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(54) AUXILIARY BACKREST FOR A CHAIR

(57) The auxiliary backrest for a chair includes a support (3) and an auxiliary backrest body (1). The support (3) has two rails (30). Each rail is formed by a surrounding wall (300) and a side wall (301). An open trough (302) is formed within the two rails (30). The trough (302) has an inlet (30a). The auxiliary backrest body (1) has a back portion (11) with a pair of elastic sheets (12). Each elastic sheet (12) has a fixing end (120) connected to the back portion (11) and an elastic end (121) corresponding to the two rails (30). Each elastic end (121) has an insert portion (122) inserted into the trough (302). A distance between two outer ends of the two insert portions (122) is slightly greater than a width of the trough (302). When the insert portions (122) are compressedly inserted into the trough (302), the elastic ends (121) can be held between the rails (30) by the elasticity thereof.

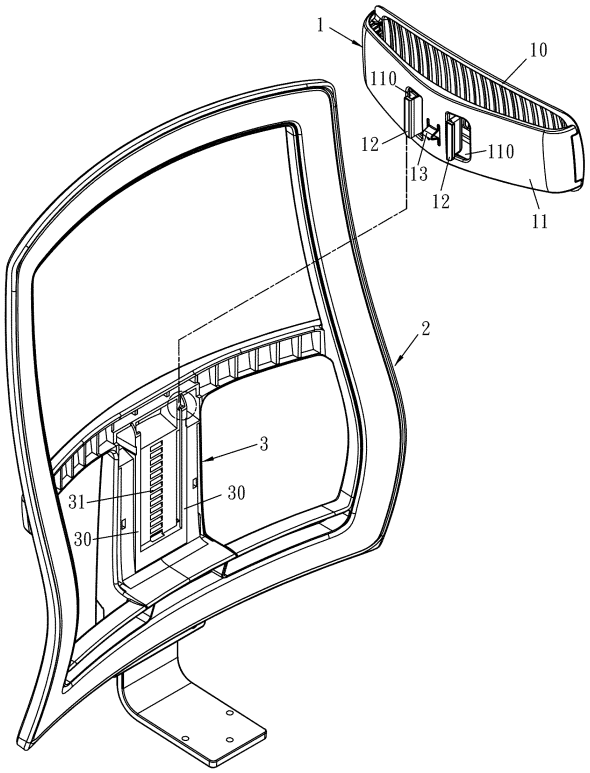

FIG 2

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Description

Background of the Invention

1. Technical Field

[0001] The invention relates to chairs, particularly to chair backs.

2. Related Art

[0002] To increase sitting comfort of chairs, sufficient and smooth support from a chair back to a user's back is an essential factor. When sitting for a long time, users of chairs will feel backache or users' vertebrae may be deformed if their backs have no proper support.

[0003] Adding an auxiliary backrest onto a chair back to enhance support to a user's waist and/or back has been an available solution for a long time. Especially for a chair with a back formed by mesh or fabric as shown in FIG. 1, this kind of chair particularly needs such an auxiliary because it lacks an ample foam to support a user's waist and/or back.

[0004] Most of currently existing auxiliary backrests use screws to fasten the backrest onto a frame of a chair back. Although it looks firm, it completely requires manual operation, which means long manufacturing time and being adverse to mass production. Furthermore, this backrest cannot be adjusted in position, so it cannot satisfy various users with different body types.

Summary of the Invention

[0005] An object of the invention is to provide an auxiliary backrest for a chair, which can be easily assembled without tools.

[0006] Another object of the invention is to provide an auxiliary backrest for a chair, which can be adjusted in position to satisfy various requirements of different users.

[0007] To accomplish the above objects, the auxiliary backrest for a chair of the invention includes a support for being mounted on a chair back and an auxiliary backrest body. The support has two rails. Each rail is formed by a surrounding wall and a side wall. An open trough is formed in the two rails. The trough has an inlet. The auxiliary backrest body has a back portion with a pair of elastic sheets. Each elastic sheet has a fixing end connected to the back portion and an elastic end corresponding to the two rails. Each elastic end has an insert portion inserted into the trough. A distance between two outer ends of the two insert portions is slightly greater than a width of the trough. When the insert portions are compressedly inserted into the trough, the elastic ends can be held between the rails by the elasticity thereof.

