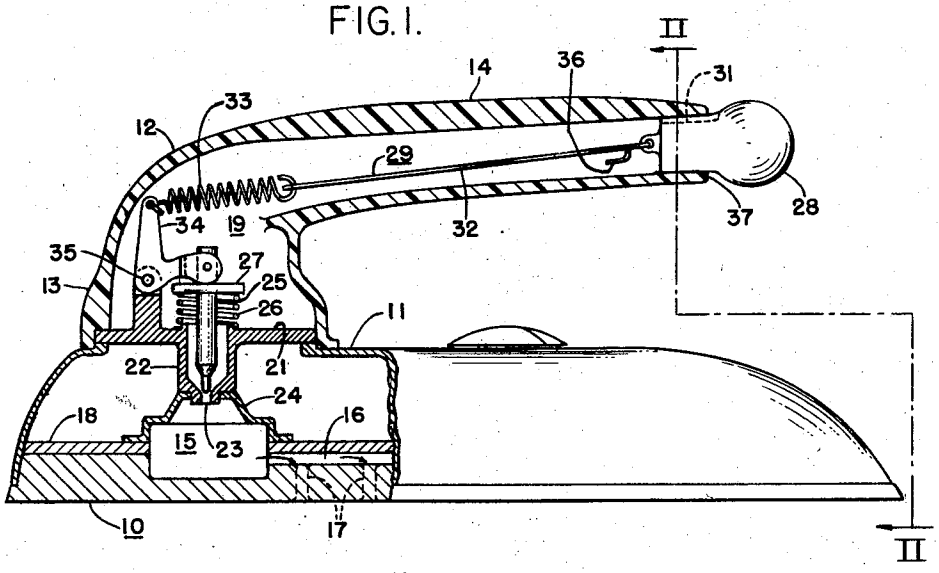
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STEAM IRON

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FIG. 1.



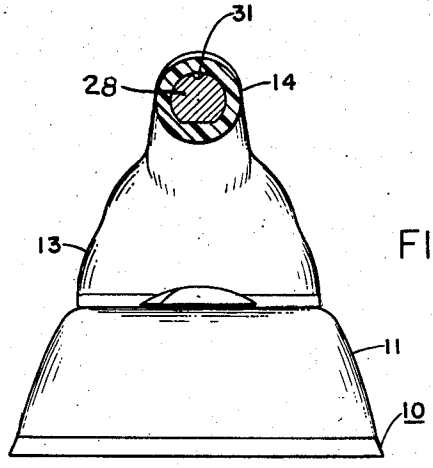


FIG. 2

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STEAM IRON

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3 Claims. (Cl. 38—77)

This invention relates to steam irons and has for an object to provide improved apparatus of this kind.

A further object of the invention is to provide an improved iron of this kind particularly adaptable for ironing tubular and other relatively complicated garments, which iron is compact and readily stored when not in use.

A still further object of the invention is to provide a compact steaming iron of the so-called travellers type.

In accordance with the invention, an iron is provided having a generally conventional soleplate provided with a vaporization chamber and the usual passages for delivering steam to the material being ironed. A shell covers the soleplate and a handle of the so-called open end type is fixed to the shell. The handle is hollow and preferably functions as a water reservoir. The front end of the handle is open to the reservoir for filling the latter when the iron is upended. A manually operated member is provided for opening and closing the open end of the handle. A valve for controlling flow of water from the reservoir to the vaporizing chamber is interlocked with said member and is closed when the member is adjusted to open the reservoir for filling. Conversely, the valve is opened as the member is adjusted to close the reservoir. The means interlocking the member and the valve is housed within the space defined by the handle. Suitable means is provided for retaining the manually operated member in its open position.

These and other objects are effected by the invention as will be apparent from the following description taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is a longitudinal side view, partially in elevation and partially in section, of a steam iron constructed in accordance with the invention; and

Fig. 2 is a front view of the iron, taken along the line II—II of Fig. 1.

Reference will now be had to the drawing disclosing the invention applied to a steam iron having a soleplate or ironing base **10**, a shell **11** suitably secured thereon and a handle **12** of the so-called open end type. The latter includes an upright post portion **13** and a cantilevered grip portion **14** extending forwardly therefrom and terminating at its front end in spaced relation above the shell **11**. An open end handle of the type disclosed facilitates the ironing of relatively complicated and tubular garments, as portions of the garment may be gathered or passed between the handle and the shell during the ironing of a second portion of the garment, all of which is well understood.

The ironing base **10** may be of any suitable construction including a vaporization chamber **15**, a steam outlet passage **16** and a plurality of steam discharge ports, some of which are shown at **17** and receiving steam from the passage **16**. It will be understood that the base **10** has several steam ports **17** strategically spaced therein for the efficient delivery of steam to the garment being

pressed. As shown, the steam passage **16** leading to the various ports **17** is formed in the top of the soleplate **10** and is covered by a plate **18** suitably secured to the base **10**. The base **10** may be heated electrically in any suitable manner and, in the interest of brevity and clearness of illustration, the heating means has not been disclosed nor has the attachment cord usually used for energizing the heater; these elements per se forming no part of the present invention.

