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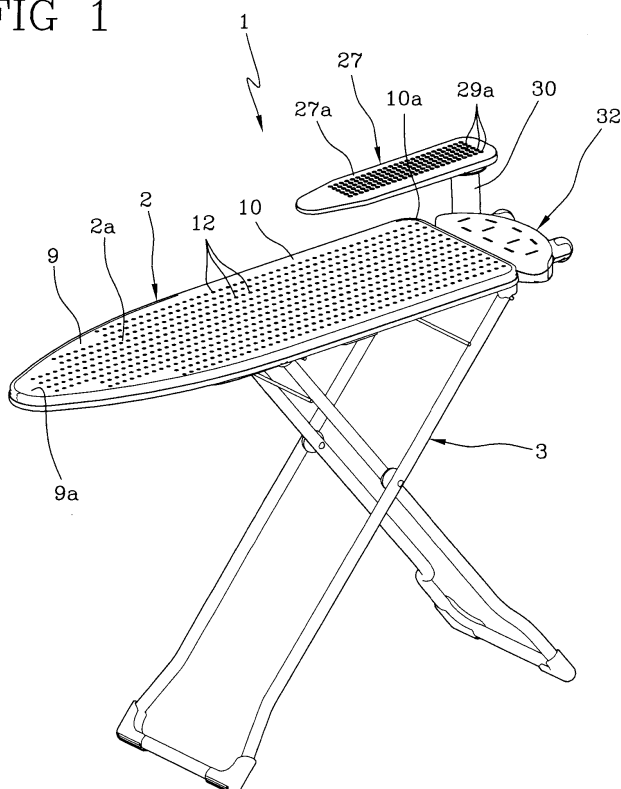
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(54) **An ironing board incorporating a ventilation device**

(57) A first and a second baffle (14, 15) are disposed in a distribution chamber (8) defined between an upper wall (5) and a lower wall (6) of an ironing table (2) in an ironing board and they define a rocking element oscillating over a ventilation opening (11a) connected with a ventilation unit (11). Upon command of an outer handle (20), the rocking element can oscillate between two op-

erating conditions in which the effect produced by the ventilation unit (11) is concentrated on a front portion (9) and a rear portion (10) of the ironing surface (2a), respectively. A sleeve board (27) can be selectively connected with the ironing table (2) at laterally opposite positions of the latter so as to enable use to both right-handed and left-handed persons.

FIG 1



EP 1 505 196 A1

Description

[0001] The present invention relates to an ironing board incorporating a ventilation device, of the type comprising the features set out in the preamble of claim 1.

[0002] In more detail, the invention pertains to an ironing board of the type mainly but not exclusively used in the domestic field and incorporating a ventilation device adapted to produce an air flow through the work surface on which the article to be ironed is laid.

[0003] It is known that ironing of articles of clothing, linens and the like is usually carried out with the aid of an iron equipped with means for steam delivery through suitable openings provided on the lower iron surface operating in contact with the article to be ironed.

[0004] Also required is the availability of a flat surface on which the article to be ironed must be laid down. For the purpose, a so-called ironing "board" is currently used which essentially comprises a table mounted on a framework resting on the floor and normally consisting of a pantograph mechanism allowing the board components to be folded down packwise in one or more planes disposed close to the table and in parallel relationship therewith, to enable stowing of the board itself in narrow spaces such as niches or gaps defined between a wall and a piece of furniture.

[0005] For better carrying out ironing of some articles of clothing, availability of an accessory element generally referred to as "sleeve board" can be useful; said sleeve board essentially comprises a shaped table of smaller sizes than the ironing board and adapted to be positioned over the latter in particular for the purpose of facilitating ironing of sleeves in shirt and the like.

[0006] In ironing boards of the best quality, a ventilation device is associated with the ironing table to allow creation of an air flow through the work surface. In particular, the ventilation device usually comprises a fan operating through an opening formed on the lower side of the ironing table and susceptible of being actuated upon command of the user depending on requirements, to suck or blow air in a distribution chamber defined within the ironing table itself between a lower side of the latter and the upper side thereof forming the ironing surface. Suitable perforations distributed on the extension of the ironing surface allow delivery or, vice versa, suction of the air therethrough.

[0007] Air suction through the ironing surface improves efficiency of the steam delivered by the iron, facilitating passage of said steam through the article being ironed. Air blowing through the ironing surface, in turn, is useful in order to facilitate positioning and spreading of the article to be ironed on the work surface, and to quickly eliminate humidity from the article of clothing at the end of the ironing action.

[0008] It is to be noted however that the presence of the ventilation device usually involves an important increase in the bulkiness and weight of the ironing board

as a whole. In fact, for obtaining an efficient ventilation effect over the whole ironing surface, use of a ventilation unit of suitable sizes and power is usually required.

[0009] The Applicant has also found that in embodiments for domestic use the sleeve board cannot be connected with the ventilation device associated with the ironing board. In addition, use of a ventilation unit still more powerful, bulkier and noisier would be required for obtaining an efficient sucking and/or blowing effect through the sleeve board too.

[0010] The present invention aims at overcoming the limits and drawbacks of the known art, in particular by proposing a technical solution enabling the ventilation efficiency to be increased in order to obtain a better ironing operation, and less bulky, powerful and noisy ventilation units to be used without impairing said ventilation efficiency.

[0011] In accordance with the present invention, the above aims and still others that will become more apparent in the progress of the present description can be brilliantly achieved by arranging deviating means in the distribution chamber so as to selectively direct the air flow produced by the fan either to the front portion alone or to the rear portion alone, or to both the front and rear portions of the ironing surface.

