(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 942 239 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
09.07.2008 Bulletin 2008/28

(51) Int Cl.:
E04F 19/06 *(2006.01)*

(21) Application number: **07255092.4**

(22) Date of filing: **21.12.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK RS

(30) Priority: **29.12.2006 GB 0626007**

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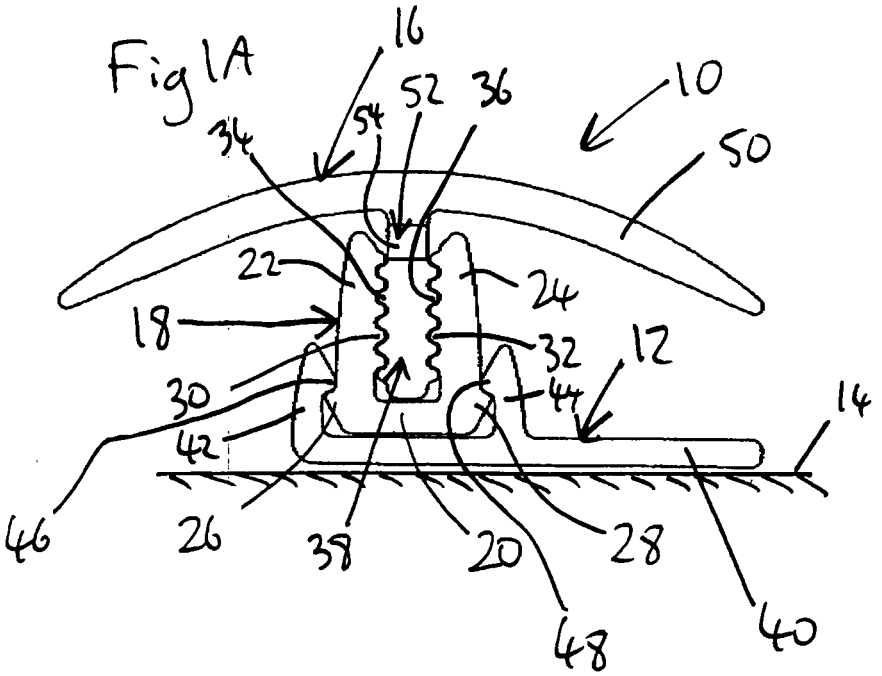
(54) **Engaging Assembly for a Floor Covering**

(57) An engaging assembly (10) for a floor covering comprises an elongate first engaging member (12) for engaging the floor and an elongate second engaging member (16) for engaging the floor covering. The engaging assembly further includes a connecting member (18) comprising first and second securing formations (26, 28, 30, 32) to co-operate with the first and second engaging members respectively and secure the first and second engaging members thereto, thereby connecting the first and second engaging members to each other.



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Description

[0001] This invention relates to engaging assemblies for floor coverings. In particular, but not exclusively, the invention relates to the floor trim assemblies. Embodiments of the invention relates to floor trim assemblies for bridging the gap between separate areas of floor covering.

[0002] One piece floor trims have been available for many years to form a neat finish and to bridge the gap between one area of flooring material and another, for example in a doorway between adjacent rooms. The recent popularity of different types of flooring of a more varied height has meant the need for a floor trim that could accommodate different flooring thicknesses.

[0003] According to one aspect of this invention, there is provided an engaging assembly for a floor covering, the engaging assembly comprising a first engaging member for engaging the floor, an elongate second engaging member for engaging the floor covering, and a connecting member comprising first and second securing formations to co-operate with the first and second engaging members respectively and secure the first and second engaging members thereto, thereby connecting the first and second engaging members to each other. The first engaging member may be an elongate first engaging member. The second engaging member may be an elongate second engaging member.

[0004] The first engaging member may comprise interlocking members, which may be inwardly directed. The interlocking members may comprise a pair of hook members, which may be inwardly directed hook members.

[0005] The interlocking members may be elongate, and may extend longitudinally along the first engaging member. The interlocking members may extend substantially the length of the first engaging member.

[0006] The engaging assembly may comprise a plurality of connecting members of different heights, which may be provided to co-operate with floor coverings of different heights. The connecting member to be used may be selected from said plurality of connecting members of different heights.

[0007] Thus, in one embodiment, the user may select connecting members of appropriate height to suit the height, or heights, of flooring to be bridged.

[0008] A plurality of connecting members of a desired height may be arranged in spaced relationship to each other on the first engaging member.

[0009] The connecting member may comprise interlocking elements to interlock with the interlocking members on the first engaging member. The interlocking elements may be outwardly directed and may comprise a pair of hook elements, which may be outwardly directed, and may co-operate with the hook members on the first engaging member.

[0010] The first engaging member may comprise a wall member upon which the interlocking members are provided. The wall member may be elongate, and may extend substantially the length of the first engaging member. The first engaging member may comprise a pair of wall members, which may extend parallel to each other.

[0011] The, or each, wall member may be of substantially constant height along its length. Where the first engaging member comprises a pair of wall members, the wall members may be of substantially the same height as each other.

[0012] The connecting member may comprise a base member, and a wall element on the base. The connecting member may comprise a pair of wall elements on the base member. The aforesaid outwardly directed interlocking elements may be provided on the base, and may extend beyond the outer surface of the, or each, wall element of the connecting member.

[0013] The height of the, or each, wall member of the first engaging member may be less than half of the height of the, or each, wall element of the connecting member.

[0014] The second engaging member may comprise a downwardly extending securing projection to co-operate with the second securing formation on the connecting member. Where the connecting member comprises a pair of wall elements, the wall elements may be configured to receive therebetween the downwardly extending securing projection on the second engaging member.

[0015] Each of the wall elements may comprise inwardly extending teeth to co-operate with corresponding outwardly extending teeth on the securing projection. The inwardly extending teeth may extend substantially the length of each respective wall element. The inwardly extending teeth may be arranged one above the other on each of the wall elements.

[0016] The second engaging member may comprise a covering portion to cover a region of the floor covering. The second engaging member may further include a neck portion extending between the covering portion and the securing projection.

[0017] The covering portion may be pivotable relative to the securing projection about the aforesaid neck portion.

[0018] The neck portion may comprise a flexible region to allow the aforesaid pivoting movement of the covering portion relative to the securing projection. The neck portion may be elongate, and may extend substantially the length of the second engaging member. The covering portion may be elongate, and may extend substantially the length of the second engaging member.

[0019] In one embodiment, the covering portion may comprise an elongate wing member extending from the neck portion on one side thereof. The wing member may comprise two wing portions extending from the covering portion on opposite sides thereof to each other.

[0020] In one version of the connecting member, the base may comprise a supporting member for supporting the, or each, wall element. The interlocking elements may extend outwardly from the supporting member.

[0021] In a second version of the connecting member,

the base may comprise a supporting member and a pair of downwardly extending legs. Each leg may extend longitudinally of the connecting member. Each leg may comprise an upper end fixed to the supporting member, and a lower end. The interlocking elements may extend outwardly from the lower end of each respective leg.

[0022] In the third version of the connecting member, the base may comprise a supporting member, a pair of downwardly extending legs, and an extension member extending between the supporting member and the legs.

[0023] Each leg and may extend longitudinally of the connecting member. Each leg may comprise an upper end fixed to the extension member, and the lower end. The interlocking elements may extend outwardly from a lower end of each respective leg.

[0024] The, or each, supporting member may be generally planar. The supporting member may be elongate.

