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(54) **STAIR TREAD ELEMENT, STAIR RENOVATION ORNAMENT, KIT AND METHOD**

TREPPENSTUFENELEMENT, TREPPENRENOVIERUNGSSCHMUCK SOWIE KIT UND
VERFAHREN DAFÜR

ÉLÉMENT DE GIRON DE MARCHE, ORNEMENT DE RÉNOVATION D'ESCALIER, NÉCESSAIRE
ET PROCÉDÉ CORRESPONDANTS

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Description

Technical field

[0001] The present invention relates to a stair tread element, such as a stair tread cover element or a stair tread renovation element, for the purpose of imparting a durable surface with a predetermined appearance to a stair tread, with a surface finishing layer on the rear side of a nose element similar to a surface finishing layer of the upper side of the stair tread element. The present invention also relates to a stair renovation ornament preferably having a surface finishing layer similar to that of the stair tread element. The present invention further relates to a kit for applying in stair renovation or stair ornamentation. The present invention also relates to a method for manufacturing a stair tread element.

Background

[0002] As is known, use is made of stair tread elements with an integrated nose covering for the purpose of renovating a staircase, this making renovation of the staircase easy to carry out. It is however a drawback of the present elements that the height of the integrated nose covering must always be modified to the thickness of the treads to be treated. This circumstance causes costs due to different sizes being produced and/or the nosing height being modified during installation. DE 203 05 142 U1 discloses a covering for stairs. Said covering comprises an L-shaped floorboard section, and a front face profile, which front face profile forms a stair thread nose. The profiles are connected to one another, via a tongue-and-groove joint thereto provided. In particular, the covering of DE 203 05 142 U1 makes no mention of a finishing layer that covers the complete rear side of the nose.

Detailed description of the invention

[0003] In order to obviate this drawback the present invention provides a stair tread element, such as a stair tread cover element or stair tread renovation element, for the purpose of imparting a durable surface with a predetermined appearance to a stair tread, wherein the stair tread element comprises:

- a tread surface element which can be arranged during use on the tread surface of a stair tread,
- a nose element which can be arranged during use against the nosing of the stair tread, which nose element is connected to the tread surface element, and
- a surface finishing layer for covering and protecting what is during use the upper side of the tread surface element and the front side of the nose element, wherein the rear side of the nose element is likewise provided with a surface finishing layer.

[0004] Applying the surface finishing layer on the rear

side of the nose element enables the use of a relatively long nose element which may be seen in the case of open staircases. It is hereby unnecessary to spend time making the nose element to size. No different sizes of stair tread elements, or at least these elements thereof, need otherwise be made and stocked. The efficiency of production of the stair tread elements can hereby be increased. A further advantage is that a stair tread element with a relatively high nose element imparts a positive quality to the stair tread element during use thereof in the mounted position. The stair tread appears to be higher, and therefore stronger or more solid.

[0005] In a first preferred embodiment of the stair tread element the surface finishing layer on the rear side of the nose element is the same as the surface finishing layer on the front side. This further enhances the appearance during use. It is hereby also possible to make manufacture more efficient.

[0006] In a further preferred embodiment the nose element has a height greater than the average of the height of stair treads provided with the stair tread element, being more preferably greater than 70% of these stair treads, more preferably greater than 80% of these stair treads, more preferably greater than 90% of these stair treads, more preferably greater than 95% of these stair treads. This makes it increasingly possible to work with a variant of the stair tread element. The availability of the correct element is possible in a greater number of areas of application using one and the same element.

[0007] The height of the nose element is more preferably greater than 50 mm, preferably greater than 55 mm, more preferably greater than 60 mm, more preferably greater than or equal to 63 mm.

[0008] The surface finishing layer is more preferably a laminate layer such as a floor laminate layer. A quality of a real wooden staircase is hereby provided in per se known manner by means of an efficient production technique.

[0009] A further aspect according to the present invention relates to a stair renovation ornament for the purpose of providing an easily placeable, reliable ornamentation of a string side or rear side of a stair tread, preferably during a renovation, the stair renovation ornament comprising:

- a body,
- an ornament side of the body,
- a fixing side of the body, wherein:
- the fixing side of the body comprises at least a fixing member for co-action with a fixing element which can be arranged on the staircase or a part of the staircase, such as a rear side of a tread or a string side of a tread.

