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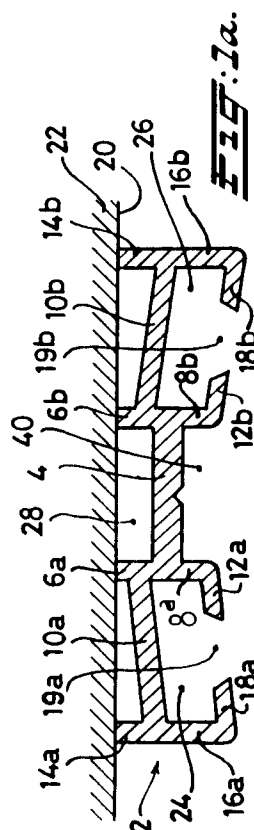
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NL-2280 GE Rijswijk (NL)(54) **Elongated profile provided with at least one insertion space.**

(57) The invention provides a universally applicable profile (2), provided with at least one insertion space (19a,19b) for fitting a sealing element, intended to be mounted on the closing side of a building element which co-operates, with a second building element, for example a panel, movable at least with respect to this profile. This profile (2) is made up of an elongated web (4) on either side of which is a chamber (19a,19b) defined by upright ribs (8a,16a,18b,16b) perpendicular to the web (4). The end walls of each chamber continue on into edges (18a,12a,18b,12b) terminating at a distance from and directed toward each other, while further there are supporting ribs (14a,6a,6b,14b), perpendicular to the web, directed away from the chambers and supporting the profile. This profile can be fastened to the building element by means of suitable fasteners.

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The invention relates to an elongated profile, provided with at least one insertion space for accommodating a sealing element, intended to be mounted on the closing side of a building element which cooperates with a second building element, for example, a panel, being movable at least with respect to this profile.

Such profiles whereby a brush, or a draught strip, or a fire-resisting material which produces foam is fitted in the insertion space, are known in practice in a wide variety of embodiments. It can be argued that in fact for each special application a separate profile has been designed.

The result of this, which increases costs, is that the manufacturer, the wholesaler, the retailer as well as the builder must stock a wide variety of profiles which, partly due to the administration caused by this, greatly increases costs.

The aim of this invention is to overcome this drawback and provide a universally applicable profile of the kind described in the preamble. According to the invention, this is achieved in that the profile is made up of an elongated web on either side of which is a chamber defined by upright ribs perpendicular to the web, of each of which the end walls continue on into end edges terminating at a distance from and directed toward each other, and further with supporting ribs, perpendicular to the web, directed away from the chambers and supporting the profile.

The supporting ribs are formed by the continuations of the upright ribs, which bound the chambers.

Furthermore preferably the outermost supporting ribs are longer than the innermost supporting ribs, as a result of which the bottoms of the respective chambers mutually include an obtuse angle.

With this profile according to the invention, a multitude of embodiments is possible; a number of preferred embodiments are described in claims 4-9.

The invention is elucidated on the hand of the drawing, in which:

Figure 1a is a cross-section of the basic profile according to the invention.

Figure 1b is a cross-section of this profile in which the chambers have been provided with a seal in the form of a brush.

Figure 1c is a cross-section of an embodiment as shown in 1b, in which a strip of foam producing fire-resistant material is fitted in each of the chambers.

Figure 1d is a cross-section as shown in figure 1c combined with a strip of foam-producing material in the space between the two chambers.

Figure 1e is a cross-section similar to figure 1d, provided with a second strip of foam-producing material.

Figure 2 shows a cross-section of the embodiment as shown in figure 1c fitted in a recess in a building component.

Figure 3 shows a cross-section of the embodiment as shown in figure 1c in which the profiles are mounted on the butt ends of a building component.

Figure 4 shows an embodiment similar to figure 3 in which the profiles are combined with extra protective profiles.

Figure 5 shows an embodiment as shown in figure 4 in which the main body of the protective profiles is interrupted.

Figure 6 shows an embodiment in which each of the profiles according to the invention is incorporated in a profile for a swing door.

Figure 7 shows an embodiment as shown in figure 6 in which an extra insertion space for foam-producing material has been made in each building component.

Figure 8 shows an embodiment in which a profile as shown in figure 1d is incorporated in a recess in an building element and co-operates with the butt end of a panel which is moveable with respect to the recess.

Figure 9 shows an embodiment similar to figure 8 in which the butt end of the panel is finished in a curved form.

Figure 10 shows an embodiment in which a profile according to the invention is mounted on a frame part.

Corresponding parts in the figures are indicated by the same reference numbers and will not be further elucidated.

The basic form of the profile according to the invention is shown in the cross-section in figure 1a; in the figure the profile is indicated in its entirety by reference numeral 2. The profile is manufactured in great lengths by extrusion and its length dimension is thus perpendicular to the plane of the drawing.

