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W. BLANK

3,299,549

STEAM PRESSING IRON

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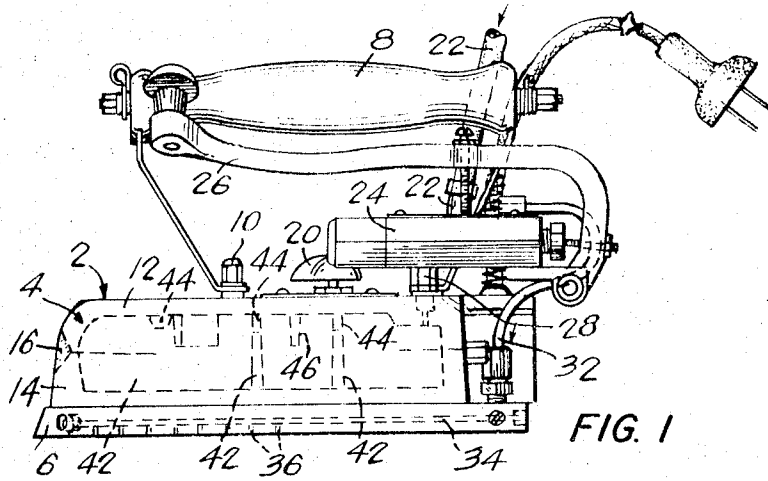


FIG. 1

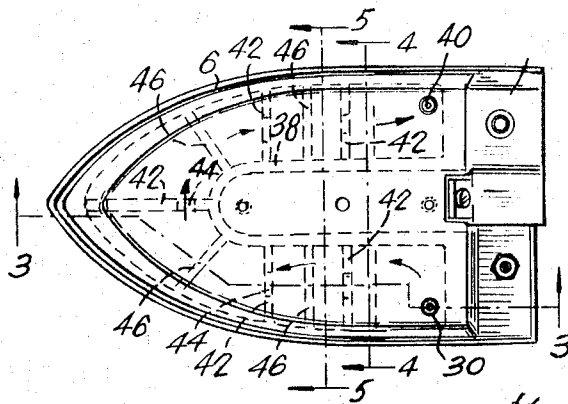


FIG. 2

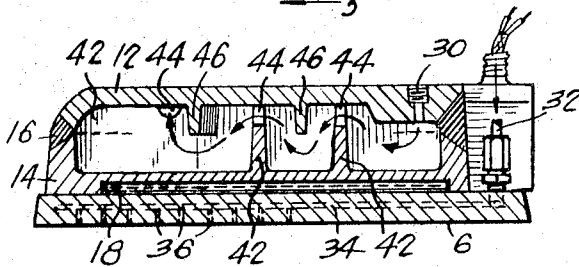


FIG. 3

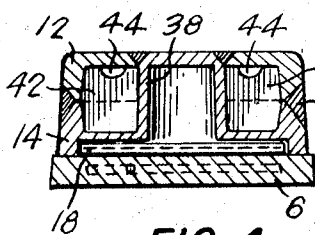


FIG. 4

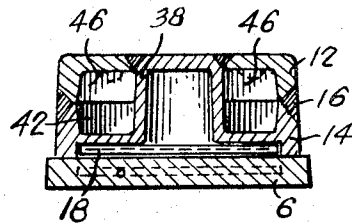


FIG. 5

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STEAM PRESSING IRON

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1 Claim. (Cl. 38-77)

The present invention relates to improvements in steam irons, and particularly to means for removing excess moisture from ironing steam prior to the application of the steam onto an article being ironed.

In known steam irons, steam is introduced into a steam chamber provided in the iron and hence to a sole plate where it is transferred to the article being ironed through apertures provided on the underside of the sole plate. Although the heating element provided in such irons does tend to heat and dry the steam in the steam chamber to some degree it has been found that the steam leaving the iron is often excessively saturated with moisture, thus causing the deposition of water spots on the article being ironed and generally poor ironing. This is particularly true when synthetic materials are being ironed as a relatively low temperature must be maintained in the sole plate with a resultant decrease of the temperature in the steam chamber with a minimum heating and drying of the steam.

The present invention overcomes the problem resulting from the application of excessively saturated or wet steam onto an article being ironed by providing means in the iron for reducing the moisture content of the steam, and more specifically, by providing evaporation surfaces or baffles within the steam chamber. The provision of such surfaces or baffles, which are arranged to cause the steam to follow a sinuous and circuitous path, ensures that relatively dry steam will issue from the iron, as the excess moisture carried by the steam will be removed by evaporation during steam travel through the steam chamber.

