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(54) **Steam iron**

Dampfbügeleisen

Fer à repasser à vapeur

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Description

FIELD OF THE INVENTION

[0001] The present invention concerns a steam iron comprising an ironing plate substantially pointed in shape, with steam seatings.

BACKGROUND OF THE INVENTION

[0002] Steam irons are known provided with a main body below which an ironing plate made of metal material is assembled, which is substantially pointed in shape.

[0003] Document WO-A-97174872 describes a steam iron, according to the preamble of claim 1.

[0004] The purpose of the present invention is to achieve a steam iron which allows the user to select one or more specific parts of the ironing plate from which to deliver the steam.

[0005] The Applicant has devised, tested and embodied this invention to overcome the shortcomings of the state of the art and to obtain these and other purposes and advantages.

SUMMARY OF THE INVENTION

[0006] The present invention is set forth and characterized in the main claim, while the dependent claims describe other characteristics of the invention or variants to the main inventive idea.

[0007] In accordance with the above purposes, a steam iron according to the present invention comprises a main body and an ironing plate made of metal material, substantially pointed in shape and arranged below the main body.

[0008] The ironing plate comprises a first steam seating, a second steam seating and valve means to distribute the steam, located between the two steam seatings, in order to selectively connect them.

[0009] The first steam seating has a substantially triangular profile and comprises, on the bottom, a plurality of through holes open towards the bottom, able to allow the steam to exit from the front portion of the ironing plate; the second steam seating comprises a central sector, into which the steam is able to be introduced by steam generating members normally provided in the main body, and two lateral sectors arranged specular with respect to a median longitudinal axis of the ironing plate, and provided with a plurality of through holes, able to allow the steam to exit from corresponding median-rear lateral portions of the ironing plate.

[0010] The valve means instead comprise a central body and a piston, the latter able to slide vertically inside the central body and commanded manually by a user, in order to define a first closed configuration of the valve means, wherein they allow the steam to exit only through the through holes of the first steam seating, and a second open configuration of the valve means, wherein they al-

low the steam to exit also through the through holes of the second seating.

[0011] In this way it is possible to select one or more portions of the ironing plate from which to deliver the steam.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] These and other characteristics of the present invention will become apparent from the following description of a preferential form of embodiment, given as a non-restrictive example with reference to the attached drawings wherein:

- fig. 1 is a lateral view, partly in section, of a steam iron according to the present invention;
- fig. 2 is a view from above and uncovered of the ironing plate of the steam iron in fig. 1;
- fig. 3 is a section from III to III of fig. 2;
- fig. 4 is a section from IV to IV of fig. 2;
- fig. 5 shows an enlarged detail of fig. 3.

DETAILED DESCRIPTION OF A PREFERENTIAL FORM OF EMBODIMENT

[0013] With reference to fig. 1, a steam iron 10 according to the present invention comprises a main body 11, and a pointed ironing plate 12, arranged below the main body 11. The latter can be of any known type.

[0014] The ironing plate 12 (figs. 2, 3 and 4) is made of metal material, such as for example stainless steel, anodised aluminium, titanium or other, and comprises a substantially plane lower surface 15, a first steam seating 16, a second steam seating 17, a distribution valve 18 and a cover 19 arranged on the opposite side with respect to the lower surface 15 and above the two seatings 16 and 17, in such a manner as to define, in cooperation with the latter, two distinct steam chambers, respectively front 20 and rear 21. The cover 19 also comprises a plurality of connectors, denoted generally by the reference number 40, to which the various steam generation members, electric members and other known members are connected, provided inside the main body 11 of the iron 10 according to the invention.

[0015] The ironing plate 12 also comprises, drowned therein, an electrical resistance 13, of a substantially known type, able to heat the lower surface 15 during the ironing operations.

[0016] The first seating 16 has a substantially triangular profile and comprises on the bottom a plurality of through holes 23 open towards the bottom, able to allow the steam contained therein to exit in correspondence with a front portion of the lower surface 15 of the ironing plate 12.

