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(54) **Connecting element for an engaging assembly for floor coverings, in particular for a floor trim assembly**

(57) A connecting element (16) for an engaging assembly (10) for floor coverings is disclosed. The connecting element (16) comprises first and second connecting members (18, 20) for connecting together respective first and second engaging members (12, 14) for engaging a floor covering. The first connecting member (18) extends from the second connecting member

(20). The first connecting member (18) comprises a pivot member (24) about which the first floor engaging member (12) can pivot. Preferably, the second connecting member is co-operable with the second floor engaging member to allow linear vertical adjustment of the position of the connecting element (16) relative to the second floor engaging member (14).

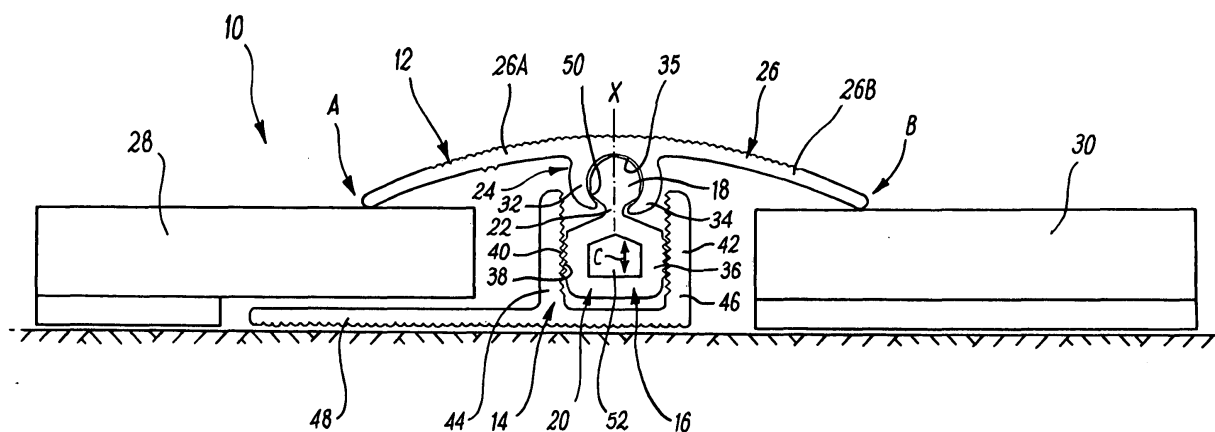


Fig. 1

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Description

[0001] This invention relates to engaging assemblies for floor coverings. Also, the invention relates to connecting elements for such engaging assemblies. More particularly, but not exclusively, the invention relates to floor trim assemblies.

[0002] Prior art floor engaging assemblies for use as an edging around laminated flooring, or to bridge the gaps between two areas of laminated flooring between laminated flooring and another type of flooring, for example at a doorway are known. However, these known flooring assemblies are limited in their versatility.

[0003] According to one aspect of this invention, there is provided a connecting element for an engaging assembly for a floor covering, the connecting element comprising first and second connecting members for connecting together respective first and second floor engaging members for engaging a floor covering, wherein the first connecting member extends from the second connecting member, and the first connecting member comprises a pivot member about which the first floor engaging member can pivot.

[0004] Preferably, the second connecting member is co-operable with the second floor engaging member to allow linear adjustment of the position of the connecting element relative to the second floor engaging member.

[0005] In the preferred embodiment of the connecting element, the first and second connecting members are fixedly attached to each other. The connecting element is advantageously a one piece unit and is preferably a moulded unit.

[0006] The pivot member may be configured to cooperate with a corresponding pivot part of the first floor engaging member. Preferably, the pivot member is configured to be received in the pivot part. The pivot member may be of a curved profile, preferably being generally cylindrical in configuration.

[0007] The pivot member may be provided with friction means to increase the friction force between the pivot member and the pivot part. The friction means may comprise friction members on the pivot member, wherein the friction members engage the pivot part. Preferably, the pivot member and the pivot part are slidable relative to each other. Preferably, the pivot member is receivable into the pivot part.

[0008] The friction members may extend outwardly from the pivot member. Conveniently, the friction members extend radially outwardly from the pivot member. Preferably, the friction means comprises a plurality of friction members, which may be equispaced from one another.

[0009] The second connecting member may comprise securing means to secure the second connecting member to the second floor engaging member. Preferably, the securing means comprises cooperating formations to cooperate with corresponding formations on the second floor engaging member. The cooperating forma-

tions may extend outwardly from the second connecting member. The cooperating formations may comprise serrations.

[0010] The second connecting member may comprise a main body and the securing means may extend outwardly from the main body. Preferably, the main body has a generally rectilinear profile.

[0011] The main body may be different heights in different embodiments. The main body may comprise an inner chamber. In one embodiment, a strengthening member may extend across the inner chamber. The strengthening member may comprise a strengthening web. The strengthening member may extend wholly across the main body. The strengthening member may extend lengthwise of the main body.

[0012] According to another aspect of this invention, there is provided a floor engaging assembly comprising first and second floor engaging members for engaging a floor covering and a connecting element for connecting said floor engaging members to one another, the connecting element being as described above.

[0013] Preferably, the first floor engaging member constitutes an upper engaging member and the second floor engaging member constitutes a lower engaging member.

[0014] Preferably, the first floor engaging member comprises a pivot part for cooperation with the pivot member of the connecting element. At least one of the pivot part and the pivot member may comprise a recess defining element to define a recess to receive the other of the pivot part and the pivot member, and conveniently the pivot member comprises recess defining elements. The recess defining elements may comprise downwardly extending elements. Preferably, the downwardly extending elements are provided on the first floor engaging member.

[0015] The downwardly extending elements may be offset from a centre line and may be asymmetrical about the centre line. In the preferred embodiment, this means that the first engaging member can pivot in one direction more than the opposite direction. Since the ability to pivot equally in both directions is not essential, this feature has the advantage in the preferred embodiment of improving the versatility of the assembly to allow the assembly to accommodate more widely differing flooring thicknesses than is possible in prior art designs.

[0016] Preferably, the assembly comprises a plurality of said first floor engaging members. The assembly may comprise a plurality of connecting elements.

[0017] Preferably, the first floor engaging member comprises at least one wing member. An embodiment may comprise a pair of wing members. Each wing member may extend outwardly from the pivot part on the opposite side thereof to the other wing member. Each wing member may be configured to contact the flooring and to cover a gap between the first floor engaging member and the flooring.

[0018] In one embodiment, the wing members of the

first floor engaging member may have a greater degree of asymmetry about the centre line than in another embodiment.

[0019] In another embodiment, the first floor engaging member comprises a wing member extending outwardly on one side of the pivot part, whereby the wing member can contact a floor covering. The first floor engaging member may further include an abutment element provided on the opposite side of the pivot part to the wing member. The abutment element being provided to contact an upright structure, such as a wall or a skirting board.

[0020] The second floor engaging member may comprise a securing portion to receive the second connecting member of the connecting element. Preferably, the position of the second connecting member relative to the securing portion is linearly adjustable with respect to the securing portion. Preferably, the second connecting member is vertically adjustable with respect to the securing portion.

