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(54) APPARATUS AND METHOD FOR THE CARE OF AN INFANT

(57) Apparatus (10) for the care of an infant, comprising a device (D), configured to assist in the washing operation of the pubic and anal parts of an infant and also a waterproof coating (11), flexible and selectively configurable as a tray, and trestle support means (30).

Said apparatus (10) can selectively assume one of three different operative configurations, namely:

- a first operative configuration, in which a two leg structure (33) with respective feet (33.1) is oscillated in a second operative position, around said axis (X-X), and a sidewall edge (11.2) of said waterproof coating (11) is arranged in a second operative position,
- said apparatus (10) being configured as a changing table, for carrying out the operation of changing the diaper of an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10);
- a second operative configuration, in which said two leg structure (33) with respective feet (33.1) is oscillated, around said axis (X-X), in a first operative position, and said sidewall edge (11.2) of said waterproof coating (11) is arranged in said second operative position,
- said apparatus (10) being configured as a small deck chair and said folded edge portion (11.2) provides a footrest for an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10), and
- a third operative configuration, in which said two leg structure (33) is oscillated, around said axis (X-X), in said first operative position and said sidewall edge (11.2) of said waterproof coating (11) is arranged in a first operative position,
- said apparatus (10) being configured as a bath tub, for carrying out the operation of washing an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10).

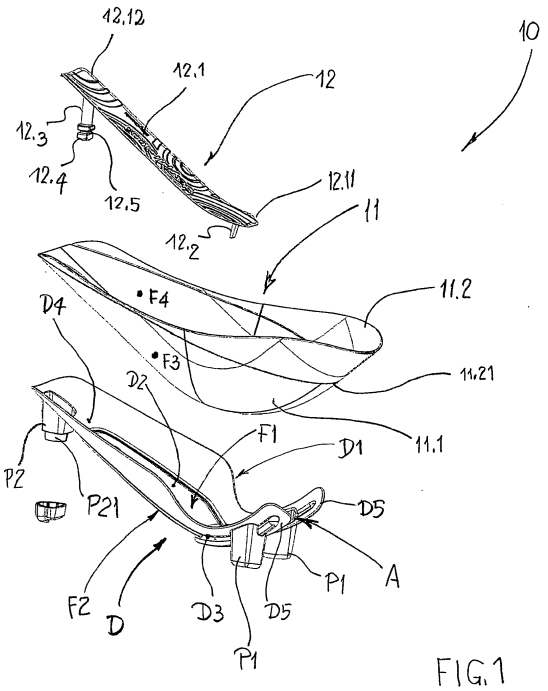

FIG.1

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Description

[0001] The present invention relates to an apparatus for the care of an infant. In particular, the invention refers to an apparatus for the care of an infant which is also useful for changing the diaper, putting the infant in a comfortable seat and bathing it. The invention also concerns a method for the care of an infant also in the operations for changing the diaper, putting the infant in a comfortable seat and bathing the same.

[0002] Document WO2012080980 (EP2651274B1) discloses an aid device for washing an infant, in particular for washing the pubic and anal parts of the infant.

[0003] The aforesaid known device comprises a rigid body configured as a seat, in molded plastic material of a single piece, which comprises:

- a portion shaped like a backrest and a portion shaped like a seat, which are configured to provide a concave housing on a first face of the device (hereinafter called "inner face" of the device) at least for the back and buttocks of an infant lying supine in the device;
- a portion shaped like a headrest extending from said backrest portion and extending said internal face of the device, which the is configured to provide a support for the head of the infant lying supine in the device;
- two rigid support wings that extend said seat portion configured to support at least part of the legs, in a spread position, of the infant lying supine in the device, in which said two support wings delimit in said device an opening, shaped as a U" or "V", configured to allow free access to the pubic and anal areas of the infant lying supine in the device for washing the areas themselves;
- support and/or retaining means for said device, shaped like protuberances and protruding from a second face (hereinafter called "outer face" of the device), opposite to said first face, in correspondence with said seat portion and/or said wings and said headrest portion, in which said support and/or retaining means are symmetrically arranged in a specular manner with respect to the longitudinal vertical median plane of said rigid body and comprise a pair of legs with respective feet underlying said rigid support wings.

[0004] The aforesaid known device is useful for washing the pubic and anal parts of an infant, during, for example, the infant's diaper change.

[0005] However, other devices are required to carry out the operations of changing the diaper, putting an infant in a comfortable seat and bathing the infant, such as for example a changing table, an appropriate seat and a bathtub.

[0006] The use of additional devices for the operations of changing the diaper, putting an infant in a comfortable seat and bathing the same is not easy both for the operator and, mainly, for the infant. In fact, the infant must be moved several times, from one device to another device, and the infant must each time readapt to the different forms and changed reception conditions of the various devices.

[0007] Furthermore, the presence of several devices requires the availability of suitable spaces to contain them, in conditions suitable for their use.

[0008] It goes without saying that each device dedicated to a single operation also has its own cost.

[0009] Documents CN 105 768 982 B and US 2007/220669 A1 disclose an apparatus for the care of an infant according to the preamble of claim 1.

[0010] An object of the present invention is to provide an apparatus for the care of an infant, which is useful not only for washing the pubic and anal parts of an infant, but also for carrying out the operations necessary for changing the diaper and the infant's comfortable seat and bath.

[0011] Another object of the invention is to provide an apparatus for the care of an infant, as specified above, which requires the availability of very limited spaces for its use and conservation.

[0012] Yet another object of the invention is to provide an apparatus for the care of an infant, as specified above, which requires both a limited technical and economic expenditure. A further object of the invention is to provide a method for the care of an infant, comprising both the step of washing the pubic and anal parts of an infant, and the steps of changing the diaper, sitting up comfortably and bathing of the infant, which method is simple, convenient and safe to implement.

[0013] In view of these purposes, the present invention provides an apparatus for the care of an infant, the essential characteristic of which forms the subject of claim 1. Furthermore, the present invention provides a method for the care ofr an infant, the essential characteristic of which forms the subject of claim 5.

[0014] Further advantageous features of the invention are described in the dependent claims. Characteristics and advantages of the invention will become clearer from the detailed description that follows of an embodiment of said apparatus, with reference to the attached drawing, which shows important details for the invention, as well as from the claims.

[0015] The features illustrated here need not necessarily be understood to scale and are represented in such a way that the features according to the invention are clearly highlighted.

[0016] The different features can be made individually or in any combination of them, as variations of the invention.

[0017] In the drawing:

- figure 1 is a partial, three-quarter perspective from above and exploded view of the apparatus according to the invention, in which are illustrated a known device configured for washing the pubic and anal parts

of an infant, a coating configured as a tray, which is superimposed, in operation, on a concave face of said device, and fixing means for fixing said tray with respect to said device;

- figure 2 is a three-quarter perspective view from above of the apparatus according to figure 1, in which the tray-like coating is superimposed and fixed, by means of said fixing means, with respect to said known device;
- figure 3 is a side elevation view of the apparatus according to figure 1;
- figure 4 is a view similar to that of figure 2, in which, however, a sidewall edge portion of said coating shaped as a tray is folded downwards;
- figure 5 is a side elevation view of the apparatus according to figure 4;
- figure 6 is a three-quarter perspective view from below of the apparatus according to figure 4;
- figure 7 is a front three-quarter perspective view of a trestle means comprising two swinging legs of the apparatus according to the invention, in which said trestle means are illustrated removed from the apparatus;
- figure 8 is a three-quarter perspective view, from below and the side, and also exploded of the apparatus according to the invention, illustrating said known device, said trestle means and joining means for joining, in a dismountable manner, said trestle means with respect to said known device (for clarity of illustration, in said figure the waterproof tray coating is omitted);
- figure 9 is a view similar to that of figure 8, in which however said trestle means are shown joined with respect to said known device and the two legs of the trestle means are swung in the open position with respect to said known device;
- figure 10 is a view similar to that of figure 9, but taken from the side and front as a three quarters view, in which also suction cup feet are shown, applied both on said trestle means and on said known device;
- figure 11 is a three-quarter perspective view from below of the apparatus of figure 10, in which, however, the two legs of said trestle means are swung in a closed position against said known device;
- figure 12 is a view similar to that of figure 11, but taken from the side;
- figure 13 illustrates, by means of five schematic illustrations (13A, 13B, 13C, 13D, 13E, respectively), five different configurations of the apparatus for the care an infant and the corresponding steps of the method for the care of an infant, wherein the illustrations 13A, 13B refer only to the known device which is included in the apparatus according to the invention.

[0018] With refence to the figures of the drawings, reference 10 designates the apparatus for the care of an infant according to an embodiment of the invention. Figure 1 shows said apparatus 10 without trestle support means for clarity reasons.

[0019] Said apparatus 10 comprises also a known device, referenced as D (figure 1), which comprises a rigid body D1 configured as a seat, made of plastics molded in a single piece.

[0020] In particular, said rigid body D1 configured as a seat comprises:

- a portion D2 shaped like a backrest and a portion D3 shaped like a seat, which are configured to provide a concave housing on a first face F1 of the rigid body D1 (hereinafter called "inner face") at least for the back and buttocks of an infant lying supine in the device D;
- a portion D4 shaped like a headrest extending from said backrest portion D2 and extending said internal face F1 of the rigid body D1, in which the portion D4 is configured to provide a support for the head of the infant lying supine in the device D;
- support means D5 configured to support at least part of the legs, in a spread position, of the infant lying supine in the device D, and including two rigid support wings D5, integral and extended with respect to said seat portion D3, in which said two support wings D5 delimit an opening A, for example shaped as a U" or "V", in said rigid body D1 configured to allow free access to the pubic and anal areas of the infant lying supine in the device D for washing the areas themselves;
- support means for said rigid body D1, shaped like protuberances and protruding from a second face F2 (hereinafter called "outer face") of said rigid body D1, opposite to said first face F1, in correspondence with said wings D5 (a pair of front protuberances P1) and of said headrest portion D4 (a rear protuberance P2 shaped like an open box on said inner face F1 of the rigid body D1). Said support means P1 and P2 are symmetrically arranged in a specular manner with respect to the longitudinal vertical median plane of said rigid body D1. In particular, said front protuberances P1 provide a pair of legs P1 underlying said support means D5.

[0021] In particular, it should be noted that said rear protuberance P2 has the shape of a box, open on said first face F1 of the rigid body D1 and the bottom of which has a slot P21 (figures 1 and 8), provided in a lower area of said protuberance P2.

