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STEAM IRON BASE

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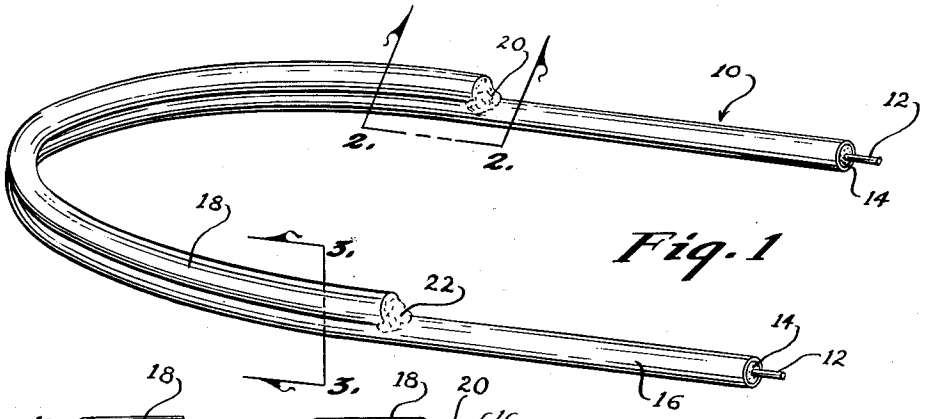


Fig. 1

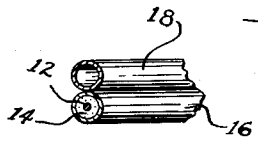


Fig. 3

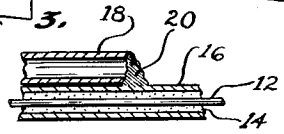


Fig. 2

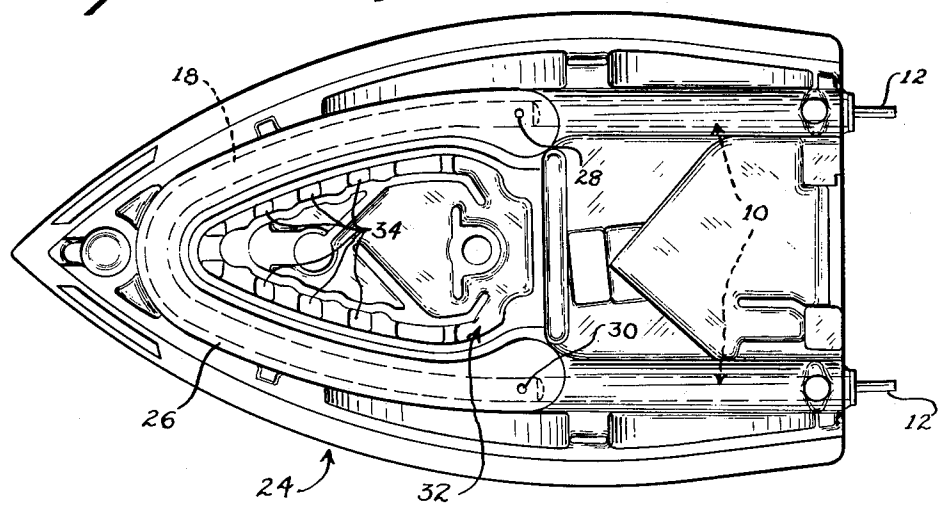


Fig. 4

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STEAM IRON BASE

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This invention relates to irons for heat pressing fabrics and the like. More specifically, the present invention relates to novel steam iron base structures.

In the manufacture of steam irons it is a common practice to make a metal casting of the base element of the iron which includes the heating elements. The heating elements normally comprise resistance wires adapted to have a current passed therethrough for generating heat. It has been found convenient in many instances to enclose the wire in a tubular metal element of high heat conductivity which can be bent into a desired shape and incorporated in the base casting. A portion of the casting directly adjacent the heating element is left open, in the nature of an indentation or open chamber in the casting. After the casting has been made this indentation or chamber is closed by conventional means, such as welding or soldering a separate strip of metal to the open side of the chamber so that a substantially vapor-tight hollow cavity is formed in the casting adjacent all or part of the heating element. This cavity then serves as the chamber in which the water is boiled into steam. A hole is drilled into one side of the chamber to allow the entrance of water from a reservoir in the body of the iron. A second hole is drilled into the other side of the chamber to provide an exit for the steam into a desired portion of the iron to be applied to the fabric or the like which is being pressed.

It is a principal object of the present invention to provide a steam iron base having an improved chamber in which the water is converted to steam.

It is a further object to provide a steam iron base having a hollow, tubular boiler chamber adjacent to the heating element, both of which are incorporated in the iron base casting.

Yet another object is to provide a novel steam iron base structure which is durable in use and economical in manufacture.

Other objects will in part be obvious and in part appear hereinafter.

The invention accordingly comprises the apparatus having the structure, arrangement of parts and combination of elements as set forth in the following detailed disclosure, and the scope of the application of which will be indicated in the claims. For a fuller understanding of the nature and objects of the present invention reference should be had to the following detailed description, taken in connection with the accompanying drawing, wherein:

FIG. 1 is a perspective view of a preferred embodiment of the heating element and boiler or steam chamber of the present invention;

FIG. 2 is a fragmentary side sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is a fragmentary, sectional end perspective view taken on the line 3—3 of FIG. 1; and

FIG. 4 is a top plan view of an iron base casting including the elements shown in FIG. 1.