[0021] Embodiments of the invention will now be described by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is an end view of a floor engaging assembly;

Fig. 2 is an end view of another embodiment of a floor engaging assembly;

Fig. 3 is an end view of a further embodiment of a floor engaging assembly;

Fig. 4 is an end view of a still further embodiment of a floor engaging assembly.

Fig. 5 is a perspective view from above of a first floor engaging member;

Fig. 6A is an end view of another embodiment of a first floor engaging member;

Fig. 6B is a perspective view of the first floor engaging member shown in Fig. 6A;

Fig. 7A is an end view of another embodiment of a first floor engaging member;

Fig. 7B is a perspective view of the first floor engaging member shown in Fig. 7A;

Fig. 8A is an end view of a connecting element;

Fig. 8B is a perspective view of the connecting element shown in Fig. 8A;

Fig. 9A is an end view of a second floor engaging member;

Fig. 9B is a perspective view of the second floor engaging member shown in Fig. 9A; and

Figs. 10A to 10C show the sequence for assembling an embodiment of the floor engaging assembly.

[0022] Referring to Fig. 1 of the drawings, there is shown an engaging assembly for floor coverings, the engaging assembly being in the form of a floor trim assembly 10. The floor trim assembly 10 comprises first and second floor engaging members 12, 14, and a connecting element 16 connecting the first and second floor engaging members 12, 14 to each other. The connecting element 16 is a moulded, one piece unit, and comprises a first connecting member 18, and a second connecting member 20. The first and second connecting members 18, 20 are connected to each other by a neck portion 22 so that the first connecting member 18 extends from the second connection member 20.

[0023] The first floor engaging member 12 comprises a pair of outwardly extending wing members 26A, 26B which, in use, extend on either side of a pivot part 24 (see below) from one floor covering 28 to an adjacent floor covering 30, for example in a doorway between rooms. The pivot part 24 extends downwardly from the wing members 26A, 26B to receive the pivot member 18 therein.

[0024] The pivot part 24 comprises first and second downwardly extending arms 32, 34, which are arranged asymmetrically about a centre line X of the cover member 26. The arms 32, 34 define a recess 35 to receive the pivot member 18.

[0025] The first floor engaging member 12 is pivotable about the pivot member 18, as shown by the arrows A and B. In view of the asymmetry of the downwardly extending members 32, 34, the first floor engaging member 12 can pivot further in the direction indicated by the arrow A than it can in the direction indicated by the arrow B when the wing members 26A, 26B are substantially symmetrically arranged about the centre line X.

[0026] This provides the advantage in the preferred embodiment of allowing it to accommodate floor coverings of much widely differing thickness from one side of the engaging member 12 to the other side than is possible in prior art designs.

[0027] The second connecting member 20 comprises a main body 36 and outwardly extending cooperating formations 38 extending from opposite sides of the main body 36. The cooperating formations 38 are in the form of serrations and cooperate with corresponding inwardly extending formations 40 on the second floor engaging member 14. The inwardly extending formations 40 are also in the form of serrations. The main body 36 defines an internal chamber 52.

[0028] The inwardly extending formations 40 are provided on a securing portion 42 of the second floor engaging member 14. The securing portion 42 is elongate and of a generally U-shaped profile. The corresponding

formations 40 extend inwardly from upwardly extending arms 44, 46 of the securing portion 42. The second connecting member 20 is received in the securing portion 42 such that the outwardly extending formations 38 engage the inwardly extending formations 40 on the securing portion 42.

[0029] In addition to the securing portion 42, the second floor engaging member 14 also comprises a generally planar floor mounting portion 48.

[0030] As can be seen, the second connecting member 20 of the connecting element 16 allows linear vertical adjustment of the connecting element 16 within the securing portion 42 of the second floor engaging member 14, depending upon the heights of the floor coverings 28, 30, as shown by the double headed arrow C.

[0031] Referring to Fig. 2, there is shown another embodiment, which is generally the same as the embodiment shown in Fig. 1 and the same features have been designated with the same reference numerals. The embodiment, shown in Fig. 2 is suitable for use with floor coverings 128, 130, which are of a greater height than the floor coverings 28, 30 as shown in Fig. 1. In order to accommodate the floor coverings 128, 130 the connecting member 16 is replaced by a connecting element 116. The connecting element 116 differs from the connecting element 16 in that the second connecting member designated 120, of the connecting element 116 has a main body 136 which is of a greater height than the main body 36 of the connecting element 16 shown in Fig. 1. As a result, the second floor engaging member 12 can be raised to a greater height to engage the top surfaces of the floor coverings 128, 130. The main body 136 defines an internal chamber 152.

[0032] Referring to Fig. 3, there is shown a further embodiment, which is generally the same as the embodiment shown in Figs. 1 and 2 and the same features have been designated with the same reference numerals. The embodiment shown in Fig. 3 is suitable for use with floor coverings 228, 230, which are of a greater height than the floor coverings 128, 130. In order to accommodate the floor coverings 228, 230 a connecting element 216 is used. The connecting member 216 differs from the connecting element 116 in that the second connecting element designated 220, of the connecting element 216 comprises a main body 236 which is of a greater height than the main body 136 of the connecting element 116 shown in Fig. 2. In order to provide the necessary strength, the main body 236 defines internal chambers 252, 254 define one above the other, and a longitudinally extending strengthening member 256 extends from one side of the main body to the other separating the two chambers 252, 254 from each other.

[0033] The different embodiments of the connecting element 16, 116, 216 shown in the drawings provide the advantage over prior art designs that different heights of flooring can be accommodated by using the differing heights of connecting elements 16, 116 or 216. In the prior art, differing heights of flooring are accommodated

by the use of second floor engaging members having securing formations of different heights of securing formation. Thus, the use of connecting elements 16, 116, 216 of differing heights is less expensive and results in a lower value stock duplication than is the case when using second floor engaging members having different heights.

[0034] Referring to Fig. 4, a still further embodiment is shown, which is similar to the embodiments shown in Fig. 1, and the same features have been designated with the same reference numerals. The embodiment shown in Fig. 4 is suitable for use against an upright member such as a skirting board 302.

[0035] In the embodiment shown in Fig. 4, there is provided a further embodiment of a first engaging member 312. A cover member 326 is provided, which comprises a first wing member 326A. The second wing member 26B of the embodiment shown in Fig. 1 is omitted from the embodiment shown in Fig. 4 and is replaced by an abutment member 360 which has an abutment face 362 to abut against an upright member such as the skirting board 302 or a wall.

[0036] Although the embodiment in Fig. 4 is shown in use with a connecting element 16, it will be appreciated that it could equally be used with either of the connecting elements 116 or 216.

[0037] Referring to Fig. 5, there is shown a perspective view of the first engaging member 12. It would be appreciated that the first engaging member 12 can be of any suitable length, for example to extend across a room, or to fit within doorways.