[0010] It becomes possible by means of such a stair renovation ornament to provide the rear side of a stair tread with a desired finish. This finish is preferably the same as the finish of the stair tread. It is however also

possible to provide the stair renovation ornament with a contrasting appearance.

[0011] In a further preferred embodiment the stair renovation ornament comprises a separating member for separating a part of the ornament unnecessary for predetermined applications. It hereby becomes possible to modify the size of the stair renovation element to the applicable width of this stair renovation element in a specific situation. A series of size-determining separating members can be applied for this purpose.

[0012] In a further preferred embodiment the stair renovation ornament comprises a receiving slot for receiving a board. A desired fitting with the respective board is provided by means of such a receiving slot.

[0013] A further aspect according to the present invention relates to a renovation kit for renovating stair treads of a staircase comprising a stair tread element according to the present invention, wherein the kit comprises :

- a predetermined number of stair tread elements of a first type for a first tread depth for use thereof on stair treads having the first tread depth;
- a predetermined number of stair tread elements of a second type for a second tread depth for use thereof on stair treads having a tread depth greater than the first tread depth or having a variable tread depth, such as corner treads.

[0014] An advantage of this aspect is that kits can be assembled geared to specific applications, on the basis of which renovation can be carried out in a specific application. Putting such kits together is hereby simplified and fewer different kits are required. Such a kit preferably comprises a maximum of fourteen stair tread elements of the first type supplemented with several stair tread elements of the second type and/or further types. Such a kit more preferably comprises a maximum of fourteen stair tread elements of the first type supplemented with stair tread elements provided on two sides with a nose element.

[0015] Such a kit more preferably also comprises an appropriate number of stair renovation ornaments according to the present invention.

[0016] A further aspect according to the present invention relates to a method for manufacturing a stair tread element as according to one or more of the claims 1 to 5, comprising steps for:

- providing an unfinished stair tread element,
- arranging a decorative layer on the unfinished stair tread element, preferably by means of arranging a print or a sheet with a print,
- arranging a finishing material, such as a protective layer, such as a foil or an adhesive material, further comprising steps for:
- performing the steps of arranging the decorative layer and the protective layer for the rear side of the nose element.

[0017] An advantage of such a method is that a stair tread element according to the present invention is obtained .

[0018] In a first preferred embodiment the method comprises steps for performing the steps of arranging the decorative layer and the protective layer for the rear side of the nose element, which are performed in the same treatment step for arranging these layers on the front side of the nose element. Both front and rear side are hereby treated in an efficient manner in one treatment step, resulting in the presence of the decorative layer.

[0019] The method more preferably comprises steps for performing the steps of arranging the decorative layer and the protective layer for the rear side of the nose element and the rest of the nose element which are performed in one treatment direction. Such a method enables efficient embodiment of a treatment machine for arranging the protective layer and the decorative layer.

[0020] In alternative manner the method comprises steps for arranging the decorative layer and the protective layer for the rear side of the nose element which are performed in a separate treatment step relative to the treatment steps for arranging the decorative layer and the protective layer for the front side of the nose element. It is hereby possible for instance to provide a rear side with a contrasting appearance relative to the front side.

[0021] Further advantages, features and details of the present invention will be described in greater detail hereinbelow on the basis of one or more preferred embodiments, with reference to the accompanying figures.

Fig. 1 is a cross-sectional side view of a preferred embodiment according to the present invention.

Fig. 2 shows the preferred embodiment of Fig. 1 in an application.

Fig. 3 shows the preferred embodiment of Fig. 1 in a further application and in a further preferred embodiment .

Fig. 4 shows the further preferred embodiment of Fig. 3 in greater detail.

Fig. 5 shows the further preferred embodiment of Fig. 3 in a further application.

[0022] A first preferred embodiment (Fig. 1) according to the present invention relates to a stair renovation element 1. This comprises a horizontally shown tread board 5 and an end surface 6 which are fixed to each other in order to form one stair tread element. The tread board part 5 is provided with a coating 2. This coating 2 is likewise applied to the front side of end surface 6 and to the rear side of end surface 6. Coating 2 can be a colour coating comprising a paint, but can also be a laminate coating as also applied on laminate floors. Applying the laminate coating 2 is performed in a manner which is per

se known in the manufacture of laminate floors.

