March 31, 1942. L. HOFFMAN 2,278,370

STEAM PRESSING IRON

Filed March 9, 1940

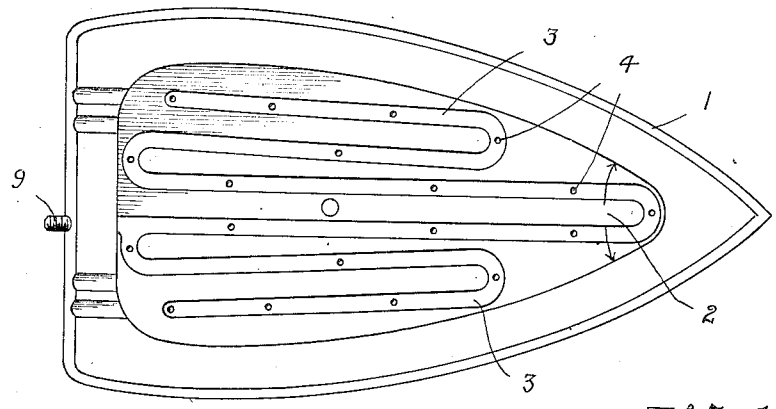


Fig. 1.

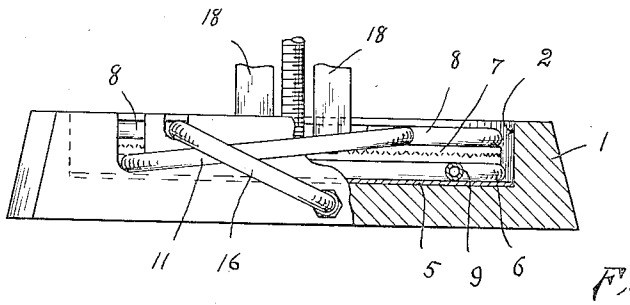


Fig. 2.

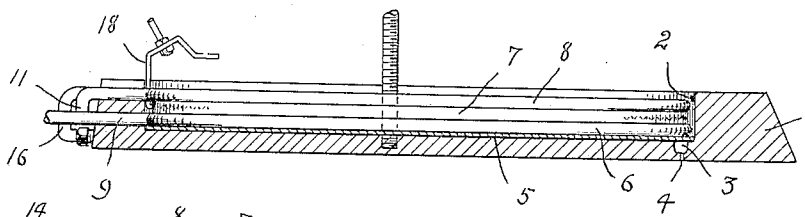


Fig. 3.

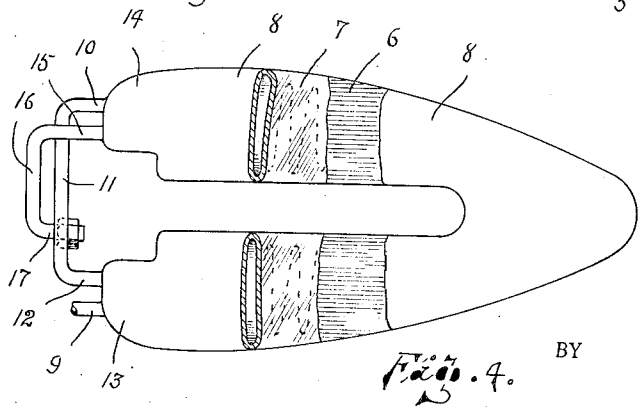


Fig. 4.

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Patented Mar. 31, 1942

2,278,370

UNITED STATES PATENT OFFICE

2,278,370

STEAM PRESSING IRON

Louis Hoffman, Duluth, Minn.

Application March 9, 1940, Serial No. 323,148

3 Claims. (Cl. 38—77)

This invention relates to steam pressing irons and has special reference to a novel form of steam generating means particularly adapted for same.

The principal object is to provide a combined steam boiler and superheating element for such an iron to insure as dry steam as possible with the least amount of heat, and that very quickly susceptible to control.

Another object is to provide such means whereby the base of the iron is uniformly heated, and such heating maintained throughout the operation of the iron.

Other objects and advantages of the invention will appear in the following description thereof.

Referring now to the accompanying drawing forming part of this application and wherein like reference characters indicate like parts:

Figure 1 is a plan view of the base portion of a steam pressing iron embodying the invention.

Figure 2 is an enlarged part section and rear end elevation of the base portion of an iron having the steam generating and heating element installed therein.

Figure 3 is a central longitudinal section of Figure 1 showing the steam generating and heating elements in elevation.

