Steam iron assembly with separate steam-generating unit.

A steam iron (4) and steam generator (1) combination in which the steam generator (1) is in the form of an independent unit, connected to the steam iron (4) through a flexible hose (7). The steam generator (1) is removably accommodated in a box (8) which may be suspended to a hook-like element (12) carried by a clamp (11). A base plate (13) is provided formed with an iron-supporting plate (113) and with a recessed portion (213) for accommodating the base of said box (8) during the rest condition of the iron.
Steam iron assembly with separate steam-generating unit

This invention relates to the steam iron combinations of the kind in which the steam generator is in the form of an independent unit, separate from the steam iron, the steam outlet of which is connected to the steam inlet of the iron through a flexible tubular connection.

Steam iron combinations of the above referred kind are known for instance from US-A-2 568 104 - (M.B. Young); US-A-3 436 852 (B.J. Stansbury); UK-A-2 148 331 (Alfredo Cavalli); FR-A1-81 17282 - (Maksa Cristian) and EP-A2-0 135 484 (Elwatt S.r.l.).

More particularly, this invention relates to a steam iron combination of the above referred kind, in which the steam generating unit may be secured to an ironing board or table in a safe, nevertheless easily removable manner.

From US-A-2 861 552 (L. Reichold) a steaming and pressing apparatus is known comprising a steam iron connected through a steam-supply hose to a separate steam generator, in which the said steam generator may be secured directly to an ironing board.

The above mentioned prior art device presents many drawbacks and disadvantages in use.

At first, it is noted that said device was designed for use only with an ironing board. It is known that often, in home or domestic ironing, in contrast to professional ironing, a common table is used as ironing board. It is noted that it would be very difficult, if not impossible, to secure the steam generator of the cited prior art patent to a table which is discontinuously used as ironing board.

Secondly, in its intended use in combination with an ironing board, it is necessary and compulsory to secure the steam generating unit according to the said prior art patent to the aft end of said board, as clearly shown for instance in Figures 1, 2 and 3 of the drawings of the said prior US-A-2 661 552. This compulsory arrangement of the steam generating unit with respect to the ironing board makes at least precarious the stability of the ironing board, which is charged at one end with a considerable weight, in further consideration of the fact that the upper surface of the said unit is further designed to receive the steam iron during rest.

Moreover, the steam generator according to the said prior art patent may not be disassembled, or at least it may not be easily and quickly disassembled from the board to which it is secured, without the use of tools, since as clearly shown from instance in Figures 2 and 3 of the drawings of US-A-2 661 552, the said unit is secured by means of screws or nails to the edges of the ironing board. This means that the said unit may not be disassembled from the ironing board whenever it is desired to fold and put away the ironing board, as it is usual in domestic ironing. It is noted in this respect, that it would be very difficult to fold at all a board having secured such a prior art device.

It is therefore the scope of the present invention a steam iron and steam generator combination of the kind in which the steam generator is in the form of an independent unit connected to the steam iron through a flexible hose, which may be secured to an ironing board or table, which obviates to the above mentioned drawbacks of the known prior art devices in a simple yet reliable manner.

According to the main feature of the present invention, the said scope is attained by providing a steam iron and steam generator combination of the kind above referred characterized by the combination of the following features:

a) The steam generator is removably housed in a box, open at its upper end.

b) The said box is provided with a sidewise projecting slotted wing.

c) The said slotted wing may be suspended to a hook-like element projecting from, and made integral with a clamp like element which may be secured, in an easily dismountable manner, to the edge of an ironing board or of a table used as ironing board.

According to another feature of the invention, the said box is made from a heat-insulating, heat-resisting material.

According to still another feature of the invention, a base element is provided in combination with the said steam iron and steam generator, which base element is formed with an iron-supporting plate and with a recess for housing the lower base-portion of said box with the said steam generator accommodated therein during the rest condition of the iron.

Further objects and advantages of the present invention will be better apparent from the following description, made with reference to the accompanying drawings, in which:

Figure 1 is an exploded view of the device according to the invention, in which the steam iron was omitted.

Figure 2 is a side view of the device according to the invention during use, with the steam generating unit suspended to one edge of an ironing board or table, and

Figure 3 is a perspective view of the device according to the invention assembled together with the steam iron on the iron-supporting plate.
Having reference to Figure 1 of the drawings, 1 is the steam generating unit or boiler. The said unit 1 is in the form of box-like element housing, in an usual manner (not shown) a water container having associated therewith an electrical heating unit for converting water into steam. The said box-like element 1 is closed by a top plate 101 provided with a bunghole closed by a plug 2 for filling the said container with water. On the said top plate the switches 3 are secured, controlling the electrical power supply to the heating elements of the steam generating unit and of the steam iron 4 (Figures 2 and 3). Numeral 5 is a flexible electrical cord which may be provided at one end, in a conventional manner with an electrical plug (not shown). The leads of cord 5 are connected to the terminals of the switch 3. Numeral 6 is a flexible electrical cord for supplying electrical current from cord 5, through switch 3, to the heating elements incorporated in usual manner in iron 4. Numeral 7 is a hose, for supplying steam, generated in steam generator 1, to iron 4.