The profile 2 consists of a web 4 on either side of which are the upright ribs 6a and 6b respectively; the cross ribs 10a and 10b respectively emanate from ribs 6a and 6b while the ribs 8a and 8b terminate in the end edges 12a and 12b diagonal to them. Diagonal to ribs 10a and 10b are ribs 14a and 14b and in their continuation ribs 16a and 16b. Ribs 16a and 16b terminate in the end edges 18a and 18b diagonal to them, which, while leaving an intermediate space 19a and 19b respectively, align with ribs 12a and 12b. Ribs 6a, 6b, 14a and 14b bear on surface 20 of the schematically indicated building element 22 to which the profile is fastened by means of fasteners - not shown - such as screws. As shown in the drawing ribs 16a, 8a and the end edges 18a, 12a define a chamber 24, while ribs 16b, 8b and the end edges 12b and 18b

define a second chamber 26; furthermore, ribs 6a, 6b, web 4 and surface 20 of the building element 22 define a chamber 28. Finally, there is an open chamber 40, facing the exterior, which is bounded by the external wall of web 4 and the external walls of ribs 8a and 8b.

As will be clear from the following, this profile proposed according to the invention offers an up to now unprecedented multitude of possible applications.

Figure 1b shows a situation in which brush strips 30 and 32 respectively are present in chambers 24 and 26 respectively. In combination with an adjacent surface, not shown in these figures, these provide for a seal against smoke and draught.

Figure 1c shows how strips 34 and 36 respectively, known in themselves, which produce foam on being heated are incorporated in chambers 24 and 26 respectively, supplementing the brush strips 30 and 32 respectively.

Figure 1d shows how in addition to the embodiment in figure 1c a foam-producing strip 38 is present in chamber 28.

Finally, figure 1e shows how in addition to the embodiment in figure 1d a foam producing strip 40a - when heated - is placed in the open chamber 40 on the front side.

Figure 2 shows an embodiment with two profiles 2a and 2b respectively placed opposite each other and made-up as shown in figure 1c (and therefore not further explained), inserted here in recesses 42 and 44 respectively which are formed in the butt ends 46 and 48 respectively of two panels 50 and 52 respectively; one of the panels may be moveable with respect to the other, whereby both panels may be moveable, or one panel may be fixed and the other moveable. The profiles 2a and 2b respectively can be fastened in any suitable manner to the panels 50 and 52 respectively by, for example, screws which are not shown on the drawing.

Figure 3 shows an embodiment in which the profiles 2a and 2b respectively, having the configuration as shown in figure 1c, are fastened by means of fasteners not shown in the drawing, for example, screws, to the flat butt ends 54 and 56 respectively of the panels 58 and 60 respectively.

Figure 4 shows the cross-section of an embodiment in which the profiles 2a and 2b respectively, having the configuration as shown in figure 1c, are inserted in two auxiliary profiles 62a and 62b, each having a main body 64a and 64b, which continues into the upright edges 66a, 66b, 66c and 66d respectively closing about profiles 2a and 2b respectively; the edges continue further forming the terminal edges 70a, 70b and 70c, 70d respectively which close about the panels 68a and 68b. With these auxiliary profiles 62a and 62b, excellent protection of the panels 2a and 2b is realized.

tection of the panels 2a and 2b is realized.

Figure 5 shows a cross-section similar to figure 4 in which identical parts are indicated by the same reference numbers; the difference with the embodiment as shown in figure 4 lies in the fact that the main bodies 64a and 64b of the auxiliary profiles 62a and 62b are interrupted resulting in a break 72a and 72b respectively running in a longitudinal direction; furthermore, at that spot an elongated chamber 74a and 74b respectively is formed in the building elements 68a and 68b and a strip 76a and 76b respectively which produces foam on being heated is placed in chamber 28 in the way as shown in figure 1d. In this way a dual goal is achieved: in the first place, the auxiliary profiles 62a and 62b are now split into two parts which are thermally isolated with respect to each other and, moreover, in the event of a fire the chambers 74a and 74b and the spaces 72a and 72b between the main bodies of the auxiliary profiles will entirely be filled with fire-resisting foam.

Figure 6 shows an example of an embodiment in which the profiles 2a and 2b respectively, having the configuration as shown in figure 1c, are incorporated in a profile of the kind as used for swing doors; both swing door profiles 80a and 80b respectively consist each of a main body 84a and 84b respectively to be fastened to the butt end 82a and 82b respectively of two swing doors and which, perpendicular to it, has a cover strip 86a and 86b respectively reaching to the other panel.

Figure 7 shows a cross-section of an embodiment which basically corresponds with the one shown in figure 6 and in which identical parts are indicated by corresponding reference numerals; the difference with the embodiment as shown in figure 6 is that the main bodies 84a and 84b, in the manner already explained with regard to figure 5, are interrupted by a break 88a and 88b respectively and that at that place, as in the embodiment mentioned above, elongated chambers 92a and 92b are formed in the panels 90a and 90b. As in the embodiment which has already been discussed, fire-resisting strips 94a and 94b which produce foam are placed at the spot where these breaks are located. Because of this, as in the embodiment shown in figure 5, a thermal break is created which in combination with the foam barrier from the foam strips 94a and 94b offers excellent protection in the event of a fire.

Figure 8 shows an embodiment of a combination of a profile 100 of the type as shown in the cross-section in figure 1c, now inserted in a recess 102 of a fixed building component 104 and co-operating with the butt end 106 of an opposite panel 108.

Figure 9 shows a similar situation, but here profile 100, inserted in recess 102 of building com-

ponent 104, co-operates with the rounded butt end 106 of a swing door 108.

Finally, figure 10 shows how a profile 110, having the configuration as shown in figure 1c - and therefore not elucidated further - is incorporated in a frame corner 112 and co-operates with the strike surface 114 of a door 116.

