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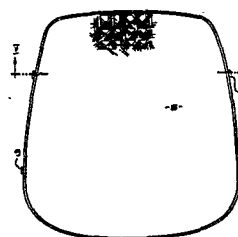
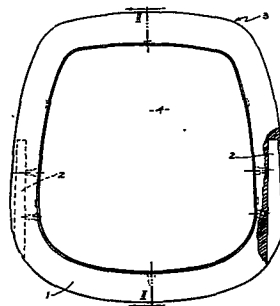
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⑤④ **A backrest assembly for a chair.**

⑤⑦ A backrest assembly for a chair is disclosed which permits one of a number of inserts (8), each of a different appearance, to be inserted within a peripheral frame (1). The frame (1) is quasi-annular in shape having a perimeter which is the intended perimeter of the backrest. The insert is inserted within a central opening (4) in the frame (1) and secured in position.



A BACKREST ASSEMBLY FOR A CHAIR

The present invention relates to furniture and, in particular, chairs in which the backrest is formed from an assembly thereby permitting standard parts to be used in chairs having different appearances.

In the manufacture of furniture from plastics material, the high cost of moulds makes it difficult for a large variety of moulded plastics chairs, or chairs having moulded plastics backrests and seats, to be manufactured.

It is the object of the present invention to provide a backrest assembly in which at least one part of the backrest may be used for a wide variety of backrests and the differences between backrests arise because of the differences between other parts, each of which is able to co-operate with the one identical part.

According to one aspect of the present invention there is disclosed a backrest assembly for a chair having a seat and a backrest, said assembly comprising a quasi-annular frame having a central opening therein, said frame defining the peripheral rim of said backrest ^{and} /the perimeter of said frame being shaped to conform with the intended perimeter of said backrest, said central opening comprising a substantial portion of said backrest and being adapted to receive a decorative insert therein to substantially close said opening, said insert being located approximately flush relative to said frame, and said assembly including means to secure said insert to said frame, whereby a number of inserts each one different to the other can be assembled with a corresponding number of identical

frames to provide a corresponding number of backrests each of which has a different appearance.

Some embodiments of the present invention will now be described with reference to the drawings in which:

Fig. 1 is a front elevation of the quasi-annular frame of the preferred embodiment,

Fig. 2 is a cross-sectional view along the line II-II of Fig. 1,

Fig. 3 is a front elevation of the insert of a first embodiment showing a moulded cane pattern,

Fig. 4 is a side elevation of the insert of Fig. 3,

Fig. 5 is a cross-sectional view along the line V-V of Fig. 3,

Fig. 6 is a cross-sectional view showing the inter-engagement between the frame of Fig. 1 and the insert of Fig. 3,

Fig. 7 is a view similar to that of Fig. 6 showing inter-engagement of an upholstered insert of a second embodiment with the frame of Fig. 1,

Fig. 8 is a front elevation of the slat insert of a third embodiment,

Fig. 9 is a cross-sectional view along the line IX-IX of Fig. 8, and

Fig. 10 is a view similar to Fig. 6 showing the inter-engagement of the insert of Fig. 8 and the frame of Fig. 1.

The backrest assembly of the preferred embodiment is intended for use with a chair having tubular metal legs, the

rear legs being extended upwardly to provide a support for the backrest. Such a chair is that disclosed in U.S. Patent No. 3,722,954 assigned to the assignee of the present invention. However, the present invention is not limited to such chairs. The backrest itself comprises a quasi-annular frame 1 which is approximately oval in shape and has two cavities 2 which are adapted to receive the upper portion of the extensions of the rear legs of the chair. The frame 1 can be secured to the rear legs (not illustrated) by means of fasteners passing through the frame 1 and into the cavities 2.

The frame 1 is preferably moulded in an injection moulding process using high impact polystyrene or polypropylene. The perimeter 3 of the frame 1 is shaped to conform to the periphery of the backrest and a central opening 4 is provided, the central opening 4 being adapted to receive an insert which completes the backrest.

As can be seen in Fig. 2, the inner surface of the frame 1 is provided with a lip 5 and a plurality of spaced recesses. It will be apparent to those skilled in the art that the frame 1 illustrated in Figs. 1 and 2 is a strong member and is easily able to withstand the loads applied to it by a person sitting on a chair.

Referring now to Figs. 3 to 5, the first embodiment of an insert 8 suitable for location within the central opening 4 of the frame 1 is illustrated. The insert 8 is again moulded from high impact polypropylene or polystyrene in an injection moulding operation and, as seen in Fig. 3, is moulded with a cane pattern on both the outer surfaces of the insert 8.

