

[54] **HAND OPERATED STEAMING AND IRONING DEVICE**

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[57] **ABSTRACT**

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A manually operated steam ironing device comprises a bottom portion including a bottom ironing plate having outlet openings to allow passage of steam. An upper portion includes a hand receiving means located above the ironing plate. The hand receiving means has a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device. The upper portion also includes a padded insulated layer and a carrier plate portion having a structural configuration which defines an insulating chamber above the bottom heating plate. The bottom portion includes a heating element and a heated cover plate carrying said element. The cover plate has a structural configuration to form a steam expansion chamber between itself and the bottom ironing plate.

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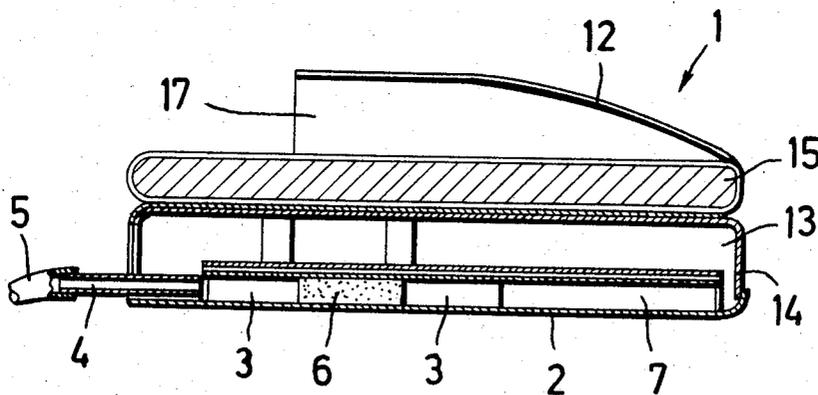
[58] Field of Search..... 38/69, 74, 88, 95, 90, 77.6

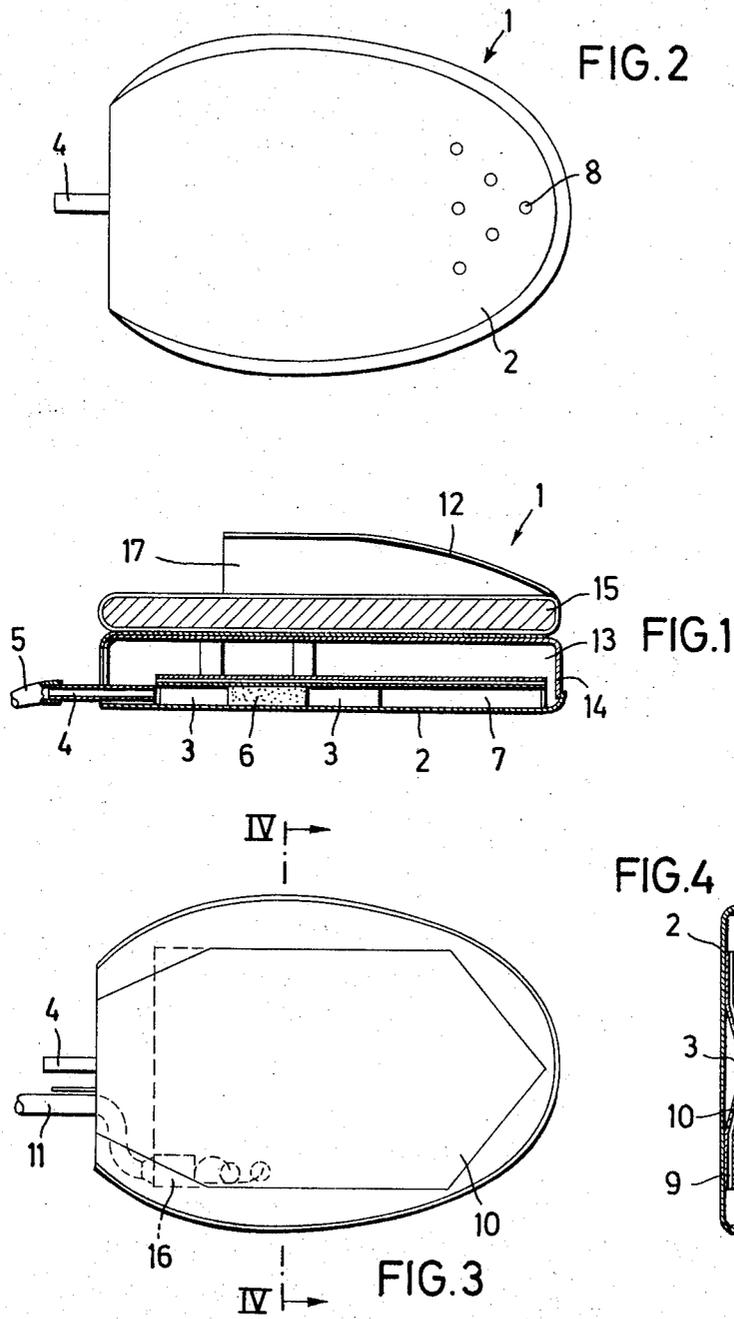
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13 Claims, 4 Drawing Figures





