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(54) RECTANGULAR FRAME ARRANGEMENT WITH ONE TO TWO DISCOID RADIATION FILTERS AND TANNING MODULE

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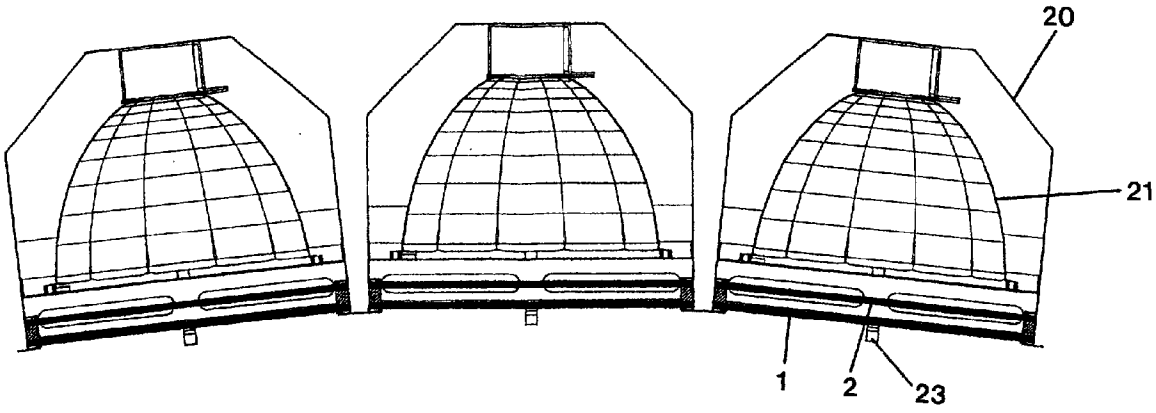
(57) **ABSTRACT**

The invention relates to a rectangular frame arrangement with one to two discoid radiation filters, as well as to a tanning module having such a frame arrangement. The rectangular frame arrangement has four corners and four lateral edges and, on a first lateral edge at least a first spring clip, and on a second lateral edge opposite the first lateral edge at least a second spring clip, the first and the second spring clip being joined together by at least one lateral bar, and at least the first spring clip being U-shaped with a first body portion, a first upper projection and a first bottom projection, a first radiation filter being arranged in a first marginal area between the at least one lateral bar and the first lower projection.