The side walls of the box-like element 1 are preferably lined, as shown, with an insulating sheet material, and for instance with a rubber sheet 201.

With number 8 a box-like member or container is shown. The said box 8 is open at its top and is further provided at its front wall with a wide trapezoidal opening 108 extending form its upper edge up to in proximity of its bottom 208. The box 8 is of such dimensions as to accomodate with a snug fit the steam generating unit 1. The two side walls of the box 8 are formed on their outer sides, in proximity of the middle region of their bottom edges, with two outwardly protruding pins 308.

The rear wall 408 of the box 8 is provided in proximity of, or flush with its upper edge with a wing element 9 projecting from the upper edge of its bottom 208. The box 8 is is of such dimensions as to accomodate with a snug fit the steam generating unit 1. The two side walls of the box 8 are formed on their outer sides, in proximity of the middle region of their bottom edges, with two outwardly protruding pins 308.

The rear wall 408 of the box 8 is provided in proximity of, or flush with its upper edge with a wing element 9 projecting from the upper edge of its bottom 208. The box 8 is preferably made of a heat-insulating, heat-resistant material such as for instance fiber reinforced polyester resins, which may well resist to temperatures of 200°C or more.

Numeral 11 denotes a clamp, which is formed in usual way with two fixed, spaced apart jaws 111, 211, connected together by a cross piece 311. The cross piece 311 is of such a height as to allow the insertion between the jaws 111, 112 of a board of standard thickness, say from 2 to 4 centimeters.

The upper side of the cross-piece 311 is provided with an upwardly projecting fillet 12, forming a hook-like structure to which the box 8 may be suspended by its slot 10.

The lower jaw 211 of clamp 11 is provided centrally with a screw-threaded hole, in which a correspondingly threaded nut 411, provided with a hand-operable head 511, may be threaded.

Numeral 13 denotes a base plate, provided with a bearing surface 113 on which a conventional flatiron, like iron 4 of Figures 2 and 3, may rest. The said base plate 13 is further provided at one end with a recessed portion 213, sidewise confined by two upstanding lugs 313, for accomodating the lower end portion of box 8. To this purposes, the lugs 313 are each provided with a cutout 413 for accomodating the pins 308.

Reverting now to Figures 2 and 3 of the drawings, the operation of the described device will be described.

With numeral 14 the board of a table, and for instance, although not necessarily, the board of an ironing table is denoted, supported by the legs 15.

To one edge of the said board 14 the clamp 11 is firmly clamped, and the box 8, with the steam generator 1 inserted therein, is suspended to the hook 12 of clamp 11 through insertion of the fillet 12 into slot 10.

The advantages of the device described and shown will be apparent. The whole surface of the board 14 is available for ironing. The box 8 with the steam generator 1, may be suspended at any desired and convenient place of the rim of the board 14. The hot steam generator 1 is conveniently insulated, in order to avoid any danger of burns to the user due to unintentional contact with said generator. At the very end of the ironing operation, the whole device may be easily dismounted from the board 14, or only the box 8 may be unhooked from the clamp 11, leaving said clamp on the board 14. The thus dismounted box 8, together with the steam generator 1 housed inside of it, may be housed in the recess 213 of the base plate 13, with the iron 4 bearing on support plane 113, as shown in Figure 4, and the thus assembled steam iron may be put back at any convenient place.

Claims

1. A steam iron (4) and steam generator (1) combination in which the steam generator (1) is in the form of an independent unit connected to the steam iron (4) through a flexible steam-conveying hose (7), and in which the said steam generator - (1) may be secured to an ironing board (14) characterized by the fact that the said steam generator (1) is removably accomodated in a box (8) open at its upper end and provided with a wing (9) sidewise projecting from the upper edge of the rear wall wall (408) of the box (8), said wing (9) being provided
with a slot (10) which may be suspended to a hook-like element (12) projecting sidewise from a clamp (11) which may be secured to one edge of said ironing board (14).

2. A steam iron and steam generator combination according to claim 1, characterized by the fact that the said box (8) is made from heat-insulating, heat-resisting material.

3. A steam iron and steam generator combination according to claim 2, characterized by the fact that the said box (8) is made from fiber-reinforced polyester resins.

4. A steam iron and steam generator combination according to claims 1 to 3, characterized by the fact that it further comprises a separate base plate (13) provided with a bearing surface (113) for supporting the iron (4), and further provided at one end with a recessed portion (213) for accommodating the bottom of said box (8).

5. A steam iron and steam generator combination according to claim 4, characterized by the fact that the two side walls of said box (8) are each provided centrally of their bottom region with an outwardly protruding pin (308), and that the recessed portion (213) of said base plate (13) is provided with means for accommodating said pins (308).

6. A steam iron and steam generator combination according to claim 5, characterized by the fact that the said means of the recessed portion (213) of the base plate (13) for accommodating said pins (308) are in form of two upwardly extending lugs (313) each provided with a cutout (413).

7. A steam iron and steam generator combination according to claim 1, in which the said hook-like element is in the form of a ridge or fillet (12) upwardly extending from the rear side of said clamp (11).