[0017] The second seating 17 comprises a central sector 25, into which the steam is introduced through the connectors 40, and two lateral sectors, respectively 26 and 27, arranged specular with respect to the median

longitudinal axis X of the ironing plate 12, and able to be selectively connected to the central sector 25 by means of the distribution valve 18.

[0018] The central sector 25 has a substantially rectangular profile and comprises a bottom surface provided with a plurality of pyramidal elements 29, able to increase the capacity for heat exchange thereof, and hence to improve the quality of the ironing done with the iron 10.

[0019] Each of the two lateral sectors 26 and 27 comprises, on its own bottom surface, a row of through holes 30, able to allow the steam contained therein to exit from a corresponding median-rear lateral portion of the ironing plate 12.

[0020] The distribution valve 18 is arranged between the two seatings 16 and 17, and comprises a central body 31 (fig. 5) and a piston 32, the latter able to slide vertically inside a mating sliding seating 33 provided in the central body 31, and selectively commanded, for example by means of a command button 34 positioned on the upper portion of the main body 11.

[0021] The central body 31 comprises a first pipe 35 and a second pipe 36.

[0022] The first pipe 35 intersects with the sliding seating 33 in correspondence with a tapered portion 38 of the latter, and is able to connect the central sector 25 of the second seating 17 to the first seating 16. The second pipe 36 also intersects with the sliding seating 33, but in a direction substantially perpendicular to the first pipe 35, and is able to connect the central sector 25 to the two lateral sectors 26 and 27.

[0023] To be more exact, the second pipe 36 intersects the sliding seating 33 at a greater distance from the lower surface 15 of the ironing plate 12 with respect to the first pipe 35, so that the two pipes 35 and 36 do not intersect, but are connected to each other only by a segment of the sliding seating 33.

[0024] The piston 32 comprises a terminal portion 37 shaped substantially like a truncated cone with sizes mating with those of the tapered portion 38 of the sliding seating 33, and is associated with a helical spring 39 able to govern the vertical movement thereof.

[0025] To be more exact, the commanded sliding of the piston 32 determines the selective configuration of the distribution valve 18 between a first closed position, wherein the helical spring 39 keeps the terminal portion 37 normally in cooperation with the mating tapered portion 38 of the sliding seating 33, so as to keep the first pipe 35 open and allow the passage of steam only from the central sector 25 to the first seating 16, and hence allow steam delivery exclusively from the front through holes 23; and a second open position, wherein the terminal portion 37 is detached from the tapered portion 38 so as to allow the passage of steam both through the first pipe 35 and also through the second pipe 36, and hence allow steam delivery also through the median-rear through holes 30.

[0026] In this way, by acting on the command button 34 during the normal ironing steps, the user can selec-

tively decide whether to deliver steam exclusively from the front portion of the ironing plate 12 or to deliver it also from the median-rear portion of the lower surface 15 of the ironing plate 12.

[0027] It is clear that, although the present invention has been described with reference to specific examples, a person of skill in the art shall certainly be able to achieve many other equivalent forms of steam iron, having the characteristics as set forth in the claims and hence all coming within the field of protection defined thereby.

