July 8, 1952 F. H. RICHTERKESSING ET AL 2,602,704

WATER SPRAY ATTACHMENT FOR PRESSING IRONS

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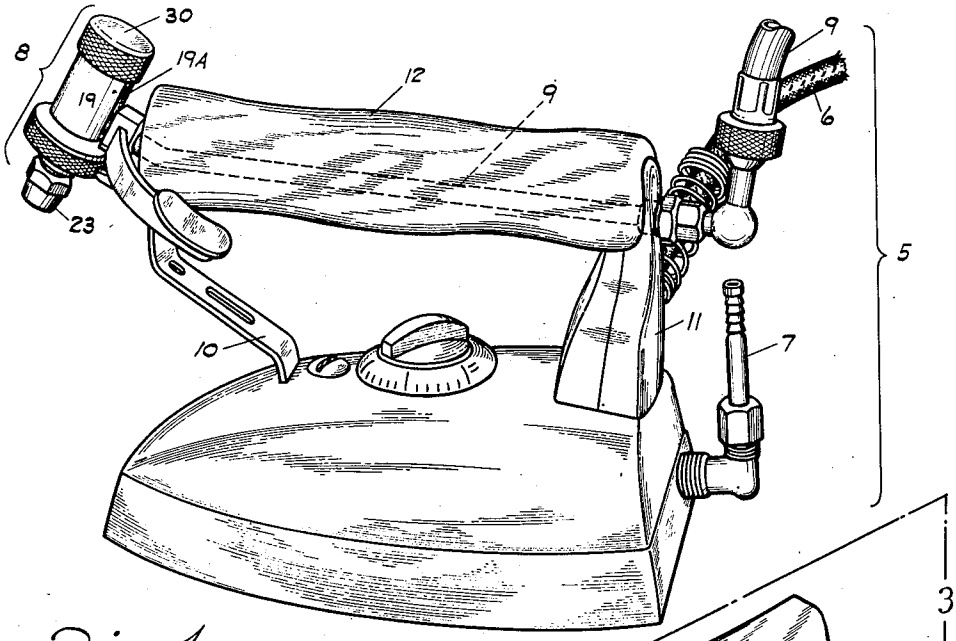


Fig. 1

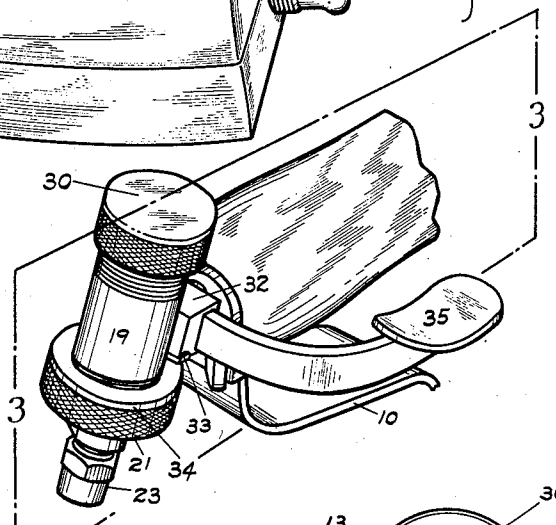
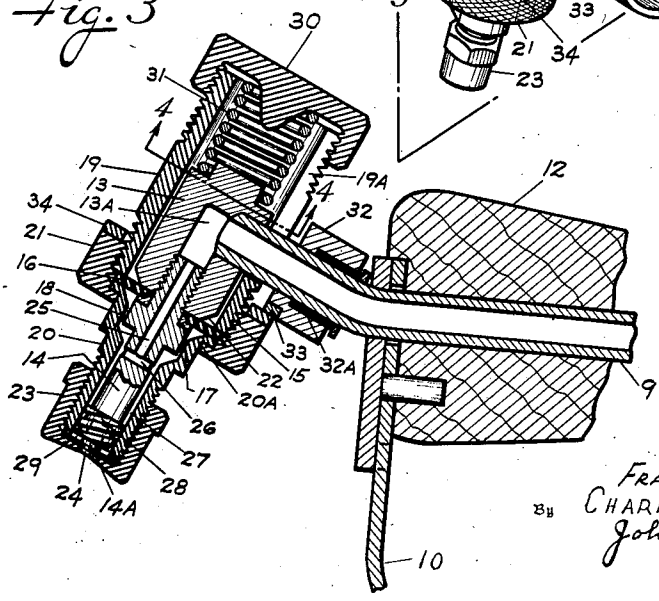


Fig. 2

Fig. 3



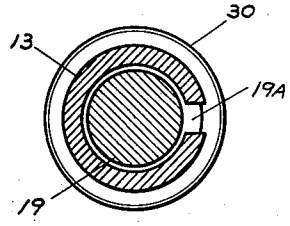


Fig. 4

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WATER SPRAY ATTACHMENT FOR PRESSING IRONS

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2 Claims. (Cl. 299—150)

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This invention relates to fabric pressing irons in general, sometimes referred to as "sadirons," "steam-electric irons," "tailor's goose" et cetera and in particular to an attachment incorporated therewith for applying moisture expeditiously to fabric under treatment by the iron.

To provide a dependable moisture dispenser, or water-spray gun, at the forward end of a pressing iron that can be periodically and incidentally manipulated readily at the will of the operator while fabrics are being pressed is the main object of the incident invention.

Another object of the invention resides in providing a moisture dispenser that can be permanently incorporated into conventional pressing irons solely by substitution of minor parts of the latter and additional water-spray gun elements.