Brief Description of the Drawings

[0008] FIG. 1 is a schematic view of a conventional meshed chair back;
FIG, 2 is an exploded view of the invention;
FIG. 3 is an assembled view of the invention;
FIG. 4 is a partially enlarged view of the rail of the invention;
FIG. 5 is a schematic view showing the auxiliary backrest body and the support before assembling;
FIG. 6 is a schematic view showing the auxiliary backrest body and the support after assembling; and
FIG. 7 is a schematic view showing the auxiliary backrest body being adjusted on the support.

Detailed Description of the Invention

[0009] Please refer to FIGS. 2-4. The auxiliary backrest body 1 of the invention is mounted on a support 3 in the chair back 2 for providing sufficient support to a user's back.

[0010] The auxiliary backrest body 1 of the invention has a pad portion 10 for supporting a user's waist or back and a back portion 11 for connecting the support 3 of the chair back 2.

[0011] To connect and fix the auxiliary backrest body 1, the support 3 is provided with two rails 30 and at least one positioning aperture 31. The positioning aperture 31 is located between the two rails 30 for enhancing fixing strength between the support 3 and the auxiliary backrest body 1. Preferably, in the shown embodiment, there is a plurality of positioning apertures 31, 32 in the support 3. The positioning apertures 31, 32 are longitudinally arranged between the rails 30 for offering the auxiliary backrest body 1 to be able to be positioned at different positions.

[0012] Please refer to FIG. 4. Each rail 30 is formed by a surrounding wall 300 connecting the support 3 and a side wall 301. An open trough 302 is formed within the two rails 30. The trough 302 has an inlet 30a. The inlet 30a is provided with a guide plate 303 which is inward inclined.

[0013] Please refer to FIG. 5. The back portion 11 of the auxiliary backrest body 1 is provided with a pair of elastic sheets 12 and a protrusion 13 between the two elastic sheets 12. Each elastic sheet 12 has a fixing end 120 connected to the back portion 11 and an elastic end 121 corresponding to the trough 302. The elastic end 121 has an insert portion 122 inserted into the trough 302. Preferably, the back portion 11 is formed with two openings 110 for separately allowing the elastic ends 121 to pass through the back portion 11. The insert portions 122 project from the back portion 11. The openings 110 provide the elastic ends 121 a moving space, prevent the elastic sheets 12 from excessively projecting from the back portion 11 to be easily broken and prevent the auxiliary backrest body 1 from excessively projecting from the support 3 to unmake the supporting curve of the chair back.

[0014] A distance D1 between two outer ends of the

two insert portions 122 is slightly greater than a width of the trough 302. When the insert portions 122 are compressedly inserted into the trough 302, the two insert portions 122 will elastically press the surrounding walls 300, so that the auxiliary backrest body 1 can be held between the rails 30 by the elasticity thereof. The elasticity can be adjusted by setting the difference between the distances D1 and D2. The greater the difference is, the more the deformation of the two elastic ends 121 is and the more the elasticity is. Additionally, the elastic sheets 12 can be made of different materials to form different elasticity.

[0015] When assembling, as shown in FIGS. 5 and 6, the insert portions 122 are put into the inlet 30a of the rails 30 first, the insert portions 122 will be pressed by the guide plates 303 to accumulate elasticity. After the insert portions 122 has passed the guide plates 303 to restore, the insert portions 122 will generate a force onto the surrounding walls 300 and the side walls 301 will prevent the insert portions 122 from escaping. As a result, the auxiliary backrest body 1 can be held between the two rails 30. Meanwhile, the protrusion 13 will fall into one of the positioning apertures 31 to enhance fixing strength of the auxiliary backrest body 1.

