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(54) **HAIRDRESSER CHAIR**

(57) The hairdresser's chair comprises a support structure (2), a backrest (3) connected to said support structure (2) and a seat (4) associated to said backrest (3). The chair comprises a hair washing sink (5) arranged at the upper part of said backrest (3), actuatable in rotation through a movement group (6) around a substantially vertical axis between a front position and a lateral position.

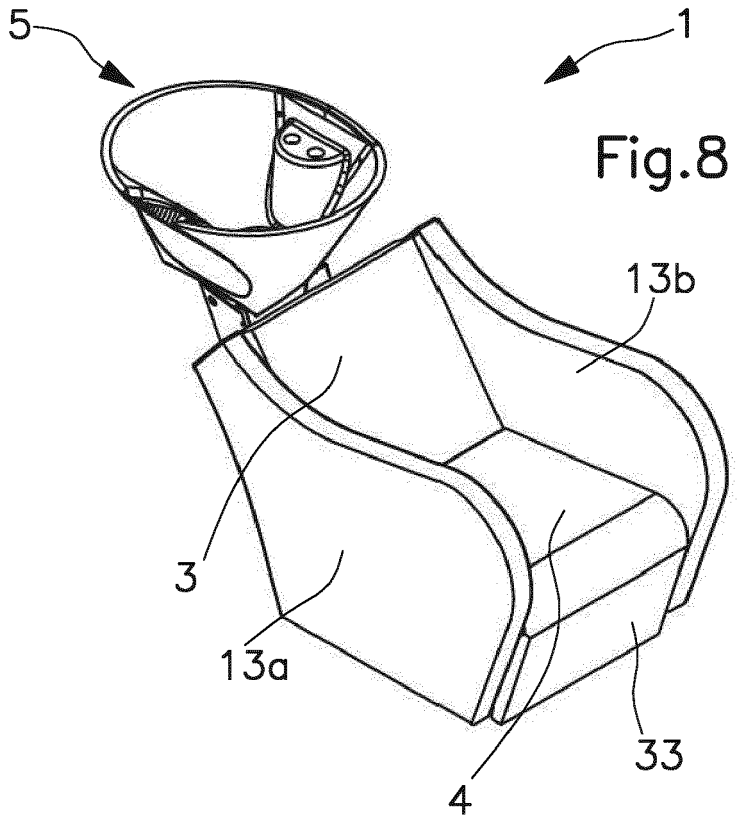

Fig.8

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Description

Technical field

[0001] The present invention regards a hairdresser's chair and the like, in particular provided with a hair washing sink.

Prior art

[0002] It is known that chairs provided with a hair washing sink for washing the user's hair are used in hairdresser's salons and in other similar facilities. Hairdresser's chairs that are normally used provide for a seat associated to a backrest. A special hair washing sink is present at the upper part of the backrest in this case.

[0003] Hairdresser's chairs provided with a mobile hair washing sink mobile so as to guarantee a correct positioning of the sink at the back of the user's head and make the washing operation comfortable are known in particular. In particular, the hair washing sink is generally tiltable backwards and forward.

[0004] Patent US 6, 665, 892 illustrates, for example, a hair washing device associated at the rear part to a chair. The device comprises a base on which there is mounted a hair washing sink provided in a front part of a projecting portion adapted to receive the user's neck.

[0005] Translation means adapted to move the sink along an arched path from a first position near the chair to a second position far from the chair, are connected to the sink. The sink is lowered when passing from the first to the second position. A suitable mechanism adapted to make the sink oscillate with respect to the base is arranged at the lower part of the sink, so as to allow the lifting or lowering of the projecting portion of the sink.

[0006] Though hairdresser's chairs aimed at facilitating the washing operations are available on the market, there still arises the need of making hairdresser's chairs easier to access for people with challenged mobility. In particular, there arises the need to suitably equip the chairs to facilitate various operations, such as for example washing hair or access the seat, for people with challenged mobility such as the disabled or elderly, guaranteeing comfortable utilization to these people.

Description of the invention

[0007] The task of the present invention is to overcome the aforementioned drawbacks, by providing a hairdresser's chair that is easily accessible for people with challenged mobility.

[0008] In this context, a further object of the present invention is to provide a hairdresser's chair configurable so as to facilitate the hair washing operation.

[0009] A further object of the invention is to provide a hairdresser's chair provided with a high ergonomic level.

[0010] A further object of the invention is to provide a hairdresser's chair that is easy to manufacture and functional, provided with a definitely reliable operation, versatile to use and relatively inexpensive.

[0011] The aforementioned objects are attained, according to the present invention, by the hairdresser's chair according to claim 1.

[0012] The hairdresser's chair comprises a support structure, a backrest connected to said support structure, a seat associated to said backrest, a hair washing sink arranged at the upper part of said backrest and actuatable in rotation, through a movement group, around a substantially vertical axis between a front position and a lateral position.

[0013] Preferably, the movement group comprises rotatable coupling means interposed between the support structure and the hair washing sink and guide means adapted to guide the rotation of the hair washing sink around the substantially vertical axis.

[0014] Locking means adapted to allow stopping the rotation of the hair washing sink in the desired position are associated to the rotatable coupling means and guide means.

[0015] Preferably the rotatable coupling means comprise a fixed ring integral with the support structure and a mobile ring, arranged resting on said fixed ring, integrally mounted to the aforementioned hair washing sink.

[0016] Preferably the guide means comprise at least one slot, preferably a pair of slots carried or formed by the mobile ring.

[0017] Preferably such guide slots extend on opposite arcs with respect to said substantially vertical axis of rotation.

[0018] Preferably such guide slots extend along an internal edge of said mobile ring.