The insert 8 is shaped to provide a comfortable surface for the sitter and is also shaped to co-operate with the central opening 4 to substantially fill same. The insert

8 is retained within the central opening 4 by means of a plurality of tongues 9 which co-operate with recesses 6.

As seen in Fig. 6, each tongue 9 carries a protrusion 10 at the free end thereof which, when the insert 8 is placed into the central opening 4, is located in the corresponding recess 6. It will also be seen that the free end of each tongue 9 abuts the lip 5 of the frame 1. It will be apparent to those skilled in the art that the insert 8 may be easily located within the central opening 4 by means of a single assembly operation and that the insert 8 cannot easily be removed from the frame 1 because of the inter-engagement of the protrusions 10 with the recesses 6.

Fig. 7 is a view similar to that of Fig. 6 showing the inter-engagement of an insert 12 of a second embodiment. The insert 12 of Fig. 7 is intended to be upholstered and accordingly has slightly smaller overall dimensions than insert 8 so as to provide a gap 13 between the tongue 9 of the insert 12 and the frame 1. It will be appreciated by those skilled in the art that when the insert 12 is upholstered the gap 13 is substantially filled by the upholstery material. Furthermore, the insert 12 is upholstered prior to insertion into the central opening 4 of the frame 1.

A third embodiment of the present invention is illustrated in Figs. 8 to 10 inclusive in which a further insert 15 is provided, the insert 15 being characterised by the provision of slats 16 regularly spaced across the insert 15. The slats 16 provide strength for the insert 15 yet permit air to pass from behind the backrest directly to the

back of a person sitting in the chair. Again the inter-engagement between the insert 15 and slats 16 is by means of tongues 9 and recesses 6.

It will be apparent to those skilled in the art that the frame 1 may be combined with any one of the inserts 8, 12 or 15 so as to produce one of three different backrests. In this way a relatively small number of mouldings may be used to produce an output having a large variety of combinations and in this way the cost of moulding for each combination is significantly reduced.

The foregoing describes only some embodiments of the present invention and modifications, obvious to those skilled in the art, may be made thereto without departing from the scope of the present invention. For example, the tongues can be located on the frame and the recesses on the insert.

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CLAIMS

1. A backrest assembly for a chair having a seat and a backrest, characterized by a quasi-annular frame (1) having a central opening (4) therein, said frame (1) defining the peripheral rim of said backrest and the
5 perimeter (3) of said frame being shaped to conform with the intended perimeter of said backrest, said central opening (4) comprising a substantial portion of said backrest and being adapted to receive a decorative insert (8, 12 or 15) therein substantially to close said open-
10 ing, said insert being located approximately flush relative to said frame, and means (6,9) for securing said insert to said frame, whereby a number of inserts each one different to the other can be assembled with a corresponding number of identical frames to provide a
15 corresponding number of backrests each of which has a different appearance.

2. A backrest assembly as claimed in claim 1, characterized in that the securing means (6,9) comprises a plurality of resilient tongues (9) located on either the
20 insert or the frame and each engagable with a corresponding recess (6) located on the frame or insert respectively.

3. A backrest assembly as claimed in claim 2, characterized in that the tongues (9) are located on the
25 periphery of the insert (8, 12 or 15) and the recesses (6) are located at corresponding locations in the inner periphery of the frame (1).

4. A backrest assembly as claimed in claim 3, characterized in that the recesses (6) are aligned with a
30 lip (5) on said inner periphery which protrudes into the central opening (4) and each tongue (9) carries a protrusion (10) at its free end which is retained in the corresponding recess in abutment with the lip (5).

5. A backrest assembly as claimed in any one of the
35 preceding claims, characterized in that both the insert

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and the frame are moulded from plastics material in single pieces.

6. A backrest assembly as claimed in claim 5, characterized in that the plastics material is high impact polystyrene or high impact polypropylene.

7. A backrest assembly as claimed in any one of the preceding claims, characterized in that the insert (15) has a plurality of elongated substantially parallel openings therein, each pair of adjacent openings defining a slat (16).

8. A backrest assembly as claimed in any one of claims 1 to 6, characterized in that the insert (12) closes the central opening (4) save for a small gap (13) between the insert and the frame which is filled with upholstery material which covers the insert.

