Feb. 9, 1954 R. CARLSTON 2,668,431

COMBINATION AND HORIZONTAL VERTICAL ELECTRIC AND STEAM IRON

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Fig. 1.

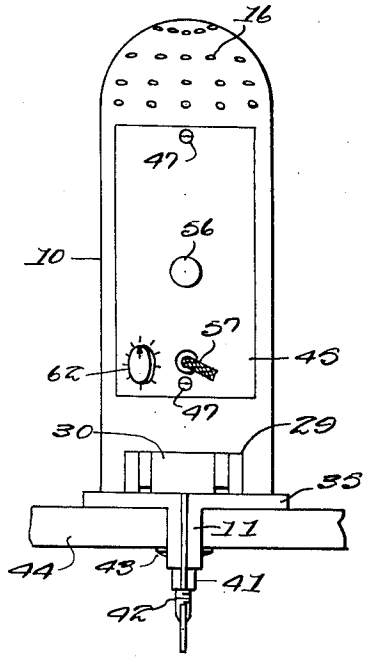

Fig. 2.

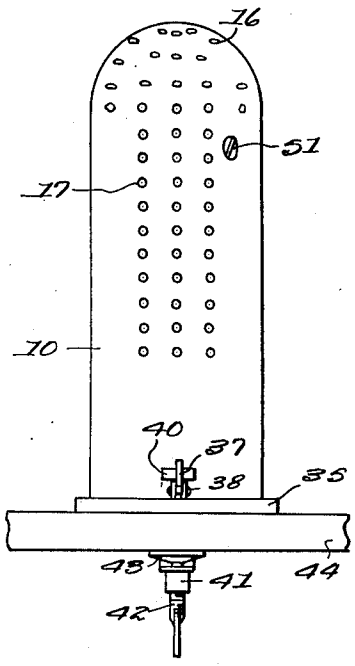

Fig. 6.

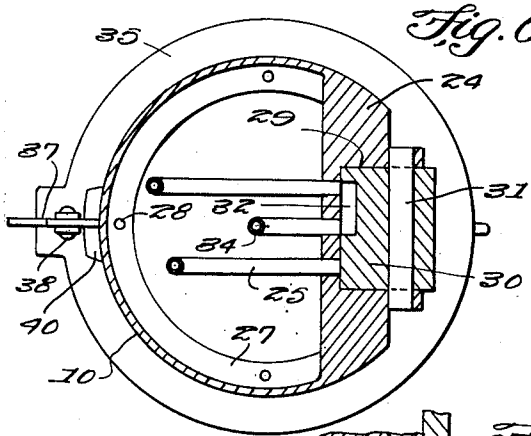

Fig. 3.

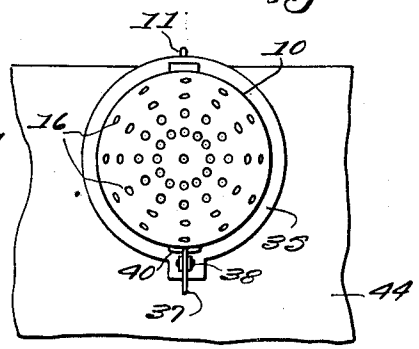

Fig. 7.

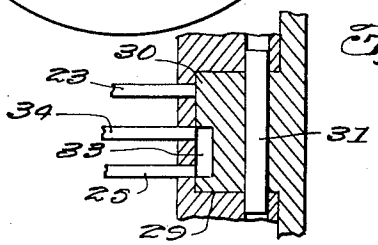

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Fig. 4.