[0025] An embodiment of the invention will now be described by way of example only, with reference to the accompanying drawings, in which:

Figures 1A to 1D show an engaging assembly for flooring in four respective positions using a first version of a connecting member;

Figures 2A and 2B show the sequence of assembling the engaging assembly shown in Figures 1A to 1D;

Figure 3 shows a perspective exploded view of the engaging assembly shown in Figures 1A to 1D;

Figure 4 is a close-up view of the region marked IV in Figure 3;

Figures 5A to 5D show an engaging assembly for flooring in four respective positions using a second version of a connecting member;

Figures 6A and 6B show the sequence of assembling the engaging assembly shown in Figures 5A to 5D;

Figure 7 shows a perspective exploded view of the engaging assembly shown in Figures 5A to 5D;

Figure 8 is a close-up view of the region marked VIII in Figure 7;

Figures 9A to 9D show an engaging assembly for flooring in four respective positions using a third version of a connecting member;

Figures 10A and 10B show the sequence of assembling the engaging assembly shown in Figures 9A to 9D

Figure 11 shows a perspective exploded view of the engaging assembly shown in Figures 9A to 9D; and

Figure 12 is a close-up view of the region marked XII in Figure 11.

[0026] Referring to Figures 1A to 1D, there is shown an engaging assembly 10 for a floor covering. The engaging assembly 10 is shown in four different positions in Figures 1A, 1B, 1C, and 1D.

[0027] The engaging assembly 10 comprises an elongate first engaging member 12 which is arranged to be fixed to the ground 14, for example by adhesive or by suitable fasteners such as screws.

[0028] In one embodiment, the lower surface of the first engaging member 12 is coated with an adhesive which is covered by a strip of release paper. The release paper can be peeled off and the first engaging member 12 can then be adhered to the ground.

[0029] The engaging assembly 10 further includes a second engaging member 16, and a first connecting member 18 for connecting the first engaging member 12 to the second engaging member 16.

[0030] The first connecting member 18 comprises a base 20 and a pair of a generally parallel upstanding wall elements 22, 24 extending upwardly from the base 20. Each of the wall elements 22, 24 includes a plurality of inwardly extending teeth 30, 32, which co-operate with corresponding outwardly extending teeth 34, 36 on a downwardly extending securing projection 38 on the second engaging member 16, as described below.

[0031] A pair of outwardly extending interlocking elements in the form of hook elements 26, 28 extend from the base 20 at the lower end of the wall elements 22, 24 respectively.

[0032] The first engaging member 12 comprises a ground engaging portion 40 secured to the ground 14, as described above. The first engaging member 12 also includes a pair of upstanding wall members 40, 44 on which are provided at their respective upper end regions interlocking members in the form of inwardly extending hook members 46, 48.

[0033] The ground engaging portion 40 is in the form of an elongate strip, and the upstanding wall members are provided along one elongate half of the elongate ground engaging portion 40.

[0034] The inwardly extending hook members 46, 48 co-operate with the outwardly extending hook elements 26, 28, as shown in Figures 1A to 1D to secure the first connecting member 18 to the first engaging member 12.

[0035] The second engaging member 16 comprises an elongate covering portion 50 which is of a curved configuration in the form of a wing member, although it will be appreciated that it can be of any suitable configuration. The securing projection 38 extends downwardly from the covering portion 50.

[0036] A neck portion 52 extends between the securing projection 38 and the covering portion 50. The covering portion, as shown in the drawings, extends on opposite sides of the neck portion 52. The neck portion 52 comprises a flexible region 54 to allow the covering portion

50 to pivot so that the opposite sides of the covering portion can be moved upwardly or downwardly.

[0037] Figures 1B and 1D show the covering portion 50 pivoted about of the neck portion 52 with the left hand side thereof pivoted downwardly, and the right-hand side pivoted upwardly. It will be appreciated that the right-hand side could be pivoted downwardly, and the left-hand side pivoted upwardly, depending on the relative heights of the flooring on the opposite sides of the engaging assembly 10.

[0038] The securing projection 38 is inserted into the first connecting member 18 between the wall elements 22, 24. The outwardly extending teeth 34, 36 on the securing projection 38 co-operate with the inwardly extending teeth 30, 32 on the wall elements 22, 24 to secure the securing projection 38 between the wall elements 22, 24, thereby securing the first engaging member 16 to the first connecting member 18.

[0039] The wall elements 22, 24 have a degree of flexibility to allow them to flex outwardly when the securing projection 38 is inserted therebetween.

[0040] The extent to which the securing projection 38 is inserted between the wall elements 22, 24 is determined by the heights of the flooring on the opposite sides of the engaging assembly 10. If the heights of the flooring are relatively low, then the securing projection 38 can be inserted wholly into the space between the wall elements 22, 24 of the first connecting member 18, as shown in Figures 1A and 1B.

[0041] Figure 1A shows a situation where the flooring on either side of the engaging assembly 10 is of substantially the same height as each other, and Figure 1B shows a situation where the height of the flooring on the left hand side of the engaging assembly 10 is less than the height of the flooring on the right-hand side of the engaging assembly 10.

[0042] If, on the other hand, the heights of the flooring on opposite sides of the engaging assembly 10 are relatively high, then the securing projection 38 is inserted only partially into the space between the wall elements 22, 24 of the first connecting member 18, as shown in Figures 1C and 1D. Figure 1C shows a situation where the flooring on either side of the engaging assembly 10 is of substantially the same height, and Figure 1D shows a situation where the height of the flooring on the left-hand side of the engaging assembly 10 is less than the height of the flooring on the right-hand side of the engaging assembly 10.

[0043] Figures 2A and 2B show the sequence of assembly of the engaging assembly 10. In Figure 2A the first connecting member 18 is inserted downwardly onto the first engaging member 12, as shown by the arrow A in Figure 2A. The outwardly extending hook elements 26, 28 on the first connecting member 18 have sliding surfaces 56, 58. The inwardly extending hook members 46, 48 have corresponding second sliding surfaces 60, 62.

[0044] The sliding surfaces 56, 58 on the first connecting member 18 engage and slide over the sliding surfaces 60, 62 on the first engaging member 12, as the first connecting member 18 is pushed downwardly onto the first engaging member 12. This pushes the wall members 42, 44 outwardly until the hook elements 26, 28 pass over the hook members 60, 62, at which stage, the wall members 42, 44 snap inwardly so that the hook members 46, 48 engage and hold in place the hook elements 26, 28.

[0045] When the first connecting member 18 is secured to the first engaging member 12, the second engaging member 16 is then secured to the first connecting member 18. This is effected by inserting the second engaging member 16 onto the first connecting member 18 in the direction of the arrow B in Figure 2B. The wall elements 22, 24 flex outwardly to allow the securing projection 38 to be inserted therebetween. The outwardly extending teeth 34, 36 co-operate with the inwardly extending teeth 30, 32 on the respective wall elements 22, 24 of the first connecting member 18, thereby securing the securing projection 38 to the first connecting member 18.

[0046] Referring to Figure 3, there is shown a full length of the engaging assembly 10, in which it can be seen that the first and second engaging members 12, .16 are elongate.

[0047] The wall members 42, 44 of the first engaging members 12 are also elongate and extend the length of the first engaging member 12. The hook members 46, 48 are also elongate and extend the length of the wall members 42, 44.

[0048] The securing projection 38 and the neck portion 52 are elongate and extend the length of the second engaging member 16. The outwardly extending teeth 34, 36 are also elongate and extend the length of the securing projection 38.

[0049] However, the first connecting member 18 is much shorter in length than the first and second engaging members 12, 16. A plurality of the first connecting member is used to connect the first engaging member 12 to the second engaging member 16. Each of the first engaging means 18 is in the form of a connecting clip.

[0050] Figure 4 shows a close-up of the region marked IV in Figure 3, indicating the respective features in perspective.

[0051] The first connecting member 18 shown in Figures 1A to 4 is the shortest in height of several versions of the connecting members in the embodiment described herein. If the flooring is of a height that cannot be accommodated by the first connecting member 18 described above, then connecting members of greater height are used.

[0052] In this connection, Figures 5A to 8 show the engaging assembly 10 in which a second connecting member 118 of intermediate height is used instead of the first connecting member 18. With the exception of the second connecting member 118, all the features of the engaging assembly 10 of the Figures 1A to 4 are present and are designated with the same reference numerals.