[0019] Preferably the aforementioned locking means comprise a stop pin passing through or carried by the fixed ring and engaged by the guide means carried by the mobile ring, in particular passing through the at least one guide slot, to be guided between a first end and a second opposite end of the guide slot, so as to lock the rotation of said mobile ring correspondingly.

[0020] Preferably the hair washing sink is actuatable in rotation by an angle substantially equivalent to 90°.

[0021] Advantageously the chair comprises a pair of armrests arranged laterally with respect to said seat, at least one of said armrests being mobile with respect to said support structure to facilitate access to said seat.

[0022] The combined mobility of the hair washing sink and the armrests fully meets the treatment needs for the users, in particular with challenged mobility.

[0023] According to an advantageous aspect of the invention, said at least one of the armrests is removable through suitable centring members.

[0024] Alternatively said at least one of the armrests is slidable along a direction substantially horizontal through further guide means interposed between at least one of the armrests and the support structure.

[0025] Alternatively said at least one of the armrests is rotatable on a substantially vertical plane through a

rotation unit so as to pass from a substantially horizontal position to a substantially vertical position.

[0026] Preferably said at least one of the armrests comprises at least one pair of first centring members adapted to be removably associated to corresponding second centring members fixed to the support structure to allow the centring and insertion or removal of said at least one of the armrests.

[0027] Preferably the rotation unit comprises a mobile member, arranged on at least one of said armrests, arranged at contact with a fixed member associated to said support structure, through a rotation pin around which said at least one of the armrests is rotatable.

[0028] Preferably said fixed member forms a curvilinear slot adapted to guide the sliding of a corresponding pin integrally joined to said mobile member so as to define the maximum rotation angle of said at least one of the armrests on said substantially vertical plane.

[0029] Advantageously said at least one of the armrests comprises a gripping member, arranged on an inner wall facing towards the seat and comprising a handle, rotatable around a pin, connected to an anchoring element for fixing the handle to said at least one of the armrests.

[0030] Preferably the chair comprises a locking pin, associated to the support structure at said at least one of the armrests, adapted to fit in the handle so as to guarantee the stability of at least one of the armrests.

Brief description of the drawings

[0031] The details of the invention shall be more apparent from the detailed description of a preferred embodiment of the hairdresser's chair according to the invention, illustrated by way of example in the attached drawings, wherein:

figure 1 shows a lateral view of the hairdresser's chair according to the present invention;
figures 2 and 3 respectively show a lateral view and a perspective view of the hairdresser's chair;
figures 4a and 4b show a detail of the chair in two different operating steps;
figures 5 and 6 show respectively a lateral view and a perspective view of the hairdresser's chair according to a different embodiment;
figure 7 shows a further detail of the chair;
figure 8 shows a perspective view of the chair in an operating step;
figure 9 shows an exploded perspective view of a detail of the hairdresser's chair;
figures 10 and 11 show perspective views of the hairdresser's chair according to a further embodiment;
figures 12a and 12b show a detail of the chair according to the aforementioned embodiment in two different operating steps.

Embodiments of the invention

[0032] With particular reference to such figure, the hairdresser's chair according to the invention is indicated in its entirety with 1. The chair 1 comprises a support structure 2 to which a backrest 3 and a seat 4 - which extends at the front part of such backrest 3 - are connected. The support structure 2 provides for resting a hair washing sink 5, arranged at the upper part of the backrest 3.

[0033] More in detail, the hair washing sink 5 is associated to a movement group 6 connected to the support structure 2.

[0034] The movement group 6 comprises rotatable coupling means 7, 8 interposed between the support structure 2 and the hair washing sink 5 and guide means 9 adapted to guide the rotation of the hair washing sink 5 around a substantially vertical axis.

[0035] Locking means 10 adapted to allow stopping the rotation of the hair washing sink 5 in the desired position are associated to the rotatable coupling means 7, 8 and to the guide means 9. In particular, the hair washing sink 5 is made mobile between a front position and a lateral position, as better outlined hereinafter.

[0036] The rotatable coupling means 7, 8 comprise a mobile ring 7 mounted integral with the hair washing sink 5 and arranged resting slidable on a fixed ring 8 integral with the support structure 2 and adapted to facilitate the sliding of the mobile ring 7.

[0037] Preferably the fixed ring 7 and the mobile ring 8 are made of a material of the nylon type.

[0038] The mobile ring 7 forms or carries the guide means 9 comprising at least one slot 9, preferably a pair of slots 9 mutually opposite or adjacent with respect to the aforementioned rotation axis, which extend for example along an internal margin or edge of the mobile ring 7. The aforementioned locking means 10 are mounted on an end of each slot 9. Such locking means may for example comprise a stop pin 10 inserted passing through the respective slot 9 of the mobile ring 7 and through a respective hole obtained in the fixed ring 8, so as to be fixed with respect to the rotation around the aforementioned rotation axis, and abut against the rotation of the ring 7 mobile between a first end and a second opposite end of the slot 9 carried by the mobile ring 7.

[0039] This allows manually operating the rotation of the hair washing sink 5 around the substantially vertical axis of rotation, preferably by an angle of 90°, passing from a front position of the hair washing sink 5 to a lateral position and vice versa.

[0040] The hair washing sink 5 is also made oscillating forwards or backwards through a per se known implementation mechanism and thus not shown in the figures, so as to adjust the inclination of the hair washing sink 5 with respect to a substantially horizontal plan according to the user's need.

[0041] The hair washing sink 5 comprises a vat 11 preferably flared forming - at the front part - a projecting portion 12. Such projecting portion 12 has an opening which

extends from an outer edge of the vat 11 inwards defining a recess adapted to allow the user's neck to rest during use.

