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(54) Device for clamping a ring mechanism to a file-holder

(57) A clamping device for fastening a ring mechanism (14) to a file-holder (10) and the like. The clamping device comprises a "C" shaped clamping member (20) to fasten a support bar (15) of the ring mechanism (14) to a resting surface (12) of the file-holder (10). The clamping member (20) has two shaped side arms (22) which are made to pass through corresponding slits (19) of the resting surface (12) of the file-holder (10), parallely arranged to the sides of the support bar (15). The side arms (22) of the clamping member (20) have inwardly bent wings (23) which fit over the side edges of the support bar (15), to retain the same against the resting surface of the file-holder (10) preventing the bar (15) from sliding.

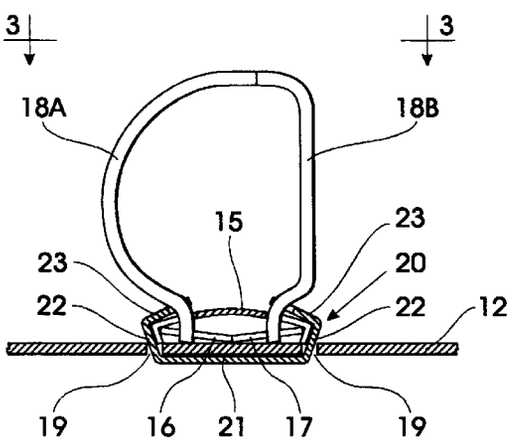


FIG. 2

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Description

FIELD OF THE INVENTION

The present invention refers to a clamping device for fastening a conventional ring mechanism to a resting surface of file-holders for documents, folders and the like, of the type described in the preamble of claim 1.

STATE OF THE ART

Conventional file-holders or folders for detachably containing documents or paper sheets, are generally provided with a ring mechanism, per se known, the rings of which may be opened to insert and respectively to remove a document which is held by the rings suitably threaded in proper holes along a side edge of the same document.

Generally ring mechanisms of conventional type are secured to a resting surface of a file-holder or folder, by rivets or metal pins which are threaded through suitable holes in a wall portion of the holder at both ends of a rigid bar which normally supports the ring members of the mechanism.

Fastening by rivets is to be carried out by suitable machines, and consequently the application of a ring mechanism is to be performed during the manufacture of the same holder.

The ring mechanisms also have a remarkable overall dimensions and therefore packaging, storage and/or transport of conventional file-holders already provided with a ring mechanism, involve a high and useless space consumption, with relevant high costs for transport and storage.

Moreover, fastening by rivets a ring mechanism constitutes the weak and the higher stressed area of the file-holder, with the consequent risk of tearing and/or breaking in the fastening points.

OBJECTS OF THE INVENTION

The main object of the present invention is to provide for a clamping device for fastening a ring mechanism to a resting surface of a file-holder, folder and the like, suitable to overcome the above mentioned problems.

More particularly, an object of the invention is to provide a clamping device for fastening a ring mechanism to a file-holder and the like, by which the use of rivets or fastening pins is no more required, thus allowing for maintaining the ring mechanism separated from the file-holder during storage and/or transport of the same.

The file-holder may be in this way packaged and transported in a flat form, separated from the ring mechanism, with a remarkable saving in space, labour and work.

A further object of the invention is to provide for a clamping device for securing a ring mechanism to a resting surface of a file-holder or the like, as above referred to, by which the ring mechanism may be removably hooked to the file-holder directly at use by the same user; therefore the file-holder may be separately packed and stored in a flat condition to save space.

A further object of the invention is to provide a clamping device for securing a ring mechanism to a file-holder, folder and the like, as above referred to, which assures a stable and firm hooking of the same ring mechanism to the file-holder, thus reducing the localised stresses and the risks of file-holder tearing and/or breaking.

BRIEF DESCRIPTION OF THE INVENTION

What above is achievable by a fastening device according to claim 1; more precisely, according to the invention, a clamping device has been provided for securing a ring mechanism to a resting surface of a file-holder, folder or the like, in which the ring mechanism comprises at least one ring member for retaining documents; a support bar for said ring member, and means for clamping said support bar to the resting surface of the file-holder, said clamping device comprising: at least one "C" shape clamping member, for engaging on both sides the support bar and to secure the ring mechanism to the resting surface, said clamping member having an intermediate back portion and elastically yielding side arms threaded into corresponding slits of the resting surface; each of the side arms comprising an inwardly bent clamping wing longitudinally extending over a length and against a side edge of the support bar, to firmly retain the same against said resting surface from any longitudinal sliding.