[0016] The auxiliary backrest body 1 can be slid in the trough 302 to change position. This can satisfy various requirements of different users. The positioning apertures 31, 32 longitudinally arranged between the rails 30 can help the auxiliary backrest body 1 to be positioned. As shown in FIG. 7, when the elastic sheets 12 are being slid in the trough 302, the protrusion 13 can be forced to escape one of the positioning apertures 31 to enter another one. Preferably, the protrusion 13 is of a substantial V-shape to have proper flexibility. The bottom 310 of each of the positioning apertures 31 is of an arced shape to help the protrusion 13 to escape.

Claims

1. An auxiliary backrest for a chair, comprising:

a support (3) for being mounted on a chair back (2), having two rails (30), each rail being formed by a surrounding wall (300) and a side wall (301), an open trough (302) being formed in the two rails (30), and the trough having an inlet (30a);
an auxiliary backrest body (1), having a back portion (11) with a pair of elastic sheets (12), each elastic sheet (12) having a fixing end (120) connected to the back portion (11) and an elastic end (121) corresponding to the two rails (30), and each elastic end (121) having an insert portion (122) inserted into the trough (302);
wherein a distance between two outer ends of the two insert portions (122) is slightly greater than a width of the trough (302).

2. The auxiliary backrest of claim 1, wherein the inlet (30a) is provided with a guide plate (303) which is inward inclined.

3. The auxiliary backrest of claim 1, wherein the back portion (11) is formed with two openings (110) for separately allowing the elastic ends (121) to pass through the back portion (11), and the insert portions (122) project from the back portion (11).

4. The auxiliary backrest of claim 1, wherein the support (3) is provided with a positioning aperture (31) between the two rails (30), the auxiliary backrest body (1) is provided with a protrusion (13) between the two elastic sheets (12), and the protrusion (13) enters the positioning aperture (31).

5. The auxiliary backrest of claim 1, wherein the support (3) is provided with a plurality of positioning apertures (31,32) arranged in a line between the two rails (30), the auxiliary backrest body (1) is provided with a protrusion (13) between the two elastic sheets (12), and the protrusion (13) enters one of the positioning apertures (31,32).

