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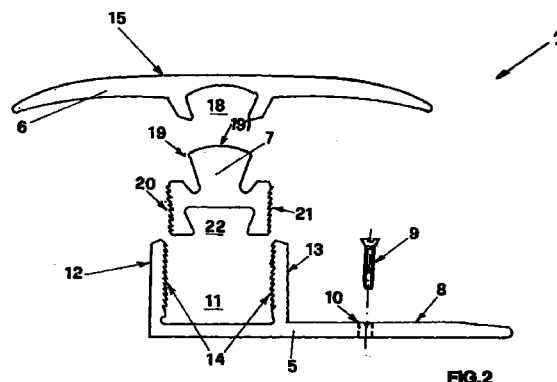
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(54) **Joint element for floorings**

(57) The invention produces a joint element (1) for floorings comprising a base strip (5) having a flat surface (8) anchored to the floor (30) and having a basically U-shaped cavity (11) and a cover strip (6, 6a, 6b, 6c) covering said base strip (5) fastened to it by a means of attachment. The means of attachment consists of at least one intermediary strip (7, 7d, 7e) slidingly connected to the cover strip (6, 6a, 6b, 6c) and gripping, by means of serrated sides (20,21) against the serrated vertical walls (12, 13) of the base strip (5). The intermediary strip (7, 7d, 7e) having a body which forms a jut (19) slidingly connected with said cover strip (6, 6a, 6b, 6c).



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Description

[0001] The invention concerns a joint element for floorings especially suited for use in making junction trims between different floorings, or to make simple edging trims for flooring.

[0002] It is known that when different kinds of flooring are laid in continuity one after another, such as ceramic tiles with parquet or with carpet or linoleum etc., joint elements are used to make the edging trims usually consisting of strips.

[0003] Known joint elements comprise a base strip that is placed underneath the flooring and a cover strip applied over the former so that a joint is made without creating a break in the floorings or the surfaces being joined.

[0004] According to a known construction the base strip has a flat surface with holes drilled through suited to allow it to be anchored, usually by means of expansion bolts, to the unfinished floor that is being covered by the flooring, and a pair of protruding rims creating a cavity with a U-shaped cross section.

[0005] With regards to the cover strip, it runs primarily in a lengthways direction and has a basically flat or slightly curved shape with an adequate width and form to join the two floorings.

[0006] It also has holes drilled through suited to receive as many screws usually of a self-tapping kind that, by fastening into the U-shaped cavity, allow the two strips to be attached together.

[0007] The installation of these joint elements requires that first the base strip is placed and anchored along the edge of the flooring that is about to be joined and then the cover strip is subsequently applied by means of screws.

[0008] The main inconvenience in this product is that the fixing screws between the base strip and the cover strip are exposed and therefore give the joint element an overall unpleasant appearance.

[0009] Another known product joins the two strips together by a means of attachment belonging to the actual strips, usually consisting of a female element belonging to the base strip and a male element belonging to the cover strip.

[0010] In particular, the base strip has a similar construction to the one described earlier where the female element consists of a U-shaped cavity, in this case having inward serrations along its sides.

[0011] With regards to the cover strip, this differs from the previous execution in that it has a male element consisting of a jutting out element set on its underside and having shape compatible with the cavity of the base strip. The jutting out element also has a series of lateral serrations suited to grip against the serrated surfaces belonging to the female element so that when the two strips are attached together they are prevented from coming apart.

[0012] Installation requires that, after having posi-

tioned and anchored the base strip, the male element is set against the female element and pressed sufficiently to fasten the two strips together.

[0013] The main inconvenience of the product described is that the floorings being joined, since they may have different thickness, require that the height of the cavity and the height of the jutting out element must vary according to the difference in thickness of the floorings being joined. As a result different strips have to be produced according to the thickness of the floorings, with consequent difficulties and production costs.

[0014] What's more this forces the operator to take considerable care in selecting which strips have to be installed.