[0038] Figs. 6A and 6B show respectively an end view and a perspective view of another embodiment of a first engaging member. The first engaging member shown in Figs. 6A and 6B is designated with the numeral 112. The first engaging member 112 comprises many of the features of the first floor engaging member 12, and these have been designated with the same reference numeral. The first engaging member 112 shown in Figs. 6A and 6B comprises a cover 126, which differs from the cover 26 of the first engaging member 12 shown in Figs. 1-3 in that it is asymmetrical about the pivot part 24. As viewed in Fig. 6A, the cover 126 comprises a left wing member 126A, and a right hand wing member 126B. As can be seen from Fig. 6A, the left wing member 126A extends downwardly further than the right wing member 126B. The purpose of this is to accommodate floor coverings 28, 30 which are of more widely differing heights than could be accommodated by the engaging member 12.

[0039] Figs. 7A and 7B show another embodiment of the first floor engaging member, as shown in Fig. 4 which is designated 312 in Figs. 7A and 7B. The embodiment of the first floor engaging member 312 shown in Figs. 7A and 7B is suitable for use at the edge of the flooring adjacent a wall. The first floor engaging member 312 shown in Figs. 7A has a cover member 326, which comprises a wing member 326A extending to the left (as

shown in Fig. 7A), and which engages the flooring, and an abutment element 360 extending upwardly to engage, for example, the wall or skirting board (not shown) at an abutment face 362.

[0040] The first floor engaging member 312 as shown in Fig. 7A is pivotally mounted on a connecting element 16, as shown in Figs. 1 and 2, in the same way as the first flooring member 12 shown in Figs. 1, 2 and 3.

[0041] It will be appreciated that the first and second floor engaging members 12, 14, 312 can be of any suitable length.

[0042] Referring to Fig. 8A and 8B, there is shown a first embodiment of the connecting element 10. The connecting element 10 is of a specific length, for example 2 or 3 centimetres (approx. 1 inch), although it can be of any other suitable length.

[0043] The pivot member 18 comprises friction means comprising three equispaced friction members 50. The friction members 50 are in the form of raised protrusions extending outwardly from the cylindrical pivot member 18. As can be seen from Fig. 1, the friction members 50 extend substantially the length of the pivot member 18, and engage the inside the recess 35 defined by the pivot part 24 to securely hold the pivot part 18 within the recess 35.

[0044] It will be appreciated that the embodiments of the connecting element 116 shown in Figs. 2 and 3 are of the same length as the embodiments shown in Fig. 1, i.e. about 2-3 centimetres (1 inch).

[0045] Referring to Figs. 9A and 9B, there is shown a second engaging member 14 which, as will be appreciated by the skilled person that the second engaging member 14 can be of any suitable length, for example, for fitting within a doorway, or across a room.

[0046] Referring to Figs. 10A to 10C, there is shown three steps in the assembly of the flooring assembly 10. In Fig. 10A, the connecting element 16 is inserted in the direction as indicated by the arrow X so that the pivot member 18 is slidably received in the recess 35 in the pivot part 24 of the first engaging member 12, as shown in Fig. 10B. The cover 12, with the connecting element 16 held within the pivot part 24 is then inserted downwardly, as shown by the arrow Y so that the main body 20 of the connecting element 16 is inserted into the U-shaped portion 42 of the second floor engaging element 14. The cooperating formations 38 on the main body 20 engage the corresponding formations 40 extending inwardly from the walls of the U-shaped portion 42. Fig. 10C shows the floor engaging assembly 10 in its assembled condition.

[0047] There is thus described a floor trim assembly which is versatile in that a minimum number of components are required to fit different heights of flooring. Thus in the preferred embodiments described above, there is the advantage that different heights of flooring can be accommodated by duplication in stock of the relatively less expensive connecting elements 16, 116, 216, rather than by the supplication of second floor engaging

members of different heights.

[0048] Various modifications can be made without departing from the scope of the invention. For example, different shapes of first and second floor engaging members can be provided. Also, the pivot part 24 could be provided on the second ground engaging member, and the U-shaped element 42 could be provided on the first ground engaging element.

[0049] Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings whether or not particular emphasis has been placed thereon.

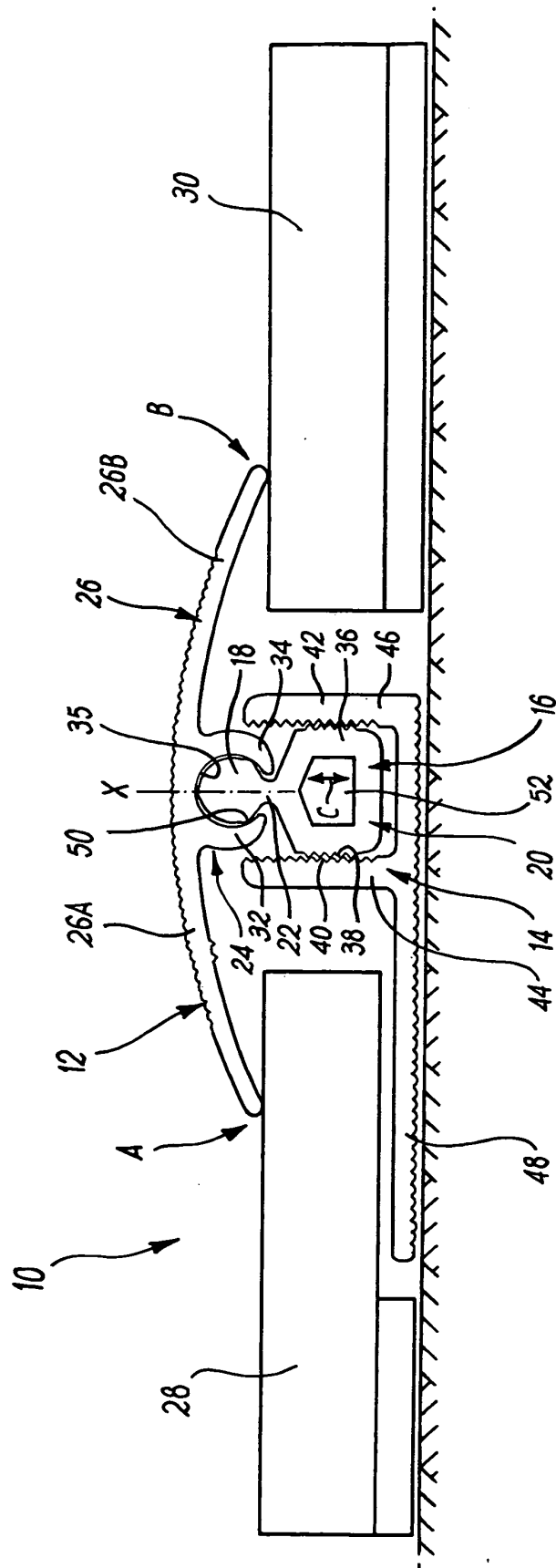
Claims

1. A connecting element for an engaging assembly for a floor covering, the connecting element comprising first and second connecting members for connecting together respective first and second floor engaging members for engaging a floor covering, wherein the first connecting member extends from the second connecting member, the first connecting member comprising a pivot member about which the first floor engaging member can pivot, and the second connecting member is co-operable with the second floor engaging member to allow linear adjustment of the position of the connecting element relative to the second floor engaging member.
2. A connecting element according to claim 1 wherein the pivot member is configured to cooperate with a corresponding pivot part of the first engaging member.
3. A connecting element according to claim 2 wherein , the pivot member is configured to be slidably received in the pivot part, the pivot part being generally cylindrical in configuration.
4. A connecting element according to any preceding claim wherein the second connecting member comprises securing means to secure the second connecting member to the second floor engaging member.
5. A connecting element according to claim 4 wherein the securing means comprises cooperating formations to cooperate with corresponding formations on the second floor engaging member, the cooperating formations extending outwardly from the second connecting member.
6. A connecting element according to claim 5 wherein

the cooperating formations comprise serrations.

upright structure.