Claims

1. Steam iron comprising a main body (11) and an ironing plate (12) made of metal material, substantially pointed in shape and arranged below said main body (11), said ironing plate (12) comprising a substantially plane lower surface (15), a first steam seating (16), a second steam seating (17) and whereby the user can selectively decide whether to deliver steam exclusively from the front portion or also from a median rear portion of said lower surface (15), **characterized by** a steam distribution valve means (18) arranged between said first steam seating (16) and said second steam seating (17), wherein said second steam seating (17) comprises a central sector (25), into which the steam is able to be introduced, and two lateral sectors, respectively (26, 27), arranged specular with respect to a median longitudinal axis (X) of said ironing plate (12), and able to be selectively connected to said central sector (25), wherein said steam distribution valve means (18) comprise a central body (31) and a piston (32), said piston (32) being able to slide vertically inside a mating sliding seating (33) provided inside said central body (31), and in that said central body (31) comprises a first pipe (35) intersecting with said sliding seating (33) in correspondence with a tapered portion (38) of said sliding seating (33), and able to connect together said central sector (25) of said second steam seating (17) and said first steam seating (16), and a second pipe (36), also intersecting said sliding seating (33), substantially perpendicular to the first pipe (35), and able to connect said central sector (25) to said two lateral sectors (26, 27),
2. Steam iron as in claim 1, **characterized in that** said second pipe (36) intersects said sliding seating (33) at a greater distance from said lower surface (15), with respect to said first pipe (35), so that the two pipes (35, 36) do not intersect each other.
3. Steam iron as in claim 1 or 2, **characterized in that** said piston (32) comprises a terminal portion (37) shaped substantially like a truncated cone and having sizes mating with those of said tapered portion (38) of said sliding seating (33), and is associated

with a helical spring (39), able to govern the vertical movement thereof.

4. Steam iron as in claim 3, **characterized in that** said steam distribution valve means (18) are able to be selectively configured between a first closed position, wherein said helical spring (39) keeps said terminal portion (37) normally in cooperation with said tapered portion (38), so as to keep said first pipe (35) open and allow the passage of steam only through said first pipe (35), and a second open position, wherein said terminal portion (37) is detached from said tapered portion (38), so as to allow the passage of steam both through said first pipe (35) and also through said second pipe (36).
5. Steam iron as in claim 1, **characterized in that** it comprises covering means (19) arranged above said first steam seating (16) and said second steam seating (17), so as to define therewith corresponding distinct steam chambers (20, 21).
6. Steam iron as in claim 1, **characterized in that** said first steam seating (16) has a substantially triangular profile and comprises on the bottom a plurality of through holes (23) open towards the bottom, able to allow the steam contained therein to exit from a front zone of said lower surface (15).
7. Steam iron as in claim 1, **characterized in that** said central sector (25) has a substantially rectangular profile and comprises a bottom surface provided with a plurality of pyramidal elements (29) able to increase the heat exchange capacity with said lower surface (15).
8. Steam iron as in claim 1, **characterized in that** each of said two lateral sectors (26, 27) comprises, on its own bottom surface, a plurality of through holes (30), able to allow the steam contained therein to exit from a corresponding median-rear lateral zone of said lower surface (15).

Patentansprüche

1. Dampfbügeleisen, aufweisend einen Hauptkörper (11) und eine aus einem Metallwerkstoff hergestellte Bügelplatte (12), die eine im Wesentlichen spitz zulaufenden Form aufweist und unter dem Hauptkörper (11) angeordnet ist, wobei die Bügelplatte (12) aufweist: eine im Wesentlichen ebene untere Fläche (15), eine erste Dampfaufnahme (16), eine zweite Dampfaufnahme (17), wodurch der Benutzer wahlweise entscheiden kann, ob Dampf ausschließlich aus dem vorderen Abschnitt oder auch aus einem mittleren hinteren Abschnitt der unteren Fläche (15) ausgegeben werden soll, **gekennzeichnet durch**