[0023] An aspect of the present invention is that it is made possible to apply this coating to the upper side of the tread board part as well as to the front side of the end surface and the rear side of the end surface. It hereby becomes possible as stated in the foregoing, when the length of the rear side of the end surface is greater than the height of a stair tread 11, to have the appearance or quality of the protruding part match the rest of the staircase.

[0024] Fig. 2 shows the stair tread element in fitted position on a stair tread 11. It will be apparent herefrom that the rear side of the end part protrudes below stair tread 11. The treated rear side is therefore visible and, because it has the same appearance as the front side, a desired quality is provided.

[0025] Fig. 4 shows a schematic cross-section of a stair renovation ornament. The stair renovation ornament is preferably an elongate ornament for covering for instance the rear side of a stair tread or the upper side of the string of a stair tread. The stair renovation ornament is substantially U-shaped. Base 37 is bounded on either side by an upright element 35. The outer surface of the base and upright parts 97 is provided with an appearance preferably matching the discussed stair tread element. A fixing member 32 is arranged substantially close to the middle of base 37. This fixing member can be formed by an elongate slot or by discrete openings arranged in an elongate series.

[0026] Slots 33, 36 are also arranged on either side between base 97 and upright elements 35. Slot 33 is intended for the purpose of receiving for instance what is during use the rear side of the tread board part or a stringboard 46 (see Fig. 5). Slot 36 is intended for placing therein of break-off channels 34 so as to provide the option of breaking off the upright element 35 on this side. The reason for this is that the stair renovation ornament can be applied to cover the string of the staircase on the side of a wall 47, while slot 33 must connect to the stringboard (see Fig. 5). Alternatively, slot 36 can be made suitable for likewise receiving a board such as a stringboard or a tread board part. An advantage hereof is that the stair renovation element can in that case be given a symmetrical form, this providing advantages in the production thereof.

[0027] Fig. 3 shows an application of the stair renovation ornament 31. Slot 33 is arranged such that it receives board 5. A fastening pin is screwed into the rear side of stair tread 11, wherein the form of the fastening pin is such that it snaps in clickable manner into the slot 32 given a suitable form for this purpose. Stair renovation ornament 31 is shown in fig. 3 in a situation where it is broken off at break-off channels 34. Likewise provided for is that in this situation the stair renovation ornament could also be placed in its entirety, whereby it would appear as shown in fig. 4.

[0028] Fig. 5 shows a stair renovation ornament in an application of a finish for a stringboard 46 at the side of

a staircase. A new stringboard 46 is here placed against an old stringboard 48, which is in turn arranged against a wall 47. In such a staircase renovation it is important that the upper side of the stringboard has a good finish.

5 For this purpose a mounting block 44 is arranged on and/or fixed to the upper side of the old stringboard. A fastening pin 41 is screwed into mounting block 44 for the purpose of snapping thereon the slot 32 of stair renovation ornament 31. The width of the stair renovation ornament is modified to the distance between slot 33 and the wall. Possible unevenness in the wall can be camouflaged with a mastic, i.e. a filler.

10 **[0029]** It is possible to apply the break-off channels 34 for the purpose of making to size. Alternatively, it is possible to saw or cut the stair renovation ornament to the correct width.

15 **[0030]** The method for manufacturing the stair tread element according to the present invention comprises steps for providing the stair tread element without coating or laminate coating. The stair tread element is then provided with a design by means of for instance printing or arranging a layer with the design. A strengthening layer or a wear-resistant layer is then arranged. These layers are hardened and/or fixed by means of methods per se known for arranging a laminate. Arrangement of the layer with the design and/or the strengthening layer is preferably carried out in one treatment operation. It is however also possible to arrange the layer for the front side of the nosing and the rear side of the nosing separately. Flexibility in respect of varying the design is hereby realized.

20 **[0031]** The present invention has been described in the foregoing on the basis of several preferred embodiments. Different aspects of different embodiments are deemed described in combination with each other, wherein all combinations which can be deemed by a skilled person in the field are included. These preferred embodiments are not limitative for the scope of protection of this document. The rights sought are defined in the appended claims.