7. A connecting element according to any of claims 4, 5 or 6 wherein the second connecting member comprises a main body, and the securing means extend outwardly from the main body. 5
8. A floor engaging assembly comprising first and second floor engaging members for engaging a floor covering and a connecting element for connecting said engaging members to one another, the connecting element as being claimed in any preceding claim. 10
9. A floor engaging assembly according to claim 8 comprising a plurality of connecting elements wherein at least one of the connecting elements is of a different height to at least one other connecting element. 15
20
10. A floor engaging assembly according to claim 8 or 9 wherein the connecting element comprises a pivot member and the first engaging member comprises a pivot part for cooperation with the pivot member of the connecting element, at least one of the pivot part and the pivot member comprising recess defining elements to define a recess to receive the other of the pivot part and the pivot member. 25
11. A floor engaging assembly according to claim 10 wherein the recess defining elements are in the form of downwardly extending elements on the first engaging member, the downwardly extending elements being offset from a centre line and being asymmetrical about the centre line, thereby allowing the first engaging member to pivot in one direction more than the opposite direction, in use. 30
35
12. A floor engaging assembly according to claim 9, 10 or 11 wherein the first engaging member comprises at least one wing member, and the, or each, wing member is configured to contact the flooring and cover a gap between the first engaging member and the flooring. 40
45
13. A floor engaging assembly according to claim 12 comprising a pair of said wing members each extending outwardly from the pivot part on opposite sides of the pivot part to the other wing member. 50
14. A floor engaging assembly according to claim 12 wherein the first engaging member comprises a wing member extending outwardly on one side of the pivot part wherein the wing member can contact a floor covering, the first engaging member further including an abutment element provided on the opposite side of the pivot part to the cover element, the abutment element being provided to contact an 55
15. A floor engaging assembly according to any of claims 8 to 14 wherein the second floor engaging member comprises a securing portion to receive the second connecting member, and the second connecting member co-operates with the securing portion to allow linear adjustment of the position of the second connecting member with respect to the securing portion.