BRIEF DESCRIPTION OF THE DRAWINGS

These and further features of the clamping device for fastening a ring mechanism to a resting surface of a file-holder, or the like, will be more clear from the following description, with reference to the accompanying drawings, in which:

- Fig. 1 is a perspective view of a file-holder with a ring mechanism fastened by the clamping device according to the present invention;
- Fig. 2 is a enlarged cross-sectional view along line 2-2 of figure 1;
- Fig. 3 is a top view along line 3-3 of fig. 2;
- Fig. 4 is a view similar to the one of fig. 2, showing the clamping of the ring mechanism;
- Fig. 5 is a top view of a first embodiment of a clamping element;

- Fig. 6 is a cross-sectional view along line 6-6 of fig. 5;

- Fig. 7 is a top view of a second embodiment of the clamping element;

- Fig. 8 is a cross-sectional view along line 8-8 of fig. 7.

DETAILED DESCRIPTION OF THE INVENTION

In fig. 1, reference number 10 shows a conventional file-holder, for example a cardboard file-holder, comprising a front wall 11, a rear wall 12, and an intermediate portion 13 constituting the back of the file-holder.

Inside the file-holder 10, a conventional ring mechanism 14 is fastened to a resting surface of the rear wall 12.

The ring mechanism 14 comprises a fastening bar 15 longitudinally extending to the file-holder 10, inside which two metal strips 16 and 17 are arranged side by side, to which the bottom ends of the two parts 18A and 18B of the ring 18 are fastened, in a known mode, to protrude through corresponding openings of the fastening bar 15.

As shown in Fig. 1, the ring mechanism 14 is fastened to the rear wall 12 of the file-holder by a number of hooking or clamping members 20, having a "C" shape, the side arms 22 of which are threaded from the external side of the wall 12 and passing through longitudinal slits 19 of the wall 12, for clamping the two opposite side edges of the bar 13 for the ring mechanism.

A first embodiment and use of the clamping element 20 is shown in Figs. 2 to 6 of the accompanying drawings.

As resulting from the above figures, the clamping member 20 is obtained from a steel band which is cut and bent on two sides in the form of a "C" shaped element.

More precisely, the clamping member 20 comprises a flat base portion 21 having a width substantially corresponding to the one of the fastening bar 15 of the ring mechanism, and two elastically yielding side arms 22 slightly diverging from the base 21.

The two arms 22 present in turn transversal inwardly and slightly upwardly bent wings 23, spaced apart from the base 21 for a space substantially corresponding to the thickness of the fastening bar 15 in correspondence to its side edges.

The internal edge of each wing 23 of the clamping member 20, in turn, has in the middle a cut-away portion 24 having the form of a semicircular notch engaging with the corresponding part 18A or 18B of a ring 18, in such a way that the bar 15 of the ring mechanism, besides being firmly retained against surface 12 of the file-holder by the side arms 22 and the retaining wings 23, is prevented from longitudinally sliding as it is kept in the desired position by the clamping member 20 which lock the ring mechanism to the wall 12 of the file-holder in the shown way.

The assembled condition of the ring mechanism 14 and the clamping members 20, is shown in figs. 1, 2 and 3; fig. 4 on the contrary shows the hooking moment.

As it can be seen in this last figure, in order to fasten the bar 15 of the ring mechanism to the wall 12 of the file-holder, firstly single clamping members 20 are applied by making the two arms 22 pass through the slits 19 of wall 12, then the ring mechanism 14 is arranged in a slanted condition, with a side of the bar 15 fitted into the corresponding side arms of the several clamping members 20. In this condition, shown in fig. 4, the other side of the bar 15 simply lays on the side wings 23; therefore pressing downwardly, by a snap action, the bar 15 is completely inserted in the clamping members 20; this is allowed by the elastic outward deflection of the retaining arms 22 which, after being spread apart, immediately snap the side wings 23 over the edges of the bar 15 of the ring mechanism.