[0053] The second connecting member 118 differs from the first connecting member 18 in that it includes a pair of leg members 120, 122 extending downwardly from the base member 20. The leg members 120, 122 extend the length of the second connecting member 118.

[0054] The hook elements 26, 28 are provided along the lower edges of the leg members 121 and 22 respectively. The second connecting member 118 is secured to the first engaging member 12 by the securing interaction between the hook elements 26, 28 and the hook members 46, 48 on the wall members 42, 44.

[0055] Thus, the leg members 120, 122 provide a second connecting member 118 which has a greater height than the first connecting member 18 and, therefore, allows the engaging assembly 10 to accommodate greater heights of flooring. Figures 5A to 5D are similar to figures 1A to 1D, in that the show how the engaging assembly 10, incorporating the second connecting member 118 can accommodate a range of different heights of flooring, not only with the flooring on the opposite sides of the engaging assembly 10 being of the same height, but with flooring being of different heights on each side of the engaging assembly 10.

[0056] Figures 6A and 6B show the steps in the assembly of the engaging assembly 10. In Figure 6A, the second connecting member 118 is inserted downwardly as indicated by the arrow A onto the first engaging member 12. The outwardly extending hook elements 26, 28 co-operate with the inwardly extending hook members 46, 48 so that the sliding surfaces 56, 58 slide over the sliding surfaces 60, 62 on the hook members 46, 48.

[0057] During the insertion of the second connecting member 118 onto the first engaging member 12, the leg members 120, 122 flex inwardly to allow easy insertion.

[0058] The second engaging member 16, as shown in Figure 6B, is inserted in the direction of the arrow B, into the second connecting member 118 in the same way as the insertion of the second engaging member 16 into the first connecting member 18, as shown in Figure 2B.

[0059] Figure 7 shows an exploded view of the engaging assembly 10 incorporating four second connecting members 118 in the form of second connecting clips. As with Figure 3, Figure 7 shows a full length of the engaging assembly 10, from which it can be seen that the second connecting member 118 are significantly shorter in length than the first and second engaging members 12, 16.

[0060] Figure 8 shows a close-up of the region marked VIII in Figure 7, indicating the respective features in perspective.

[0061] Referring to Figures 9A to 12, there is shown the engaging assembly 10 incorporating the use of a third connecting member 218. The third connecting member 218 is similar to the second connecting member 118 in that it includes the downwardly extending leg members 120, 122.

[0062] However, the third connecting member 218 is of a greater height than the second connecting member 118 by the provision of an extension member 220 between the base member 20 and the leg members 120, 122.

[0063] The extension member 220 extends downwardly from the base member 20 and comprises a pair of opposed wall portions to 222, 224. The wall portions 222, 224 respectively provide a direct extension between the upstanding wall element 22 and the downwardly extending leg member 120, and between the upstanding wall element 24 and the downwardly extending leg member 122.

[0064] A strengthening member 225 is provided between the wall portions 222, 224 and is arranged opposite the base member 20. Thus, a generally rectangular channel 226 is defined between the base member 20 and the extension member 220.

[0065] Thus, the extension member 220 provides an increased height for the third connecting member 218. Therefore, the third connecting member 218 allows the engaging assembly 10 to accommodate even greater heights of flooring than the second connecting member 180.

[0066] Figures 9A to 9D are similar to Figures 5A to 5D, in that they show the engaging assembly 10 incorporating the third connecting member 218, which allows the engaging assembly 10 to accommodate_a range of different heights of flooring, not only with the flooring on the opposite sides of the engaging assembly 10 being of the same height, but with flooring being of different heights on each side of the engaging assembly 10.

[0067] Figures 10A and 10B show the steps in the assembly of the engaging assembly 10. In Figure 10A, the third connecting member 218 is inserted downwardly as indicated by the arrow A onto the first engaging member 12. The outwardly extending hook elements 26, 28 co-operate with the inwardly extending hook members 46, 48 so that the sliding surfaces 56, 58 slide over the sliding surfaces 60, 62 on the hook members 46, 48.

[0068] During the insertion of the third connecting member 218 onto the first engaging member 12, the leg members 120, 122 flex inwardly to allow easy insertion, just as with the second connecting member 118.

[0069] The second engaging member 16, as shown in Figure 10B, is inserted into the third connecting member 218 in the direction of the arrow B in the same way as the insertion of the second engaging member 16 into the first connecting member 18, as shown in Figure 2B.

[0070] Figure 11 shows an exploded view of the engaging assembly 10 incorporating four third connecting members 218 in the form of third connecting clips. As with Figures 3 and 7, Figure 11 shows a full length of the engaging assembly 10, from which it can be seen that the third connecting members 218 are significantly shorter in length than the first and second engaging members 12, 16.

[0071] Figure 12 shows a close-up of the region marked XII in Figure 11, indicating the respective features in perspective.

[0072] There is thus described an embodiment of an

engaging assembly for floor covering, wherein the embodiment so described provides a simple but effective assembly to provide a floor trim between adjacent runs of flooring. The described embodiment provides the advantages that the first engaging member 12 is of a minimal height and is connected to the second engaging member 16 by first, second, or third connecting members 18, 118, 218 which are significantly shorter in length than the first and second engaging members 12, 16.

[0073] The above described embodiment has the further advantage that it provides three different heights of the connecting members 18, 118, 218, to accommodate various heights of flooring. This means that the height of the first engaging member 12 does not vary with variations in the height of flooring, and that the number of components required in the engaging assembly is minimal, thus reducing the purchasing decisions of the purchaser.

[0074] The connecting members 18, 118, 218 are designed so that if the user is not sure which connecting member are required for the flooring that is being laid, the first connecting members 18 can be inserted, and if it does not have sufficient height, the second connecting member 118 can then be inserted, with the first connecting member 18 still in place. If the second connecting member 118 also does not have sufficient height, then the third connecting member 218 can be used, with the first and second connecting members 18, 118 still in place.

[0075] The second engaging member 16 is formed by co-extrusion of the covering portion 50 and the securing projection 38 with the neck portion 52, where the neck portion 52 is formed of a flexible plastics material.

[0076] Various modifications can be made without departing from the scope of invention. For example, the cover portion 50 of the second engaging member 16 could be of a different shape to that shown in the drawings.

Claims

1. An engaging assembly for a floor covering, the engaging assembly comprising a first engaging member for engaging the floor, a second engaging member for engaging the floor covering, and a connecting member comprising first and second securing formations to co-operate with the first and second engaging members respectively and secure the first and second engaging members thereto, thereby connecting the first and second engaging members to each other.

2. An engaging assembly according to Claim 1, wherein the first engaging member is an elongate first engaging member, and the second engaging member is an elongate second engaging member

3. An engaging assembly according to Claim 1 or 2, wherein the connecting member comprises a base member.

4. An engaging assembly according to Claim 3, wherein the connecting member is selected from a plurality of connecting members of different heights to co-operate with floor coverings of different heights.

5. An engaging assembly according to Claim 4, wherein a plurality of the selected connecting members of the desired height are arranged in spaced relationship to each other on the first engaging member.

6. An engaging assembly according to Claim 3, 4 or 5, wherein the first securing formation is provided on the base member.

7. An engaging assembly according to any of Claims 3 to 6, wherein the connecting member comprises a supporting member for supporting the base member, and the first securing formation is provided on the supporting member.

8. An engaging assembly according to Claim 7, wherein the supporting member comprises a pair of downwardly extending legs and the first securing formation is provided on the legs.

9. An engaging assembly according to Claim 8, wherein the first securing formation extends outwardly from the lower end of each leg.

10. An engaging assembly according to any of Claims 3 to 6, wherein the supporting member comprises a pair of downwardly extending legs, and an extension member extending between the supporting member and the legs, and the first securing formation is provided on the legs.