[0042] A suitable lever system actuated by a linear actuator member, not shown in the figures, which allows the adjustment of the height of the chair, passing from a lowered configuration to a raised configuration, indicated with dashed line 1a in fig.1 is arranged at the lower part of the hair washing sink 5 and inside the support structure 2. The lever system is per se known and thus will not be described in detail.

[0043] Preferably such lever system allows raising or lowering the chair 1 and thus also the associated hair washing sink 5 by 0.25 m, so as to cover a range of height values of the washing personnel equivalent to 1.5 m - 2 m.

[0044] In addition, the hairdresser's chair is suitably provided with a control unit, not shown in the figures, comprising a plurality of buttons, some of which adapted to allow the height adjustment of the chair 1 by the operator.

[0045] Relative armrests 13a, 13b are arranged on the sides of the seat 4. At least one of the armrests 13a, 13b is mobile with respect to the support structure 2 to facilitate access to the seat 4. According to an embodiment, at least one of the armrests 13a, 13b is made slidable along a substantially horizontal direction A through further guide means 14 interposed between at least one of the armrests 13a, 13b and the support structure 2. The further guide means 14 are preferably of the telescopic type.

[0046] In particular, the further guide means 14 comprise at least one pair of guide rails 15 which extend transversely along the support structure 2. Corresponding drawn elements 16 shaped to match the form of the aforementioned rails 15 are slidably associated to the guide rails 15 by interposing rolling members. The drawn elements 16 in turn serve as rails for the sliding of further drawn elements 17 made integral with an inner wall of the armrest 13a ,13b facing towards the seat 4.

[0047] A gripping member 18 comprising a handle 19 rotatable around a pin, not shown in the figures, connected to an anchoring element 20 of the handle 18 at the aforementioned inner wall (see fig. 4a and fig. 4b) is arranged on the inner wall of at least one armrest 13a, 13b.

[0048] Suitable elastic means, not represented, adapted to guarantee the passage of the handle 18 from an operative configuration, in which it is rotated with respect to the fixing element 20, to an inoperative configuration, in which it is substantially aligned to the fixing element 20 (see fig. 4a and fig. 4b), are connected to the handle 18.

[0049] A locking pin 21 adapted to fit into a slot of the handle 18 having a shape matching the pin 21 so as to guarantee the stability of the armrest 13a, 13b, especially in case of transverse stress, is fixed to the support structure 2, at at least one armrest 13a, 13b.

[0050] Alternatively, at least one armrest 13a, 13b is removable from the support structure 2 through suitable centring members 22, 23. In particular, at least one armrest 13a, 13b has - on the wall facing towards the seat 4 - at least one pair of first centring members 22 adapted to be removably associated to corresponding second centring members 23 fixed to the support structure 2 to allow the centring and insertion or removal of the armrest 13a, 13b.

[0051] The first and the second centring members 22, 23 comprise elements shaped to form extended cables which preferably expand in a longitudinal direction respectively on the wall of the armrest 13a, 13b and on the support structure 2 and have different cross-sections. The different cross-sections of the centring members 22, 23 allow fitting the first centring members 22 into the second centring members 23, which serve as guides for the first centring members 22.

[0052] The armrest 13a, 13b is also provided with a fixing member 24, for example constituted by a fork-like element, adapted to fit into the locking pin 21 during insertion of the armrest 13a, 13b so as to stabilise the armrest 13a, 13b.

[0053] According to a further embodiment at least one armrest 13a, 13b is rotatable on a substantially vertical plane to allow the user free access to the seat 4 (see fig. 10. and fig. 11).

[0054] At least one armrest 13a, 13b is associated to the support structure 2 by interposing a rotation unit 25.

[0055] The rotation unit 25 comprises a mobile member 26, positioned on the armrest 13a, 13b, arranged at contact with a suitable degree of friction with a fixed member 27, associated to the support structure 2.

[0056] The fixed member 27 is connected to the mobile unit through a rotation pin 28 around which the armrest 13a, 13b rotates.

[0057] Elastic means 29, for example of the disc spring type, adapted to guarantee the aforementioned degree of friction. Such elastic means 29 can be adjusted through adjustment means 30, are coaxially associated to the rotation pin 28.

[0058] The fixed member 27 forms a curvilinear slot 31 adapted to guide the sliding of a corresponding pin 32 integral with the mobile member 26. Basically, the curvilinear slot 31 defines the maximum rotation angle of the armrest 13a, 13b on a substantially vertical plane allowing the sliding of the pin 32 in the curvilinear slot 31 and the ensuing passage of the armrest 13a, 13b from a substantially horizontal position to a substantially vertical position (seefig.12a and fig.12b).

[0059] A footrest 33, mobile between a lowered position adjacent to the chair 1 and a raised position substantially coplanar to the seat 4 are associated to the seat 4 at the lower part. The movement of the footrest 33 is actuated by suitable actuators and controlled through special buttons preferably arranged in the control unit.

[0060] The operation of the hairdresser's chair can be easily understood from the description above.

[0061] The chair is normally configured with the armrests 13a, 13b aligned between each other. In use, at

least one of the armrests 13a, 13b can be removed by sliding the armrest 13a, 13b from the bottom upwards so as to decouple the first centring members 22 from the second centring members 23.

[0062] Alternatively, the operator rotates the handle 19 decoupling the locking pin 21 to allow the free sliding of the armrest 13a, 13b along the direction A.