[0015] An additional inconvenience is created by the production of the male female attachment that is used, by having to be particularly rigid it offers a very limited degree of freedom in the joint element. This allows the cover strip an ability to adapt optimally only to floorings having a limited difference in thickness.

[0016] Another inconvenience is that the male female type attachments described cannot be made, due to their mechanical properties, using certain sought after materials such as, for example brass, whose extrusions can only be produced with rather ample tolerances.

[0017] The main scope of this invention is to overcome the inconveniences described above.

[0018] More precisely the main scope is to produce a joint element for floorings that does not change either base strip or cover strip with changes in thickness of the floorings being joined.

[0019] An additional scope of this invention is to produce a joint element that has a cover strip with a greater degree of freedom than known products in the sense that it can also support being attached when the cover strip and the base strip are not parallel.

[0020] Another scope of this invention is to produce a joint element for floorings where the cover strip is easily adapted to join adjacent floorings without said strip having weak points in the material that would favour permanent bends in the strip.

[0021] Said scopes are achieved by a joint element for floorings that, in accordance with the main claim, comprises:

- a base strip having a flat surface anchored to the floor by a means of fixing and having a basically U-shaped cavity created by two vertical standing and serrated walls;
- a cover strip covering said base strip and fastened to it by a means of attachment, where said joint element is characterised in that said means of attachment consists of at least one intermediary strip slidably connected to the cover strip and gripping, by means of serrated sides, against the serrated vertical walls of the base strip, said intermediary strip having a body which forms a jut slidably con-

nected to said cover strip.

[0022] An advantage of the joint element for floorings invention is that it allows the cover strip to be produced with any kind of material.

[0023] Said scopes and advantages shall be better illustrated during the description of a preferred form of execution of the invention given as a guideline but not a limitation and illustrated in the attached diagrams, where:

- fig. 1 illustrates the joint element for floorings in one of its applications;
- fig. 2 illustrates a blown up side view of the joint element in fig. 1;
- fig. 3 illustrates a side view of the joint element in fig. 1;
- fig.'s 4, 5 and 6 illustrate variants in execution of the joint element invention;
- fig.'s 7 and 8 illustrate variants in execution of part of the joint element invention.

[0024] The joint element for floorings invention is illustrated in fig. 1 where it is generally indicated by 1 and is being used to join two adjacent floorings indicated by 2 and 3 separated from each other by a slot 4.

[0025] The joint element 1, which can also be seen in fig. 2, consists of a base strip 5 placed underneath the flooring 3, and a cover strip 6 that covers the base strip 5 by means of an intermediary strip 7 so that the floorings 2 and 3 being joined are enclosed within the base strip 5 and cover strip 6.

[0026] In particular, as illustrated in detail in fig. 2, the base strip 5 has a flat surface 8 that allows it to be anchored to the unfinished floor 30, by a means of fixing preferably consisting of expansion bolts 9, fitted in as many holes 10 drilled through the flat surface 8.

[0027] The base strip 5 also has two vertical standing walls 12 and 13, having inner serrations 14, creating a basically U-shaped cavity 11.

[0028] With regards to the cover strip 6, it has a curved upper surface 15 suited to join the two floorings 2 and 3 and a means of attachment, generally indicated by 16 connected to it.

[0029] The invention prescribes that the means of attachment 16 comprises an intermediary strip 7, slidably coupled to the cover strip 6 through an undercut cavity 18 on the cover strip, that is fastened to a jut 19 on the actual intermediary strip 7.

[0030] This intermediary strip 7 also has sides 20 and 21 having serrations suited to grip against the serrations 14 on the vertical walls 12 and 13 creating the U-shaped cavity 11 suited to house the intermediary strip 7.

[0031] The central body of said intermediary strip 7, in the example of a typical construction in fig. 2, has a cavity 22 having a segment joined to the section of the jutting out element 19 and an undercut cavity to allow

one or more intermediary strips 7 to be attached, stacked on top of each other without them becoming detached, as can be seen in fig. 3.

