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(54) **A STAIR TREAD AND A STAIR TREAD OVERLAY**

(57) A stair tread (10) and a stair tread overlay (20) are disclosed. The overlay (20) is fastened to the stair tread (10) by a reclosable touch fastener (11, 21), and the overlay (20) is detachable.

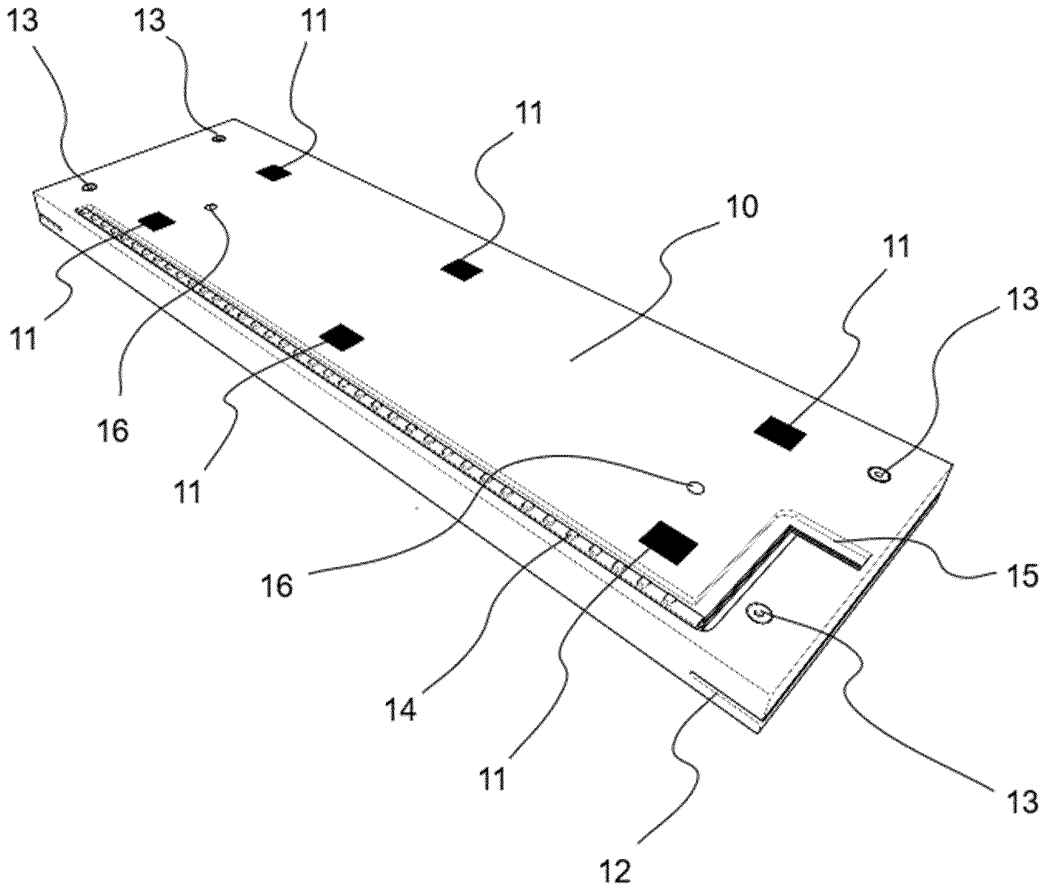

Fig. 1

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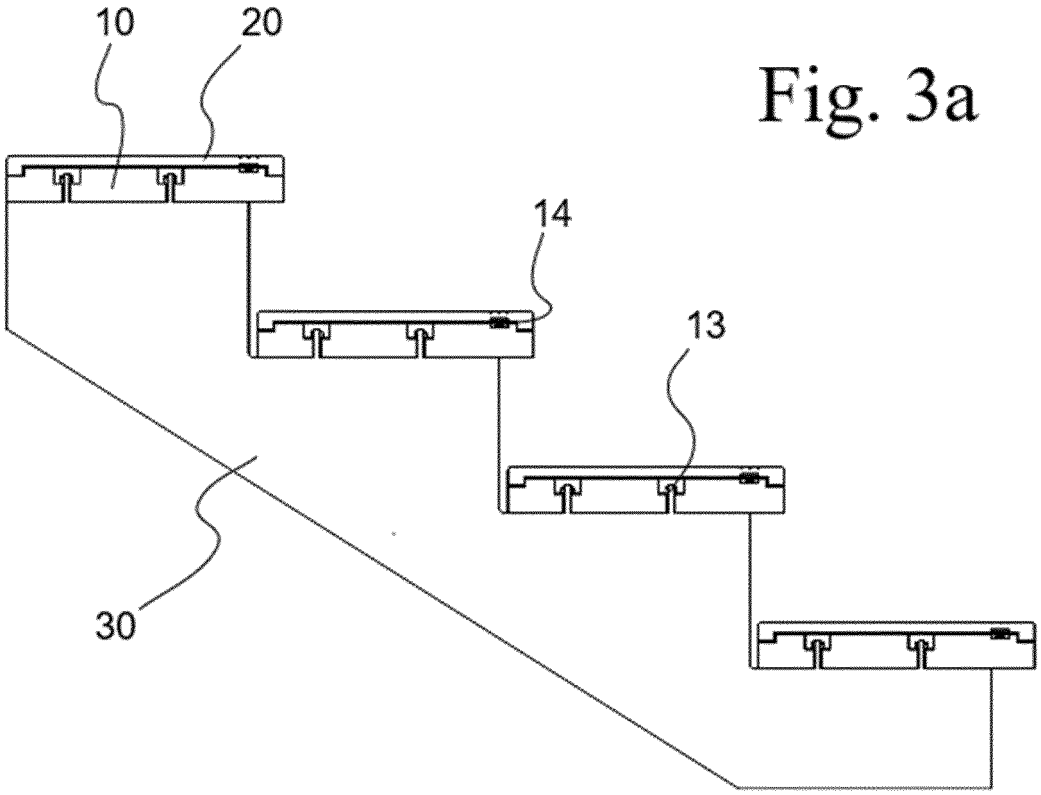

Fig. 3a

Description

BACKGROUND

[0001] Stairs in residential buildings are usually fabricated to last a lifetime of the building. However, the floorings may be replaced, the kitchen and the walls renovated, but the stairs remain untouched. The stairs may appear worn out, having wrong colour or be otherwise outdated. Replacing the stairs has traditionally required a lot of dismantling. Tread surfaces are usually glued or secured with nails or screws. Replacing the whole tread and riser is difficult task, especially when the structural integrity of the stairs must be maintained.

[0002] Stair tread overlays are one known alternative to renew the stairs with hardwood. Each stair and riser are independently resurfaced by removing the old tread surface, measuring and fastening the new overlay in place. Stair tread overlay enables using less expensive composite or wood on the structure, while the overlay provides a prestige look.

SUMMARY

[0003] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the detailed description. This summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter. Furthermore, the claimed subject matter is not limited to implementations that solve any or all disadvantages noted in any part of this disclosure.

[0004] A stair tread and a stair tread overlay are disclosed. The overlay is fastened to the stair tread by a reclosable touch fastener. The overlay is detachable. One example of reclosable touch fastener suitable for fastening the stair tread overlay is Dual Lock by 3M. The Dual Lock comprises mushroom-shaped stems on each face of the fastener, configured to resist lateral movement when connected. Any lateral movement may cause uncomfortable, slippery feeling when a person steps on the overlay.

[0005] The overlay may cover edges of the tread. It may comprise a riser portion to provide full cover to the stairs. The stairs and the overlay may be manufactured without nosing. Stepping on the front edge of the overlay does not produce significant moment to lift the back edge of the overlay from the stair tread. Therefore, the reclosable touch fastener provides safe fastening.

[0006] One application enabled by the detachable overlay is lighting hidden between the stair tread and the overlay. As any electronic component may malfunction, the detachable overlay allows repairs and replacements. The electrician may fix the electronic components without assistance from a carpenter.

