

Nov. 12, 1957

A. C. WOOD

2,812,598

STEAM GENERATING ATTACHMENT FOR A LAUNDERING IRON

Filed March 21, 1955

3 Sheets-Sheet 1

Fig. 1.

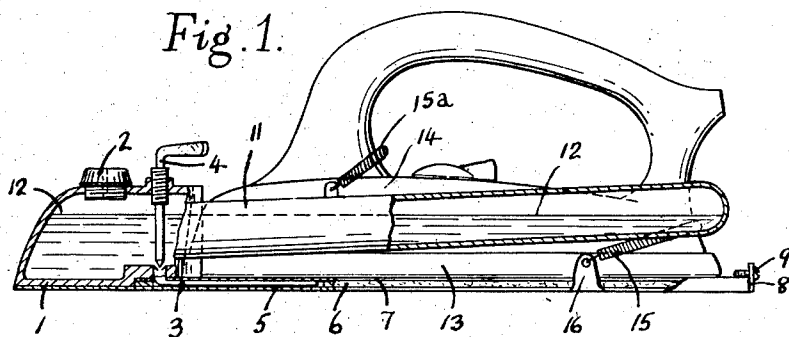


Fig. 2.

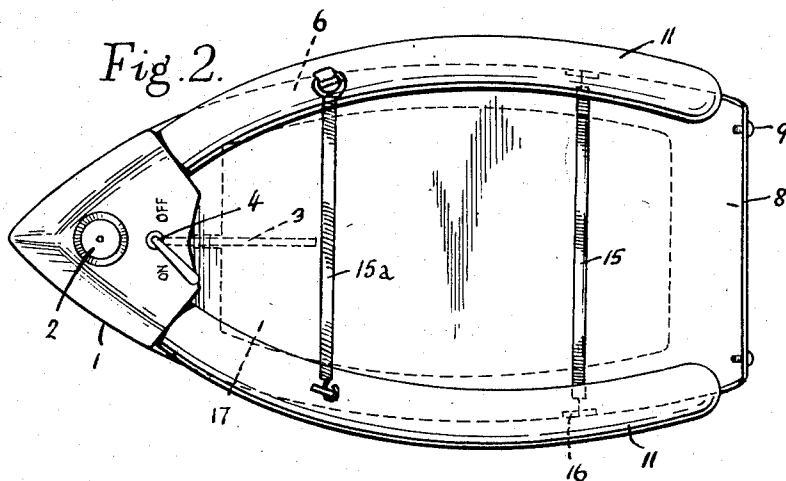
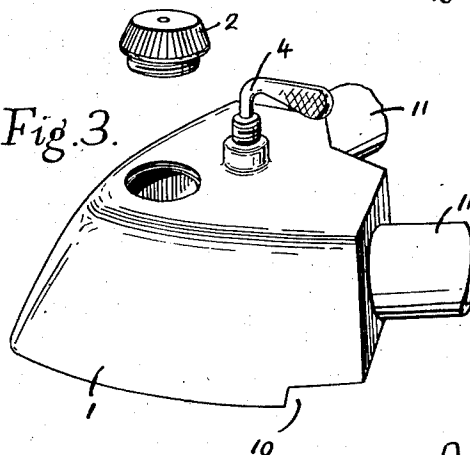


Fig. 3.



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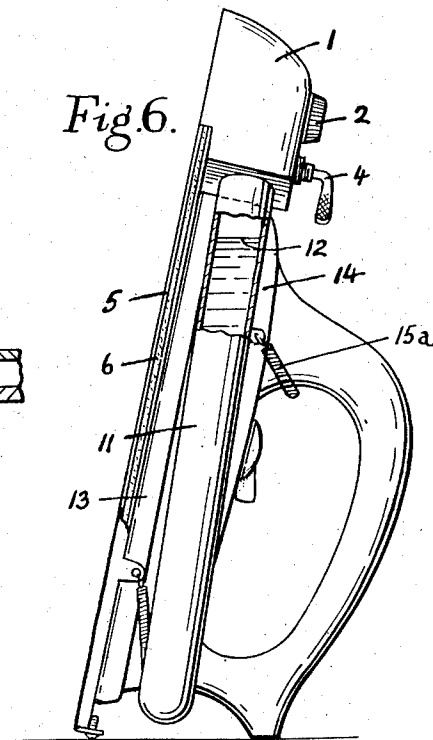
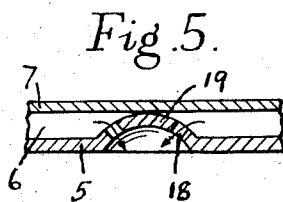
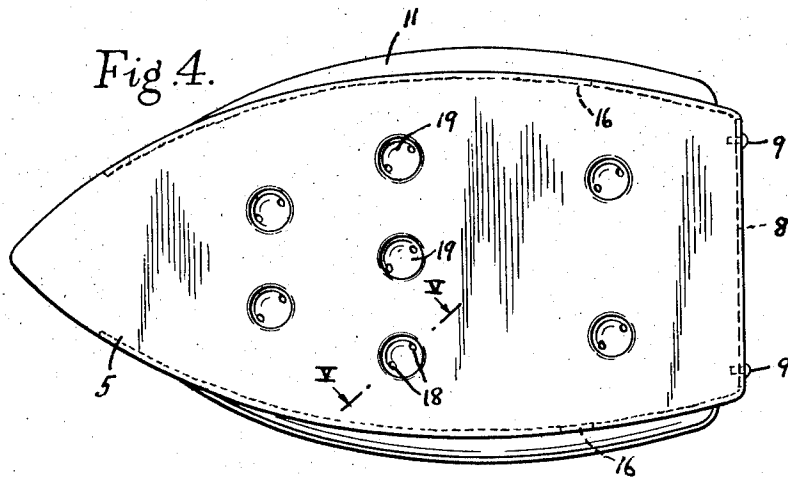
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STEAM GENERATING ATTACHMENT FOR A LAUNDERING IRON