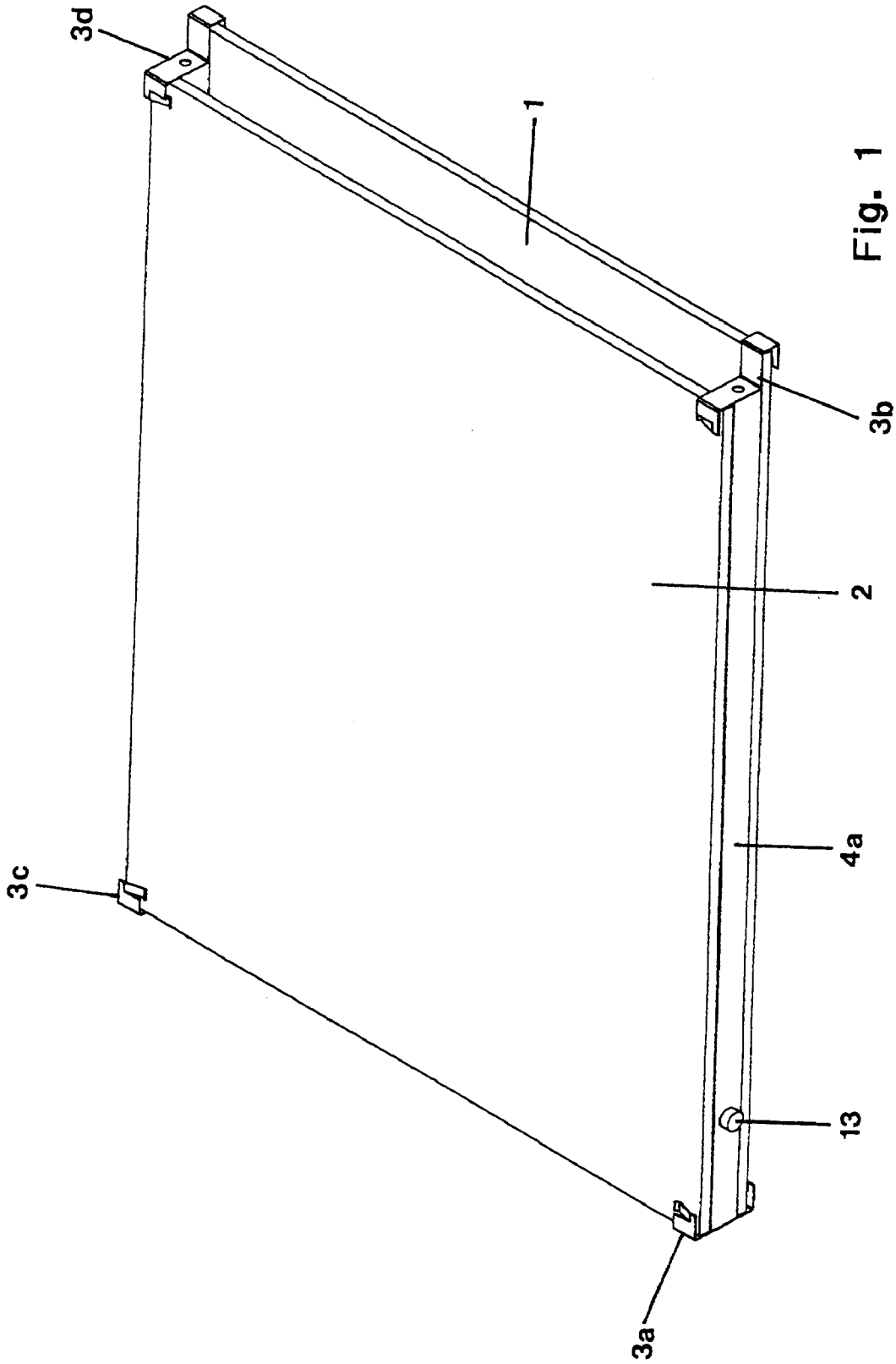


Fig. 1

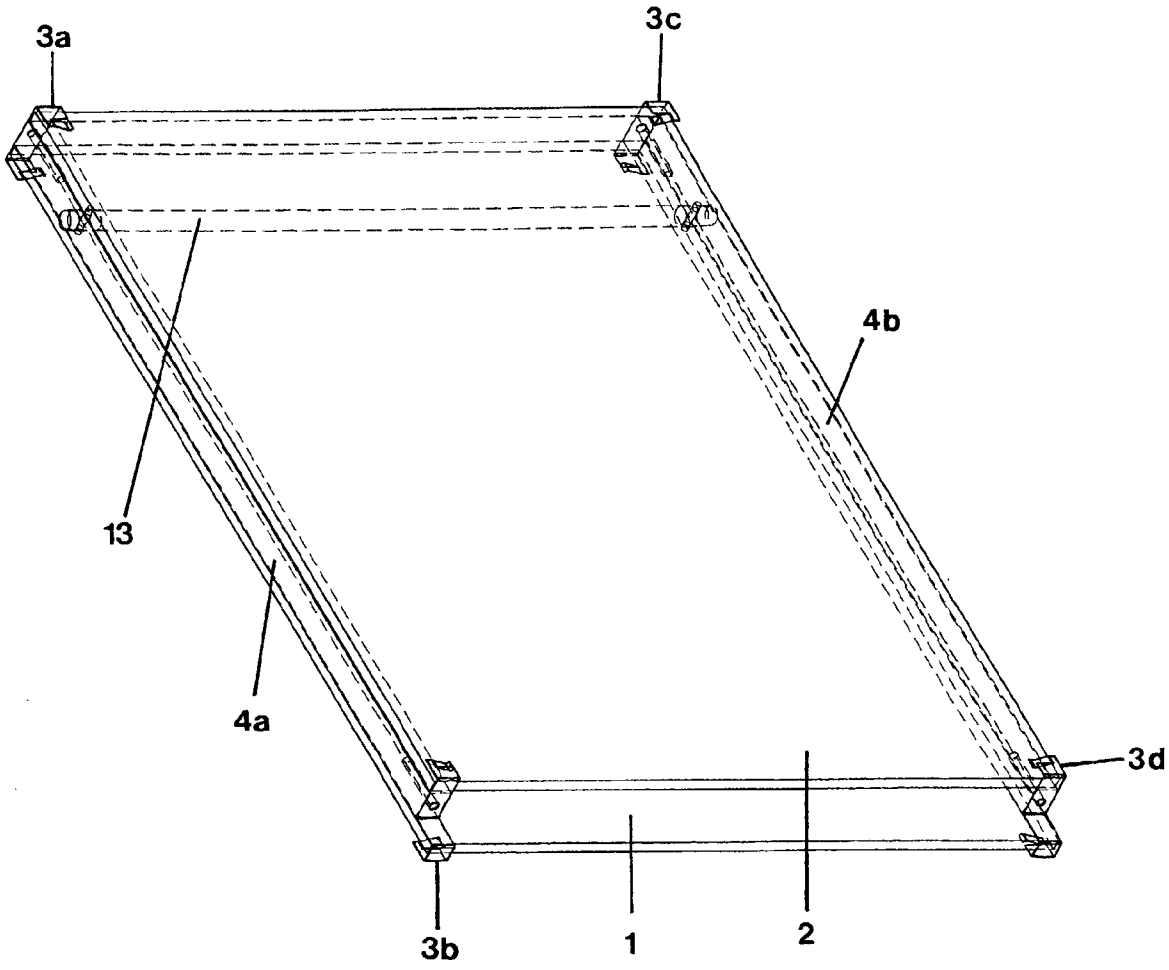


Fig. 2

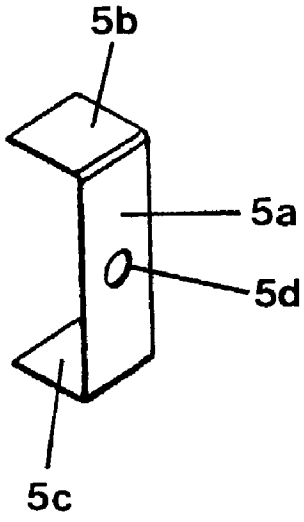


Fig. 3a

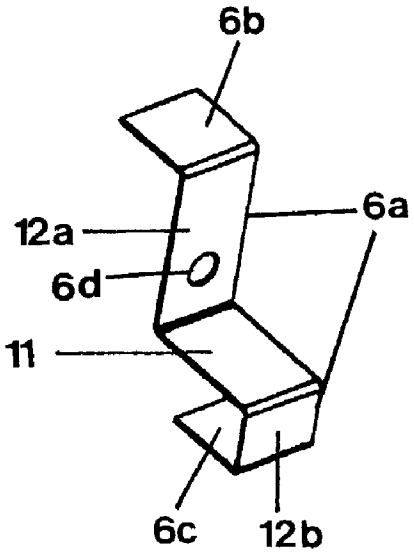


Fig. 3b

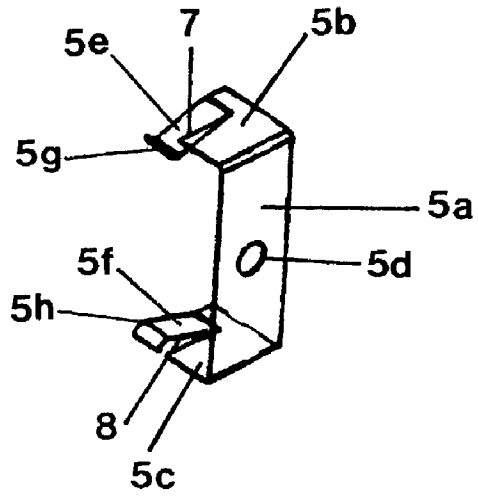


Fig. 4a

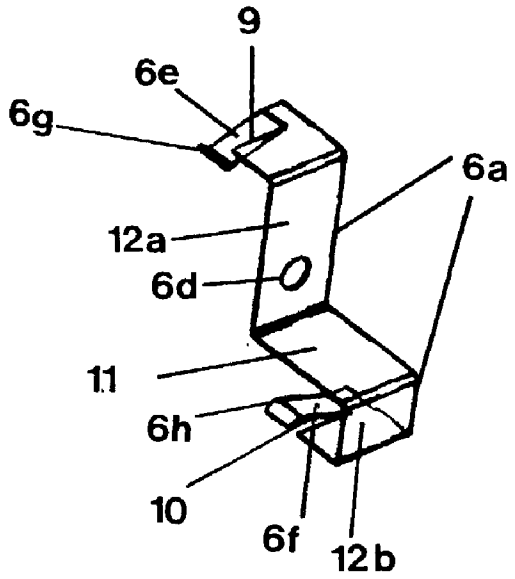


Fig. 4b

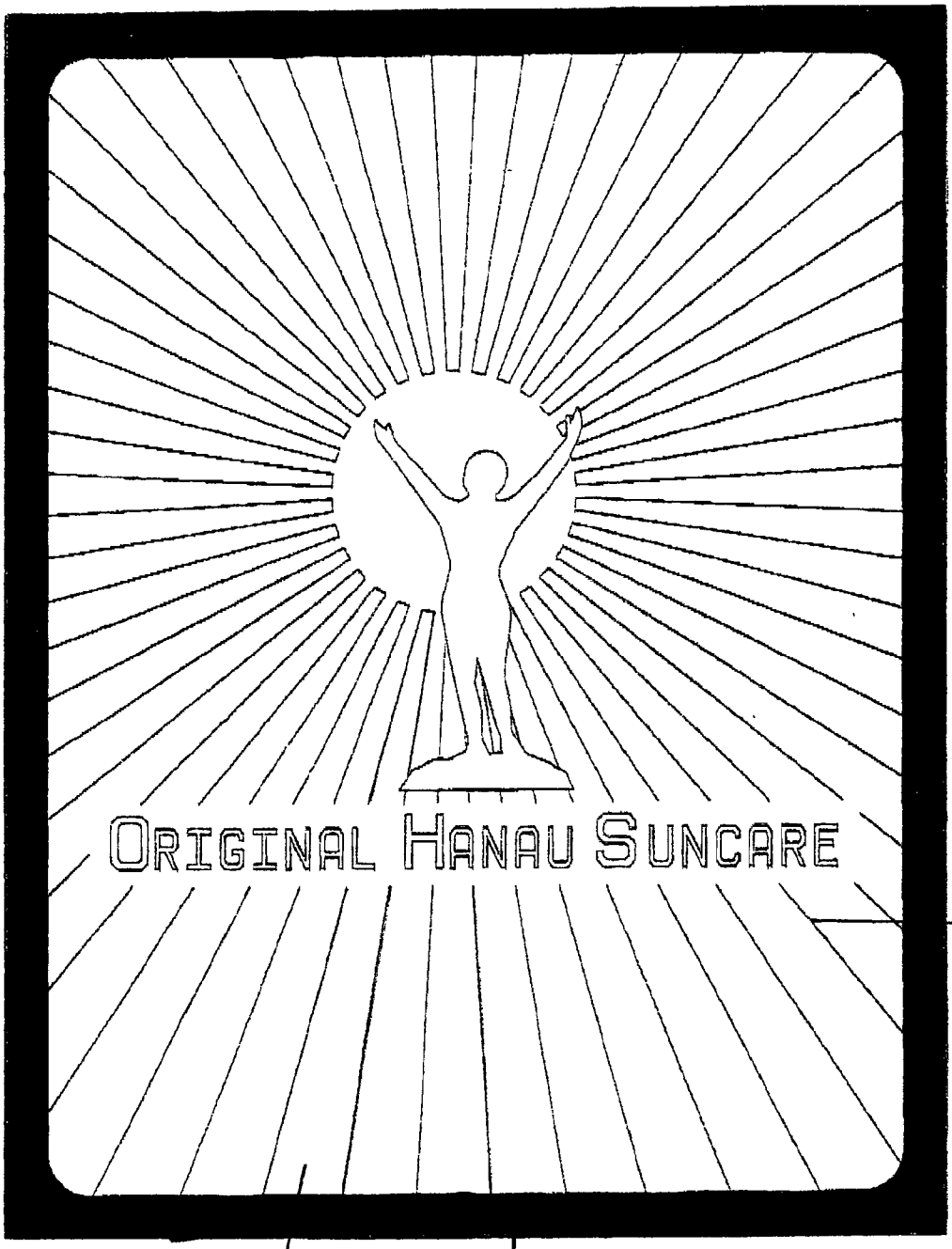


Fig. 5

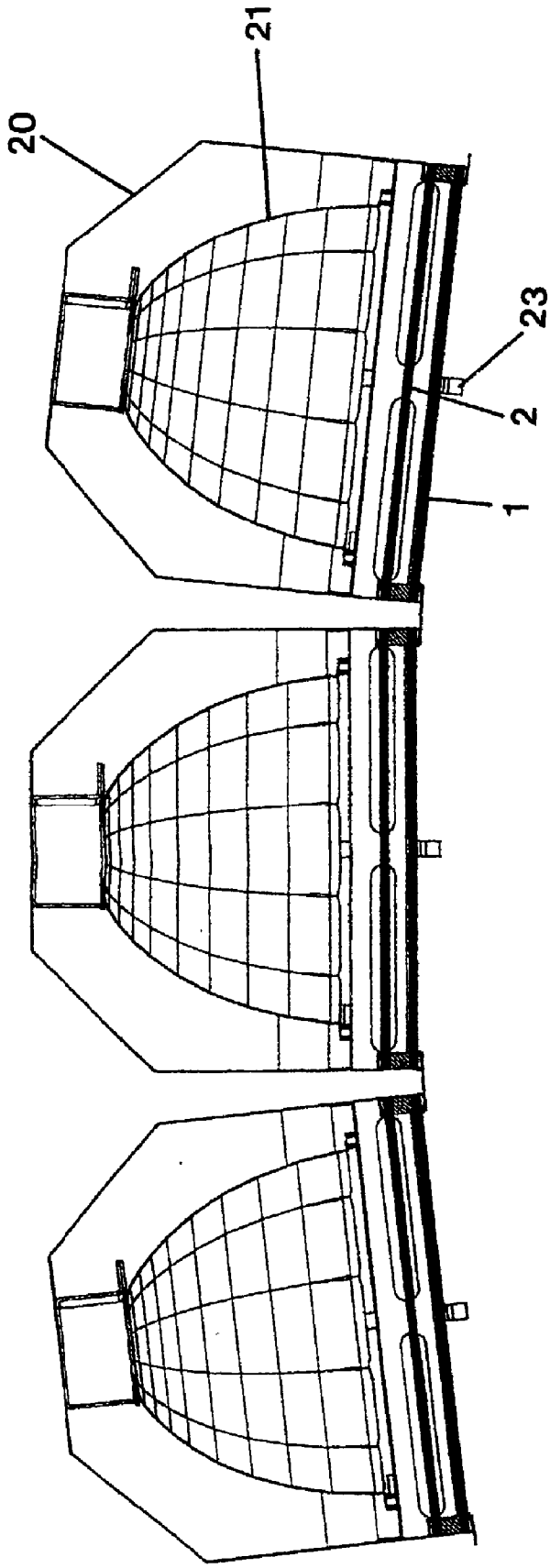


Fig. 6

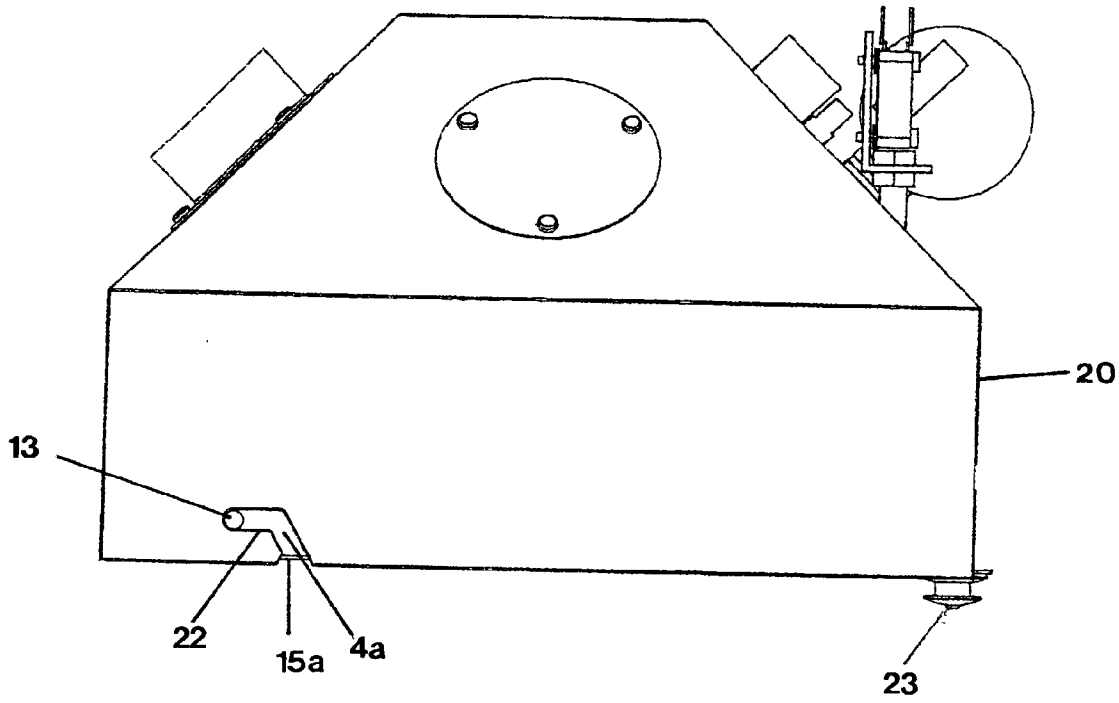


Fig. 7

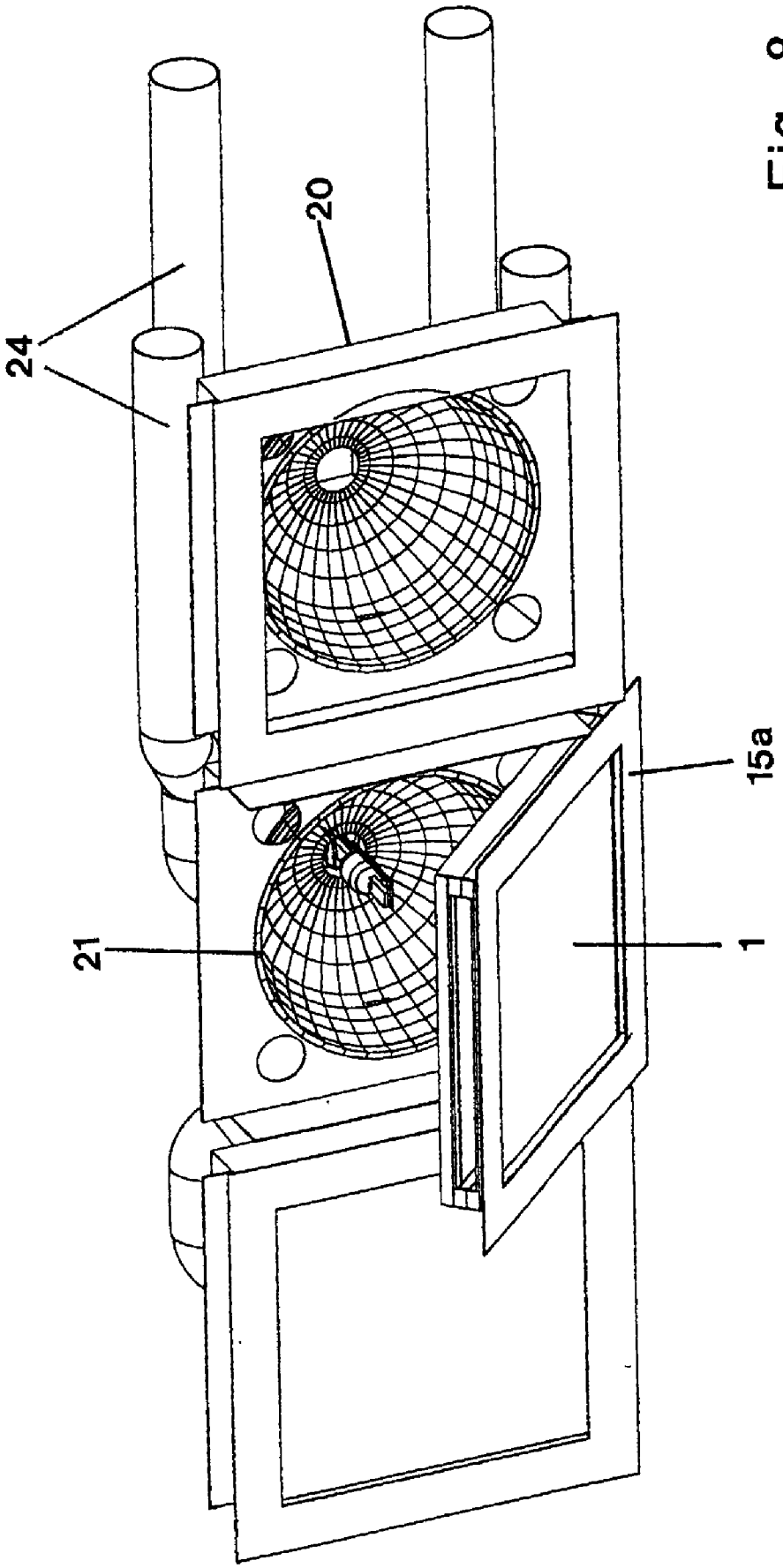


Fig. 8

RECTANGULAR FRAME ARRANGEMENT WITH ONE TO TWO DISCOID RADIATION FILTERS AND TANNING MODULE

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] The invention relates to a rectangular frame arrangement with one to two discoid radiation filters, as well as to a tanning module having such a frame arrangement. The rectangular frame arrangement has four corners and four lateral edges and, on a first lateral edge at least a first spring clip, and on a second lateral edge opposite the first lateral edge at least a second spring clip, the first and the second spring clip being joined together by at least one lateral bar, and at least the first spring clip being U-shaped with a first body portion, a first upper projection and a first bottom projection, a first radiation filter being arranged in a first marginal area between the at least one lateral bar and the first lower projection.

[0002] The invention relates to a rectangular frame arrangement with one to two discoid radiation filters for filtering out a spectrum of a tanning radiator, as well as a tanning module having a frame arrangement of this kind.

[0003] The use of discoid radiation filters in tanning apparatus is known. For example, DE 29 41 467 A1 discloses a tanning module with a rectangular housing including a heat filter in one housing wall. In the housing a reflector is arranged wherein an UV filter is situated between the tanning radiator and the heat filter.