Claims

1. Stair tread element (1), such as a stair tread cover element or stair tread renovation element, for the purpose of providing a durable surface with a predetermined appearance to a stair tread (11), wherein the stair tread element (1) comprises:

- 45 - a tread surface element (5) which can be arranged during use on the tread surface of a stair tread (11),
- a nose element (6) which can be arranged during use against the nosing of the stair tread, which nose element (6) is connected to the tread surface element, and
- 50 - a surface finishing layer (2) for covering and protecting what is during use the upper side of

the tread surface element and the front side of the nose element (6),

characterized in that:

- the tread board and the nose element (6) are fixed to each other forming one stair tread element, and **in that:**
- the surface finishing layer (2) is applied to the front side of the nose element (6) and to the complete rear side of the nose element (6).

2. Stair tread element as claimed in claim 1, wherein the surface finishing layer (2) on the rear side of the nose element is the same as the surface finishing layer on the front side.

3. Stair tread element as claimed in claim 1 or 2, wherein the nose element has a height greater than the average of the height of stair treads provided with the stair tread element, being more preferably greater than 70% of these stair treads, more preferably greater than 80% of these stair treads, more preferably greater than 90% of these stair treads, more preferably greater than 95% of these stair treads.

4. Stair tread element as claimed in one or more of the foregoing claims, wherein the height of the nose element is greater than 50 mm, preferably greater than 55 mm, more preferably greater than 60 mm, more preferably greater than or equal to 63 mm.

5. Stair tread element as claimed in one or more of the foregoing claims, wherein the surface finishing layer is a laminate layer such as a floor laminate layer.

6. Renovation kit for renovating stair treads (11) of a staircase comprising stair tread elements (1) as claimed in one or more of the foregoing claims, wherein the kit comprises :

- a predetermined number of stair tread elements (1) of a first type for a first tread depth for use thereof on stair treads having the first tread depth;
- a predetermined number of stair tread elements of a second type for a second tread depth for use thereof on stair treads having a tread depth greater than the first tread depth or having a variable tread depth, such as corner treads.

7. Kit as claimed in claim 6, comprising a maximum of fourteen stair tread elements of the first type supplemented with several stair tread elements of the second type and/or further types.

8. Kit as claimed in claim 6 or 7, comprising a maximum of fourteen stair tread elements of the first type sup-

plemented with stair tread elements provided on two sides with a nose element.

9. Method for manufacturing a stair tread element as claimed in one or more of the claims 1 to 5, comprising steps for:

- providing an unfinished stair tread element (5,6), by fixing a tread board and a nose element (6) to each other, thereby forming one stair tread element,
- arranging a surface finishing layer (2) on the unfinished stair tread element,

characterized in that:

- the surface finishing layer (2) is applied to the front side of the nose element (6) and to the complete rear side of the nose element (6).

10. Method as claimed in claim 9, wherein the steps of arranging the surface finishing layer (2) on the rear side of the nose element are performed in the same treatment step for arranging these layers on the front side of the nose element.

11. Method as claimed in claim 9 or 10, wherein the steps of arranging the surface finishing layer (2) for the rear side of the nose element and the rest of the nose element are performed in one treatment direction.

12. Method as claimed in claim 9, wherein the steps of arranging the surface finishing layer (2) for the rear side of the nose element are performed in a separate treatment step relative to the treatment steps for arranging the surface finishing layer (2) for the front side of the nose element.

Patentansprüche

1. Treppenstufenelement (1), wie ein Treppenstufenbelagelement oder Treppenstufenrenovierungselement, zum Zweck der Bereitstellung einer dauerhaften Oberfläche mit einem vorbestimmtes Aussehen an einer Treppenstufe (11), wobei das Treppenstufenelement (1) umfasst:

- ein Lauffächenelement (5), das während des Verwendens auf der Lauffläche einer Treppenstufe (11) angeordnet werden kann,
- ein Stoßkante-element (6), das während des Verwendens gegen die Stoßkante der Treppenstufe angeordnet werden kann, wobei das Stoßkante-element (6) mit dem Lauffächenelement verbunden ist, und
- eine Oberflächenveredelungsschicht (2) zum Abdecken und Schützen der während des Ver-

wendens Oberseite des Laufflächenelements und der Vorderseite des Stoßkante-elements (6),

dadurch gekennzeichnet, dass:

- die Trittplatte und das Stoßkante-element (6) aneinander befestigt sind, so formend ein Treppenstufenelement, und dass:
- die Oberflächenveredelungsschicht (2) auf der Vorderseite des Stoßkante-elements (6) und zu der kompletten Rückseite des Stoßkante-elements (6) aufgebracht wird.

