Feb. 3, 1942. P. J. FITZGERALD 2,271,686

COMBINATION FLATIRON AND CLOTHES DAMPENER

Filed Aug. 29, 1939 2 Sheets-Sheet 1

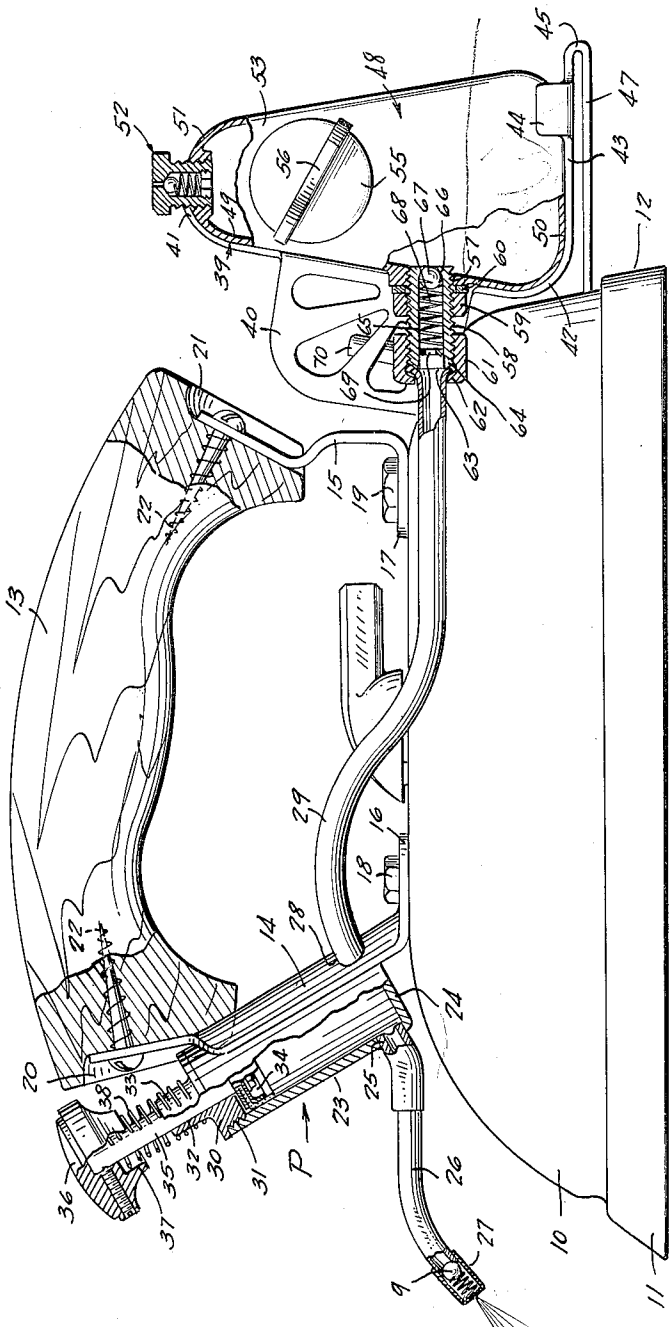


Fig. 1

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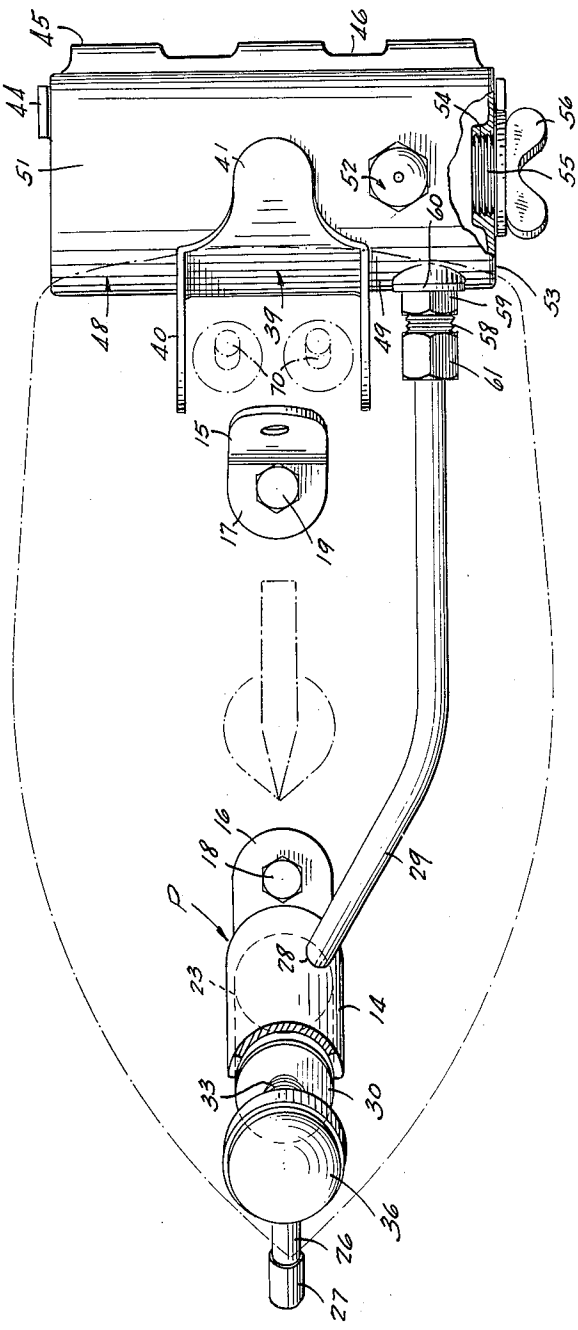