[0007] Many of the attendant features will be more readily appreciated as they become better understood by reference to the following detailed description considered in connection with the accompanying drawings. The embodiments described below are not limited to implementations which solve any or all the disadvantages of known stair treads or stair tread overlays.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The present description will be better understood from the following detailed description read in light of the accompanying drawings, wherein

FIG. 1 illustrates one exemplary embodiment of a tread without an overlay;

FIG. 2 illustrates one exemplary embodiment of the overlay;

FIG. 3a illustrates a sectional view from the side of one exemplary embodiment;

FIG. 3b illustrates the tread of the same example;

FIG. 3c illustrates stairs according to the same example;

FIG. 4 illustrates one exemplary embodiment, wherein the overlay comprises a recess above an LED light;

FIG. 5 illustrates one exemplary embodiment, wherein the overlay comprises a riser;

FIG. 6 illustrates one exemplary embodiment of the stairs;

FIG. 7a illustrates one exemplary embodiment of the tread without an overlay;

FIG. 7b illustrates the same embodiment from alternative angle;

FIG. 8a illustrates a cross-sectional view of one exemplary embodiment of the tread with the overlay; and

FIG. 8b illustrates the same embodiment fully assembled.

[0009] Like reference numerals are used to designate like parts in the accompanying drawings.

DETAILED DESCRIPTION

[0010] The detailed description provided below in connection with the appended drawings is intended as a description of the present examples and is not intended to represent the only forms in which the present example

may be constructed or utilized. However, the same or equivalent functions and sequences may be accomplished by different examples.

[0011] Although the present examples are described and illustrated herein as being implemented in residential building, they are provided as an example and not a limitation. As those skilled in the art will appreciate, the present examples are suitable for application in a variety of different types of stairs.

[0012] FIG. 1 illustrates one exemplary embodiment of a tread 10 without an overlay. The tread 10 may be manufactured from any suitable material, as the aesthetics will be provided by an overlay 20. One exemplary embodiment of the overlay 20 is illustrated in FIG. 2. In one embodiment the tread 10 is made of laminated veneer lumber. The overlay 20 is fastened to the tread 10 with a reclosable touch fastener 11, 21. Grooves 12 at both ends of the tread 10 are configured to receive metal inserts arranged on a stringer 30. The metal inserts are secured by screws 13.

[0013] The overlay 20 is made of a solid material. In one embodiment the overlay 20 is made of solid surface material. Solid surface is a man-made material usually composed of a combination of alumina trihydrate (ATH), acrylic, epoxy or polyester resins and pigments. Solid surface is frequently used for seamless countertop installations. One example of known solid surface material is Corian, however many alternative brands with similar features exist. Solid surface is a non-porous low-maintenance material. It can mimic the appearance of granite, marble, stone, and other naturally occurring materials, and can be joined nearly invisibly. Typically manufactured in sheet form for fabrication, sheet goods can be heated and bent into three-dimensional shapes by thermoforming. Typically, solid surface sheets are processed into desired shapes using a two-part adhesive, after which the cured joint is machined flat. The same method is used to build up edge thickness, which can be profiled using tools and techniques like those used to work hardwoods. Worn out solid surfaces may be sanded down to restore the appearance.

[0014] A first portion 11 of the reclosable touch fastener 11, 21 is fixedly fastened to the tread 10. The first portion 11 may be fastened with an adhesive tape or glue. In one embodiment the first portion 11 is additionally secured to the tread 10 with staples or nails, for example by stapling the first portion 11 already fastened by the adhesive tape.

[0015] A second portion 21 of the reclosable touch fastener 11, 21 is fixedly fastened to the overlay 20. The second portion 21 may be fastened with an adhesive tape or glue. In one embodiment the second portion 21 is additionally secured to the overlay 20 with staples or nails, for example by stapling the second portion 21 already fastened by the adhesive tape. In one embodiment the second portion 21 is welded into the composite material of the overlay 20.

[0016] The overlay 20 is repeatedly detachable from the tread 10 by lifting the overlay 20 and repeatedly attachable by pushing the overlay 20 onto the tread 10. Such actions may be necessary for maintenance purposes, cleaning small gaps, replacing or renovating the overlay 20.

[0017] One example of suitable reclosable touch fasteners is a Dual Lock by 3M. The Dual Lock comprises interlocking mushroom-shaped stems on both faces. The tread 10 and the overlay 20 may comprise the same type of reclosable touch fastener such as the Dual Lock. The first portion 11 and the second portion 21 may comprise the same stem density. In one embodiment the second portion 21 has lower stem density than the first portion 11. The stem density may be selected to ensure strict placement of the overlay 20. Sometimes the mushroom-shaped stems may be perfectly aligned on the first portion 11 and the second portion 21 and the overlay 20 must be positioned slightly offset to avoid the perfect stem alignment. Different stem densities reduce the possibility of perfect stem alignment. In some embodiments, the stems are flexible in order to avoid the perfect alignment. In one embodiment the reclosable touch fastener 11, 21 is a double-sided tape that can be split from the middle into two portions of equal length. The back sides comprise the tape adhesive and the faces comprise the reclosable surface.

[0018] In one embodiment at least one of the reclosable touch fasteners 11, 21 is installed on a groove or recess, thereby enabling thicker reclosable touch fasteners 11, 21 to be used between the tread 10 and the overlay 20. In one exemplary embodiment the overlay 20 is retrofitted to older stairs. The overlay 20 comprises a recess for fitting the reclosable touch fastener 11, 21; the first portion 11 extends from the recess, so it may be fastened to the tread 10, while the second portion 21 is fixed to the overlay 20. The first portion 11 of the reclosable touch fastener 11, 21 comprises the adhesive material such as tape for fastening the first portion 11 fixedly to the tread 10.

[0019] The amount of reclosable touch fasteners 11, 21 may vary according to the desired fastening strength. The reclosable touch fasteners 11, 21 may occupy different surface areas on the tread 10, according to the application. For example, instead of six positions 11 shown in FIG. 1, the reclosable touch fastener 11, 21 may be applied as a single strip extending from one edge to opposite edge. In one embodiment detaching the overlay 20 from the tread 10 is configured to be difficult without proper tools. For example, the rear portion of the stairs may comprise a slot between the tread 10 and the overlay 20, wherein a flat screwdriver may be used to pry the overlay 20 off the tread 10. In one embodiment detaching the overlay 20 requires a special hook. In one embodiment detaching the overlay 20 requires a suction cup or a tool providing vacuum for lifting the overlay 20.

[0020] The process of fitting the overlay 20 over pre-existing stairs comprises the simplified steps of: measuring the pre-existing tread 10 and riser; modifying the

overlay 20 to fit over the pre-existing tread 10 and riser; providing a recess to the overlay 20 for the reclosable touch fastener 11, 21; and accommodating the overlay 20 onto the tread 10, with the reclosable touch fastener 11, 21 having the bottom portion covered with adhesive to fasten the first portion 11 to the tread 10. The overlay 20 may be removed from the tread 10, leaving the first portion 11 onto the tread 10. As the first portion 11 is exposed, it may be further secured to the tread 10 with nails, staples or other fastening means.

[0021] In one embodiment the overlay 20 comprises a guide pin 26 and the tread 10 comprises a guide hole 16 configured to position the overlay 20 above the tread 10. The strict placement of the overlay 20 may be improved by the guiding means. In one exemplary embodiment the means for fastening the overlay 20 onto the tread 10 comprise magnets. The tread 10 comprises a first magnet and the overlay 20 comprises a second magnet. The magnetic fields of the first magnet and the second magnet may be arranged to have poles aligned and the overlay clicks to exact position defined by the magnets. One example of the magnet suitable for fastening the overlay 20 is a screw-on countersunk pot magnet that may be fixedly fastened by a screw. The tread 10 and the overlay 20 may comprise recesses to enable flush mount and/or to avoid the gap between the tread 10 and the overlay 20. Magnetic fastening may be used with the reclosable touch fastener 11, 21. In one embodiment only magnets fasten the overlay 20 to the tread 10.