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3 Sheets-Sheet 2



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Fig. 7.

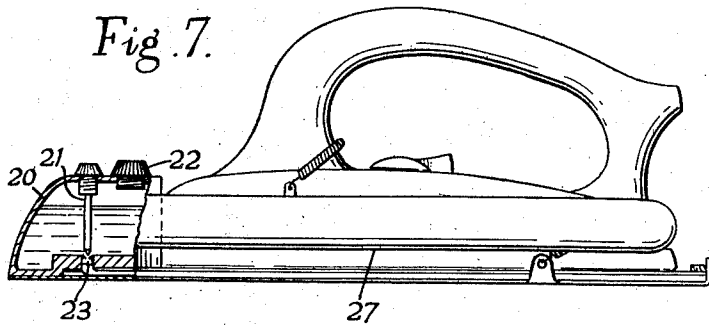


Fig. 8.

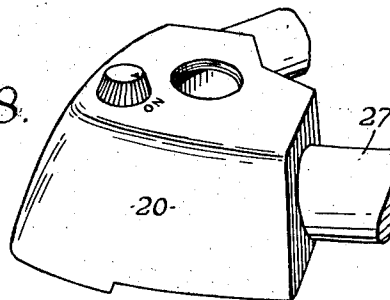
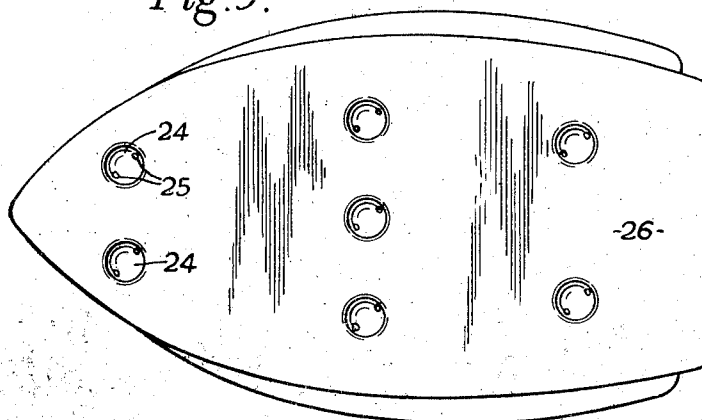


Fig. 9.



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STEAM GENERATING ATTACHMENT FOR A LAUNDERING IRON

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Claims priority, application Great Britain March 27, 1954

2 Claims. (Cl. 38—77)

This invention relates to laundering irons and in particular to attachments for use with such irons for the provision of a supply of steam to the material being ironed.

The main object of the present invention is to provide an improved and simplified construction facilitating distribution of the steam over substantially the whole of the ironing surface of the attachment.

A second object of the invention is to provide means whereby the attachment may be readily secured to the iron with which it is to be used.

A third object is to provide an improved construction whereby the development of steam automatically ceases when the iron, having the attachment thereon, is stood up on its rear end in the usual manner when not in use.

According to the present invention, a steam forming and distributing attachment for a laundering iron comprises an upper plate adapted to form a seating for the usual sole plate of the iron, a base plate for contacting the material to be ironed in the manner of a sole plate, a peripheral washer held between the upper plate and base plate and defining therewith a central cavity extending over most of the base plate, apertures in the base plate communicating between the cavity and the outer surface of the base plate, and means for supplying water to the cavity for the generation of steam therein.

Means are advantageously provided for securing the attachment on the iron, and in a preferred construction such means include one or more resiliently extensible members, e. g. spiral springs, coupled to the attachment and arranged to pass about the body of the iron. Additionally, a nose structure on the base plate may have an undercut recess therein to receive the usual pointed front end of the sole plate of the laundering iron.