File 1

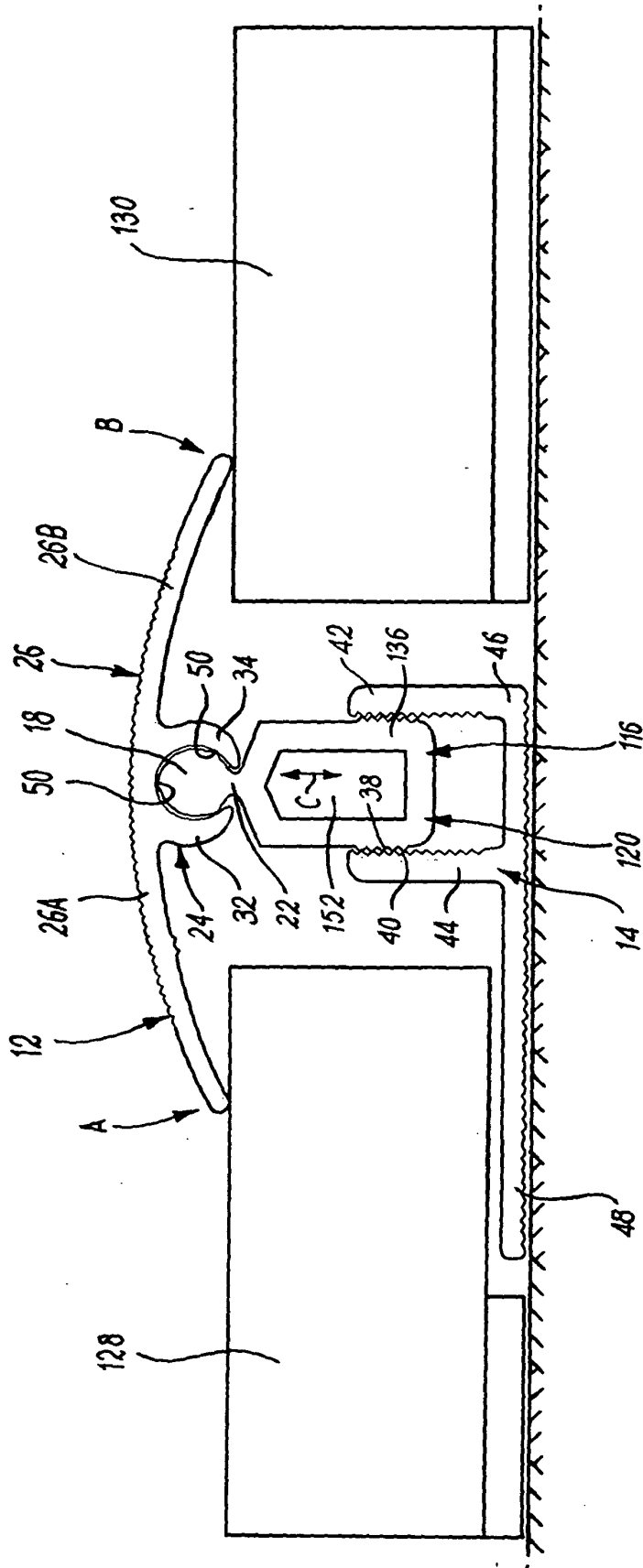
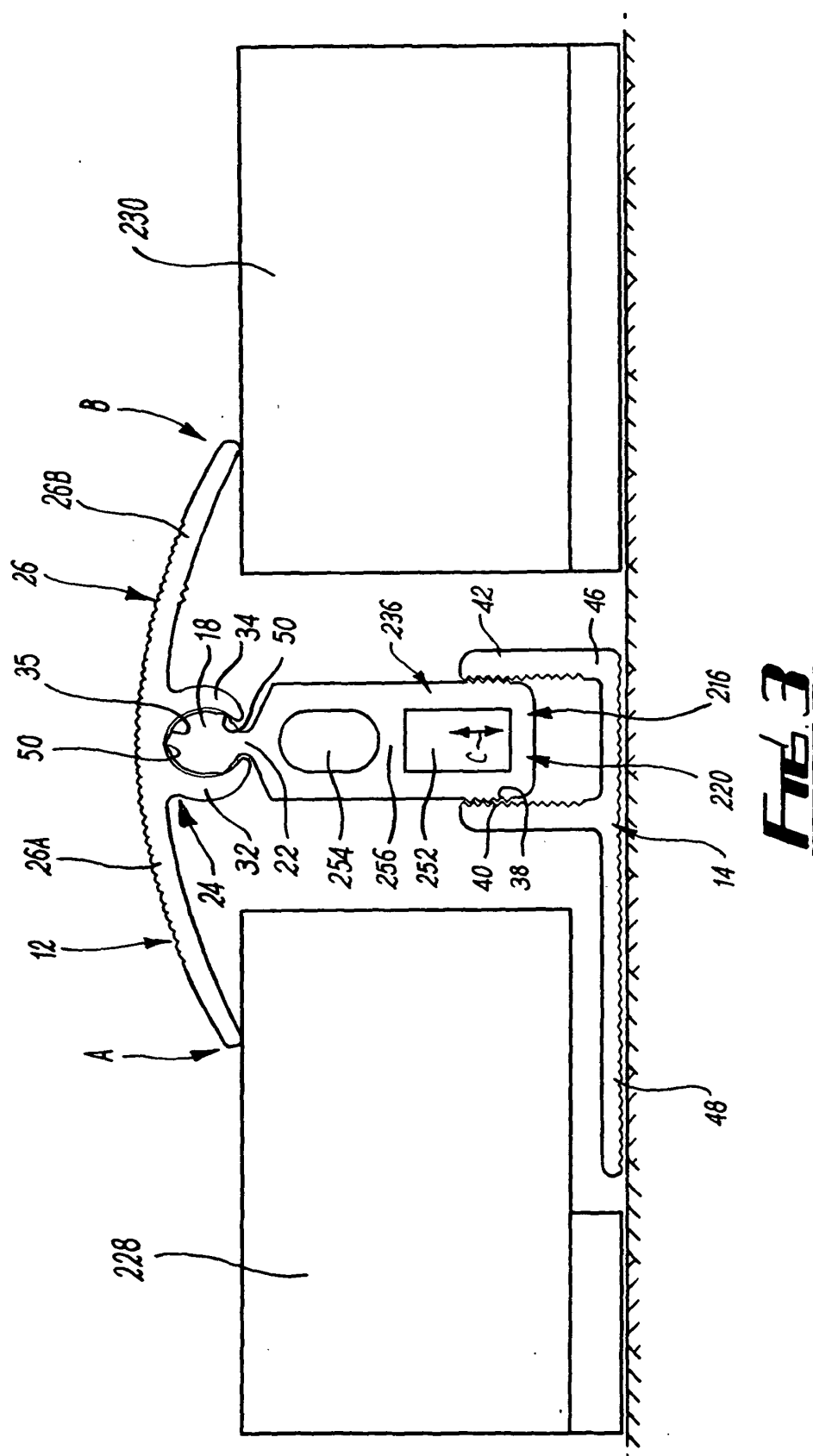
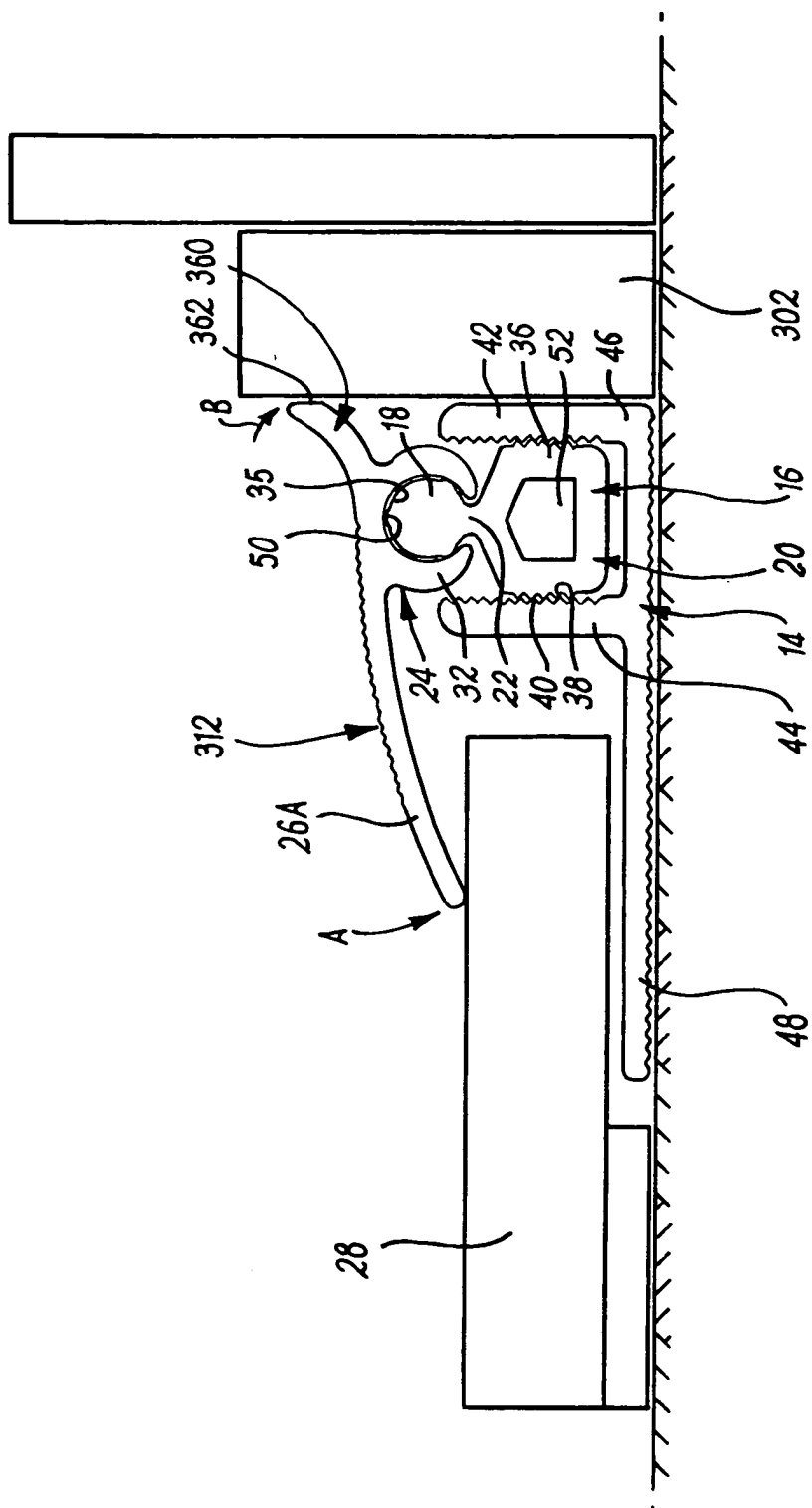