Meanwhile, the rings 18 engage in the notch 24 of each clamping member that in this way firmly retains the bar 15 against the wall 12 of the file-holder, thus preventing the same from any longitudinal sliding movement.

In the case of the previous figures the clamping member 20 are arranged in correspondence of all rings 18 of the mechanism; however the clamping members 20 could be placed only in correspondence of some rings 18. Moreover, in the case of fig. 1 a three-ring-mechanism has been shown, however the mechanism could generally comprise a single ring or any number of rings without limiting the present invention. In fact the described clamping device could be moreover used for ring mechanisms of any type and of any dimension, different from the one shown.

Figs. 7 and 8 of the drawings show a second embodiment of the clamping member; according to this example, differently from the previous case where the clamping member 20 was arranged in correspondence of a ring 18, now the clamping member 20 is arranged in an intermediate position with respect to two adjacent rings.

The solution of figs. 7 and 8 is substantially similar to the one of figs. 5 and 6; therefore the same reference numbers have been used to indicate similar or equivalent parts. The solution of figs. 7 and 8 differs from the previous one only because the side wings 23, in place of the notch 24 now present an inwardly oriented indentation 25, which engages with a corresponding recess or opening 26 along a side edge of the bar 15 of the ring mechanism. For all the remaining, the solution of figs. 7 and 8 is quite identical to the solution of figs. 5 and 6.

From what above said and shown it is evident that a device has been provided for fastening a conventional ring mechanism inside a folder or a file-holder, by which it is possible to attain the above mentioned objects.

In fact, the ring mechanism 14 does not need to be

previously fastened by rivets or metal pins inside the file-holder during manufacture, but it can be kept apart from the file-holder, to be successively applied, when employed by a user.

Moreover, the fastening procedure of the bar 15 to the wall of the file-holder, is carried out in an extremely firm and safe way as the flat shape of the clamping member 20 and its suitable length in the longitudinal direction of the bar 15, allow for a remarkable reduction of the stresses and local strains which conversely could cause breaking or tears of the material constituting the file-holder. Lastly, the described device allows for the use of one or more clamping members for a same ring mechanism depending on the length of the same and on the dimensions of the file-holder.

However it is intended that what above said and shown with reference to the accompanying drawings has been given only as a non limiting example of the invention.

Claims

1. A device for securing a ring mechanism (14) to a resting surface (12) of a file-holder (10), folder or the like, in which the ring mechanism (14) comprises at least one ring member (18) for retaining documents; a support bar (15) for said ring member (18), and means for clamping said support bar (15) to the resting surface (12) of the file-holder (10), said clamping device being characterized by comprising: at least one "C" shape clamping member (20), for engaging on both sides the support bar (15) and to secure the ring mechanism (14) to the resting surface (12), said clamping member (20) having an intermediate back portion (13) and elastically yielding side arms (22) threaded into corresponding slits (19) of the resting surface (12); each of the side arms (22) comprising an inwardly bent clamping wing (23) longitudinally extending over a length and against a side edge of the support bar (15), to firmly retain the same against said resting surface (12) from any longitudinal sliding .

2. A clamping device according to claim 1 characterized in that the side wings (23) of said clamping member (20) comprise means for engaging the ring members (18) and/or the support bar (15) of the clamping device.

3. A clamping device according to claims 1 and 2 characterized in that the clamping member (20) is arranged in correspondence of a ring member (18).

4. A clamping device according to claim 3 characterized in that said clamping member (20) for the ring members (18) comprise a notch (24) on the edge of the inwardly bent wings (23) of the clamping side arms (22).

5. A device according to claims 1 and 2 characterized in that the clamping member (20) is arranged in an intermediate position between two adjacent rings member (18) of the ring mechanism (14).

6. A clamping device according to claim 2 characterized in that said engaging means for the support bar (15) of the ring mechanism (14) comprise an indentation (25) on each clamping wing (23) of the side arms (22), for engaging with a cavity and/or hole (24) along an edge of the support bar (15) for the ring mechanism (14).

7. A clamping device according to any previous claim characterized in that said clamping member (20) has a flat base portion (21) and two side arms (22) outwardly diverging from the base portion (21) laterally spaced apart.

