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(54) **Booster seat**

(57) Booster seat for raising the seat height of a chair (28) or similar, whereby the booster seat (1) essentially comprises an extendable frame (2) with a seat (3) and backrest (4) attached thereto, whereby at least one handle (11), handgrip or similar is provided on the frame (2) that can be placed over the backrest (30) of the chair (28), whereby the frame (2) is formed by two telescopic tubes (5) that are each formed by at least two telescopic elements (7, 8) that slide into one another, respectively an inner element (7) and an outer element (8), whereby a brake (13) is provided to fasten the telescopic elements (7, 8) in a certain position with respect one another that is continuously adjustable, and whereby the brake (13) is constructed as a stop (14) that is rotatably affixed to an end (9) of the inner element (7) but is axially locked with respect to this element (7), whereby the dimensions are such that it is rotatable between a position in which it is clamped in the outer element (8) and a position in which it is separate from the outer element (8) and thus can be slid into the outer element (8) together with the inner element (7).

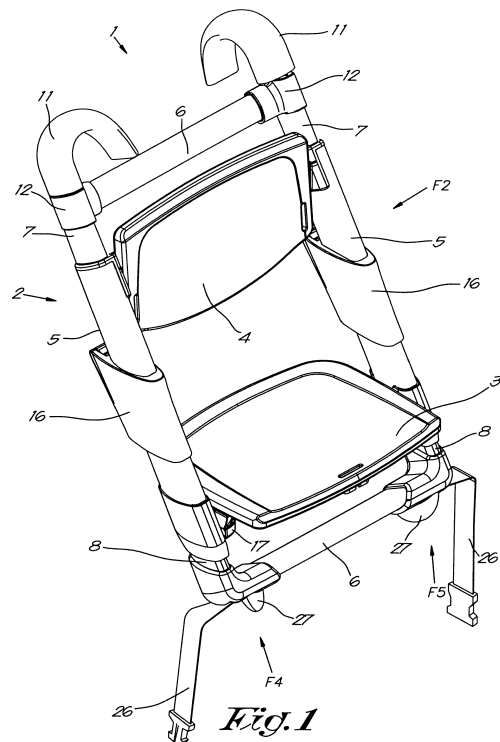


Fig. 1

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Description

[0001] The present invention relates to a booster seat for raising the seat height of a chair or similar.

[0002] More specifically, the invention is intended for raising the seating height of a chair so that the chair is suitable for use as a baby chair in which a child can safely sit.

[0003] Baby chairs are already known that are adapted and designed so that children, such as toddlers or infants for example, can use them safely to sit at a table or similar.

[0004] Such baby chairs have the disadvantage that these baby chairs are only suitable for children and consequently occupy unnecessary space when they are not used.

[0005] Moreover, these baby chairs are not suitable for being carried, for example when going to a restaurant or similar, such that a person is dependent on the availability of the baby chairs present there, if they are on hand.

[0006] Likewise 'booster seats' are already known in the form of a hassock or similar that can be placed on the seat of an ordinary chair to adjust this chair so that it is suitable for children.

[0007] Such booster seats make it unnecessary to provide a separate extra baby chair, as a chair already present can be adapted.

[0008] The known booster seats present the disadvantage that they are often bulky, such that it is difficult to carry such booster seats.

[0009] Moreover, the known booster seats are not adjustable, such that it is not possible to adjust the seat height for example.

[0010] The purpose of the present invention is to provide a solution to at least one of the aforementioned and other disadvantages.

[0011] To this end the invention concerns a booster seat for raising the seat height of a chair or similar, whereby the booster seat essentially comprises an extendable frame with a seat and backrest attached thereto, whereby at least one handle, handgrip or similar is provided on the frame that can be placed over the backrest of the chair, whereby the frame is formed by two telescopic tubes that are each formed by at least two telescopic elements that slide into one another, respectively an inner and outer element, and whereby a brake is provided to fasten the telescopic elements in a certain position with respect one another that is continuously adjustable.

[0012] An advantage is that a booster seat according to the invention can be constructed compactly.

[0013] An additional advantage is that the booster seat can be adjusted to the chair for which it is used.

[0014] Because the height of the frame is continuously adjustable, the booster seat can be used with practically all dimensions of chairs.

[0015] According to the invention at least two elements have an asymmetric cross-section with a smaller width than length measured in two directions transverse to one

another, and the brake as constructed as a stop that is rotatably affixed to one end of the inner element, but which is axially locked with respect to this element and whereby the dimensions are such that it is rotatable between a position in which it is clamped in the outer element and a position in which it is separate from the outer element and thus together with the inner element can be slid into the outer element.

[0016] Such an embodiment of the brake has the advantage that it can be easily realised.

[0017] An additional advantage is that the brake is protected from possible damage from outside influences as the brake is in the telescopic tube.

[0018] Another advantage of this is that a child sitting on the booster seat cannot injure himself on the brake or damage it.

[0019] In a practical embodiment the seat and/or the backrest are fastened to the outer element by means of two supports that are slidably affixed over the telescopic tubes of the frame, whereby the supports are provided with means to be able to lock the supports in a certain position with respect to the frame.