11. An engaging assembly according to Claim 10, wherein the first securing formation extends outwardly from a lower end of each respective leg.

12. An engaging assembly according to any preceding Claim, wherein the first engaging member comprises interlocking members to co-operate with the first securing formation.

13. An engaging assembly according to Claim 12, wherein the interlocking members are inwardly directed and extend longitudinally along the first engaging member.

14. An engaging assembly according to Claim 12 or 13, wherein the interlocking members comprise a pair of hook members.

15. An engaging assembly according to Claim 12, 13 or 14, wherein the first engaging member comprises a wall member upon which the interlocking members are provided, the wall member being elongate and extending longitudinally of the first engaging member.

16. An engaging assembly according to Claim 15, wherein the first engaging member comprises a pair of the wall members, which are opposite to, and extend substantially parallel to, each other.

17. An engaging assembly according to Claim 15 or 16, wherein the, or each, wall element is of substantially constant height along its length.

18. An engaging assembly according to any of Claims 12 to 17, wherein the first securing formation comprises interlocking elements to interlock with the interlocking members on the first engaging member.

19. An engaging assembly according to Claim 18, wherein the interlocking elements are outwardly directed.

20. An engaging assembly according to Claim 18 or 19, wherein the interlocking elements comprise a pair of hook elements.

21. An engaging assembly according to any of Claims 18 to 20 when dependent or ultimately dependent on Claim 3, wherein the connecting member comprises a wall element on the base member.

22. An engaging assembly according to Claim 21, wherein the, or each, connecting member comprises a pair of wall elements on the base member, the interlocking elements being provided on the base member and extending outwardly from the, or each, wall element.

23. An engaging assembly according to Claim 21 or 22, wherein the height of the, or each, wall member of the first engaging member is less than half of the height of the, or each, wall element of the connecting means.

24. An engaging assembly according to any of Claims 22 or 23, wherein the second engaging member comprises a downwardly extending securing projection to co-operate with the second securing formation on the connecting means.

25. An engaging assembly according to Claim 24, wherein the second securing formation comprises the pair of wall elements on the base member, the pair of wall elements being configured to receive therebetween the downwardly extending securing projection on the second engaging member.

26. An engaging assembly according to Claim 25, wherein each of the wall elements comprises inwardly extending teeth to co-operate with corresponding outwardly extending teeth on the securing projection.

27. An engaging assembly according to Claim 24, 25 or 26, wherein the second engaging member comprises a covering portion to cover a region of the floor covering, and the second engaging member further including a neck portion extending between the covering portion and the securing projection.

28. An engaging assembly according to Claim 27, wherein the covering portion is pivotable relative to the securing projection about the aforesaid neck portion.

29. An engaging assembly according to Claim 27 or 28, wherein the neck portion comprises a flexible region to allow the aforesaid pivoting movement of the covering portion relative to the securing projection.