HAND OPERATED STEAMING AND IRONING DEVICE

BACKGROUND OF THE INVENTION

The invention relates to a hand operated, steam ironing device for ironing, deglossing and the like items such as outerwear including jackets, dresses and the like. The device is used particularly in conjunction with an ironing press, inflatable steam dummy and the like. They are fitted with a handle for the operation and holding of the ironing device. The device has the configuration of the known flat iron or flat iron bottom. Furthermore, such hand operated devices may be provided with a mechanism to supply steam which is directed out of the device through outlet openings located in the bottom ironing plate.

Practically speaking, these prior art hand ironing devices are suitable only for such ironing work where the pressure may be exerted on a counterplate that extends substantially horizontally. While these prior art devices may be used to iron surfaces arranged substantially vertically on hanging pieces, outer wear and the like, they are very difficult to handle. In this latter type of ironing operation, there is no counterplate used against which the piece may be placed during steaming and ironing. Another disadvantage of the prior art ironing device is that they are too heavy to use for ironing such hanging pieces.

Additionally, the handles on these prior art devices are not conveniently constructed to enable the operator to move the device along a substantially vertically disposed hanging piece. Known hand operated ironing devices are generally provided with a long shank handle. The shank is grasped by the hand which forms a fist to permit movement and control of the ironing device during the ironing operation. With this configuration and manner of operation, only the wrist is available to accomplish the movement of the device which is to be swung inwardly toward the hanging piece. The joints located in the flat of the hand are excluded from the accomplishment of this movement of the device because the hand is formed into a fist. Therefore, in this sense, the freedom of operating the prior art devices is restricted. Furthermore, as a practical matter, the wrist allows only coarse movements of such a prior art ironing device across the hanging surface.

Another disadvantage of the prior art ironing devices is that they are manufactured with an excessive amount of weight. This weight must be balanced out by the hand and the wrist when seizing the shank handle which extends along the longitudinal axis of the device. This requires an additional task which must be accomplished by either the hand or the wrist. The same disadvantages and troubles are involved when the prior art devices are fitted with a handle such as is found on a conventional flat iron. These disadvantages are amplified when the movements of the device must be carried on a hanging piece such as a jacket, a dress or the like.

None of the known hand operated ironing devices include a mechanism for protecting the operator's hands from being burned by steam or the material that has just been subjected to steaming and ironing.

PURPOSE OF THE INVENTION

It is the primary object of this invention to provide a

hand operated steam ironing device for use in ironing surfaces having no counterplate as a support.

It is another object of this invention to provide a hand operated steaming and ironing device to facilitate ironing surfaces which lie in any direction, and particularly, to iron hanging items such as jackets, dresses and the like.

A further object of this invention is to provide a hand operated steam ironing device having a hand protecting mechanism which protects the operator's hand from being injured by steam.

A still further object of this invention is to provide a hand operated steam ironing device which may be easily handled particularly when ironing pieces of clothing such as jackets, dresses and the like, and which pieces are otherwise not provided with a counterplate to receive any counter pressure.

Another object of this invention is to provide a hand operated steam ironing device which may be moved over items to be pressed without any hindrance wherein such manipulation is free from fatigue by insuring that the center of gravity of the device is approximately in the center of the operating hand.

Another object of this invention is to provide a hand receiving assembly on the ironing device so that a sufficient amount of hot steam may be applied to the article without causing injury to the fingers and to prevent any possible contact between the operator's hand and the freshly steamed clothing.

A still further object of the invention is to provide a holding assembly which enables the device to be gripped for safely guiding the device without undue effort into all the customary operational positions including beating and striking treatments.