[0022] According to the invention, said apparatus 10 comprises a waterproof coating 11, for example made of flexible plastics, selectively configurable as a tray and which is superimposed, in a removable manner, on said inner concave face F1 of said rigid body D1, so that a first face F3, called outer face, of said coating 11, at a lower portion 11.1, copies the shape of said face F1.

[0023] Said waterproof coating 11 has a continuous bending line 11.21 facilitating the folding and which is

preformed and shaped like an incision (provided in said outer face F3 and/or in the opposite face F4, hereinafter called inner face). Said continuous line 11.21 facilitating the folding is overlying, in a rear part of the rigid body D1, with respect to the headrest portion D4 and, in a front part of said rigid body D1, with respect to the free end area of the two wings D5 (figure 3).

[0024] Above said continuous bending line 11.21, said waterproof coating 11 has an upper edge portion 11.2 shaped like a sidewall, which can be oscillated in a first operative arrangement, in which it is deployed in an upright position (figures 1, 2, 3), above said bending line 11.21, or in a second operative arrangement, in which it is folded and overturned (figures 4, 5, 6), below said bending line 11.21.

[0025] Fixing means 12 are configured to fix, in a separable and watertight manner, said waterproof coating 11 in a stable position with respect to said inner concave face F1 of said rigid body D1.

[0026] Said fixing means 12 comprise:

- a flexible band 12.1, made for example of plastic material having comfort characteristics, superimposed longitudinally with respect to said inner face F4 of said lower portion 11.1 of said waterproof coating 11;
- a rigid retaining pin 12.2, fixed and protruding below said flexible band 12.1, in which said pin 12.2 is provided in a first end zone 12.11, called front end, of said flexible band 12.1;
- a rigid retaining stem 12.3, fixed and protruding below said flexible band 12.1, in which said stem 12.3 is provided in a second end zone 12.12 with said flexible band 12.1, called rear end, and has at its free end a integral head 12.4, elastically yielding and having dimensions greater than the transversal section of said stem 12.3.

[0027] Furthermore, said head 12.4 has an intermediate continuous groove 12.5.

[0028] Said flexible band 12.1 extends from the headrest portion D4 to the seat portion D3 of the rigid body D1.

[0029] It should be noted that said flexible band 12.1 is configured as a comfort means for supporting the infant's back and buttocks both in device D and in apparatus 10.

[0030] Said waterproof coating 11 (figure 4) has, in the lower portion 11.1:

- a first integral sealed pocket 11.3, open on said inner face F4, everted and which receives in shape and/or force coupling said rigid pin 12.2 and which, in turn, is retained by frictional coupling in a corresponding seat D6 (figure 6) provided in the seat portion D3 of said rigid body D1, with said pin 12.2 inserted inside;
- a second integral sealed pocket 11.4, open on an inner face F4, everted and housing in said box-like rear protuberance P2 of said rigid body D1 and receiving inside said retaining stem 12.3, the head 12.4 of which extends, together with a corresponding portion of said waterproof coating 11 forming a cap seal gasket covering said head 12.4, beyond said slot P21 of the protuberance P2.

[0031] Reference 30 indicates trestle support means (figures 7 to 10).

[0032] Said trestle support means 30 are made of rigid plastic material and comprise:

- a support plate 31, which rests with one face F5 thereof, called upper face, against the outer face F2 of the rigid body D1, at said headrest portion D4. Said support plate 31 has a box-like protuberance 32 extending from the face opposite said upper face F5 and having both an upper opening 32.1, arranged in correspondence with said upper face F5, and a lower opening 32.2, opposite to said upper opening 32.1. Said protuberance 32 receives inside, in a geometric coupling, said rear protuberance P2 of said rigid body D1, the slot P21 of which is located in correspondence with said lower opening 32.2. It should also be noted that said head 12.4 of the retaining stem 12.3 of the flexible band 12.1 extends, together with a corresponding portion of said waterproof coating 11 forming a cap-shaped seal that wraps said head 12.4, beyond said slot P21 within said protuberance 32 in correspondence with said lower opening 32.2;
- two legs 33 rigidly joined together, in an inverted "U" or "V" shaped structure, which is connected in an oscillating manner, around a horizontal axis X-X (figure 7), with respect to said support plate 31. Said structure with two legs 33 can be made to oscillate around said X-X axis between a first operative position (figure 9), in which said legs 33 are arranged apart, in particular substantially orthogonal with respect to said support plate 31, and a second operative position (figure 11), in which said legs 33 are arranged essentially coplanar with respect to said support plate 31. Each of the legs 33 has a respective protuberance 33.1 at its free end;
- a cover fixing means 34, which is configured for:
- engaging said head 12.4, wrapped in said portion of the waterproof coating 11 forming a cap sealing gasket, so as to prevent said head 12.4 with relative gasket from retreating with respect to said slot P21 of said protuberance P2, and
- engaging said protuberance 32 of said support plate 31 of said trestle support means 30 so as to prevent said protuberance P2 from retreating with respect to said protuberance 32. In particular, said fixing means 34 is arranged in such a way that it engages said head 12.4 with relative gasket and said protuberance 32, rigidly fixing together said waterproof coating 11, said rigid body D1 and said trestle support means 30. In the illustrated example, said cover fixing

means 34 closes, at least partially, said lower opening 32.2 of said protuberance 32 of said support plate 31 and engages with elastic snap, or by means of a bayonet coupling, said groove 12.5 of said head 12.4 (which is wrapped in said portion of the waterproof coating 11 forming a cap seal), rigidly fixing said waterproof coating 11, said rigid body D1 and said trestle support means 30 together;

- elastic tongue means 35, integral with said support plate 31 and which maintain said two-legged structure 33 in said second operative position (figure 11), in which said legs 33 are rested against the external face F2 of said body rigid D1. Said elastic tongue means 35 are configured to yield elastically, when said two-legged structure 33 is made to swing into said first operative position, starting from said second operative position.

[0033] It should be noted that said two legs 33 are provided, at the respective protuberances 33.1, with respective feet 33A provided with suction cups and which are configured to oscillate in a plane parallel to the longitudinal vertical median plane of the rigid body D1. Also, the two front protuberances P1 of the rigid body D1 are provided at their free end with respective feet P11 with respective suction cups, which are configured to oscillate in a plane parallel to the longitudinal vertical median plane of the rigid body D1. Please refer to figure 13 of the attached drawing, containing the schematic illustrations 13A, 13B, 13C, 13D, 13E.

[0034] The illustration 13A illustrates the known device D in an operative arrangement for carrying out the washing operation of the pubic and anal parts of an infant, as known from the state of the art.

[0035] The illustration 13B illustrates the known device D provided with a flexible band which provides a comfort means for resting the infant's back and buttocks in the device D for carrying out the aforementioned washing operation of the pubic and anal parts of a infant, as known from the state of the art.

[0036] The illustration 13C illustrates an infant lying supine in the known device D, which is provided with said flexible band and is also provided with said trestle support means 30, whose legs 33 are swung in said second operative position (figure 11), in which said legs 33 are rested against the outer face F2 of the rigid body D1 and the respective support feet 33.1 are arranged at the level of the support feet P11 of said support means P1, configuring said apparatus 10 in a stable arrangement as a changing table , for carrying out the operation of changing the diaper of an infant lying supine in the apparatus 10. It should be noted that in said illustration 13C the waterproof coating 11 is omitted. In fact, the apparatus 10 can be configured as a changing table even in the absence of said waterproof coating 11. If the waterproof coating 11 is present, its upper edge portion 11.2 is arranged in said second operative position, in which it is folded and overturned, below said bending line 11.21.

[0037] The illustration 13D illustrates an infant arranged in the apparatus 10 according to the invention, which comprises the known device D, the waterproof coating 11 superimposed on the internal face F1 of the rigid body D1 and which is fixed, in a removable way, to the device itself by the fixing means 12 (of which said flexible comfort band 12.1 is a part) and in which:

- said two-legged structure 33 of said trestle support means 30 is oscillated around said X-X axis in said first operative position (figure 9), in which said legs 33 are arranged apart, in particular substantially orthogonal to said support plate 31 fixed with respect to the rigid body D1, and
- said sidewall edge portion 11.2 of said waterproof coating 11 is arranged in said second operative position (figure 4), in which it is folded and overturned, below said bending line 11.21, configuring said apparatus 10 as a small deckchair, in which said folded sidewall edge 11.2 provides a footrest for an infant lying supine in said lower portion 11.1 of said waterproof coating 11 of the apparatus 10.

[0038] The illustration 13E illustrates an infant lying supine in said lower portion 11.1 of said waterproof coating 11 of the apparatus 10, which comprises the known device D, the waterproof coating 11 superimposed on the inner face F1 of the rigid body D1 and which is fixed, in a removable way, to the device itself by means of the fixing means 12 (of which said flexible comfort band 12.1 is a part), in which:

- said two-legged structure 33 of said trestle support means 30 is oscillated around said X-X axis in said first operative position (figure 9), in which said legs 33 are arranged apart, in particular substantially orthogonal to said support plate 31 fixed with respect to the rigid body D1, and
- the upper edge portion 11.2 of said waterproof coating 11, shaped like a sidewall, is deployed in said first operative position, i.e. in an upright position, by overturning above said continuous line 11.21, so as to form by means of said waterproof coating 11 a tray which allows an operator to comfortably carry out the washing operation of the infant. The method for the care of an infant comprises the step consisting in:

1) providing a device D, comprising a rigid body D1 configured as a seat which comprises:

- a portion D2 shaped like a backrest and a portion D3 shaped like a seat, which are configured to provide a concave housing on a first face F1 of the rigid body D1 (hereinafter called "inner face") at least for the back and buttocks of an infant lying supine in the device D;

- support means D5 configured to support at least part of the legs, in a spread position, of the infant lying supine in the device D,
- support means P1, P2 of said rigid body D1, extending from a second face F2 (hereinafter called "outer face") of said rigid body D1;

wherein said device D can be used, as known, as an aid in the operation of washing the pubic and anal parts of an infant lying supine in the device D itself. The method for the care of an infant, according to the present invention, comprises also the steps consisting in:

2) providing a waterproof coating 11, flexible and selectively configurable as a tray and superimposing, in a removable manner, said waterproof coating 11 on said inner concave face F1 of said rigid body D1, so that said coating 11, at a lower portion 11.1, copies the shape of said inner face F1;
3) providing in said waterproof coating 11 a bending line 11.21, which is above said rigid body D1;
4) providing in said waterproof coating 11, above said bending line 11.21, an upper edge portion 11.2, shaped like a sidewall, and configuring said sidewall edge 11.2 in an oscillating manner with respect to said bending line 11.21, respectively in a first operative arrangement, in which it is deployed in an upright position, above said bending line 11.21, or in a second operative arrangement, in which it is folded and overturned, below said bending line 11.21;
5) providing trestle support means 30, which comprise:

- a support plate 31, which is configured to rest with one face F5 thereof against said outer face F2 of the rigid body D1, and
- a rigid structure having two legs 33, which is connected in an oscillating manner, around a horizontal axis X-X, with respect to said support plate 31, wherein said structure with two legs 33 can be made to oscillate around said axis X-X between a first operative position, in which said legs 33 are arranged apart with respect to said support plate 31, and a second operative position, in which said legs 33 are arranged essentially coplanar with respect to said support plate 31;

6) resting said face F5 of said support plate 31 against said outer face F2 of the rigid body D1;
7) providing fixing means 12 which are configured to fix together, in a separable and watertight manner, said waterproof coating 11, said rigid body D1 and said support plate 31 of said trestle support means 30;
8) connecting said waterproof coating 11 and said support plate 31 with respect to said inner and outer faces F1, F2, respectively, of said rigid body D1 by means of said fixing means 12, in a detachable manner;
9) arranging said sidewall edge 11.2 of said waterproof coating in said second operative position, in which it is folded and overturned, below said bending line 11.21, and arranging said two leg structure 33 with respective feet 33.1, by oscillation around said axis X-X, in said second operative position, in which said legs 33 are arranged essentially coplanar with respect to said support plate 31 and the respective support feet 33.1 are arranged at the level of the support feet P11 of said support means P1, configuring said apparatus 10 as a changing table for carrying out the operation of changing the diaper of an infant lying supine in the apparatus 10, respectively,
10) arranging said sidewall edge 11.2 of said waterproof coating in said second operative position, in which it is folded and overturned, below said bending line 11.21, and arranging said two leg structure 33, by oscillation around said axis X-X, in said first operative position, in which said legs 33 are arranged apart with respect to said support plate 31, configuring said apparatus 10 as a small deck chair, wherein said folded edge sidewall portion 11.2 provides a footrest for an infant lying supine in said lower portion 11.1 of said waterproof coating 11 of the apparatus 10, respectively,
11) arranging said sidewall edge 11.2 of said waterproof coating 11 in said first operative position, in which it is deployed upwards, above said bending line 11.21, so as to configure said waterproof coating 11 as a tray, and arranging said two leg structure 33, by oscillation around said axis X-X, in said first operative position, in which said legs 33 are arranged apart from said support plate 31, configuring said apparatus 10 as a bath tub for carrying out the washing operation of an infant lying supine in the apparatus 10.

[0039] Furthermore, the step 8) of the above-mentioned method comprises the operation consisting in connecting said waterproof coating 11 and said support plate

31 with respect to said inner and outer faces F1, F2, respectively, of said rigid body D1 by means of said fixing means 12, in a detachable manner, making a watertight connection between said fixing means 12 and said waterproof coating 11.

[0040] In particular, the above-said method comprises the following steps:

- providing said rigid body D1 with a protuberance P2, hollow and open on said inner face F1 of said rigid body D1 and whose bottom has a slot P21;
- providing said fixing means 12 with a retaining stem 12.3, which has, at one free end, an integral head 12.4, elastically yielding and having dimensions greater than the dimensions of said slot P21 of said protuberance P2;
- providing in said lower portion 11.1 of said waterproof coating 11 a sealed pocket 11.4, open on an inner face F4 of said lower portion 11.1, housing said sealed pocket 11.4 in said hollow protuberance P2 of said rigid body D1 and inserting said retaining stem 12.3 into said sealing pocket 11.4, causing said head 12.4 of said retaining stem 12.3 to extend, together with a corresponding portion of said waterproof coating 11 forming a cap seal gasket covering said head 12.4, beyond said slot P21 of the protuberance P2;

- providing said support plate 31 of said trestle support means 30 with a hollow protuberance 32, having an upper opening 32.1, arranged at said face F5 juxtaposed against said outer face F2 of the rigid body D1, and a lower opening 32.2, opposite to said upper opening 32.1, inserting said protuberance P2 of said rigid body D1 in said protuberance 32 of said support plate 31, placing said slot P21 of said protuberance P2 at said lower opening 32.2 of said protuberance 32;
- arranging said head 12.4 of said retaining stem 12.3, together with the corresponding portion of said waterproof coating 11 forming a cap sealing gasket covering said head 12.4, in said lower opening 32.2 of said protuberance 32, said head 12.4 being with said sealing cap protruding beyond said slot P21 of said protuberance P2; and
- providing a removable fixing means 34 and configuring said fixing means 34 so as to:

    - engage said head 12.4, wrapped in said portion of the waterproof coating 11 forming a cap sealing gasket, so as to prevent said head 12.4 with relative cap gasket from receding with respect to said slot P21 of said protuberance P2, and
    - engage said protuberance 32 of said support plate 31 of said trestle support means 30, so as to prevent said protuberance P2 from receding with respect to said protuberance 32;
    - arrange said fixing means 34 so that it removably engages said head 12.4 with relative gasket and said protuberance 32, rigidly fixing together said waterproof coating 11, said rigid body D1 and said trestle support means 30 by means of said fixing means 34.

[0041] It is highlighted that the method according to the invention comprises the step consisting of:

- providing said fixing means 12 configured as a flexible band 12.1;
- superimposing said flexible band 12.1 longitudinally with respect to said inner face F4 of said lower portion 11.1 of said waterproof coating 11,
- providing said retaining stem 12.3 fixed and protrudes below said flexible band 12.1, in an end region 12.12 of said flexible band 12.1;
- providing a rigid retaining pin 12.2, fixed and protruding below said flexible band 12.1, in another end zone 12.11 of said flexible band 12.1;
- providing said waterproof coating 11, in the lower portion 11.1, with another sealed pocket 11.3, open on said inner face F4;
- inserting said rigid pin 12.2 into said other sealed pocket 11.3 in shape and/or force coupling, and
- inserting said other sealing pocket 11.3, with said pin 12.2 inserted inside, in a corresponding seat D6 provided in said rigid body D1.

[0042] As it results from the foregoing, the present invention achieves in a simple and effective way the objects set out in the introductory part of the present description.

Claims

1. Apparatus (10) for the care of an infant, comprising a device (D), configured to assist in the washing operation of the pubic and anal parts of an infant and which comprises a rigid body (D1) configured as a seat which comprises:

    - a first portion (D2) and a second portion (D3), which are configured to provide, on a first face (F1) of the rigid body (D1), a housing of an infant lying in the device (D);
    - support means (D5) configured to support at least part of the legs, in a spread position, of the infant lying in the device (D),
    - support means (P1, P2) of said rigid body (D1), extending from a second face (F2) (hereinafter called "outer face") of said rigid body (D1), comprising a pair of legs (P1) with respective support feet (P11) underlying said support means (D5);
    - a waterproof coating (11), flexible and selectively configurable as a tray superimposed on said first face (F1) of said rigid body (D1), so that said coating (11), at a lower portion (11.1), copies the shape of said face (F1),

- trestle support means (30), which comprise:

  - a support plate (31), which rests with one face (F5) thereof against said outer face (F2) of the rigid body (D1), and
  - a rigid structure which is connected in an oscillating manner, around a horizontal axis (X-X), wherein said structure can be made to oscillate around said axis (X-X) between a first operative position and a second operative position,

wherein said apparatus (10) can selectively assume different operative configurations, namely:

- when said rigid structure is oscillated in said second operative position, said apparatus (10) can be configured as a changing table, for carrying out the operation of changing the diaper of an infant lying in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10), or
- when said rigid structure is oscillated in said first operative position, said apparatus (10) can be configured as a bath tub, for carrying out the operation of washing an infant lying in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10), **characterized in that**
- said first portion (D2) is shaped like a backrest and said second portion (D3) is shaped like a seat and said portions (D2, D3) are configured to provide, on said first face (F1) of the rigid body (D1) (hereinafter called "inner face"), a concave housing at least for the back and buttocks of an infant lying supine in the device (D);
- said waterproof coating (11) is arranged in a removable manner on said inner concave face (F1) of said rigid body (D1) and in said waterproof coating (11) there are provided:

  - a bending line (11.21), which is above said rigid body (D1);
  - an oscillating upper edge portion (11.2), overlying said bending line (11.21) and shaped like a sidewall, wherein said sidewall edge portion (11.2) is configured to oscillate with respect to said bending line (11.21), respectively in a first operative arrangement, in which it is deployed in an upright position, above said bending line (11.21), or in a second operative arrangement, in which it is folded and overturned, below said bending line (11.21);

- said trestle support means (30) comprise:

  - said rigid structure connected in an oscillating manner with respect to said support plate (31) and comprising two legs (33) with respective support feet (33.1), wherein, in said first operative position of said rigid structure, said legs (33) are arranged apart with respect to said support plate (31) and, in said second operative position of said rigid structure, said legs (33) are arranged essentially coplanar with respect to said support plate (31) and the respective support feet (33.1) are arranged at the level of the support feet (P11) of said support means (P1);

- fixing means (12) are provided and configurated to fix together, in a separable and watertight manner, said waterproof coating (11), said rigid body (D1) and said support plate (31) of said trestle support means (30),

wherein said apparatus (10) can selectively assume one of three different operative configurations, namely:

- a first operative configuration, in which said two leg structure (33) with respective feet (33.1) is oscillated in said second operative position, around said axis (X-X), and said sidewall edge (11.2) of said waterproof coating (11) is arranged in said second operative position,

  - said apparatus (10) being configured as a changing table, for carrying out the operation of changing the diaper of an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10);

- a second operative configuration, in which said two leg structure (33) with respective feet (33.1) is oscillated, around said axis (X-X), in said first operative position, and said sidewall edge (11.2) of said waterproof coating (11) is arranged in said second operative position,

  - said apparatus (10) being configured as a small deck chair and said folded edge portion (11.2) provides a footrest for an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10), and

- a third operative configuration, in which said two leg structure (33) is oscillated, around said axis (X-X), in said first operative position and said sidewall edge (11.2) of said waterproof coating (11) is arranged in said first operative position,

- said apparatus (10) being configured as a bath tub, for carrying out the operation of washing an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10).