[0012] The Applicant in fact realised that, in most cases, only one of the front and rear portions of the work surface is really covered with the article of clothing to be ironed. In the known art, due to this circumstance, the sucking or blowing effect produced through the work surface not concerned with the article being ironed is uselessly dispersed and produces a minimum useful effect for ironing purposes.

[0013] The Applicant has identified and solved this problem by proposing, in accordance with the present invention, an ironing board incorporating a ventilation device having the features set out in the characterising portion of claim 1 and/or in one or more of the subsequent claims.

[0014] Further features and advantages will become more apparent from the detailed description of a preferred, but not exclusive, embodiment of an ironing device in accordance with the present invention. This description will be set out hereinafter with reference to the accompanying drawings, given by way of non-limiting example, in which:

- Fig. 1 is a perspective view of an ironing board in accordance with the present invention;
- Fig. 2a is a perspective view partly in split of the ironing table associated with the ironing board in reference, with the deviating means in a first operating condition;
- Fig. 2b is a perspective view similar to Fig. 2a, with the deviating means in a second operating condition;
- Fig. 3a is a section to an enlarged scale taken longitudinally of the ironing table and highlighting the

flow-deviating means in the first operating condition;

- Fig. 3b is a section to an enlarged scale taken longitudinally of the ironing table and highlighting the flow-deviating means in the second operating condition;
- Fig. 4 is a longitudinal section taken at the rear end of the ironing table.

[0015] With reference to the drawings, an ironing board in accordance with the present invention has been generally identified with reference numeral 1.

[0016] The ironing board 1 comprises an ironing table 2 having a work surface 3a at the upper part thereof, on which the articles of clothing to be ironed are laid down. Supporting legs 3 can be associated with the ironing table 2 and they are for example engaged with each other following a pantograph scheme to enable folding of said legs close to the ironing table when the ironing board 1 is to be stowed in a non-use condition. The pantograph connection scheme also allows the height of the ironing table to be adjusted, in a manner known by itself, to adapt it to the user's height.

[0017] Also associated with the ironing board 1 can be a steam-producing unit, not described or shown because it is not of importance to the aims of the invention, and adapted to be connected to an iron, not shown as well, to supply steam through said iron during the ironing operation.

[0018] As better seen from Fig. 2, the ironing table 2 has an upper wall 5 substantially extending in a horizontal plane and externally defining a work surface 2a, and a lower wall 6 substantially parallel to the upper wall 5 and disposed close thereto. The upper 5 and lower 6 walls are mutually interconnected by a peripheral framework 7 for example, so as to define a distribution chamber 8 internally of the ironing table 2.

[0019] In the ironing table 2 it is possible to identify a front portion 9 terminating with a tapering front end 9a and, on the opposite side, a rear portion 10.

[0020] A ventilation unit 11 is in engagement with the lower wall 6 at a substantially centred position between the front portion 9 and rear portion 10; said ventilation unit 11 operates through a ventilation opening 11a formed in the lower wall itself. In a manner known by itself, the ventilation unit 11 can be actuated upon command of the user to produce, through the distribution chamber 8, a sucked or blown air flow by means of suitable ventilation holes 12, only partly shown, that are distributed on the upper wall.

[0021] In accordance with the present invention, associated with the ironing table 2 is deviating means generally denoted at 13 and housed in the distribution chamber 8; said means can be selectively actuated upon a manual command by the user for example, to deviate the air flow produced by the ventilation unit 11 within the distribution chamber 8 itself. In particular the air flow that is blown or sucked by the ventilation unit can

be deviated between a first addressing condition in which the flow is mainly or exclusively present through the front portion 9 of the ironing table, and a second addressing condition in which the air flow is exclusively or mainly present through the rear portion 10.

[0022] The deviating means 13 advantageously comprises one or more baffles 14, 15, each of which lends itself to be brought to an operating position at which it converges towards the lower wall 6 to block the fluid communication between the ventilation opening 11a and a respective one of said front portion 9 or rear portion 10 of the ironing table 2.

[0023] In more detail, in a preferential solution a first baffle 14 is provided that is movable between a rest condition at which, as shown in Figs. 2b and 3b, it is substantially parallel to the lower wall 6 and spaced away therefrom, and an operating condition at which, as shown in Figs. 2a and 3a, it converges towards the lower wall itself and an end edge 14a of it is brought into contact or substantially into contact with said wall, to block the air passage from and towards the front portion 9 of the ironing table 2. Also provided is a second baffle 15 in turn movable between a rest condition at which, as shown in Figs. 2a and 3a, it is spaced apart in a parallel direction from the lower wall 6 and an operating condition at which, as shown in Figs. 2b and 3b, it converges on the lower wall itself and an end edge 15a of it is brought substantially into contact with the latter, to block the air flow from and towards the rear portion 11 of the ironing table 2.

[0024] Preferably, the first and second baffles 14, 15 are oscillatably in engagement with at least one cross-piece 16 fastened to the inside of the distribution chamber 8 and extending in a position spaced apart in a parallel direction from the lower wall 6 and substantially centred with respect to the ventilation unit 11, in a direction substantially perpendicular to the longitudinal extension of the ironing table 2. Baffles 14, 15 extend in opposite directions from the crosspiece 16, above the ventilation opening 11a and are hinged on the cross-piece 16 along respective hinging axes disposed in parallel side by side relationship.

[0025] The crosspiece 16 is borne, at the respective opposite ends, by two supporting blocks 17 rigidly linking it to the lower wall 6.

[0026] Baffles 14, 15 are operatively in engagement with at least one drive member 18 through which movements between the respective rest and operating conditions are imparted.