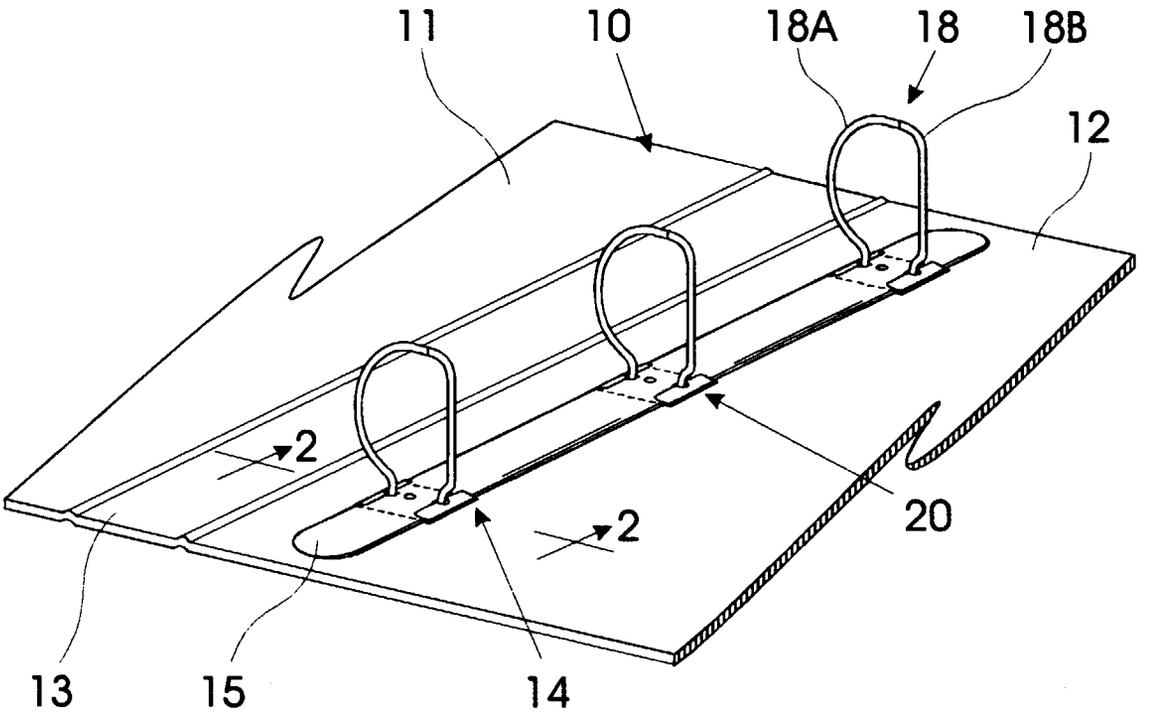

11
10
18A
18
18B
12
2
2
20
13
15
14

FIG. 1

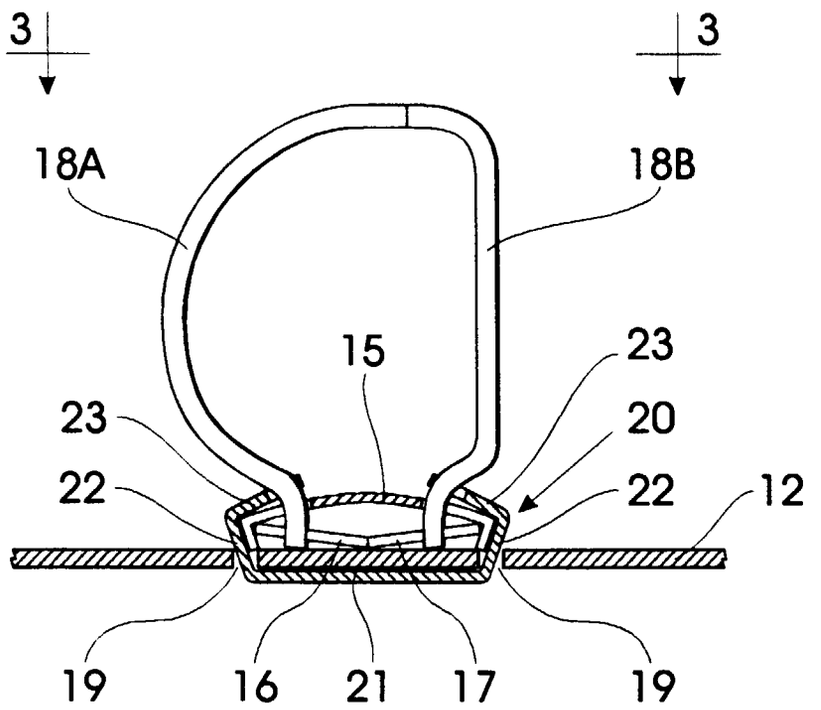

3
3
18A
18B
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19

FIG. 2

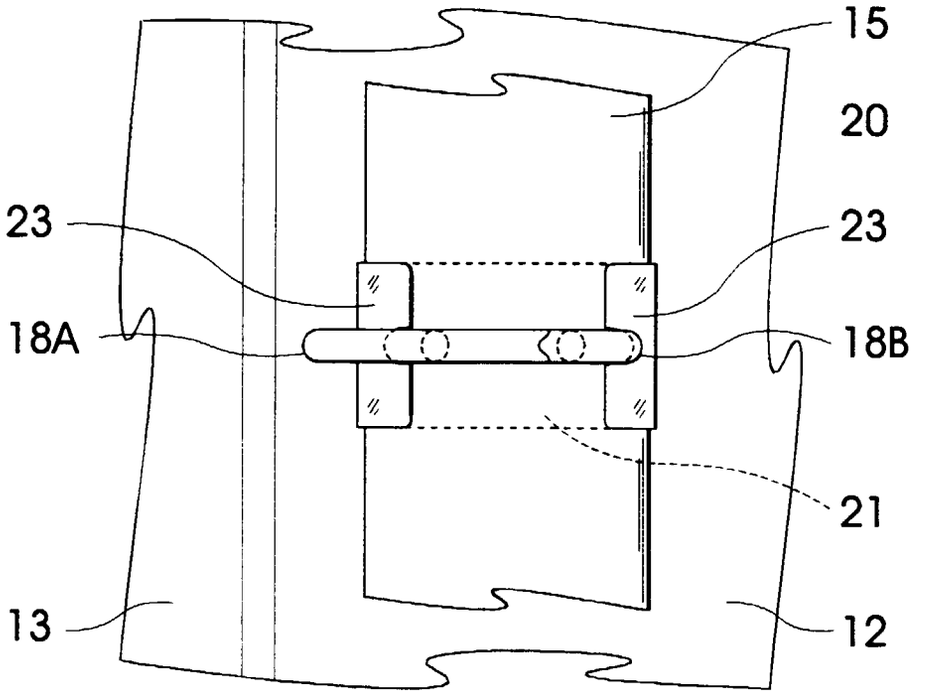

15
20
23
23
18A
18B
21
13
12