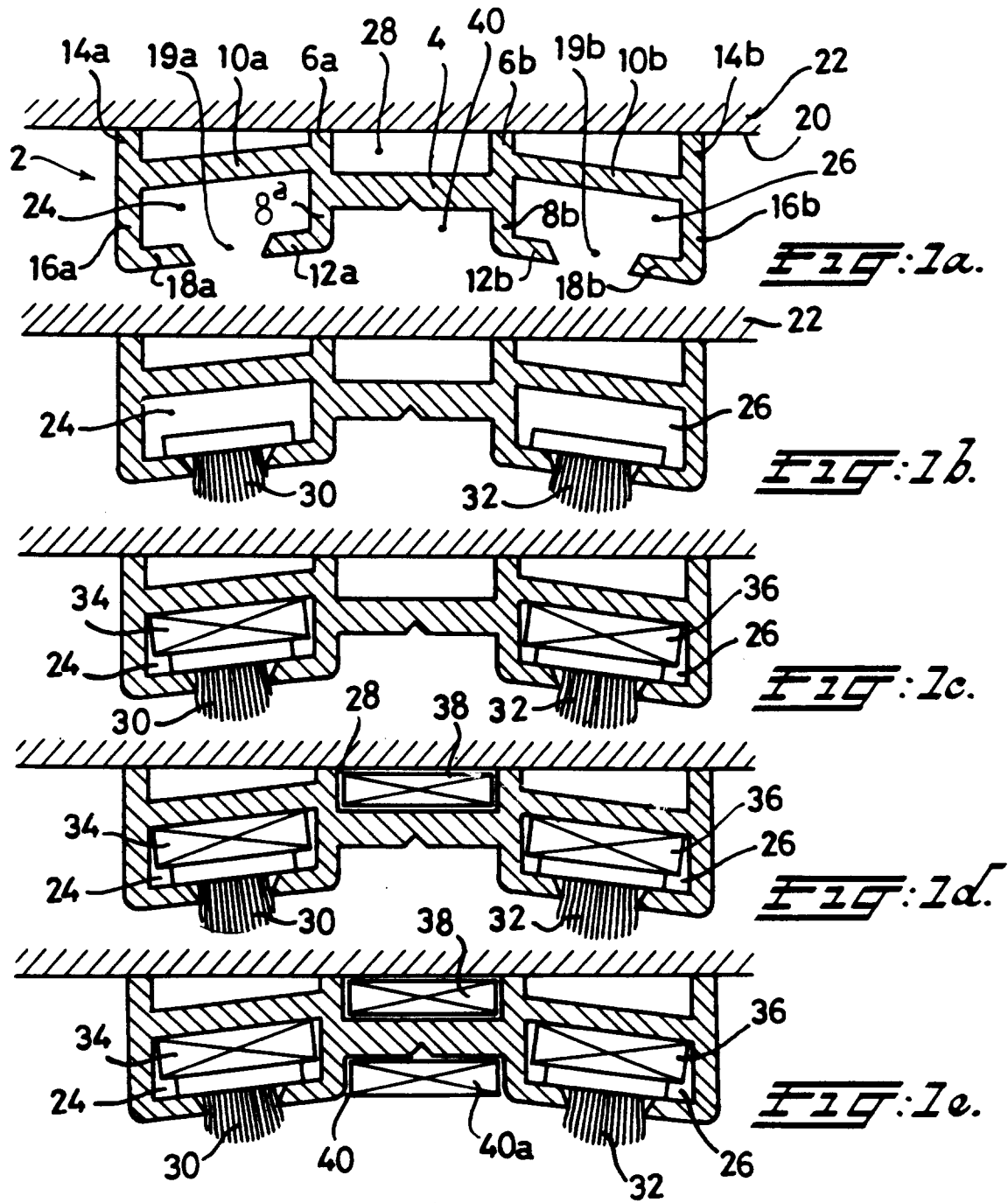
From the foregoing it is evident that the application possibilities of the profile according to the invention are practically unlimited. In addition, it should be noted that the profile has extremely favourable fire-resisting properties, especially when strips which produce foam on being heated are fitted in its chambers. Tests have shown that when there is an increase in temperature to approximately 120 °C the brushes will have already been consumed, but at that temperature, a vigorous foaming develops; the created foam forms a very effective barrier to fire and prevents effectively for a long time fire from breaking through.

Claims

1. Elongated profile (2), provided with at least one insertion space (19a, 19b) for accommodating a sealing element, intended to be mounted on the closing side of a building element (22) which co-operates, with a second building element, for example, a panel being movable at least with respect to this profile, characterized in that the profile consists of an elongated web (4) on either side of which is a chamber (19a, 19b) defined by upright ribs (8a, 16a, 8b, 16b) perpendicular to the web, of each of which the end walls continue on into edges (18a, 12a, 18b, 12b) terminating at a distance from and directed toward each other, and further with supporting ribs (14a, 6a, 6b, 14b), perpendicular to the web (4) directed away from the chambers, and supporting the profile (2).
2. Profile (2) according to claim 1, characterized in that the supporting ribs (14a, 6a, 6b, 14b) are formed by the continuation of the upright ribs (16a, 8a, 8b, 16b), which bound the chambers (19a, 19b).
3. Profile (2) according to claims 1 - 2, characterized in that the outermost supporting ribs (14a, 14b) are longer than the innermost supporting ribs (6a, 6b), resulting in that the bottoms (10a, 10b) of the respective chambers (19a, 19b) include an obtuse angle.
4. Assembly comprising a profile according to one or more of claims 1 - 3, characterized in that draught-resisting, protruding brushes (30, 32) are placed in the chambers (24, 26) of the

profile.