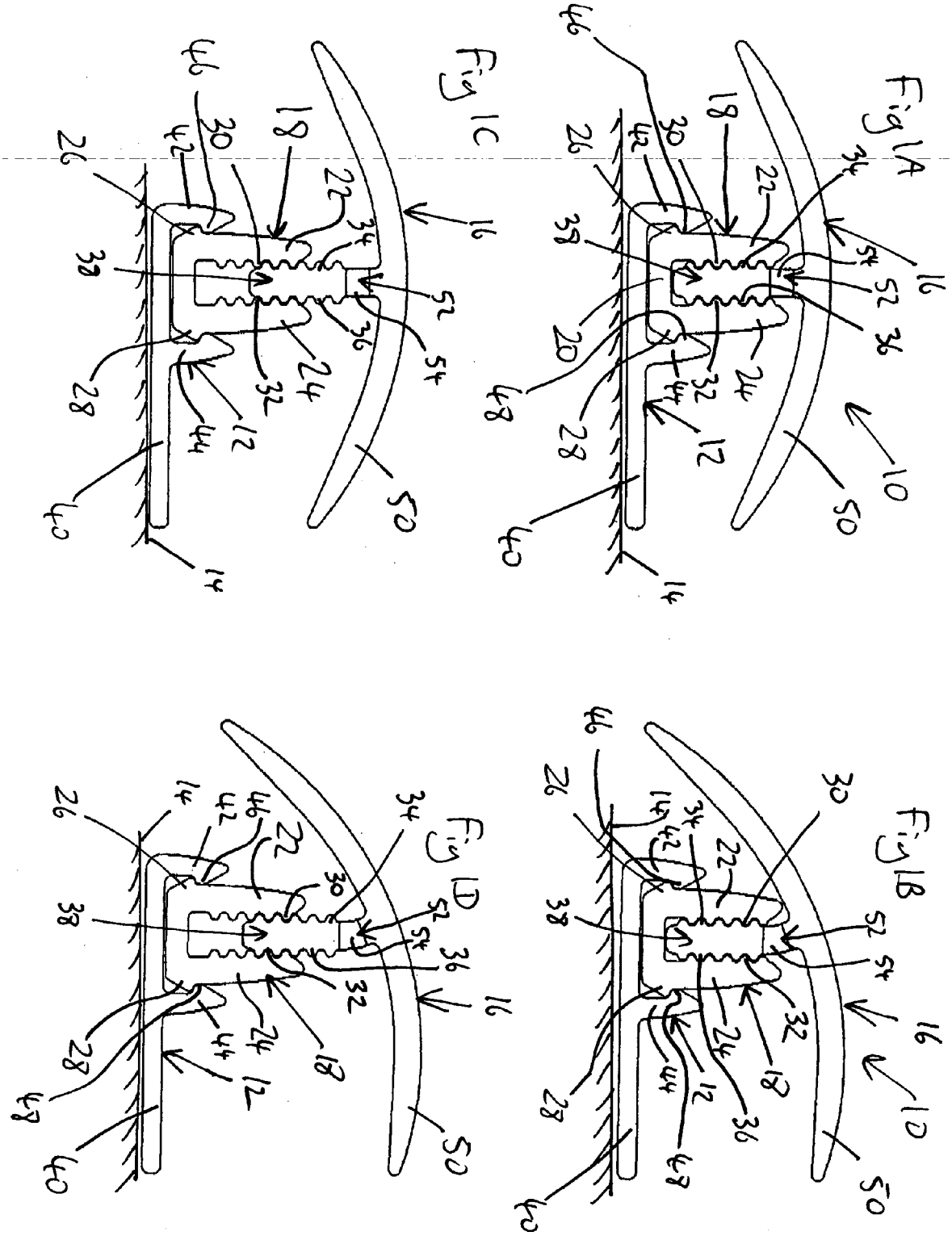
Fig 1A
Fig 1B
Fig 1C
Fig 1D
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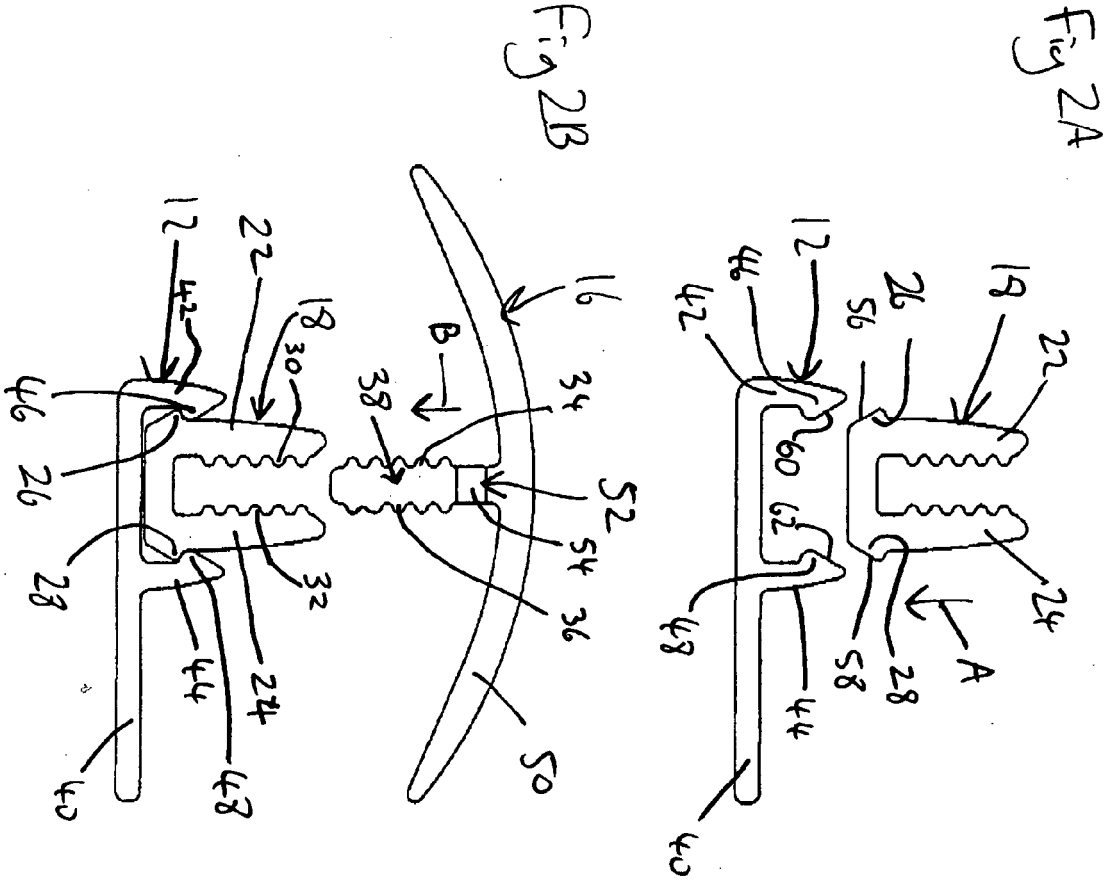
Fig 2A
Fig 2B
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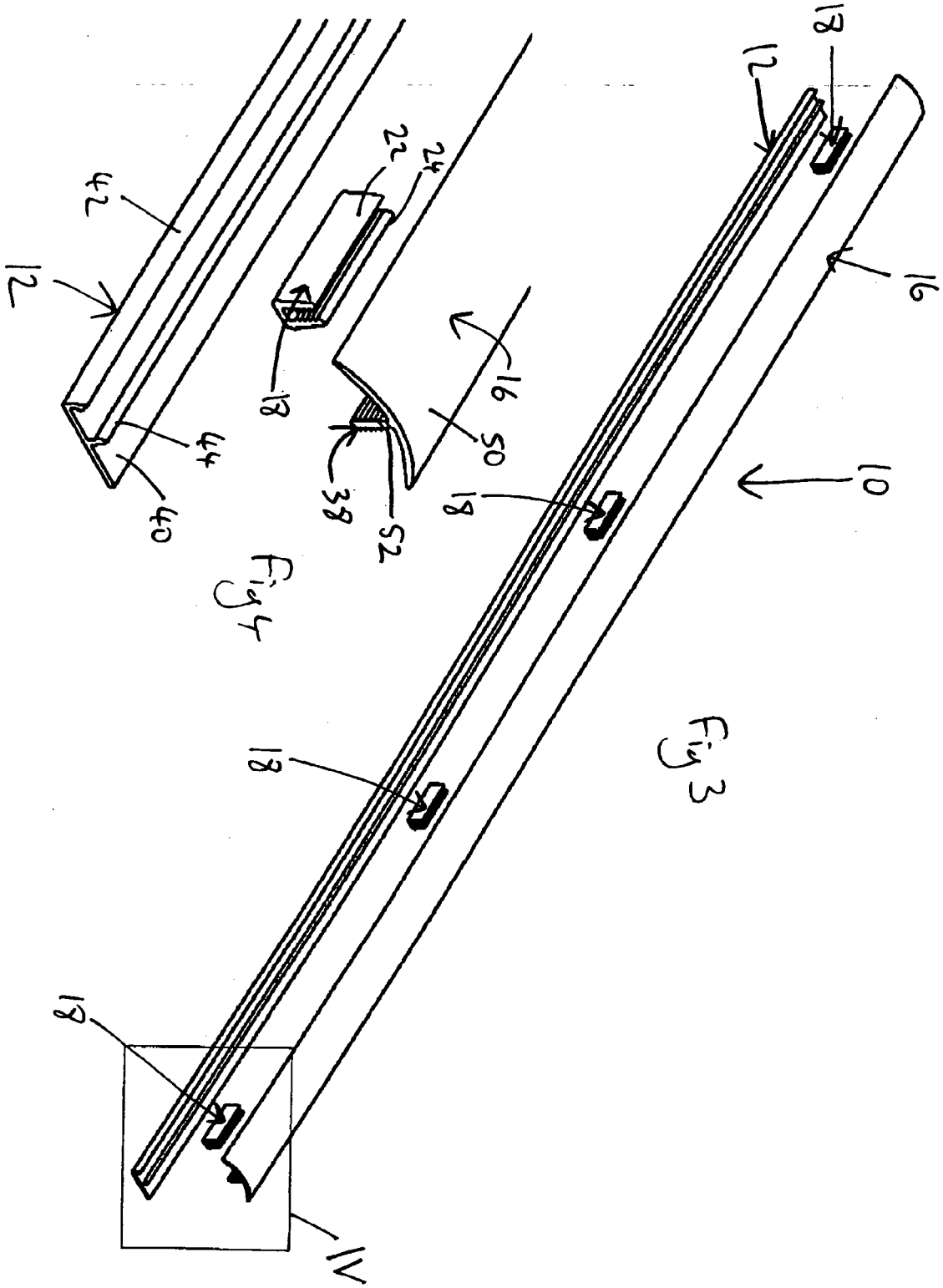