2. Apparatus (10) according to claim 1, **characterized in that**:

- said rigid body (D1) comprises a protuberance (P2), hollow and open on said inner face (F1) of said rigid body (D1) and whose bottom has a slot (P21);
- said fixing means (12) comprise a retaining stem (12.3), which has an integral head (12.4) at one free end;
- said waterproof coating (11) has, in said lower portion (11.1), a sealed pocket (11.4), open on an inner face (F4) of said lower portion (11.1), which houses in said hollow protuberance (P2) of said rigid body (D1) and receives inside said retaining stem (12.3), wherein said head (12.4) of said retaining stem (12.3) extends, together with a corresponding portion of said waterproof coating (11) forming a cap seal gasket covering said head (12.4), beyond said slot (P21) of the protuberance (P2);
- said support plate (31) of said trestle support means (30) has a hollow protuberance (32), having an upper opening (32.1), arranged at a face (F5) juxtaposed against said outer face (F2) of the rigid body (D1), and a lower opening (32.2), opposite to said upper opening (32.1), wherein said protuberance (32) of said support plate (31) receives inside said protuberance (P2) of said rigid body (D1), whose slot (P21) is located at said lower opening (32.2) of said protuberance (32);

in that said head (12.4) of said retaining stem (12.3) extends, together with a corresponding portion of said waterproof coating (11), forming a cap sealing gasket covering said head (12.4), beyond said slot (P21) in said lower opening (32.2) of said protuberance (32), and
in that said apparatus (10) comprises a fixing means (34), configured for:

- engaging said head (12.4), wrapped in said portion of the waterproof coating (11) forming a cap sealing gasket, so as to prevent said head (12.4) with relative gasket from receding with respect to said slot (P21) of said protuberance (P2), and
- engaging said protuberance (32) of said support plate (31) of said trestle support means (30), so as to prevent said protuberance (P2) from receding with respect to said protuberance (32);

wherein said fixing means (34) is arranged so that it engages said head (12.4) with relative gasket and said protuberance (32), rigidly fixing together said waterproof coating (11), said rigid body (D1) and said trestle support means (30).

3. Apparatus (10) according to claim 2, **characterized in that** said fixing means (34) is configured as a lid which closes, at least partially, said lower opening (32.2) of said protuberance (32) of said support plate (31).

4. Apparatus (10) according to claim 2 and/or 3, **characterized in that** said fixing means (12) comprise:

- a flexible band (12.1), superimposed longitudinally with respect to said inner face (F4) of said lower portion (11.1) of said waterproof coating (11), wherein:

- said retaining stem (12.3) is provided fixed and protrudes below said flexible band (12.1), in an end region (12.12) of said flexible band (12.1);

- a rigid retaining pin (12.2), fixed and protruding below said flexible band (12.1), in another end zone (12.11) of said flexible band (12.1), and

in that said waterproof coating (11) has, in the lower portion (11.1), another sealed i pocket (11.3), open on said inner face (F4), which receives in shape and/or force coupling said rigid pin (12.2) and which, in turn, is retained in a corresponding seat (D6) provided in said rigid body (D1), with said pin (12.2) inserted inside.

5. Method for the care of an infant, comprising the steps consisting in:

1) providing an apparatus (10) comprising a device (D), that can be used to assist in the washing operation of the pubic and anal parts of an infant lying in the device (D), wherein said device (D) comprises a rigid body (D1) configured as a seat which comprises:

- a first portion (D2) and a second portion (D3), which are configured to provide, on a first face (F1) of the rigid body (D1), a housing of an infant lying in the device (D);
- support means (D5) configured to support at least part of the legs, in a spread position,

of the infant lying in the device (D),
- support means (P1, P2) of said rigid body (D1), extending from a second face (F2) (hereinafter called "outer face") of said rigid body (D1);

2) providing a waterproof coating (11), flexible and selectively configurable as a tray and superimposing said waterproof coating (11) on said first face (F1) of said rigid body (D1), so that said coating (11), at a lower portion (11.1), copies the shape of said first face (F1);
3) providing trestle support means (30), which comprise:

- a support plate (31), which is configured to rest with one face (F5) thereof against said outer face (F2) of the rigid body (D1), and
- a rigid structure which is connected in an oscillating manner, around a horizontal axis (X-X), wherein said rigid structure can be made to oscillate around said axis (X-X) in a first operative position or in a second operative position,

characterized in that it comprises also the steps consisting in:

4) shaping said first portion (D2) like a backrest and said second portion (D3) like a seat and configuring said portions (D2, D3) to provide, on said first face (F1) of the rigid body (D1) (hereinafter called "inner face"), a concave housing at least for the back and buttocks of an infant lying supine in the device (D);
5) arranging said waterproof coating (11) in a removable manner on said inner concave face (F1) of said rigid body (D1) and providing in said waterproof coating (11):

- a bending line (11.21), which is above said rigid body (D1);
- an oscillating upper edge portion (11.2), overlying said bending line (11.21) and shaped like a sidewall, wherein said sidewall edge portion (11.2) is configured to oscillate with respect to said bending line (11.21), respectively in a first operative arrangement, in which it is deployed in an upright position, above said bending line (11.21), or in a second operative arrangement, in which it is folded and overturned, below said bending line (11.21);

6) connecting said rigid structure in an oscillating manner with respect to said support plate (31) and providing two legs (33) with respective support feet (33.1) in said rigid structure, wherein, in said first operative position of said rigid structure, said legs (33) are arranged apart with respect to said support plate (31) and, in said second operative position of said rigid structure, said legs (33) are arranged essentially coplanar with respect to said support plate (31) and the respective support feet (33.1) are arranged at the level of the support feet (P11) of said support means (P1);
7) providing fixing means (12) which are configurated to fix together, in a separable and watertight manner, said waterproof coating (11), said rigid body (D1) and said support plate (31) of said trestle support means (30);
8) arranging said face (F5) of said support plate (31) against said outer face (F2) of the rigid body (D1);
9) connecting said waterproof coating (11) and said support plate (31) with respect to said inner and outer faces (F1, F2), respectively, of said rigid body (D1) by means of said fixing means (12), in a detachable manner;
10) arranging said sidewall edge (11.2) of said waterproof coating in said second operative position, in which it is folded and overturned, below said bending line (11.21), and arranging said two leg structure (33) with respective feet (33.1), by oscillation around said axis (X-X), in said second operative position, in which said legs (33) are arranged essentially coplanar with respect to said support plate (31) and the respective support feet (33.1) are arranged at the level of the support feet (P11) of said support means (P1), configuring said apparatus (10) as a changing table for carrying out the operation of changing the diaper of an infant lying supine in the apparatus (10), respectively,
11) arranging said sidewall edge (11.2) of said waterproof coating in said second operative position, in which it is folded and overturned, below said bending line (11.21), and arranging said two leg structure (33), by oscillation around said axis (X-X), in said first operative position, in which said legs (33) are arranged apart with respect to said support plate (31), configuring said apparatus (10) as a small deck chair, wherein said folded sidewall edge portion (11.2) provides a footrest for an infant lying supine in said lower portion (11.1) of said waterproof coating (11) of the apparatus (10), respectively,
12) arranging said sidewall edge (11.2) of said waterproof coating (11) in said first operative position, in which it is deployed upwards, above said bending line (11.21), so as to configure said waterproof coating (11) as a tray, and arranging said two leg structure (33), by oscillation around said axis (X-X), in said first operative position,

in which said legs (33) are arranged apart from said support plate (31), configuring said apparatus (10) as a bath tub for carrying out the washing operation of an infant lying supine in the apparatus (10).

6. Method according to claim 5, **characterized in that** step 9) of the method comprises the operation consisting in connecting said waterproof coating (11) and said support plate (31) with respect to said inner and outer faces (F1, F2), respectively, of said rigid body (D1) by means of said fixing means (12), in a detachable manner, making a watertight connection between said fixing means (12) and said waterproof coating (11).

7. Method according to claim 5 and/or 6, **characterized in that** it comprises the following steps:

- providing said rigid body (D1) with a protuberance (P2), hollow and open on said inner face (F1) of said rigid body (D1) and whose bottom has a slot (P21);
- providing said fixing means (12) with a retaining stem (12.3), which has an integral head (12.4) at one free end;
- providing in said lower portion (11.1) of said waterproof coating (11) a sealed pocket (11.4), open on an inner face (F4) of said lower portion (11.1), housing said sealed pocket (11.4) in said hollow protuberance (P2) of said rigid body (D1) and inserting said retaining stem (12.3) into said sealing pocket (11.4), causing said head (12.4) of said retaining stem (12.3) to extend, together with a corresponding portion of said waterproof coating (11) forming a cap seal gasket covering said head (12.4), beyond said slot (P21) of the protuberance (P2);
- providing said support plate (31) of said trestle support means (30) with a hollow protuberance (32), having an upper opening (32.1), arranged at said face (F5) juxtaposed against said outer face (F2) of the rigid body (D1), and a lower opening (32.2), opposite to said upper opening (32.1), inserting said protuberance (P2) of said rigid body (D1) in said protuberance (32) of said support plate (31), placing said slot (P21) of said protuberance (P2) at said lower opening (32.2) of said protuberance (32);
- arranging said head (12.4) of said retaining stem (12.3), together with the corresponding portion of said waterproof coating (11) forming a cap sealing gasket covering said head (12.4), in said lower opening (32.2) of said protuberance (32), said head (12.4) being protruding with said sealing cap beyond said slot (P21) of said protuberance (P2), and
- providing a removable fixing means (34) and configuring said fixing means (34) so as to:
- engage said head (12.4), wrapped in said portion of the waterproof coating (11) forming a cap sealing gasket, so as to prevent said head (12.4) with relative cap gasket from receding with respect to said slot (P21) of said protuberance (P2), and
- engage said protuberance (32) of said support plate (31) of said trestle support means (30), so as to prevent said protuberance (P2) from receding with respect to said protuberance (32);
- arrange said fixing means (34) so that it removably engages said head (12.4) with relative gasket and said protuberance (32), rigidly fixing together said waterproof coating (11), said rigid body (D1) and said trestle support means (30).

8. Method according to one or more of claims 5 to 7, **characterized in that** it comprises the steps consisting of:

- providing said fixing means (12) configured as a flexible band (12.1);
- superimposing said flexible band (12.1) longitudinally with respect to said inner face (F4) of said lower portion (11.1) of said waterproof coating (11),
- providing said retaining stem (12.3) fixed and protrudes below said flexible band (12.1), in an end region (12.12) of said flexible band (12.1);
- providing a rigid retaining pin (12.2), fixed and protruding below said flexible band (12.1), in another end zone (12.11) of said flexible band (12.1);
- providing said waterproof coating (11), in the lower portion (11.1), with another sealed pocket (11.3), open on said inner face (F4);
- inserting said rigid pin (12.2) into said other sealed pocket (11.3) in shape and/or force coupling, and
- inserting said other sealing pocket (11.3), with said pin (12.2) inserted inside, in a corresponding seat (D6) provided in said rigid body (D1).