9. A backrest as claimed in any one of the preceding claims, characterized in that the frame (1) includes securing means for securing the frame to the chair, said securing means comprising two elongated cavities (2) each adapted to receive a substantially vertical backrest support.

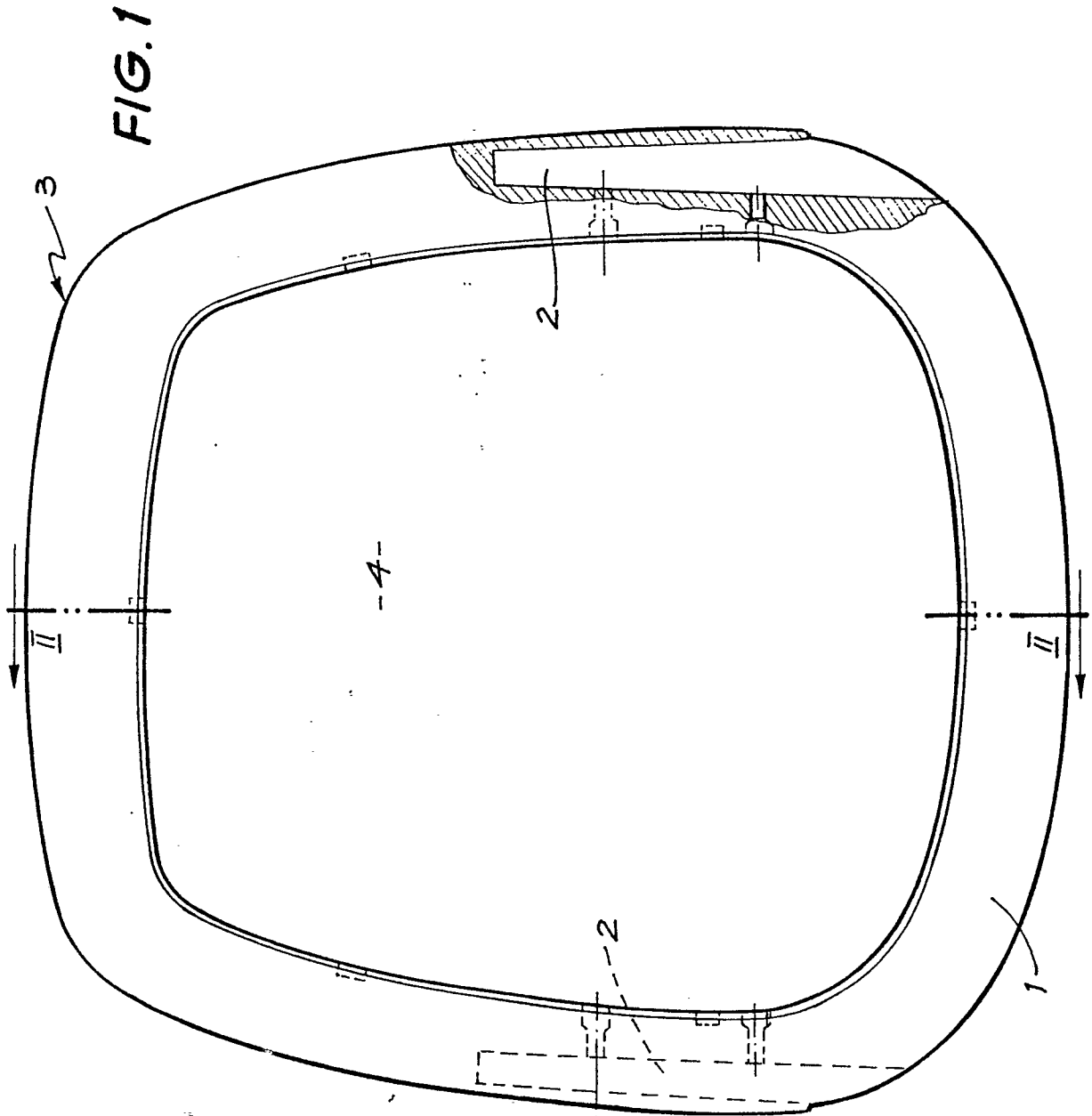
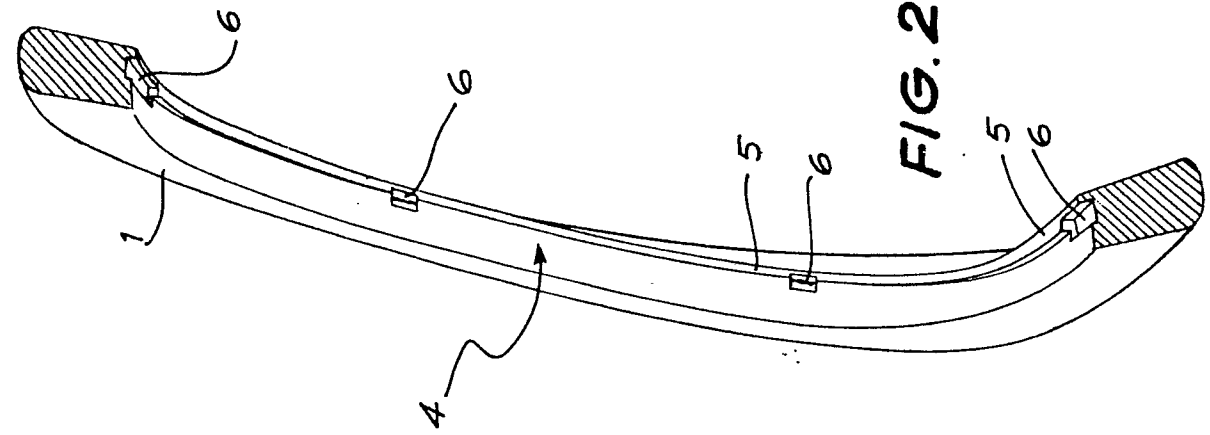