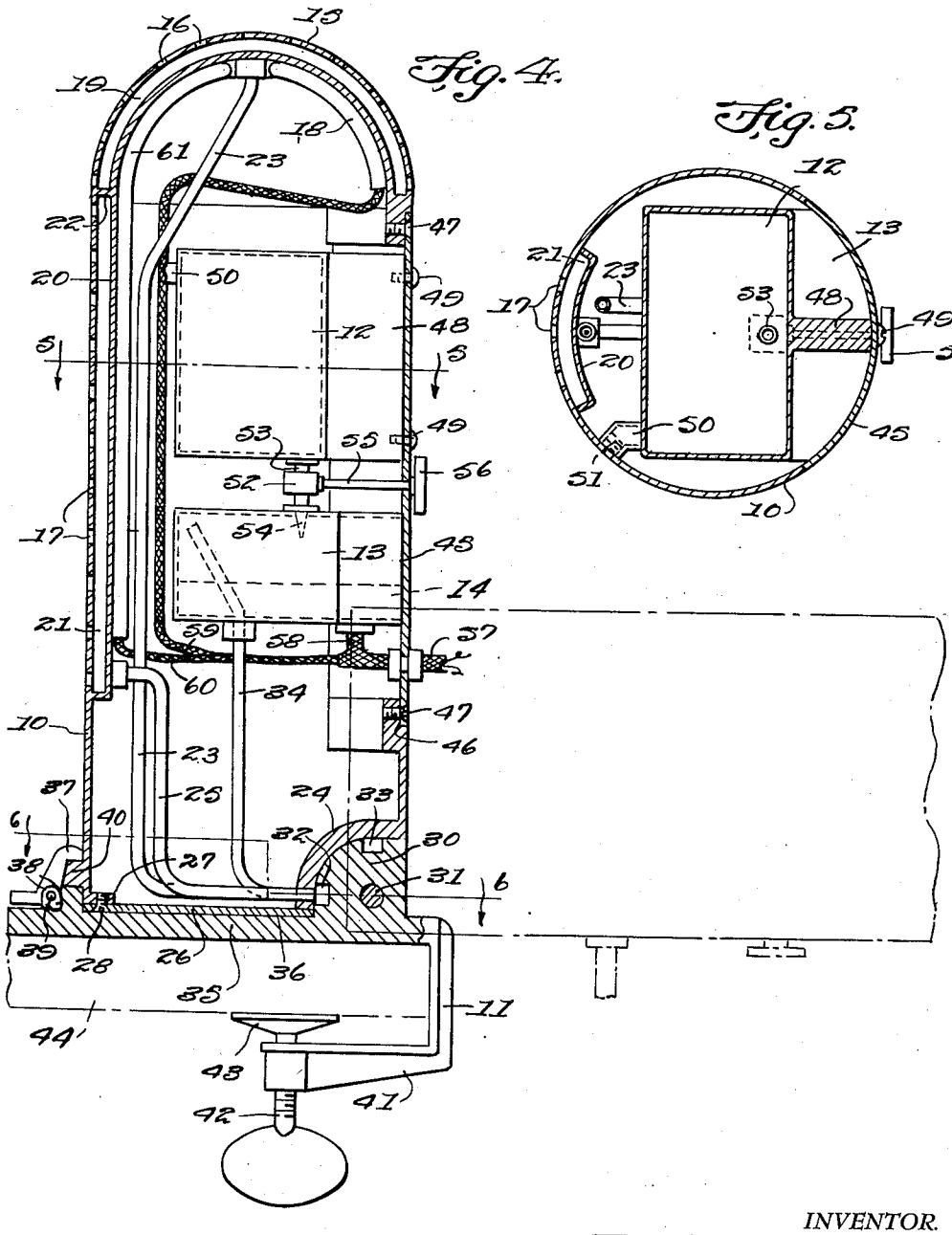

Fig. 5.

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COMBINATION HORIZONTAL AND VERTICAL ELECTRIC AND STEAM IRON

Ruth Carlston, Fresno, Calif.

Application August 18, 1950, Serial No. 180,200

5 Claims. (Cl. 68—5)

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This invention relates to combination electric and steam irons particularly adapted for ironing sleeves, cuffs, shoulders and collars and also for ironing material such as velvet, velveteen and corduroy, and in particular an iron having a vertically disposed cylindrical shell with a dome shaped upper end with steam generating means within the shell and with the shell pivotally mounted to extend vertically or horizontally and provided with perforations in the upper end with the shell vertically positioned and in the upper side with the shell horizontally positioned.

The purpose of this invention is to provide a combination electric and steam iron that may be used to iron dry or with steam in an upright position and also dry or with steam in a horizontal position.

Perforated shoes, horns, and other devices in the form of attachments have been provided in combination with ironing boards and the like to facilitate ironing collars, cuffs, shoulders and other uneven parts of garments and whereas these are successful for parts of garments for which they are designed they do not meet all requirements and are not adapted for universal use. With this thought in mind this invention contemplates a combination electric and steam iron having a perforated dome at the end of a cylindrical shell one side of which is also perforated in which the dome may be used for ironing shoulders and irregular shapes and in which the shell may be horizontally positioned for general use.

The object of this invention is, therefore, to provide an improved combination electric and steam iron in which a cylindrical shell having a semi-spherical end may be used in either a vertical or horizontal position.

Another object of the invention is to provide an improved combination electric and steam iron having a perforated cylindrical shell with a dome shaped end that may be clamped to the end of an ironing board, table or the like.

A further object of the invention is to provide an improved combination electric and steam iron having a perforated cylindrical shell with a dome shaped end and having steam generating means therein which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a cylindrical shell having perforations in one side with a perforated dome shaped end, a mounting bracket on which the shell is hinged, a water storage chamber positioned in the shell, a steam generating

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chamber also positioned in the shell, electric heating elements in combination with the steam generating chamber and also in the side and end used for ironing, and suitable connections from the storage chamber to the steam generating chamber and from the steam generating chamber through valve means provided in the hinge to steam jackets on the inner surfaces of the shell and dome shaped end whereby steam is confined to areas communicating with the perforations of the shell and dome shaped end.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a rear elevational view showing the iron in the upright position.