A reservoir for water is provided above the steam generating chamber **15** and is preferably enclosed within the handle **12**, as indicated at **19**. The bottom of the reservoir is closed by a plate **21** which, as shown, supports a valve structure, generally indicated at **22**, and having a discharge passage **23** communicating with the vaporization chamber **15**. Preferably, a dome or cover **24** is provided as a cover for the vaporization chamber **15** and is brazed or otherwise secured to the plate **18**, which cover **24** is also secured to the valve structure **22**. The valve structure **22** includes a needle valve member **25** which, in its lower position, closes the passage **23** and, in its upper position, as shown, permits the metering of water from the reservoir **19** to the chamber **15**. Preferably, the needle valve member **25** is biased toward its open position by a compression spring **26** carried by the valve structure **22** and bearing against a shoulder **27** formed on the needle valve **25**.

In accordance with the invention, opening and closing of the valve **22** is effected by a finger piece or knob **28** arranged at the front end of the handle. The knob **28** is connected to the valve **22** by a resilient tie, generally indicated at **29**, and passing through the space **19** within the handle. The knob **28** plugs the front open end of the space **19** during operation of the iron and prevents discharge of water therefrom. The knob **28** closely fits within the handle but is provided with a recess or groove **31** defining a vent for the reservoir or space **19**. The tie **29** connecting the knob **28** and the valve **22** includes a link **32** having a tension spring **33** therein, and a bell crank **34** suitably pivoted within the handle, as shown at **35**. The link **32** is connected at one end to the knob **28** and at its other end to one arm of the bell crank **34** through the spring **33**. The other arm of the bell crank **34** engages the shoulder **27** on needle valve **25** so that, when the plug **28** is withdrawn from the handle, the tie **29** moves the bell crank **34** clockwise for compressing spring **26** and closing valve **22**. It will be understood that the scale of spring **33** is greater than that of spring **26** so that there will be substantially no extension of spring **33** until the valve **22** is closed.

The valve may be retained closed by a coupler or hook **36** preferably formed on the link **32** and engageable with the front lip **37** of the handle. At this time, the hook **36** is maintained engaged with the lip **37** by the tensioned spring **33** and the knob **28** hangs at one side of the handle. The iron at this time may be upended for the admission of water to the space **19** through the open front end of the handle **12**. Upon uncoupling the hook **36** from the lip **37**, the knob **28** is drawn within the lip **37** by springs **33** and **26**, closing the space **19** and opening valve **25** for the delivery of water to the chamber **15**. Steaming may be discontinued at any time by the coupling of the tie **29** to the lip **37**.

From the foregoing description, it will be apparent that an improved steam iron is provided which is compactly arranged and suitable as a traveller's iron. The hollow handle conveniently houses the control mechanism for the actuation of the water valve, the latter being adjusted by a knob at the front end of the handle. The space within the handle may be employed as a water reservoir or, if desired, a separate reservoir above the

vaporization chamber may be provided and the space within the handle utilized to house the control mechanism for the actuation of the valve. The space within the handle is, however, preferably used as a water reservoir in the interest of compactness.

While the invention has been shown in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof.

What is claimed is:

1. In a steam iron, the combination of an ironing base having a vaporizing chamber and steam discharge ports communicating therewith, a shell carried by the base, a handle for manipulating the iron and including a supporting post fixed to the rear of the shell and a cantilevered grip extending forwardly from the post, said post and grip having a space formed therein and open at the front end of the grip for the admisison of water to the space, means conveying water admitted to the space to the vaporization chamber and including a valve, a spring biasing the valve to its open position, means for closing the valve in opposition to the bias of the spring and including a resilient tie extending through said space from adjacent the open end thereof to adjacent said valve, means connecting the tie and valve, a plug closing said open end of the grip and attached to said tie, said plug being manually disengaged from the end of the grip for opening the space and closing the valve and means associated with the end of said grip and said tie for retaining the plug in its position disengaged from the grip.

2. In a steam iron, the combination of an ironing base having a vaporization chamber and steam discharge ports communicating therewith, a shell carried by the base, a handle having an upright portion secured to the shell and a cantilever grip portion extending forwardly therefrom, said handle enclosing a water reservoir open at the front end of the grip portion for receiving water during a filling operation, a plug closing the open end

of the reservoir during ironing operations and manually disengaged from the handle for the filling of the reservoir, a valve controlling flow of water from the reservoir to the vaporization chamber, means biasing the valve to open position, a resilient tie extending through a portion of the water reservoir and connecting the plug and valve for closing the valve in opposition to the biasing means when the plug is disengaged from the handle and means coupling the tie to said handle for retaining the valve closed when the plug is disengaged from the handle.

3. In a steam iron, the combination of an ironing base having a vaporization chamber and steam discharge ports communicating therewith, a shell carried by the base, a handle having an upright portion secured to the shell and a cantilever grip portion extending forwardly therefrom, said handle enclosing a water reservoir open at the front end of the grip portion for receiving water during a filling operation, a plug closing the open end of the reservoir during ironing operations and manually disengaged from the handle for the filling of the reservoir, a valve controlling flow of water from the reservoir to the vaporization chamber, a spring biasing the valve to its open position, a tie extending through a portion of the water reservoir and connecting the plug and valve for closing the latter in opposition to said spring when the plug is disengaged from the handle, said tie having a second spring connected therein having a scale greater than the first named spring, means coupling the tie to the front end of said grip portion for retaining the valve closed when the plug is disengaged from the handle and means defining a vent for the reservoir and formed in the plug.

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