ein Dampfverteilungs-Ventilmittel (18), das zwischen der ersten Dampfaufnahme (16) und der zweiten Dampfaufnahme (17) angeordnet ist, wobei die zweite Dampfaufnahme (17) aufweist: einen zentralen Bereich (25), in den der Dampf einführbar ist, und jeweils zwei seitliche Bereiche (26, 27), die relativ zu einer mittleren Längsachse (X) der Bügelplatte (12) spiegelbildlich angeordnet sind und geeignet sind, wahlweise mit dem zentralen Bereich (25) verbunden zu sein, wobei das Dampfverteilungs-Ventilmittel (18) einen zentralen Körper (31) und einen Kolben (32) aufweist, wobei der Kolben (32) geeignet ist, vertikal in einer Gegen-Gleitaufnahme (33), die in dem zentralen Körper (31) vorgesehen ist, zu gleiten, und wobei der zentrale Körper (31) aufweist: ein erstes Rohr (35), das die Gleitaufnahme (33) in Verbindung mit einem verjüngten Abschnitt (38) der Gleitaufnahme (33) kreuzt und geeignet ist, den zentralen Bereich (25) der zweiten Dampfaufnahme (17) verbinden, und ein zweites Rohr (36), das ebenfalls die Gleitaufnahme (33) kreuzt, im Wesentlichen senkrecht zu dem ersten Rohr (35) ist und geeignet ist, den zentralen Bereich (25) mit den beiden seitlichen Bereichen (26, 27) zu verbinden.

2. Dampfbügeleisen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** das zweite Rohr (36) die Gleitaufnahme (33) relativ zu dem ersten Rohr (35) in einem größeren Abstand von der unteren Fläche (15) kreuzt, so dass die beiden Rohre (35, 36) einander nicht durchkreuzen.
3. Dampfbügeleisen gemäß Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Kolben (32) einen Endabschnitt (37) aufweist, der im Wesentlichen wie ein Kegelstumpf geformt ist und Abmessungen aufweist, die zu denen des verjüngten Abschnitts (38) der Gleitaufnahme (33) passen, und einer Schraubenfeder (39) zugeordnet ist, die geeignet ist, seine vertikale Bewegung zu steuern.
4. Dampfbügeleisen gemäß Anspruch 3, **dadurch gekennzeichnet, dass** das Dampfverteilungs-Ventilmittel (18) geeignet ist, wahlweise zwischen einer ersten Schließposition, in der die Schraubenfeder (39) den Endabschnitt (37) normalerweise in Zusammenarbeit mit dem verjüngten Abschnitt (38) hält, um das erste Rohr (35) offen zu halten und das Strömen von Dampf nur durch das erste Rohr (35) zuzulassen, und einer zweiten Offenposition, in welcher der Endabschnitt (37) von dem verjüngten Abschnitt (38) gelöst ist, um das Strömen von Dampf sowohl durch das erste Rohr (35) als auch durch das zweite Rohr (36) zuzulassen, konfiguriert zu werden.
5. Dampfbügeleisen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** es Abdeckungsmittel (19) auf-

weist, die über der ersten Dampfaufnahme (16) und der zweiten Dampfaufnahme (17) angeordnet sind, um damit korrespondierende unterschiedliche Dampfkammern (20, 21) zu definieren.

6. Dampfbügeleisen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die erste Dampfaufnahme (16) ein im Wesentlichen dreieckiges Profil aufweist und am Boden eine Mehrzahl von zu der Unterseite hin offenen Durchgangslöchern (23) aufweist, die geeignet sind, zuzulassen, dass der darin enthaltene Dampf aus einem vordere Bereich der unteren Fläche (15) austritt.
7. Dampfbügeleisen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der zentrale Bereich (25) ein im Wesentlichen rechteckiges Profil aufweist und eine untere Fläche aufweist, die mit einer Mehrzahl von pyramidenförmigen Elementen (29) versehen ist, die geeignet sind, die Wärmetauschfähigkeit mit der unteren Fläche (15) zu erhöhen.
8. Dampfbügeleisen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** jeder der beiden seitlichen Bereiche (26, 27) an seiner eigenen unteren Fläche eine Mehrzahl von Durchgangslöchern (30) aufweist, die geeignet sind, zuzulassen, dass der darin enthaltene Dampf aus einem jeweiligen mittleren, hinteren seitlichen Abschnitt der unteren Fläche (15) austritt.