Fig 4

Fig 3

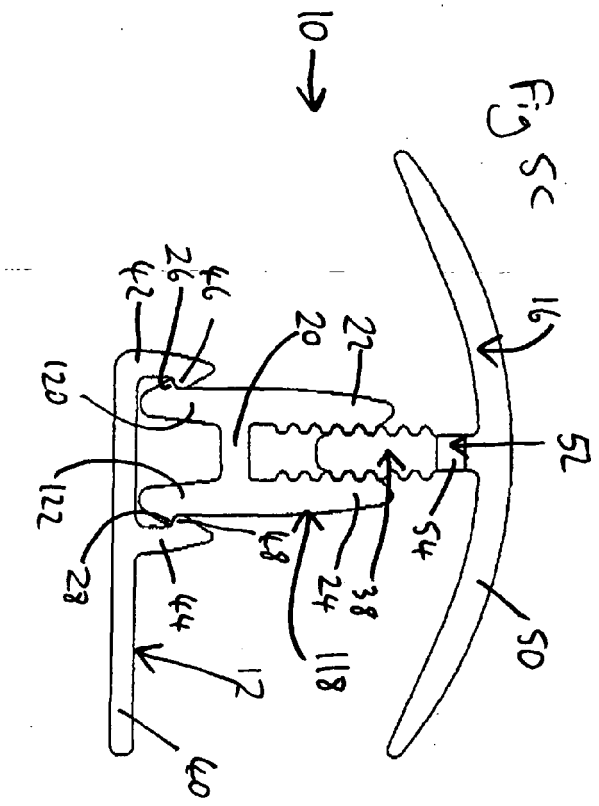

Fig 5A

Fig 5C

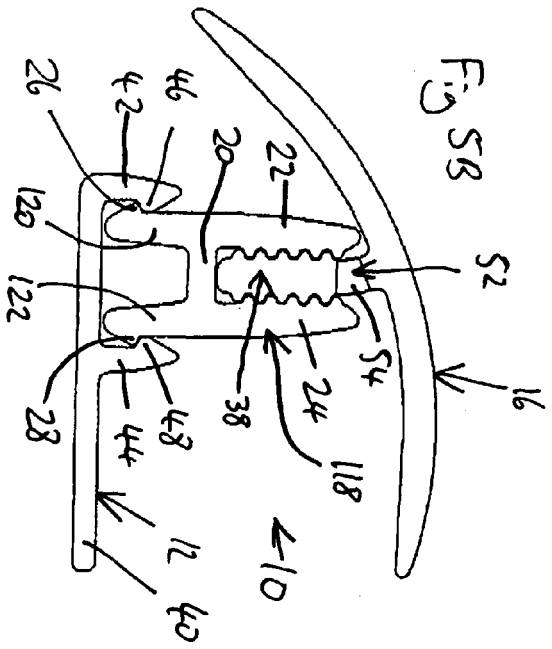

Fig 5B

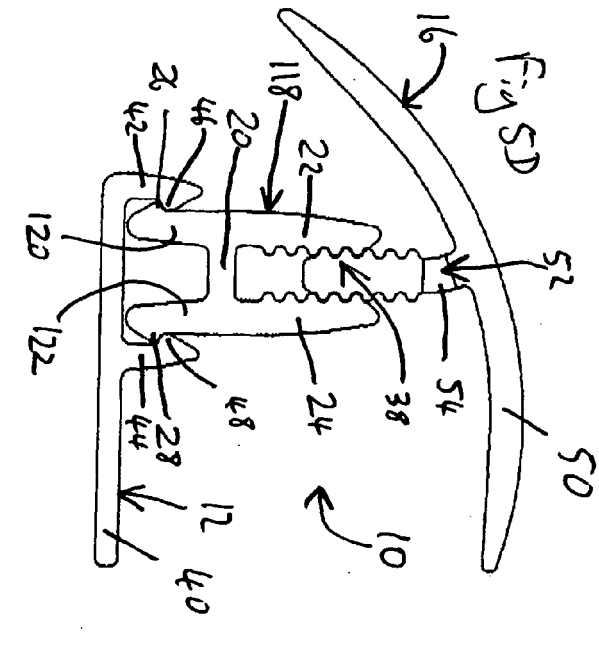

Fig 5D

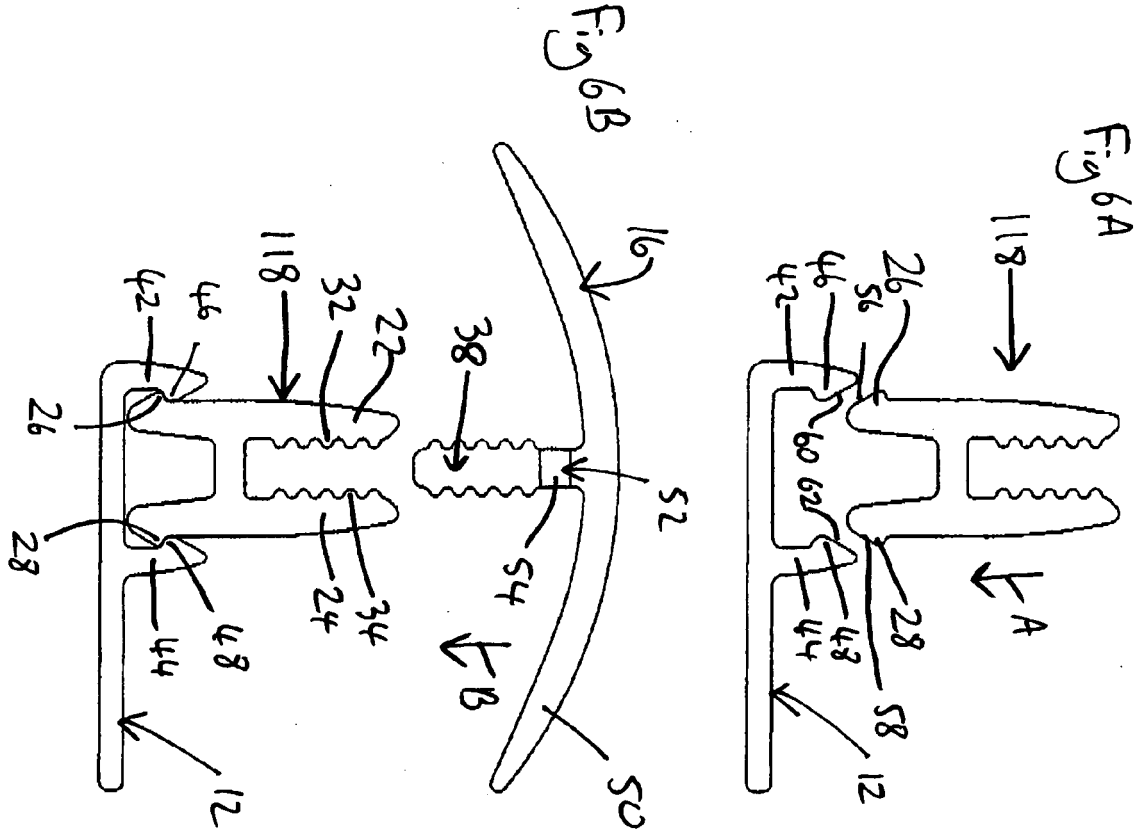
Fig 6A
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Fig 6B
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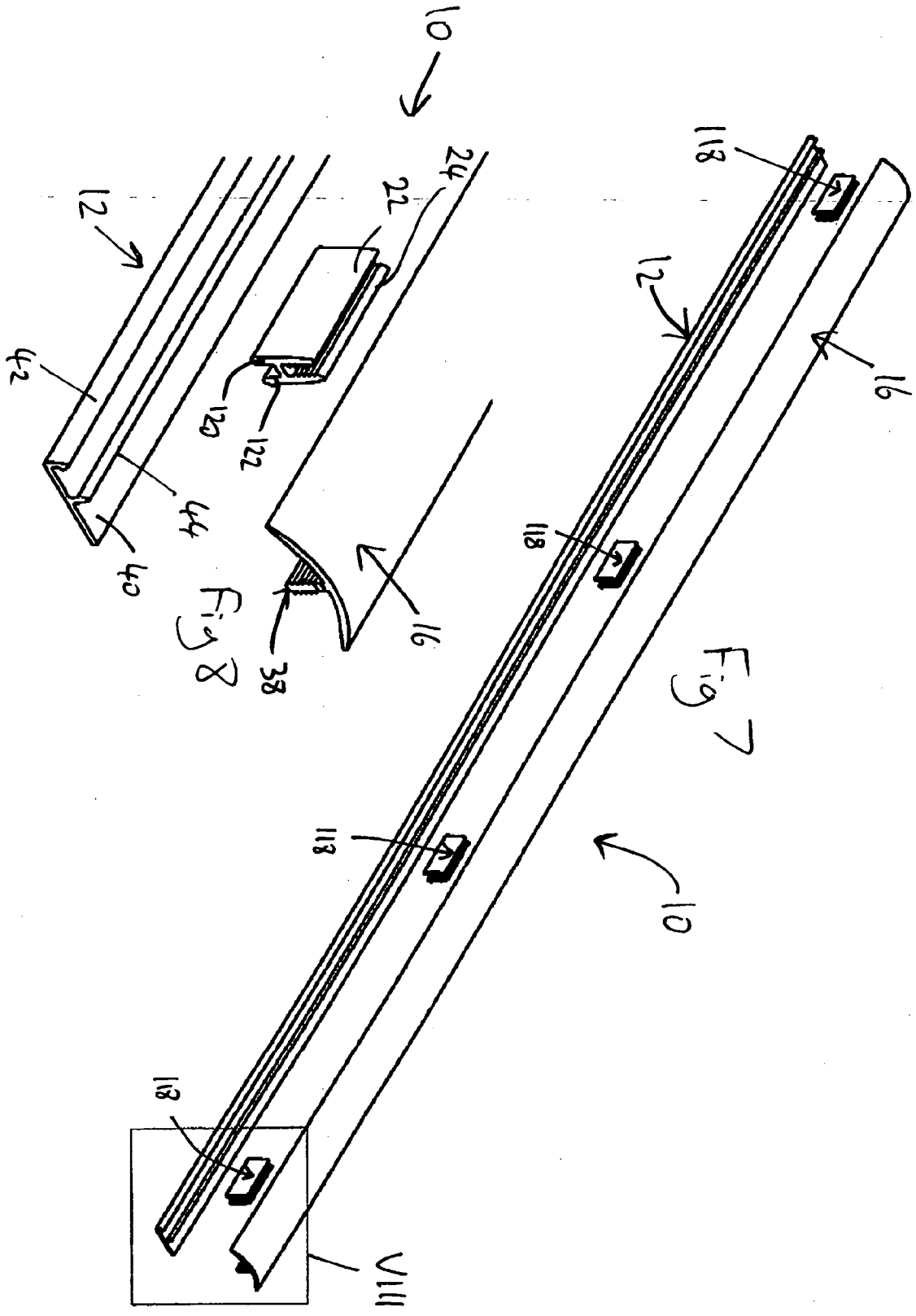