6. The auxiliary backrest of claim 4, wherein the protrusion (13) is of a substantial V-shape.

7. The auxiliary backrest of claim 6, wherein a bottom of the positioning aperture (31) is of an arced shape.

8. The auxiliary backrest of claim 5, wherein the protrusion (13) is of a substantial V-shape.

9. The auxiliary backrest of claim 8, wherein a bottom of each of the positioning apertures (31) is of an arced shape.

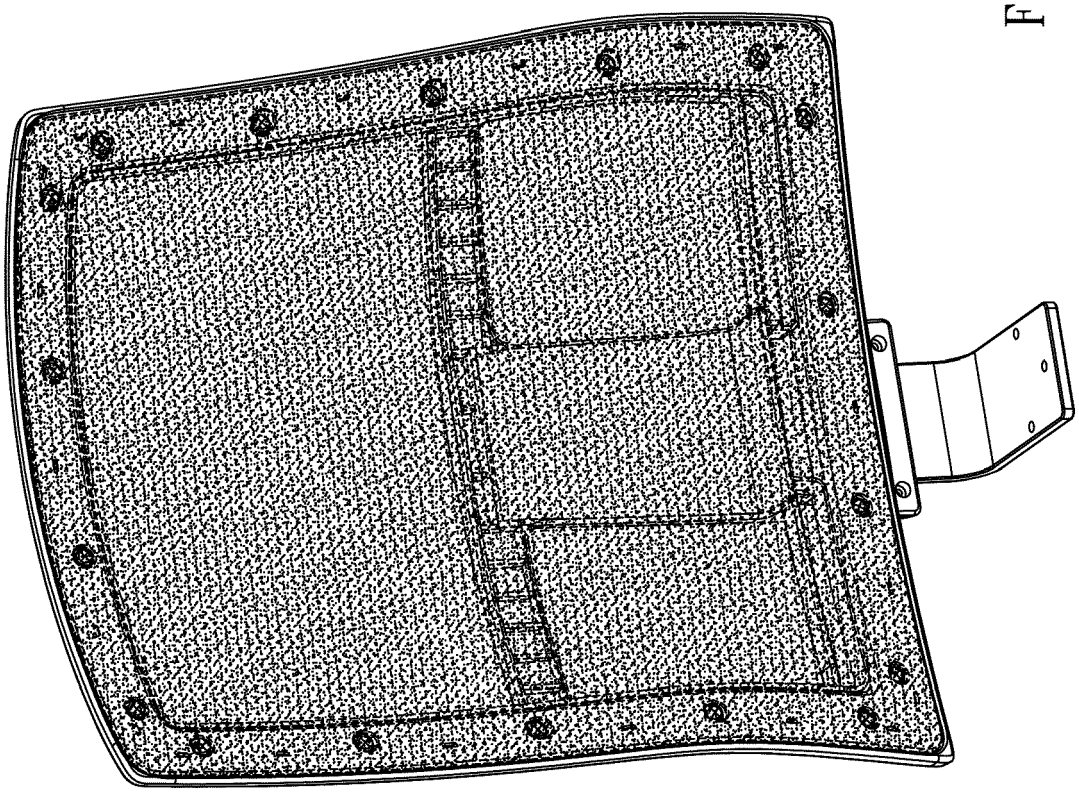


FIG 1 PRIOR ART

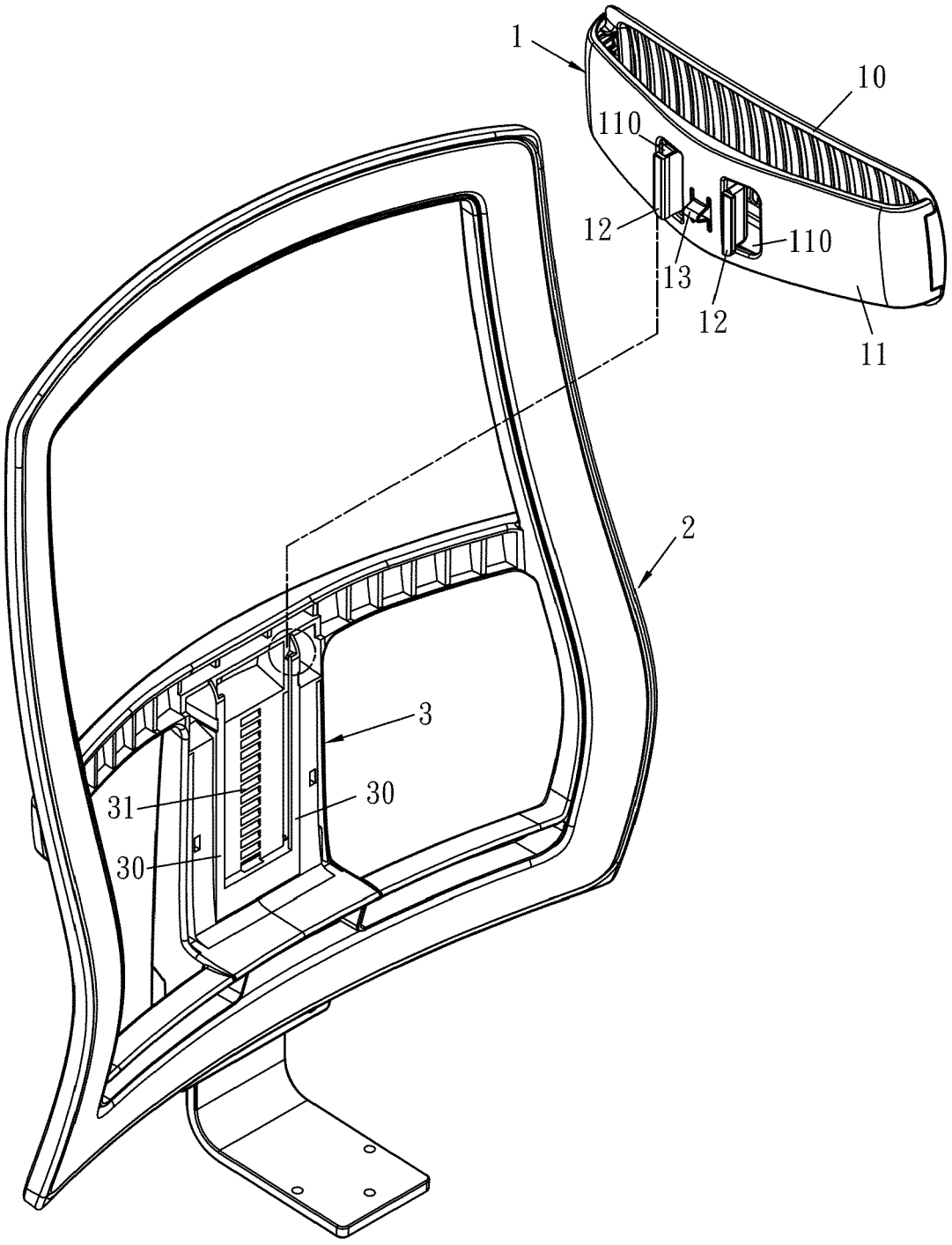


FIG 2

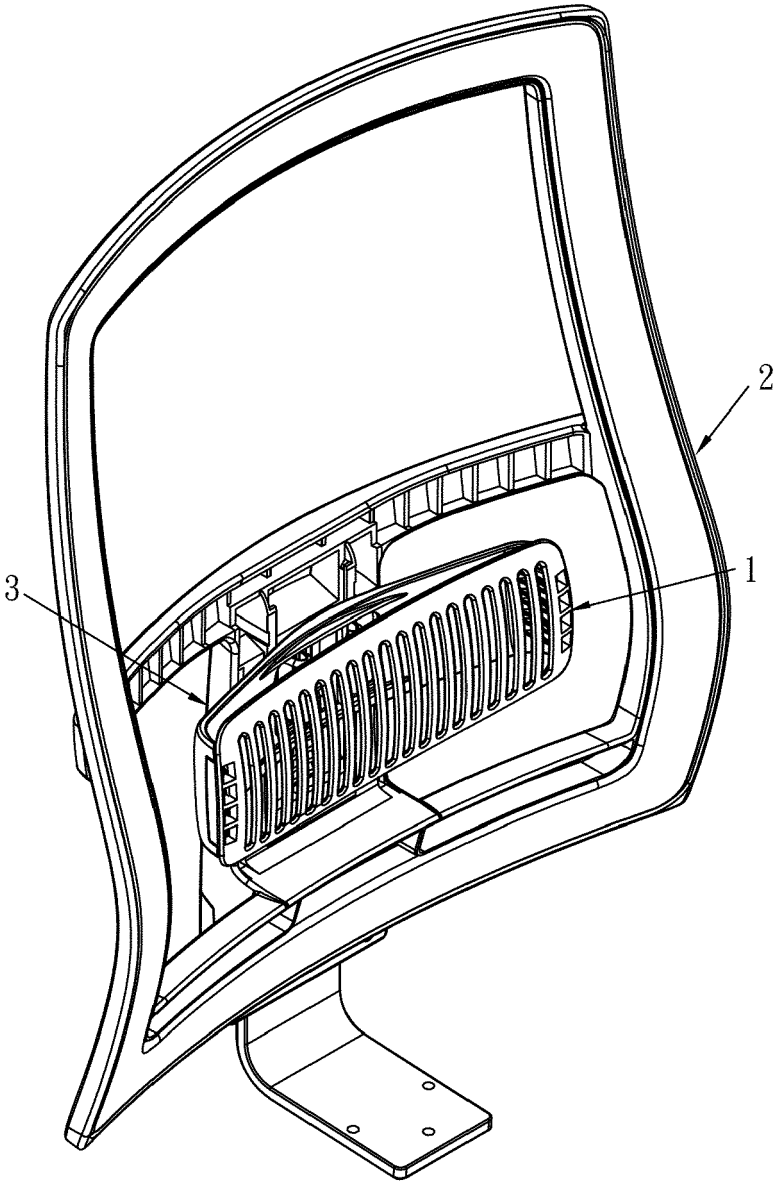


FIG 3

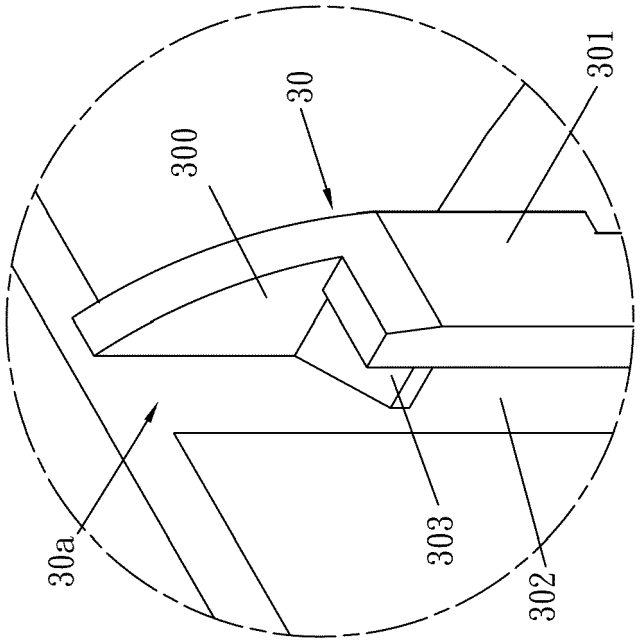


FIG 4

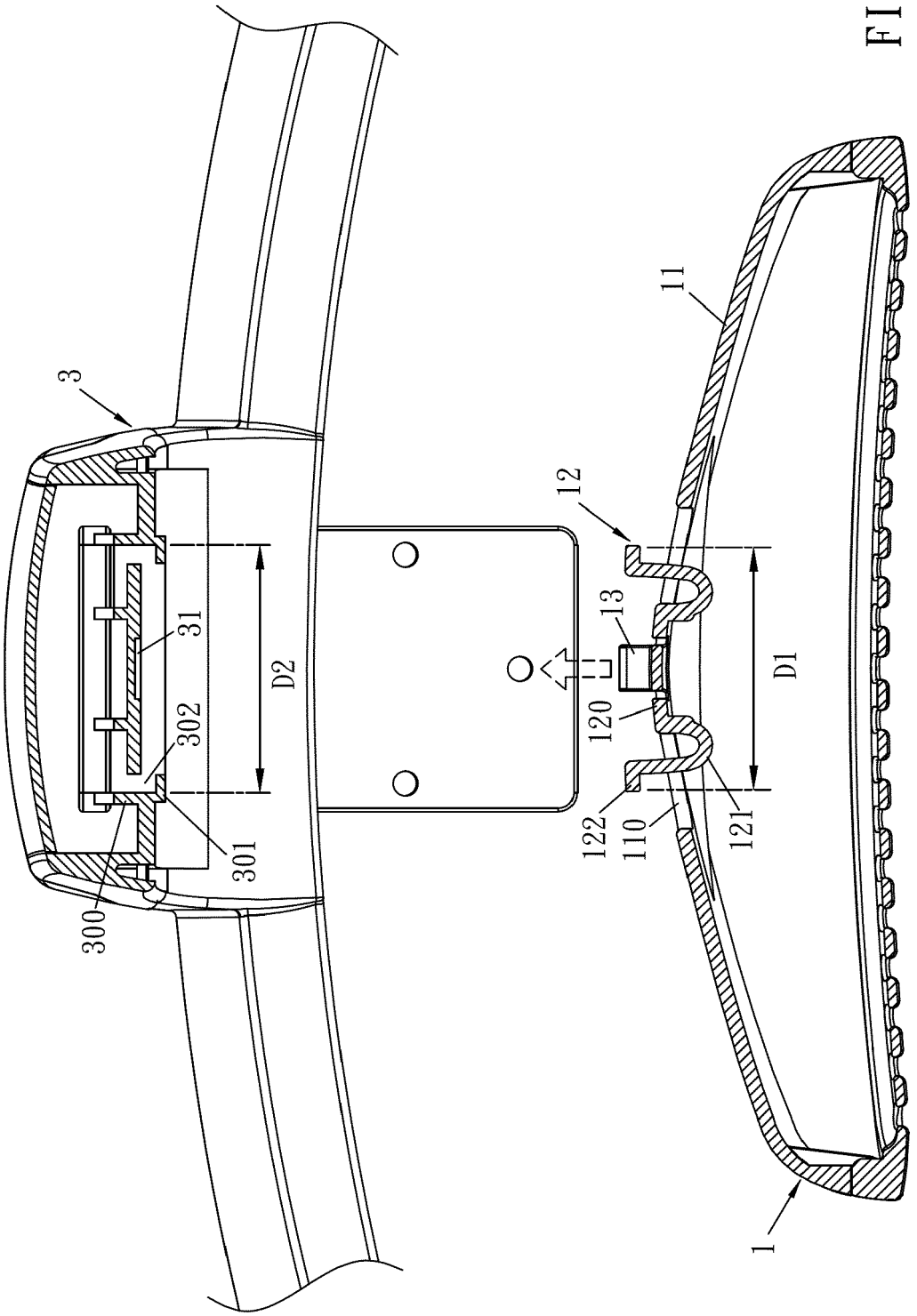