A further object of the invention consists of the design of a pressing iron moisture dispenser acquirable at low cost of production and having a longer period of use than obtained from similar devices.

A feature of my invention resides in the simplicity of construction and the ease with which parts may be manufactured, assembled and adjusted.

Other objects, advantages and features may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawings:

Figure 1 is a perspective view of a pressing iron equipped with my spray gun or moisture-applying apparatus.

Figure 2 is a perspective view, on an enlarged scale, of the forward end of the pressing iron handle to which is attached my spray-gun.

Figure 3 is a sectional view, on an enlarged scale, along a plane indicated by line 3, 3 of Fig. 2.

Figure 4 is a sectional view of Fig. 3 on line 4—4.

With reference to the drawings, numeral 5 designates a conventional pressing iron equipped for radiating heat from electricity supplied through wires 6, dispensing steam received through tube 7 to sole-plate apertures, not shown, and mist by spray-gun 8 from water under pressure delivered thereto through hose 9.

Tube 9, as seen in Fig. 3, is threaded through shanks 10, 11 and handle 12 in place of the conventional bolt employed to secure the handle thereto, and extended for permanent attachment, at the end thereof, to head 13 of the centrally disposed stationary assembly, referred to herein as "core," of the spray-gun 8. This assembly

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comprises, said head, valve plunger 14 threaded thereto at 15 with centrally perforated-rubber disk 16 and washer 17 clamped between shoulder 18 and lower face of the head to effect a seal at this point.

Slidably and concentrically mounted on the core is a housing that comprises cylinder 19 and thimble 20 secured thereto by coupling 21 that is utilized to secure the periphery of disc 16 between the top flange of the thimble and the bottom end face of the cylinder to effect a seal. The top opening of the thimble is beveled at 20A while the lower end of the head has been chamfered at 22 to provide clearance for the disk during movement of the housing. Notch 19A in the cylinder is provided for clearance of tube 9 during assembly and when the cylinder is moved for operation of the valve.

Threaded to the lower end of the thimble is cap 23 with an aperture or vent 24 from which moisture is liberated when the housing is moved downwadly to effect separation between the area of the inner face of the cap normally covered by plug 14A that is fixed to the bottom end of plunger 14. It should be noted that liquid or fluid flowing through the spray gun is from tube 9, chamber 13A, ducts 25, 26, concentric channel 27 and spiral channel 28 to chamber 29.

Cap 30 screwed to the top end of cylinder 19 is adjustable for regulating tension on compression spring 31 that is disposed between the top face of head 13 and inner face of cap 30. Thus it will be noted that this spring normally forces upwardly all of the movable parts and thereby maintains the valve elements in contact, or the closed state, and that when the housing is forced downwardly the valve elements become separated for dispensing moisture in mist form. A minute opening to the order of a thousandth of an inch produces a light mist or vapor. As the opening is increased greater quantities of moisture is liberated.

The procedure for mounting and assembling the spray gun on the projecting end of tube 9 consists of: (*a*) locating the lever as shown in Figs. 1, 2 and 3; (*b*) permanently attaching head 13 to end of tube 9; (*c*) sliding housing upwardly and over the head; (*d*) securing valve plunger 14 to the head with washer 16 in place; (*e*) locating washer 34 and applying coupling 21; (*f*) applying cap 23; (*g*) dropping spring 31 into the housing; (*h*) finally, applying cap 30 and adjusting tension on the spring. In Fig. 4 the core or stationary parts are shown by lighter lines than those housing parts that slide thereon.

To conveniently manipulate the housing, the

square end 32 of the lever is provided with a bearing 32A that is mounted or journaled on the extended end of tube 9 while an edge of the square is employed as a friction face or lip 33 for engagement with washer 34 that is lodged on the top face of coupling 21. Thus it will be observed that thumb pressure applied to saddle 35 will be transferred to cylinder 19 for movement thereof and all parts attached thereto.

The physical embodiment of my invention disclosed herein is the preferred commercial form. However, it is to be understood that modifications of and departures therefrom can be freely made and yet fulfill the objects and advantages of this invention as primarily stated, therefore, we wish to be limited only by the terms of the subjoined claims.

We claim:

1. In a valve structure of a fluid spray gun for attachment to a pressing iron having a base member, a handle mounted thereon, a fluid-supply pipe associated with said handle; said fluid spray gun comprising a stationary element with a duct in fixed communication with said pipe and an opening adjacent the lower end thereof, a movable element operatively associated with said stationary element; a flexible disk having an aperture in communication with said duct and secured to said stationary element adjacent said aperture, said disk also secured at the periphery thereof to said movable element; each of said elements having a valve member cooperatively associated to control the flow of fluid through said pipe, a spring operatively associated with said elements, adapted to yieldingly bias said members closed, and an actuating lever having a bearing surrounding and rotatable upon the fluid supply pipe for moving the movable element against said spring to separate the valve members from releasing fluid from the aperture.

2. In a valve structure of a fluid spray gun for use when associated with the handle of a pressing iron, a fluid-supply pipe associated therewith, a fluid spray gun mounted on said pipe; said gun comprising a stationary element having a duct in communication with said pipe and a movable element operatively associated with said stationary element, each element having a cooperating valve member to control the flow of fluid through said duct; means for retaining said valves closed; and an actuating lever having a bearing surrounding and rotatable upon the fluid supply pipe operatively associated with said elements for moving one of the latter to separate the valve members for releasing fluid from the aperture.

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