2. Treppenstufenelement wie beansprucht in Anspruch 1, wobei die Oberflächenveredelungsschicht (2) auf der Rückseite des Stoßkante-elements die gleiche ist wie die Oberflächenveredelungsschicht auf der Vorderseite.

3. Treppenstufenelement wie beansprucht in Anspruch 1 oder 2, wobei das Stoßkante-element eine Höhe aufweist, die größer ist als der Durchschnitt der Höhe von Treppenstufen, die mit dem Treppenstufenelement versehen sind, mehr bevorzugt größer als 70% dieser Treppenstufen ist, mehr bevorzugt größer als 80% dieser Treppenstufen ist, mehr bevorzugt größer als 90% dieser Treppenstufen ist, mehr bevorzugt größer als 95% dieser Treppenstufen ist.

4. Treppenstufenelement wie beansprucht in einem oder mehreren der vorhergehenden Ansprüche, wobei die Höhe des Stoßkante-elements größer ist als 50 mm, vorzugsweise größer als 55 mm, bevorzugter größer als 60 mm, bevorzugter größer als oder gleich 63 mm.

5. Treppenstufenelement wie beansprucht in einem oder mehreren der vorhergehenden Ansprüche, wobei die Oberflächenbehandlungsschicht eine Laminatschicht wie eine Bodenlaminatschicht ist.

6. Renovierungskit zum Renovieren von Treppenstufen (11) einer Treppe umfassend Treppenstufenelemente (1) wie beansprucht in einem oder mehreren der vorhergehenden Ansprüche, wobei das Kit umfasst:

- eine vorbestimmte Anzahl von Treppenstufenelementen (1) eines ersten Typs für eine erste Laufflächentiefe zur Verwendung derselben auf Treppenstufen mit der ersten Laufflächentiefe;
- eine vorbestimmte Anzahl von Treppenstufenelementen eines zweiten Typs für eine zweite Laufflächentiefe zur Verwendung derselben auf Treppenstufen mit einer Laufflächentiefe, die größer ist als die erste Laufflächentiefe oder mit

einer variablen Laufflächentiefe, wie Ecken-Stufen.

7. Kit wie beansprucht in Anspruch 6, umfassend ein Maximum von vierzehn Treppenstufenelementen des ersten Typs, ergänzt mit mehreren Treppenstufenelementen des zweiten Typs und/oder weiterer Typs.

8. Kit wie beansprucht in Anspruch 6 oder 7, umfassend ein Maximum von vierzehn Treppenstufenelementen des ersten Typs, ergänzt mit Treppenstufenelementen, die an zwei Seiten mit einem Stoßkante-element versehen sind.

9. Verfahren zur Herstellung eines Treppenstufenelements wie beansprucht in einem oder mehreren der Ansprüche 1 bis 5, umfassend Schritte für:

- das Bereitstellen eines unfertigen Treppenstufenelements (5,6) durch das aneinander Befestigen einer Trittplatte und eines Stoßkante-elements (6), wodurch ein Treppenstufenelement gebildet wird,
- das Anordnen einer Oberflächenveredelungsschicht (2) auf dem unfertigen Treppenstufenelement,

dadurch gekennzeichnet, dass:

- die Oberflächenveredelungsschicht (2) auf der Vorderseite des Stoßkante-elements (6) und zu der kompletten Rückseite des Stoßkante-elements (6) aufgebracht wird.

10. Verfahren wie beansprucht in Anspruch 9, wobei die Schritte des Anordnens der Oberflächenveredelungsschicht (2) auf der Rückseite des Stoßkante-elements in demselben Behandlungsschritt zum Anordnen dieser Schichten auf der Vorderseite des Stoßkante-elements durchgeführt werden.

11. Verfahren wie beansprucht in Anspruch 9 oder 10, wobei die Schritte des Anordnens der Oberflächenveredelungsschicht (2) für die Rückseite des Stoßkante-elements und den Rest des Stoßkante-elements in einer Behandlungsrichtung durchgeführt werden.