Figure 4 is a broken plan view of the heating element and boilers, one of the latter being shown partly in section.

In the drawing, 1 represents the base portion of the iron, having the chamber 2 formed therein and the bottom of which chamber is preferably provided with any desired form of continuous relatively narrow channel indicated at 3, for the reception of steam from the boiler and conducting same through the bottom of the iron by means of suitable perforations, indicated at 4, spaced longitudinally throughout the channel 3 as may be desired.

Upon the flat portion of the bottom of the chamber 2 is installed the auxiliary bottom or covering plate 5 being securely held or otherwise fastened about its edges to the base 1, and upon which the lower receptacle 6 of the compound flash boiler, is placed. Directly above the receptacle 6 and resting thereupon is the electric heating element 7, such as are common in electric sadirons and on top of this heating element rests the uppermost receptacle 8 of the boiler, and thus all of the heat generated by the heating element must necessarily pass by conduction into the water to be generated into steam in either receptacle above or below the element, resulting in an extremely efficient steam generator for the purpose.

Both of these receptacles are shown as being of substantially equal size and the major portion of each of which is bifurcated vertically as clearly illustrated in Figure 4 of the drawing, and, to one branch of the bifurcated portion of the receptacle 6, is attached the water supply connection illustrated at 9, while from the other branch of the bifurcated portion of such receptacle is connected the end 10 of the pipe 11 having its other end 12 attached to the diametrically opposite branch 13 of the uppermost receptacle 8. To the opposite branch 14 of the uppermost receptacle is connected one end 15 of the pipe 16, which leads to the base of the pressing iron, and communicates directly with the channel 3 therein, this end of the pipe 16 being illustrated at 17.

The bifurcation of these two receptacles is not only for the purpose of causing the fluid to traverse as great an area as possible passing therethrough, but especially the enlargement of such bifurcation near the rear of the iron in the uppermost one of the receptacles provides convenient means for the installation and support of the electric connection which is common to such irons and illustrated at 18, and furthermore such receptacles being of substantially identical shape materially reduces the cost of production and assembly of same.

The receptacles 6 and 8 thus being made flat and relatively thin for best steaming results, contact not only the greatest area possible of the iron as well as the electric heating element, and results in almost entire absorption of the heat from said element.

An important feature to be noted results from the shape of the receptacles 6 and 8 in that they have each but a single continuous chamber, which construction overcomes much of the annoyance experienced in ordinary steam pressing irons in clogging up from sediment, lime, or the like, in the water supplied to the iron for generation into steam.

Furthermore it is apparent that by the construction of such a compound boiler as herein described the same may be readily renewed or exchanged when necessary for any reason with the least annoyance possible.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a steam unit for a pressing iron, having a hollow body and a perforated pressing face, two relatively thin hollow receptacles, within and conforming to the shape of said hollow body, in su-

perimposed relation and spaced apart, an electric heating element installed between said receptacles, a water intake pipe connected to the lowermost one of said receptacles when in position within the iron, a discharge pipe connection from said lower receptacle to the uppermost receptacle and a discharge connection from said upper receptacle to and through the perforated pressing face of said iron whereby water when admitted to said unit is first converted into steam and the steam then superheated and the superheated steam then conducted to the perforations and ejected therethrough against the work.

2. In a steam pressing iron, a hollow body portion provided with a perforated pressing face for ejection of steam as such against the work, a compound flash boiler therefor comprising two like relatively thin flat hollow superimposed bifurcated receptacles, fitting in spaced relation within said hollow body portion, a heating element intermediate of said receptacles, a pipe connection to one branch of the bifurcated portion of the lower receptacle, a connection from the other branch of said lower receptacle to one branch of said upper receptacle and a discharge connection leading from the other branch of said upper receptacle whereby water entering the lower section may be flashed into steam and quickly superheated before being used, and means for conducting said superheated steam to said perforations and ejecting the same therethrough against the work.

3. In a steam pressing iron, a hollow body portion provided with a perforated pressing face for ejection of steam as such against the work, a pair of thin flat hollow flash boilers conforming to the shape of and fitting in spaced relation within said hollow body portion, an electric heating element between said flash boilers, means for conducting fluid to the lowermost of said boilers for generation into steam therein, means for conducting said steam from the lowermost to the uppermost of said boilers, for superheating the same therein, and means for conducting said superheated steam to said perforations and ejecting the same therethrough against the work.

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