[0004] DE 195 16 603 A1 discloses a low-pressure viewing field for tanning apparatus, wherein a rectangular housing including reflector and filter plate is used. The housing is suitable for the installation of a plurality of UVC tubes. The side of the filter plate that faces the tubes is coated with a layer of UV phosphor pigments.

[0005] DE 36 31 427 G2 describes a radiation apparatus with a rectangular housing a reflector, and a filter plate. To secure the filter plate against breakage a pressure switch is provided which is held by the filter plate in its depressed position, but in case of breakage of the filter plate leaves this position and shuts off the radiation source. The filter plate is fastened in the housing partially by an adhesive layer.

[0006] DE 39 27 695 C2 discloses a tanning apparatus with an interference filter disposed for rotation. In the direction of issuance of the radiation, an infrared filter follows the interference filter. According to the inclination of the interference filter in the issuing radiation the limit of the transmission spectrum is shifted to the shorter wavelength UV-B radiation or to the longer wavelength UV-A radiation. Thus the radiation spectrum can be adjusted by turning the filter to the skin type of the person being irradiated.

[0007] DE **4037483**-C2 describes an UV radiation apparatus with prevention against the breakage of a filter glass plate, wherein a current-carrying electrical conductor stripe is disposed on its periphery. If the filter glass plate breaks, the conductor stripe is broken and the current is thereby interrupted and the tanning radiator is shut off.

[0008] The problem arises of making available a rectangular frame arrangement with one to two discoid radiation filters so as to permit easy insertion and removal and replacement of the radiation filters. The frame arrangement is to be easy to use in a tanning module.