Figure 2 is a front elevational view looking toward the opposite side of the iron and also showing the iron in the upright position.

Figure 3 is a plan view of the iron.

Figure 4 is a vertical section through the iron showing the water storage chamber and steam generating chamber in elevation.

Figure 5 is a sectional plan through the iron taken on line 5—5 of Figure 4.

Figure 6 is a similar sectional plan taken on line 6—6 of Figure 4 and showing the valve connections in the hinge with the connections positioned to supply steam to a jacket in the dome of the shell.

Figure 7 is a similar detail showing the hinge in the position of supplying steam to the jacket in one side of the shell.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved combination electric and steam iron of this invention includes a shell 10 hingedly mounted on a bracket 11 with a water storage chamber 12 in the upper part of the shell, a generating chamber 13 positioned below the water storage chamber, and a heating element 14 positioned below the steam generating chamber.

The shell 10 is provided with a dome shaped outer end 15 having perforations 16 therein and similar perforations 17 are provided in one side which with the cylinder in the horizontal position is the upper side. An inner wall 18 spaced from the wall forming the dome shaped end of the shell provides a steam jacket 19 through which steam is supplied to the perforations 16 in the end of the shell and a similar wall 20 spaced from the section of the wall in which the perforations 17 are provided provides a steam jacket 21 through which steam is supplied to the perforations 17. The jackets 19 and 21 are separat-

ed by a dividing wall 22. A tube 23 extends from the steam jacket 19 to an arcuate wall 24 in the lower corner of the base of the shell and a similar tube 25 extends from the jacket 21 to the wall.

The shell 10 is provided with a base 26 which is secured to a flange 27 on the lower edge of the wall thereof by screws 28 and, as illustrated in Figure 4 the arcuate wall 24 extends across the lower corner of the shell and is provided with a socket 29 in which a lug 30 of the bracket 11 is positioned. The lug 30 is provided with an arcuate upper surface formed on a radius from the center of a hinge pin 31 whereby the lug provides a bearing surface over which the shell is actuated from the position shown in Figure 4 in full lines to that shown in dotted lines.

The surface of the lug 30 is provided with longitudinally disposed slots 32 and 33, the slot 32 positioned to provide communicating means between a tube 34 extended from the steam generator 13 to the tube 23 extended to the steam jacket 19 in the dome of the shell with the shell in the upright position as shown in Figure 4 and the slot 33 providing communicating means between the tube 34 and the tube 25 with the shell in the horizontally disposed position wherein the valve parts are positioned as shown in Figure 7.

The base 26 of the shell 10 is positioned in a recess 36 of the base 35 of the bracket 11 and a latch 37 which is pivotally mounted in bearings 38 on the base 35 by a pin 39 is positioned to snap over a ledge 40 on the outer surface of the shell, thereby providing means for retaining the shell in the upright position.

The bracket 11 is provided with an arm 41 having a thumb screw 42 threaded in the end thereof and the thumb screw is provided with a friction washer 43 by which the iron is clamped to the end of an ironing board 44 or the like.

A cover plate 45 is secured in a recess 46 in an opening in the rear of the shell by screws 47 and the water reservoir and steam generator are mounted on the plate, as shown in Figure 4. The water reservoir 12 is provided wtih a lug 48 that is secured to the cover plate 45 by screws 49 and, as illustrated in Figure 5 the reservoir 12 is provided with a nipple 50 having a filling plug 51 in the outer end, the plug 51 being recessed in the surface of the shell so as not to interrupt the smooth outer surface thereof.

A valve 52 is provided in a connection 53 extended from the water reservoir 12 to the generator 13 and water is supplied from the reservoir to the generator through the valve with a nozzle 54 at one side of the valve extended into the generator. The valve 52 is provided with a stem 55 and the valve is opened and closed by a thumb nut 56 on the outer end of the stem.

Electric current is supplied to the iron through a cable 57 which extends through the cover plate 45 and on the inside of the shell the cable is provided with connection 58 that extends to the heating element 14 of the generator 13 and also connections 59 and 60 that supply current to a heating element in a chamber 61 extended over the inner surfaces of the water jackets 19 and 21.

A thermostatic element 62 may be provided in combination with the electric cable to shut off the current when the temperature of the iron reaches a predetermined degree.

With the parts arranged in this manner the improved electric steam iron is clamped on the edge of an ironing board, table or the like as shown in Figures 1, 2 and 4 and with current applied to the heating element steam is generated in the chamber 13 and with the iron in the vertically disposed position as shown in Figure 4 steam passes through the tubes 34 and 23 to the steam jacket 19 in the upper end or dome and articles may be ironed by drawing them over the arcuate upper surface.