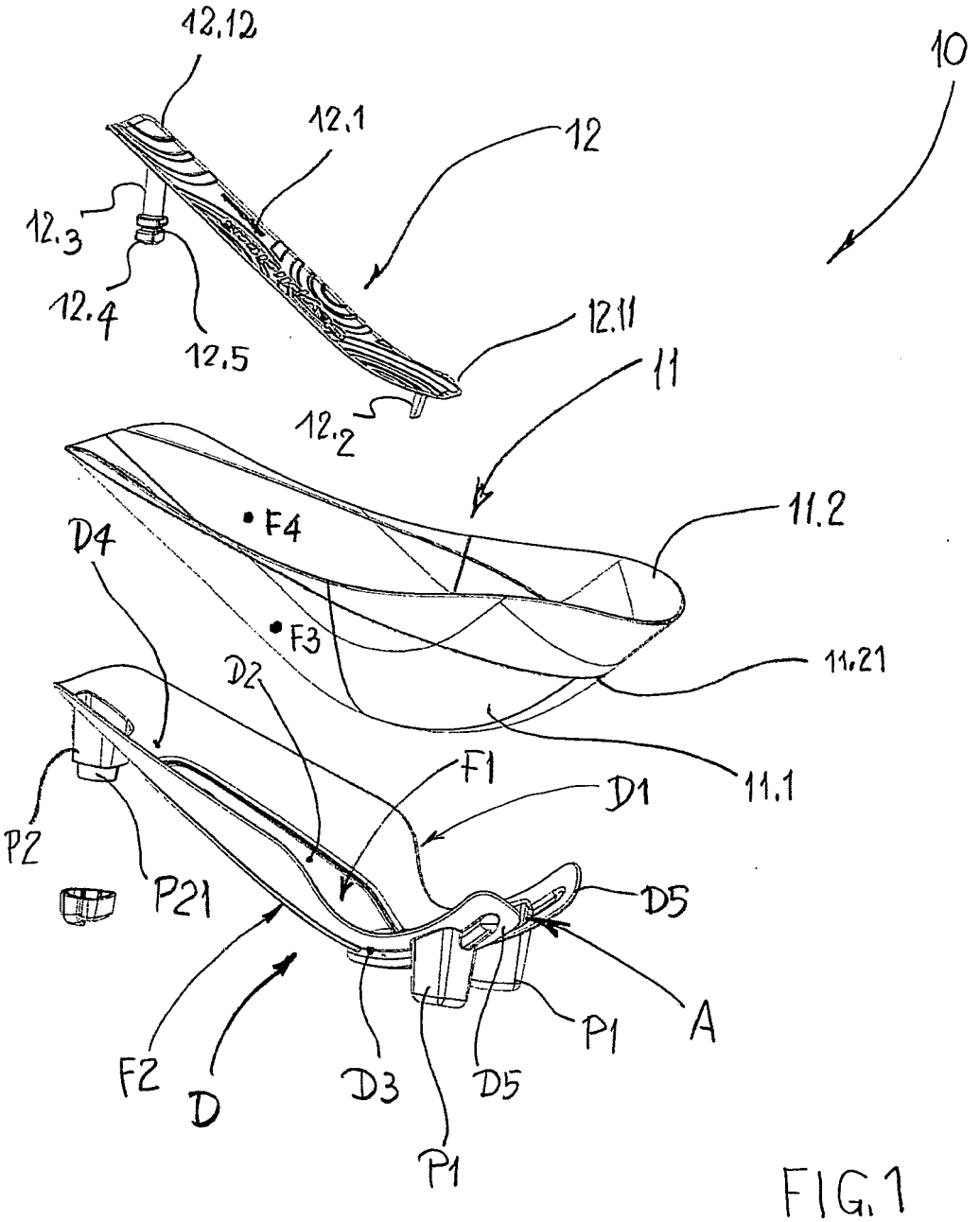
12.12
12.1
12
10
12.3
12.4
12.5
12.11
12.2
11
11.2
F4
D4
F3
D2
11.21
11.1
F1
D1
P2
P21
D5
A
P1
F2
D
D3
D5
P1