[0063] A further alternative consists in the possibility of the operator to rotate the armrest 13a, 13b on a substantially vertical plane. The operator rotates the armrest 13a, 13b around the rotation pin 28 by applying suitable force and the pin 32 simultaneously slides in the curvilinear slot 31 until it reaches the end stop point allowing the passage of the armrest 13a, 13b from a substantially horizontal position to a substantially vertical position.

[0064] This allows easy access for the user, in particular the removal, sliding or rotation of the armrest facilitate access to users with challenged mobility.

[0065] Upon allowing access to the user, the armrest 13a, 13b is once again inserted by moving it from the top downwards by fitting the first centring members 22 into the second centring members 23, or the armrest 13a, 13b is slid along the further guide means 14 to be aligned to the opposite armrest 13a, 13b. The locking pin 21 couples with the handle 19 or with the fixing member 24, thus guaranteeing the stability of the armrest 13a, 13b. In case of a rotatable armrest 13a, 13b, the armrest 13a, 13b is rotated in the opposite direction around the rotation pin 28 and the pin 32 once again slides in the curvilinear slot 31 until it reaches an end of the curvilinear slot 31 corresponding to a substantially horizontal position.

[0066] The hair washing sink 5 normally has a configuration in which the projecting portion 12 is in a front position. In case it is required to wash the hair people with challenged mobility, for example disabled people, the operator manually rotates the hair washing sink 5 around the vertical axis, preferably by an angle of 90°, so as to move it to a lateral position. The mobile ring 7 slides on the fixed ring 8 until the stop pin 10 abuts against an end of the respective slot 9.

[0067] The hair washing sink 5 is also adjusted heightwise according to the height of the operator by actuating suitable buttons of the control unit which actuate the lever system. The inclination of the hair washing sink 5 with respect to a substantially horizontal plane is manually adjusted by the operator.

[0068] The hairdresser's chair according to the present invention attains the object of guaranteeing higher accessibility for people with challenged mobility.

[0069] Due to the possibility of easily removing at least one armrest or alternatively sliding laterally with respect to the at least one armrest, or also rotating an armrest on a substantially vertical plane, the chair actually guarantees easy access for people with challenged mobility, such as the elderly or disabled. Actually, there often arises the need for large space to guarantee a correct positioning of the aforementioned people on the seat and the movement of at least one armrest implies absence of hindrance on one side of the chair.

[0070] An aspect to be taken into account lies in the fact that the armrest is anchored to the support structure through the locking pin when aligned to the opposite armrest, thus considerably stabilising the armrest in case of transverse stress.

[0071] A peculiarity of the present invention lies in the possibility of changing the configuration of the hair washing sink so as to easily wash the hair of people with challenged mobility. The rotation of the hair washing sink preferably by an angle of 90° allows the projecting portion for resting the neck of the user to take a lateral position with ensuing possibility of avoiding positioning the user on the seat of the chair.

[0072] In case of disabled people requiring a wheelchair for movement, this characteristic is particularly advantageous in that the wheelchair can be easily brought close to the hair washing sink.

[0073] It should be taken into account that the movement of the hair washing sink and the armrest are carried out manually in a simple and quick manner through mechanisms that do not require particular maintenance.

[0074] An additional contribution to the user's comfort lies in the adjustment of the inclination of the sink to suit different needs.

[0075] A further advantage of the present invention lies in the characteristics of high ergonomic level of the chair in that it allows adjusting the height of the chair to suit the height of the operator thus considerably facilitating the work of the operator. Actually, the operator may take a comfortable position for example by positioning the sink at the desired height thus implying considerable benefit in terms of reducing fatigue.

[0076] The chair, described by way of example, may be subjected to numerous modifications and variants according to various needs.

[0077] Basically, the implementation of the invention, the materials used as well as the shape and dimensions may vary according to needs.

[0078] Should the technical characteristics mentioned in the claims be followed by reference signs, these reference signs shall be deemed to have been included solely for the purpose of increasing the understanding of the claims and thus shall not be deemed to limit the object of the elements identified by such reference signs by way of example.

Claims

1. Hairdresser's chair comprising
   a support structure (2);
   a backrest (3) connected to said support structure (2);
   a seat (4) associated to said backrest (3);
   a hair washing sink (5) arranged at the upper part of said backrest (3);
   a movement group (6) comprising rotatable coupling

means (7, 8) interposed between said support structure (2) and said hair washing sink (5), guide means (9) adapted to guide the rotation of said hair washing sink (5) around a substantially vertical axis and locking means (10), associated to said rotatable coupling means (7, 8) and to said guide means (9), adapted to allow stopping the rotation of said hair washing sink (5);
said hair washing sink (5) being actuatable in rotation, through said movement group (6), around said substantially vertical axis between a front position and a lateral position;
a pair of armrests (13a, 13b) arranged laterally with respect to said seat (4), at least one of said armrests (13a, 13b) being mobile with respect to said support structure (2) to facilitate access to said seat (4);
at least one of said armrests (13a, 13b) being removable through suitable centring members (22, 23) or
slidable along a substantially horizontal direction (A) through further guide means (14) interposed between at least one of said armrests (13a, 13b) and said support structure (2) or
rotatable on a substantially vertical plane through a rotation unit (25) so as to pass from a substantially horizontal position to a substantially vertical position.

2. Chair according to claim 1, **characterised in that** said rotatable coupling means (7, 8) comprise a fixed ring (8) integrally joined to said support structure (2) and a mobile ring (7) carried or formed by said hair washing sink (5) and arranged resting on said fixed ring (8), and **in that** said guide means (9) comprise at least one guide slot (9), formed by said mobile ring (7).

3. Chair according to claim 2, **characterised in that** said guide means (9) comprise a pair of slots (9) formed by said mobile ring (7), arranged mutually opposite around said substantially vertical rotation axis.