FIG. 2





File 4

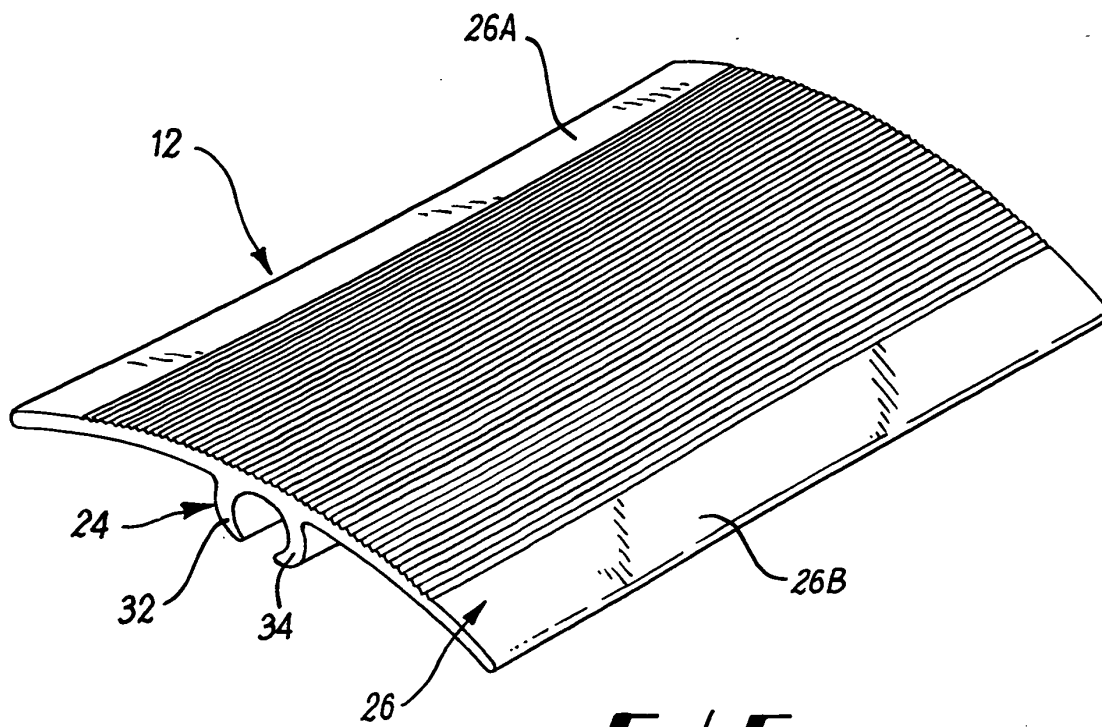
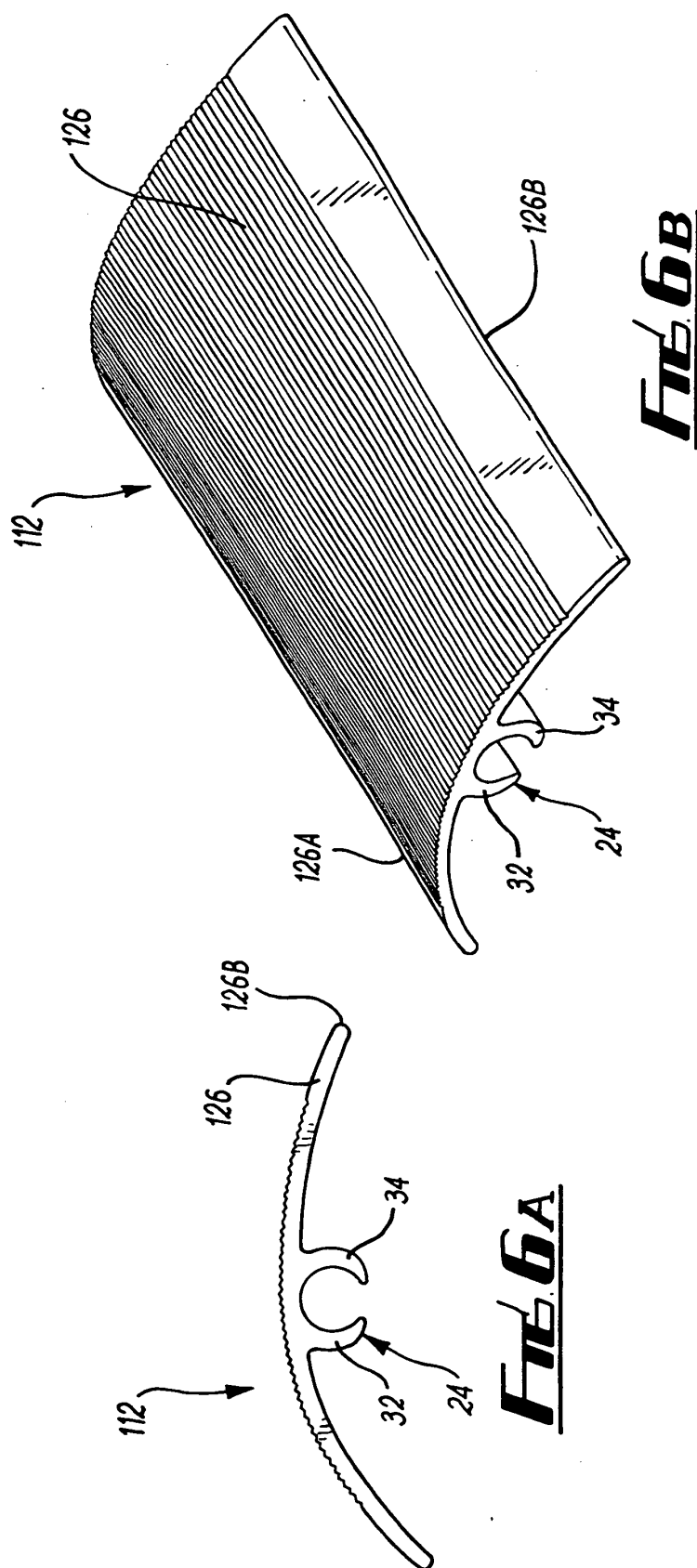
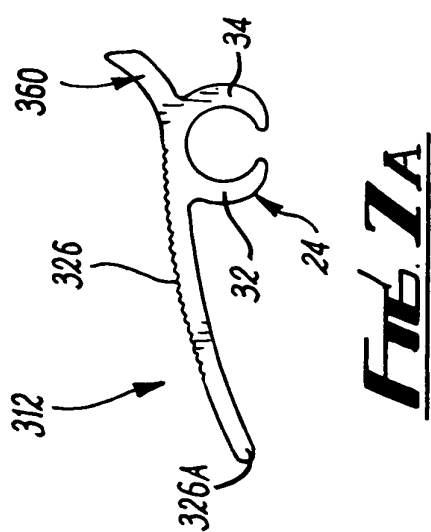
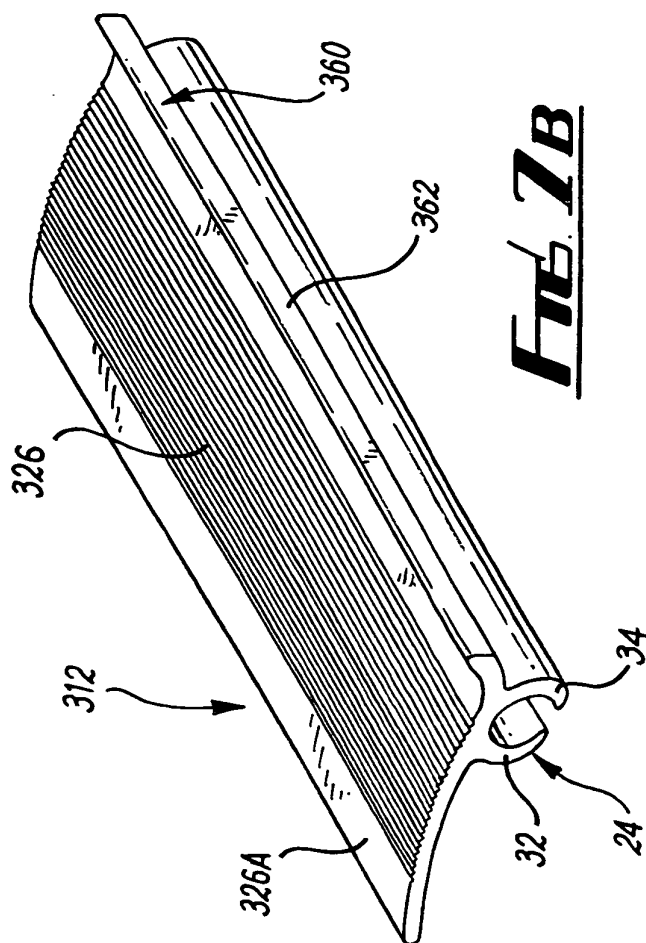