[0027] Preferably, the drive member 18 comprises at least one rod and, preferably, a pair of rods 19 extending parallel to the lower wall 6 and passing through the latter at a steplike projection 19a formed along the extension of the lower wall itself, at right angles to the longitudinal extension direction of the ironing table 2. Externally of the distribution chamber 8, the rods 19 engage a handle 20 and support it under the lower wall 6. On the opposite side with respect to handle 20 and internally of the dis-

tribution chamber 8, the rods 19 are connected with at least one guide element 21 preferably consisting of a substantially U-shaped plate provided with a base wall 22 slidably guided on the lower wall 6 and having a wide opening 22a. The opening 22a circumscribes the ventilation opening 11a and is wider than the latter, at least in the longitudinal extension direction of the ironing table 2.

[0028] Standing from the opposite longitudinal edges of the base plate 22 are two bulkheads parallel to each other and disposed close to the opposite side edges of the baffles 14, 15. The bulkheads 23 carry one or more cam elements 24 preferably defined by shaped grooves engaging respective projections 24a set on the side edges of said baffles 14, 15 to orientate the latter around the respective hinging axes on the crosspiece 16, following sliding of the guide element 21 longitudinally of the ironing table 2.

[0029] Advantageously, the bulkheads 23 define, together with each of baffles 14, 15, an entrance duct for air feeding from the ventilation opening 11a to the distribution chamber 8. The feeding duct 25 associated with each of baffles 14, 15 has a front outline substantially closed on four sides that are represented by the bulkheads 23, lower wall 6 and corresponding baffle 14 or 15 respectively, so as to determine a one-way addressing of the air flow towards the respective front 9 or rear 10 portions of the ironing table 2.

[0030] To improve the selective air-conveying effect through the front 9 or rear 10 portions of the ironing table 2, auxiliary bulkheads 26 can be further arranged; said auxiliary bulkheads 26 extend between the lower wall 6 and upper wall 5 in the extension of one or both the feeding ducts 25.

[0031] A sleeve board 27 can be also advantageously associated with the ironing board 2; said sleeve board 27 is internally provided with an auxiliary distribution chamber (not shown) defined between a lower portion 28 and an upper portion 29. The upper portion 29, at the upper part thereof, defines an auxiliary work surface 27a that is passed through by suitably-distributed auxiliary ventilation openings 29a. In engagement with the lower portion 28, preferably in a rotatable manner, is a tubular support 30 to be connected with the ironing table 2 in such a manner that the sleeve board 27 extends at an overhead position with respect to the work surface 2a of the ironing table itself.

[0032] Advantageously, the tubular support 30 has an end portion 30a bent at right angles to the major extension direction of the support itself, and adapted to be removably inserted in at least one coupling opening 31 associated with the ironing table 2 and communicating with the distribution chamber 8. In more detail, the coupling opening 31 is laterally defined in a box-shaped tailpiece 32 carried by a rear end 10a of the ironing table 2. The box-shaped tailpiece 32 preferably has an upper shell half 32a of one piece construction with the lower wall 6 of the ironing table 2 and a lower shell half 32b

coupled with the upper shell half 32a. The upper shell half 32a defines a rest surface for the iron when there are pauses during the ironing operation.

[0033] Extending ahead from the lower shell half 32b is a connecting portion 33 fastened to the lower wall 6 of the ironing table, which portion circumscribes a connecting opening present in the lower wall at the rear end 10a. The inner cavity defined between the upper 32a and lower 32b shell halves therefore communicates with the distribution chamber 8. The tubular support 30 in turn defines a connecting duct between the distribution chamber 8 and the auxiliary distribution chamber defined between the lower 28 and upper 29 portions of the sleeve board 27, so that the air-sucking or air-blowing effect may also reach the auxiliary work surface 27a, passed through by the respective auxiliary ventilation holes 29a.

[0034] Advantageously, the box-shaped tailpiece 32 has at least two distinct coupling openings 31 provided with respective closing covers 35 preferably hinged like doors and provided with respective return springs automatically causing closure of said openings in the absence of the tubular support 30 in the respective opening 31.

[0035] The coupling openings 31 are located at laterally opposite positions with respect to the longitudinal extension of the ironing table 2. This makes it possible to insert the end portion 30a of the tubular support 30 into either coupling opening 31, depending on whether the sleeve board 27 is wished to be positioned on the right or left side of the ironing table 2 to allow easy use of same both by right-handed and left-handed persons. In case of need, the sleeve board 27 can be also removed to make the space over the work surface 2a of the ironing table 2 completely clear.

[0036] During use of the ironing board 1, the user controls operation of the ventilation unit 11 so as to cause, depending on requirements, air suction or blowing through the work surface 2a and the auxiliary work surface 27a of the sleeve board 27, if present.

[0037] During ironing of articles of clothing that are not particularly large or in any case if the sucking or blowing effect is wished to be concentrated close to either one of the front 9 or rear 10 portions, the user may act on the command handle 20 to suitably orientate the first and second baffles 14, 15 depending on requirements. In more detail, when handle 20 is moved towards the front end 9a of the ironing table 2, as shown in Figs. 2b and 3b, the cam elements 24 set on the guide member 21 cause orientation of the first baffle 14 to the rest position and simultaneously orientation of the second baffle 15 to the operating position. Under this circumstance, fluid communication between the ventilation opening 11a and the rear portion 10 of the ironing table 2 is blocked by the presence of the second baffle 15 converging on the lower wall 6. Consequently, the air flow produced by the ventilation unit 11 is mainly or fully directed towards the front portion 9 of the ironing table 2,

through the entrance duct 25 defined between the first baffle 14, the side bulkheads 23 and the lower wall 6.