5. Assembly comprising a profile according to one or more of claims 1 - 3, characterized in that fire-resisting strips (34, 36) which produce foam at a higher temperature are placed in the chambers (24, 26) of the profile.
6. Assembly comprising a profile according to one or more of claims 1 - 3, characterized in that strips (38) which produce foam when at higher temperature are placed in the space (28) between the innermost upright ribs.
7. Assembly according to one or more of claims 4 - 6, characterized in that the profile (2a, 2b) is accommodated in a separate auxiliary profile (62a, 62b) which encloses the profile (2a, 2b) and is supported by the building element (68a, 68b).
8. Assembly according to claim 7, characterized in that the auxiliary profile is divided into two aligned parts, each of which encloses a part of the profile.
9. Assembly according to claim 8, characterized in that at the place of the end edges of the parts which face each other, an elongated insertion space has been formed in the building element (92a, 92b) for accommodating a fire-resisting material which produces foam at a higher temperature.



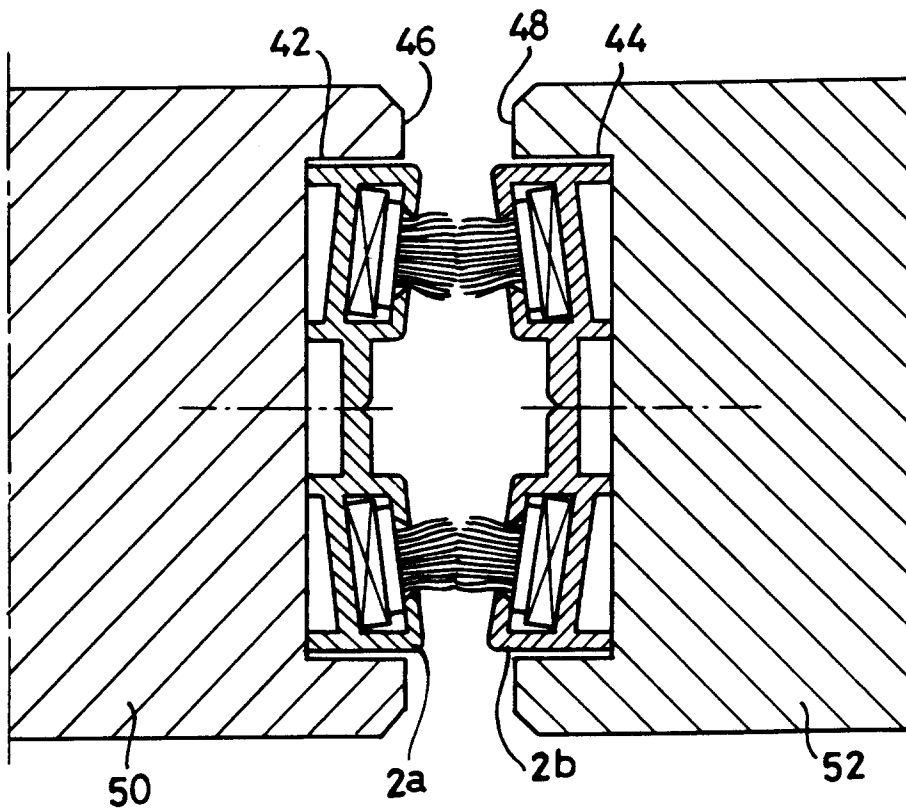


FIG. 2.

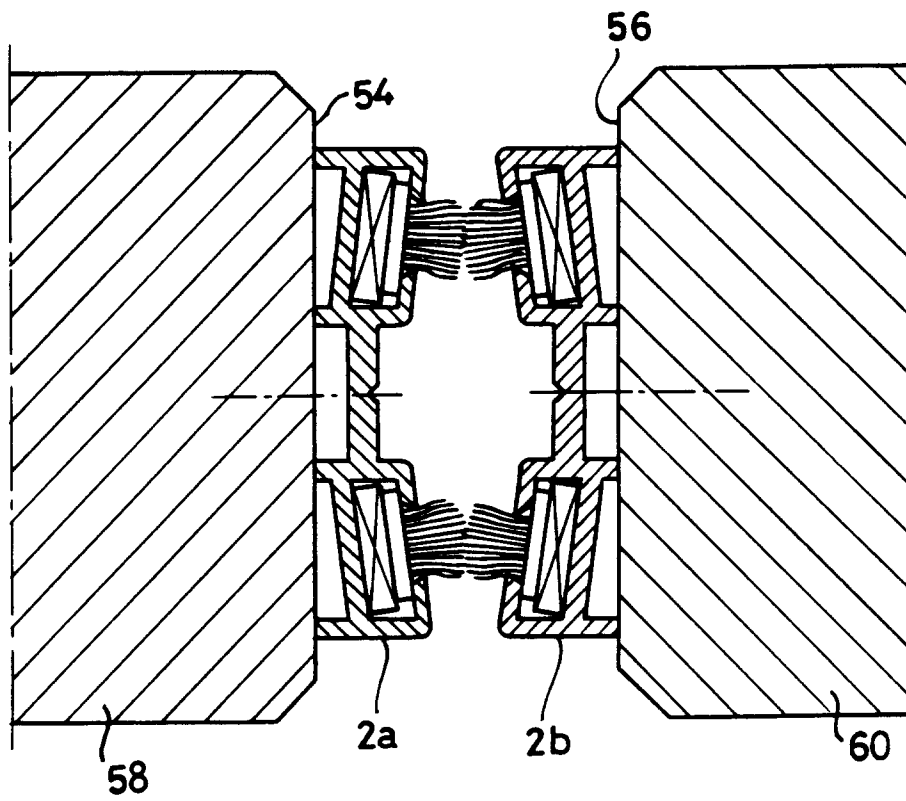


FIG. 3.