[0020] This has the advantage that the seat height or the height of the backrest with respect to the frame can be adjusted.

[0021] As a result it will be possible to adjust the seat height and backrest to the child using the booster seat, to the seat height of the chair on which the booster seat is placed, or to the height of a table or similar for example where the chair is placed.

[0022] In a preferred embodiment the seat, and if need be the backrest, can be folded up so that it is in or approximately in the plane of the adjustable frame by being fastened in a hingeable way to the frame and/or the inner tube can be completely or practically completely slid into the outer tube.

[0023] This has the advantage that the booster seat can be made compact so that it takes up little space or so that it can easily be carried for use when travelling.

[0024] With the intention of better showing the characteristics of the invention, a few preferred embodiments of a booster seat according to the invention are described hereinafter by way of an example, without any limiting nature, with reference to the accompanying drawings, wherein:

figure 1 schematically shows a perspective view of a booster seat according to the invention;

figure 2 shows a view of figure 1 according to the arrow F2;

figure 3 shows a view of figure 2, but partially cut away;

figure 4 shows a view of figure 1 according to the arrow F4, but partially cut away;

figure 5 shows a view of figure 1 according to the arrow F5, but partially cut away;

figure 6 schematically shows the section F6 of figure 3 in more detail.

[0025] The booster seat 1 schematically shown in figures 1 to 3 essentially comprises an extendable frame 2 with a seat 3 and backrest 4 fastened therein.

[0026] The frame is made up of two telescopic tubes 5 that are connected together by two transverse links 6.

[0027] In this case, the telescopic tubes 5 are formed by two telescopic elements 7 and 8, i.e. an inner element 7 that can slide with one end in an but of an outer element 8 along the axial direction X-X'.

[0028] Both elements 7, respectively 8, have an approximately rectangular cross-section, such as can be seen in figure 4 for example, with a smaller width A, respectively B, than the length C, respectively D, measured in two radial directions Y-Y' and Z-Z' transverse to one another. It is not excluded that the elements 7, 8 have an oval-shaped cross-section for example.

[0029] In the tubes 5, in this case in the outer elements 8 of the tubes 5, a number of cutaways 10 are provided that are located at a distance from one another in the axial direction X-X'.

[0030] In this case two handles 11 are provided on the frame 2 that are at the other end 12 of the inner element 7 and are rotatably affixed thereto.

[0031] A brake 13 is provided to fasten the telescopic elements 7 and 8 with respect to one another.

[0032] In this case the brake 13 is constructed as a stop 14 that is rotatably affixed to the end 9 of each inner element 7 so that the stops 14 can rotate around an axis parallel to the axial direction X-X', whereby the stops 14 are axially locked with respect to the inner element 7.

[0033] In this case the stops 14 are made of rubber, but it is clear that another elastically deformable material can also be used.

[0034] The stops 14 are oval shaped with a minor axis E and a major axis F according to two radial directions Y-Y' and Z-Z', as shown in figure 4.

[0035] The aforementioned major axis F is at least as large as the width B of the cross-section of the outer element 8 and smaller than the length D. In this case the major axis F is somewhat larger than the width B.

[0036] Each handle 11 is coupled to an oval shaped stop 14 concerned, in this case by means of a rod 15 that extends in the inner element 7.

[0037] The rod 15 is connected to the stop 14 in such a way that a rotation of the handle 11 causes a rotation of the rod 15 and the stop 14.

[0038] The seat 4 and the backrest 5 are fastened to the frame by means of two supports 16, that are affixed in a slidable way over the telescopic tubes 5 of the frame 2.

[0039] In this case the seat 4 is affixed movably to the supports 16 by means of a hinge 17 with an operating handle 18, whereby the seat 4 can rotate between a position in which the seat 4 is approximately in the plane of the frame 2 and a position at an angle G to the plane of the frame 2 by operating the hinge, as shown in figure 2.

[0040] In this case the supports 16 are constructed as a tube that can slide over the telescopic tubes 5 of the

frame 2.

[0041] Means 19 are provided to lock the supports 16 in certain positions with respect to the frame 2, which in this case are formed by a movable pin 20 that can move in and out of the aforementioned cutaways 10.

[0042] To this end, the pin 20 is provided with a lever 21 that can be operated by means of a button 22.

[0043] In this example the lever 21 is a slat that extends along the tube 5 from the pin 20 to the aforementioned button 22.

[0044] A housing 23 is provided around the lever 21 in which, in this case, the aforementioned button 22 is integrated, whereby the housing 23 will enable the lever 21 to rotate around a central rotation point 24.

[0045] The housing 23 will ensure that the pin 20 and the lever 21 are protected in order to prevent any damage and to prevent a child on the booster seat 1 being able to hurt or injure itself.

[0046] At the level of the rotation point 24 the slat is provided with a slope discontinuity 25 that is supported by the housing 23 to form this rotation point 24.

[0047] This has the advantage that the lever 21 can rotate without a hinge point being required and that the lever 21 cannot block.

