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W. H. SLONAKER

STEAM SUPPLY DEVICE FOR ELECTRIC IRONS

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Fig. 1.

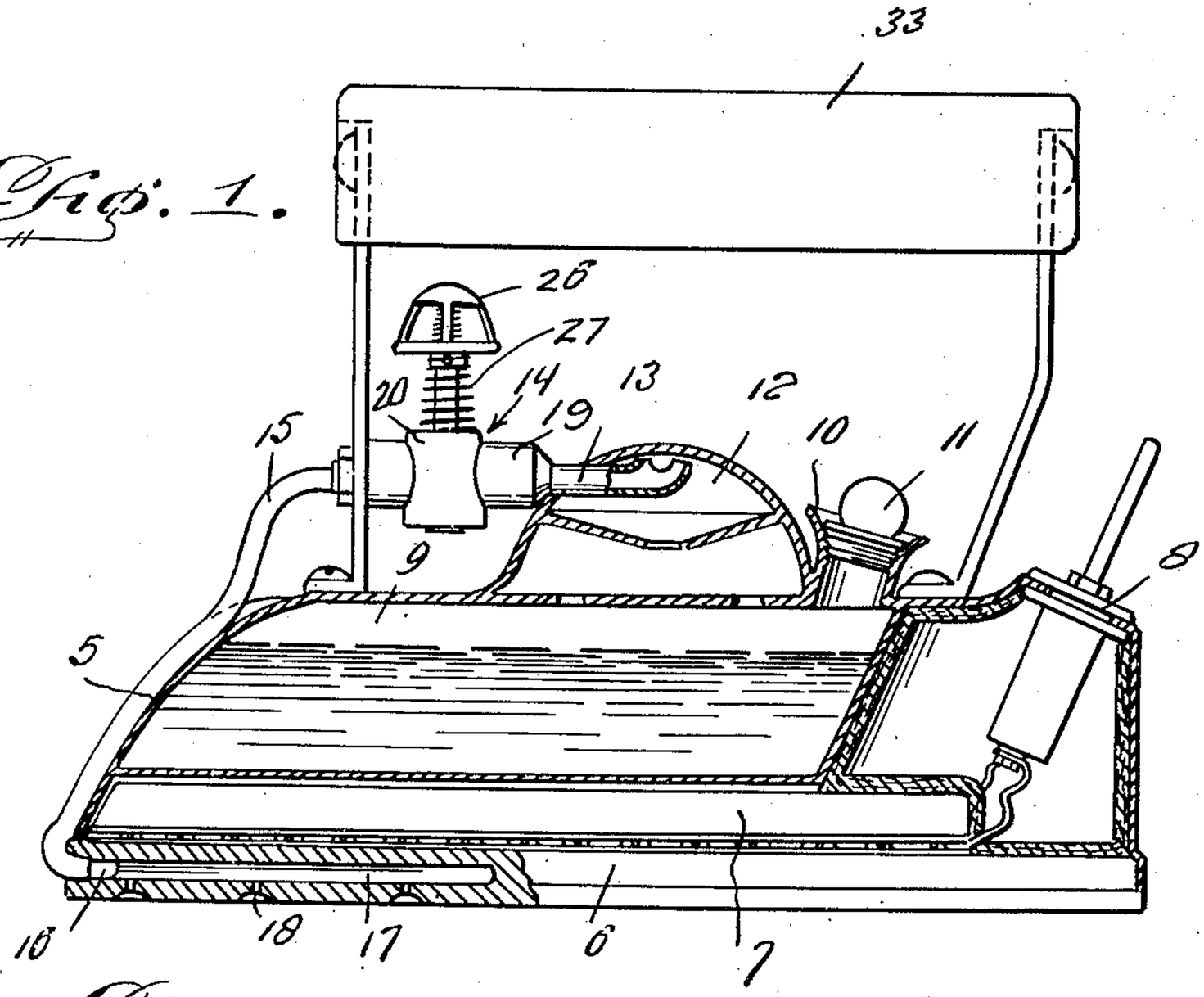

Fig. 2.