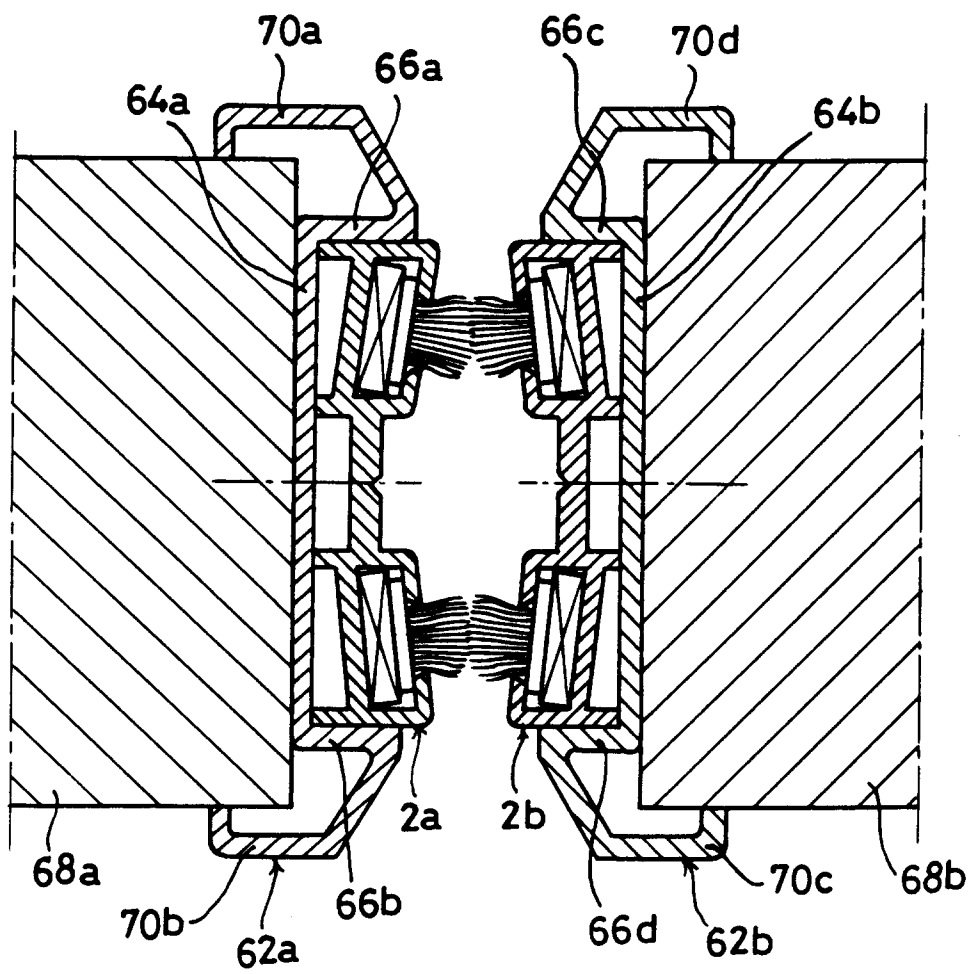


FIG. 4.