[0022] FIG. 3a illustrates a sectional view from the side of one exemplary embodiment. The tread 10 is fastened to a stringer 30 by screws 13. In this example the fastening is covered by the overlay 20. The finished stairs may hide from sight the structures or components used for fastening. In this example the overlay 20 covers the tread 10 from all sides. FIG. 3b illustrates the tread 10 of the same example, wherein a slot 31 is arranged around the edges, configured to hide the view to under the overlay 20. FIG. 3c illustrates stairs according to the same example, wherein the interface between the tread 10 and the overlay 20 is flush mounted. The stringer 30 is configured for floating stairs.

[0023] In one embodiment, a method for installing stairs comprise mounting the stringers 30 to a residential building, for example between two floors. Each tread 10 is positioned between the stringers 30 along the grooves 12. Screws 13 are tightened to secure the fastening. The installation method is logistically easy, as there is no need for installing the treads to the stringers before mounting the stairs to the building. Each component is lighter and safer to operate.

[0024] The overlays 20 enable easy protection to the stairs during the construction period. Stair tread overlays 20 may be positioned onto the treads 10 after the construction or renovation is completed, thereby protecting the visual appearance of the overlays 20. In one embodiment, low-value overlays 20 may be used to protect the stairs during the construction period. In one embodiment the treads 10 may be used without the overlays 20 during the construction period.

[0025] In one embodiment a layer of rubber is arranged between the overlay 20 and the tread 10. The layer of rubber provides step insulation. The layer of rubber is measured to fit next to the reclosable touch fastener 11, 21, allowing the mushroom stems to close appropriately. The layer of rubber may provide about 0,5 mm of vertical flex under the overlay 20. Thickness of the layer of rubber is less than the distance between the first portion 11 and the second portion 21 in a closed state, i.e. when the overlay 20 is positioned over the tread 10. In one example the layer of rubber is made of neoprene or any synthetic rubber. In one example the layer of rubber is made of any elastic material.

[0026] In one exemplary embodiment an LED light 14 is arranged between the tread 10 and the overlay 20. The LED light 14 may comprise an LED strip or multiple individual LEDs. In the example of FIG. 1 the LED light is positioned on a groove 15 at the tread 10. The cabling may be led along the groove 15 to the stringer 30. The control electronics of the LED light 14 may be positioned out of sight and/or it may be connected to electronics system of the residential building. FIG. 4 illustrates one exemplary embodiment, wherein the overlay 20 comprises a recess 40 above the LED light 14. The solid surface material may pass through some light. The recess 40 enables a brighter portion to the overlay 20. In one embodiment the layer of rubber frames the LED light 14, creating a sharper edge to the light contrast within the overlay 20 when the LED light 14 is on. The LED light 14 and cutouts in the layer of rubber may be used to create various light contrast effects, such as shapes or text.

[0027] In one exemplary embodiment the overlay 20 is retrofitted to pre-existing stairs and the LED light is fitted into the overlay 20. The overlay 20 comprises a second recess at the bottom surface for the LED light. The detachable overlay 20 enables servicing the electronics.

[0028] FIG. 5 illustrates one exemplary embodiment, wherein the overlay 20 comprises a riser 50. The riser 50 is in this example made of the same solid surface material, made from two sheets and having seamless connection. The structure does not comprise a nosing, therefore there is no risk of the overlay 20 coming loose as there is no significant moment causing the rear portion of the overlay 20 to lift from the tread 10. The riser 50 is vertically supported by the stringer 30. The stringer 30 receives any vertical impact, such as kicks to the riser 50. Therefore, the vertical impact to the riser 50 does not tilt the overlay 20.

[0029] FIG. 6 illustrates one exemplary embodiment of the stairs. The treads 10, not shown, are fastened to the stringers 30. The overlays 20 cover the treads 10, allowing the treads 10 to be made of visually low-grade material. Replaceable overlays 20 ensure that the stairs may be kept visually up-to-date even if the interior colours would be changed over time.

[0030] The production of the stairs may comprise standard components. Each tread 10 and/or each overlay 20 may be standard component. Measurements or other technical data of each component may be stored into a database. The database may contain measurements of retrofitted stair tread overlays and/or risers. Thereby the manufacturer of the stairs or the overlays 20 may provide suitable components to the stairs for many years after the stairs have been assembled.

[0031] The overlays 20 may be applied to various stairs. The present examples illustrate straight steps. The overlays 20 may also be positioned over spiral steps wherein the reclosable touch fastener 11, 21 is applied to areas providing sufficient fastening.

[0032] In one embodiment the overlay 20 is attached to the tread 10 by protruding fastening means from below the tread 10. The rubber layer between the tread 10 and the overlay 20 reduces impact sounds caused by stepping on the overlay 20. One example is a screw protruding into the overlay 20 through the tread 10.

[0033] In one embodiment the reclosable touch fastener comprises an assembly, wherein the tread 10 comprises a conical recess expanding downwards. The conical recess is configured to receive a flexible pin protruding from the overlay 20. The flexible pin may comprise a wide lower portion that, when pushed into the conical recess, keeps the overlay 20 in place. The overlay 20 is detachable by lifting from the tread 10 and again attachable by pushing the pin to the recess. In one embodiment the flexible pin comprises an expanding spring configured to expand the bottom portion of the pin when inserted into the conical recess. In one embodiment the reclosable touch fastener comprises a trim clip or a plastic rivet.

[0034] FIG. 7a illustrates one exemplary embodiment of the alternative tread 10 to be used in conjunction with the overlay 20 according to the example of FIG. 3a - FIG. 3c. FIG. 7b illustrates the same alternative tread 10 directly from above. The overlay 20 covers the tread 10 from all sides, leaving the lower portion of the tread 10 visible. The slot 31 is arranged around the edges, but it does not follow the inner shape of the overlay 20. The tread 10 edges above the slot 31 are configured to touch the inner surface of the overlay 20 edges at selected positions 72. Examples of the selected positions 72 are near the corners, leaving the slot 31 recessed at the corners. The selected positions 72 may be measured and cut to fit with the overlay 20.

[0035] In this example the front portion 71 of the slot 31 is parallel to the overlay 20, wherein the gap between the tread 10 and the inner surface of the overlay's 20 front side is kept minimal. In one embodiment the contact points between the overlay 20 and the tread 10 are at the selected positions 72 and the front portion 71. This arrangement mitigates or prevents unwanted light bleeding from the LED light 14, that could visualize odd shapes inside the overlay 20.

[0036] FIG. 8a illustrates a cross-sectional view of one exemplary embodiment of the stair tread. FIG. 8b illustrates a complete view of the same stair tread. In one exemplary embodiment the tread 10 is made of water-resistant MDF (MDF, Medium Density Fiberboard). In one exemplary embodiment the top portion 82 of the tread 10 is configured to be inside the overlay 20 is made of water-resistant MDF. Water-resistant fiberboard is known to maintain its size in various ambient humidity conditions, as is the overlay 10 made of solid surface material. The weather changes will not cause play between the tread 10 and the overlay 20. The lower portion 81 of the tread 10 may be made of other material than the top portion 82. The top portion 82 of the tread 10 may be fastened to the lower portion 81 by fastening means such as a screw 83, a bolt or glue.

[0037] In one embodiment the examples of FIG. 7a, 7b, 8a and 8b do not comprise the reclosable fastener for attaching the overlay 20 to the tread 10. The selected position 72 provide a snug fit between the overlay 20 and the tread 10, wherein the final assembly does not have recognizable free play. In the examples the overlay 20 surrounds the tread 10 from all sides and the overlay 20 does not have any nosing. The overlay 20 may stay in place gravitationally, as it may be relatively heavy component in relation to anyone using the stairs. Particularly without nosing, there is no torque that could lift any section of the overlay 20from the tread 10. In one embodiment the overlay 20 according to the examples of FIG. 7a, 7b, 8a and 8b is secured to the tread 10 with at least one reclosable fastener.