[0032] More precisely, in the preferred form of execution the jut belonging to the intermediary element 7 has a basically dovetail shape and is made to allow the cover strip 6 and the intermediary strip 7 to be slidably attached together and eventually another attachment by again sliding lengthways of an additional intermediary strip 7 in the cavity 22 on the intermediary strip 7 previously attached to the cover strip 6.

[0033] Naturally the intermediary strips 7 that are attached together to recover the difference in thickness between the two adjacent floorings may also add up to more than two since the shape of the intermediary strip 7 allows an unlimited quantity of the same strips to be connected together.

[0034] This allows the same cover strip 6 to be used as the thickness changes in the floorings 3 and 2 being adapted.

[0035] It should also be noted that since the intermediary strip 7 is made of plastic, it ensures sufficient elasticity in the serrated sides 20 and 21 to provide greater adaptability, with respect to known systems, to the differences in thickness between the two floorings being joined.

[0036] From a practical standpoint, installation of the joint element invention 1 prescribes that first of all the base strip 5 has to be positioned on the unfinished floor 30 next to the surfaces 2 and 3 being joined, and it has then to be anchored by means of the screws 9.

[0037] After this the jutting out element 19 belonging to the intermediary strip 7 is fastened in the cavity 18 belonging to the cover strip 6 by making it slide lengthways and thereby making the two strips fastened definitively together.

[0038] The cover strip 6 is then placed over the base strip 5 so that the U-shaped cavity 11 is aligned with the serrated walls 20 and 21 belonging to the body of the base strip 5.

[0039] The operator, by exerting an adequate pressure on the cover strip 6, pushes the intermediary strip 7 into the U-shaped cavity 11, connecting the cover strip 6 and base strip 5.

[0040] In such an event that the cover strip 6 and the base strip 5 cannot be attached as the intermediary strip 7 does not reach the base strip 5 because the floorings being joined are too thick, it is sufficient to attach another one or even more intermediary strips 7 to the original intermediary strip 7 previously attached to the cover strip 6, as illustrated in fig. 3.

[0041] It should also be noted how the play existing between the jutting out element 19 and cavities 18 and 22 provides the cover strip 6 with ability to rock so that it can adapt itself to the situation at hand.

[0042] More precisely, in the construction shown in fig. 2, it can be seen that the top part 191 of the jutting out element 19 is curved with the convex side facing

outwards, so that connection with the cavity 18 can be achieved in such a way that the cover strip 6 is allowed to achieve the most suitable angle for the joint between the two surfaces of the floorings 2 and 3.

[0043] With reference to fig. 3 it can also be seen how the intermediary strip 7 can be fastened to the cavity 11 of the base strip 5 at an angle, further increasing adaptability of the joint element 1 to actual needs. This is due to the elasticity of walls 20 and 21.

[0044] It is clear, as can be well noted in fig.'s 4, 5 and 6, that the cover strip can take on any kind of shape.

[0045] In particular the cover strip 6a illustrated in fig. 4 has a curved surface 15a so that it is made especially suited for use in joining flooring 2a with a surface being less thick 3a.

[0046] A cover strip 6b of the type illustrated in fig. 5 has a curved surface 15b so that it is made especially suited for use in framing the edge of the flooring 3b and join it to eventual walls 2b.

[0047] A cover strip 6c of the type illustrated in fig. 6 has surface 15c to finish the step 29 created by any channels that may exist between the flooring 3c and the wall 2c.

[0048] The sizes of the intermediary strip and the construction of both its jutting out element, together with cavities 18 and 22 may take on any form whatsoever.

[0049] According to a variant in execution the invention prescribes that there is no cavity 22 in the intermediary strip.

[0050] In particular the intermediary strip 7d, as illustrated in detail in fig. 7, does not have the cavity suited to allowing connection with similar intermediary strips.