[0038] When handle 20 is on the contrary moved away from the front end 9a of the ironing table 2, as shown in Figs. 2a and 3a, the first baffle 14 is orientated to the operating condition while the second baffle 15 is orientated to the rest condition. Under this circumstance, fluid communication between the ventilation opening 11a and the front portion 9 of the ironing table 2 is blocked. Consequently, the air flow produced by the ventilation unit 11 is mainly or fully guided through the rear portion 10 of the ironing table 2 and through the sleeve board 27 connected with the rear end 10a.

[0039] Obviously, the user is able to connect handle 20 to any intermediate position between the two conditions described above so as to regulate the suction effect produced in the front portion 9 and rear portion 10 respectively of the ironing surface 2a, or to equitably distribute the ventilation effect over the whole ironing surface 2a.

[0040] The described solution in fact causes a simultaneous movement of the first and second baffles 14, 15 so that the latter in conclusion constitute a sort of rocking unit substantially oscillating on an axis extending transversely of the ironing table 2, over the ventilation opening 11a.

[0041] In addition, baffles 14, 15 protect the ventilation unit 11 against any undesirable introduction of water that may be produced by steam condensing when steam is sprayed from the iron through the upper wall 5.

[0042] The present invention achieves important advantages.

[0043] In fact, the possibility of selectively concentrating the ventilation effect at either one of the front 9 and rear 10 portions of the work surface 2a eliminates the useless dissipation of the sucking or blowing action on regions that are not really concerned with the ironing operation. Therefore improvements on the ventilation effect can be obtained even with use of smaller ventilation units that are therefore less bulky, noisy and expensive as compared with those required in the known art.

[0044] The possibility of concentrating the ventilation effect on the rear portion of the ironing table 2 also enables an efficient sucking or blowing action to be achieved on the sleeve board 27 as well, when there is a sleeve board associated with the ironing table. In addition, said sleeve board 27 can be disposed on either side of the ironing table 2 and therefore it can be used in an ergonomic manner by both right-handed and left-handed persons. The closing covers 35 remain alternately closed with respect to the mounting position of the sleeve board.

Claims

1. An ironing board incorporating a ventilation device, comprising:

- an ironing table (2) having an upper wall (5) defining a work surface (2a), a lower wall (6) disposed close to the upper wall (5) and a distribution chamber (8) defined between said lower (6) and upper (5) walls;
- a ventilation unit (11) operating through a ventilation opening (11a) formed in the lower wall (6) of the ironing table (2) to produce an air flow through ventilation holes (12) distributed on the upper wall (5);

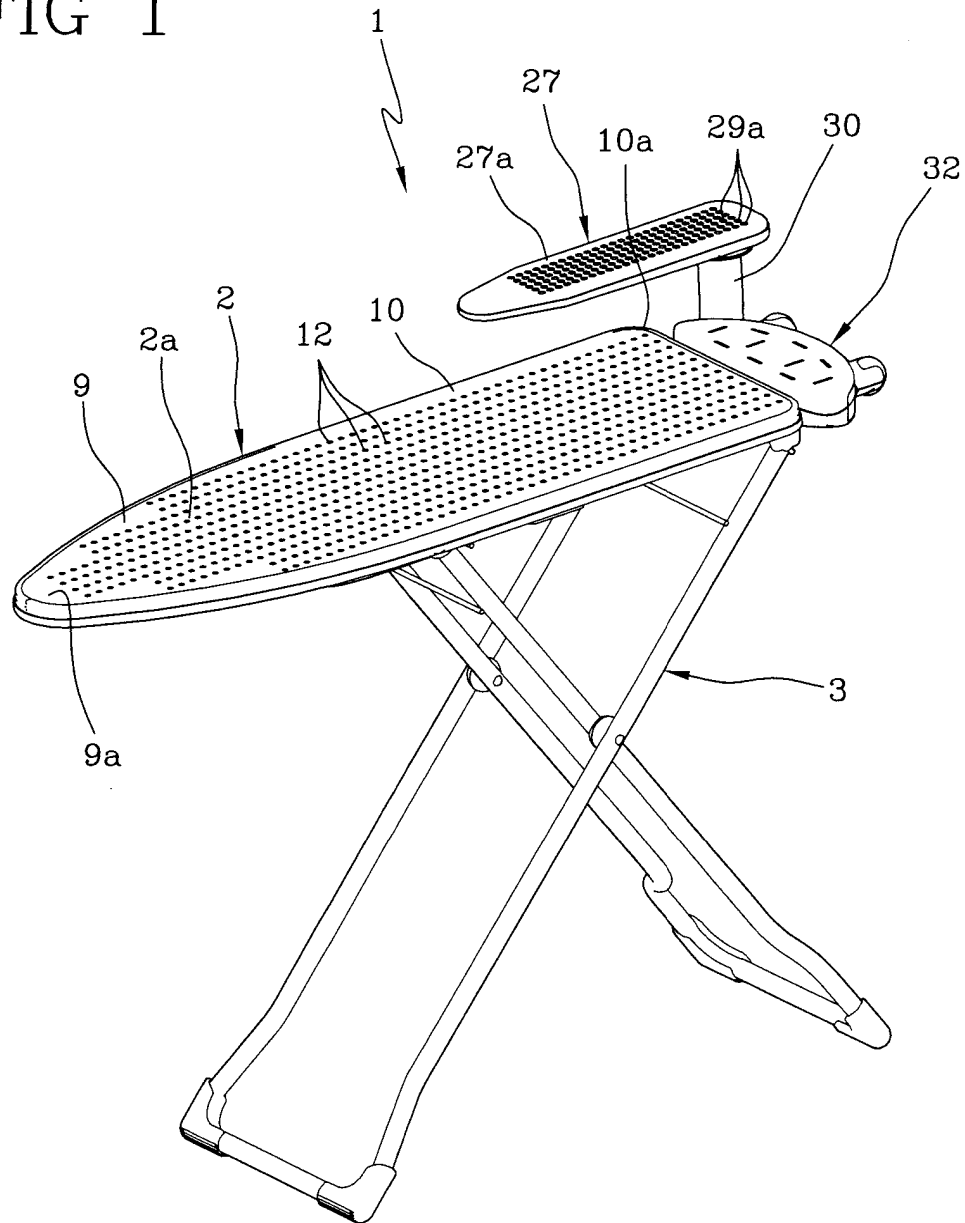
characterized in that it further comprises deviating means (13) housed in the distribution chamber (8) and selectively drivable to deviate the air flow produced by the ventilation unit (11) between a first addressing condition through a front portion (9) of the work surface (2a) and a second addressing condition through a rear portion (10) of the upper wall (5).