Fig 8

Fig 7

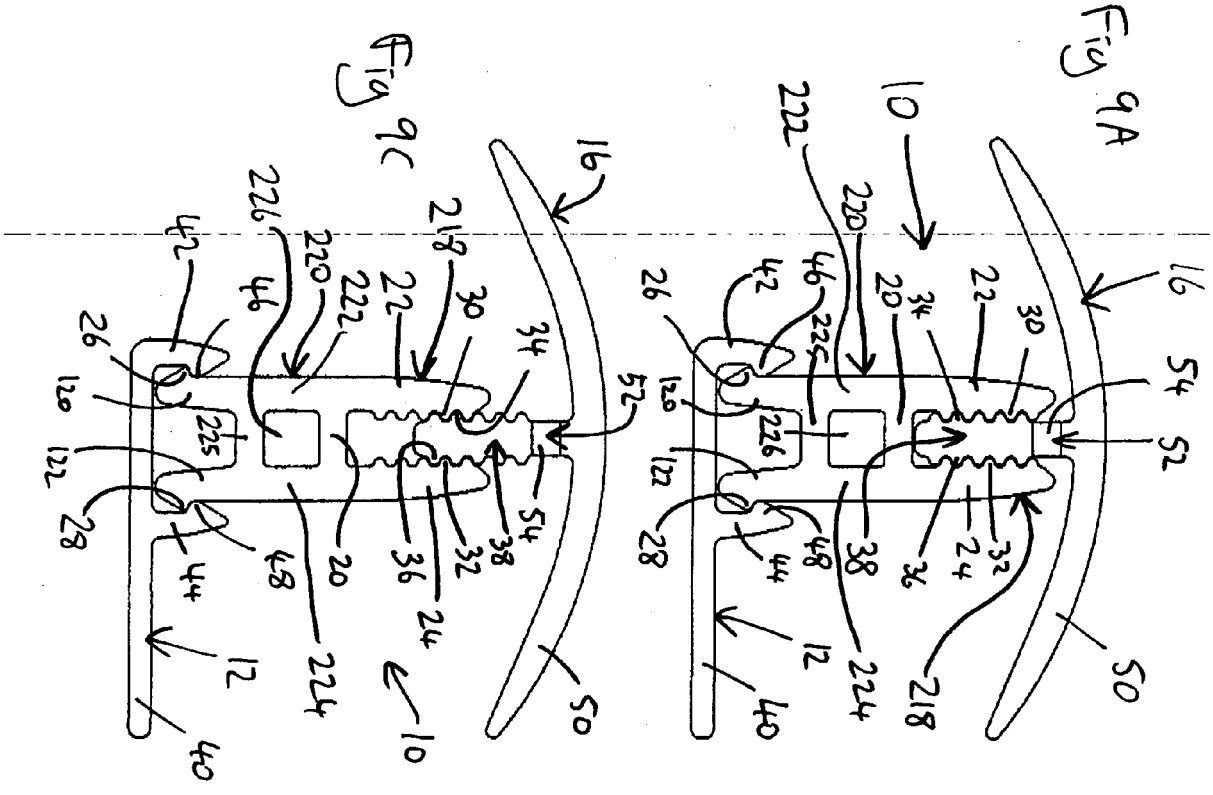
Fig 9A
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Fig 9C
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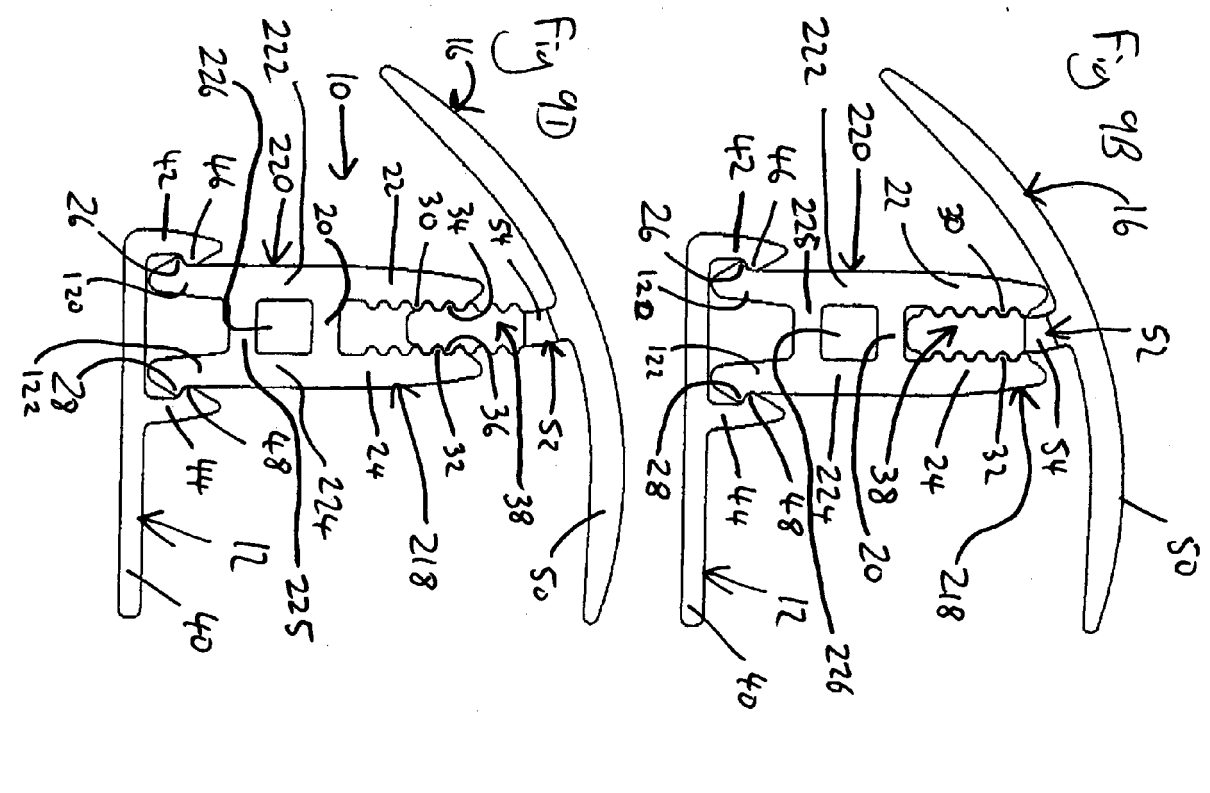
Fig 9B
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Fig 9D