It is a still further object of this invention to provide a hand operated steam ironing device permitting accurate and rapid operation in conjunction with ironing presses, inflatable steam dummies and the like.

SUMMARY OF THE INVENTION

These objects and other advantages may be accomplished through the use of the steaming and ironing device as disclosed herein. The steam ironing device comprises a bottom portion having a bottom ironing plate means and an upper portion including a hand receiving means located above the ironing plate means. The ironing plate means includes outlet openings to allow passage of steam. The hand receiving means has a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device.

In a specific embodiment of the invention, the hand receiving means is composed of a flexible or pliable material such as fabric. The upper portion of the device includes a padded insulated layer disposed between the hand receiving means and the bottom plate means.

Another feature of the invention is directed to a carrier plate portion having a structural configuration which defines an insulating chamber above the bottom heating plate. The hand receiving means is disposed on the carrier plate portion.

Another feature of this invention is directed to the bottom portion of the device which includes a heating element and a heated cover plate carrying said heating element. The cover plate has a structural configuration to form a steam expansion chamber between itself and

the bottom ironing plate. The steam expansion chamber may be divided into a plurality of sections through the use of porous inserts composed of material such as metal wool.

All of the elements of the steam ironing device are designed with respect to structural configuration and the material of fabrication so that the device may be as light as possible. The total weight of the steam ironing device is not to exceed about 1,000 grams and, more specifically, is from about 500 to 750 grams.

BRIEF DESCRIPTION OF DRAWINGS

Other objects of this invention will appear in the following description and appended claims, reference being made to the accompanying drawings forming a part of the specification wherein like reference characters designate corresponding parts in the several views.

FIG. 1 is a longitudinal cross sectional view of a hand operated steaming and ironing device made in accordance with this invention,

FIG. 2 is a bottom view showing the ironing surface of the device of FIG. 1,

FIG. 3 is a top plan view of the device of FIG. 1 with the upper insulation and hand protecting glove removed therefrom, and

FIG. 4 is a sectional view taken along line IV—IV of FIG. 3.

DESCRIPTION OF SPECIFIC EMBODIMENTS

More specifically, the hand operated steaming and ironing device, generally designated 1, includes a bottom plate 2, steam expansion chamber 3 and steam connection 4 attached to a steam hose 5. The bottom plate 2 has steam outlet openings 8. Heating zones filled with metal wool 6 are located in the bottom plate 2 and are provided to avoid formation of condensate.

Steam is directed from the hose 5 through the expansion chamber 3 into the outlet chamber 7 and through the outlet openings 8. The steam expansion chamber 3 is covered by a heated cover plate 9 which includes the heating element. The heating element is brought into close contact with the steam expansion chamber by the pressure plate 10. The electrical connection 11 serves to connect the heating element associated with cover plate 9 to an electrical supply. A seal 16 is arranged to insulate the electrical connection 11 at the heated cover plate 9 with respect to the expansion chamber 3.

In the upper portion of the device 1, the carrier plate 14 is mounted above the bottom plate 2 and has a structural configuration to form an insulating chamber 13. The insulating chamber 13 prevents heat radiation from acting on the hand receiving glove 12 that is connected to the insulating layer 15 which also provides upholstery for the operator's hand. Hand receiving glove 12 is disposed above the carrier plate 14. An insulating padded layer 15 is disposed between the carrier plate 14 and glove 12.

The hand receiving glove 12 is composed of a flexible or pliable material such as fabric and together with the insulating layer 15 serves to facilitate handling and operating the steam ironing device 1. The insulating pocket 12 and padding layer 15 provide both a heat insulating and hand protecting effect. As shown in the drawings, the chamber portion or insulating pocket 12

extends in a direction parallel to the bottom plate 2.

The hand receiving glove 12 includes a receiving chamber 17 that is designed as a mitten to receive the extended hand. It is possible that a special mitten portion be provided for the thumb of the extended hand. The receiving chamber 17 may be subdivided to receive individual fingers.

The hand operated steaming and ironing device 1 should be as light as possible so that it may be used as a steam ironing device. It is imperative that the weight of the device not exceed about 1,000 grams at the maximum. The total weight of the device should be from about 500 to 750 grams which weight may be achieved by manufacturing the device of light metal or plastic material.

While the hand operated steaming and ironing device has been shown and described in detail, it is obvious that this invention is not to be considered as being limited to the exact form disclosed, and that changes in detail and construction may be made therein within the scope of the invention, without departing from the spirit thereof.