FIG. 3

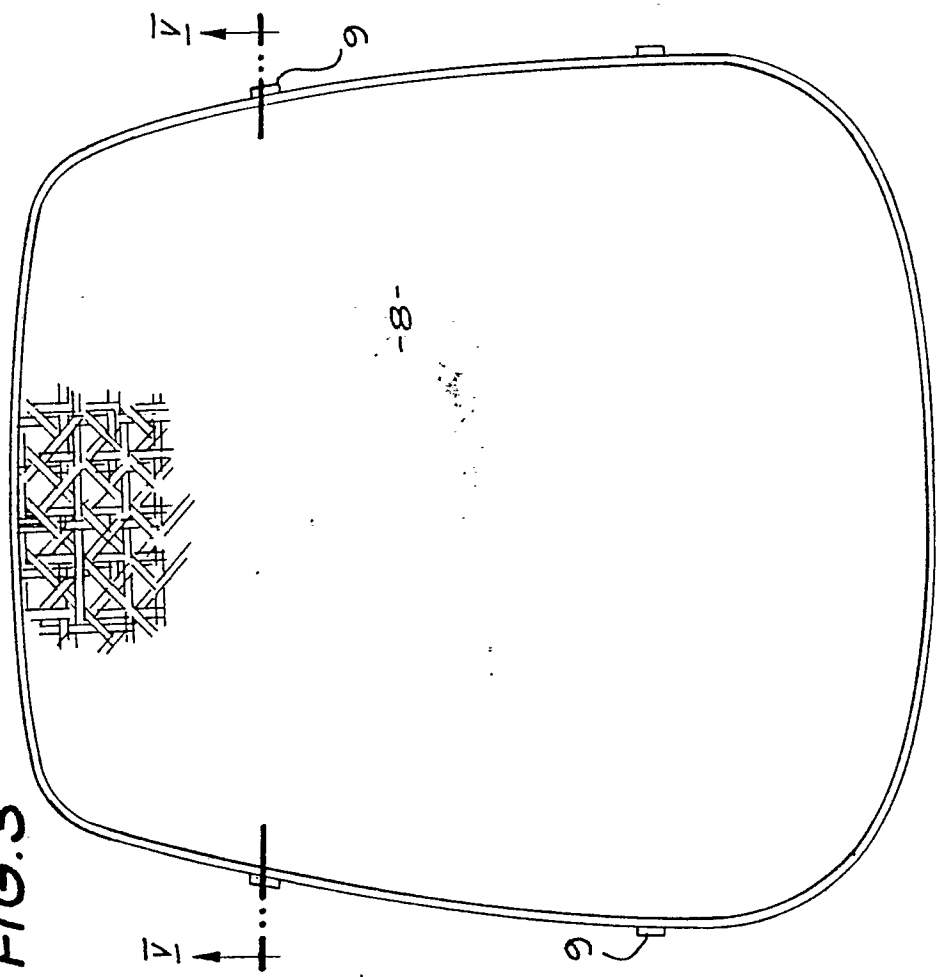


FIG. 5

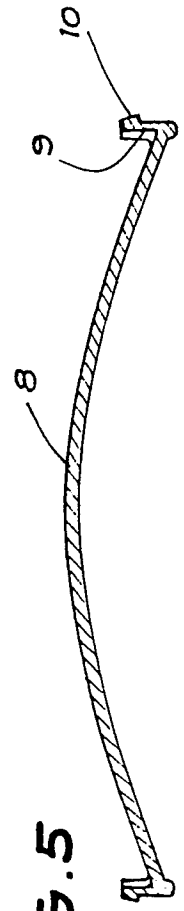


FIG. 4

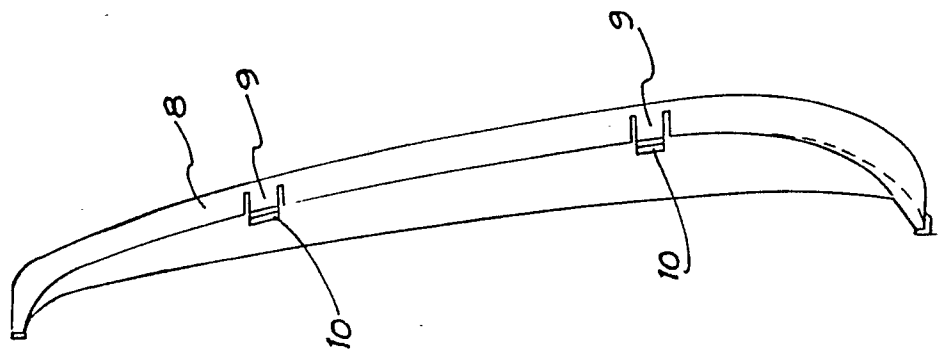


FIG. 6

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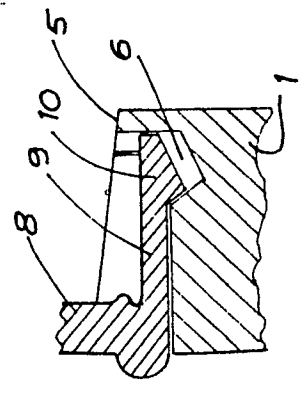
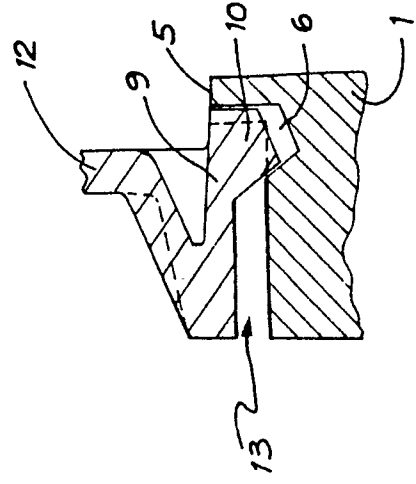


