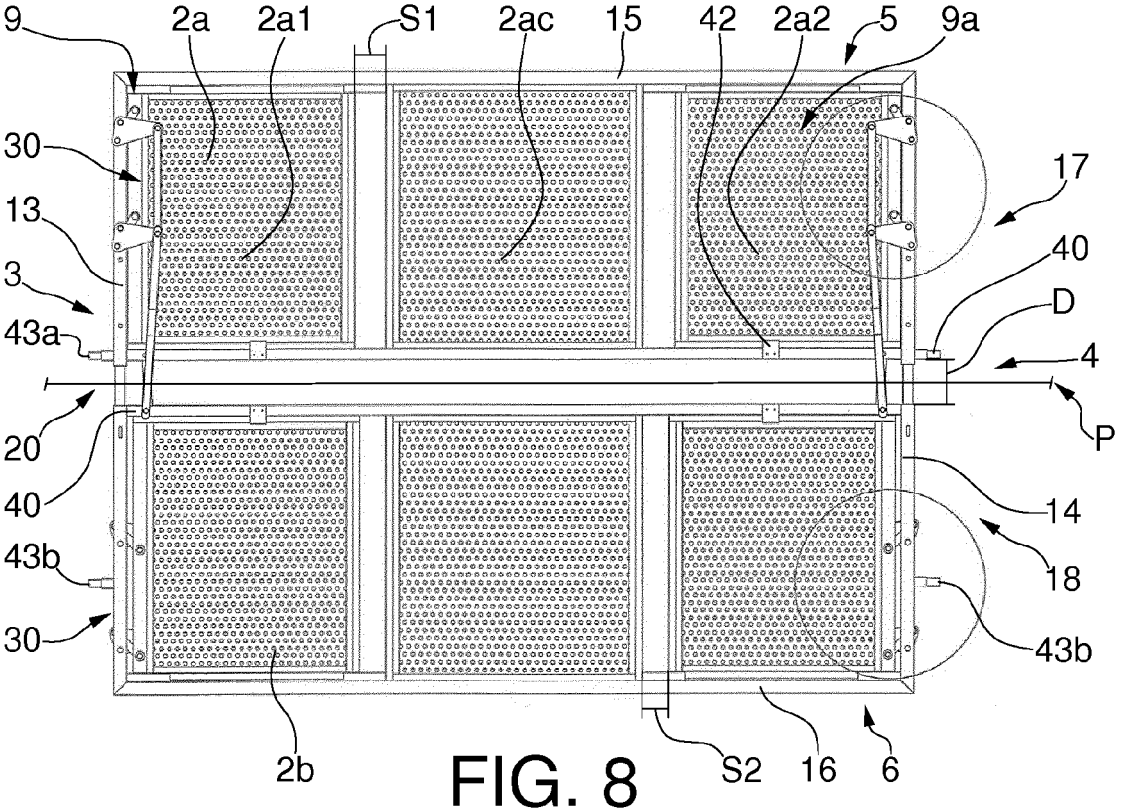

9
2a
2a1
S1
2ac
15
42
2a2
5
9a
30
17
13
40
3
D
43a
4
20
P
40
14
43b
18
30
43b
2b
S2
16
6