[0048] In this case the lever 21 is constructed elastically.

[0049] The booster seat 1 is further provided with fastening belts 26 that enable the booster seat 1 to be fastened to the seat of a chair or similar. It is not excluded that fastening belts are also provided, for example on the backrest 4, that enable the booster seat to be fastened to the seat of a chair or similar.

[0050] Furthermore, it is also possible that the booster seat 1 is provided with fastening means to secure a person, who is in the booster seat 1, to the booster seat 1. These fastening means can be constructed as belts, straps or similar.

[0051] The booster seat 1 is also provided with two supporting legs 27 on the frame 2, which are approximately opposite the handles 11.

[0052] The operation of the booster seat 1 is very simple and as follows.

[0053] In a first step the length of the frame 2 is adjusted.

[0054] To this end the handles 11 are turned to a position in which they are in the plane of the frame 2, such as the left handle 11 in figure 1.

[0055] The brake 13 will then be in the loose position as shown in figure 4, whereby the major axis F of the stops 14 is in the direction of the length D of the cross-section of the outer element 8.

[0056] As a result the inner element 7 can be slid out of the outer element 8 until the frame 2 has the desired length. The handles 11 are then turned to a position in which they extend perpendicularly to the plane of the frame 2, such as the right handle 11 of figure 1.

[0057] By means of the rods 15 the stops 14 will rotate around an axis parallel to the axial direction X-X' until the

brakes 13 are in the clamped position, as shown in figure 5, whereby the major axis F of the stops 14 is in the direction of the width B of the cross-section of the outer element 8.

[0058] The brakes 13 will as it were be locked in the outer element 8, whereby the oval-shaped stops 14 will deform somewhat and thereby prevent the two elements 7 and 8 from being able to move with respect to one another such that the telescopic tubes 5 of the frame 2 are locked.

[0059] In the next step, the frame 2 can be placed on a chair 28, as shown in figure 2.

[0060] The booster seat 1 is placed at an angle H to the seat 29 of the chair 28 by affixing the handles 11, which are perpendicular to the plane of the frame 2, over the backrest 30 of the chair 28. The supporting legs 27 are hereby placed on the seat 29 of the chair 28.

[0061] The fastening belts 26 are affixed around the seat 29 and/or the backrest 30 of the chair 28 in order to fasten the booster seat 1 to the chair 28.

[0062] In the next step the height of the seat 3 and/or the backrest 4 with respect to the frame 2 is changed, in order to adjust the height of the seat 3 to the chair 28, the child that will sit in it, or the table at which the chair 28 is located.

[0063] As a result, by pressing the buttons 22, the levers 21 are moved such that they will turn around the rotation point 24, formed by the slope discontinuity 25 that is supported by the housing 23, so that the pins 20 will be pulled back out of the cutaways 10 concerned.

[0064] It is now possible to move the supports 16 to a different position corresponding to another cutaway 10.

[0065] When the pins 20 are aligned with the other cutaway 10, they will move until they are held in these cutaways 10.

[0066] Because the lever 21 is made elastic, it will as it were behave like a spring that will ensure that the lever 21 is held in this position, in other words the lever 21 will hold the pin 20 in the cutaway 10.

[0067] The supports 16 are now locked in a different position.

[0068] It is clear that it is not excluded that a separate spring is provided that presses the pin 20 in the cutaway 10, for example by pressing against the lever 21 in a suitable way. In this case it is not necessary for the lever 21 to be constructed elastically.

[0069] If necessary, and if it has not yet been done, the seat 3 can be folded out to the position in which the seat 3 is at an angle G to the plane of the frame 2 by using the operating handle 18.

[0070] Because the frame 2 is placed at an angle H to the seat 29 of the chair 28, the seat 29 of the chair 28 and the seat 3 of the booster seat 1 will extend in parallel or practically in parallel.

[0071] Then a child can be sat on the booster seat 1 and the child can be safely secured using the fastening means.

[0072] It is clear that it is possible to first adjust the

position of the supports 16 before placing the booster seat 1 on the chair 28.

[0073] When the booster seat 1 is not used, the telescopic tubes 5 can be fully slid in, and the seat 3 folded in again up to or approximately up to the plane of the frame 2.

[0074] This has the advantage that the booster seat 1 can be made very compact, such that it can be easily stored, moved or transported.

[0075] It is clear that although in the example described above, both the seat 3 and the backrest 4 are affixed to the frame 2 by means of the supports 16, it is possible that only the seat 3 is affixed to the supports 16.

[0076] Additionally it is possible that the backrest 4 is affixed to the frame 2 by means of two separate additional supports that can be moved and adjusted independently of the supports 16 of the seat 4.