[0051] An additional variant of the intermediary strip indicated by 7e, as illustrated in fig. 8, prescribes longitudinal slots 33 suited to allowing, by using appropriate tools, removal of part of the body of the intermediary strip 7e, to enable the strip to be adapted in height.

[0052] Even though the finding has been described with reference to the attached diagrams, it may undergo changes in construction all falling under the claims and therefore protected under this patent.

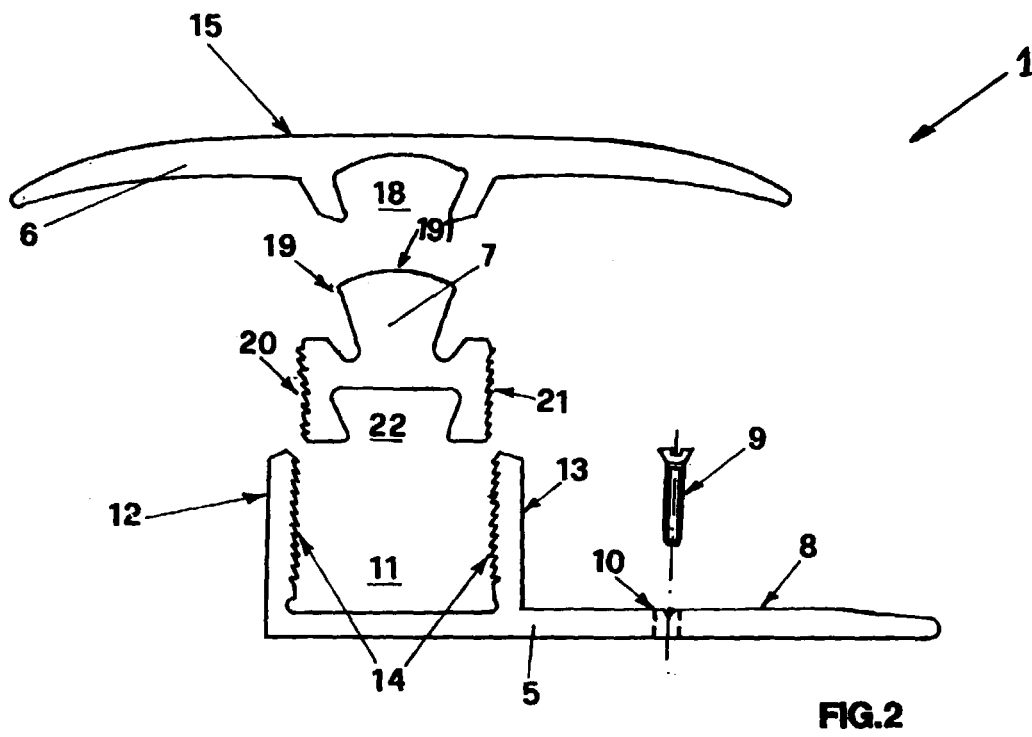
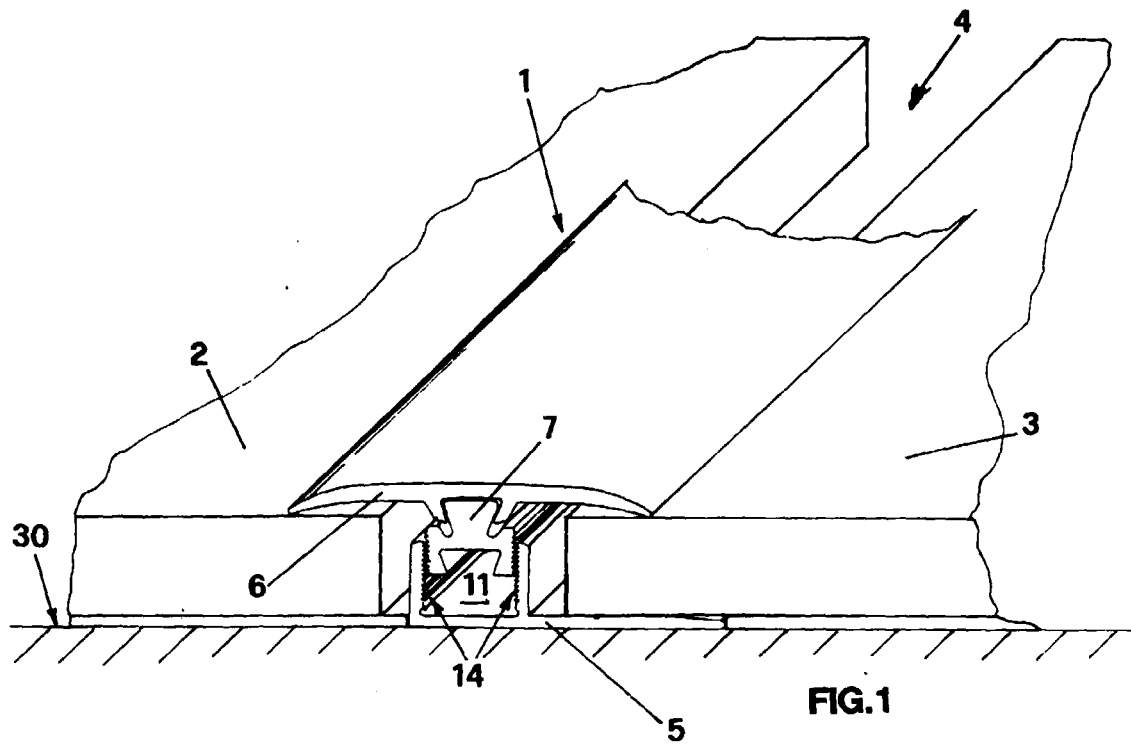
Claims

