May 6, 1941. H. V. EKSTEDT 2,240,612

STEAMING IRON

Filed Dec. 29, 1939

Fig. 1.

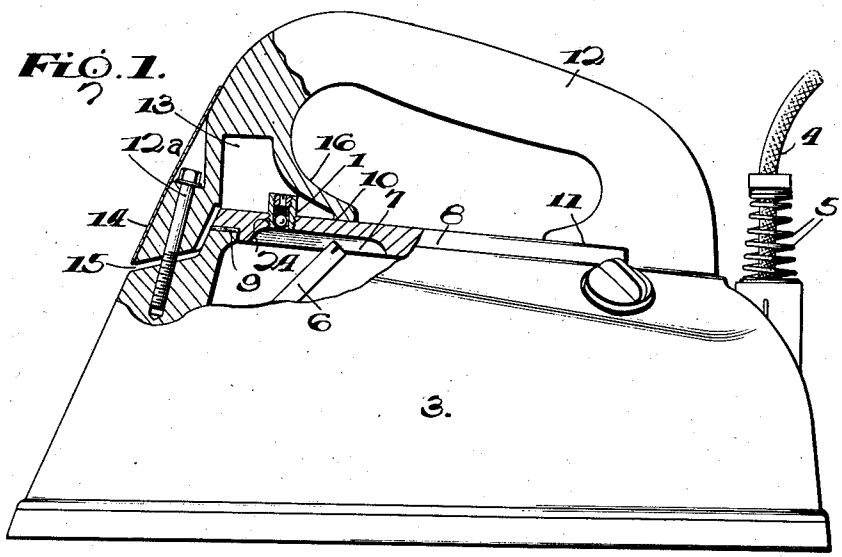


Fig. 2.

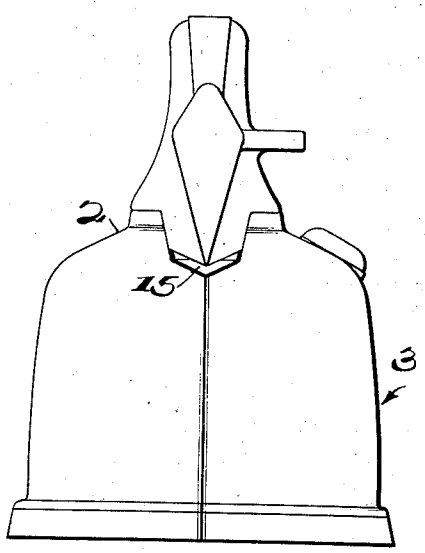
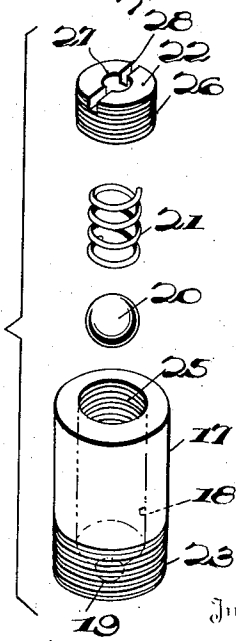


Fig. 3.



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STEAMING IRON

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4 Claims. (Cl. 38—77)

The invention relates to a steaming iron.

The object of the present invention is to provide for steaming irons a concealed safety pressure release valve adapted, should an iron while containing water or water and steam be heated to a higher temperature than a predetermined degree and the pressure within the iron increased beyond a predetermined degree, to open automatically under pressure within the iron and permit the escape of steam and thereby reduce the internal pressure, so that there will be no liability of any injury resulting from overheating a steaming iron containing water.

A further object of the invention is to provide a pressure release safety valve of this character which will be built in the steaming iron and so arranged that a portion of the iron will conceal the pressure release valve and also operate as a shield or guard to prevent escaping steam from coming in contact with the hand or arm of the operator and scalding or otherwise injuring the operator.

It is also an object of the invention to arrange the pressure release safety valve at the top of the water and steam generating reservoir beneath one end of the handle of the steaming iron, so that such end of the handle will conceal the pressure release safety valve and form a shield or guard which will prevent any escaping steam or hot water from coming in contact with a person operating the iron.

Another object of the invention is to arrange the outlet for the escape of steam so that such escaping steam will be discharged forwardly from the front end of the iron and away from the operator in the normal use of the iron, so that there will be little liability of any escaping steam or water coming in contact with any portion of the body of a person operating the iron.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawing and pointed out in the claims hereto appended, it being understood that various changes in the form, proportions and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:

Figure 1 is a side elevation partly in section of an electric steaming iron provided with a pressure release safety valve constructed in accordance with this invention.

Figure 2 is a front elevation of the same showing the front end of the handle arranged in spaced relation with the holder body or casing at the front end thereof to form an outlet for the pressure release safety valve.

Figure 3 is an exploded view illustrating the construction of the pressure release safety valve.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1 designates a pressure release safety valve which is located at the top wall 2 of a hollow body or casing 3 of an electric steaming iron. The pressure release safety valve is applicable to all types of steaming irons having a water reservoir adapted to receive water to be converted into steam for discharge at the pressing surface of the iron in the usual manner. The steam electric iron may be conveniently constructed as shown and described in my copending application filed on or about August 9, 1939, Serial No. 289,293. The electric current is supplied to the electric heater by an electric cord 4 having a plug 5 which is connected with fixed electric terminals or contacts, not shown, in the usual manner. As the pressure release safety valve is applicable to various types of steaming irons, heated electrically or by other means, specific illustration and description of the means for conducting steam from the interior of the hollow body or casing to the pressing surface of the iron is deemed unnecessary. However, in Fig. 1 of the drawing is illustrated the upper end of a steam pipe 6, which is located at the front portion of the water reservoir and which has its upper end located within an elongated pocket 7 formed in the lower face of a removable cover plate 8 which covers and closes a longitudinal opening 9 in the top wall of the hollow body or casing 3. The opening 9 extends from the front to the rear portion of the hollow body and the ends of the removable cover plate 8 are located in recesses 10 and 11 of a handle 12 constructed of Bakelite or other suitable non-heat-conducting material.