Fig. 2.

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2,271,686

COMBINATION FLATIRON AND CLOTHES DAMPENER

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Application August 29, 1939, Serial No. 292,414

5 Claims. (Cl. 38—78)

This invention has to do with a combination flatiron and clothes dampener and is concerned primarily with a novel arrangement of the clothes dampening mechanism on the iron structure.

The structural design of a flatiron has now assumed a crystallized conventional form generally characterized by the presence of a pointed nose, a square heel, and a handle that is supported from the iron body by front and rear upstanding posts or brackets. If clothes dampening mechanism is to be associated with the iron structure, a water tank or reservoir is an essential requirement, and due to the conventional form of the iron, and mode of usage thereof, it is highly desirable, if not absolutely necessary, that the water reservoir be located at the heel of the iron. Obviously it is also important that the spray nozzle which is an essential part of the dampening mechanism be located forwardly at the nose of the iron.

With the foregoing conditions in mind this invention has in view, as its foremost objective, the provision of a combination flatiron and clothes dampener of the character above noted in which the dampening mechanism includes a reservoir positioned at the heel of the iron, a spray nozzle at the nose of the iron, and connections between said reservoir and spray nozzle with a pump included in said connections.

A further object of the invention is the provision of a combination flatiron and clothes dampener of the character above noted, in which the dampening mechanism includes a reservoir positioned at the heel of the iron, a spray nozzle at the nose of the iron, and a pump including an operating plunger positioned forwardly of the handle in a position in which it may be readily depressed by the thumb of the hand which is grasping the handle.

More in detail this invention has in view, as an object, the provision of a combination flatiron and clothes dampener of the character above noted in which the pump of the dampening mechanism is associated with the forward bracket or handle support, and includes an operating plunger the operating end of which is positioned immediately in front of the handle.

Still a further object of the invention is the provision of a combination flatiron and clothes dampener of the character above noted in which the mechanism included at the forward end of the iron and spray nozzle extends forwardly of the pump, over the nose of the iron. A reservoir is positioned at the rear of the iron, and a conduit extends from the pump mechanism to the reservoir, there being a one-way valve included in said last mentioned conduit whereby any effect of the pump to return water to the reservoir upon operation thereof is eliminated.

Various other more detailed objects and advantages of the invention such as arise in adapting the clothes dampening mechanism to a modern flatiron so as to blend in with the design thereof will in part become apparent, and in part be hereinafter stated, as the description of the invention proceeds.

The invention, therefore, comprises a combination flatiron and clothes dampener in which the flatiron takes the conventional form including a pointed nose, a heel, and a handle supported by front and rear brackets, with the dampening mechanism including a reservoir located at the heel of the iron, a spray nozzle over the nose, a pump associated with the forward bracket and including an operating plunger immediately in front of the handle, and a conduit connecting the said pump with the reservoir, there being a one-way check valve in said conduit.

For a full and more complete understanding of the invention reference may be had to the following description and accompanying drawings, wherein

Figure 1 is a side view, partly in section and partly in elevation, of a combination flatiron and clothes dampener embodying the precepts of this invention, and

Figure 2 is a plan view of the combination flatiron and clothes dampener with the handle of the iron removed.

Referring now to the drawings, wherein like reference characters denote corresponding parts, and more particularly to Figure 1, a flatiron made in accordance with the precepts of modern design is shown as comprising a main body portion 10 having a pointed nose 11, and a substantially square heel 12. Spaced above the main body portion 10 is a handle 13 that is connected to the main body portion by a front bracket 14, and a rear bracket 15. It will be noted that the brackets 14 and 15 have feet 16 and 17, respectively, which may be secured to the iron body 10 in any preferred manner, such as by the headed fastening elements shown at 18 and 19, respectively.