4. Chair according to claim 3, **characterised in that** each of said pair of slots (9) extends along an internal margin or edge of said mobile ring (7).

5. Chair according to one of claims 2 to 4, **characterised in that** said locking means (10) comprise a stop pin (10) passing through said fixed ring (8) and through said mobile ring (7), arranged at an end of said at least one guide slot (9), adapted to abut against an opposite end of each of said slots (9) so as to lock the rotation of said mobile ring (7).

6. Chair according to claim 5, **characterised in that** said stop pin (10) is mounted on said fixed ring (8), fixed with respect to the rotation around said substantially vertical rotation axis, so as to abut against said at least one guide slot (9) carried by said mobile ring (7), at a respective first end and at a respective second opposite end of said at least one guide slot (9).

7. Chair according to one of the preceding claims, **characterised in that** at least one of said armrests (13a, 13b) comprises at least one pair of first centring members (22) adapted to be removably associated to corresponding second centring members (23) fixed to said support structure (2) to allow the centring and insertion or removal of at least one of said armrests (13a, 13b).

8. Chair according to one of the preceding claims, **characterised in that** said hair washing sink (5) is actuatable in rotation by an angle substantially equivalent to 90°.

9. Chair according to one of the preceding claims, **characterised in that** said further guide means (14) are of the telescopic type.

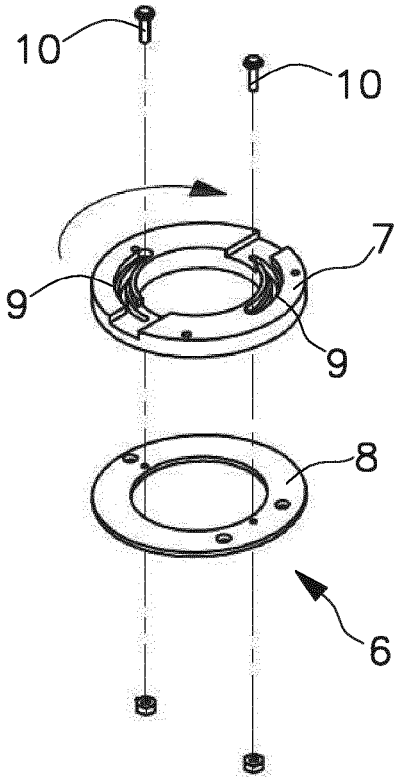
10. Chair according to claim 9, **characterised in that** said at least one armrest (13a, 13b) comprises a gripping member (18), arranged on an inner wall facing towards said seat (4) of said at least one armrest (13a, 13b) comprising a handle (19), rotatable around a pin, connected to an element (20) for anchoring said handle (19) to said at least one of said armrests (13a, 13b).

11. Chair according to claim 10, **characterised in that** it comprises a locking pin (21), associated to said support structure (2) at at least one of said armrests (13a, 13b), adapted to fit in said handle (19) so as to guarantee the stability of at least one of said armrests (13a, 13b).

12. Chair according to one of claims 1 to 6 or 8, **characterised in that** said rotation unit (25) comprises a mobile member (26), arranged on at least one of said armrests (13a, 13b), arranged at contact with a fixed member (27), associated to said support structure (2), through a rotation pin (28) around which at least one of said armrests (13a, 13b) can be rotated.

13. Chair according to claim 12, **characterised in that** said fixed member (27) forms a curvilinear slot (31) adapted to guide the sliding of a corresponding pin (32) integrally joined to said mobile member (26) so as to define the maximum rotation angle of at least one of said armrests (13a, 13b) on said substantially vertical plane.