[0038] An example discloses a stair tread comprising: an overlay fastened to the tread by a fastener between the overlay and the tread, wherein the overlay is made of solid material. The fastener is a reclosable touch fastener comprising a first portion and a second portion, wherein the first portion of the reclosable touch fastener is fixedly fastened to the tread; the second portion of the reclosable touch fastener is fixedly fastened to the overlay; and the overlay is repeatedly detachable from the tread by lifting the overlay and repeatedly attachable by pushing the overlay onto the tread. In one embodiment faces of the first portion and the second portion of the reclosable touch fastener comprise interlocking mushroom-shaped stems. In one embodiment a layer of rubber is between the overlay and the tread, wherein thickness of the layer of rubber is less than the distance between the first portion of the reclosable touch fastener and the second portion of the reclosable touch fastener in a closed state. In one embodiment the layer of rubber is neoprene. In one embodiment the stair tread comprises an LED light between the tread and the overlay. In one embodiment the overlay comprises a recess above the LED light. In one embodiment the overlay comprises a riser. In one embodiment the overlay comprises a guide pin and the tread comprises a guide hole configured to position the overlay above the tread.

[0039] Alternatively, or in addition, a stair tread overlay is disclosed. The stair tread overlay comprises a top sur-

face and the bottom surface; a fastener on the bottom surface configured for fastening the overlay to a tread, wherein; the overlay is made of a solid material. The fastener is a reclosable touch fastener comprising a first portion and a second portion, wherein; the first portion of the reclosable touch fastener comprises an adhesive material for fastening the first portion fixedly to the tread; and the second portion of the reclosable touch fastener is fixedly fastened to the overlay; wherein the overlay is repeatedly detachable from the tread by lifting the overlay and repeatedly attachable by pushing the overlay onto the tread. In one embodiment faces of the first portion and the second portion of the reclosable touch fastener comprise interlocking mushroom-shaped stems. In one embodiment a layer of rubber is arranged on the bottom surface, wherein thickness of the layer of rubber is less than the distance between the first portion of the reclosable touch fastener and the second portion of the reclosable touch fastener in a closed state. In one embodiment the layer of rubber is neoprene. In one embodiment the stair tread overlay comprises an LED light in a groove at the bottom surface. In one embodiment the stair tread overlay comprises a recess on the top surface above the LED light. In one embodiment the overlay comprises a riser.

[0040] Any range or device value given herein may be extended or altered without losing the effect sought.

[0041] Although at least a portion of the subject matter has been described in language specific to structural features and/or acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Rather, the specific features and acts described above are disclosed as examples of implementing the claims and other equivalent features and acts are intended to be within the scope of the claims.

[0042] It will be understood that the benefits and advantages described above may relate to one embodiment or may relate to several embodiments. The embodiments are not limited to those that solve any or all of the stated problems or those that have any or all of the stated benefits and advantages. It will further be understood that reference to 'an' item refers to one or more of those items.

[0043] The steps of the methods described herein may be carried out in any suitable order, or simultaneously where appropriate. Additionally, individual blocks may be deleted from any of the methods without departing from the spirit and scope of the subject matter described herein. Aspects of any of the examples described above may be combined with aspects of any of the other examples described to form further examples without losing the effect sought.

[0044] The term 'comprising' is used herein to mean including the method blocks or elements identified, but that such blocks or elements do not comprise an exclusive list and a method or apparatus may contain additional blocks or elements.

[0045] It will be understood that the above description is given by way of example only and that various modifications may be made by those skilled in the art. The above specification, examples and data provide a complete description of the structure and use of exemplary embodiments. Although various embodiments have been described above with a certain degree of particularity, or with reference to one or more individual embodiments, those skilled in the art could make numerous alterations to the disclosed embodiments without departing from the spirit or scope of this specification.

Claims

1. A stair tread comprising:

an overlay (20) fastened to the tread (10) by a fastener between the overlay (20) and the tread (10), wherein;
the overlay (20) is made of solid material,
characterized in that:

the fastener is a reclosable touch fastener (11, 21) comprising a first portion (11) and a second portion (21), wherein;
the first portion (11) of the reclosable touch fastener (11, 21) is fixedly fastened to the tread (10);
the second portion (21) of the reclosable touch fastener (11, 21) is fixedly fastened to the overlay (20); and
the overlay (20) is repeatedly detachable from the tread (10) by lifting the overlay (20) and repeatedly attachable by pushing the overlay (20) onto the tread (10).

2. A stair tread according to claim 1, **characterized in that** faces of the first portion (11) and the second portion (21) of the reclosable touch fastener (11, 21) comprise interlocking mushroom-shaped stems.

3. A stair tread according to claim 1 or claim 2, **characterized in that** a layer of rubber is between the overlay (20) and the tread (10), wherein thickness of the layer of rubber is less than the distance between the first portion (11) of the reclosable touch fastener (11, 21) and the second portion (21) of the reclosable touch fastener (11, 21) in a closed state.

4. A stair tread according to claim 3, **characterized in that** the layer of rubber is neoprene.

5. A stair tread according to any of the claims 1 to 4, **characterized by** comprising an LED light (14) between the tread (10) and the overlay (20).

6. A stair tread according to any of the claims 1 to 5,

characterized in that the overlay (20) comprises a recess above the LED light (14).

7. A stair tread according to any of the claims 1 to 6, **characterized in that** the overlay (20) comprises a riser (50).

8. A stair tread according to any of the claims 1 to 7, **characterized in that** the overlay (20) comprises a guide pin (26) and the tread (10) comprises a guide hole (16) configured to position the overlay (20) above the tread (10).

9. A stair tread overlay comprising:

a top surface and the bottom surface;
a fastener on the bottom surface configured for fastening the overlay (20) to a tread (10), wherein;
the overlay (20) is made of solid material, **characterized in that**:

the fastener is a reclosable touch fastener (11, 21) comprising a first portion (11) and a second portion (21), wherein;
the first portion (11) of the reclosable touch fastener (11, 21) comprises an adhesive material for fastening the first portion (11) fixedly to the tread (10); and
the second portion (21) of the reclosable touch fastener (11, 21) is fixedly fastened to the overlay (20); wherein

the overlay (20) is repeatedly detachable from the tread (10) by lifting the overlay (20) and repeatedly attachable by pushing the overlay (20) onto the tread (10).

10. A stair tread overlay according to claim 9, **characterized in that** faces of the first portion (11) and the second portion (21) of the reclosable touch fastener (11, 21) comprise interlocking mushroom-shaped stems.

11. A stair tread overlay according to claim 9 or claim 10, **characterized in that** a layer of rubber is arranged on the bottom surface, wherein thickness of the layer of rubber is less than the distance between the first portion (11) of the reclosable touch fastener (11, 21) and the second portion (21) of the reclosable touch fastener (11, 21) in a closed state.

12. A stair tread overlay according to claim 11, **characterized in that** the layer of rubber is neoprene.

13. A stair tread overlay according to any of the claims 9 to 12,
characterized by comprising an LED light (14) in a groove at the bottom surface.

14. A stair tread overlay according to any of the claims 9 to 13,
characterized by comprising a recess on the top surface above the LED light (14).

15. A stair tread overlay according to any of the claims 9 to 14,
characterized in that the overlay (20) comprises a riser (50).