[0009] The problem is solved by a rectangular frame arrangement wherein the frame arrangement has four corners and four lateral edges and has at least a first spring clip on a first lateral edge and on the second lateral edge opposite the first lateral edge at least a second spring clip, the first and second spring clips being joined together by at least one lateral bar and at least the first spring clip is U-shaped, having a first body portion, a first upper projection and a first lower projection, while a first radiation filter is disposed in a first marginal area between the at least one lateral bar and the first lower projection.

[0010] Such an arrangement permits a quick and tool-free installation and removal of the radiation filter, since the latter is only clutched by the spring clips but not glued or screwed. The frame arrangement can easily be integrated into a tanning module.

[0011] The second spring clip is also preferably U-shaped, with a second body portion an upper projection and a second lower projection.

[0012] It is to the advantage of the production of the clamping force if the angle between the clamp body and the first projection as well as between the clamp body and the lower projection is less than 90°. This is true also of the angle between the second clamp body and the upper projection, as well as between the second clamp body and the lower projection.

[0013] Of course, the production of clamping force is also possible if the angles between the first clamp body and the first upper lateral projection as well as between the first clamp body and the first lower side projection are equal to 90°, if the first upper and first lower lateral projection have each at least one slot, and if at least one area of the first upper and first lower lateral projection is bent away in the area of the slots with respect to the lateral projection.

[0014] Likewise, the angles between the second clamp body and second upper lateral projection and between the second clamp body and the second lower lateral projection can be 90°, in which case the second upper and second clamp body lateral projection having at least one slot, and at least one area of the second upper and second lower lateral projection is bent in the area of the slots toward the particular lateral projection.