Revendications

1. Fer à repasser à vapeur comprenant un corps principal (11) et une semelle de repassage (12) en métal, de forme sensiblement pointue et installée sous ledit corps (11), ladite semelle de repassage (12) comprenant une surface inférieure sensiblement plane (15), un premier réservoir de vapeur (16), un second réservoir de vapeur (17) et où l'utilisateur peut décider au choix de délivrer la vapeur par la seule partie avant ou bien aussi par une partie arrière médiane de ladite surface inférieure (15), **caractérisé par** une soupape de distribution de vapeur (18) installée entre ledit premier réservoir de vapeur (16) et ledit second réservoir de vapeur (17), ce dernier comprenant un secteur central (25) dans lequel peut être introduite la vapeur et deux secteur latéraux, respectivement (26, 27) installés en position spéculaire par rapport à l'axe longitudinal médian (X) de ladite semelle de repassage (12), et pouvant être reliés audit secteur central (25), dans lequel ladite soupape de distribution de vapeur (18) comprend un corps central (31) et un piston (32), ledit piston (32) pouvant coulisser verticalement à l'intérieur d'un siège coulissant correspondant (33) prévu à l'intérieur dudit corps central (31) et en ce que ledit corps central

(31) comprend une première conduite (35) venant croiser ledit siège coulissant (33) au niveau d'une partie conique (38) de celui-ci, et pouvant relier entre eux ledit secteur central (25) dudit second réservoir de vapeur (17) et ledit premier réservoir de vapeur (16), et une seconde conduite (36) croisant également ledit siège coulissant (33), sensiblement perpendiculaire à la première conduite (35), et pouvant relier ledit secteur central (25) auxdits deux secteurs latéraux (26, 27).

2. Fer à vapeur selon la revendication 1, **caractérisé en ce que** ladite seconde conduite (36) croise ledit siège coulissant (33) à une distance plus grande de ladite surface inférieure (15), comparativement à ladite première conduite (35), de sorte que les deux conduites (35, 36) ne se croisent pas entre elles.
3. Fer à vapeur selon la revendication 1 ou 2, **caractérisé en ce que** ledit piston (32) comprend une partie terminale (37) sensiblement en forme de cône tronqué et dont les dimensions correspondent à celles de ladite partie conique (38) dudit siège coulissant (33), et est associé à un ressort hélicoïdal (39) apte à gérer son mouvement vertical.
4. Fer à vapeur selon la revendication 3, **caractérisé en ce que** ladite soupape de distribution de vapeur (18) peut être configurée au choix entre une première position fermée, où ledit ressort hélicoïdal (39) maintient normalement ladite partie terminale (37) en coopération avec ladite partie conique (38) de sorte que ladite première conduite (35) reste ouverte et permette à la vapeur de passer uniquement par celle-ci, et une seconde position ouverte où ladite partie terminale (37) est détachée de ladite partie conique (38) de manière à permettre à la vapeur de passer à la fois par ladite première conduite (35) et ladite seconde conduite (36).
5. Fer à vapeur selon la revendication 1, **caractérisé en ce qu'il** comprend un capot (19) placé au-dessus dudit premier réservoir de vapeur (16) et dudit second réservoir de vapeur (17), de manière à définir avec ceux-ci des chambres de vapeur distinctes correspondantes (20, 21).
6. Fer à vapeur selon la revendication 1, **caractérisé en ce que** ledit premier réservoir de vapeur (16) présente un profil sensiblement triangulaire et comporte au fond une pluralité de trous traversants (23) ouverts vers le bas, permettant à la vapeur contenue à l'intérieur de sortir par une zone avant de ladite surface inférieure (15).
7. Fer à vapeur selon la revendication 1, **caractérisé en ce que** ledit secteur central (25) présente un profil sensiblement rectangulaire et comporte une surface

de fond dotée d'une pluralité d'éléments pyramidaux (29) aptes à augmenter la capacité d'échange de chaleur avec ladite surface inférieure (15).