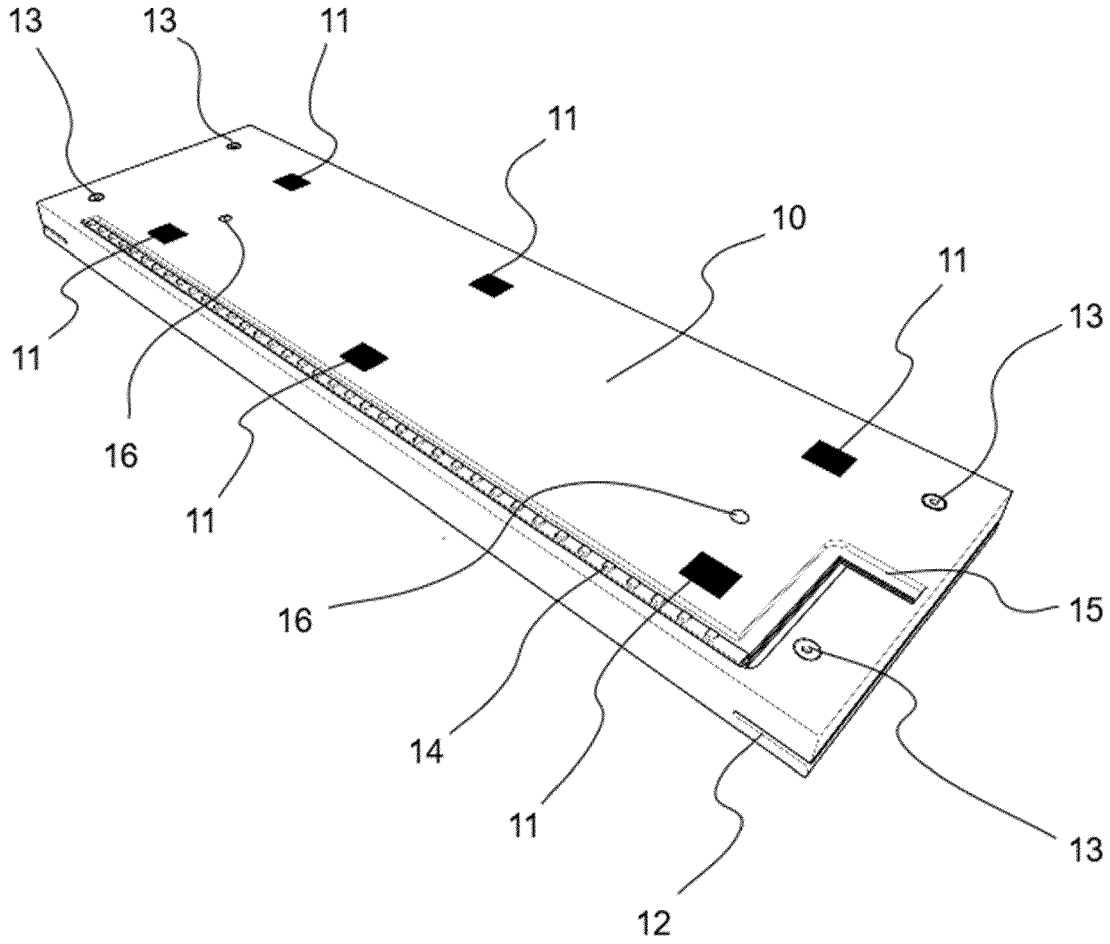

Fig. 1

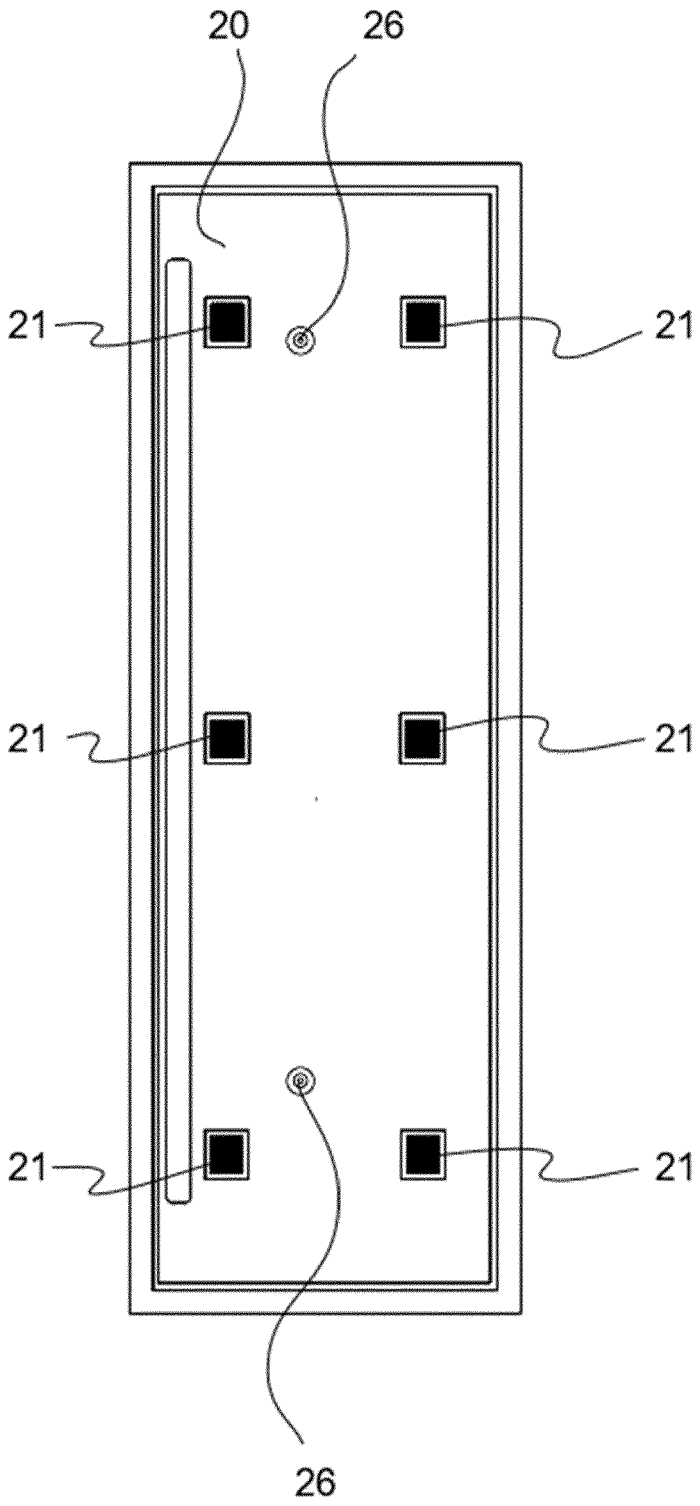

Fig. 2

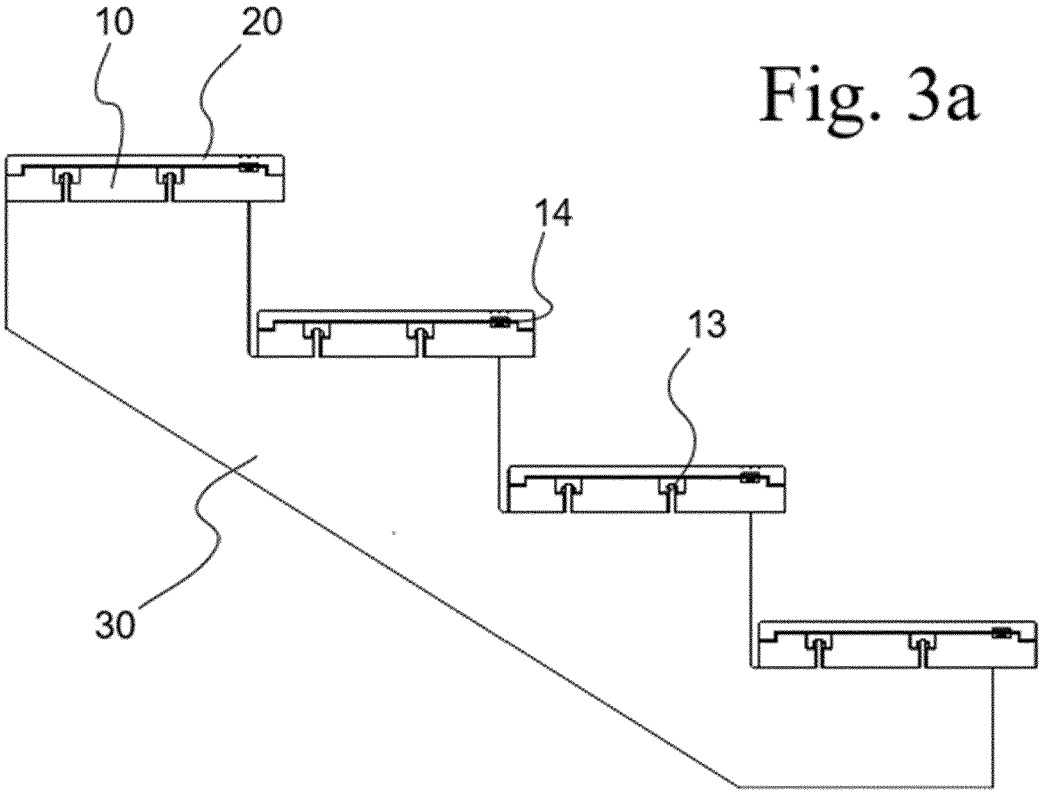

Fig. 3a

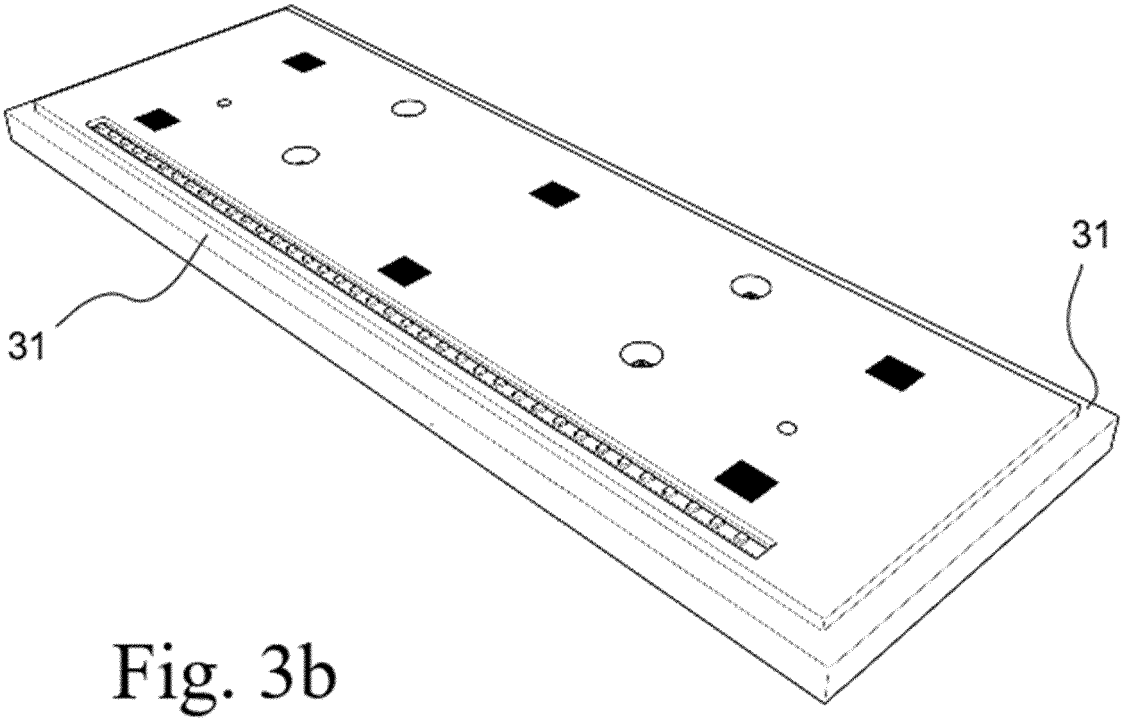

Fig. 3b

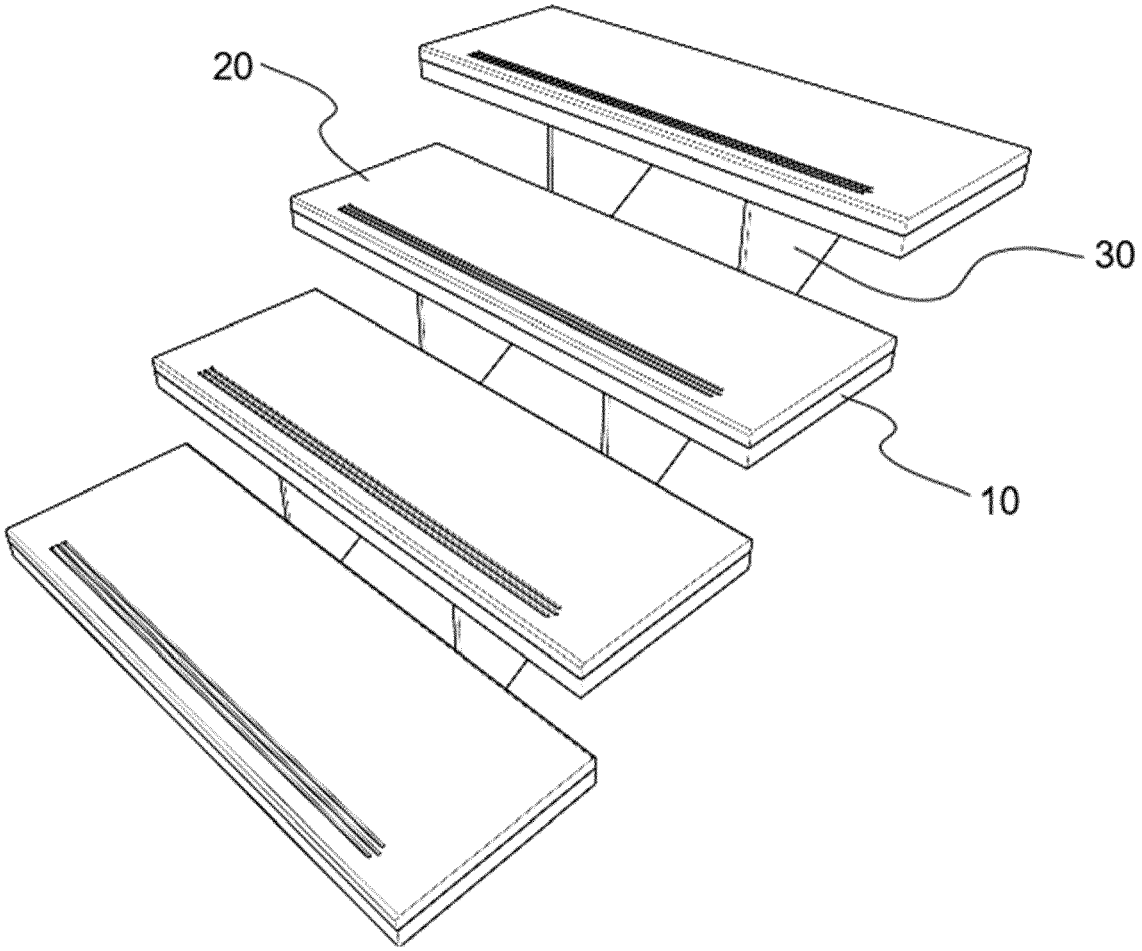