Fig.9



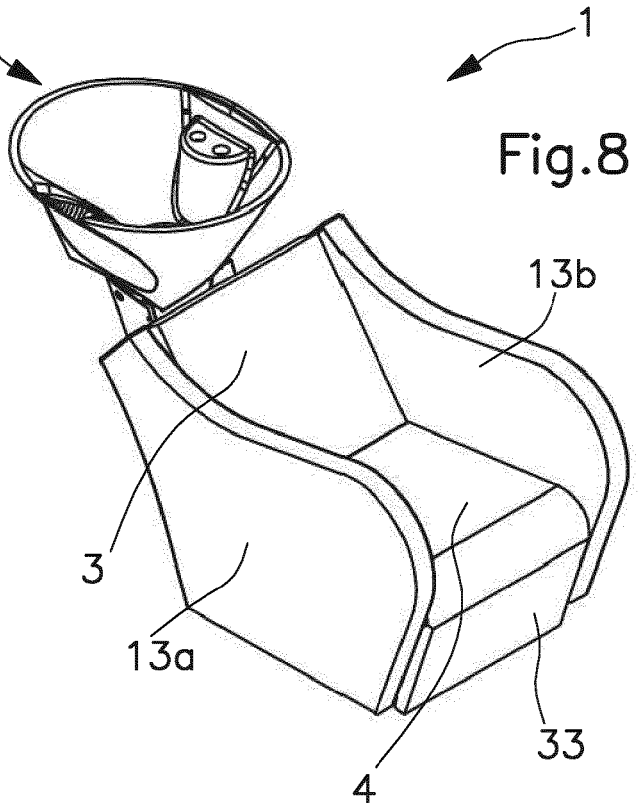
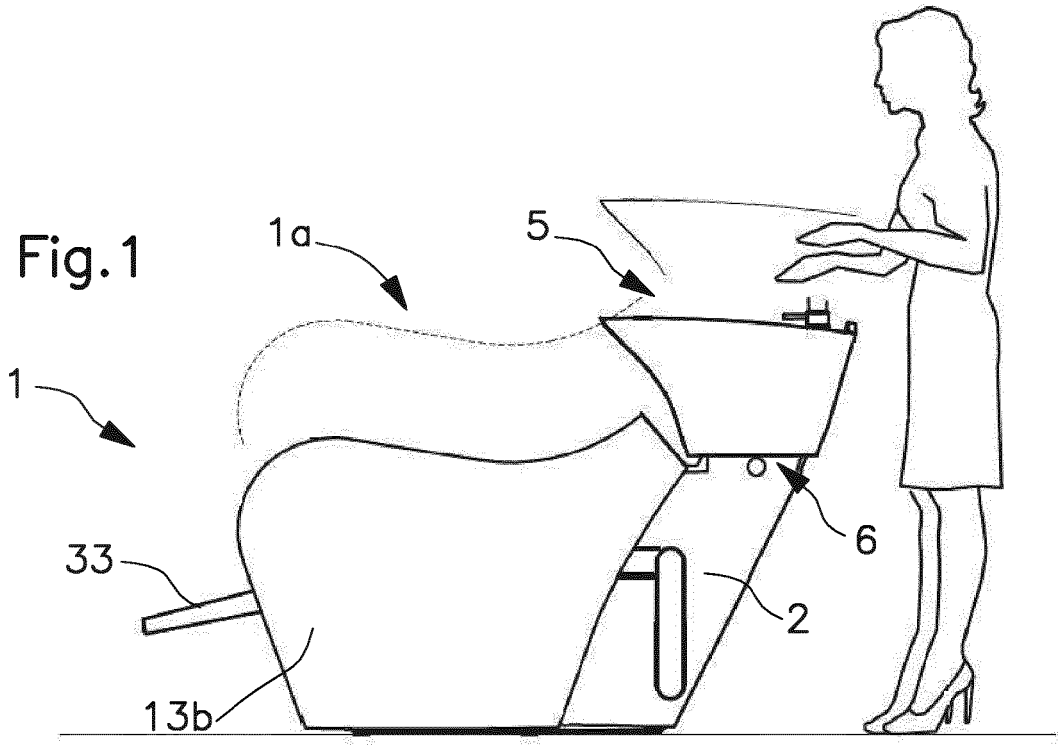


