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KIYOSHI NAOMOTO

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STEAM IRON HAVING SUCTION DRAIN MEANS

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Fig. 1

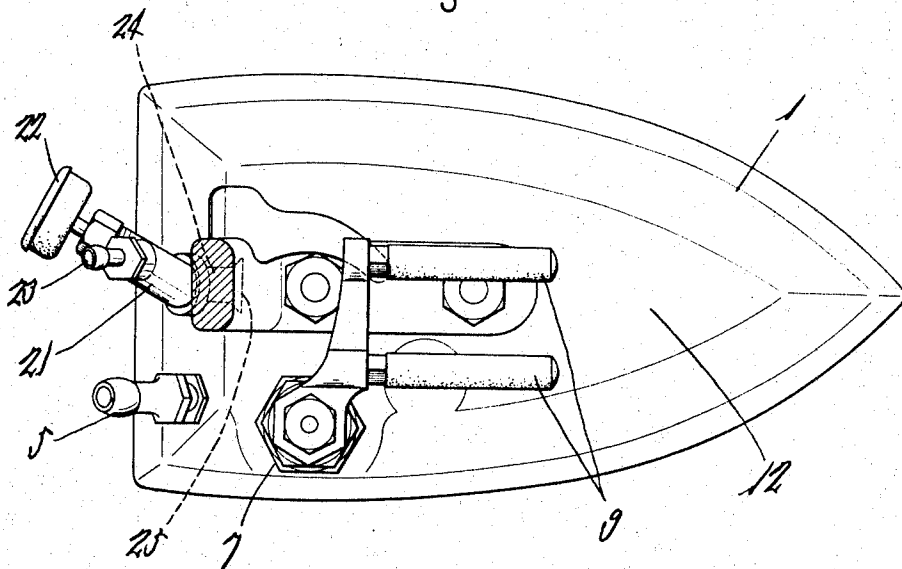
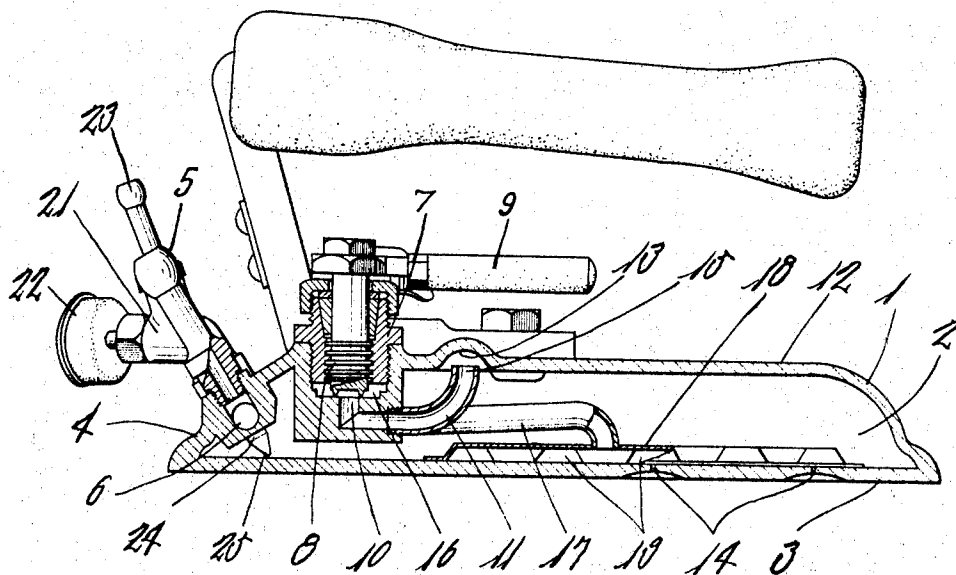


Fig. 2



Kiyoshi Naomoto,

Inventor

By, Wendroth, Lind and Prael,
Attorneys

1

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STEAM IRON HAVING SUCTION DRAIN MEANS

Kiyoshi Naomoto, 2, 3-bancho, Kouzu,
Minami-ku, Osaka, Japan

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2 Claims. (Cl. 38—77)

ABSTRACT OF THE DISCLOSURE

A steam iron with a suction drain means. The iron has a hollow body with a steam chamber therein, the base plate of the body having steam jet orifices therein. The body has a suction pipe with one end extending into the steam chamber and the other end protruding outside of the body, the suction pipe having a drain valve therein. There is a steam hole in the end of the suction pipe and inside the chamber positioned close to and above the rear end of the surface of the base plate.

This invention relates to an improvement in a steam iron. The steam iron referred to in this invention is of the type in which steam is blown into the hollow body of the iron, thereby heating the body, and the said steam is made to spurt through the jet orifice provided in the base plate of the body. The aim of this invention is to drain the water which is produced inside the body of the iron of the above-mentioned type.

Since steam fills the hollow body of the steam iron, as mentioned above, part of the said steam, reverting to water, stays inside the body, and such remaining water runs forward and backward according to the movement of the body. In other words, when the iron is quickly moved forward, the water inside the body flows backward, while it runs toward the head of the body when the body suddenly stops or moves backward.