[0015] Care must be taken, however, to see that a radiation filter must be easy to insert into the spring clip.

[0016] For the use of radiation filters of various length it is advantageous if the second clamp body is divided by a step into an upper and lower second clamp body. By means of the step the differences in length of the radiation filter can easily be compensated.

[0017] It is advantageous if the upper second clamp body and the lower second clamp body are of different width. Thus the lateral bar can be clasped by the wider second clamp body part to join the first to the second spring clip.

[0018] The first radiation filter is preferably arranged in a second marginal area between the at least one lateral bar and the second lower lateral projection.

[0019] A second radiation filter is preferably disposed in a first marginal area between the at least one lateral bar and the first upper lateral projection and in a second marginal area between the at least one lateral bar and the second upper lateral projection.

[0020] It has proven useful if the spring profiles are formed from spring steel, since spring steel is a low-cost material that is easy to work.

[0021] Especially a frame arrangement with two first spring profiles on the first lateral edge and two second profiles on the second lateral edge is preferred, wherein one section joins one of the two first spring clips to one of the two second spring clips, and wherein all four spring clips are arranged each close to one of the four corners of the frame arrangement and the sections are joined to one another by at least one connecting rod.

[0022] An especially simple fixation is possible if the first radiation filter has a rectangular circumference. Then the first radiation filter is an interference filter. Preferred is a first radiation filter with a width and a length ranging from 210 mm to 300 mm. Preferably the first radiation filter has a width of 220 mm and a length of 290 mm.