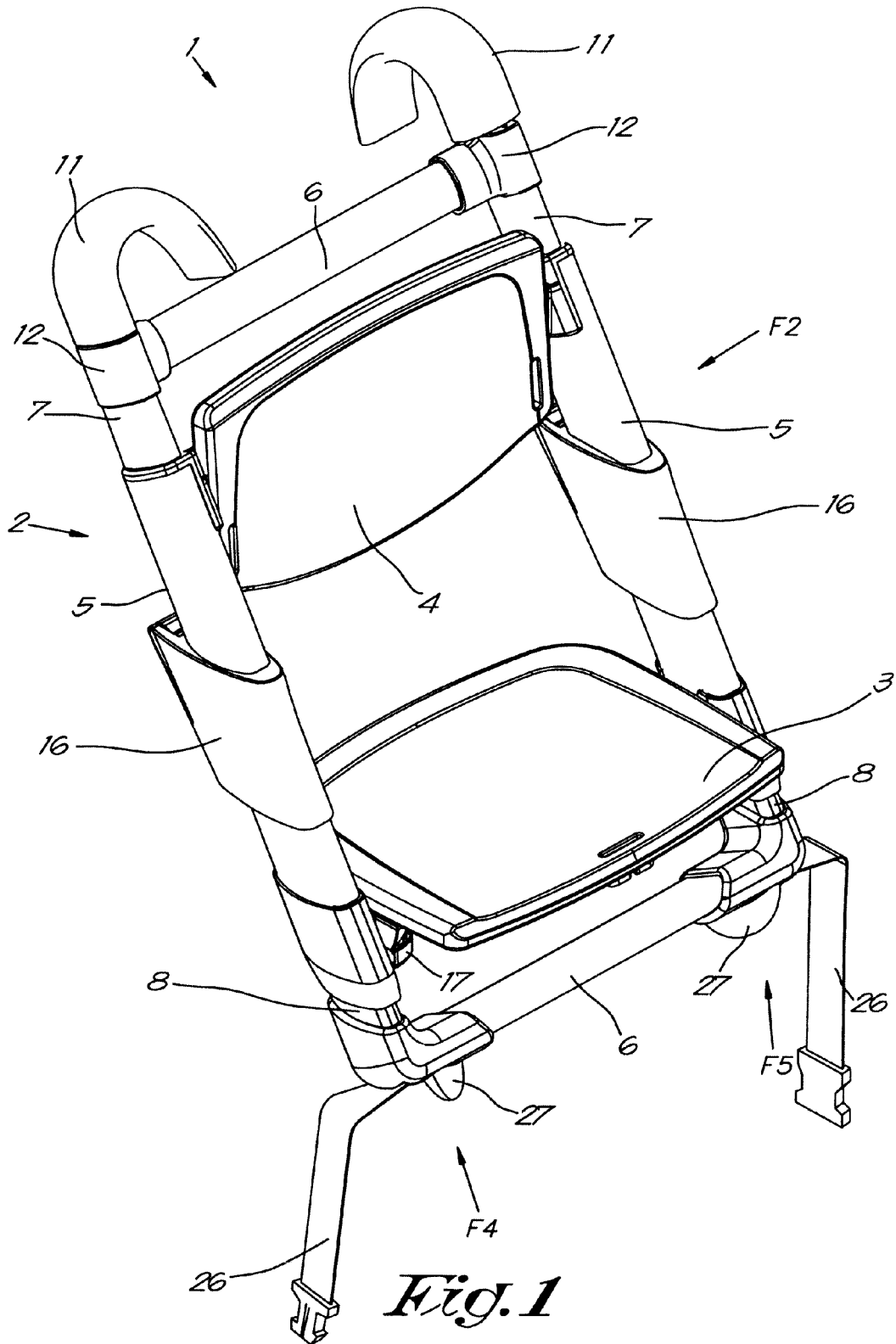
[0077] Furthermore it is also clear that the means 19 for locking the supports 16 can also be implemented in a different way.

[0078] The present invention is by no means limited to the embodiments described as an example and shown in the drawings, but a booster seat 1 according to the invention can be realised in all kinds of forms and dimensions, without departing from the scope of the invention.

Claims

1. Booster seat for raising the seat height of a chair (28) or similar, **characterised in that** the booster seat (1) essentially comprises an extendable frame (2) with a seat (3) and backrest (4) attached thereto, whereby at least one handle (11), handgrip or similar is provided on the frame (2) that can be placed over the backrest (30) of the chair (28), whereby the frame (2) is formed by two telescopic tubes (5) that are each formed by at least two telescopic elements (7, 8) that slide into one another, respectively an inner element (7) and an outer element (8), whereby a brake (13) is provided to fasten the telescopic elements (7, 8) in a certain position with respect one another that is continuously adjustable, and whereby at least two elements (7, 8) have an asymmetric cross-section with a smaller width (A, B) than length (C, D) measured in two directions (Y-Y', Z-Z') transverse to one another, and whereby the brake (13) is constructed as a stop (14) that is rotatably affixed to an end (9) of the inner element (7) but is axially locked with respect to this element (7), whereby the dimensions are such that it is rotatable between a position in which it is clamped in the outer element (8) and a position in which it is separate from the outer element (8) and thus can be slid into the outer element (8) together with the inner element (7).
2. Booster seat according to the previous claim 1, **characterised in that** the stop (14) is oval shaped with