FIG. 3

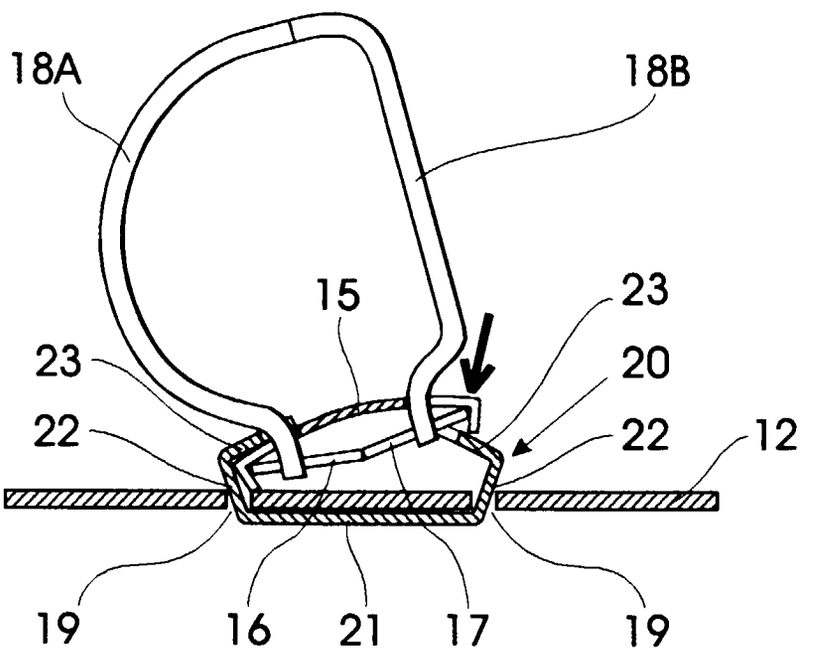

18A
18B
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23
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12
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16
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17
19