[0023] The second radiation filter is ideally an ultraviolet filter or an infrared filter and is preferably rectangular. Preferred is a second radiation filter in a width and length in the range of 210 mm to 290 mm. Especially the second radiation filter has a width of 220 mm and a length of 278 mm.

[0024] It has been found practical for the lateral bar to be joined to the body portion of the clip at midpoint between its first upper projection and its first lower projection. It is furthermore advantageous if the lateral bar is joined to the second clip body at midpoint between the second upper projection and the second lower projection.

[0025] In case the second spring clip is stepped, the lateral bar is preferably joined to the upper second clip body between the second upper projection and the step. The lateral bar can also, however, be joined to the lower second clip body between the second lower projection and the step.

[0026] The upper and/or the lower projections ideally contain an indentation. With such an indentation the projections are angled at their ends remote from the clip body such that the ends at least partially do not lie on the radiation filter but are lifted slightly away from it. This facilitates the insertion of a radiation filter into the spring clips, since a radiation filter is less liable to catch on the indentation than on the end of a projection which is rough in comparison.

[0027] To secure the first radiation filter in the frame arrangement, an anti-slip device for the first radiation filter is preferably provided at the lateral edges of the frame arrangement at which no spring clip is present. Likewise advantageous is an anti-slip device for the second radiation filter on the lateral edges of the frame arrangement at which no spring clip is present.

[0028] The first radiation filter can have an imprint or an adhesive label on its side facing away from the second radiation filter. In that case it is especially advantageous if the imprint or adhesive label has an opaque marginal area which conceals the holding structure of the radiation filters from the eye of the user.

[0029] The problem is furthermore solved by a tanning module with a housing, a three-dimensional reflector disposed in or on the housing, as well as an above-described rectangular frame arrangement on one side of the housing; the first radiation filter covers the radiation exit surface of the reflector, and the upper first projection and the upper second projection of the first spring clip are facing the reflector, while the lower first projection and the lower second projection of the second spring clip are facing away from the reflector.

[0030] At the same time the rectangular frame arrangement is preferably releasable from the housing through a swing mechanism and is thus replaceable. The swing mechanism is to permit the radiation filter to be tilted on the housing, and the release of the radiation filter from the housing is to be possible only after the tilted radiation filter has been displaced. Thus a user-friendly exchange of the radiation filter is possible and also the radiation filter is prevented from abruptly dropping down, since by means of such a swing mechanism any dropping of the radiation filter resulting in breakage can be effectively prevented.

[0031] The rectangular frame arrangement is ideally hooked into the housing. Especially an opening according to **FIG. 7** in the housing is suitable for hooking in the frame arrangement according to the invention.

[0032] The rectangular frame arrangement is preferably fixed in position by means of a snap mechanism.

[0033] The circumference of the reflector parallel to the radiation exit surface describes preferably a circle, an ellipse, a rectangular or a polygon. It is especially preferred if the reflector is formed of facets and the circumference of the reflector parallel to the radiation exit surface describes a polygon with twelve corners.

[0034] It has been found practical if the reflector has a height of 90 mm to 95 mm, especially of 93.6 mm, and the dodecahedron has in the plane of the radiation exit surface a maximum diameter (corner to corner) ranging from 210 mm to 230 mm, especially 210 mm.

[0035] It ha furthermore been found practical if the reflector has a height ranging from 110 mm to 125 mm, especially 118.7 mm, and the dodecahedron has in the plane of the radiation exit surface a maximum diameter (corner to corner) ranging from 170 mm to 200 mm, especially 184 mm.

[0036] Furthermore, a reflector has been found practical which has a height ranging from 75 mm to 90 mm, especially 83.3 mm, and in which the dodecahedron in the plane of the radiation exit has a maximum diameter (corner to corner) ranging from 205 mm to 235 mm, especially 220 mm.

[0037] The drawings in FIGS. **1** to **8** are to explain in an exemplary manner the frame arrangement according to the invention as well as the tanning module.

BRIEF DESCRIPTION OF THE FIGURES

[0038] **FIG. 1** shows a rectangular frame arrangement in a three-dimensional view.

[0039] **FIG. 2** the frame arrangement of **FIG. 1** with all concealed lines.

[0040] **FIG. 3***a* a first spring clip.

[0041] **FIG. 3***b* a second spring clip.

[0042] **FIG. 4***a* another first spring clip.

[0043] **FIG. 4***b* another second spring clip.

[0044] **FIG. 5** an image with opaque marginal area.

[0045] **FIG. 6** three tanning modules in section.

[0046] **FIG. 7 a** three-dimensional drawing of three tanning modules.

[0047] **FIG. 8 a** three-dimensional drawing of three tanning modules.

DETAILED DESCRIPTION

[0048] Thus, **FIG. 1** shows a rectangular frame arrangement in a three-dimensional view, in which a first radiation filter **1** and a second radiation filter **2** are present. It is to be added that even only a first radiation filter **1** might be present. Two first spring clips **3***a*, **3***c*, are situated on one lateral edge of the radiation filter and are each connected by lateral bars **4***a* and **4***b* (see also **FIG. 2**) to a second spring clip **3***b*, **3***d*. The two lateral bars **4***a*, **4***b*, are connected together parallel to one another by a connecting rod **13**.

[0049] The connecting rod **13** projects on both sides beyond the lateral bars **4***a*, **4***b*, and it is therefore able to hook the frame arrangement into the housing of a tanning module.

[0050] **FIG. 2** shows the frame arrangement from **FIG. 1** with all of the hidden lines.

[0051] **FIG. 3***a* shows a single first spring clip with a first body portion **5***a*, a first upper projection **5***b* and a first lower projection **5***c*. In the first body portion **5***a* is an opening **5***d* through which the first spring clip can be attached to a lateral bar **4***a*, **4***b*.

[0052] **FIG. 3***b* shows a single second spring clip with a second body portion **6***a*, a second lower projection **6***c*. In the second body portion **6***a* is an opening **6***d* through which the second spring clip can be attached to a lateral bar **4***a*, **4***b*. The second body portion **6***a* is divided by a step **11** into an upper second body portion **12***a* and a lower second body portion **12***b*, the opening **6***d* being situated in the upper second body portion **12***a*.