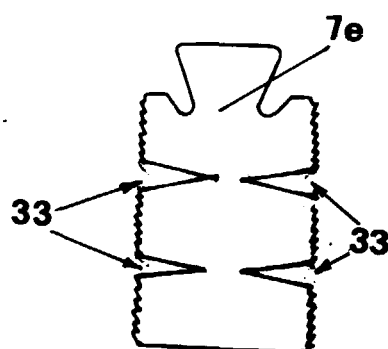
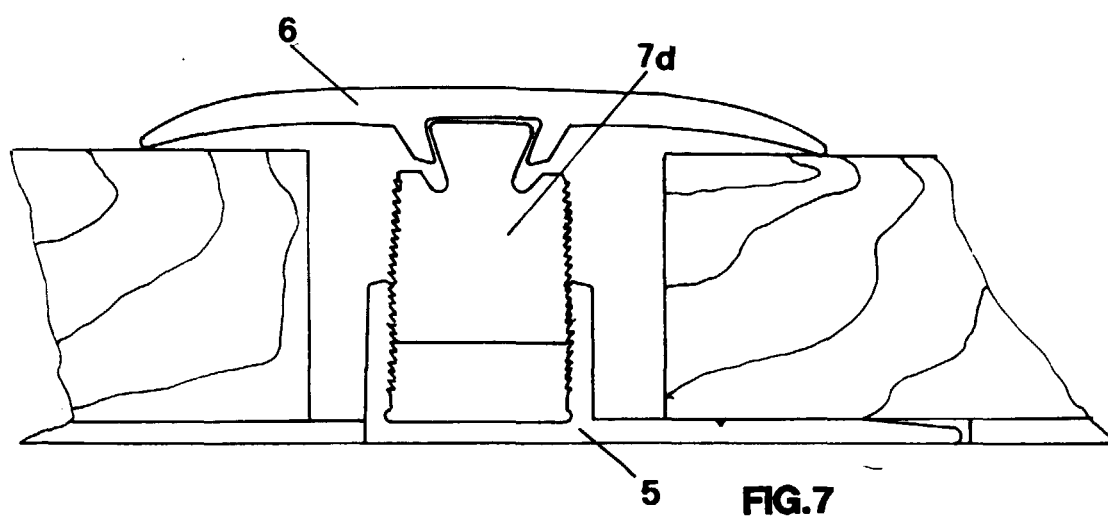
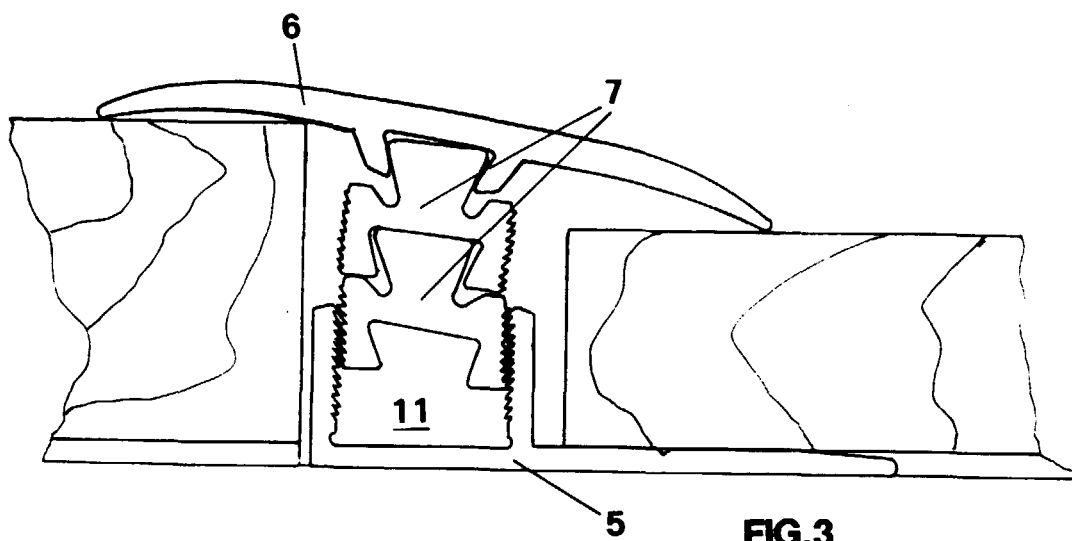
1. Joint element (1) for floorings comprising:

- a base strip (5) having a flat surface (8) anchored to the floor (30) by a means of fixing (9) and having a basically U-shaped cavity (11) created by two vertical standing walls (12, 13) with serrations (14);
- a cover strip (6, 6a, 6b, 6c) covering said base strip (5) and fastened to it by a means of attachment,
characterised in that said means of attachment consists of at least one intermediary strip (7, 7d, 7e) slidingly connected to the cover strip

(6, 6a, 6b, 6c) and gripping against, by means of serrated sides (20, 21), the serrated vertical walls (12, 13) of the base strip (5), said intermediary strip (7, 7d, 7e) having a body which forms a jut (19) slidingly connected to said cover strip (6, 6a, 6b, 6c).

2. Joint element (1) according to claim 1) **characterised in that** said intermediary strip (7) comprises a cavity (22) having undercuts and having a section compatible with said jut (19), such that it allows the superimposition of two or more intermediary strips (7).
3. Element (1) according to claim 1) **characterised in that** said intermediary strip (7c) has at least one pair of longitudinal slots (33) suited to allow the removal of part of the intermediary strip (7e), to enable the strip to be adapted in height.
4. Joint element according to claim 1) **characterised in that** the jut (19) belonging to the intermediary strip (7) has its top (191) curved, with the convex side facing outwards.
5. Element (1) according to claim 2) **characterised in that** the cavity (22) and the jut (19) of said intermediary element (7) have a dovetail shape.
6. Element (1) according to claim 2) **characterised in that** the jut (19) of said intermediary element (7, 7d, 7e) is slidingly connected to the cover strip (6, 6a, 6b, 6c) by means of a cavity (18) of the same section on the surface facing said base strip (5).
7. Element (1) according to any one of the above claims **characterised in that** said intermediary strip (7, 7d, 7e) is made of plastic or equivalent material so as to ensure the elasticity of the serrated sides (20, 21) of said intermediary strip (7, 7d, 7e).
8. Element (1) according to any one of the above claims **characterised in that** said intermediary strip (7, 7d, 7e) is set inside the U-shaped cavity (11) of the base strip (5) so that it has a different number of serrations on its sides (20, 21) for each serrated vertical wall (12, 13) of the base strip (5).





