

Description**Brief Description of the Drawings**

Technical Field

[0006]

[0001] This present invention belongs to and relates to clothing ironing equipment, and in particular, to a split type easily-handling steam iron and a locking structure thereof.

5 FIG. 1 is a schematic diagram of an iron of the invention;

FIG. 2 is a schematic diagram of a base of the invention;

Background Art

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FIG. 3 is a schematic diagram of a locking structure in a locking state of the invention;

[0002] On the market today, irons of split type steam irons are directly placed at the top of bases in general. The irons are not limited in degree of freedom in all directions, and let alone lock them on the bases for integrated handling. As a result, these products may be handled by picking up their bases with both hands, thus bringing much inconvenience and many risks, for example, the hands are burned by the bottom plates of the irons, and the irons are fallen off in the process of handling, etc.

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FIG. 4 is a schematic diagram of a locking structure in an unlocking state of the invention;

[0003] Based on the above shortcomings, a number of engineering technicians improve the irons. A patent literature with a publication number of CN202359423U discloses a locking structure of a steam iron. A rear cover of the iron leans against an upper cover of a steam base, then a movable pin is pressed by a bottom plate of the steam iron, and finally a head end of the iron is screwed into a hook and the movable pin resets to lock the edge of the iron so as to lock the head and tail ends of the iron in the steam base. The iron can be swirled in a reverse direction and taken out by pressing an unlock button when the movable pin retracts into the steam base. The design in this manner has defects. Users must rotate the cumbersome iron, so that the operation has high strength and is inconvenient. In addition, the bottom plate may be scratched by the movable pin.

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FIG. 5 is a schematic disintegrated diagram of the locking structure as shown in FIG. 3 and FIG. 4;

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FIG. 6 is a schematic sectional diagram of the locking structure in the locking state as shown in FIG. 3 and FIG. 4;

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FIG. 7 is a schematic sectional diagram of the locking structure in the unlocking state as shown in FIG. 3 and FIG. 4; and

FIG. 8a to FIG. 8d are schematic diagrams for process of placing the iron in the base and locking, wherein FIG. 8a is a schematic diagram that the locking structure is in the locking state and the iron is not placed in the base, FIG. 8b is a schematic diagram that the locking structure is in the unlocking state and the iron is not placed in the base; FIG. 8c is a schematic diagram that the locking structure is in the unlocking state and the iron is placed in the base; and FIG. 8d is a schematic diagram that the iron is locked in the base by the locking structure.

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Summary of the Invention

[0004] The technical problem to be solved in the present invention is to overcome existing split type easily-handling steam irons' defects of inconveniently operating and easily scratching bottom plates, and the technical mission proposed in the present invention is to provide a split type easily-handling steam iron that has a simple structure, is easy to operate and reduces damage to its bottom plate, and a locking structure thereof.

40 Description of marks in figures:

[0007]

[0005] The invention purpose is achieved by the specific locking structure. The locking structure comprises a reversible handle and a slide lock touched by the handle. The front end of the iron is locked on the base or unlocked from the base by the slide lock in a manner of turning over the handle. The iron needs not to rotate in the course of locking or unlocking, which is convenient to operate. In addition, the bottom plate is not scratched due to locking or unlocking actions when taking out or putting the iron.

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01-iron,
11-concave portion, 12-bottom plate, 13-handle, 14-gap;
02-base,
21-placing position, 22-convex portion, 23-locking structure, 24-rib, 25-protective edge;
50 231-handle, 231a-bias portion;
232-slide lock, 232a-fastener, 232b-accomodating portion, 232c-convex edge;
233-reset spring;
234-mounting base, 234a-sliding chute;
55 235-pressing cover;
236-pin.

Detailed Description of Preferred Embodiments

[0008] The present invention is to be described for details hereunder by reference to the drawings of the description.