FIG.1

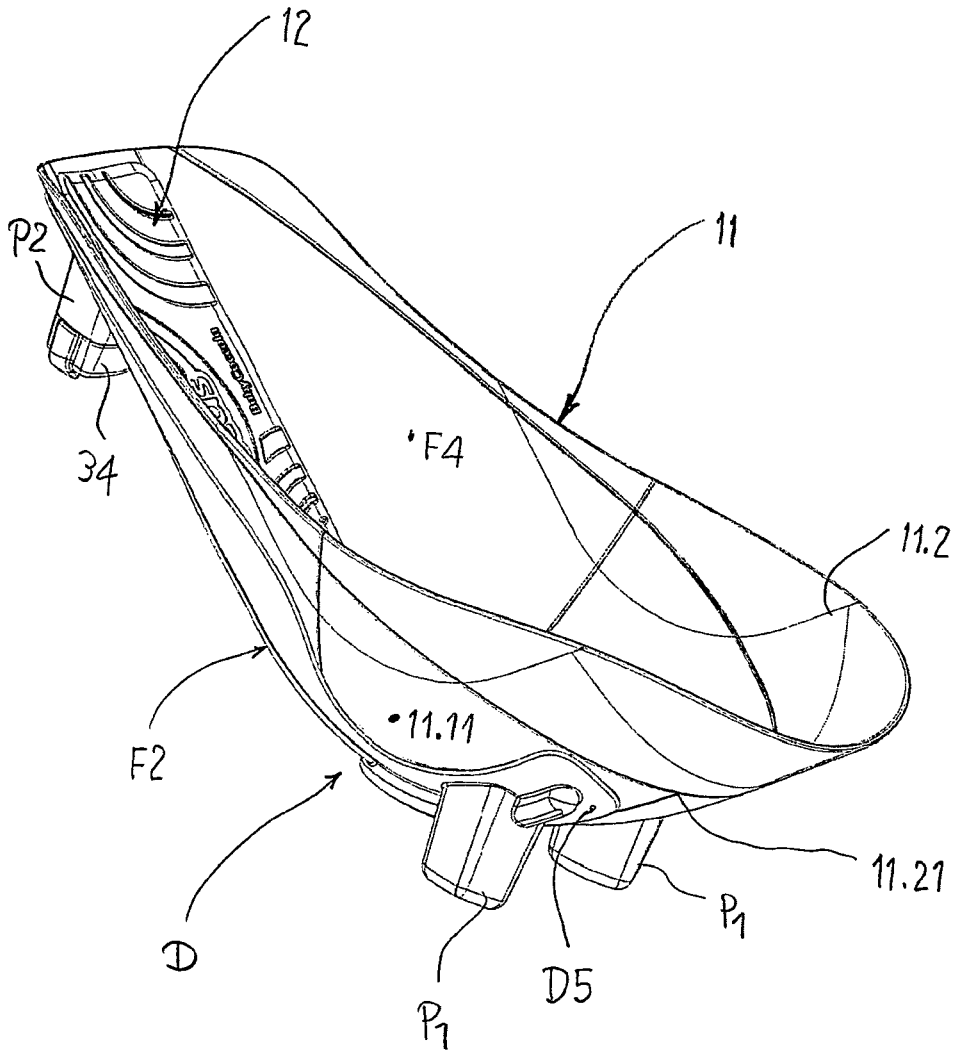

FIG. 2

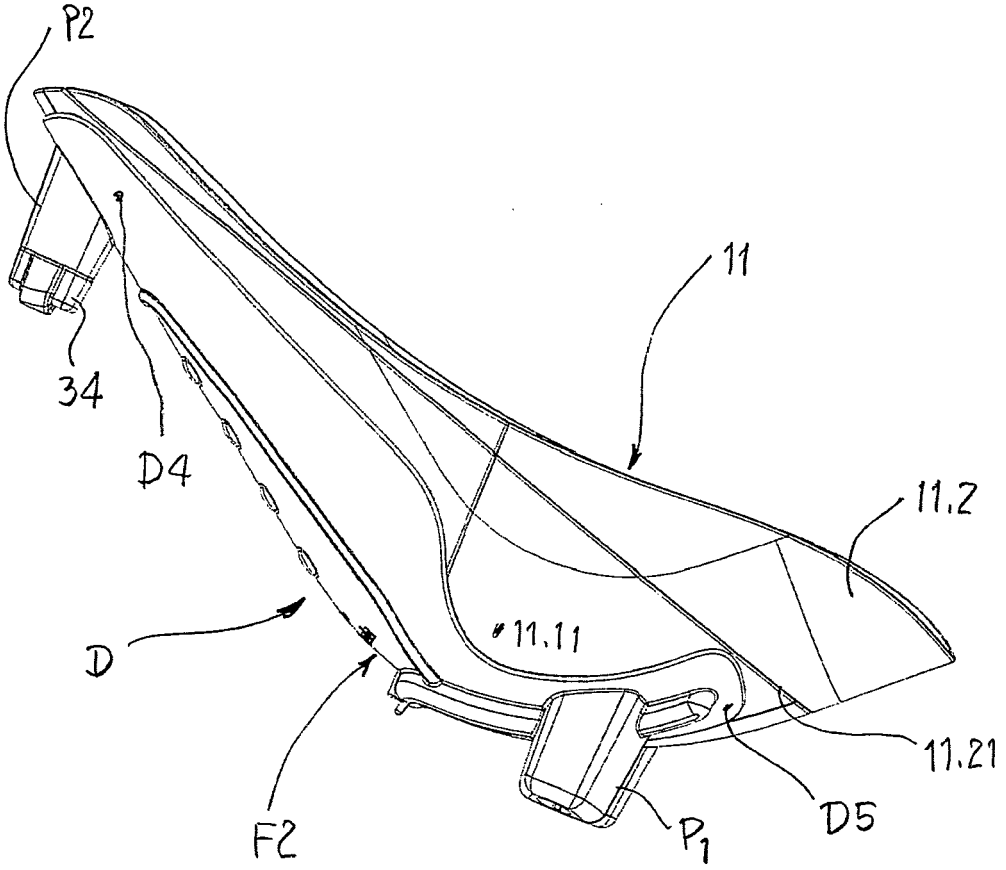

FIG.3

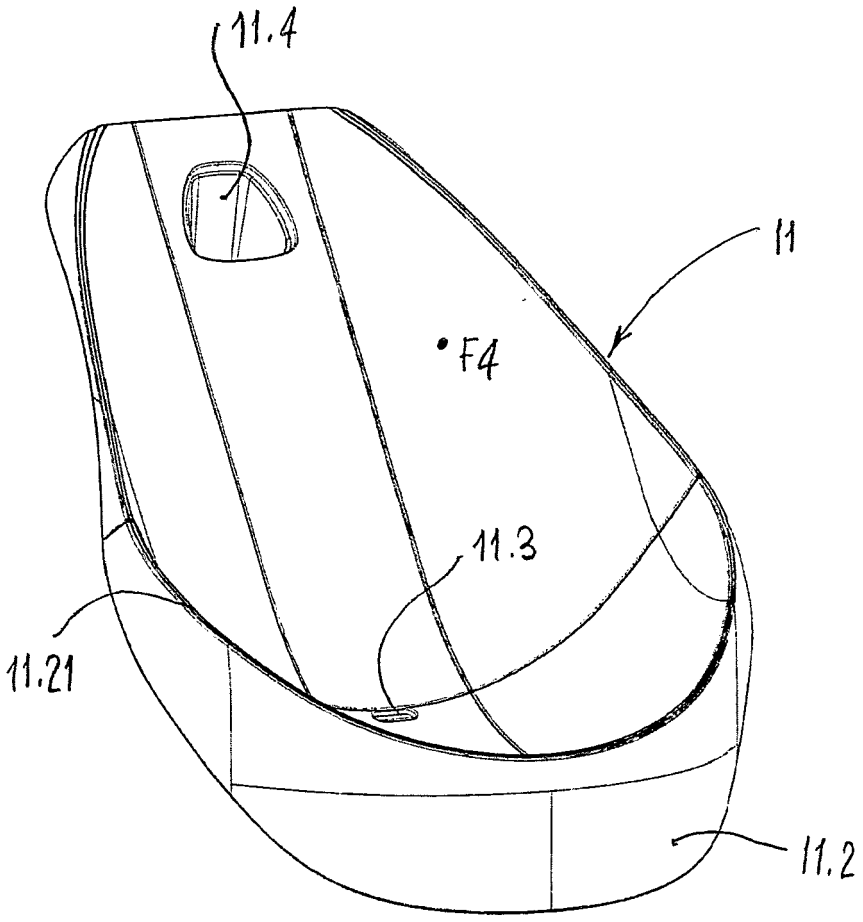

FIG. 4

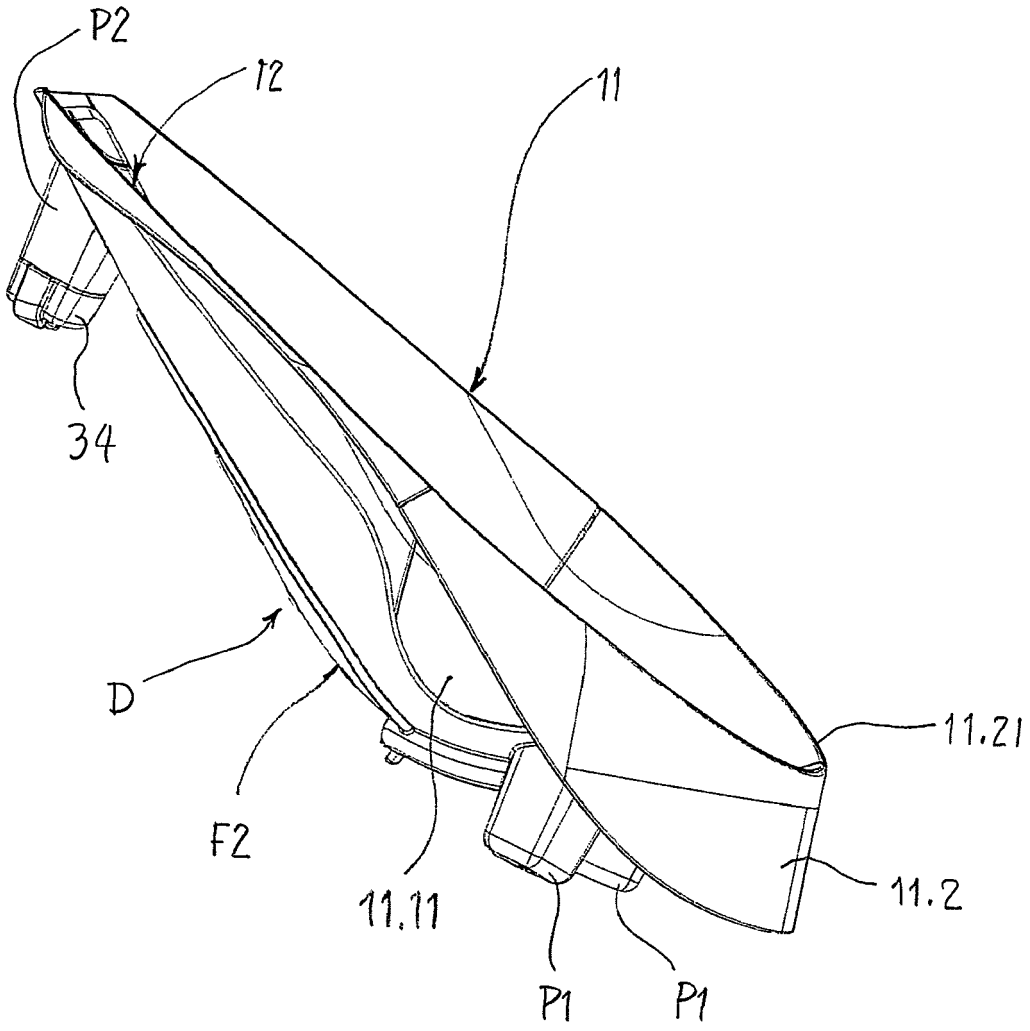

FIG. 5

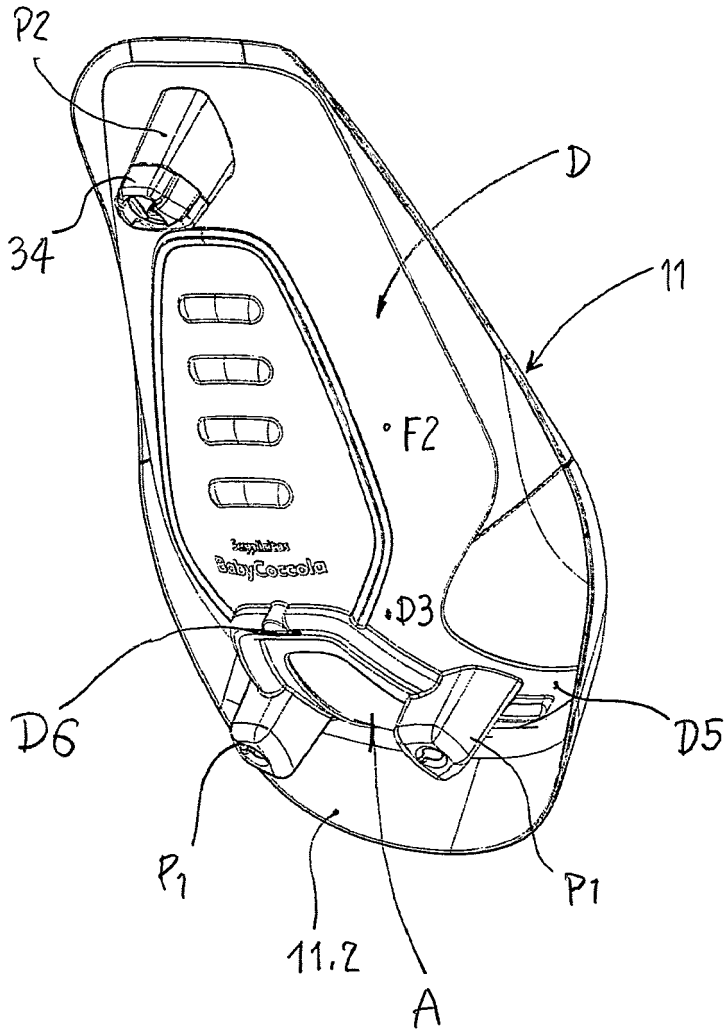

FIG. 6

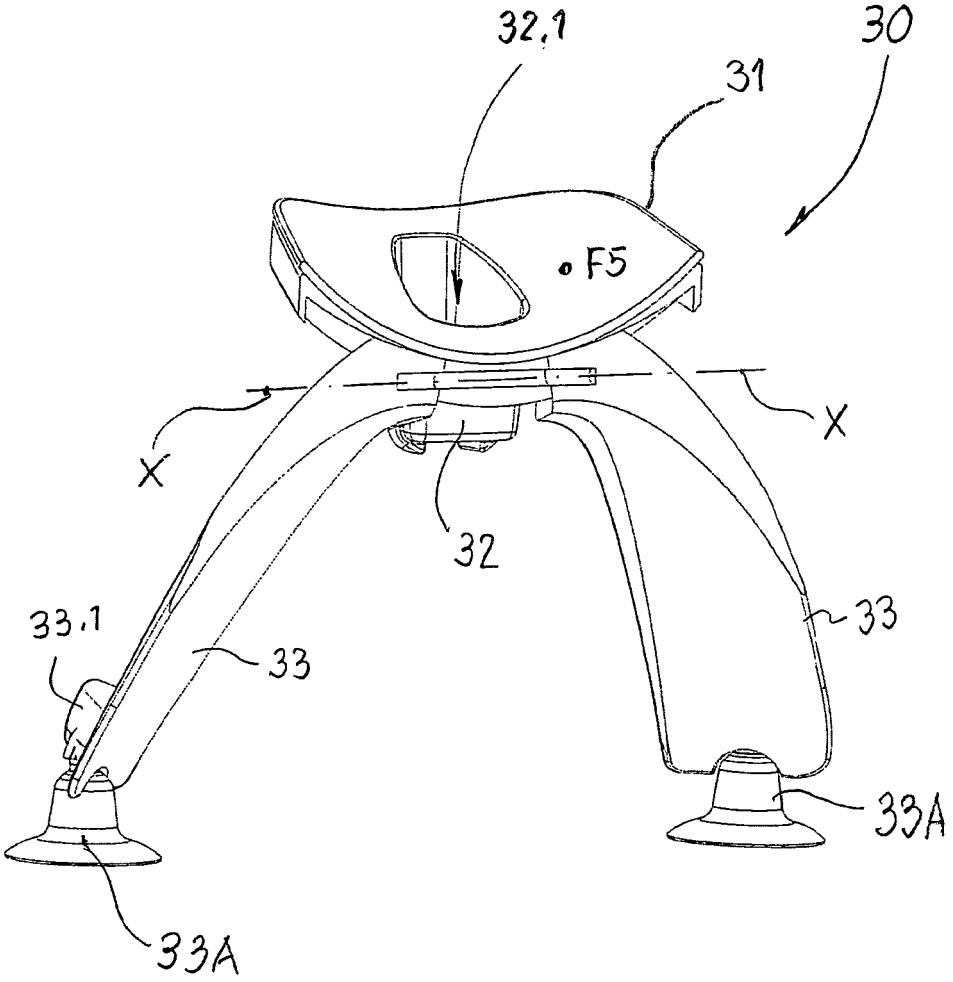

FIG. 7

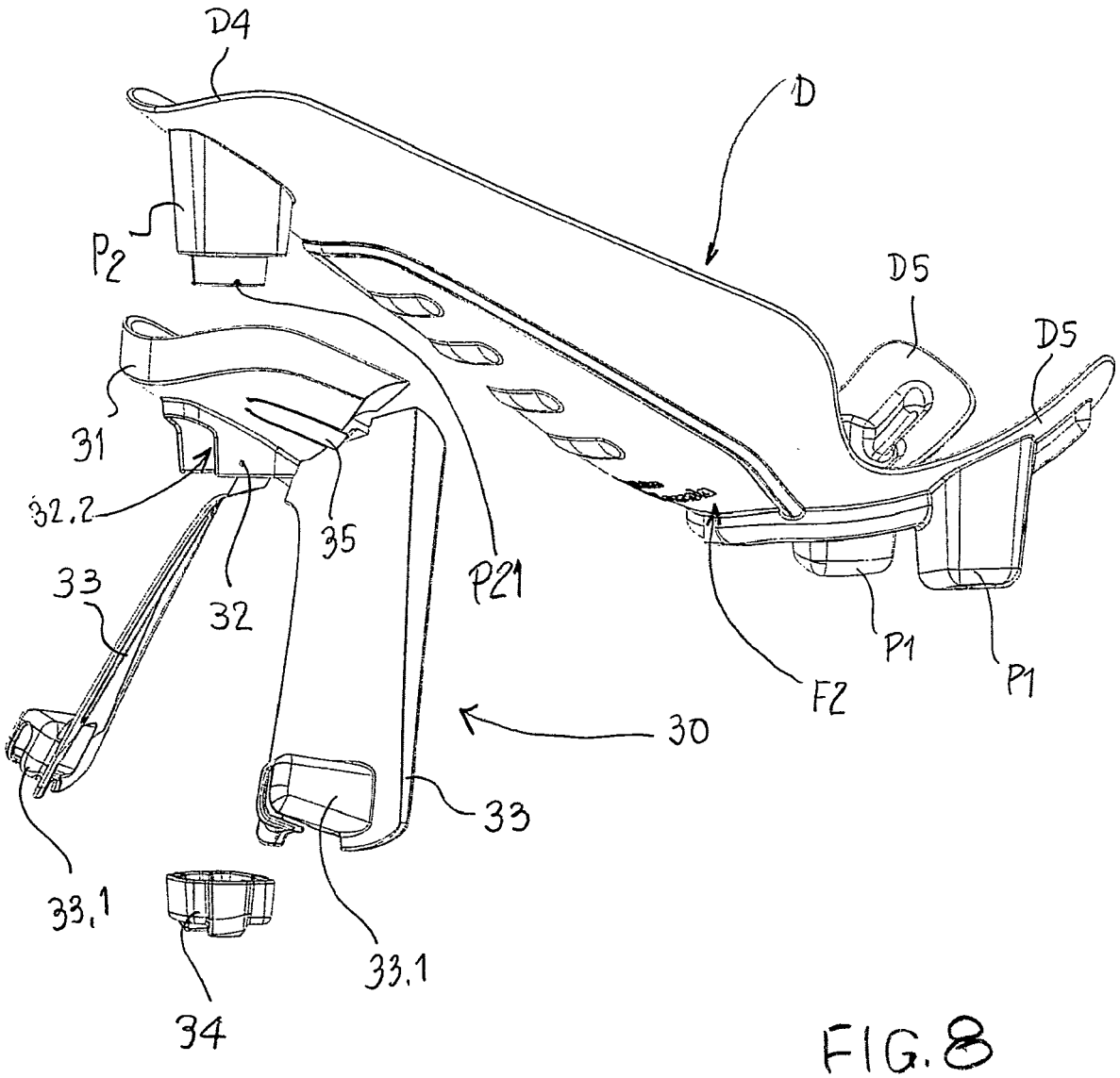

FIG.8

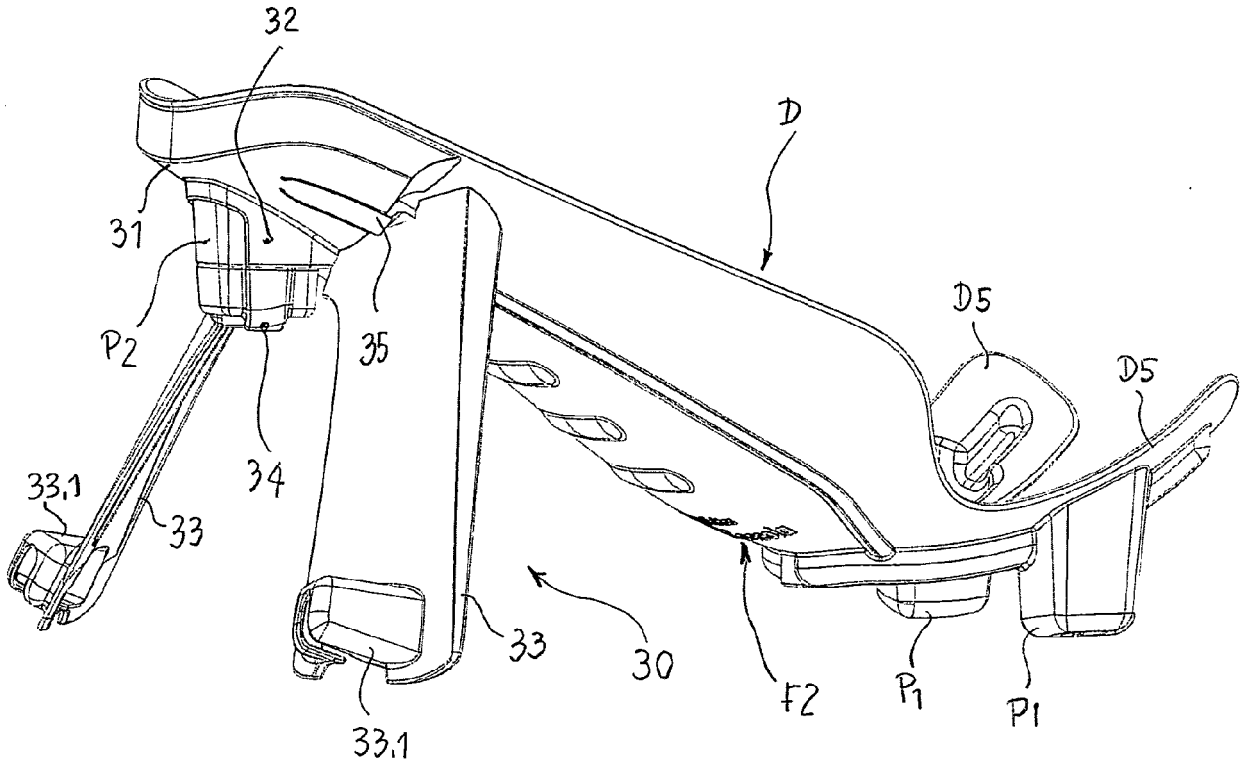