2. An ironing board as claimed in claim 1, wherein the deviating means (13) comprises at least one first baffle (14) movable towards an operating position at which it converges towards said lower wall (6) to block a fluid communication between the ventilation opening (11a) and one of said front (9) and rear (10) portions of the ironing surface (2a).
3. An ironing board as claimed in claim 2, wherein the deviating means (13) further comprises at least one second baffle (15) movable towards an operating position at which it converges towards said lower wall (6) to block a fluid communication between the ventilation opening (11a) and the rear portion (10) of the ironing surface (2a).
4. An ironing board as claimed in claim 3, wherein said first and second baffles (14, 15) are connected with each other to form a rocking assembly substantially oscillating on an axis extending transversely of the ironing table (2) over the ventilation opening (11a).
5. An ironing board as claimed in claim 3, wherein said baffles (14, 15) are oscillatably in engagement with a crosspiece (16) fastened to the inside of the distribution chamber (8), on respective hinging axes disposed close to each other and parallel.
6. An ironing board as claimed in claim 2, wherein said at least one first baffle (14) is connected with at least one drive member (18) slidably engaged through the ironing table (2).
7. An ironing board as claimed in claim 6, wherein said drive member (18) comprises at least one guide element (21) engaging said at least one first baffle (14) to move it to the operating condition following a translation of the drive member itself.

8. An ironing board as claimed in claim 6, wherein said guide element (21) comprises at least one cam element (24) operatively in engagement with said at least one baffle (14).
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9. An ironing board as claimed in claim 6, wherein said guide element (21) comprises two bulkheads (23) parallel to each other and disposed close to the opposite side edges of said at least one first baffle (14, 15) to define with the latter an entrance duct (25) for air feeding from the ventilation opening (11a) to the distribution chamber (8).
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10. An ironing board as claimed in claim 6, further comprising auxiliary bulkheads in the extension of the feeding duct (25) towards at least one end (9a, 10a) of the ironing surface (2a).
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11. An ironing board as claimed in claim 1, further comprising a sleeve board (27) to be connected with the ironing table (2) by means of a tubular support (30) defining a connecting duct between the distribution chamber (8) of the ironing table (2) and an auxiliary distribution chamber associated with said sleeve board (27).
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12. An ironing board as claimed in claim 11, wherein said tubular support (30) has an end portion (30a) for removable insertion into at least one coupling opening (31) associated with the ironing table (2) and communicating with the distribution chamber (8).
30
13. An ironing board as claimed in claim 12, comprising at least two of said coupling openings (31) disposed at laterally opposite positions with respect to the ironing table (2) and adapted to be individually engaged by the tubular support (30) of the sleeve board (27).
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14. An ironing board as claimed in claim 13, wherein a closing cover (32) is associated with each of said coupling openings (31).
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15. An ironing board as claimed in claim 12, wherein said at least one coupling opening (31) is formed in a box-shaped tailpiece (32) having a connecting portion (33) fastened to the lower wall (6) of the ironing table (2), at a rear end (10a) of said ironing table.
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FIG 1