[0053] **FIG. 4***a* shows another first spring clip which is of more complex shape. It has a first body portion **5***a*, a first upper projection **5***b* and a first lower projection **5***c*. In the first body portion **5***a* there is an opening **5***d* through which the first spring clip can be joined to a lateral bar **4***a*, **4***b*. The first upper projection **5***b* has a cut **7** and the first lower projection **5***c* has a cut **8**. In each case at least one area **5***e* of the first upper projection **5***b* and an area **5***f* of the first lower projection **5***c* is bent toward the opening **5***d* beginning from the end of the cuts **7** and **8** with regard to the particular projection. In addition, the bent areas **5***e*, **5***f*, have each an indentation **5***g*, **5***h*. The insertion of a radiation filter into the spring clip is thereby facilitated. In the frame arrangement of **FIG. 1** or **FIG. 2**, the areas **5***e*, **5***f*, of the first spring clip **3***a*, **3***c* point toward one another. It is, however, just as possible for the areas **5***e*, **5***f*, of the first spring clips **3***a*, **3***c*, to point away from one another or point in the same direction.

[0054] **FIG. 4***b* shows another second spring clip which is of more complex shape. It has a second body portion **6***a*, a second upper projection **6***b* and a second lower projection **6***c*. In the second body portion **6***a* there is an opening **6***d* through which the second spring clip can be fastened to a lateral bar **6***c*. The second upper projection **6***b* has a cut **9** and the second lower projection **6***c* has a cut **10**. In each case at least one area **6***e* of the second upper projection **6***b* and an area **6***f* of the second lower spring clip **6***c* has a cut **9** running [out] from the end of the cuts **9** and **10** is bent toward the opening **6***d*. Also, the bent areas **6***e*, **6***f*, have each an indentation **6***g*, **6***h*. The insertion of a radiation filter into the spring clips is thus facilitated. In the frame arrangement of **FIG. 1** or **FIG. 2** the areas **6***e*, **6***f*, of the first spring clips **3***b*, **3***d*, point toward one another. It is, however, just as possible for areas **6***e* and **6***f* of the first spring clips **3***b*, **3***d*, to point away from one another or point in the same direction.

[0055] **FIG. 5** shows an imprint **16** with an opaque marginal area **16** on the radiation filter **1** which is intended to mount the radiation filter in front of the eyes of a user.

[0056] **FIG. 6** shows in section three tanning modules arranged side by side, each module having a housing **20** and the frame arrangement according to the invention. The reflector **21** can be seen in the housing **20** and the first radiation filter **1** as well as the second radiation filter.

[0057] **FIG. 7** shows how the frame arrangement with the connecting rod **13** is hooked into an opening **22** in the housing **20** through a pivoting mechanism. A lock **23** fixes the frame arrangement in its position (see also **FIG. 6**).

[0058] **FIG. 8** is a three-dimensional representation of three tanning modules. On the far left is shown a tanning module with closed frame arrangement. In the middle is shown a tanning module with the frame arrangement folded, including the tanning radiator, wherein the reflector **21**, the first radiation filter **1** and the opaque frame **16***a* can be seen. On the far right is shown a tanning module without radiation filter in the frame arrangement and without tanning radiator. All three tanning modules are provided with air exhaust tubes **24**.

It is claimed:

1. Rectangular frame arrangement with one to two discoid radiation filters for filtering out a spectrum of a tanning radiator, wherein the frame arrangement has four corners and four lateral edges and on a first lateral edge at least a first spring clip (**3***a*, **3***c*) and on a second lateral edge opposite the first lateral edge at least a second spring clip (**3***b*, **3***d*), wherein the first spring clip (**3***a*, **3***c*) and the second spring clip (**3***b*, **3***d*) are joined together by at least one lateral bar (**4***a*, **4***b*), and at least the first spring clip being configured in a U shape with a first body portion (**5***a*), a first upper projection (**5***b*) and a first lower projection (**5***c*), a first radiation filter (**1**) being disposed in a first marginal area between the at least one lateral bar (**4***a*, **4***b*) and the first lower projection (**5***c*).

2. Rectangular frame arrangement according to claim 1, characterized in that the second spring clip (**3***b*, **3***d*) is U-shaped with a second body portion (**6***a*), a second upper projection (**6***b*) and a second lower projection (**6***c*).

3. Rectangular frame arrangement according to either of claims 1 to 2, characterized in that the angles between the first body portion (**5***a*) and the first upper projection (**5***b*) as well as between the first body portion (**5***a*) and first lower projection (**5***c*) are less than 90°.

4. Rectangular frame arrangement according to either of claims 2 to 3,characterized in that the angles between the

second body portion (**6***a*) and second upper projection (**6***b*) as well as between second body portion (**6***a*) and second lower projection (**6***c*) are less than 90°.

5. Rectangular frame arrangement according to either of claims 1 to 2, characterized in that the angles between first body portion (**5***a*) and first upper projection (**5***b*) as well as between first body portion (**5***a*) and first lower projection (**5***c*) are equal to 90°, that the first upper projection (**5***b*) and the first lower projection (**5***c*) have at least one cut (**7**, **8**) in each and that at east one area (**5***e*) of the first upper projection (**5***b*) and one area (**5***f*) of the first lower projection (**5***c*) is bent from the end of the cut (**7**, **8**) with regard to the particular projection.

6. Rectangular frame arrangement according to either of claims 1 to 2, characterized in that the angles between second body portion (**6***a*) and second upper projection (**6***b*) as well as between second body portion (**6***a*) and second lower projection (**6***c*) are equal to 90°, in that the second upper projection (b) and the second lower projection (**6***c*) have each at least one cut (**9**, **10**) and that at least one area (**6***e*) of the second upper projection (**6***b*) and one area (**5***f*) of the second lower projection (**6***c*) is bent starting from the end of the cut (**9**, **10**) with respect to the particular projection.

7. Rectangular frame arrangement according to either of claims **2** or **6**, characterized in that the second body portion (**6***a*) is divided by a step (**11**) into an upper second body portion (**12***a*) and a lower second body portion (**12***b*).

8. Rectangular frame arrangement according to claim**7**, characterized in that the upper second body portion (**12***a*) and the lower second body portion (**12***b*) are unequally wide.

9. Rectangular frame arrangement according to either of claims 2 to 3, characterized in that the first radiation filter (**1**) is disposed in a second marginal area between the at lest one lateral bar (**4***a*, **4***b*) and the second lower projection (**6***c*).