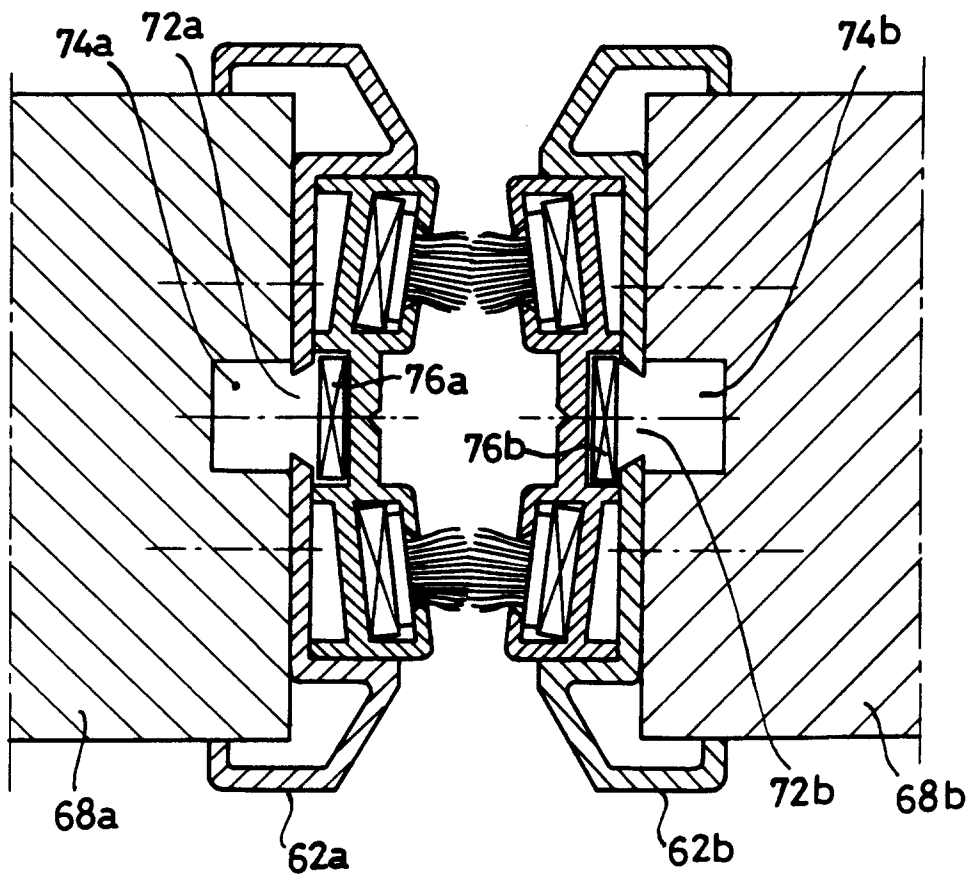


FIG. 5.

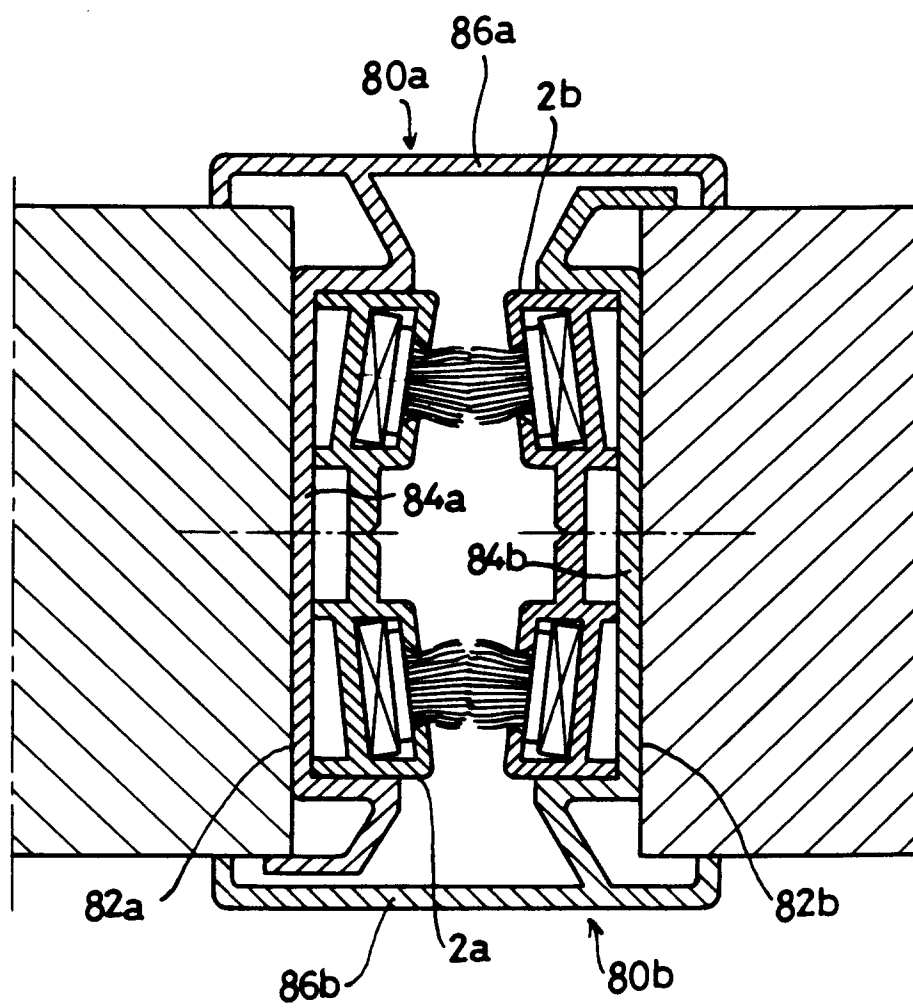


FIG. 6.