[0009] A split type easily-handling steam iron according to the invention comprises an iron 01 and a base 02. The iron (see FIG. 1) is gradually uplifted from front to back. A concave portion 11 is arranged at the rear end of the iron 01, a bottom plate 12 is arranged at the bottom of the iron 01, and a handle 13 is arranged at the top of the iron 01. The top of the base (see FIG. 2) is provided with a placing position 21. A convex portion 22 capable of extending into the concave portion 11 at the rear end of the iron is arranged at the rear end of the placing position 21. The base 02 is internally provided with a water tank, an electromagnetic pump, a boiler and an electromagnetic valve for heating water. The iron 01 is connected to the base 02 via a pipeline to obtain wet steam and reheats the wet steam to obtain dry steam or superheated steam.

[0010] According to the invention, the split type easily-handling steam iron has the characteristics as follows: a locking structure 23 is arranged at the portion of the base 02 located at the front end of the placing position 21 (the locking structure is the locking structure of the split type easily-handling steam iron as required to be protected in the invention; the locking structure is the part of the steam iron and will be detailed when the steam iron is described thereafter, and thus it is not repeated any more). The locking structure 23 (see FIG. 3-7) comprises a reversible handle 231 and a slide lock 232 touched by the handle 231. The front end of the iron 01 is locked on the base 02 (in a locking position) or unlocked from the base (in an unlocking position) by the slide lock 232 in a manner of turning over the handle 231.

[0011] In case the iron 01 is about to be locked by users, the handle 13 is held by a hand to put the iron 01 in the placing position 21 (see FIG. 8c) of the base 02 only if the locking structure 23 is in the unlocking position (see FIG. 8b), then the convex portion 22 of the base 02 extends into the concave portion 11 at the rear end of the iron 01, and the front end of the iron is locked on the base 02 by the slide lock 232 in the manner of turning over the handle 231 (see FIG. 8d). In this way, both the front end and the rear end of the iron 01 are combined with the base 02 together, so that the overall product may be handled as long as the users lift up the handle 13 of the iron, which is convenient and reliable. In case the iron is about to be taken down from the base, the slide lock is unlocked through turning over the handle, and the handle is held by the hand to lift up the iron (see FIG. 8a).

[0012] As for further improvement and supplement of the above technical scheme, the following additional technical characteristics are further contained in the invention. Although all additional technical characteristics are contained in figures and are the preferred embodiments of the invention, the invention is not limited to this

situation. The additional technical characteristics will be selected and used for the technical scheme as stated in the superior segment according to specific roles when employing the invention.

[0013] Firstly, the slide lock 232 is provided with a fastener 232a (See FIG. 3-7) pressing at the front end of the iron 01 to achieve locking. Or, a gap 14 is arranged at the upper side of the bottom plate (see FIG. 1). The slide lock 232 is provided with the fastener 232a extending into the gap 14 and pressing on the bottom plate 12 to achieve the locking. In general, the width of the gap 14 should be 2-10mm under conditions of ensuring the structure strength and not increasing the size. On this basis, an accommodating portion 232b capable of accommodating the front end of the iron or the front end of the bottom plate is arranged at the lower side of the fastener 232a (see FIG. 3-4, 6-7). The fastener 232b is in a shape of matching with the front end of the iron or the gas (bending shape as shown in FIG. 3-5).

[0014] Secondly, the handle 231 is provided with a bias portion 231a (see FIG. 5-7) driving the slide lock 232 close to the iron 01 to achieve the locking (in the locking position as shown in FIG. 6) or providing a space for the slide lock 232 to separate from the iron 01 to achieve the unlocking (in the unlocking position as shown in FIG. 7) when the handle 231 is being turned over. The bias difference of the bias portion is 2-30mm (the bias difference is the difference value between the maximum distance and the minimum distance from the external profile of the bias portion to the axis of a pin 236) under the conditions of ensuring the structure strength and not increasing the size, and limits the slide distance of the slide lock 232. The handle 231 is turned at an angle of 45-270°, and the locking is achieved when the handle 231 is turned over to close up on the base 02, thereby avoiding the handle unlocking accidentally due to collision.