Fig. 3c

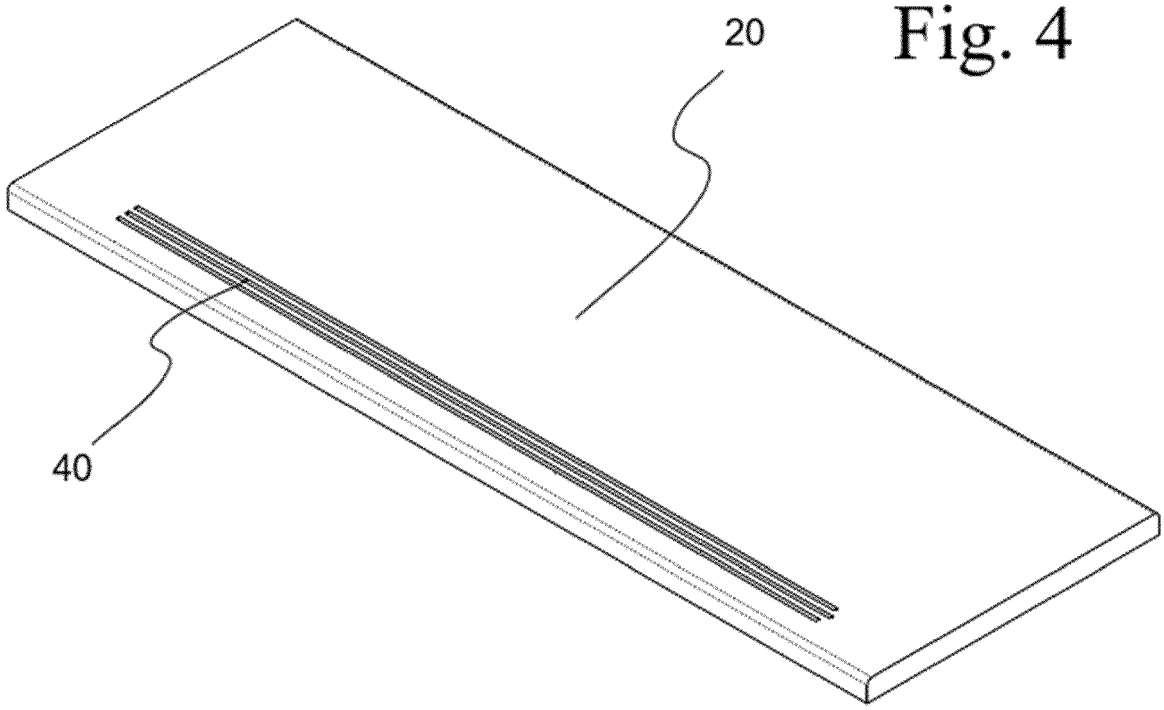

Fig. 4

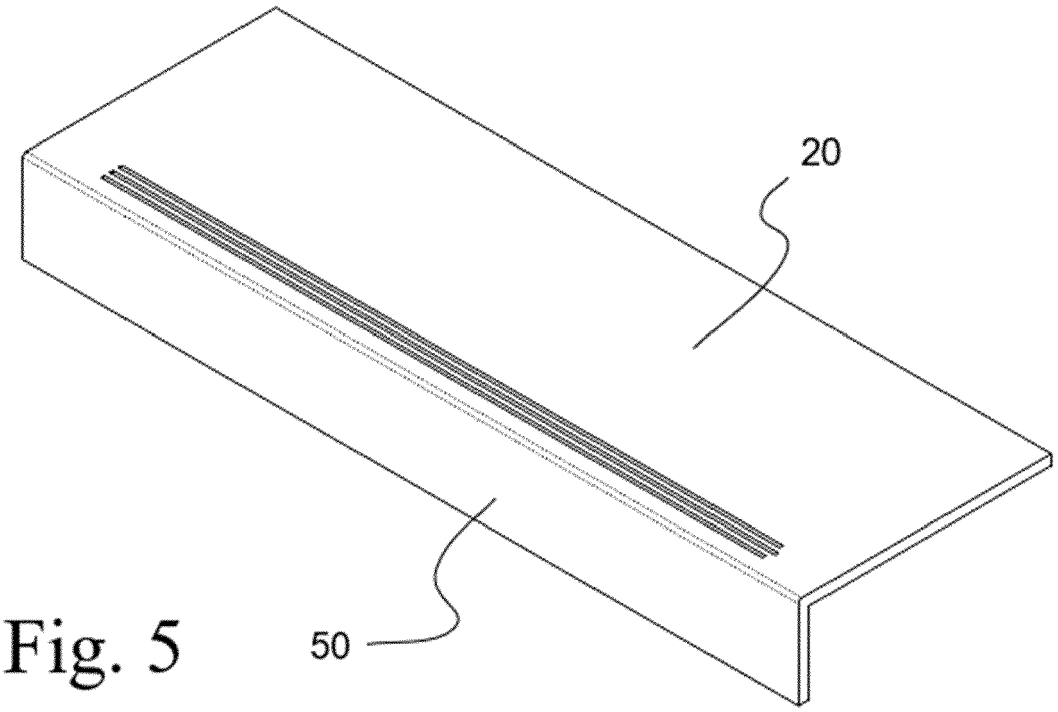

Fig. 5

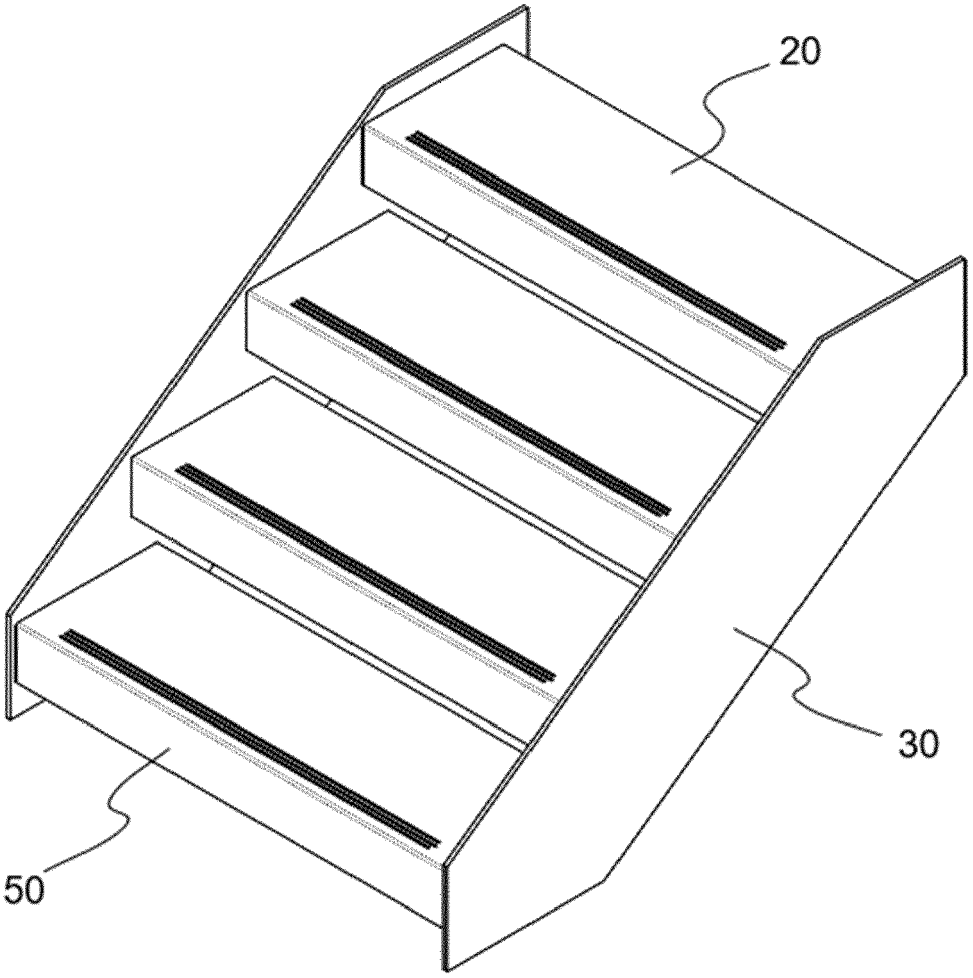

Fig. 6

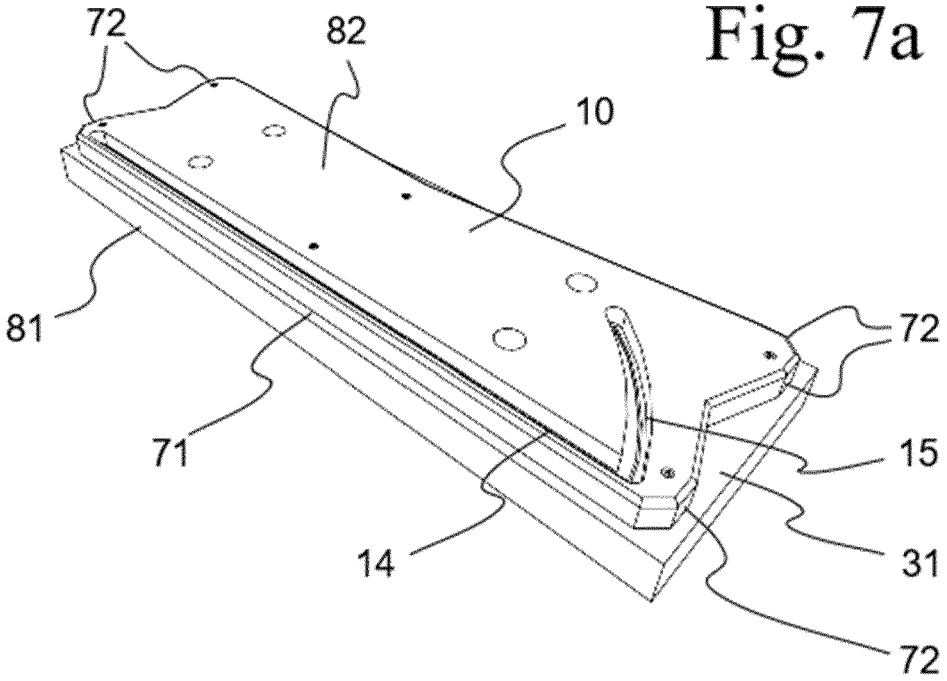