FIG. 4

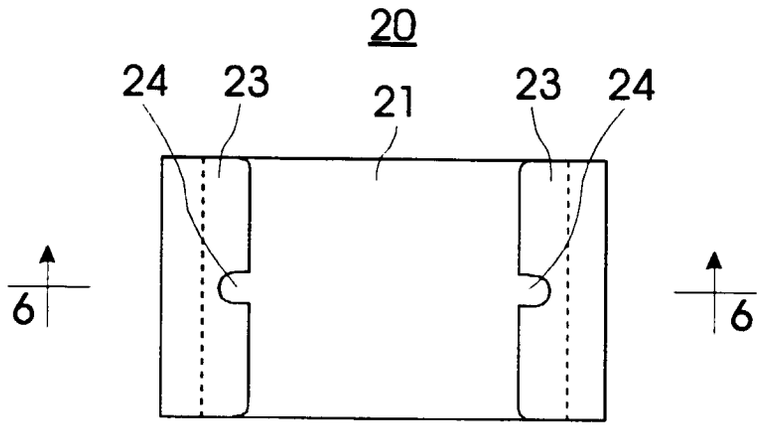


FIG. 5

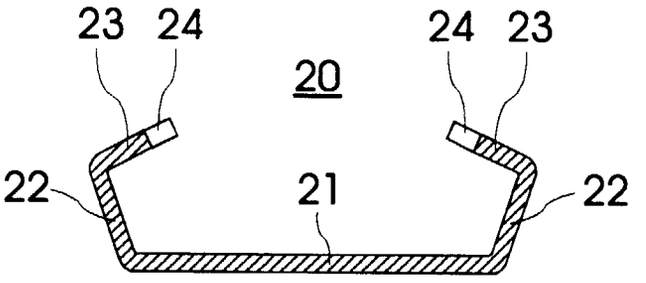


FIG. 6

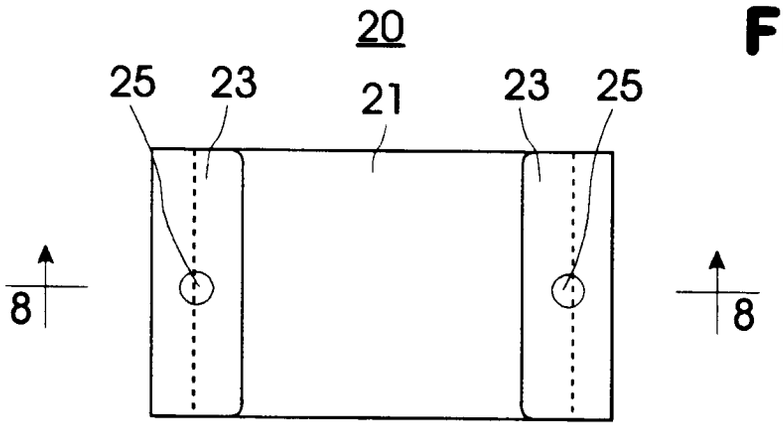


FIG. 7

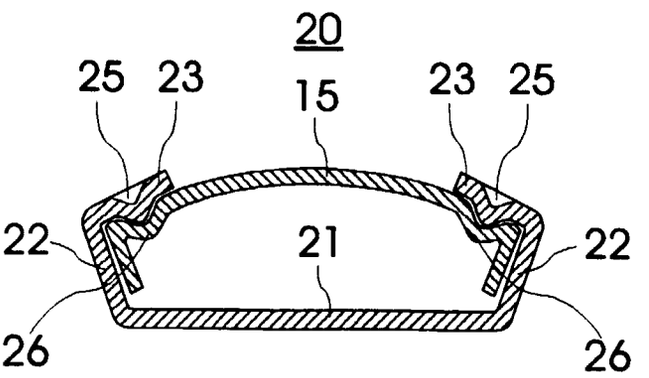


FIG. 8

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 12 2944

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.6)
X	US 5 348 412 A (FULLER) 20 September 1994 * the whole document *	1-7	B42F13/00

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

B42F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16 September 1998	Evans, A

CATEGORY OF CITED DOCUMENTS

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