Referring now to the drawing, in FIG. 1 I have shown the heating element, represented generally by the numeral **10**, as a substantially U-shaped member comprising an inner resistance wire **12**, adapted to generate heat in response to the passage of an electric current therethrough, encased in an electrically insulating material **14**, which provides minimal interference with the transfer of heat from wire **12** to the tubular casing **16**, which also has high heat conducting properties. A hollow tubular member **18** is provided adjacent heating element **10**, and in

FIG. 1 is shown as being of substantially the same shape and attached directly thereto as by soldering, welding, or the like. It is also desirable that member **18** be constructed of a material having good heat conducting properties. Both casing **16** and member **18** may be conveniently fabricated from lengths of metal tubing, such as copper, for example. The ends of member **18** may be closed, as by solder or welds, shown at **20** and **22**, and attached to heating element **10** at the same time by the same solder or weld. The unitary structure shown in FIG. 1, comprising the heating element having a hollow, sealed chamber associated therewith, is thus formed.

In FIG. 4 is shown a casting, designated generally by the numeral **24**, into which is incorporated the structure shown in FIG. 1. Casting **24** is designed to form the base portion of a steam iron. A raised portion **26** on casting **24** encloses member **18**. So that water may enter the chamber in the interior of member **18** from a conventional reservoir in the body of the iron (not shown) a hole **28** is drilled through raised portion **26** and member **18**. A similar hole **30** is provided in the opposite end of raised portion **26** and member **18** so that after the water has been heated by element **10** the steam may escape. When the iron is fully assembled the water reservoir is in communication with the interior of member **18** through hole **28**, and hole **30** communicates with a chamber **32** formed in casting **24**. It is a conventional practice to provide holes, such as those shown at **34**, through the base of the iron so that the steam may be applied to the fabric, or the like, being ironed.

Thus, it may be seen that when the structure shown in FIG. 1 is incorporated in the casting of the base portion of an iron, it is necessary only to drill holes through the casting and the tubular member forming the boiler or steam chamber and place these holes in communication with the water reservoir and steam outlet by conventional means. Wire **12**, in which the heat for providing the steam is generated, extends from the casting, and is adapted to be connected with a source of electrical energy, again by conventional means.

Some changes may be made in the construction and arrangement of my steam iron base without departing from the real spirit and purpose of my invention, and it is my invention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. A steam iron base comprising, in combination:
   (*a*) an iron base casting;
   (*b*) a substantially U-shaped, tubular, electric heating element incorporated in and enclosed by said casting and adapted to be connected with a source of electrical energy;
   (*c*) a hollow, tubular, substantially vapor-tight element attached to the upper portion of said heating element, said vapor tight tubular element being incorporated in and enclosed by said casting;
   (*d*) a first passageway extending through a first portion of said casting to the interior of said vapor tight tubular element; and
   (*e*) a second passageway extending through a second portion of said casting to the interior of said vapor tight tubular element, said second passageway being substantially spaced from said first passageway, a plurality of holes in the bottom of said iron base casting between the sides of said U-shaped heating element, said second passageway being in communication with said plurality of holes.

2. A steam iron base comprising, in combination:
   (*a*) an iron base casting having a raised portion;
   (*b*) an elongated electric heating element incorporated in and enclosed by said casting;

(c) a hollow, tubular, substantially vapor-tight element incorporated in and enclosed by the raised portion on said casting, and secured to the upper portion of said heating element;

(d) a first passageway extending through said raised portion and said tubular element adjacent one end thereof; and

(e) a second passageway extending through said raised portion and said tubular element adjacent the other end thereof.

3. A steam iron base comprising, in combination:

(a) an iron base casting having a raised portion;

(b) a substantially U-shaped electric heating element incorporated in and enclosed by said casting;

(c) a hollow, tubular, substantially vapor-tight element incorporated in and enclosed in the raised portion on said casting, and secured to the upper portion of said heating element said vapor-tight element being substantially U-shaped;

(d) a first passageway extending through said raised portion and said tubular element adjacent one end thereof;

(e) a second passageway extending through said raised portion and said tubular element adjacent the other end thereof;

(f) said first passageway being in communication with a supply of water adapted to be introduced into said tubular element through said first passageway; and

(g) said second passageway being in communication with means for applying steam created by the heating of said water by said heating element to a workpiece through said iron base.

4. A steam iron base comprising, in combination,

an iron base casting,

a substantially U-shaped, tubular, electric heating element incorporated in and enclosed by said casting and adapted to be connected with a source of electrical energy,

a hollow, tubular, substantially vapor-tight element attached to the upper portion of said heating element, said vapor tight tubular element being incorporated in and enclosed by said casting,

said vapor-tight element being substantially U-shaped,

a first passageway extending through a first portion of said casting to the interior of said vapor-tight element,

a second passageway extending through a second portion of said casting to the interior of said vapor-tight element, said second passageway being substantially spaced from said first passageway,

a plurality of holes in the bottom of said iron base casting between the sides of said U-shaped heating element,

said second passageway being in communication with said plurality of holes.

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