- a minor axis (E) and a major axis (F) along two radial directions (Y-Y', Z-Z'), whereby the major axis (F) of the oval-shaped stop (14) is at least as large as the width (B) of the cross-section of the outer element (8) and smaller than the length (D), whereby the stop (14) is rotatable around an axis parallel to the axial direction (X-X') between a clamped position whereby the major axis (F) of the oval-shaped stop (14) is oriented along the width (B) of the cross-section of the outer element (8) and a loose position whereby the major axis (F) of the stop (14) is oriented along the length (D) of the cross-section of the outer element (8).
3. Booster seat according to claim 1 or 2, **characterised in that** at least one handle (11), handgrip or similar is affixed rotatably to the frame (2) at the other end (12) of the inner element (7) and that the stop (14) is coupled to the handle (11) so that a rotation of the handle (11) enables a rotation of the stop (14).
 4. Booster seat according to claim 3, **characterised in that** the handle (11) is connected to a rod (15) or similar that extends in the inner element (7) and which is connected to the stop (14) in such a way that a rotation of the handle (11) causes a rotation of the rod (15) and the stop (14).
 5. Booster seat according to claim 3 or 4, **characterised in that** the handle (11) is rotatable between a position in which the handle (11) is in the plane of the frame (2) whereby the brake (13) is in the loose position, and a position in which the handle (11) is perpendicular to the plane of the frame (2) whereby the brake (13) is in the clamped position.
 6. Booster seat according to any one of the previous claims, **characterised in that** the stop (14) is made of rubber or another elastically deformable material.
 7. Booster seat according to any one of the claims, **characterised in that** the elements (7, 8) have an approximately rectangular cross-section.
 8. Booster seat according to any one of the previous claims, **characterised in that** the seat (3) and/or the backrest (4) are fastened to the outer element (8) by means of two supports (16) that are affixed in a slidable way over the telescopic tubes (5) of the frame (2), whereby the supports (16) are provided with means (19) to be able to lock the supports (16) in a certain position with respect to the frame (2).
 9. Booster seat according to claim 8, **characterised in that** the aforementioned means (19) are formed by a movable pin (20) that can be moved between a position whereby the pin (20) is held in cutaways (10) of the elements (7, 8) of the frame (2) provided to this end in order to lock the support (16), and a position whereby the pin (20) is pulled back out of the cutaways.
 10. Booster seat according to claim 8 or 9, **characterised in that** the supports (16) are constructed as a tube that can slide over the telescopic tubes (5) of the frame (2).
 11. Booster seat according to any one of the previous claims, **characterised in that** the frame (2) can be placed at an angle (H) to the seat (29) of the chair (28) by placing at least one handle (11), handgrip or similar over the backrest (30) of the chair (28).
 12. Booster seat according to any one of the previous claims, **characterised in that** the booster seat (1) is provided with fastening belts (26) that enable the booster seat (1) to be fastened to the seat (29) and/or backrest (30) of a chair (28) or similar.
 13. Booster seat according to any one of the previous claims, **characterised in that** the booster seat (1) is provided with fastening means to secure a person, who is in the booster seat (1), in the booster seat (1).
 14. Booster seat according to any one of the previous claims, **characterised in that** the seat (3) and if need be the backrest (4) can be folded up to or approximately to the plane of the extendable frame (2) by being fastened in a hingeable way to the frame (2), and/or that the inner tubes (7) can be slid completely or practically completely into the outer tubes (8).