12. Verfahren wie beansprucht in Anspruch 9, wobei die Schritte des Anordnens der Oberflächenveredelungsschicht (2) für die Rückseite des Stoßkante-elements in einem separaten Behandlungsschritt relativ zu den Behandlungsschritten zum Anordnen der Oberflächenveredelungsschicht (2) für die Vorderseite des Stoßkante-elements durchgeführt werden.

Revendications

1. Élément de marche d'escalier (1), tel qu'un élément de recouvrement de marche d'escalier ou un élément de rénovation de marche d'escalier, destiné à fournir une surface durable avec un aspect prédéterminé à une marche d'escalier (11), l'élément de marche d'escalier (1) comprenant :
 - un élément de surface de marche (5) qui peut être agencé, lors de l'utilisation, sur la surface de marche d'une marche d'escalier (11),
 - un élément de nez (6) qui peut être agencé, lors de l'utilisation, contre le nez de la marche d'escalier, lequel élément de nez (6) est relié à l'élément de surface de marche, et
 - une couche de finition de surface (2) pour recouvrir et protéger ce qui est, lors de l'utilisation, le côté supérieur de l'élément de surface de marche et le côté avant de l'élément de nez (6),
- caractérisé en ce que :
 - le plan de marche et l'élément de nez (6) sont fixés l'un à l'autre formant un élément de marche d'escalier, et en ce que :
 - la couche de finition de surface (2) est appliquée sur le côté avant de l'élément de nez (6) et sur le côté arrière complet de l'élément de nez (6).
2. Élément de marche d'escalier selon la revendication 1, dans lequel la couche de finition de surface (2) sur le côté arrière de l'élément de nez est la même que la couche de finition de surface sur le côté avant.
3. Élément de marche d'escalier selon la revendication 1 ou 2, dans lequel l'élément de nez a une hauteur supérieure à la moyenne de la hauteur des marches d'escalier munies de l'élément de marche d'escalier, étant plus préférablement supérieure à 70 % de ces marches d'escalier, plus préférablement supérieure à 80 % de ces marches d'escalier, plus préférablement supérieure à 90 % de ces marches d'escalier, plus préférablement supérieure à 95 % de ces marches d'escalier.
4. Élément de marche d'escalier selon l'une ou plusieurs des revendications précédentes, dans lequel la hauteur de l'élément de nez est supérieure à 50 mm, de préférence supérieure à 55 mm, plus préférablement supérieure à 60 mm, plus préférablement supérieure ou égale à 63 mm.
5. Élément de marche d'escalier selon l'une ou plusieurs des revendications précédentes, dans lequel la couche de finition de surface est une couche de stratifié telle qu'une couche de stratifié de plancher.

6. Ensemble de rénovation pour rénover des marches d'escalier (11) d'un escalier comprenant des éléments de marche d'escalier (1) selon l'une ou plusieurs des revendications précédentes, dans lequel l'ensemble comprend :
 - un nombre prédéterminé d'éléments de marche d'escalier (1) d'un premier type pour une première profondeur de marche, destinés à être utilisés sur des marches d'escalier ayant la première profondeur de marche ;
 - un nombre prédéterminé d'éléments de marches d'escalier d'un second type pour une seconde profondeur de marche, destinés à être utilisés sur des marches d'escalier ayant une profondeur de marche supérieure à la première profondeur de marche ou ayant une profondeur de marche variable, telles que des marches d'angle.
7. Ensemble selon la revendication 6, comprenant un maximum de quatorze éléments de marche d'escalier du premier type complétés par plusieurs éléments de marche d'escalier du second type et/ou d'autres types.
8. Ensemble selon les revendications 6 ou 7, comprenant un maximum de quatorze éléments de marche d'escalier du premier type complétés par des éléments de marche d'escalier pourvus sur deux côtés d'un élément de nez.
9. Procédé de fabrication d'un élément de marche d'escalier selon l'une ou plusieurs des revendications 1 à 5, comprenant des étapes pour :
 - fournir un élément de marche d'escalier non fini (5, 6), en fixant un plan de marche et un élément de nez (6) l'un à l'autre, formant ainsi un élément de marche d'escalier,
 - agencer une couche de finition de surface (2) sur l'élément de marche d'escalier non fini,
 caractérisé en ce que :
 - la couche de finition de surface (2) est appliquée sur le côté avant de l'élément de nez (6) et sur le côté arrière complet de l'élément de nez (6).
10. Procédé selon la revendication 9, dans lequel les étapes d'agencement de la couche de finition de surface (2) sur le côté arrière de l'élément de nez sont réalisées dans la même étape de traitement que pour agencer ces couches sur le côté avant de l'élément de nez.
11. Procédé selon les revendications 9 ou 10, dans le-

quel les étapes d'agencement de la couche de finition de surface (2) pour le côté arrière de l'élément de nez et le reste de l'élément de nez sont réalisées dans une seule direction de traitement.