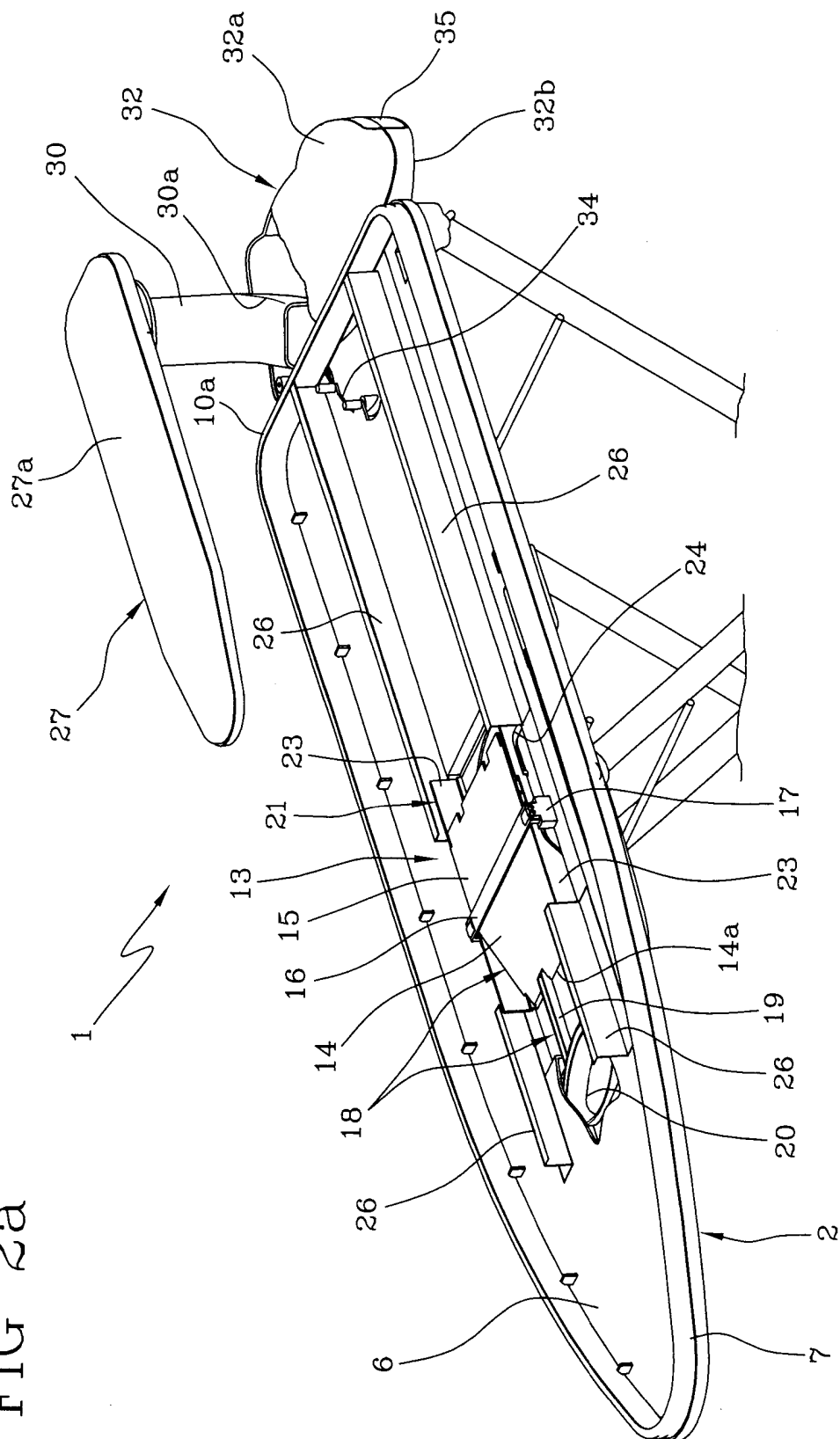


FIG 2a

FIG 2b

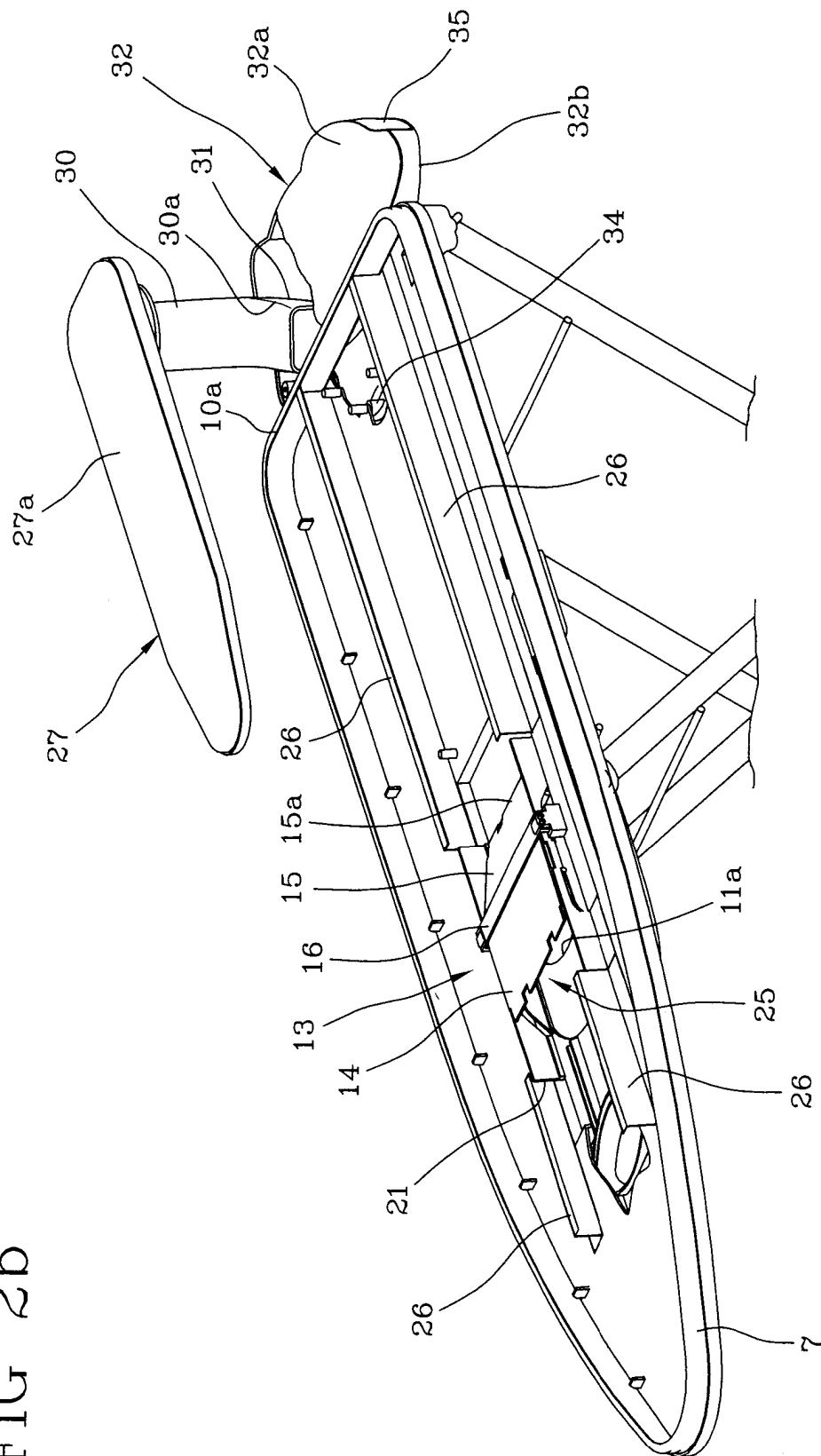


FIG 3a

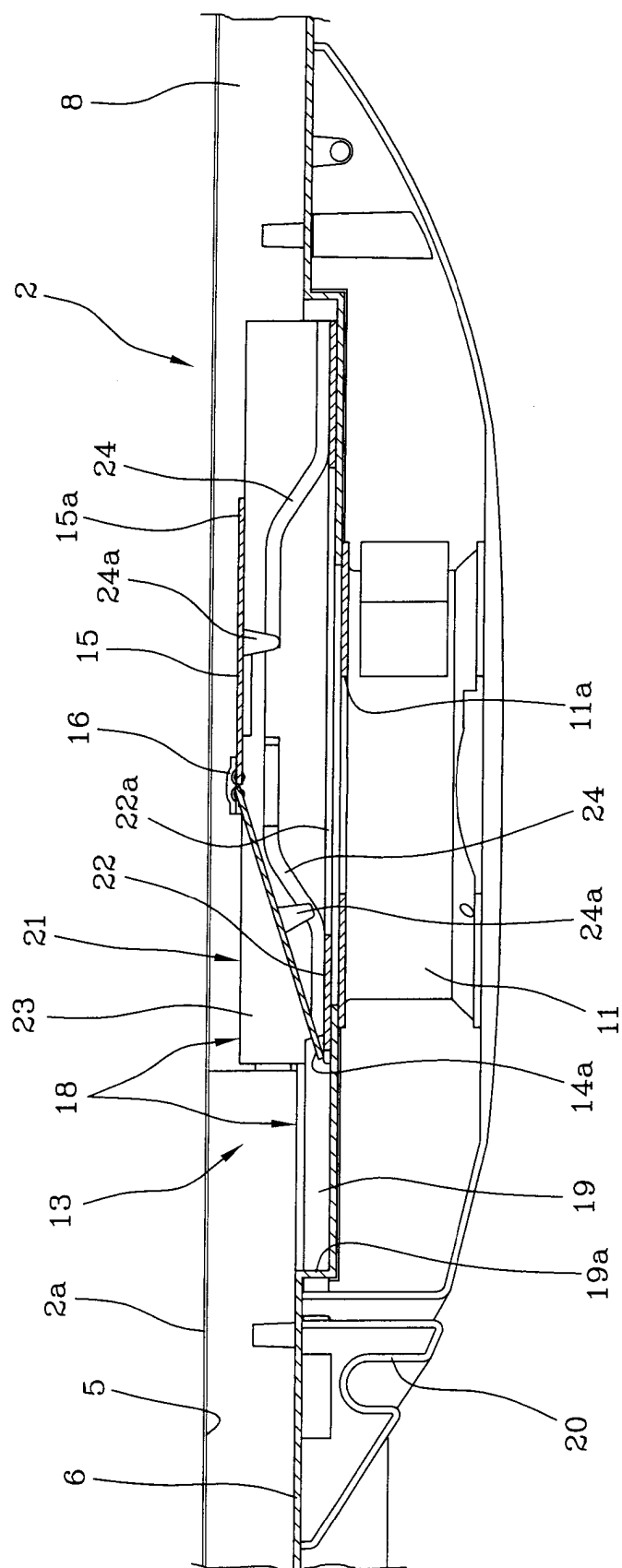


FIG 3b

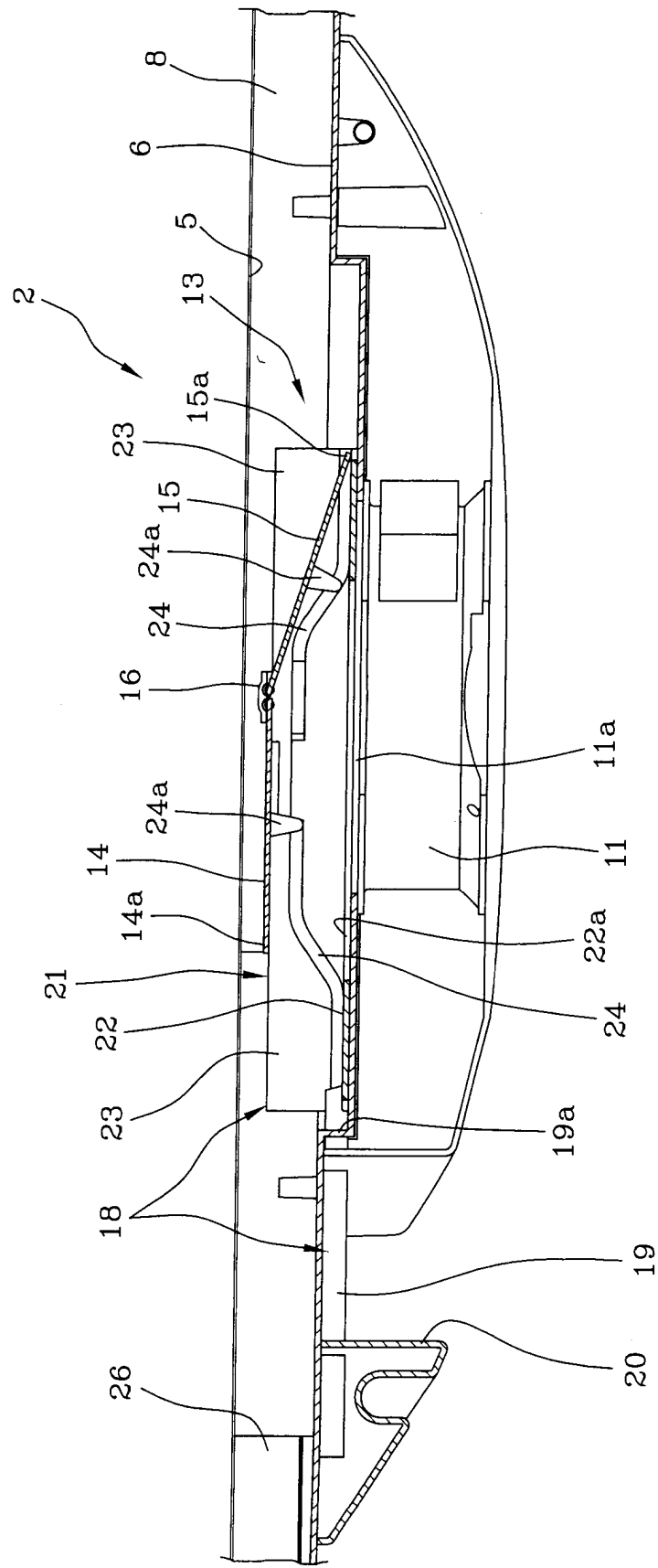