FIG. 8

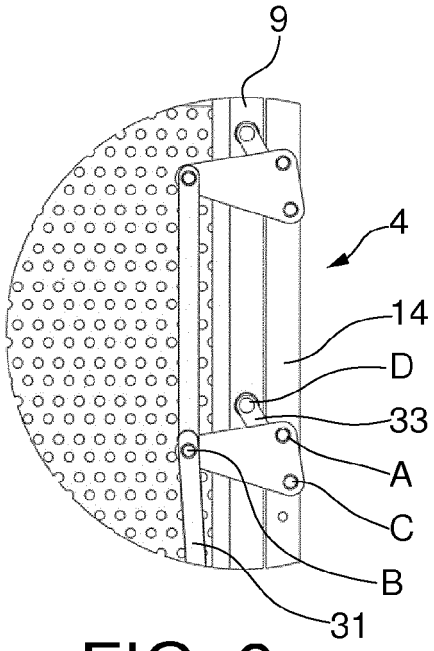


FIG. 9

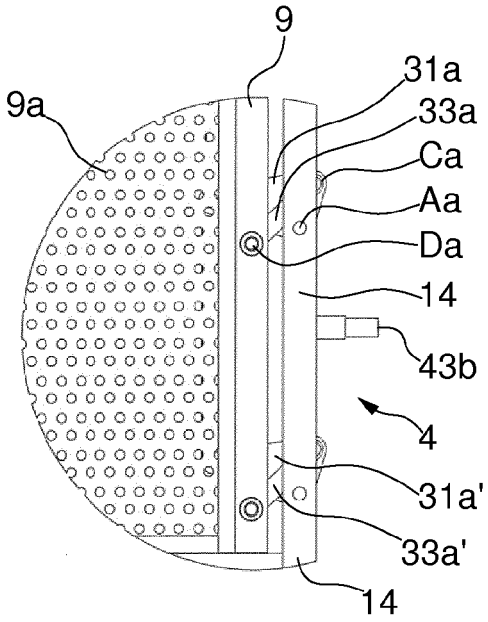


FIG. 10

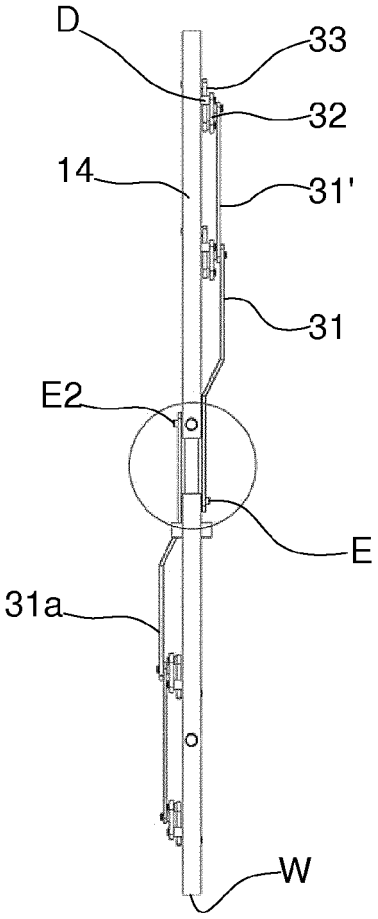


FIG. 11

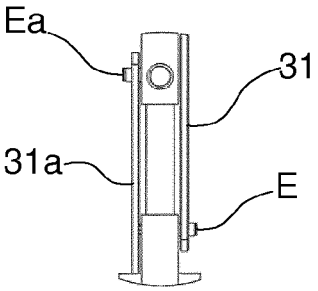


FIG. 12

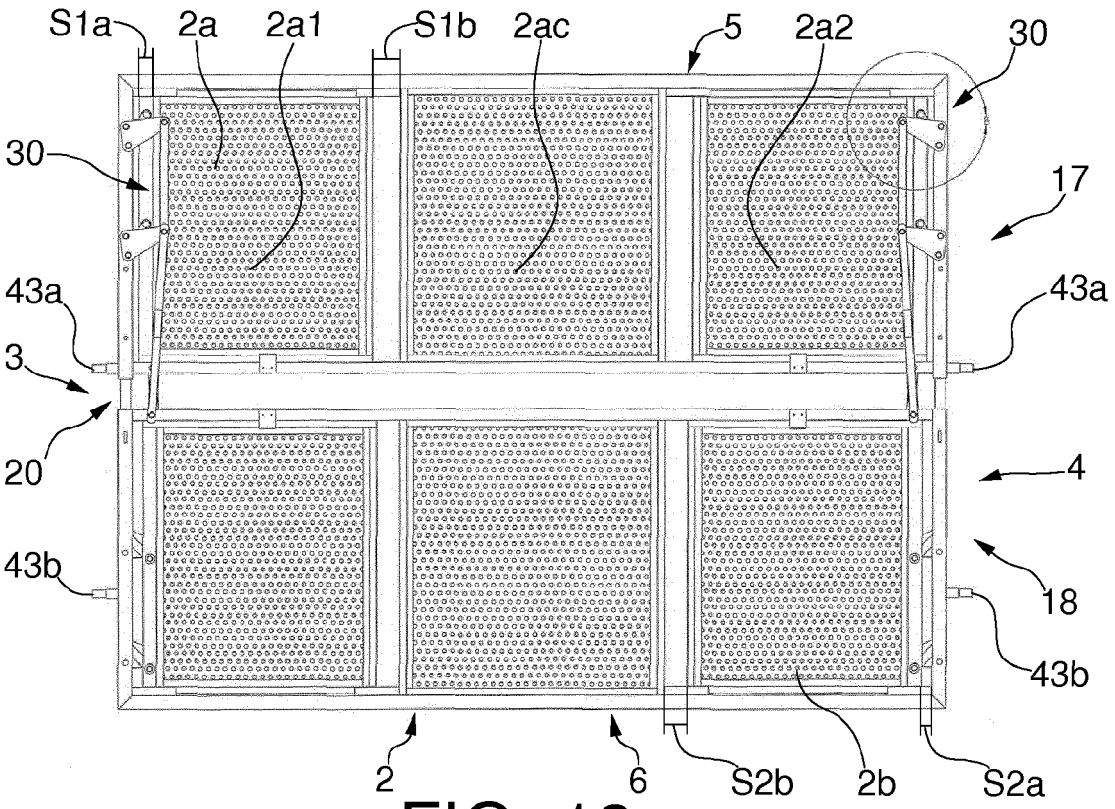


FIG. 13

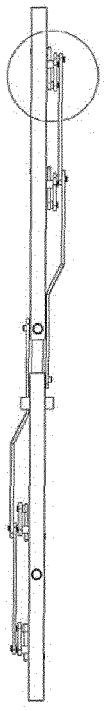


FIG. 14

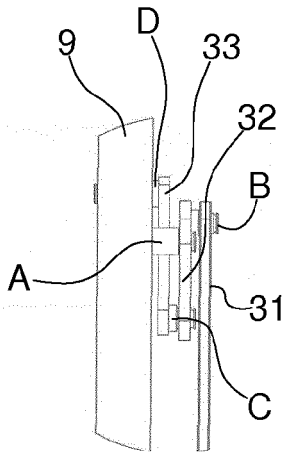


FIG. 15

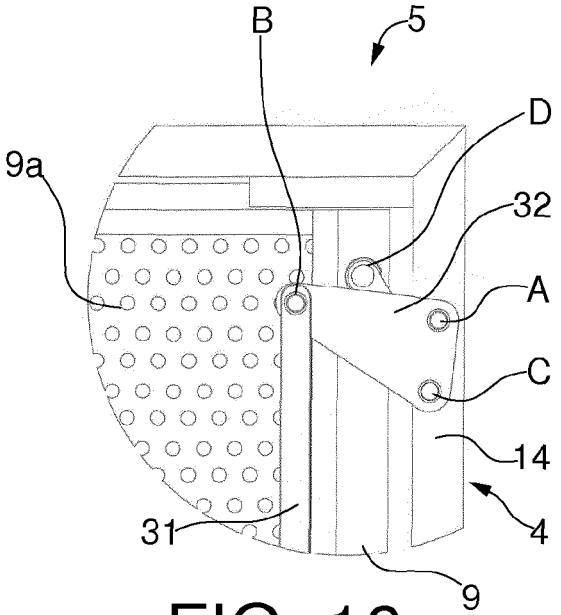


FIG. 16