The upper extremities of the brackets 14 and 15 are received in recesses 20 and 21 formed in the end of the handle 13, and are securely fastened to the handle by the screw fastening elements shown at 22.

A pump of the cylinder and piston type is

referred to in its entirety by the reference character P, and is shown as comprising a cylinder 23 that is secured to the bracket 14 in any preferred manner. In the illustrated embodiment the bracket 14 is shown as being of a curved construction providing a concave front face in which the cylinder 23 is snugly received. The anchorage of the cylinder 23 to the bracket 14 may be rendered secure by any preferred fastening means, such as welding or soldering.

The cylinder 23 has a closed bottom shown at 24, and immediately adjacent the bottom is formed with an opening 25, at which opening is connected a conduit 26 leading to a spray nozzle at 27. The spray nozzle 27 houses a one-way check valve for the conduit 26, as shown at 9, which valve permits water to pass through the conduit 26 and out of the nozzle 27 as a spray, but closes the conduit 26 against the passage of air from the spray nozzle 27 therethrough.

Immediately adjacent the closed end 24 the cylinder 23 is also formed with another opening which is in alignment with an opening 28 in the bracket 14, and a conduit 29 extends through these openings in the wall 23 and bracket 14 to establish communication with the bore of the cylinder 23.

The upper end of the cylinder 23 carries a closure member 30 which is secured in position by the threaded arrangement shown at 31. This closure 30 is formed with a bore 32 of a small diameter as compared with the bore of the cylinder 23, and upstanding from the closure 30 is an extension 33 that includes a continuation of the bore 32.

A piston of a well-known composite structure is shown at 34 as snugly fitting in the bore of the cylinder 23 and slidable therein. The piston assembly 34 is carried at one end of a plunger 35 that is slidable in the bore 32 of the closure 30. The upper or free end of the plunger 35 carries an operating member in the form of a head 36 which, it is noted, is disposed immediately in front of the handle. This head 36 is formed with a recess 37 on its underface which immediately surrounds the plunger 35.

A spring 38 has one end received in the recess 37 and its other end is disposed about the extension 33. This spring exerts a tendency normally maintaining the piston 34 in an upraised position in the bore of the cylinder 23. Obviously the head 36 may be depressed against the influence of the spring 38 to force the piston 34 downwardly in the bore of the cylinder 23.

Carried by the main body portion 10 of the iron, above the substantially square heel 12, is a reservoir supporting bracket 39. This bracket 39 includes a pair of spaced wings 40 that may be anchored to the upper portion of the body part 10 in any preferred manner. The bracket 39 also includes a curved upper tongue at 41, and the curved construction is also carried out beneath the wings 40 in the bend at 42 which connects a bottom part 43 with the main body portion of the bracket 39.

A pair of ears 44 are carried by the bottom 43 at each side for a purpose to be hereinafter described.

At the outer or free end the bottom 43 is bent back on itself to provide a bend structure at 45 that is recessed, as shown at 46 (see Fig. 2). From the bend structure 45 bottom extensions 47 extend back to and are connected with the iron body 10.

A water reservoir is designated 48, and is of such shape as to be snugly fitted in the bracket 39 between the ears 44, the reservoir 48 having a front wall 49, bottom wall 50, and top 51 that are connected together in a curved construction complemental to the upper tongue 41, main body portion of the bracket 39, bottom 43, and bend 42.

The top wall 51 of the reservoir 48 may be formed with an air vent which takes the form of a one-way ball check valve shown at 52. This reservoir 48 also includes an end wall 53 that is formed adjacent the top 51 with a threaded opening 54 that may be availed of as the means for filling the reservoir 48. This threaded opening 54 normally is closed by a closure plug 55 that is screwed thereinto, and which carries a wing operating member shown at 56.

The front wall 49 of the reservoir 48, at one side of the bracket 39, is formed with a threaded opening 57 in which is received a valve carrying sleeve 58. The sleeve 58 is exteriorly threaded and is, of course, screwed into the threaded opening 57. A nut 59 is also threaded on the sleeve 58 and presses against a washer 60 that in turn bears against the reservoir wall 49. Thus the sleeve 58 is securely anchored to the wall 49.

A thimble 61 is carried by the free end of the sleeve 58, being screwed thereon, as illustrated, and carries a flange 62 which engages the flared end 63 of the conduit 29. Thus the conduit 29 is secured to the sleeve 58, and it will be noted that the latter is formed with a truncated conical tip at 64 which is partially fitted in the flared end 63, thus insuring of a good water tight connection.