With the iron positioned horizontally as shown by the dotted lines in Figure 4 steam is supplied to the perforations 17 through the tubes 34 and 25 and articles may be ironed on the arcuate upper surface by drawing the articles back and forth as in polishing a shoe with a shoe cloth.

The surfaces of the shell are polished providing smooth ironing surfaces.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. A combination electric and steam iron comprising a cylindrical shell having perforations in one side and having a semi-spherical upper end also with perforations therein, an inner wall spaced from the side having the perforations therein and also spaced from the said semi-spherical upper end, a partition extended between the inner wall and shell dividing the area between the inner wall and shell into steam jackets with one positioned in the cylindrical portion of the shell and the other in the semi-spherical upper end, a bracket having a clamp thereon upon which the shell is positioned, means hinging the shell to the bracket whereby the shell is positioned vertically or horizontally, steam generating means in the shell, means connecting the steam generating means to the steam jacket in the semi-spherical end of the shell with the shell in an upright position, and means connecting the steam generating means to the steam jacket in the cylindrical section of the shell with the shell in a horizontal position.

2. A combination electric and steam iron comprising a cylindrical shell having perforations in one side and having a semi-spherical upper end also with perforations therein, an inner wall spaced from the side having the perforations therein and also spaced from the said semi-spherical upper end, a partition extended between the inner wall and shell dividing the area between the inner wall and shell into steam jackets with one positioned in the cylindrical portion of the shell and the other in the semi-spherical upper end, a bracket having a clamp thereon upon which the shell is positioned, means hinging the shell to the bracket whereby the shell is positioned vertically or horizontally, steam generating means in the shell, means connecting the steam generating means to the steam jacket in the semi-spherical end of the shell with the shell in an upright position, means connecting the steam generating means to the steam jacket in the cylindrical section of the shell with the shell in a horizontal position, and latch means retaining the shell in the upright position.

3. In a combination electric and steam iron, the combination which comprises a cylindrical shell having perforations in one side and having a perforated dome shaped upper end, steam jackets on the inner surface of the shell positioned to correspond with the perforations in the side of the cylindrical portion of the shell and also with the perforations in the dome of the shell, a water reservoir positioned in the shell, a

steam generator mounted in the shell and positioned to receive water from the water reservoir, an electric heating element for supplying heat to the generator, electric heating elements associated with the said steam jackets, a bracket upon which the shell is positioned, means hinging the shell to the bracket whereby the shell is positioned vertically or horizontally, and means supplying steam from the generator to the jacket in the upper end of the shell with the shell in an upright position and to the steam jacket in the side of the shell with the shell in a horizontal position.

4. In a combination electric and steam iron, the combination which comprises a cylindrical shell having perforations in one side and having a perforated dome shaped upper end, steam jackets on the inner surface of the shell positioned to correspond with the perforations in the side of the cylindrical portion of the shell and also with the perforations in the dome of the shell, a water reservoir positioned in the shell, a steam generator mounted in the shell and positioned to receive water from the water reservoir, an electric heating element for supplying heat to the generator, electric heating elements associated with the said steam jackets, a bracket upon which the shell is positioned, means hinging the shell to the bracket whereby the shell is positioned vertically or horizontally, means supplying steam from the generator to the jacket in the upper end of the shell with the shell in an upright position and to the steam jacket in the side of the shell with the shell in a horizontal position, and a valve positioned between the water reservoir and generator for controlling the flow of water to the generator.

5. In a combination electric and steam iron, the combination which comprises a cylindrical shell, a bracket upon which the shell is positioned, means hinging the shell to the bracket whereby the shell is positioned vertically or horizontally, said shell having perforations in one side and having a perforated dome shaped upper end, steam jackets on the inner surface of the shell positioned to correspond with the perforations in the side of the cylindrical portion of the shell and also with the perforations in the dome of the shell, a water reservoir positioned in the shell, a steam generator mounted in the shell and positioned to receive water from the water reservoir, an electric heating element for supplying heat to the generator, electric heating elements associated with the said steam jackets, said hinge means comprising a lug extending from the bracket and provided with an arcuate upper surface, first and second slots positioned in said arcuate upper surface in spaced relation to each other, an arcuate wall carried by the shell and provided with an arcuate inner side for slidably engaging the arcuate upper surface of the lug, a tube from the steam generator to the arcuate wall, a tube from the arcuate wall to the steam jacket in the upper end of the shell, and a tube from the arcuate wall to the steam jacket in the side of the shell, the first slot on the arcuate upper surface of the lug communicating the generator with the steam jacket in the upper end of the shell when said shell is in a vertical position, and the second slot on the arcuate upper surface of the lug communicating the generator with the steam jacket in the side of the shell when said shell is in a horizontal position.

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