FIG. 5





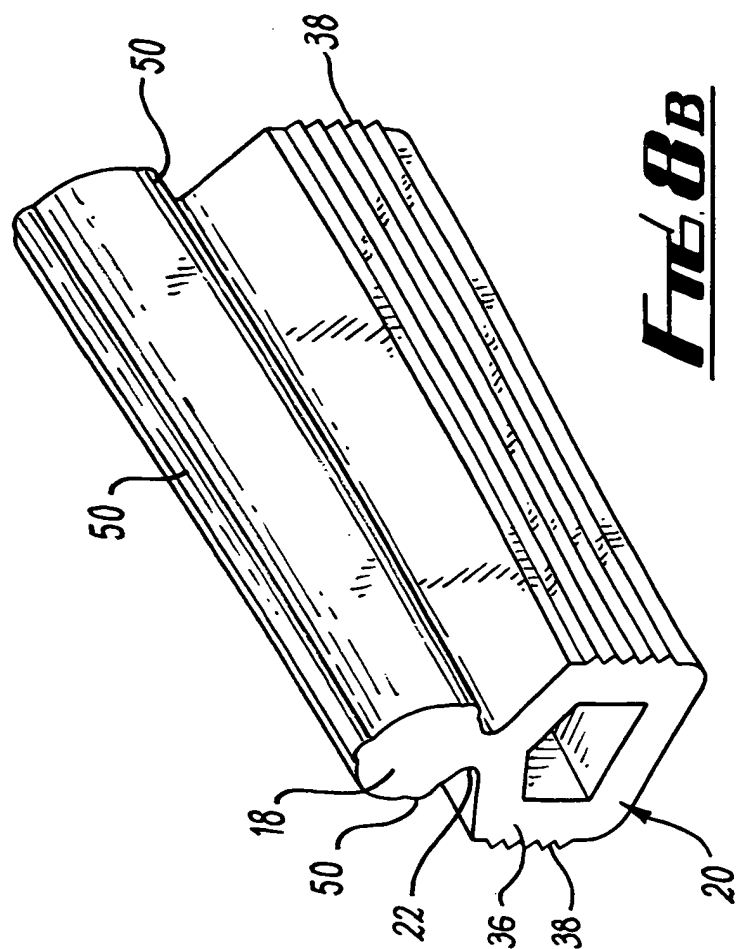


Fig. 8B

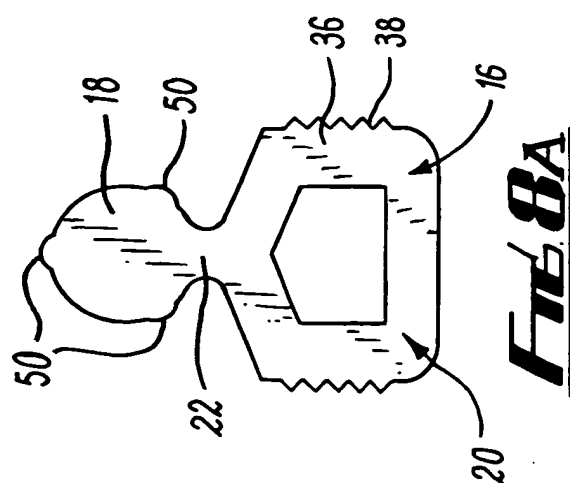
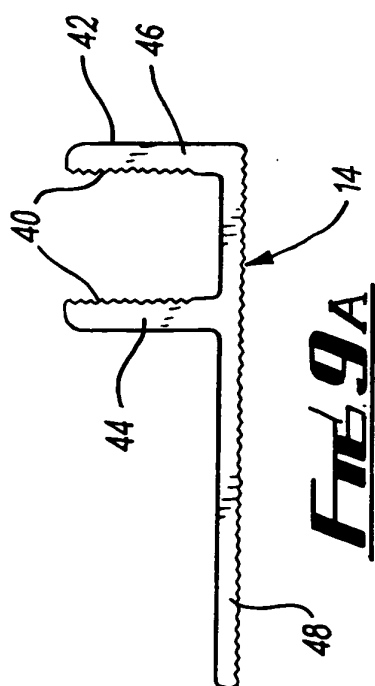
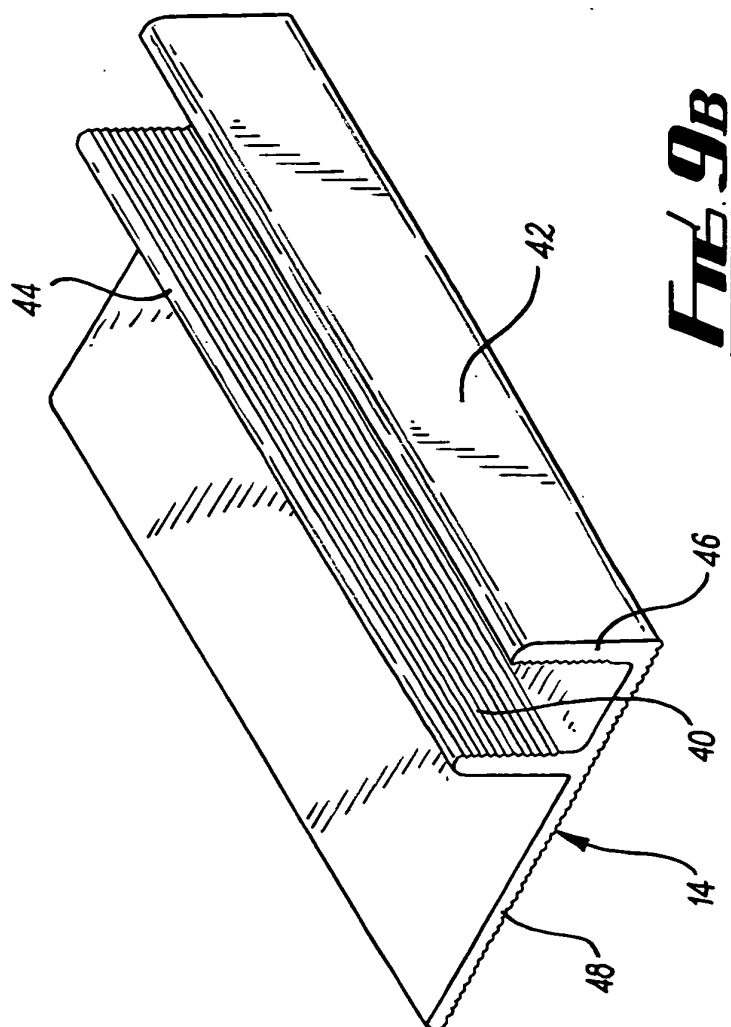
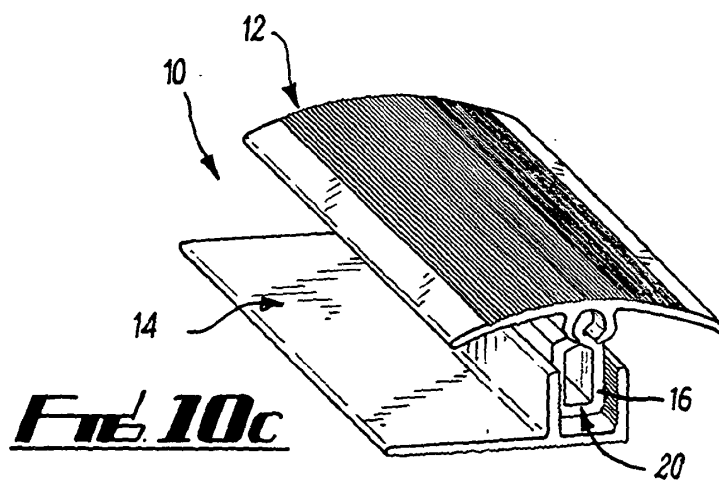
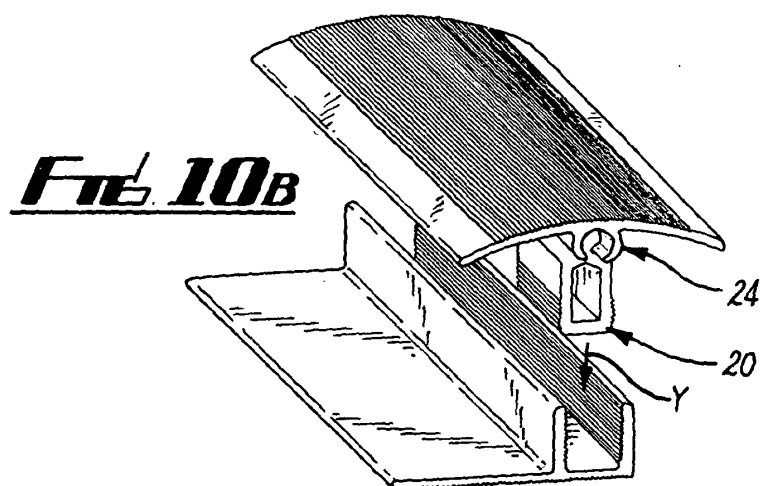
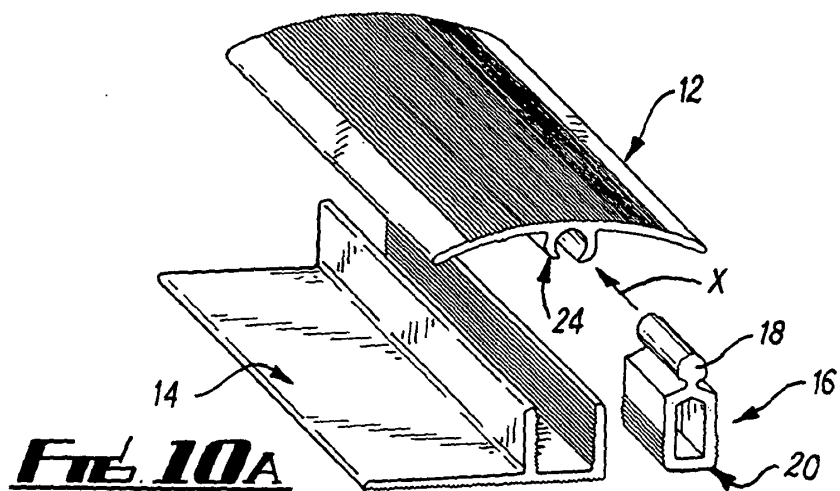


Fig. 8A







European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 04 25 3136

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	AT 862 U (ENGLISCH FRANZ ERNST) 25 June 1996 (1996-06-25)	1-10, 12-15	E04F19/06
Y	* page 3, paragraph 3 * * page 4, paragraph 5 * * page 6, paragraph 6 - paragraph 7 * * claims 6,7,9 * * figures 9,13,14 *	11	
Y	----- EP 0 588 734 A (DINAC PROFINITION SA) 23 March 1994 (1994-03-23) * column 3, line 3 - line 17 * * column 3, line 35 - line 47 * * column 4, line 14 - line 22 * * figures 5,6 *	11	
X	----- EP 1 020 590 A (FONTANA DANIELE) 19 July 2000 (2000-07-19) * paragraphs [0025], [0027], [0029], [0030], [0035], [0041] - [0043] * * figures 1-5,7,8 *	1-10, 12-15	
X	----- DE 202 14 831 U (MAKO PINSEL GMBH) 27 February 2003 (2003-02-27) * page 7, line 13 - page 10, line 21 * * figures *	1-10, 12-15	TECHNICAL FIELDS SEARCHED (Int.Cl.7) E04F A47G
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 September 2004	Examiner Bouyssy, V
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 25 3136

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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20-09-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
AT 862	U	25-06-1996	AT 862 U1	25-06-1996
EP 0588734	A	23-03-1994	FR 2695671 A1	18-03-1994
			DE 69302648 D1	20-06-1996
			DE 69302648 T2	28-11-1996
			EP 0588734 A1	23-03-1994
			ES 2087693 T3	16-07-1996
EP 1020590	A	19-07-2000	IT VI990006 A1	17-07-2000
			AT 239157 T	15-05-2003
			DE 60002366 D1	05-06-2003
			EP 1020590 A2	19-07-2000
DE 20214831	U	27-02-2003	DE 20214831 U1	27-02-2003