Fig.8

Fig.1



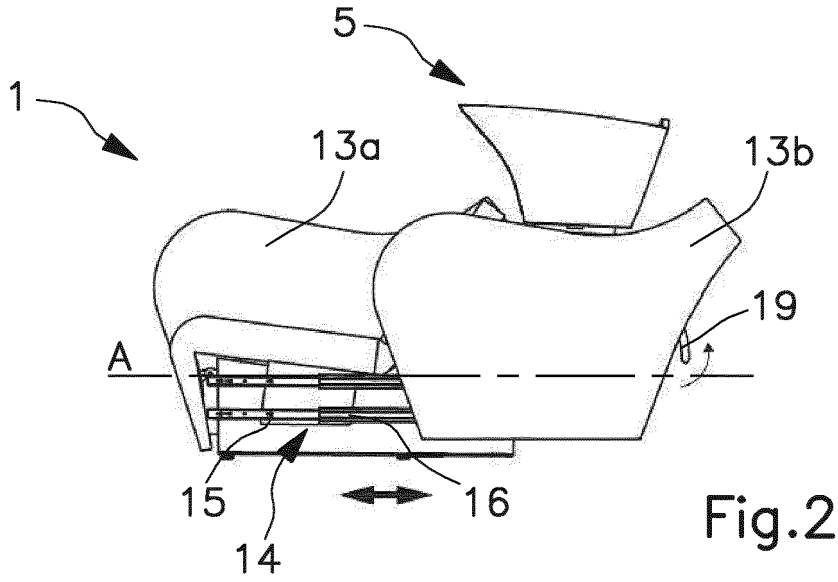


Fig.2

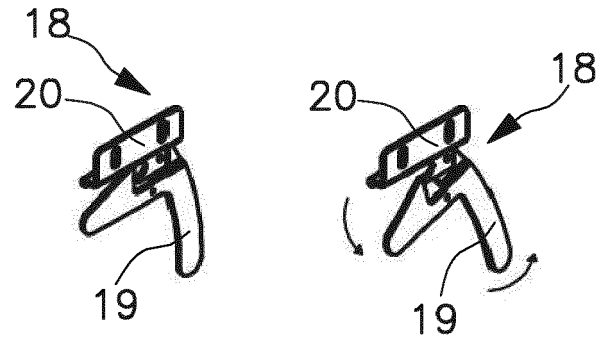


Fig.4a

Fig.4b

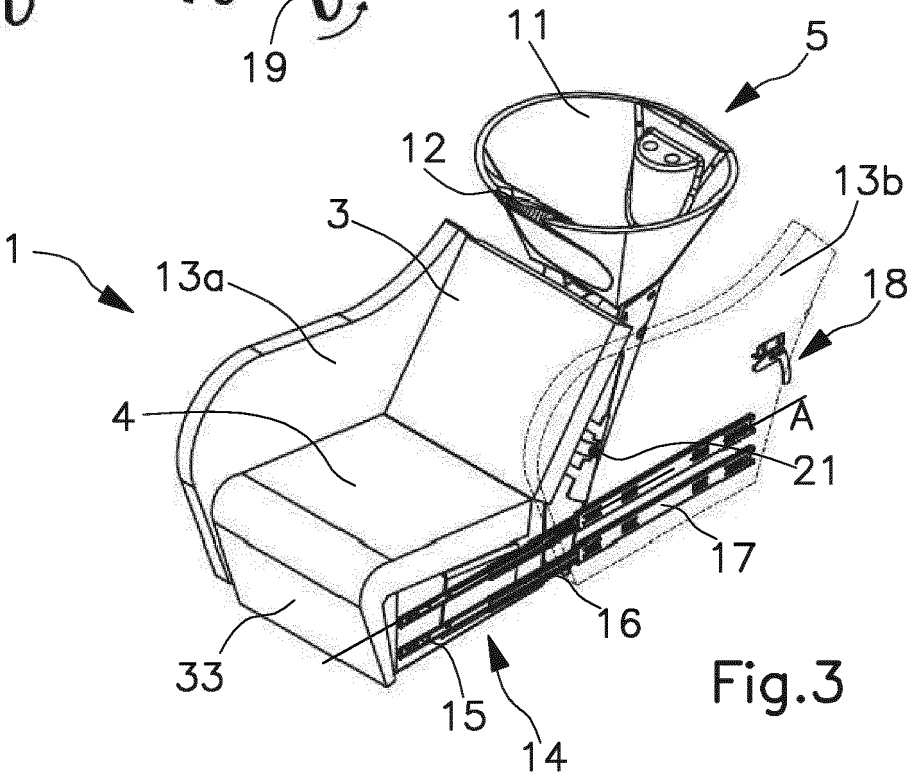
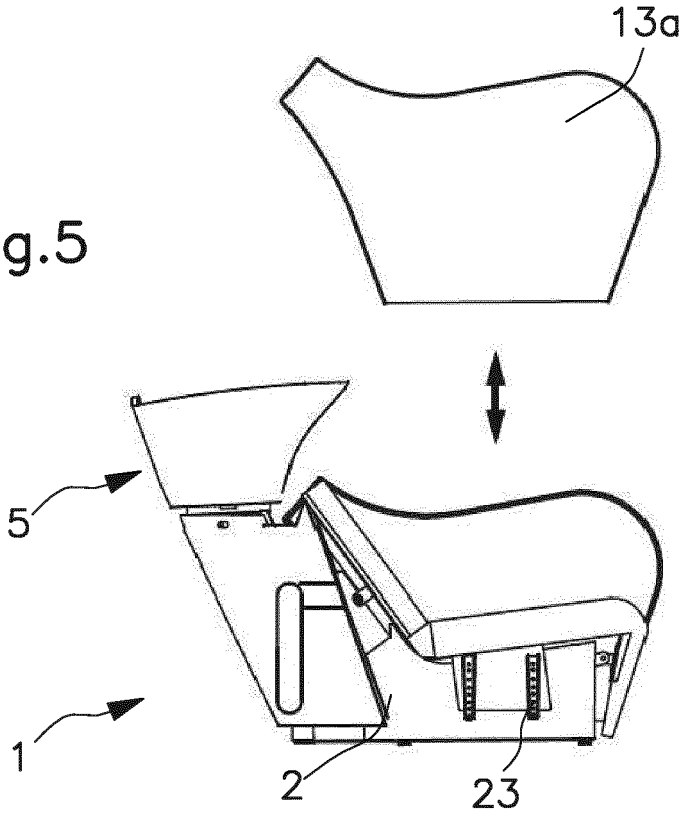