10. Rectangular frame arrangement according to any of claims 2 to 9, characterized in that a second radiation filter (**2**) is disposed in a first margin area between the at least one lateral bar (**4***a*, **4***b*) and the first upper projection (**5***b*), and in a second marginal area between the at least one lateral bar (**4***a*, **4***b*) and the second upper projection (**6***b*).

11. Rectangular frame arrangement according to any of claims 1 to 10, characterized in that the spring clips (**3***a*, **3***b*, **3***c*, **3***d*) are formed from spring steel.

12. Rectangular frame arrangement according to any of claims 1 to 11, characterized in that two first spring clips (**3***a*, **3***c*) are disposed on the first lateral edge and two second spring clips (**3***b*, **3***d*) on the second lateral edge, a lateral bar (**4***a*, **4***b*) of one of the two first spring clips (**3***a*, **3***c*) connecting with one of the two second spring clips, and the total of four spring clips (**3***a*, **3***b*, **3***c*, **3***d*) are disposed near one of the four corners of the frame arrangement, and the lateral bars (**4***a*, **4***b*) are connected to one another by at least one connecting rod (**13**).

13. Rectangular frame arrangement according to any of claims **1** to**12**, characterized in that the first radiation filter (**1**) has a rectangular periphery.

14. Rectangular frame arrangement according to any of claims 13 to 14, characterized in that the first radiation filter (**1**) is an interference filter.

15. Rectangular frame arrangement according to either of claims 13 to 14, characterized in that the first radiation filter (**1**) has a width and a length ranging from 210 mm to 300 mm.

16. Rectangular frame arrangement according to claim 15, characterized in that the first radiation filter (**1**) has a width of 220 mm and a length of 290 mm.

17. Rectangular frame arrangement according to any of claims 10 to 16, characterized in that the second radiation filter (**2**) is an UV filter or an infrared filter.

18. Rectangular frame arrangement according to any of claims 10 to 17, characterized in that the second radiation filter (**2**) is rectangular in shape.

19. Rectangular frame arrangement according to claim 16, characterized in that the second radiation filter (**2**) has a width and a length ranging from 210 mm to 290 mm.

20. Rectangular frame arrangement according to claim 19, characterized in that the second radiation filter has a width of 220 mm and a length of 278 mm.

21. Rectangular frame arrangement according to any of claims 1 to 20, characterized in that the lateral bar (**4***a*, **4***b*) is connected to the first body portion (**5***a*) halfway between the first upper projection (**5***b*) and the first lower projection (**5***c*).

22. Rectangular frame arrangement according to any of claims 1 to 6, characterized in that the lateral bar (**4***a*, **4***b*) is connected to the upper second body portion halfway between the second upper projection (**6***b*) and the second lower projection (**6***c*).

23. Rectangular frame arrangement according to any of claims 7 to 22, characterized in that the lateral bar (**4***a*, **4***b*) is connected to the upper second body portion (**12***a*).

24. Rectangular frame arrangement according to any of claims 7 to 23, characterized in that the lateral bar (**4***a*, **4***b*) is connected to the lower second body portion between the second lower projection (**6***c*) and the step (**11**).

25. Rectangular frame arrangement according to any of claims 1 to 24, characterized in that the upper projections (**5***b*, **6***b*) and/or the lower projections (**5***c*, **6***c*) have an indentation (**5***g*, **5***f*, **6***g*, **6***f*).

26. Rectangular frame arrangement according to any of claims 1 to 25, characterized in that on each of the lateral edges of the frame arrangement at which no spring clip is present, there is disposed a slippage prevention means for the first radiation filter (**1**).

27. Rectangular frame arrangement according to any of claims 10 to 26, characterized in that on each of the lateral edges of the frame arrangement at which no spring clip is present, there is disposed a slippage prevention means for the second radiation filter (**2**).

28. Rectangular frame arrangement according to any of claims 1 to 27, characterized in that the first radiation filter (**1**) has an imprint or adhesive label (**15**) on its side facing away from the second radiation filter **92**).

29. Rectangular frame arrangement according to claim 28, characterized in that the imprint or adhesive label (**15**) has an opaque marginal area (**15***a*).

30. Tanning module having a housing (**20**), a three-dimensional reflector (**21**) disposed in or on the housing (**20**), as well as a rectangular frame arrangement according to any of claims 1 to 29 on one side of the housing (**20**), the first radiation filter (**1**) covering the radiation exit surface of the reflector (**21**), and the upper first projection (**5***b*) and the upper second projection (**6***b*) of the spring clip (**3***a*, **3***b*, **3***c*, **3***d*) facing the reflector, while the lower first projection (**5***c*) and the lower second projection (**6***c*) of the spring clip (**3***a* **3***b*, **3***c*, **3***d*) are turned away from the reflector (**21**).

31. Tanning module according to claim 30, characterized in that the rectangular frame arrangement is removable from the housing through a swing mechanism.

32. Tanning module according to claim 31, characterized in that the rectangular frame arrangement is hooked into the housing **(20)**.

33. Tanning module according to claim 31, characterized in that the rectangular frame arrangement is hooked into an opening **(22)** in the housing **20** according to **FIG. 7**.

34. Tanning module according to any of claims 28 to 31, characterized in that the rectangular frame arrangement is fixed in position by means of a snap mechanism **(23)**.

35. Tanning module according to any of claims 30 to 34, characterized in that a periphery of the reflector **(21)** parallel to the radiation exit surface describes a circle, an ellipse, a rectangle or a polygon.

36. Tanning module according to claim 35, characterized in that the reflector **(21)** is formed of facets and the periphery of the reflector **(21)** parallel to the radiation exit surface describes a polygon with twelve corners.

37. Tanning module according to claim 36, characterized in that the reflector **921)** has a height of 90 mm to 95 mm, especially of 93.6 mm, and the dodecagon in the plane of the radiation exit surface has a maximum diameter (corner to corner) ranging from 210 mm to 340 mm, especially one of 210 mm.

38. Tanning module according to claim 36, characterized in that the reflector **(21)** has a height ranging from 110 mm to 125 mm, especially of 118.7 mm, and the dodecagon in the plane of the radiation exit surface has a maximum diameter (corner to corner) ranging from 170 mm to 200 mm, especially one of 184 mm.

39. Tanning module according to claim 36, characterized in that the reflector **(21)** has a height ranging from 75 mm to 90 mm, especially of 83.3 mm, and the dodecagon in the plane of the radiation exit surface has a maximum diameter (corner to corner) ranging from 205 mm to 235 mm, especially of 220 mm.

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