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12. Procédé selon la revendication 9, dans lequel les étapes d'agencement de la couche de finition de surface (2) pour le côté arrière de l'élément de nez sont réalisées dans une étape de traitement séparée par rapport aux étapes de traitement pour agencer la couche de finition de surface (2) pour la face avant de l'élément de nez.

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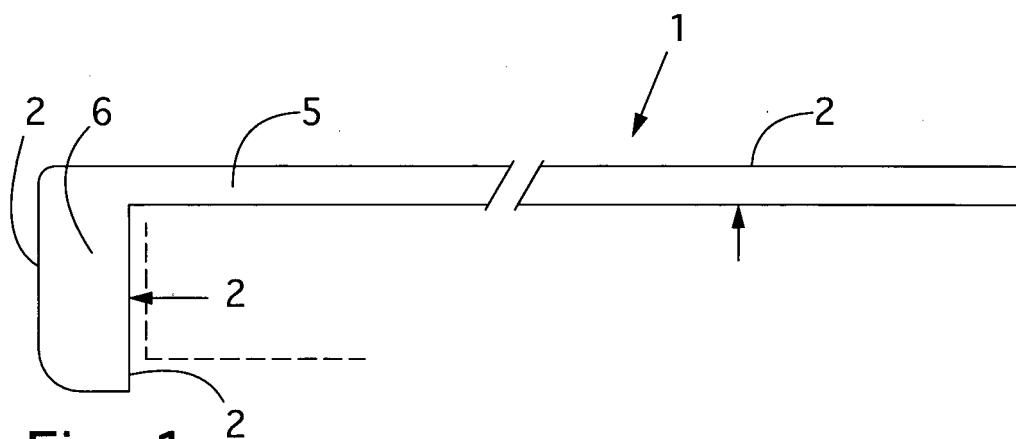