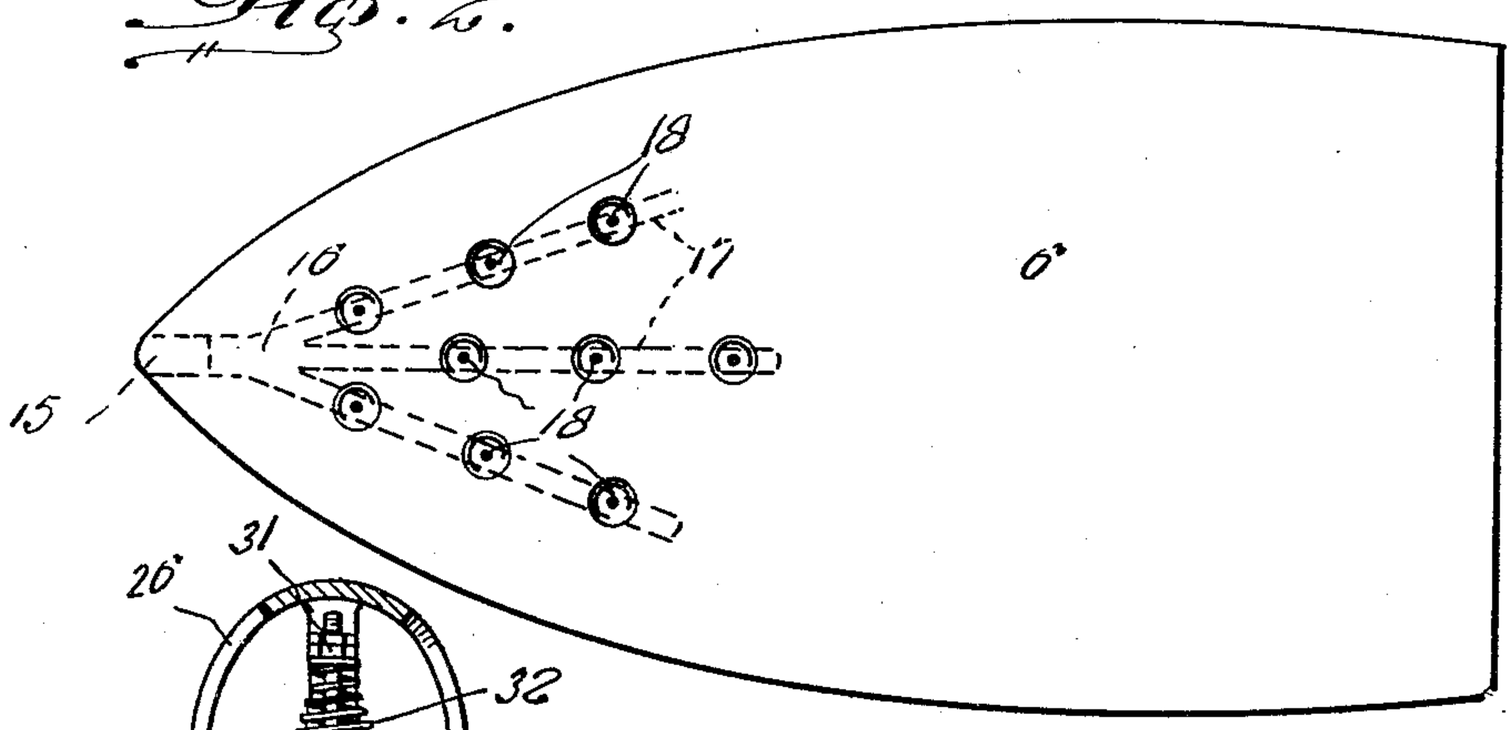

Fig. 3.

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UNITED STATES PATENT OFFICE.

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STEAM-SUPPLY DEVICE FOR ELECTRIC IRONS.