Fig.3

Fig.5



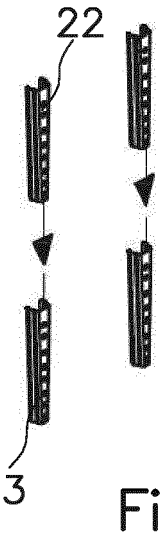


Fig.7

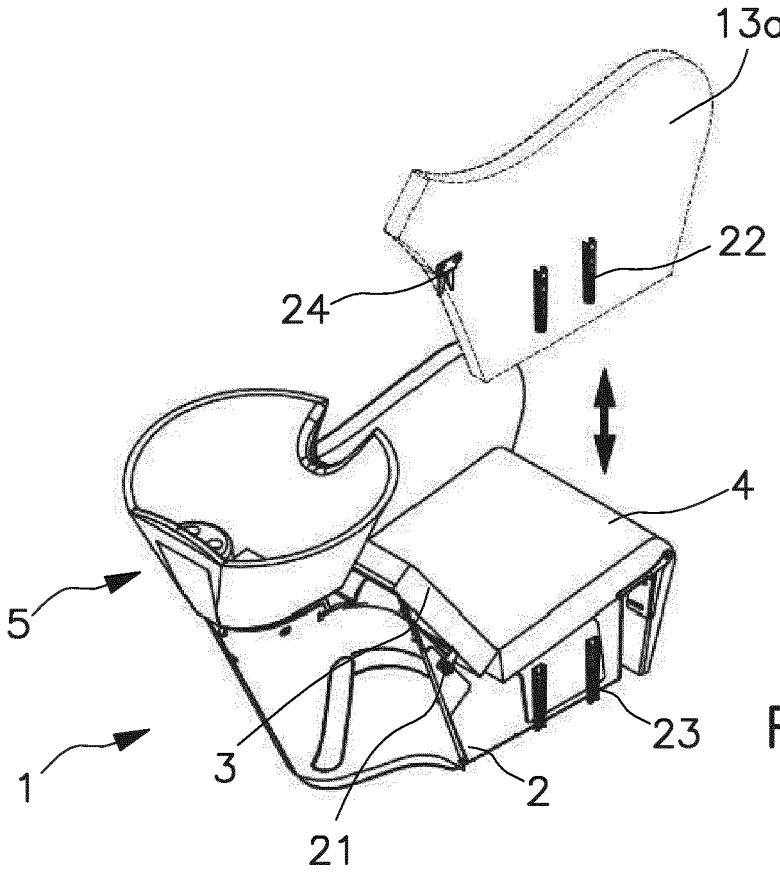


Fig.6

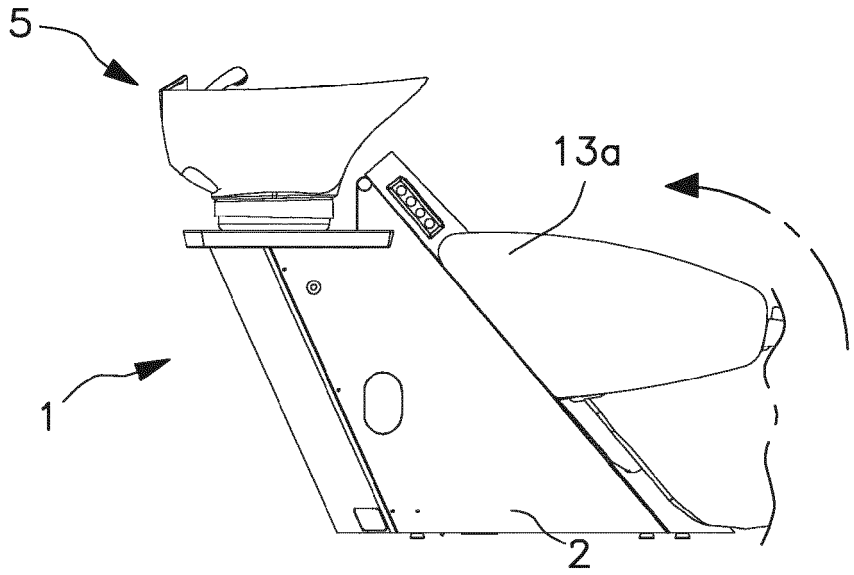


Fig.10

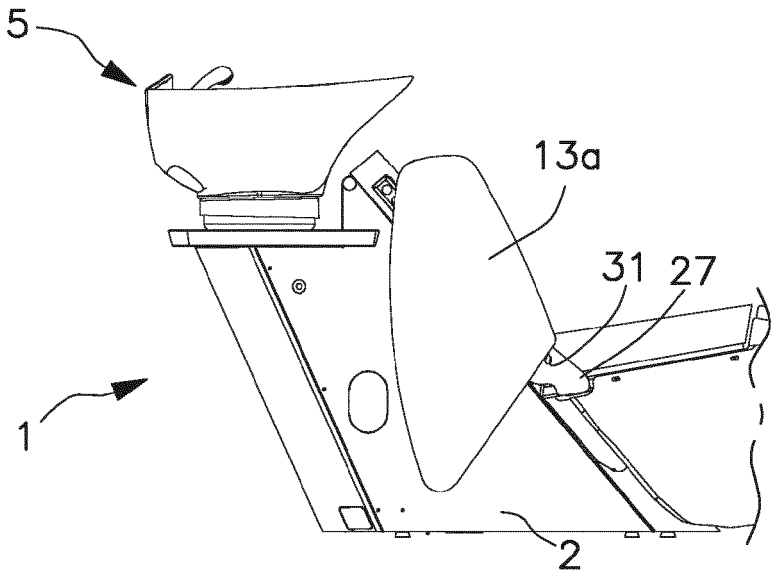


Fig.11

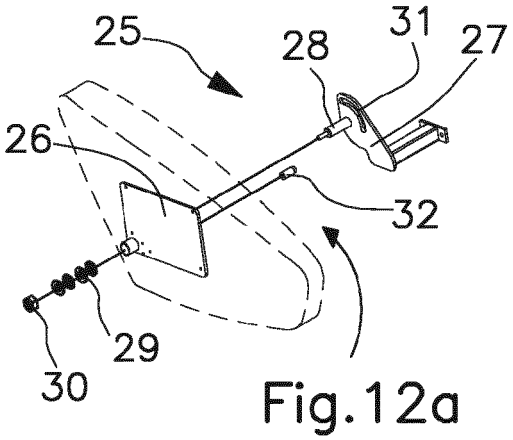


Fig.12a

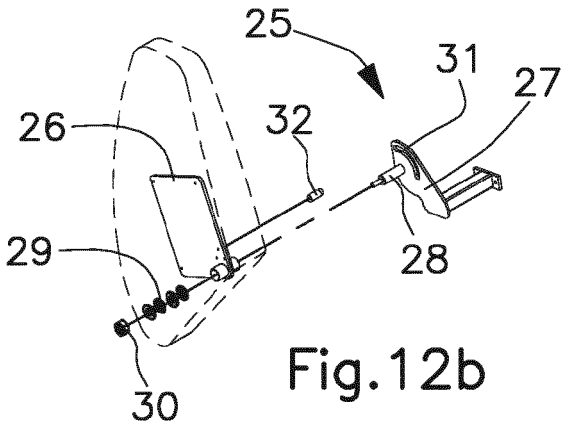


Fig.12b

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EUROPEAN SEARCH REPORT

Application Number
EP 15 18 5076

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	WO 2014/094083 A1 (RODRIGUES JANDIR PEREIRA [BR]) 26 June 2014 (2014-06-26) * page 2, line 1 - page 3, line 24; figures 1-3 *	1-13	INV. A47C1/04
A	DE 14 29 382 A1 (ROEDER SOEHNE) 4 September 1969 (1969-09-04) * page 2 - page 4; figures 1-4 *	1	
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A	US 2007/136941 A1 (GIARDINA VICKY [US] ET AL) 21 June 2007 (2007-06-21) * paragraph [0019] - paragraph [0027]; figures 1-2 *	1	

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A47C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	12 January 2016	Lehe, Jörn

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