The sleeve 58 is formed with a bore 65 which terminates at one end in a seat 65 for a ball valve 67. The seat 66 is, of course, open and communicates with the interior of the reservoir 48. A spring 68 bearing against a bracket 69 that is positioned in the bore 65 normally maintains the ball 67 in position on its seat 66 in which passage of fluid from the conduit 29 to the reservoir 48 is prohibited. However, upon partial vacuum being created in the conduit 29 due to upward movement of the piston 34 in the cylinder 23 the ball 67 is unseated from its seat 66, whereby water is permitted to pass from the reservoir 48 into the conduit 29.

The flatiron above described may be heated in any preferred manner, although the invention has particularly in mind the modern electric iron, in which event the main body portion 10 will include well-known electrical heating means. Provision for making the required electrical connection is shown in the form of posts 70 that are located just rearwardly of the handle bracket 15 and between the wings 40.

It will be noted that when the iron is not being used the bend portions 45 of the bracket 39, together with the reservoir 48, constitute a convenient means for resting the iron in an upright position in which the bottom of the main body portion 10 will be free from any surface which it might scorch. The water tank 48 constitutes a good heat insulated support so that the iron may be so positioned while in non-use, without danger of burning or scorching.

When the combination flatiron and clothes dampener are being used, the handle 13 is grasped in the usual manner for performing the ironing operations. When it is desired to dampen certain portions of the clothes being ironed, the operator presses the thumb of the hand which is grasping the handle 13 against the head 36 to depress the plunger 35, whereby the piston 34 is moved down-

wardly in the bore of the cylinder **23**. This downward movement causes the water in the form of a spray or mist to be ejected from the spray nozzle **27**, as any return movement of the water to the reservoir **48** is prohibited by the one-way ball check valve at **67**. Upon release of the operator's thumb from the head **33** the spring **38** moves the plunger **35** upwardly, carrying the piston **34** with it. On the upward stroke water is drawn from the reservoir **48**, and this withdrawal of the water from the reservoir **48** is permitted by the air vent at **52**.

It will be noted that upon the upstroke of the piston **34** the one-way check valve **9** closes the nozzle **27**, so that no air can enter the cylinder **23** therethrough. This valve **9** acts as a cut-off for the conduit **26**, to eliminate dripping of water from the nozzle **27**, which would, of course, be undesirable.

When occasion arises that it becomes necessary to refill the reservoir **48** the iron is placed on its side, with the closure **55** in the uppermost position. The wings **56** are now availed of to unscrew the closure **55** and render the opening **54** available for refilling purposes.

While a preferred specific embodiment of the invention is hereinbefore set forth it is to be clearly understood that the invention is not to be limited to the exact constructions illustrated and described, because various modifications of these details may be provided in putting the invention into practice within the purview of the appended claims.

I claim:

1. In combination, a flatiron comprising an iron body including a nose and a heel, front and rear brackets upstanding from the body, and a handle carried by said brackets, and clothes dampening mechanism comprising a reservoir at the heel, a spray nozzle at the nose, a pump positioned immediately in front of said front handle supporting bracket, a conduit between said reservoir and pump, and another conduit between said pump and nozzle.

2. In combination, a flatiron comprising an iron body including a nose and a heel, front and rear brackets upstanding from the body, and a handle carried by said brackets, and clothes dampening mechanism comprising a reservoir at the heel, a spray nozzle at the nose, and a pump associated with the front handle supporting bracket, said pump including an operating plunger having a head normally disposed immediately in front of said handle.

3. In combination, a flatiron comprising an iron body including a nose and a heel, front and rear brackets upstanding from the body, and a handle carried by said brackets, and clothes dampening mechanism comprising a pump of the cylinder and piston type carried by the said front bracket, a spray nozzle operatively connected to the cylinder of said pump and positioned over said nose, there being a one-way check valve in said spray nozzle, a water reservoir at the heel of said iron, and a conduit connecting the cylinder of said pump to said water reservoir, there being a one-way check valve in said conduit.

4. In combination, a flatiron comprising an iron body including a nose and a heel, front and rear brackets upstanding from the body, and a handle carried by said brackets, and clothes dampening mechanism comprising a bracket at the heel of said iron, a water reservoir carried by said last mentioned bracket, said reservoir including an air vent and being provided with means for refilling the same, a conduit connected to said reservoir and extending forwardly of the iron, a one-way check valve associated with the connection of the conduit to the reservoir, a pump of the cylinder and piston type carried by the front handle supporting bracket, said conduit being connected to the cylinder of said pump, a spray nozzle positioned over said nose of the iron, a conduit connecting said spray nozzle to the cylinder of said pump, and a one-way check valve for said last mentioned conduit associated with said spray nozzle.

5. In combination, a flatiron comprising an iron body having a pointed nose and a substantially square heel, and clothes dampening mechanism comprising a reservoir at the heel of said iron, a spray nozzle at the nose, connections between said reservoir and spray nozzle, a pump included in said connections, and a one-way valve mounted substantially at the discharge end of said spray nozzle.

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