8. Fer à vapeur selon la revendication 1, **caractérisé en ce que** chacun desdits deux secteurs latéraux (26, 27) comporte, sur sa propre surface de fond, une pluralité de trous traversants (30) permettant à la vapeur contenue à l'intérieur de sortir par une zone latérale médiane arrière correspondante de ladite surface inférieure (15). 5 10

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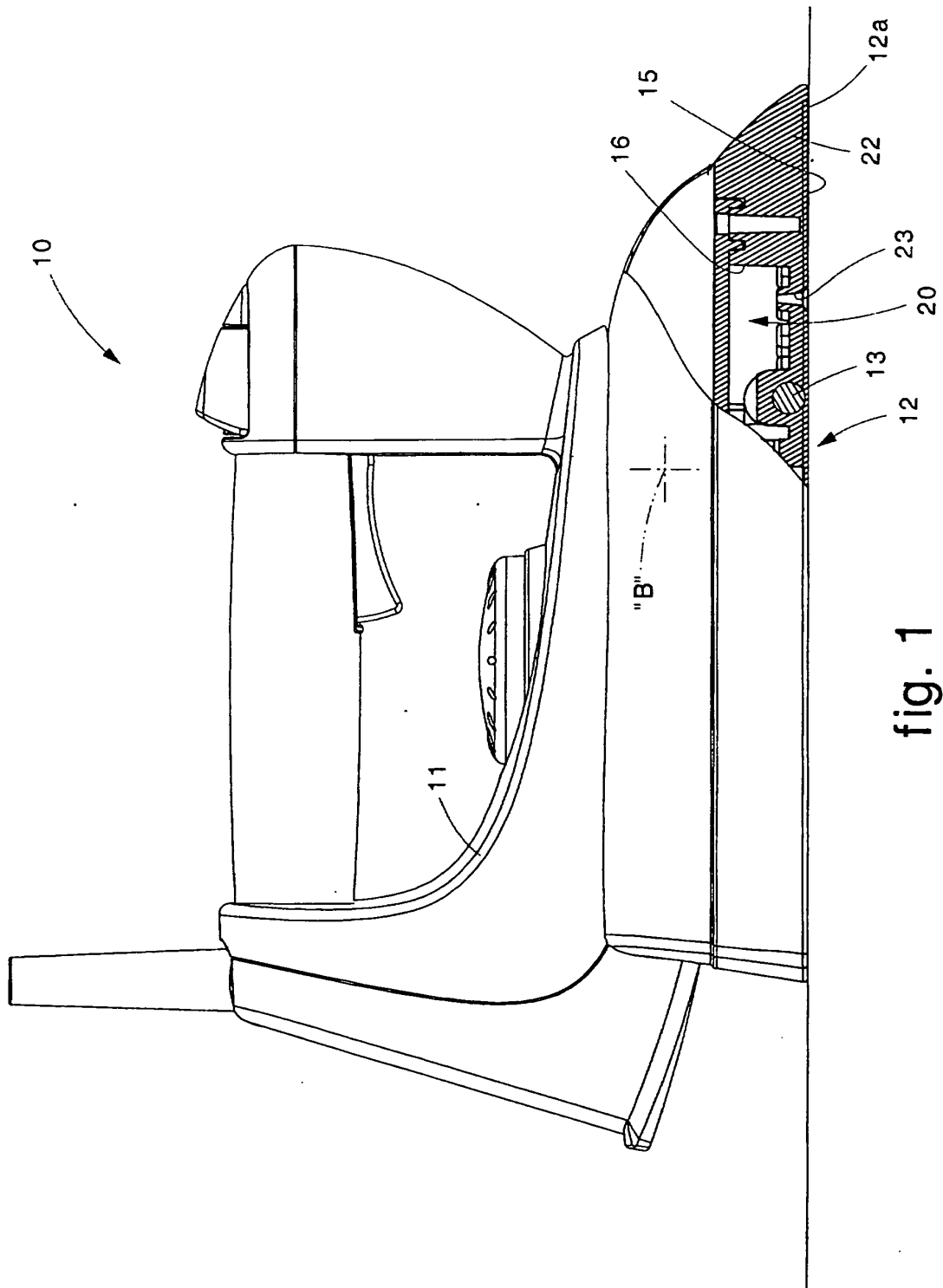
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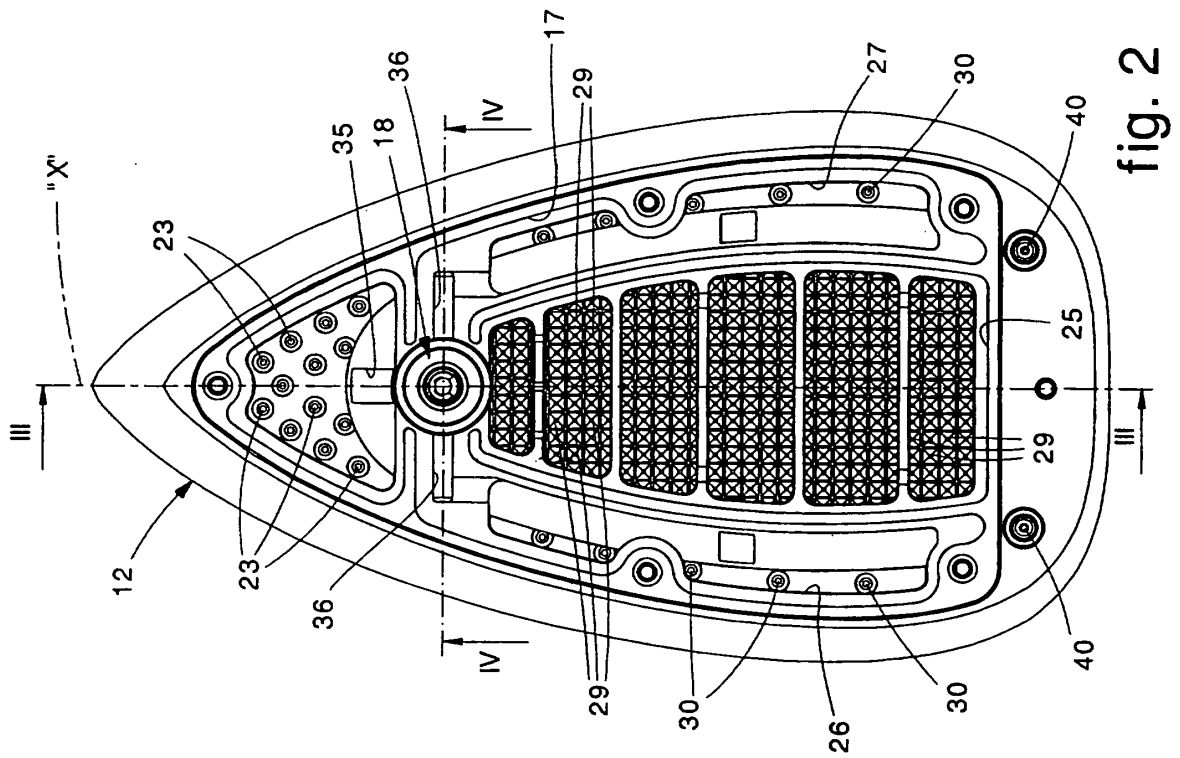