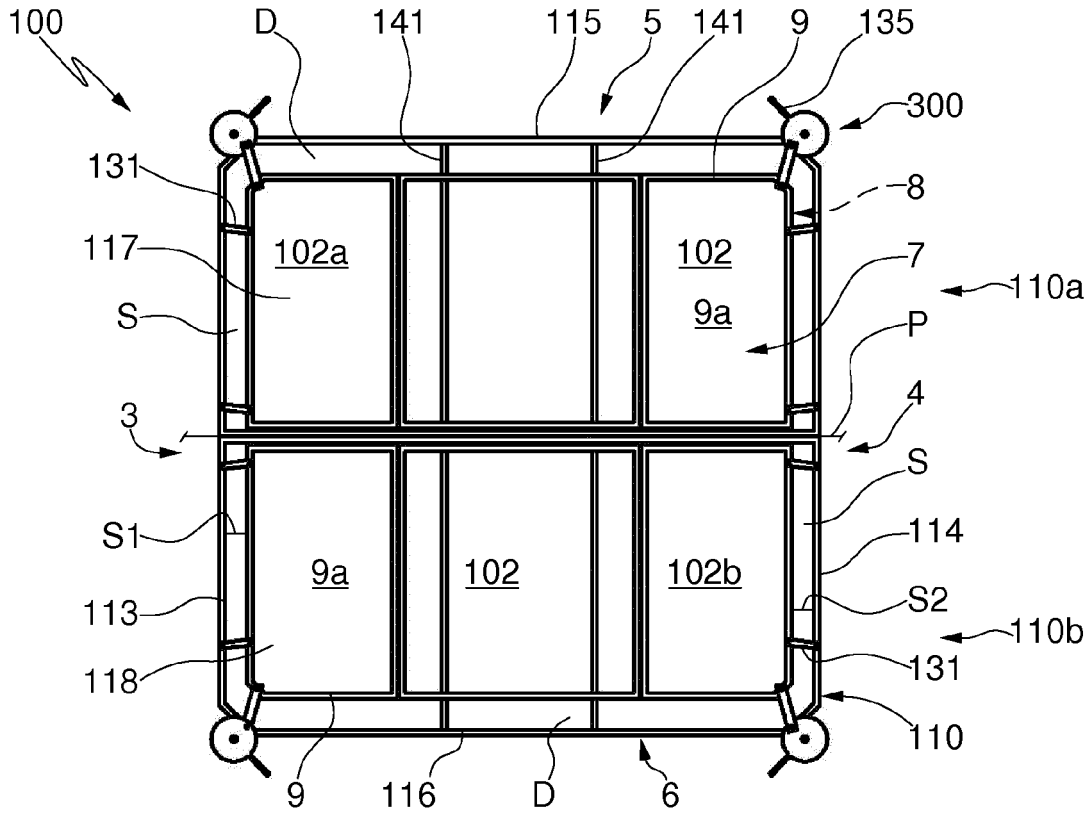


FIG. 17

FIG. 18A

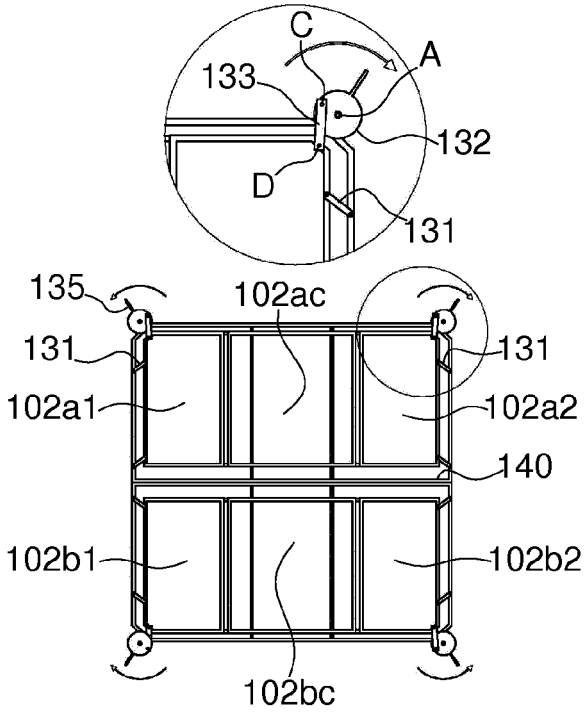


FIG. 18

FIG. 19A

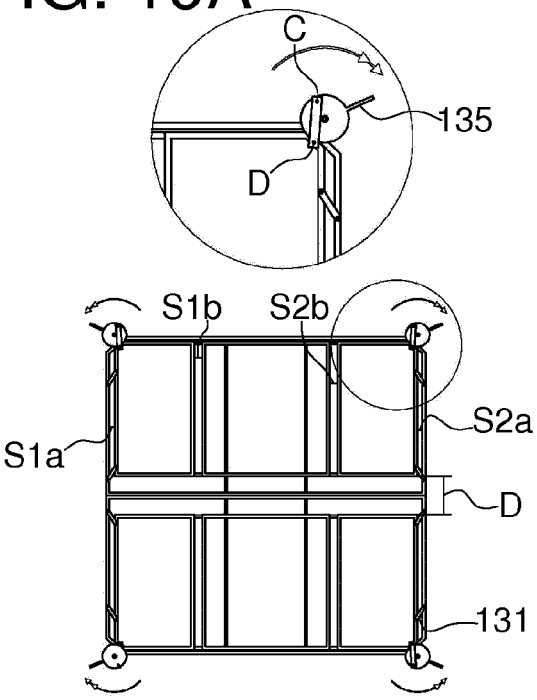


FIG. 19

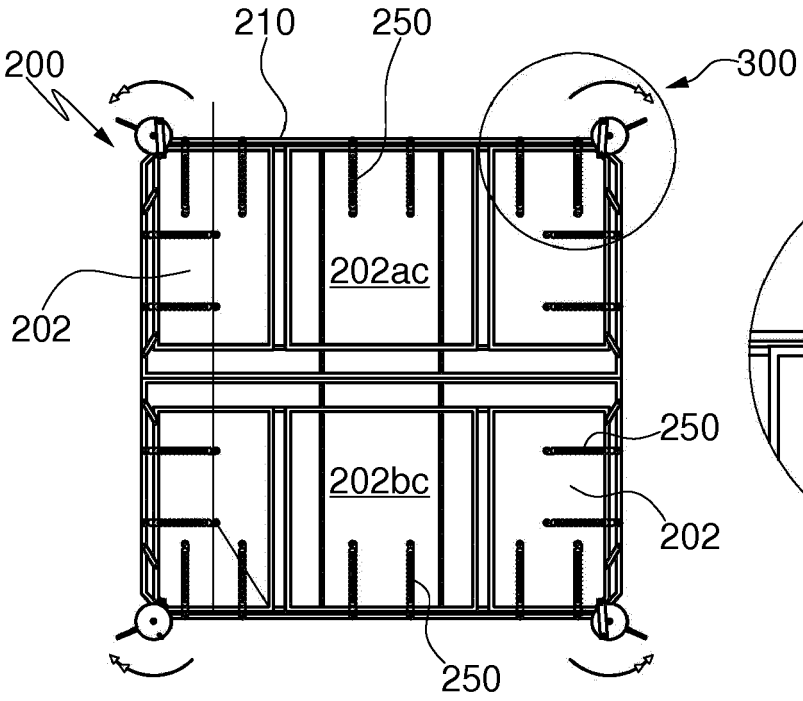


FIG. 20

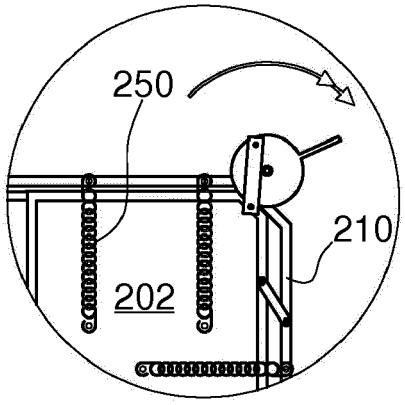


FIG. 20A

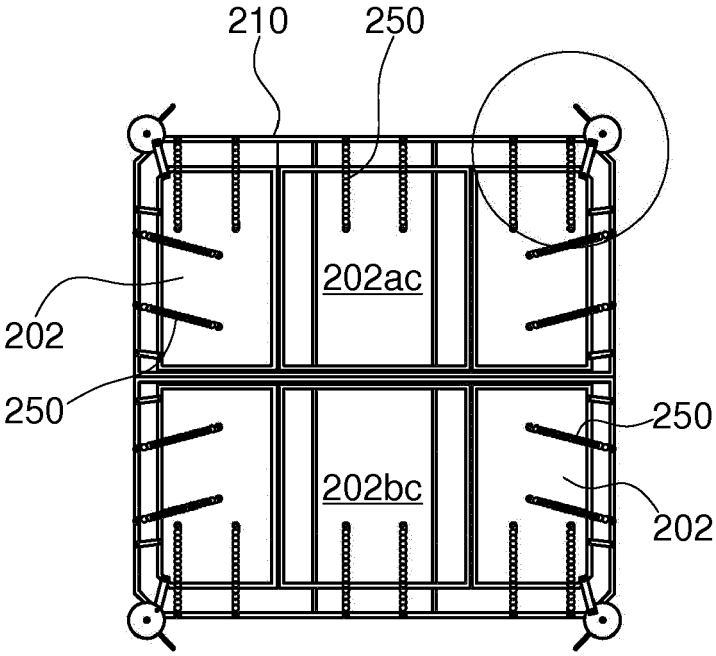


FIG. 21

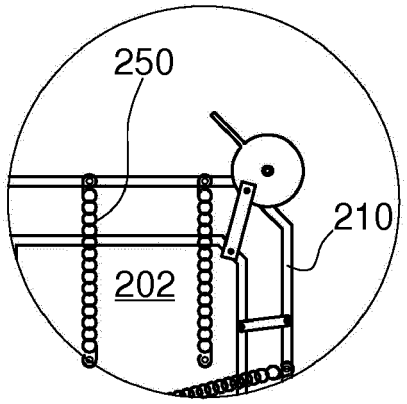


FIG. 21A

Europäisches Patentamt