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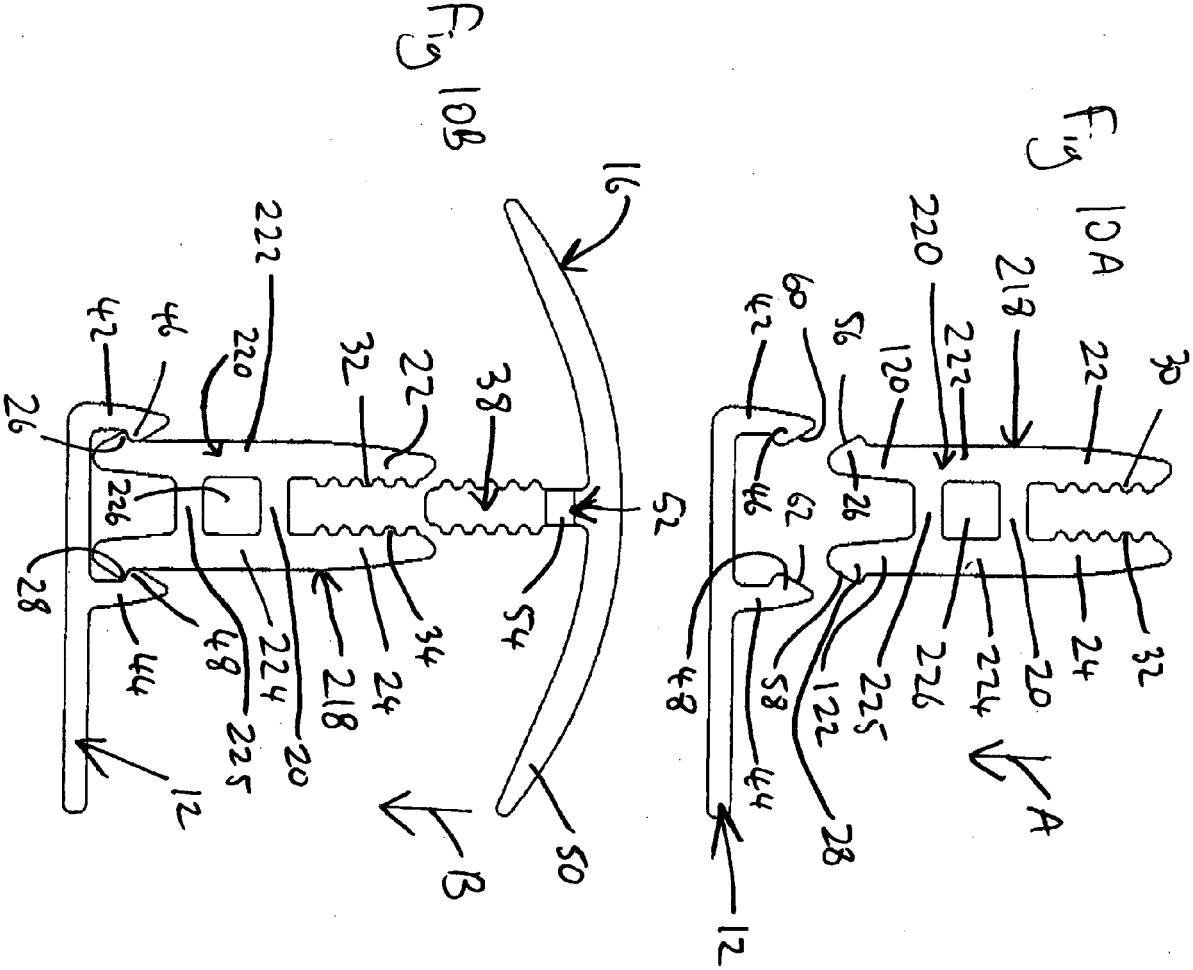
Fig 10B
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Fig 10A
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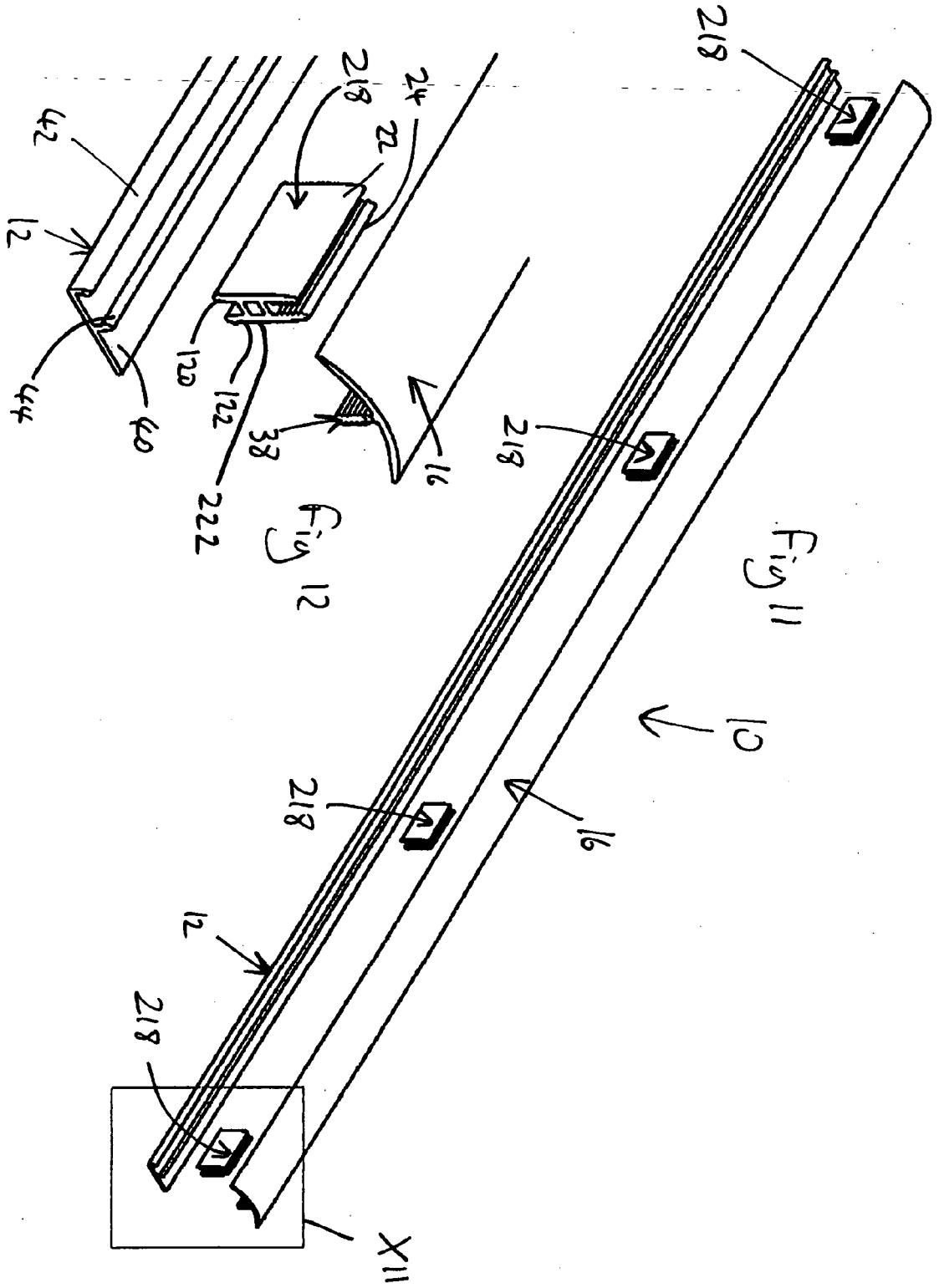

Fig 12

Fig 11