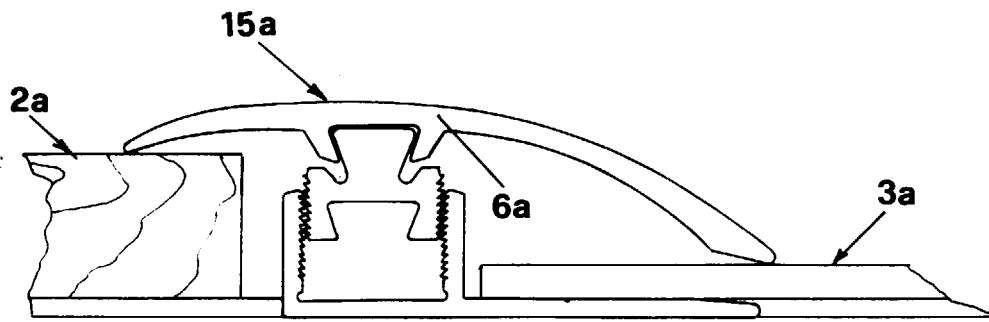


FIG. 4

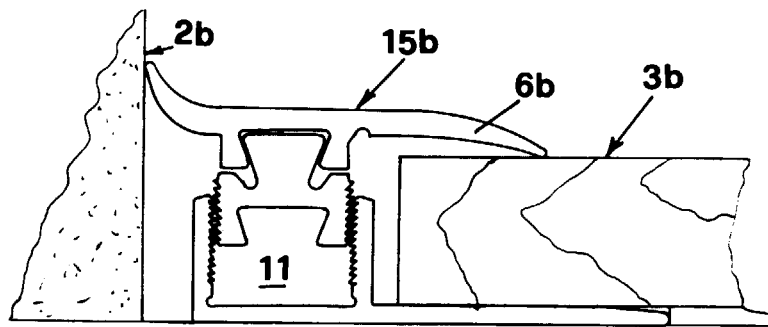


FIG. 5

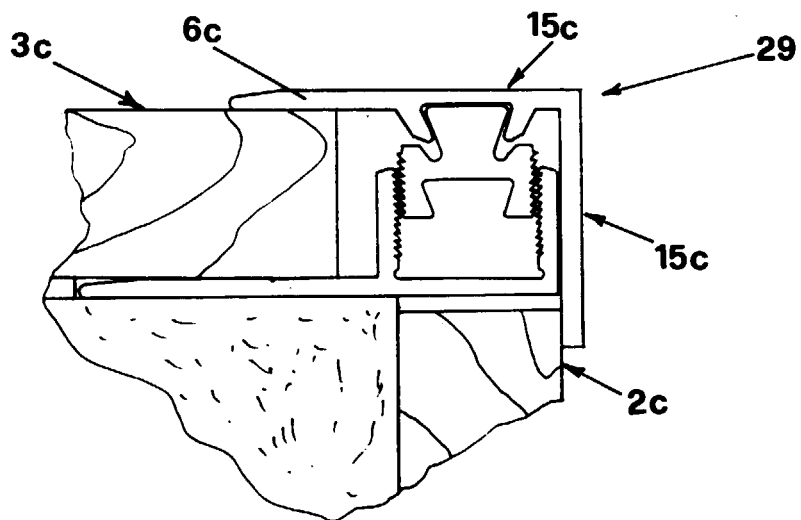


FIG. 6