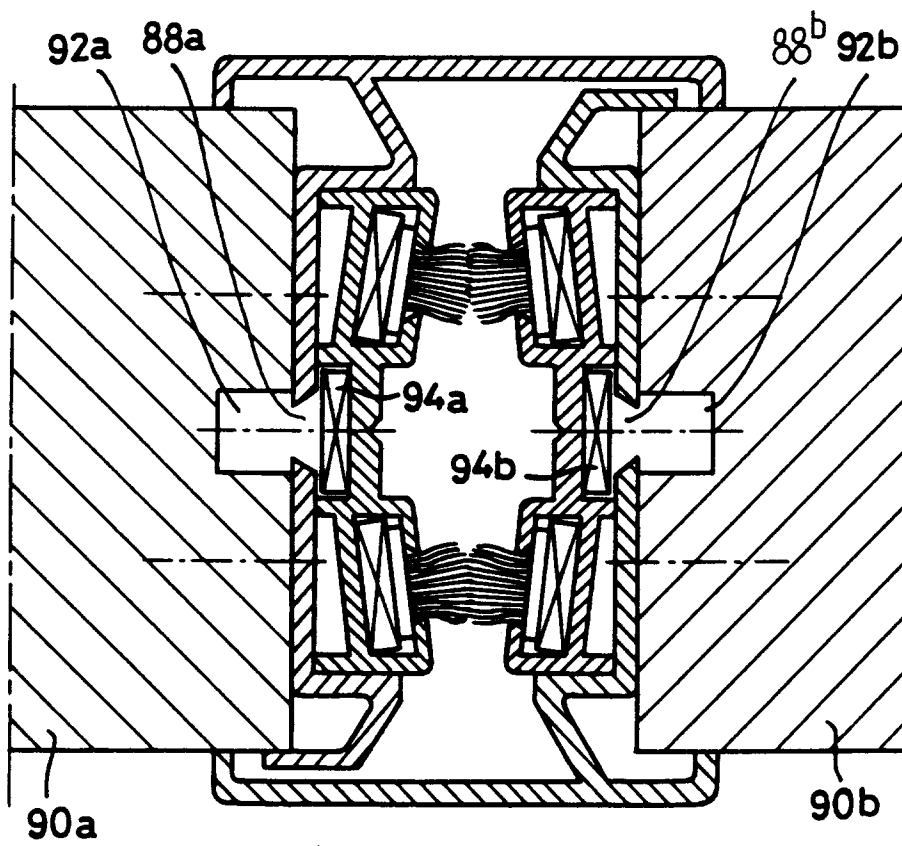


FIG. 7.

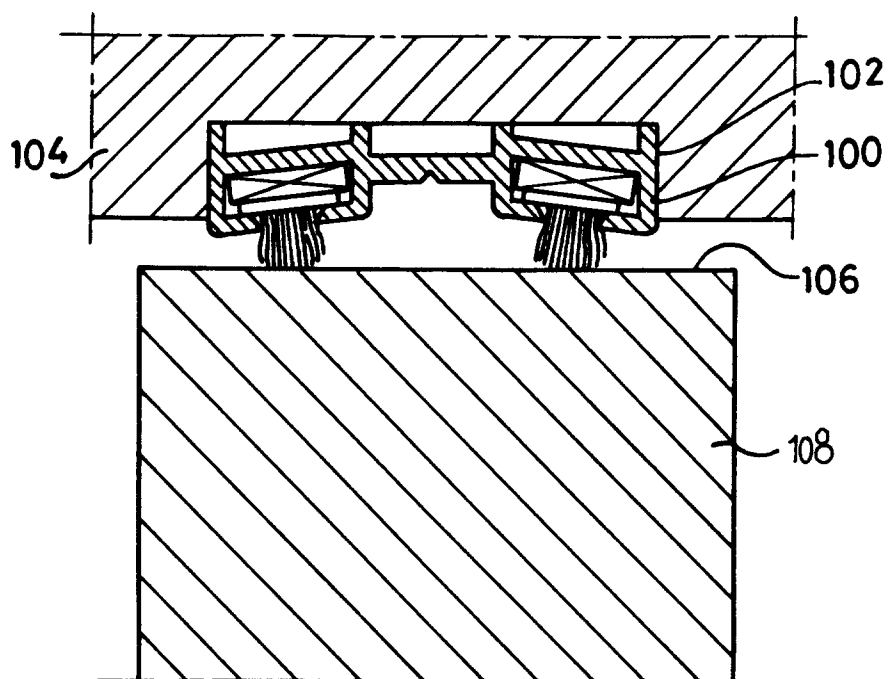


FIG. 8.

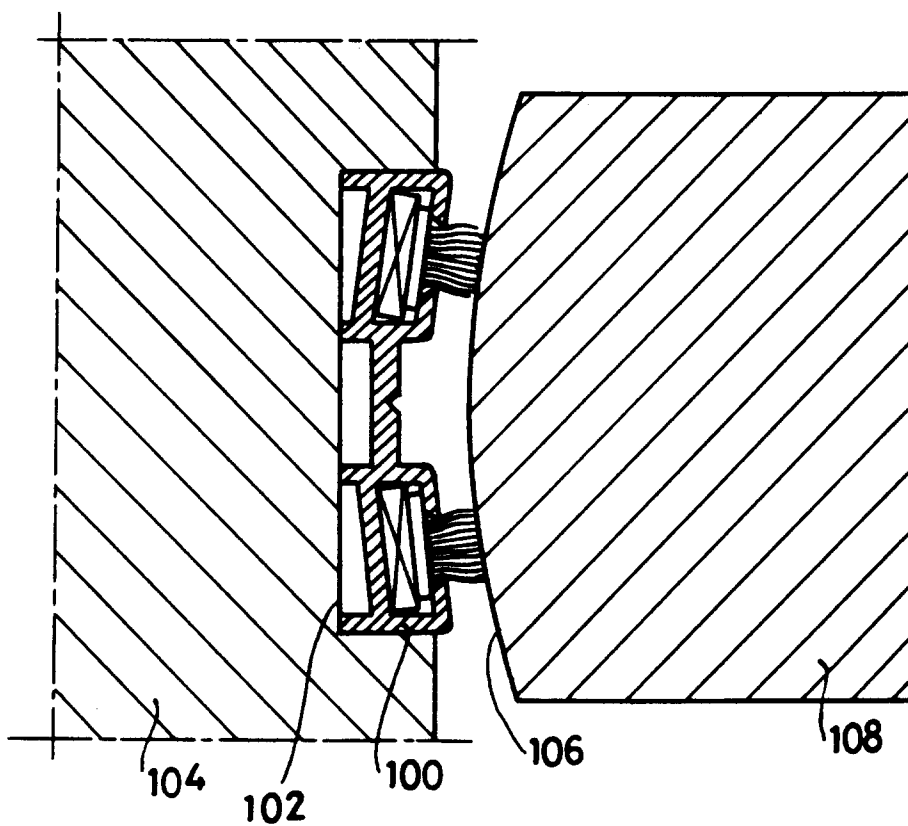


FIG. 9.