The handle 12, which is of the usual configuration, is detachably secured at its front and rear ends by front and rear fastening means, preferably the screws shown and described in the foregoing application, the front one of which is illustrated at 12^a in Fig. 1 of the drawing.

The front end of the handle is recessed at its lower face to provide a compartment or chamber 13 in which is located the pressure release safety valve 1, and the front portion 14 of the front end of the handle is arranged in spaced relation with the hollow body or casing 3 and the cover plate 8 to provide an intervening space

15 which forms an outlet for the escape of steam when the pressure release safety valve is automatically opened by pressure interiorly of the hollow body or casing. The rear portion 16 of the front end of the handle rests solidly upon the top of the hollow body or casing 3 and enables the front end of the handle to be rigidly secured to the hollow body or casing by the screw 12a. Thus, the chamber 13 and the space 15 provide a steam outlet from the pressure release safety valve to the atmosphere for the passage of steam discharged from said valve.

The pressure release safety valve comprises in its construction a barrel 17 arranged in substantially a vertical position and provided with a bore or opening 18, which is reduced in diameter at the lower end of the barrel to form a valve seat 19 for the reception of a ball 20. The ball 20 is normally retained on the seat 19 by a coil spring 21 arranged within the bore or opening 18 of the barrel and interposed between the ball 20 and an apertured plug 22. The lower end 23 of the barrel is exteriorly threaded and preferably tapered slightly in a downward direction and is screwed into a threaded opening 24 in the cover plate 8 at the front end of the elongated pocket 7. The upper end of the barrel 18 is interiorly threaded at 25 to receive the apertured plug 22, which is exteriorly threaded at 26 to engage the screw threads 25 in the upper end of the barrel. The threaded plug is provided with a central opening 27 for the escape of steam from the hollow body, and it is provided at opposite sides of the upper end of the opening 27 with grooves or recesses 28 for the reception of a screw driver or other tool for rotating the apertured plug to screw the same into or out of the barrel and also to adjust the same to vary the tension of the spring, so that the pressure release safety valve will open only when the pressure interiorly of the hollow body reaches a predetermined degree.

When the steam pressure within the hollow body 3 exceeds the predetermined degree for which the pressure release safety valve is set, the valve will open automatically and permit steam to pass through it into the chamber 13 and out through the outlet 15, and, as soon as the pressure within the hollow body is reduced to or below said predetermined degree, the valve will close automatically.

When the valve opens under excessive internal pressure and steam is discharged through the same, it escapes through the outlet 15 and is discharged from the iron in a forward direction away from the operator, when the person is operating the iron and the latter is in normal position with respect to the person. As the steam discharges forwardly from the front end of the iron, there will be no danger of the discharged steam coming in contact with the hand of the operator or in fact any portion of the person operating the iron. Also in the arrangement of the pressure release safety valve under the front end of the handle of the iron and within the chamber provided in the front end for the valve, a built-in structure is afforded and the valve is concealed from view and adequate protection for the operator is provided.

What is claimed is:

1. A steaming iron including a water reservoir adapted to contain water to be converted into steam, a handle provided at the lower face of one of its ends with a recess forming a chamber, a pressure release safety valve mounted on the steaming iron and located at the chamber of said handle and communicating with the water reservoir and operable under pressure within the reservoir when said pressure exceeds a predetermined degree, and an outlet communicating with said chamber and leading to the atmosphere said handle forming a shield for protecting an operator from steam discharged by said valve.

2. A steaming iron including a water reservoir adapted to contain water to be converted into steam, a handle provided in the lower face of its front end with a recess forming a chamber, an outlet communicating with the chamber and leading to the atmosphere at the front end of the steaming iron, and a pressure release safety valve carried by the steaming iron and communicating with the water reservoir and located at the chamber in the front end of the handle and operable under pressure within the water reservoir when such pressure exceeds a predetermined degree, said handle forming a shield for protecting an operator from steam discharged by said valve.

3. A steaming iron including a hollow body forming a water reservoir adapted to contain water to be converted into steam, a handle mounted on the hollow body and provided in the lower face of its front end with a recess forming a chamber, a portion of the front end of the handle being arranged in spaced relation with the hollow body to form an outlet leading from said chamber to the atmosphere, and a pressure release safety valve mounted on the hollow body and communicating with the water reservoir and located at said chamber in the handle, said valve being operable under pressure within the water reservoir when such pressure exceeds a predetermined degree, the front end of the handle forming a shield for protecting an operator from steam discharged by said valve.

4. A steaming iron having a water reservoir adapted to contain water to be converted into steam and provided with a handle having a chambered portion, a pressure release safety valve having communication with the reservoir and extending into said chambered portion of the handle and operable under pressure within the water reservoir when such pressure exceeds a predetermined degree, and an outlet communicating with said chambered portion of the handle and leading to the atmosphere for the discharge of steam passing through said valve.

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