[0015] Thirdly, the slide lock 232 is acted by the reset spring 233 applying the elastic force to separate the slide lock 232 from the iron (in a direction of unlocking position), so that the slide lock 232 may automatically separate from the iron under the function of the reset spring 233.

[0016] Fourthly, see FIG. 5, the slide lock 232 slides by putting a convex edge 232c into a paired sliding chute 234a, and the convex edge 232c and the paired sliding chute 234a are arranged on the slide lock 232 and the base 02 separately. Specifically, the base 01 comprises a mounting base 234. The convex edge 232c and the paired sliding chute 234a are arranged on the slide lock 232 and the mounting base 234 separately. The convex edge as shown in figure is arranged on the slide lock and the sliding chute is arranged on the mounting base. The position of the convex edge and the sliding chute can be exchanged during specific implementation. Furthermore, a pressing cover 235 is mounted on the mounting base 234. The sliding lock 232 is located between the mounting base 234 and the pressing cover 235, so that the slide lock is protected to ensure the reliability of its action.

[0017] Fifthly, the placing position 21 takes the shape of tilting from high to low (see FIG. 8a-8c), which is good for the iron to move backward to enable the convex portion 22 of the base to extend into the concave portion 11 at the rear end of the iron when putting the iron 01 in the placing position 21.

[0018] Sixthly, the placing position 21 is provided with a rib 24 (see FIG. 2) for bearing the iron. The rib should be made of heat-resisting materials without damage to the surface of metal.

[0019] Seventhly, a protective edge 25 surrounding the placing position 21 is arranged at the top of the base (see FIG. 2, FIG. 8a-8c) to avoid the iron moving and sliding from the placing position.

Claims

1. A spilt type easily-handling steam iron, comprising an iron (01) and a base (02), wherein the iron (01) is gradually uplifted from front to back; a concave portion (11) is arranged at the rear end of the iron (01), a bottom plate (12) is arranged at the bottom of the iron (01), and a handle (13) is arranged at the top of the iron (01); the top of the base (02) is provided with a placing position (21) for placing the iron (01); a convex portion (22) capable of extending into the concave portion (11) at the rear end of the iron is arranged at the rear end of the placing position (21); a locking structure (23) is arranged at the portion of the base (02) located at the front end of the placing position (21), and comprises a reversible handle (231) and a slide lock (232) touched by the handle (231); and the front end of the iron (01) is locked on the base (02) or unlocked from the base (02) by the slide lock (232) in a manner of turning over the handle (231).
2. The spilt type easily-handling steam iron according to claim 1, wherein the slide lock (232) is provided with a fastener (232a) pressing at the front end of the iron (01) to achieve the locking.
3. The spilt type easily-handling steam iron according to claim 1, wherein a gap (14) exists at the upper side of the bottom plate (12), the slide lock (232) is provided with the fastener (232a), and the fastener (232a) extends into the gap (14) and presses on the bottom plate (12) to achieve the locking.
4. The spilt type easily-handling steam iron according to claim 2 or 3, wherein an accommodating portion (232b) capable of accommodating the front end of the iron or the front end of the bottom plate is arranged at the lower side of the fastener (232a).
5. The spilt type easily-handling steam iron according to claim 1, wherein the handle (231) is provided with

a bias portion (231 a) driving the slide lock (232) close to the iron (01) to achieve the locking or providing a space for the slide lock (232) to separate from the iron (01) to achieve the unlocking when the handle (231) is being turned over.