Fig. 7a

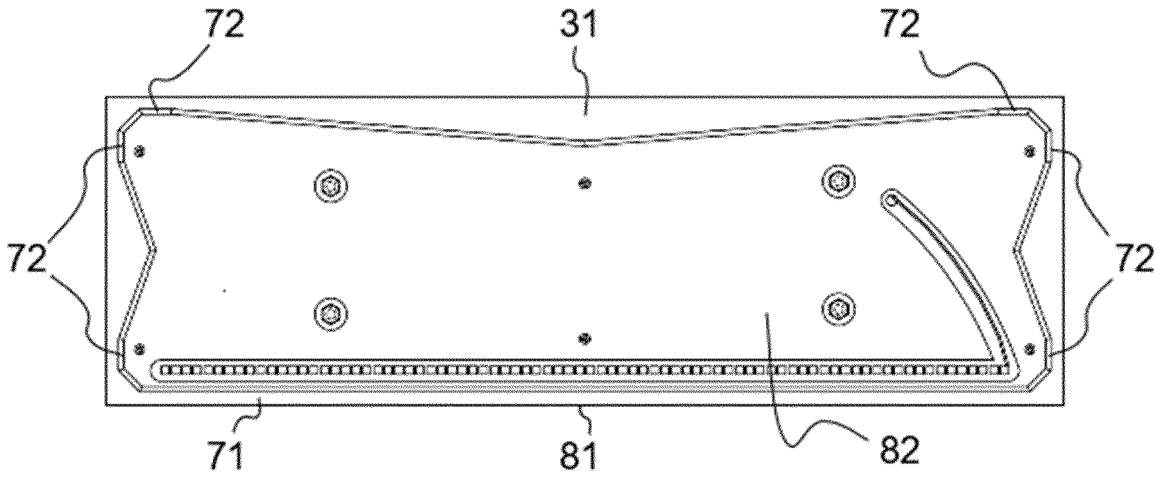

Fig. 7b

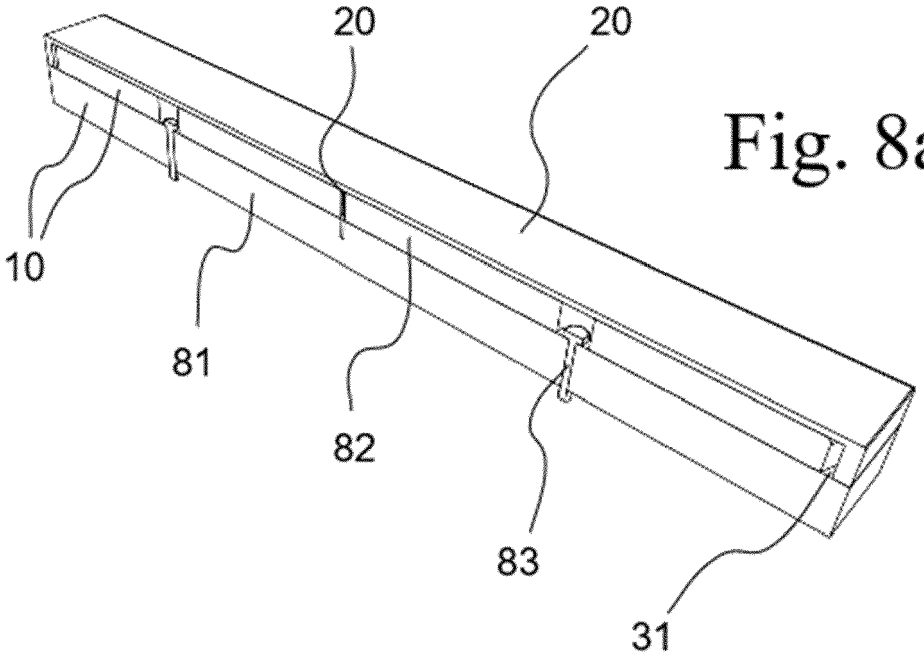

Fig. 8a

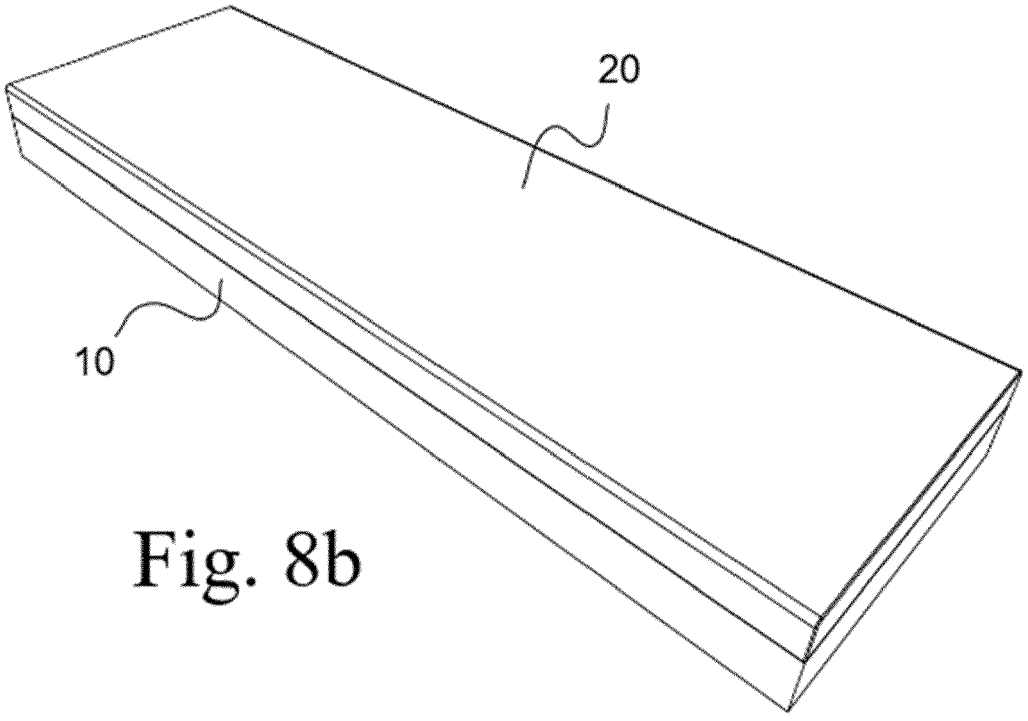

Fig. 8b

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EUROPEAN SEARCH REPORT

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Place of search	Date of completion of the search	Examiner
Munich	21 February 2020	Arsac England, Sally

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