FIG 5

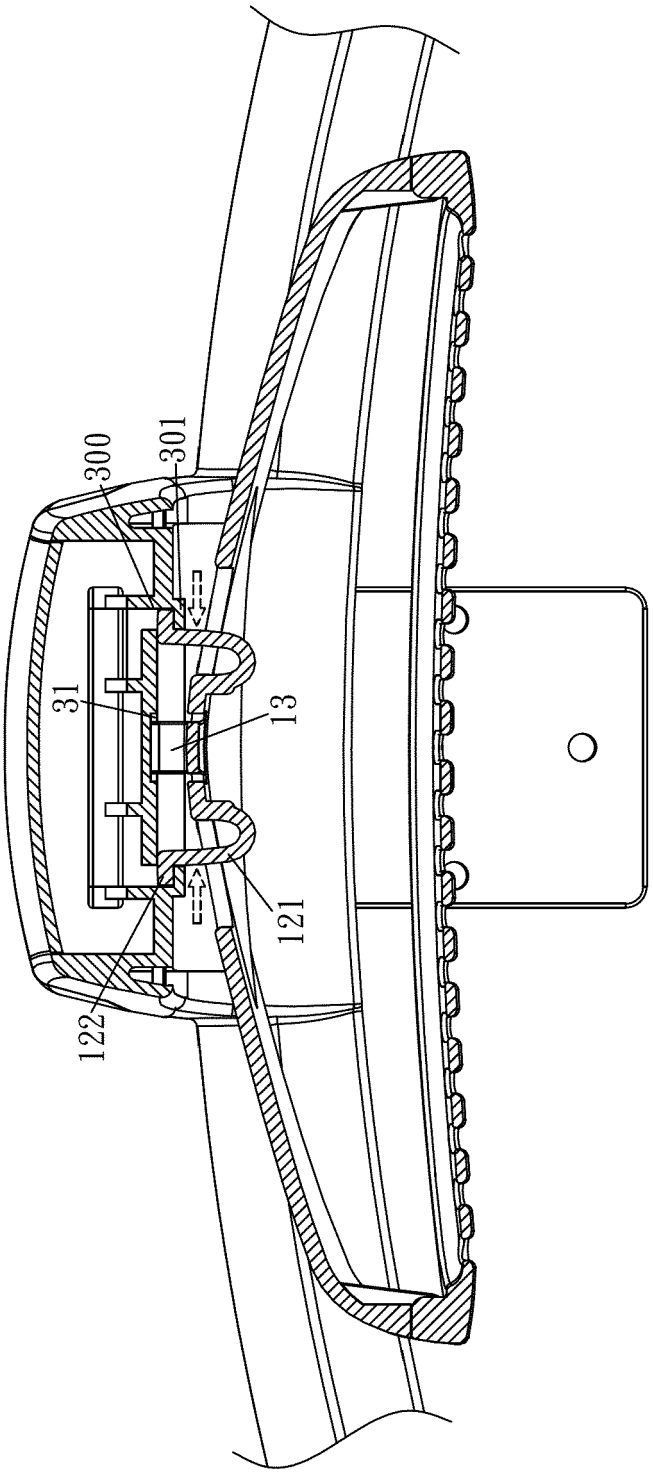
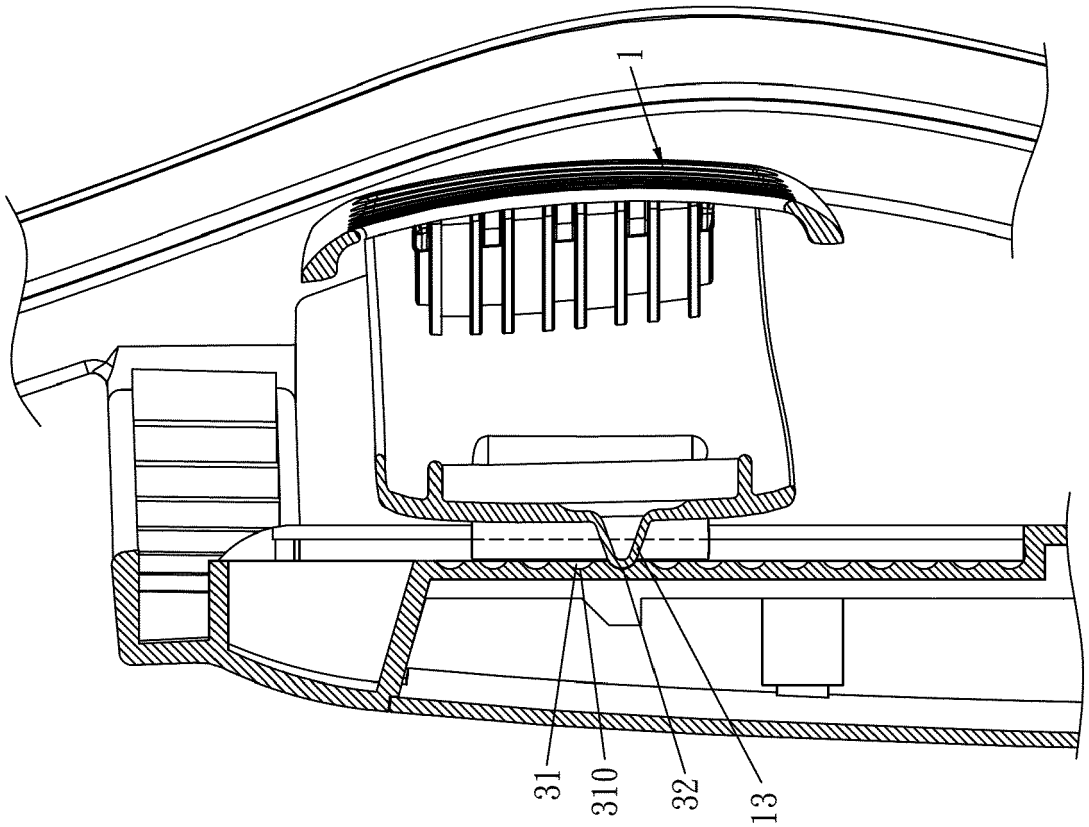


FIG 6

FIG 7



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EUROPEAN SEARCH REPORT

Application Number
EP 18 18 1295

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2010/078975 A1 (KANG MING-SHIANG [TW]) 1 April 2010 (2010-04-01) * claims; figures *	1-9	INV. A47C7/46
A	CN 204 273 836 U (HANGZHOU BOZHI FURNITURE DESIGN CO LTD) 22 April 2015 (2015-04-22) * figures *	1-9	
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A	US 2017/340121 A1 (CHEN SU-MING [TW]) 30 November 2017 (2017-11-30) * figure 1 *	1-9	

TECHNICAL FIELDS SEARCHED (IPC)
A47C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	26 September 2018	Kis, Pál

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 18 1295

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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26-09-2018

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