6. The spilt type easily-handling steam iron according to claim 5, wherein the handle (231) is turned at an angle of 45-270°, and the locking is achieved when the handle (231) is turned over to close up on the base (02).
7. The spilt type easily-handling steam iron according to claim 1 or 5, wherein the slide lock (232) is acted by a reset spring (233) applying an elastic force to separate the slide lock (232) from the iron (01).
8. The spilt type easily-handling steam iron according to claim 1, wherein the slide lock (232) slides by putting a convex edge (232c) in a paired sliding chute (234a), and the convex edge (232c) and the sliding chute (234a) are arranged on the slide lock (232) and the base (02) separately.
9. The spilt type easily-handling steam iron according to claim 8, wherein the base (02) comprises a mounting base (234), and the convex edge (232c) and the sliding chute (234a) are arranged on the slide lock (232) and the mounting base (234) separately.
10. The spilt type easily-handling steam iron according to claim 9, wherein a pressing cover (235) is mounted on the mounting base (234), and the slide lock (232) is located between the mounting base (234) and the pressing cover (235).
11. The locking structure for a spilt type easily-handling steam iron, comprising a reversible handle (231) and a slide lock (232) touched by the handle (231); wherein the slide lock (232) is in a position of locking or unlocking by turning over the handle (231).
12. The locking structure according to claim 11, wherein the handle (231) is provided with the bias portion (231 a) driving the slide lock (232) in the position of locking or unlocking when the handle (231) is being turned over.
13. The locking structure according to claim 11, wherein the slide lock (232) slides by putting the convex edge (232c) into the paired sliding chute (234a).
14. The locking structure according to claim 13, wherein the locking structure further comprises the mounting base (234), and the convex edge (232c) and the sliding chute (234a) are arranged on the slide lock (232) and the mounting base (234) separately.

15. The locking structure according to claim 14, wherein the locking structure further comprises the pressing cover (235) mounted on the mounting base (234), and the slide lock (232) is located between the mounting base (234) and the pressing cover (235). 5

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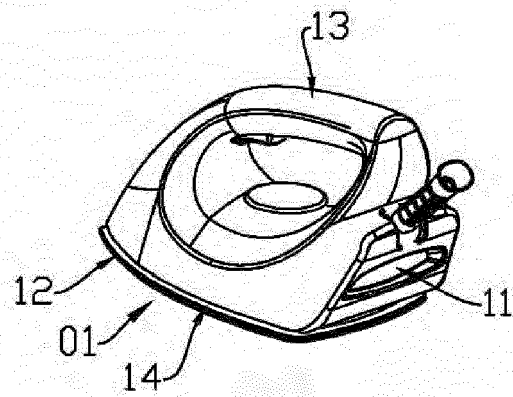