Application filed November 29, 1926. Serial No. 151,473.

This invention relates to new and useful improvements in steam supply device for electric irons and has for its primary object to provide a device of this character wherein the casing of the iron is constructed with a water compartment in order that steam may be generated during the use of the iron, means being provided to convey the steam from a steam dome to the face of the iron in order that the clothes may be properly moistened, and this during the ironing operation for obviously overcoming the requirement of sprinkling the clothes prior to the ironing operation.

A further and most important object resides in the provision of means directly beneath the handle of the iron whereby the valve for the steam between the said dome and face of the iron may be readily opened whenever it is required to dampen the clothes.

A still further object is to provide means associated with said first mentioned means to permit excess steam pressure to blow off, and this without requiring the attention of the operator.

An additional object is to provide an electric iron of this character that is extremely simple of construction, inexpensive of manufacture, and well adapted for all the purposes intended.

With the foregoing and other objects in view as will become apparent as the nature of the invention is better understood, the same comprising the novel form, combination, and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a longitudinal section of an electric iron constructed in accordance with the present invention.

Figure 2 is a view of the face of the iron, and

Figure 3 is an enlarged section of the combined manually controlled and automatically operable steam cut off and blow off valve.

Now having particular reference to the drawing my novel iron consists of a sheet metal casing 5 similar in shape to the casings of electric irons now universally in use and having within the bottom side thereof an ironing plate 6 upon the top side of which is the usual heating coil 7 electrically connected at its rear end to the usual cable attaching plug 8 of conventional design.

Formed within the casing 5 is a horizontal water compartment 9, the top wall of which is formed adjacent its rear end with a filler neck 10 normally closed by readily removable plug 11. Directly in front of this filler neck 10 the top wall of the water compartment is formed or provided with a dome 12 into which generated steam may pass by reason of one or more openings within the top wall of the water compartment beneath said dome 12, see Figure 1.

Leading from the steam dome 12 is a steam inlet pipe 13 that communicates with a valve 14 in communication with which is also one end of a steam conducting pipe 15 that is extended downwardly with respect to the nose of the iron and that has contact with the nose as clearly disclosed in Figure 1, said nose being preferably formed with a depression for receiving this pipe so that the forward end thereof will be flush with the pipe. The lower end of the pipe extends inwardly and is arranged wtihin a socket 16 in the nose of the ironing face 6 extending longitudinally from which are a plurality of radiating steam passage bores 17, preferably three in number. Formed within the ironing surface of the plate 6 and having communication with said steam passage bores 17 are steam outlet openings 18, the lower ends of which are greatly enlarged so that the steam passing therethrough will expand to a certain extent so that the pressure of the steam passing onto the clothes will not be unusually great.

The valve 14 heretofore mentioned consists of a casing 19 having a central cylindrical portion 20 within which is slidably arranged a hollow cylindrical core or body 21 formed at opposed points with steam inlet and exhaust openings 22 and 23, respectively, the inlet 22 being considerably longer than the exhaust 23, while said inlet is at all times open to the intake passage 24 of the valve in communication with which is the previously mentioned intake nozzle 13 arranged within the steam dome 12. On the other hand, the outlet opening 23 of said core or body is normally closed with respect to the outlet opening of the valve in communication with which is the steam conducting pipe 15. To prevent the rotation of the core or body within the cylindrical portion of the valve casing,

the upper end of said core or body is provided with a square shaped stem 25 vertically movable within a squared opening in the upper end of said casing, while positioned upon the extreme upper end of the stem is a dome like hollow thumb knob 26 provided for facilitating the downward movement of the core or body within the casing under pressure of the thumb of the user of the arm. Arranged beneath said member 26 and surrounding said stem 25 is a conical expansible spring 27 for normally forcing upwardly upon the knob for consequently maintaining the core or body 21 in closed position as indicated in Figure 3. Obviously, the downward movement of the core or body will move the outlet opening 23 of the core or body into communication with the discharge nozzle of the valve in an obvious manner.