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EUROPEAN SEARCH REPORT

Application Number
EP 18 18 1777

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 1 620 821 A (KORNITZ EWALD E) 15 March 1927 (1927-03-15) * page 1, lines 30-37; figure 1 * * page 1, line 74 - page 2, line 53 *	1-15	INV. C14B1/26 C14B1/58 C14B17/06
A	US 1 877 787 A (ARGABRITE GEORGE M) 20 September 1932 (1932-09-20) * claims 1,10; figure 1 *	1,11	
A	US 1 438 355 A (BECHSTEIN CARL A ET AL) 12 December 1922 (1922-12-12) * claims 1,2; figure 1 *	1,11	
A	US 2 828 575 A (HANS NEUNER ET AL) 1 April 1958 (1958-04-01) * claim 1; figures 1-5 *	1,11	
A	US 1 632 551 A (MILTON JONES IRA) 14 June 1927 (1927-06-14) * figures 1,5 *	1,11	
			TECHNICAL FIELDS SEARCHED (IPC) C14B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	19 October 2018	Iamandi, Daniela

CATEGORY OF CITED DOCUMENTS

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P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons

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19-10-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 1620821 A	15-03-1927	NONE	
US 1877787 A	20-09-1932	NONE	
US 1438355 A	12-12-1922	NONE	
US 2828575 A	01-04-1958	NONE	
US 1632551 A	14-06-1927	NONE	

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