FIG. 1

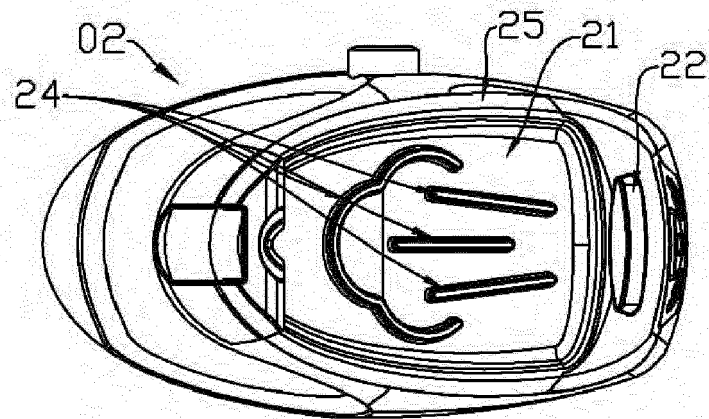


FIG. 2

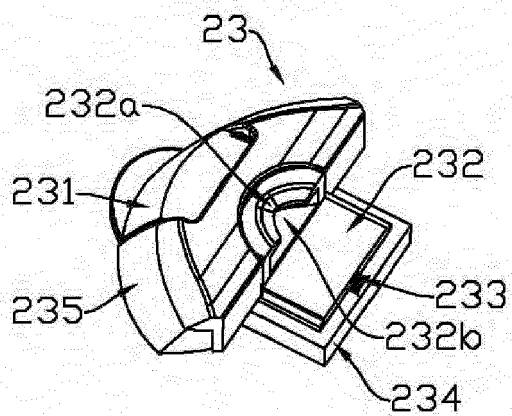


FIG. 3

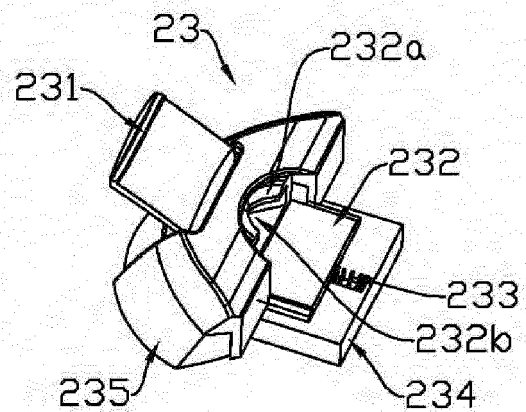


FIG. 4

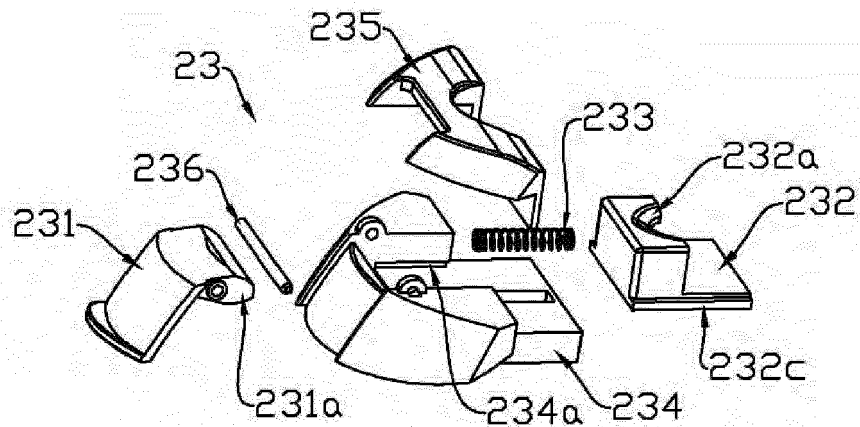


FIG. 5

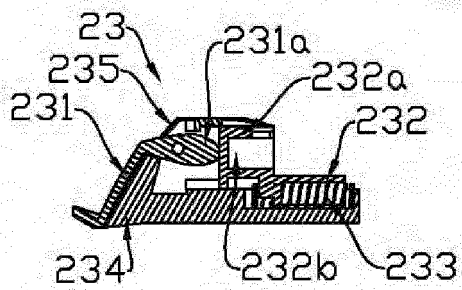


FIG. 6

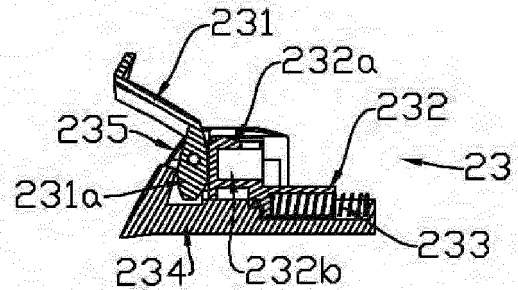


FIG. 7

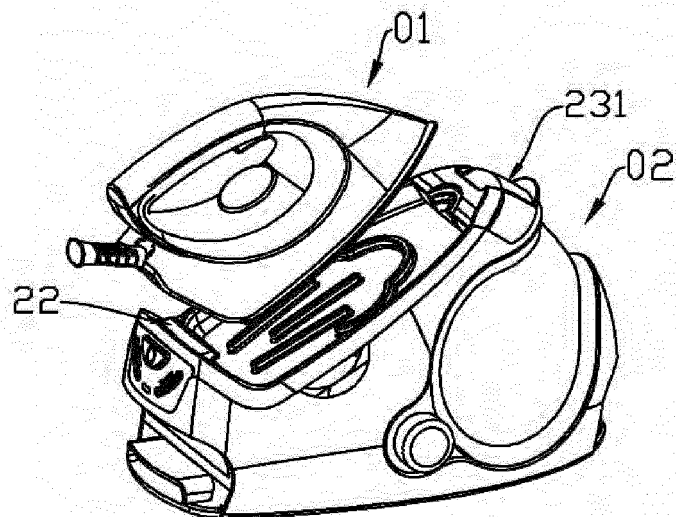


FIG. 8a

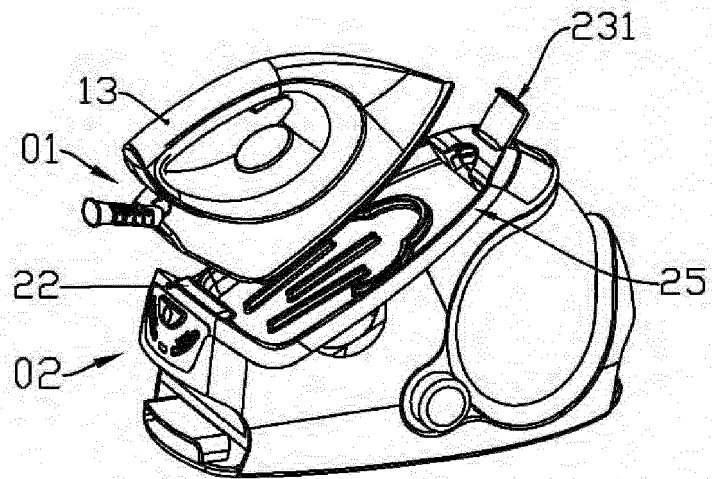


FIG. 8a

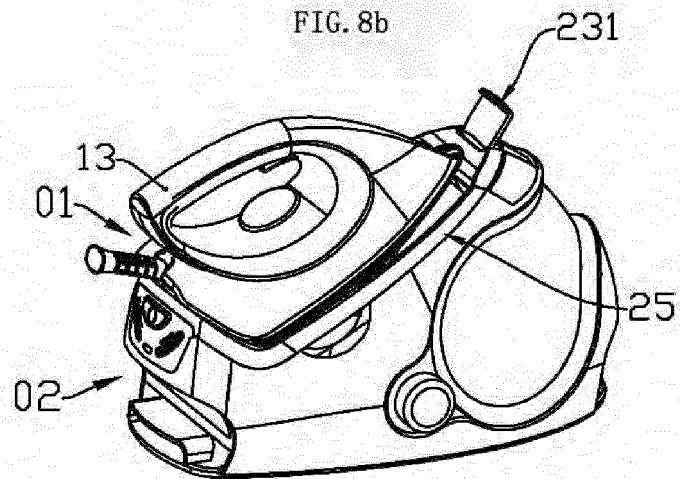


FIG. 8b

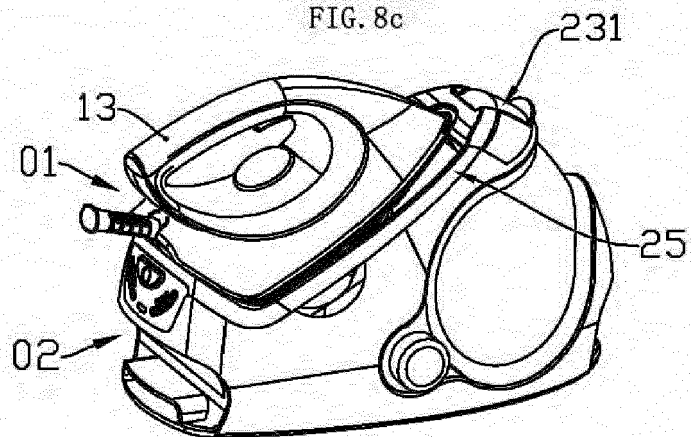


FIG. 8c



EUROPEAN SEARCH REPORT

Application Number
EP 14 17 8443

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			D06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 11 March 2015	Examiner Fachin, Fabiano
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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11-03-2015

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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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