The lower end of the core or body 21 is formed with a tapered opening 28 within which is arranged a disc valve 29 arranged upon the lower end of a valve pin 30 that extends upwardly through the core or body and through a longitudinal bore in the core stem 25. The upper end of this pin projects through the upper end of the stem and has arranged thereon a nut 31. Surrounding the pin between the nut and the bottom of the thumb nut 26 is an expansible coil spring 32 for normally maintaining the valve 29 in closed position within the seat 28. However, insomuch as the steam from the dome 12 has communication at all times with the interior of the core or body 21 the valve 29 will be automatically opened under predetermined steam pressures so as to permit the steam to escape when the pressure becomes too great.

Secured to the top wall of the iron casing 5 is a suitable horizontal handle 33 directly beneath or to one side of the forward end of which is arranged the valve 14 so that as above stated, the thumb of the operator may conveniently engage the thumb knob 26 to facilitate the opening of the valve so that the steam may exhaust through the openings in the radiating bores 17 when it is desired to moisten the clothes.

It will thus be seen that I have provided a highly novel, simple, and efficient electric iron that is well adapted for all the purposes heretofore designated, even though I have herein shown and described the invention as consisting of certain detail structural elements, it is nevertheless to be understood that minor changes may be made therein without effecting the spirit and scope of the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a steam supply control valve, a casing provided with diametrically opposed steam inlet and outlet openings, a hollow body vertically slidable within the casing, said hollow body being provided with diametrically opposed inlet and outlet openings, the inlet opening in the body being at all times in communication with the inlet opening of the casing, the outlet openings being normally out of registry with each other, a stem extending upwardly from the hollow body and freely slidable through the top of the casing, a handle on the upper end thereof for manually moving the hollow body downwardly in the casing for bringing the outlet opening in the hollow body into communicaton with the outlet opening of the casing, whereby the steam may be emitted through the outlet opening in the casing, and resilient means for normally maintaining the hollow body in a raised position to prevent the discharge of the steam through the outlet opening in the casing.

2. In a steam supply control valve, a casing provided with diametrically opposed steam inlet and outlet openings, a hollow body vertically slidable within the casing, said hollow body being provided with diametrically opposed inlet and outlet openings, the inlet opening in the body being at all times in communication with the inlet opening of the casing, the outlet openings being normally out of registry with each other, a stem extending upwardly from the hollow body and freely slidable through the top of the casing, a handle on the upper end thereof for manually moving the hollow body downwardly in the casing for bringing the outlet opening in the hollow body into communication with the outlet opening in the casing, whereby the steam may be emitted through the outlet opening in the casing, resilient means for normally maintaining the hollow body in a raised position to prevent the discharge of the steam through the outlet opening in the casing, and means for automatically releasing the steam from within the hollow body when the pressure reaches a predetermined point.

3. In a steam supply control valve, a casing provided with diametrically opposed steam inlet and outlet openings, a hollow body vertically slidable within the casing, said hollow body being provided with diametrically opposed inlet and outlet openings, the inlet opening in the body being at all times in communication with the inlet opening of the casing, the outlet openings being normally out of registry with each other, a stem extending upwardly from the hollow body and freely slidable through the top of the casing, a handle on the upper end thereof for manually moving the hollow body downwardly in the casing for bringing the outlet opening in the hollow body into communication with the outlet opening in the casing, whereby the steam may be emitted through the outlet opening in the casing, re-

silient means for normally maintaining the hollow body in a raised position to prevent the discharge of the steam through the outlet opening in the casing, means for automatically releasing the steam from within the hollow body when the pressure reaches a predetermined point, said last mentioned means comprising a valve, the bottom of the hollow body being formed with a valve seat, a stem extending upwardly from said second mentioned valve through the first mentioned stem, and resilient means associated with the second mentioned stem for normally maintaining the second valve in a closed position.

In testimony whereof I affix my signature.

WILLIAM HERBERT SLONAKER.