Preferably the attachment includes an integral water supply container and in a practical form such container is carried at the front end of the base plate and communicates with the front end of the cavity formed between the base plate and upper plate.

In an advantageous embodiment, the water container extends for some distance along the length of the attachment and communicates through passage means with the cavity at or towards the front end thereof, the arrangement being such that when the attachment is stood up on its rear end the water level in the container falls below the level of the passage means and the supply of water to the cavity automatically ceases, whereby waste of water is avoided when the iron is not actually in use.

By way of example, such a water container includes a tank at the nose of the base plate and two lateral tubes mounted on the tank and opening thereinto at their front end, said tubes extending along each side of the attachment towards the rear thereof.

Means may be provided for varying the rate of supply of water to the cavity, e. g. a simple manually-operable valve.

The base plate preferably includes one or more portions

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displaced upwardly towards the upper plate so as to form bearers for the upper plate, whereby the latter is supported and thus may be made of relatively thinner material. The apertures of the base plate may be provided in the upwardly-displaced bearer portion or portions; e. g. the latter may be domed portions with the apertures eccentrically positioned therein.

An embodiment of the invention, and a modification thereof, are hereinafter particularly described with reference to the figures of the accompanying drawings, wherein:

Figure 1 is a side elevation, partly in section, of the attachment secured in position on a laundering iron;

Figure 2 is a plan view of the attachment, with the laundering iron removed;

Figure 3 is a perspective elevation of a nose portion of the attachment serving as a water container;

Figure 4 is an underplan view of the attachment;

Figure 5 is a fragmentary section, taken at the line V—V of Figure 4;

Figure 6 is an elevation of the attachment fitted on a laundering iron, the latter being stood up on its rear end in the non-use position;

Figure 7 is a side elevation of a modification;

Figure 8 is a perspective elevation of a somewhat shorter nose portion in the modification of Figure 7; and

Figure 9 is an underplan of the modification of Figure 7.

In Figures 1 to 6 the attachment consists of a hollow nose portion 1, advantageously formed as a die-cast metal member, having in its upper wall a screw-threaded filler opening to receive a correspondingly screw-threaded cap 2 provided with a very small central bore for the passage of air into the nose portion as water is removed. At the rear, the base of the nose portion 1 is apertured to receive a capillary tube 3 the front end of which is formed as a conical valve seating to coact with a needle valve member 4 threaded through the upper wall of the nose portion 1. The valve member 4 has at its upper end a turned-over portion for easier manipulation by the fingers, and said turned-over portion may also serve to act in conjunction with markings such as "off" and "on" on the top surface of the nose portion. Alternatively, the turned-over portion could be replaced by a round cap similar to the cap 2 but preferably smaller, and having "on" and "off" markings on it. Rotation of the valve member 4 causes the front end of the capillary tube 3 to be more or less opened to control the flow of water into the tube 3 from the inside of the nose portion 1, the latter being preferably suitably insulated to prevent the water therein reaching boiling point.

The nose portion 1 is mounted at the front end of a base plate 5, preferably die-cast, of substantially the shape of a common laundering iron, on which is seated a peripheral washer 6 surmounted by an upper plate 7, the base plate 5 with the washer 6 and upper plate 7 serving to define an internal cavity extending over the greater part of the area of the base plate. The base plate 5 is provided with a peripheral upturned flange through the rear portion 8 of which are threaded two screws 9 serving to bear on the top surface of the upper plate 7 and retain the latter in position. The front end of the washer 6 and of the upper plate 7 is engaged under the rear of the nose portion 1 in a recess 10 therein. At its rear the nose portion 1 has mounted thereon, at each side, a substantially horizontal lateral tube 11, of round or oval section, closed at the rear end and opening at the front end into the interior of the nose portion 1. These two tubes 11 serve, in conjunction with the nose portion 1, as a container for water to be turned into steam, the reference 12 denoting a water level therein.

In Figures 1 and 6 the attachment is shown in conjunction with a laundering iron consisting of a sole plate

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13 and a body and handle portion 14. The nose at the front end of the sole plate 13 is engaged in an undercut V-shaped recess in the rear wall of the nose portion 1, which serves for retention to the iron at the front, whilst near the rear end of the attachment there are provided, on the base plate 5, two lugs 16 arranged one at each side and serving for coupling the ends of a spring 15 which is passed over the rear portion of the body 14 on the iron and serves to retain the iron and attachment together at the rear end. A second spring 15a, releasably passed through the handle of the iron, is coupled at one end to a lug on one of the tubes 11 and has at its other end a ring to engage about a hook on the other tube 11.