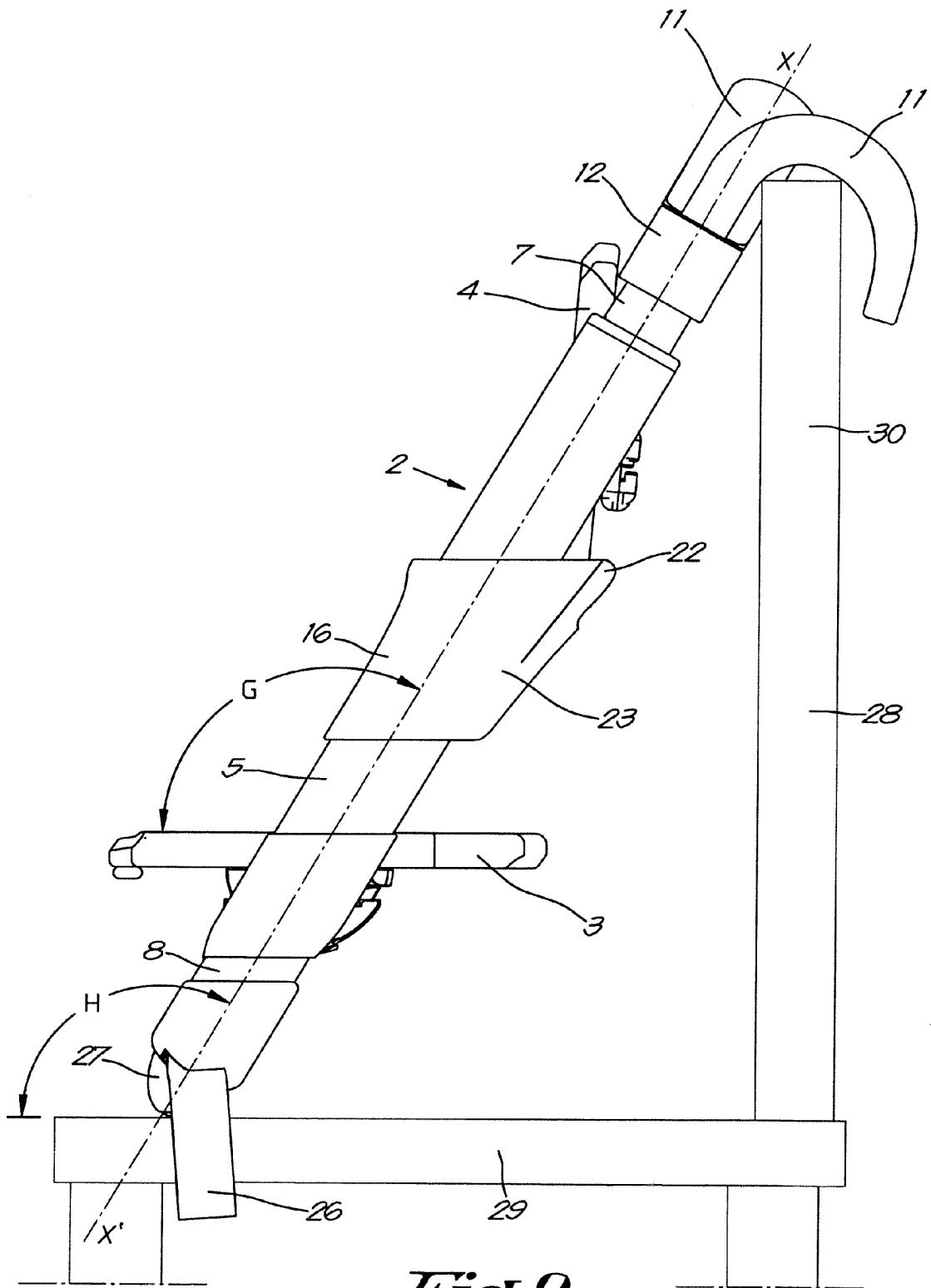


Fig. 2

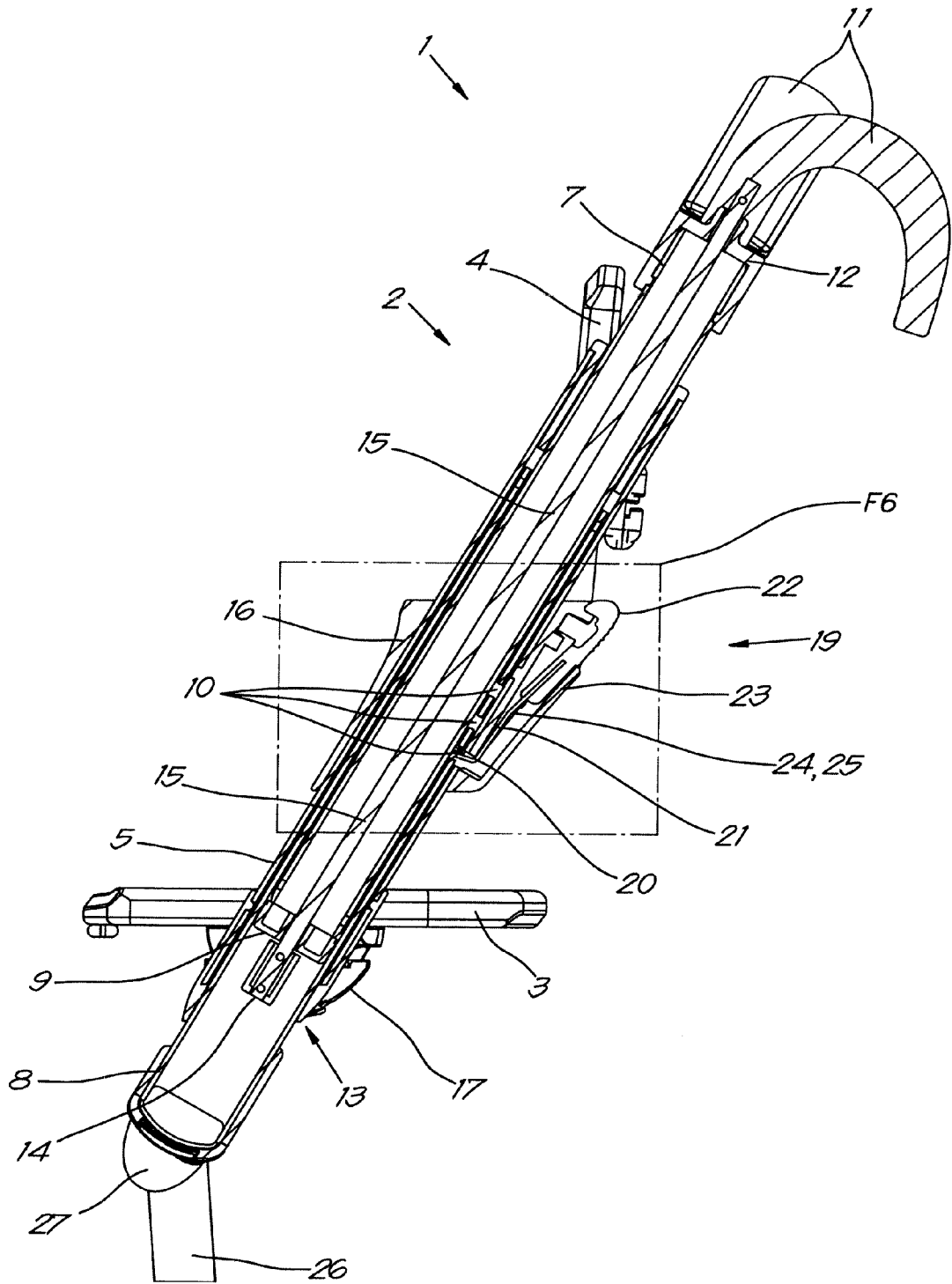


Fig.3

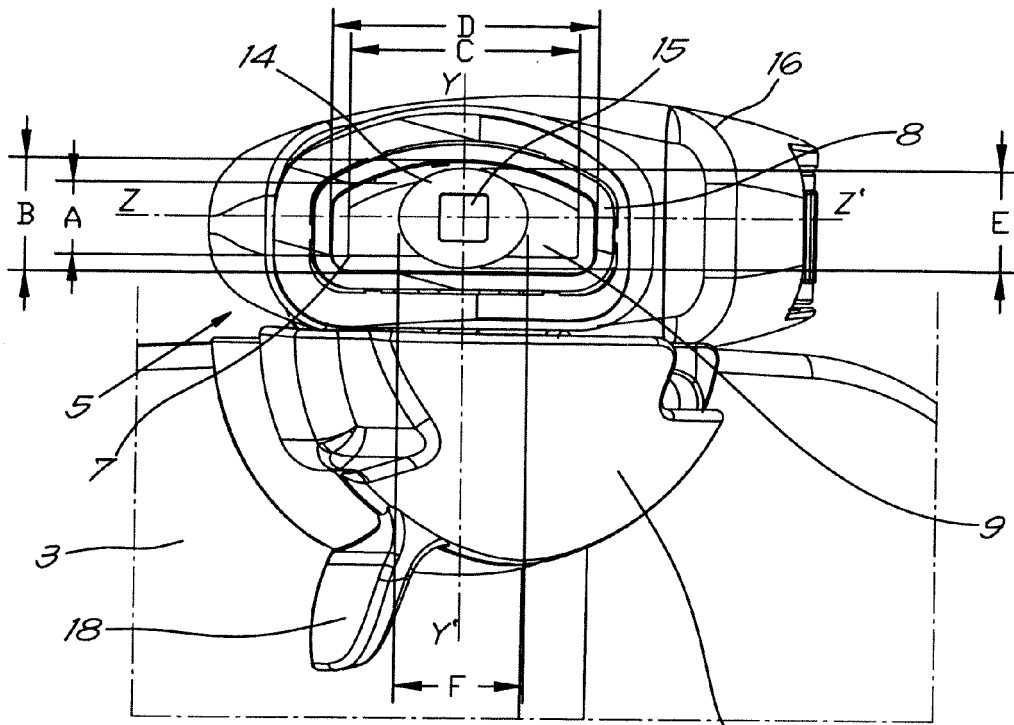


Fig. 4

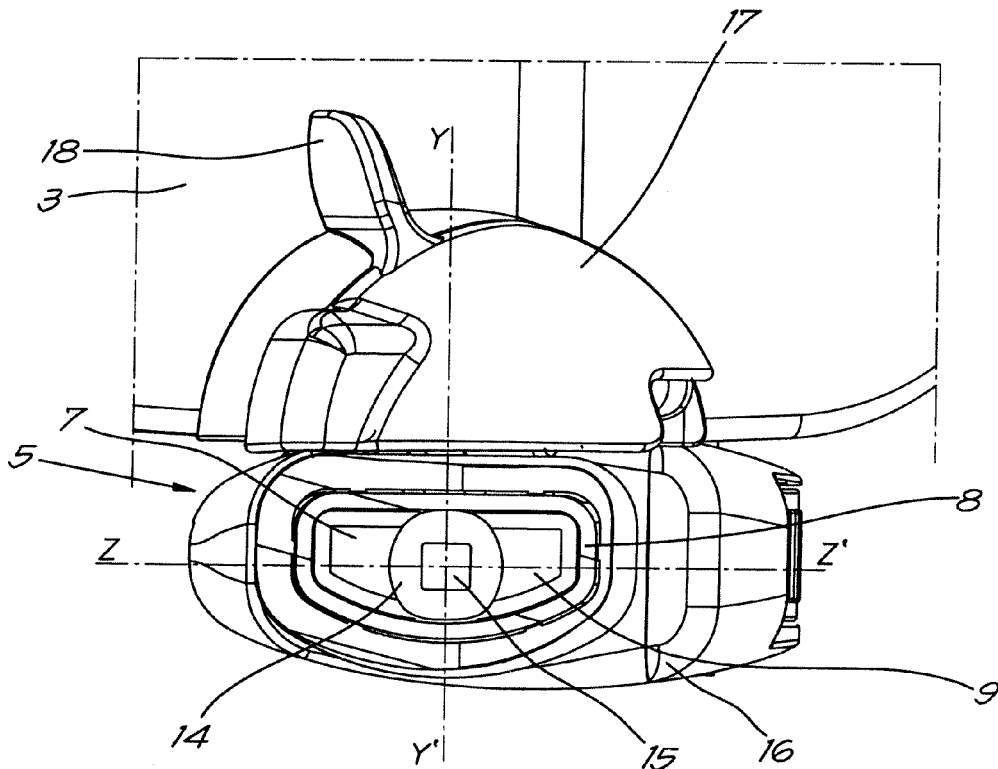