The object of the invention is to provide means in a steam iron to remove excess moisture from steam prior to the application of the steam to the article being ironed.

A further object is to provide means within the steam chamber of a steam iron for removing excess moisture from the steam passing therethrough.

A still further object is the provision of a steam iron having a steam chamber provided with a number of staggered evaporation surfaces or baffles to remove excess moisture from steam passing therethrough.

These and other objects of the invention will be apparent from the following description and the accompanying drawings wherein:

FIG. 1 is a side elevation of a typical steam iron embodying the present invention;

FIG. 2 is a plan view of the steam chamber and the sole-plate showing in broken lines the evaporation baffles or surfaces provided in the steam chamber;

FIG. 3 is a vertical section along the lines 3-3 of FIG. 2;

FIG. 4 is a vertical section along the line 4-4 of FIG. 2; and

FIG. 5 is a vertical section along the line 5-5 of FIG. 2.

Referring to the drawings, the steam iron is shown generally at 2 in FIG. 1. The iron, consisting of a steam chamber indicating generally at 4 and sole-plate 6, is provided with a handle 8 attached to the steam chamber and sole-plate by means such as bolts 10. The steam chamber consists of an upper part 12 and a lower part 14 which, after manufacture, are secured together as by welding 16. The lower surface of the lower part 14 is

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cessed to provide a cavity to receive a heating element 18, the temperature of which may be controlled by knob 20 and appropriate controls.

Steam is introduced into the iron through conduit 22 into valve 24 controlled by handle 26, and into the steam chamber 4 via conduit 28 which is threaded into orifice 30 provided in the upper part 12 of the chamber 4. From the steam chamber 4 the steam passes through conduit 32 into the opening 34 provided in the sole-plate 6 and onto the article being ironed via apertures 36.

According to the present invention, and for manufacturing reasons, the steam chamber consists of an upper part 12 and a lower part 14. The lower part 14 has a raised central portion 38 which will clearly be seen from FIGS. 4 and 5, and the upper part 12, which is of generally V-shaped configuration in plan view, fits around the raised central portion 38, and the two parts are welded or otherwise attached together in steam-tight relationship. With this design steam entering the chamber via orifice 30 will, as shown by the arrows in FIG. 2, follow a U-shaped path to be removed from the chamber at orifice 40 which connects with conduit 32 leading to the sole plate 6.

The lower part 14 is provided with a number of upstanding evaporation baffles or plates 42 notched, as at 44, to provide an opening for the passage of the steam. The upper part 12 is provided with a series of evaporation baffles or plates 46 projecting downwardly between the baffles 42, as shown in the drawings. Thus, as steam travels from orifice 30 to orifice 40 it must pass over baffles 42 through the notches 44 provided therein and under baffles 46, in a sinuous and circuitous path as shown in FIG. 3. The steam will travel in a sinuous flow path over and under the various baffles, however, the moisture droplets in the steam have inertia and will tend to travel in straight lines and impinge on the hot baffles, be evaporated thereon, and then join the main steam flow.

The operating of the heating element of the iron at lower temperatures, such as in the case when ironing synthetic fabrics, will of course lower the temperature of the baffles, and the temperature within the steam chamber, with a resultant decrease in evaporation. Thus moisture may form on the baffles and will collect at the bottom of the chamber to be subsequently evaporated by the hot casting of the steam chamber.

Further evaporation of the moisture in the steam will be obtained from the effect of the sudden expansion of the steam as it passes from one chamber to another, through notches 44.

In the foregoing description and in the accompanying drawings a specific arrangement of evaporation baffles within the steam chamber has been discussed, but it will be appreciated that the present invention relates to not just one but any number of baffle arrangements causing moisture impingement and evaporation.

What I claim is:

A steam iron including a steam chamber, a sole plate, a heating element positioned between the steam chamber and the sole plate, conduit means for introducing steam into the steam chamber, steam conduit means connecting the steam chamber with the sole plate and a plurality of evaporation baffles provided within the steam chamber and defining a circuitous path of travel for steam passing through the chamber. Said steam iron being further characterized in that said steam chamber consists of an upper and lower part fixedly secured together, said lower part having a plurality of upstanding evaporation baffles and said upper part having a plurality of evaporation

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baffles projecting downwardly between said upstanding baffles.

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