FIG. 7



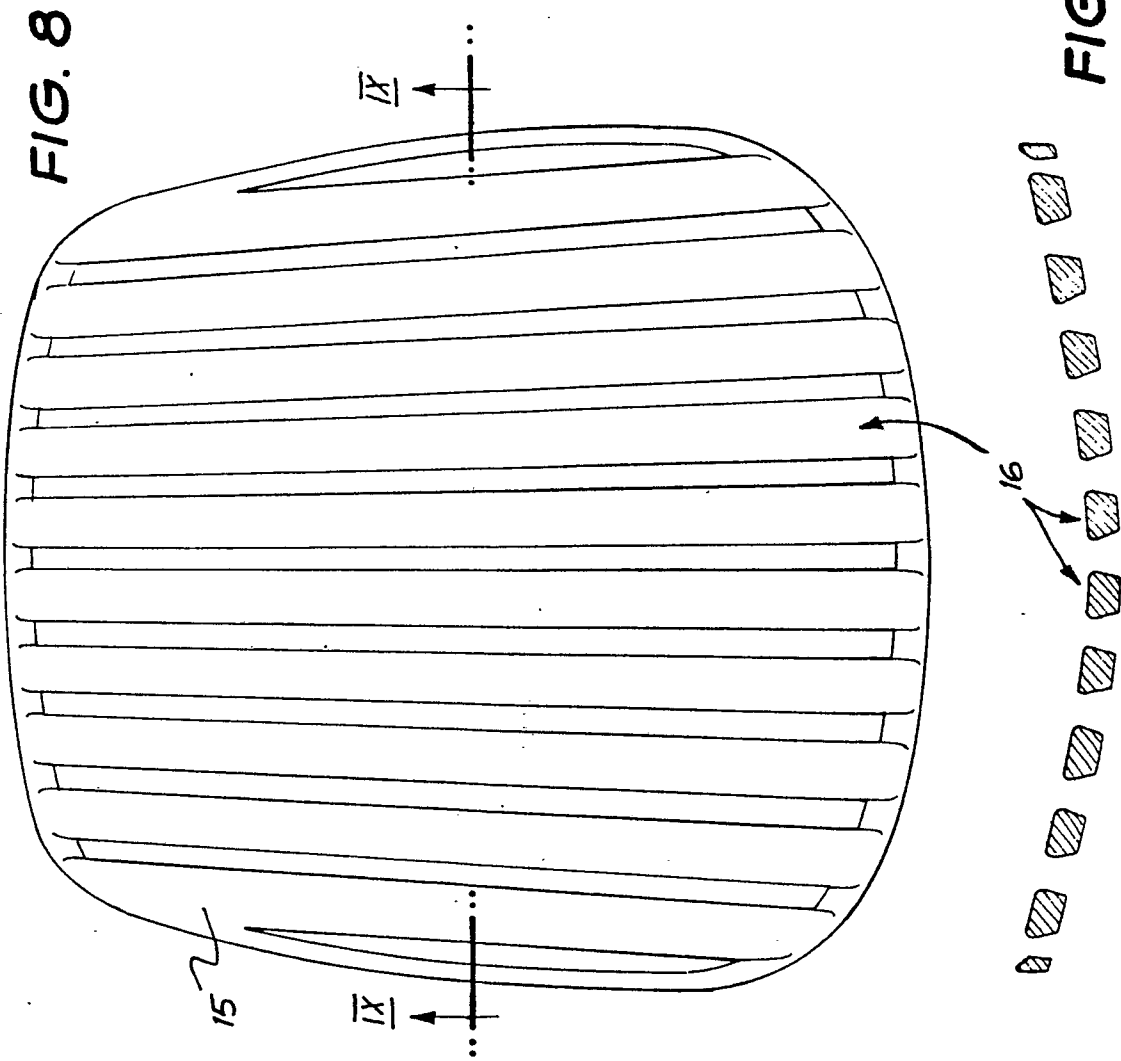


FIG. 10

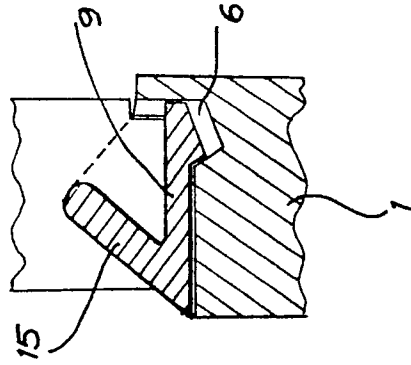


FIG. 9



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
-	<u>US - A - 3 037 814</u> (GARDNER) * Column 1, line 42 - column 2, line 7; figures	1,2	A 47 C 7/42
-	<u>US - A - 3 159 428</u> (SCHIER) * Column 2, lines 58-71; column 3, lines 6-13; column 4, lines 24-39; column 4, lines 65-70; figures 1,2,3,5-13 *	1,5,6	
-	<u>US - A - 2 767 780</u> (ADLER) * Column 1, line 41 - column 2, line 3; column 2, lines 17-21; figures *	1,3	TECHNICAL FIELDS SEARCHED (Int.Cl. 3) A 47 C
-	<u>US - A - 2 550 479</u> (HOVEN) * Column 2, lines 1-44; figures 1-6 *	1	
-	<u>US - A - 3 114 578</u> (HAMILTON) * Column 1, line 53 - column 2, line 20; figures *	1,2,3	
-	<u>FR - A - 1 298 474</u> (PEILLEX) * Page 1, column 2, last paragraph; page 2, column 1, paragraph 2; figures 1,2,3 *	1	CATEGORY OF CITED DOCUMENTS X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
-	<u>DE - A - 1 654 203</u> (BAYER) * Page 4, last paragraph; figure 2 *	9	&: member of the same patent family, corresponding document
<input checked="" type="checkbox"/> The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	05.09.1980	VANDEVONDELE	



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X,P	<u>GB - A - 2 016 913</u> (MANZONI) * Page 1, lines 57-93; figures * - - - -	1,2,3, 4,5	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)