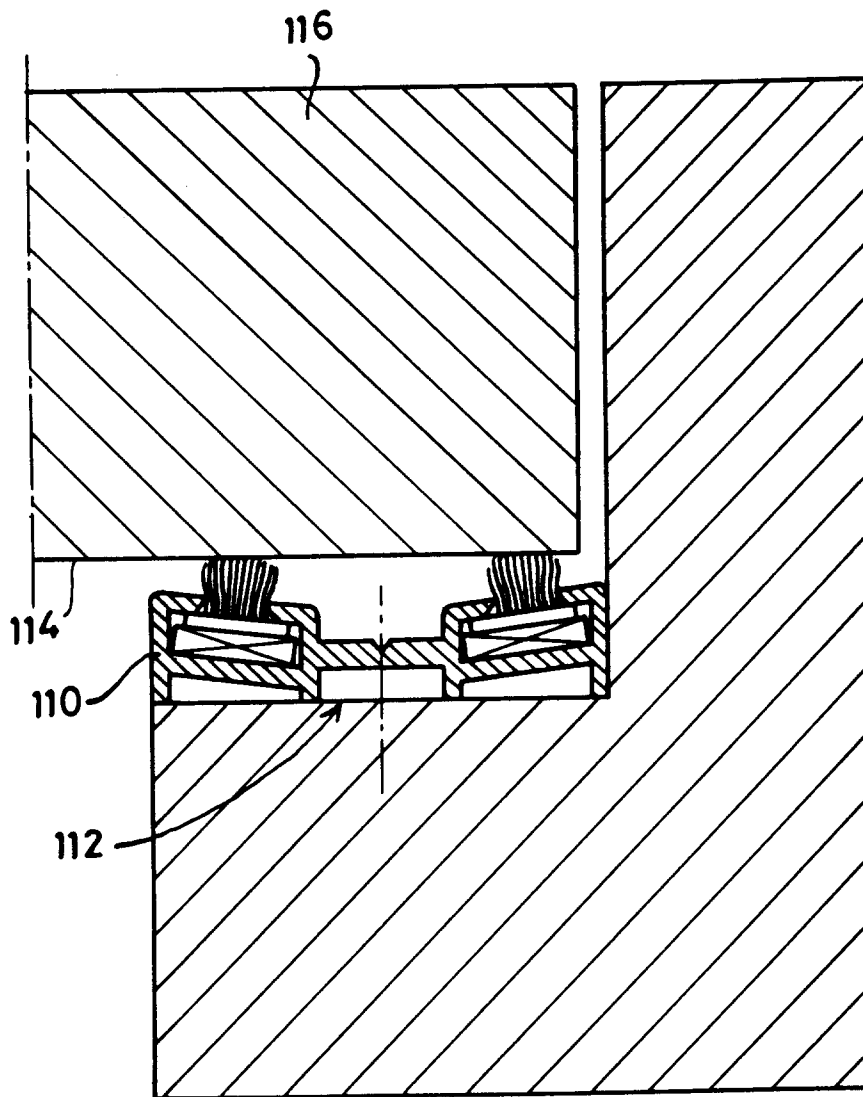


FIG: 10.



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EUROPEAN SEARCH REPORT

Application Number
EP 93 20 2960

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.5)
X	NL-A-7 608 393 (VAN HERPEN)	1,2	E06B5/16
Y	* page 1, line 1 - line 8 *	4-6	E06B3/88
	* page 2, line 18 - page 3, line 28; figures *		

Y	NL-A-8 501 851 (ALPROKON PROMOTIE EN ONTWIKKELING B.V.)	4-6	
A	* page 2, line 24 - page 3, line 32; figures *	1,2	

A	EP-A-0 050 517 (DIXON INTERNATIONAL LTD)	1,2,4-6,9	
	* page 1, line 1 - line 23 *		
	* page 5, line 25 - page 8, line 26; figures 1-7 *		

A	GB-A-2 165 290 (DUFAYLITE DEVELOPMENTS LTD)	1-5,9	
	* page 1, line 101 - page 2, line 59; figures 1,4-8 *		

A	US-A-3 141 204 (WHEELER)	1,3	TECHNICAL FIELDS SEARCHED (Int.Cl.5)
	* column 2, line 60 - column 3, line 45; figures 2,4 *		E06B

A	GB-A-2 148 993 (MANN MCGOWAN FABRICATIONS LTD)	1,4-9	
	* page 2, line 31 - line 117; figures 1-5 *		

A	US-A-4 386 482 (QUINIF)	1,7	
	* column 2, line 32 - column 4, line 9; figures 2,5 *		

The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		23 February 1994	Henkes, R
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone		T : theory or principle underlying the invention	
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