fig. 2

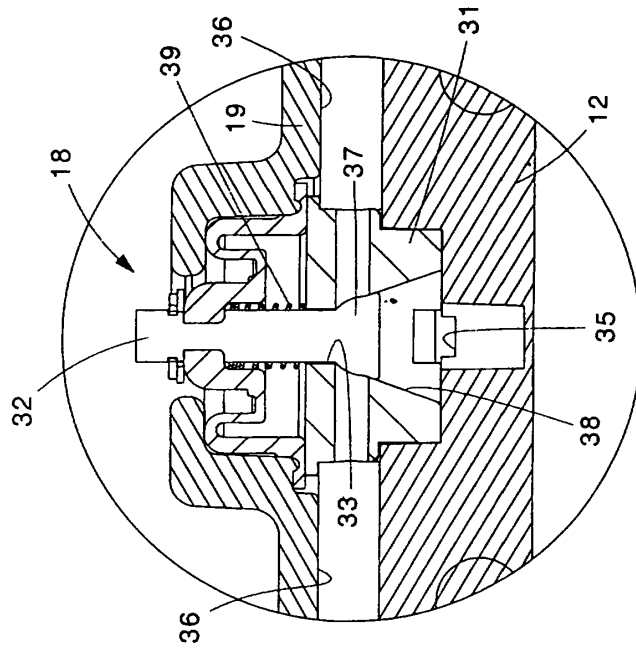
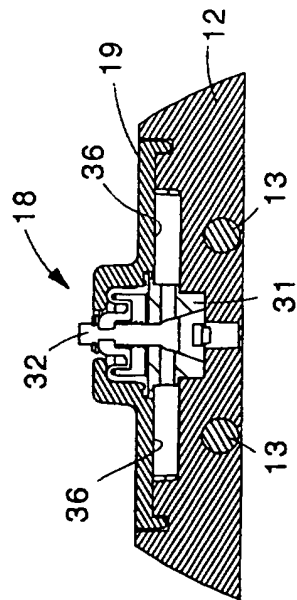
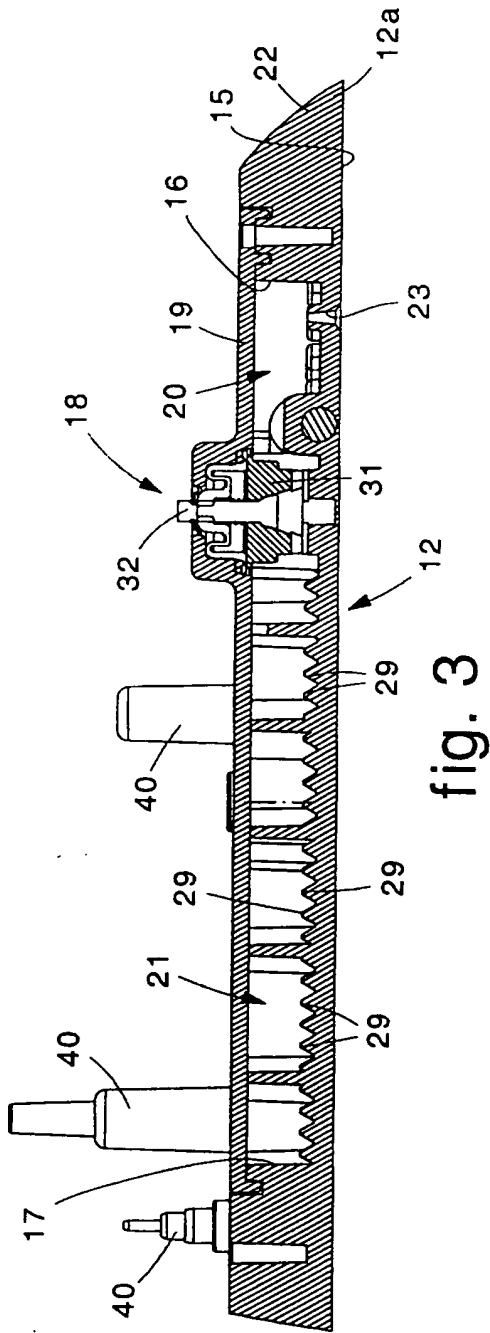


fig. 5



REFERENCES CITED IN THE DESCRIPTION

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