FIG. 9

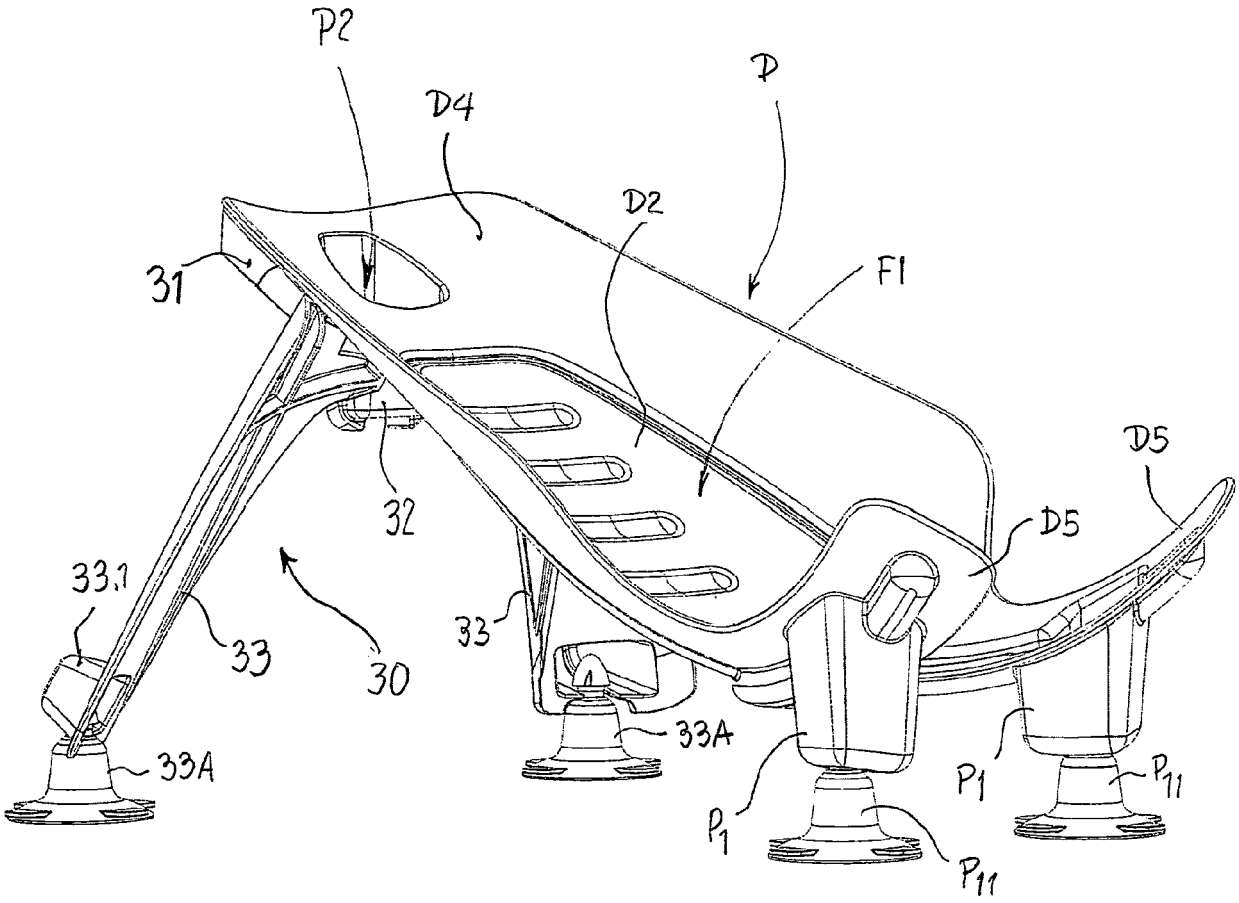

FIG. 10

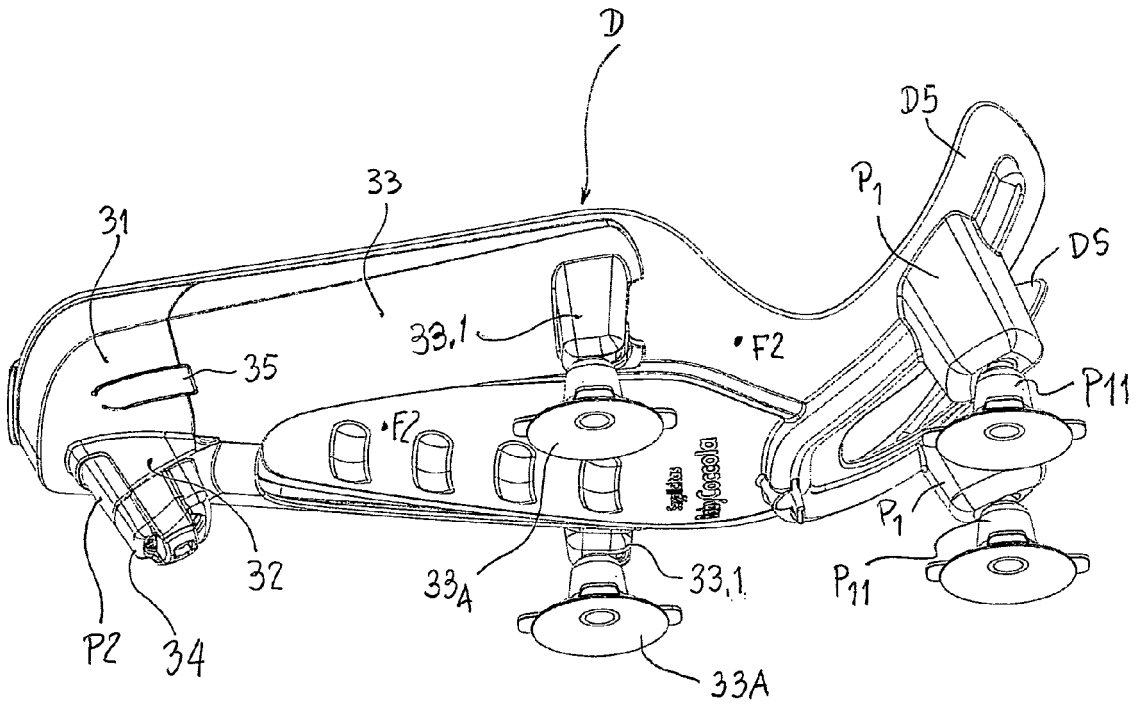

FIG. 11

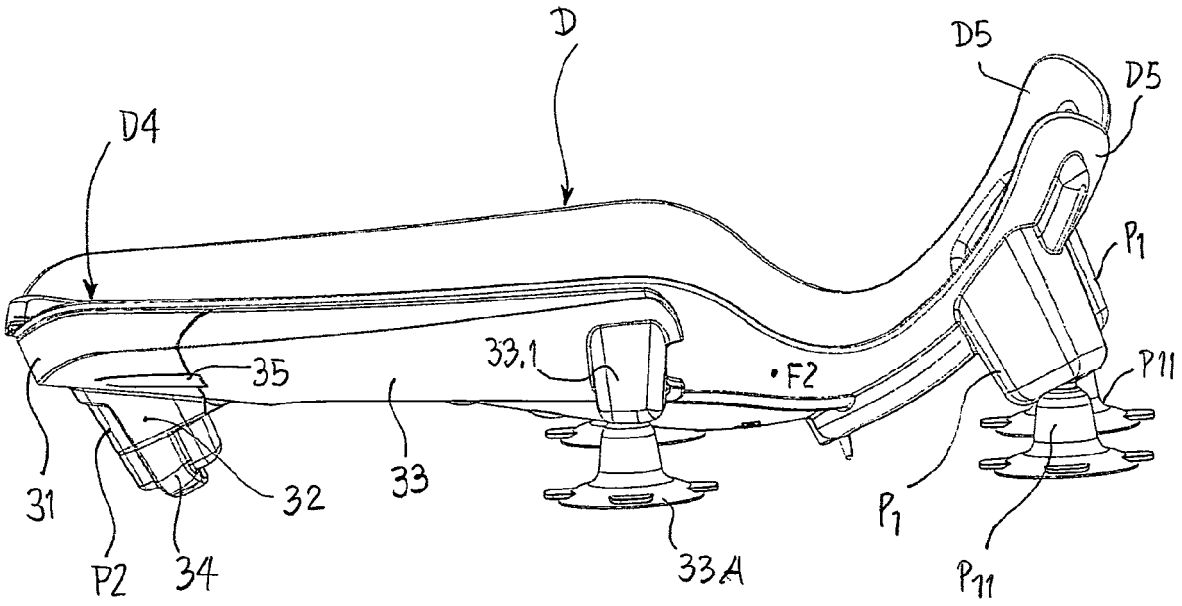

FIG. 12

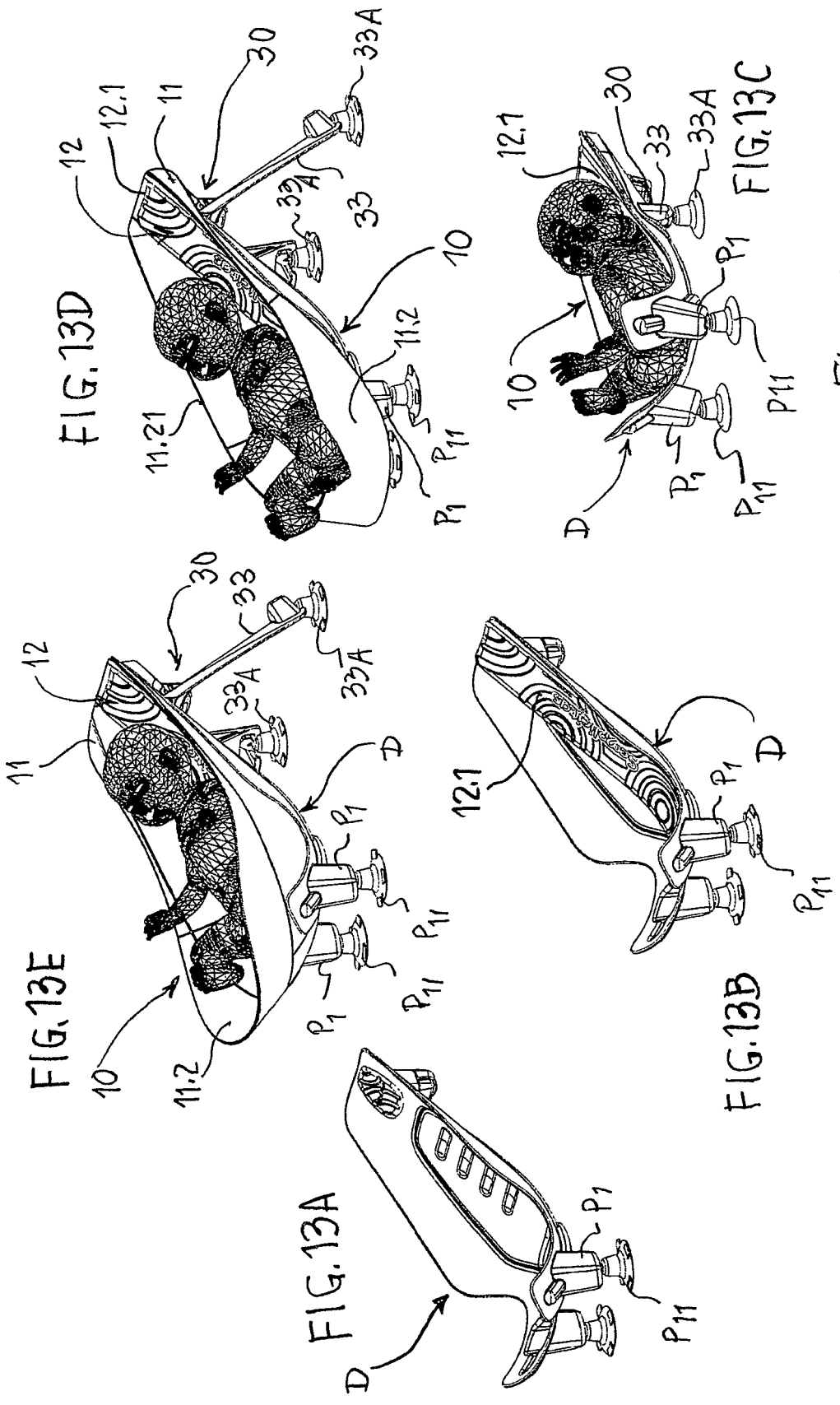
FIG.13
FIG.13A
FIG.13B
FIG.13C
FIG.13D
FIG.13E
D
P1
P11
10
11
11.2
11.21
12
12.1
30
33
33A

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EUROPEAN SEARCH REPORT

Application Number
EP 23 00 0057

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TECHNICAL FIELDS SEARCHED (IPC)

A47K

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22 August 2023	Boyer, Olivier

CATEGORY OF CITED DOCUMENTS

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22-08-2023

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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