Fig. 5

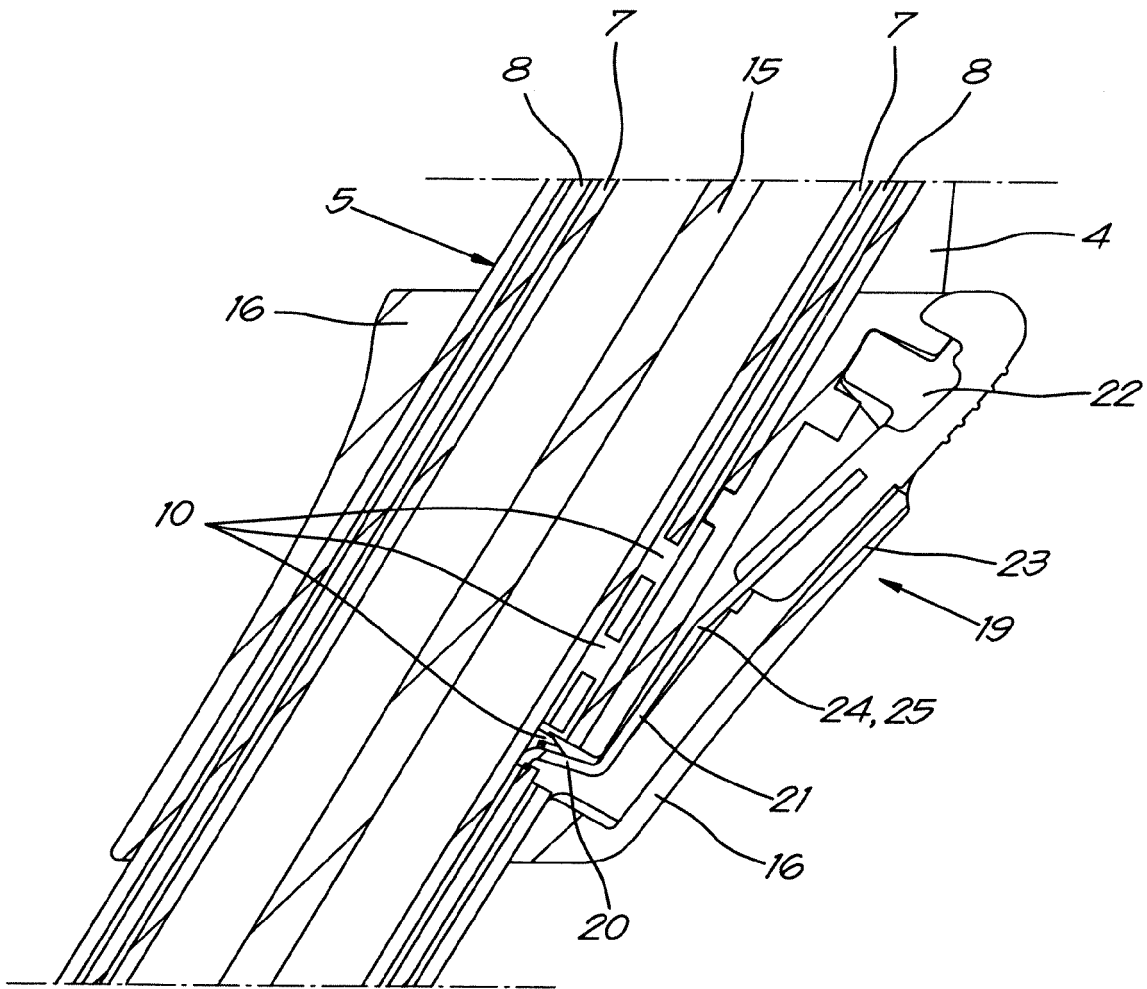


Fig. 6



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Application Number
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Place of search The Hague		Date of completion of the search 22 September 2014	Examiner Sainz Martínez, M
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