I claim:

1. A manually operated steam ironing device comprising:

a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of steam, and

b. an upper portion including a hand receiving means located above the ironing plate means,

c. said hand receiving means having a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device,

d. said upper portion including a padded insulated layer disposed between the hand receiving means and the bottom plate means.

2. A manually operated steam ironing device comprising:

a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of steam, and

b. an upper portion including a hand receiving means located above the ironing plate means,

c. said hand receiving means having a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device,

d. said upper portion including a carrier plate portion which defines an insulating chamber above the bottom heating plate and having a padded insulated layer disposed between the hand receiving means and the bottom plate means,

e. said hand receiving means being disposed on said carrier plate portion.

3. A manually operated steam ironing device comprising:

a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of steam, and

b. an upper portion including a hand receiving means located above the ironing plate means,

c. said hand receiving means having a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device,

- d. said bottom portion including a heating element and a heated cover plate carrying said heating element,
- e. said cover plate having a structural configuration to form an expansion chamber between itself and the bottom ironing plate, 5
- f. said steam expansion chamber including porous inserts composed of metal wool which subdivide said chamber into a plurality of sections.
- 4. A manually operated steam ironing device comprising: 10
 - a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of steam, and
 - b. an upper portion including a hand receiving means located above the ironing plate means, 15
 - c. said hand receiving means having a structural configuration effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device, 20
 - d. said bottom portion including a heating element and a heated cover plate carrying said heating element,
 - e. said cover plate having a structural configuration to form a steam expansion chamber between itself and the bottom ironing plate 25
 - f. said upper portion including a carrier plate portion which defines an insulating chamber above the bottom heating plate and having a padded insulated layer disposed between the hand receiving means and the bottom plate means, 30
 - g. said hand receiving means being disposed on said carrier plate portion.
- 5. A manually operated steam ironing device comprising: 35
 - a. a bottom portion including a bottom ironing plate means having an ironing surface and outlet openings to allow passage of steam through the ironing surface, and
 - b. an upper portion including a hand receiving means located above the ironing plate means, 40
 - c. said hand receiving means including a chamber portion into which a portion of an operator's hand in extended form is insertable and which chamber is effective to enwrap at least a portion of an operator's extended hand for protecting the operator's hand and to facilitate operation of the device, 45
 - d. said chamber portion extending in a planar direction parallel to the ironing surface of the ironing plate means. 50
- 6. A device as defined in claim 5 wherein the chamber portion is composed of a flexible or pliable material.
- 7. A device as defined in claim 6 wherein said material is fabric. 55
- 8. A manually operated steam ironing device comprising:
 - a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of

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- steam, and
- b. an upper portion including a hand receiving means located above the ironing plate means and a carrier plate portion which defines an insulating chamber above the bottom heating plate,
- c. said hand receiving means being disposed on said carrier plate portion and including a chamber portion into which a portion of an operator's hand is insertable and which chamber is effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device.
- 9. A manually operated steam ironing device comprising:
 - a. a bottom portion including a heating element, a heated cover plate carrying said heating element and a bottom ironing plate means having outlet openings to allow passage of steam,
 - b. said cover plate forming a steam expansion chamber between itself and the bottom ironing plate means, and
 - c. an upper portion including a hand receiving means located above the ironing plate means,
 - d. said hand receiving means including a chamber portion into which a portion of an operator's hand is insertable and which chamber is effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device.
- 10. A device as defined in claim 9 wherein said steam expansion chamber includes porous inserts which subdivide said chamber into a plurality of sections.
- 11. A device as defined in claim 10 wherein said upper portion includes a carrier plate portion which defines an insulating chamber above the bottom heating plate, said hand receiving means being disposed on said carrier plate portion.
- 12. A manually operated steam ironing device comprising:
 - a. a bottom portion including a bottom ironing plate means having outlet openings to allow passage of steam, and
 - b. an upper portion including a hand receiving means located above the ironing plate means,
 - c. said hand receiving means including a chamber portion into which a portion of an operator's hand is insertable and which chamber is effective to enwrap at least a portion of an operator's hand for protecting the operator's hand and to facilitate operation of the device,
 - d. the total weight of said device does not exceed about 1,000 grams.
- 13. A device as defined in claim 12 wherein the total weight of the device is from about 500 to 750 grams.

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