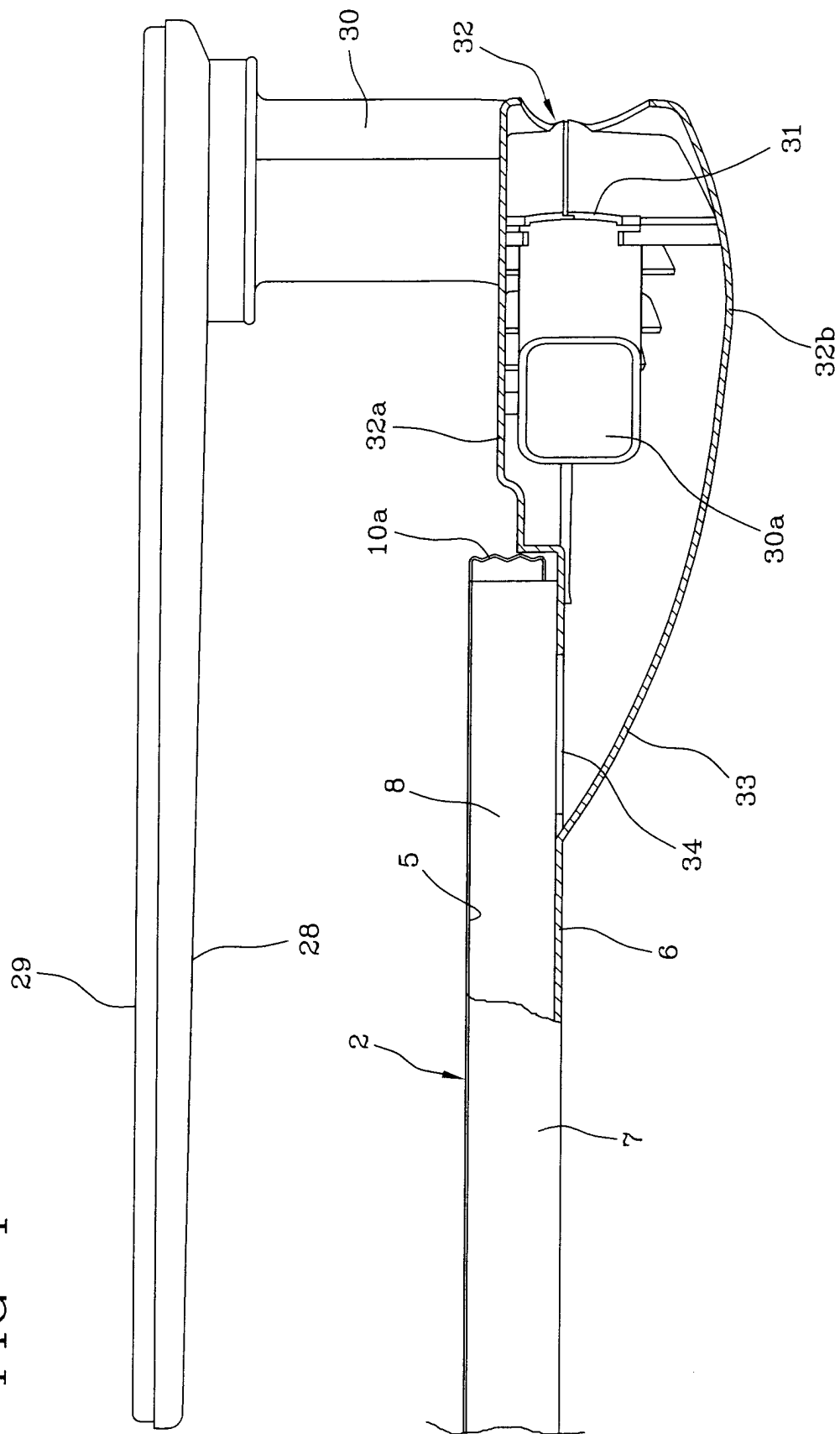


FIG 4





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EUROPEAN SEARCH REPORT

Application Number
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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		19 October 2004	Spitzer, B
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 04 10 3064

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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