Figures 4 and 5 illustrate details of construction of the base plate which is provided with a number of domed areas 19 the height of which corresponds to the height of the central cavity 17 formed between the base plate 5 and upper plate 7, whereby the upper plate rests on and is supported by these domed areas and as a result of which the upper plate can be made of thinner and lighter material than would be necessary if it were wholly self-supporting over the cavity.

In order to allow passage of the steam from the cavity 17 to the material being ironed, the domed areas 19 of the base plate 5 have holes 18 therein, these holes being eccentrically placed so as not to be obstructed by the upper plate resting thereon.

The operation is as follows:

Assuming that the attachment is already secured on the iron in horizontal position, water is filled into the nose portion 1 and tubes 11 through the filler opening with the cap 2 removed. The cap 2 is then replaced and the valve member 4 is operated to open the front end of the capillary tube 3 slightly so as to allow water to pass slowly through the tube 3 into the cavity 17. As the upper plate 7 is in direct contact with the hot sole plate of the iron, the water entering the cavity 17 is turned immediately into steam which passes through the holes 18 in the base plate 5 and over a wide area into the material being ironed. The rate of production of steam according to requirements, e. g. type of material, can be governed by movement of the valve member 4 with the finger.

Between ironing movements, when it is desired that the necessarily limited water supply shall not be wasted, the iron is stood up on end in the usual manner, as shown in Figure 6, and in this position the whole of the water supply passes into the two tubes 11 and thus lies at a level below that of the front end of the tube 3 so that no more water passes into the cavity 17 and waste is avoided. As soon as the iron is placed horizontal again, when ironing recommences, the water again flows through the tube 3 and steam is produced as before.

The washer 6 is advantageously of heat-resisting resilient material whereby a seal between it and the base plate and upper plate is more readily obtained.

The rate of water flow can be varied between intermittent drops and a steady flow, and for use of the iron dry in the normal manner can be cut off altogether, whereby the attachment need not be removed.

The tubes 11 could advantageously be made of transparent plastic material so as to allow a visual indication to be given of the quantity of water available for use.

In Figures 7, 8 and 9 the nose portion 20 has been modified by placing the valve control knob and valve member 21 ahead of the filler cap 22 whereby the opening of the tube 23 is as far forward as possible. With this arrangement, when the iron is stood on its rear end, even with the water container completely filled, very little if any water will pass into the tube 23. Similarly, the nose portion 20 being shorter allows the foremost domed portions 24 and holes 25 to be placed further forward

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at the important forward area of the base plate 26. The tubes 27 are made horizontal instead of inclined to avoid air-locks when filling.

As the only engagement between the attachment and the iron is by virtue of the insertion of the nose of the sole plate of the iron into the undercut recess of the nose portion 1 of the attachment, and by virtue of the engagement of the springs about the body of the iron, the width and length of the iron can vary within limits and the attachment can accordingly be used in conjunction with most common domestic laundering irons at present available.

I claim:

1. A steam forming and distributing attachment for a laundering iron, comprising a base including an upper plate and an apertured lower plate spaced apart and defining between them a cavity, the upper plate serving to form a seating for the usual sole plate of the iron and the lower plate serving to contact the material to be ironed, a hollow nose portion mounted on the front end of the base, a conduit in the base forming a communication between the hollow nose portion and the cavity of the base for flow of water from the container to the cavity, and a tubular water container mounted by one end on the hollow nose portion and disposed above and spaced from the upper plate of the base, said water container being closed at its end remote from the hollow nose portion and opening at its other end into said hollow nose portion, whereby when the attachment is disposed for ironing with the base approximately horizontal water in the tubular container flows by gravity into the hollow nose portion for feeding through the conduit to the cavity of the base, and when the attachment is disposed in a rest position vertically on its end remote from the hollow nose portion, the water flows out of the hollow nose portion back into the tubular water container and the supply to the base is cut off.

2. A steam forming and distributing attachment for a laundering iron comprising a base including an upper plate and an apertured lower plate spaced apart and defining between them a cavity, the upper plate serving to form a seating for the usual sole plate of the iron and the lower plate serving to contact the material to be ironed, a hollow nose portion mounted on the front end of the base, a conduit in the base forming a communication between the hollow nose portion and the cavity of the base for flow of water from the container to the cavity, a manually operable flow control valve in said conduit, and two tubular water containers mounted each by one end on the hollow nose portion and disposed above and spaced from the upper plate of the base, said water containers being closed at their ends remote from the hollow nose portion and opening at their other ends into said hollow nose portion, whereby when the attachment is disposed for ironing, with the base approximately horizontal, water in the tubular containers flows by gravity into the hollow nose portion for feeding through the conduit as regulated by the flow control valve, and when the attachment is disposed in a rest position vertically on its end remote from the hollow nose portion, the water flows out of the hollow nose portion back into the tubular water containers and the supply to the base is cut off.

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