Fig. 1

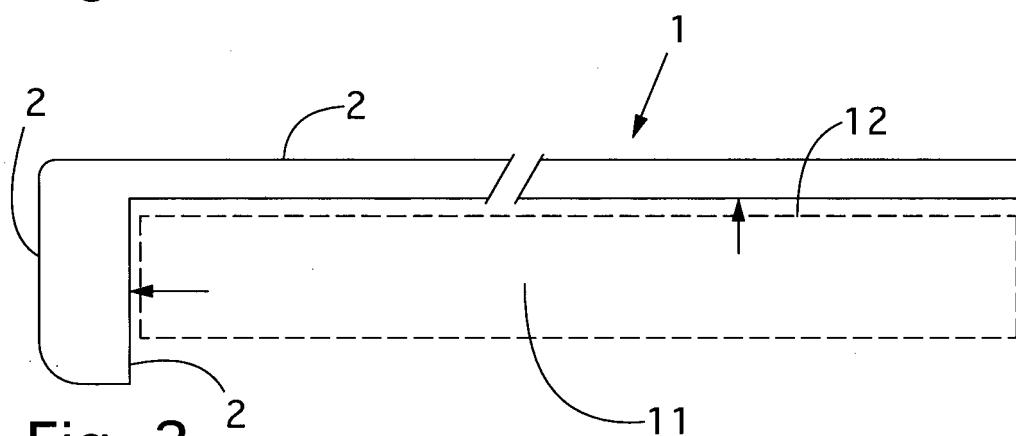


Fig. 2

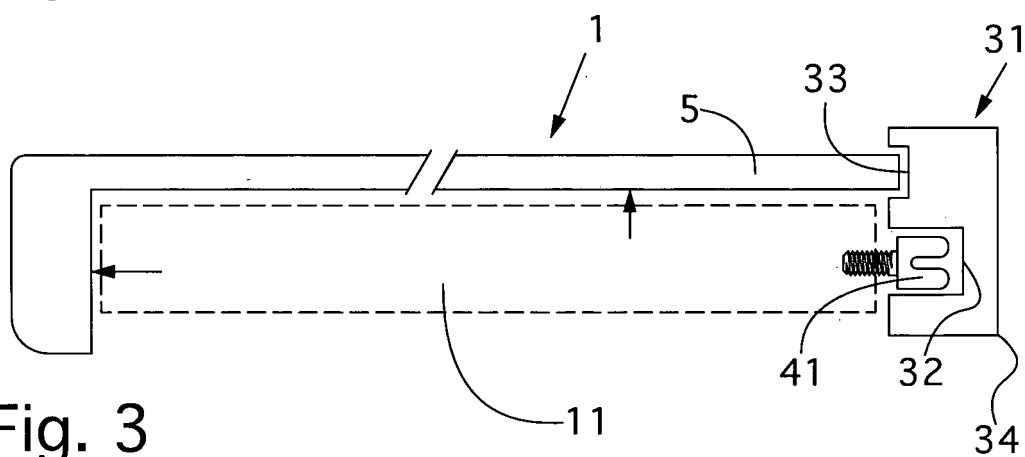


Fig. 3

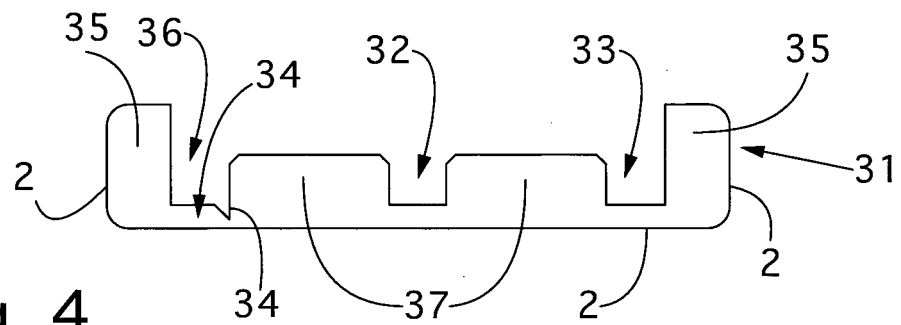


Fig. 4

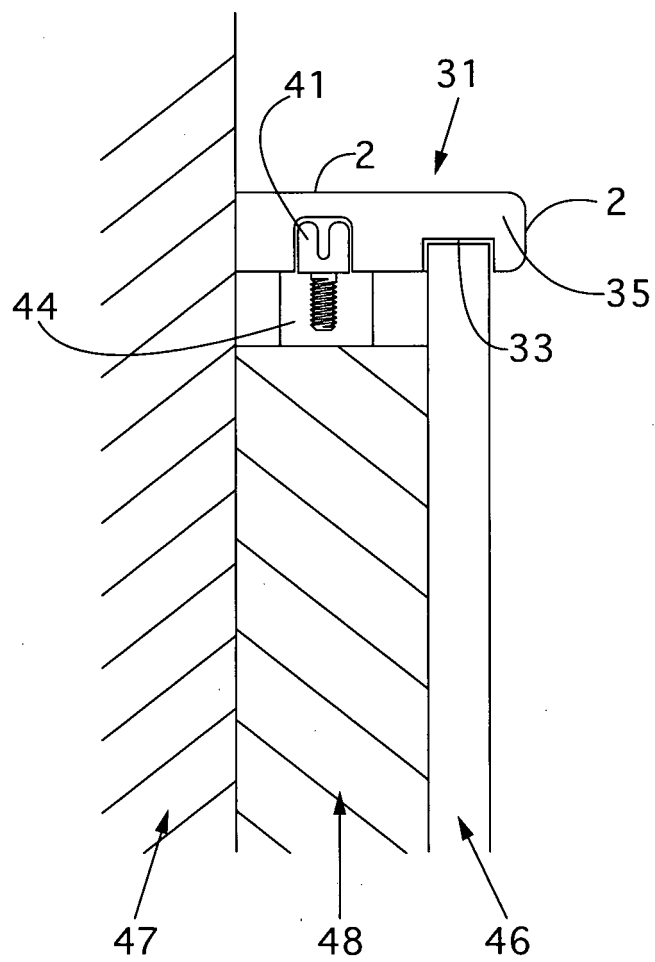


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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