In this invention a drain valve is provided on a part of the main body of the iron, a suction hole being provided at the lower end of a suction pipe connected to the said valve being placed adjacent the upper surface of the base plate. In order to drain the water inside the body as much as possible, it is advisable to position the suction hole as close as possible to either the front end or the rear end of the base plate. The details of this invention will be made clear by means of the attached drawing and the explanation thereof, in which;

FIG. 1 is a plan view showing an embodiment of the steam iron of this invention; FIG. 2 is a longitudinal section thereof.

In the figures, the numeral 1 designates the hollow body of the iron, the inside of which has a steam chamber 2, and 3 designates the base plate thereof.

A steam feeding pipe 5 is provided on the rear wall 4 of the body 1, the orifice 6 at the inner end of the said pipe 5 opening into the steam chamber 2. The numeral 7 designates an adjustable valve box provided on the rear part of the top wall 12 of the body 1, the upper end of the valve 8 threaded into the said valve box 7 protruding upward from the valve box 7, and a handle 9 is fixed to the said upper end.

In the bottom of the recess 16 in the top wall 12 of the body into which the valve box 7 is threaded is provided a valve hole 10 which is opened or shut by the valve 8. A suction pipe 11 leads to the valve hole 10 being fixed to the lower part of the cover portion defining the valve box recess. The terminal orifice 15 of the said pipe 11 is within an inverted recess 13 in the under surface of the top wall 12 of the body 1 at the end of the upward bend of the suction pipe 11.

2

Into the recess 16 which forms a valve chamber beneath said valve box 7 the pipe 17 opens, the said pipe 17 being connected to a lid 18 which covers a number of jet orifices 14 provided in the base plate 3, the steam passage 19 formed between the said lid 18 and the base plate 3 being connected to the said valve chamber 16 by means of the pipe 17.

The numeral 21 designates a drain valve fixed to the rear wall 4, which is opened or closed by manipulation of a handle 22, the said drain valve being provided in a suction pipe 24 which protrudes outward to a drain end and has a suction end which protrudes into the steam chamber 2. At the lower end of the said suction pipe 24 is formed a horizontally elongated suction hole 25 opening adjacent the rear end of the surface of the base plate 3 and extending transversely of the fore and aft axis of the body 1.

In this iron, steam coming from the steam hose connected to the steam feeding pipe 5 fills the steam chamber 2 through the feeding pipe 5 and the orifice 6, thus heating the body 1.

When the valve hole 10 is opened by turning the valve 8 by means of the handle 9, the steam inside the steam chamber 2 flows into the pipe 11 from the recess 13 through the orifice 15, into the valve chamber from the pipe 11 by way of the valve hole 10, into the steam passage 19 from the valve chamber 16 by way of the pipe 17, and then spurts from the jet orifices 14.

In this state the ironing of the wearing apparel is conducted in the same way as with an ordinary iron. However, during the operation a part of the steam turns into water and stays on the bottom of the steam chamber 2, that is, on the base plate 3. When at this juncture the drain valve 21 is opened by turning the handle 22, the drain pipe 23 and the suction pipe 24 are connected together and the water on the base plate 3 is sucked into the suction pipe 24 through the suction hole 25 owing to the difference between the steam pressure inside the steam chamber and atmospheric pressure outside, and is drained through the drain pipe 23 by way of the drain valve 21. Needless to say the water should be drained into some appropriate vessel by connecting a hose to the drain pipe 23. Since the jet orifices 14 are covered with the lid 18, there is no danger of the water flowing out there-through.

In this invention the body 1 of the iron is provided with the drain pipe 21 and the water staying inside the steam chamber 2 in the body 1 is drained from time to time by opening the said drain valve 21, taking advantage of the steam pressure, so that there is no danger of a large amount of water staying inside the steam chamber 2. As a result, there is no risk of water drops dripping from the jet orifices 14, leaving spots on the iron-finished wearing apparel. At the same time, rust caused by the water staying inside the steam chamber can also be prevented.

Besides, if the suction hole 25 is placed above the rear end of the base plate 3, water which moves backward when the body proceeds can be sucked up so effectively that hardly any water stays inside the steam chamber 2 during the operation provided that the drain valve 21 is left open. The effect will be the greater because the suction hole 25 is elongated horizontally as shown in the drawing.

What I claim is:

1. A steam iron comprising a hollow body having therein a steam chamber to be filled with steam, said body having a base plate with at least one steam jet orifice therein, a suction pipe having one end which extends into the steam chamber and having the other end protruding and opening outside the body, a drain valve in said suc-

3

tion pipe which can be opened and closed freely, the suction pipe having a suction hole in the end thereof inside said chamber positioned close to and above the rear end of the surface of the base plate within the chamber in the body.

2. A steam iron as claimed in claim 1 in which the suction hole at the end of the suction pipe is horizontally elongated and extends at right angles with the fore and aft axis of the body.

5

4

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PATRICK D. LAWSON, *Primary Examiner.*