Sept. 10, 1929. S. G. BUSKARD 1,727,962

SPRAYING DEVICE

Filed March 3, 1926

Fig. 1.

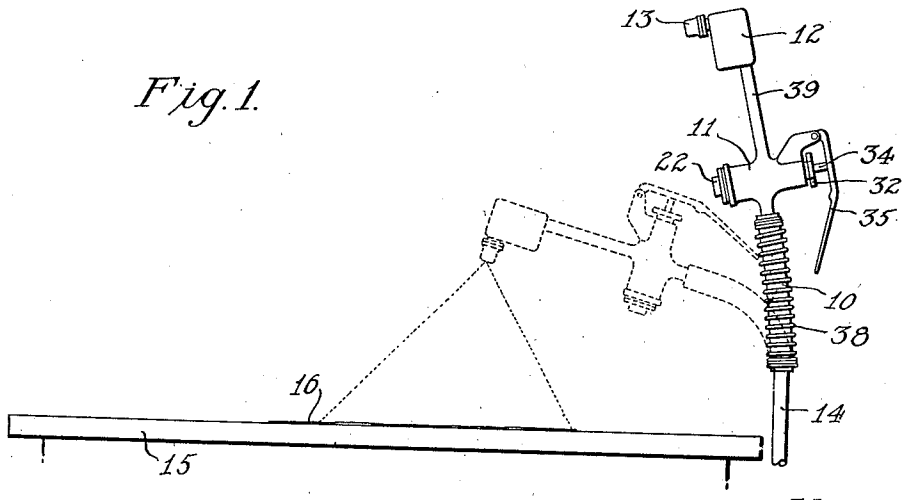


Fig. 2.

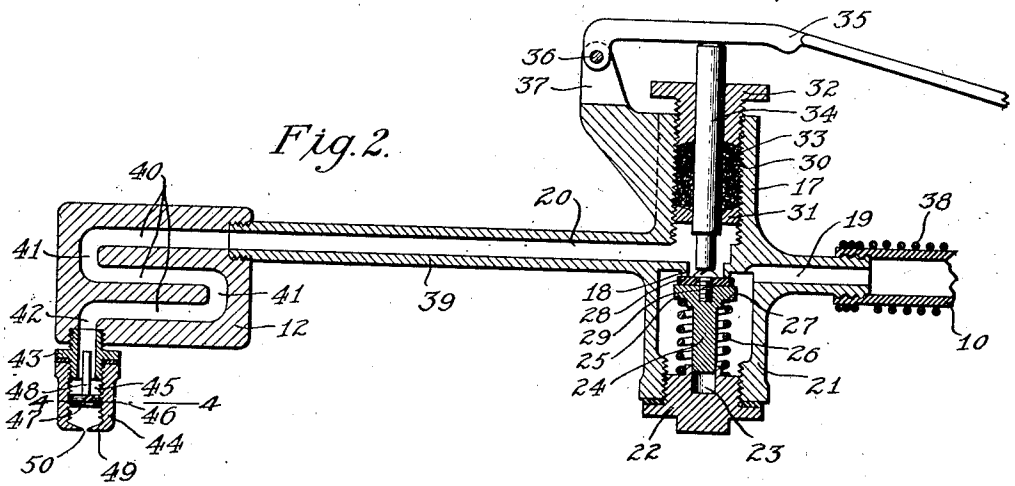


Fig. 3.

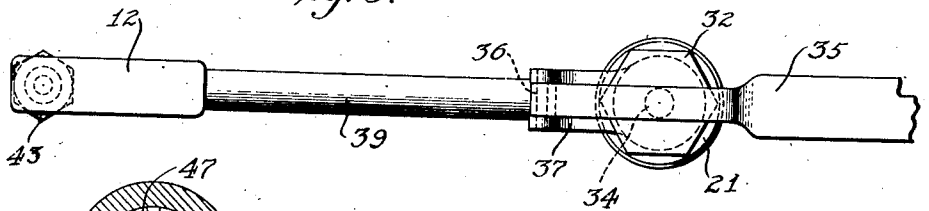
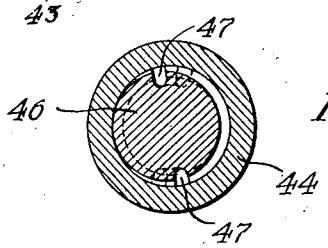


Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL G. BUSKARD, OF RICHMOND HILL, NEW YORK.

SPRAYING DEVICE.

Application filed March 3, 1926. Serial No. 91,957.

This invention relates to improvements in spraying devices, and has particular reference to the provision of means for spraying garments to facilitate pressing of the same.

In the manufacture of garments such as shirts, underwear, and other articles of cotton goods, it is necessary that they be pressed after formation, in order to be presentable for sales and display purposes. Such pressing is usually done with hand irons, and the articles must be moistened before pressing, as is well known to those skilled in the art. I propose to spray the garments with water, whereby the time required for the moistening operation is much less than for the hand sponging operation, with the additional advantage that better work may be obtained.

One object of the invention is to provide a spraying device particularly adapted for use in connection with pressing garments, which will be flexibly mounted above or adjacent to the pressing table whereby a spray of water or other liquid may be applied in different directions so as to evenly spray the whole garment regardless of its size or shape.

Another object is to provide such a device with a flexible support which will be resilient so as to return to its normal position out of the way of the presser when it is released.

Another object is to provide such a device which will be simple in construction, strong and durable in service, efficient in operation, and an improvement in the art.

With these and other objects in view, the invention resides in the novel features of construction, combination, and arrangement of parts hereinafter set forth, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In the accompanying drawings, wherein a preferred embodiment of the invention is shown by way of illustration,

Fig. 1 is a view showing my spraying device as mounted upon a pressing table.

Fig. 2 is a vertical longitudinal sectional view through the spraying device.

Fig. 3 is a top plan view thereof.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2.

Similar reference characters designate corresponding parts throughout the several views.

In carrying out the invention, my novel spraying device includes a flexible conduit or coupling 10, a manually operated valve 11, a channeled member 12, and a spray nozzle 13. These parts may preferably be arranged as shown in Fig. 1, the flexible conduit or coupling 10 being connected to a liquid supply pipe 14 which is conveniently arranged adjacent to a pressing table, of any ordinary or preferred type, upon which the garment 16 to be pressed is spread out.

I prefer to make use of a valve of the type shown, which comprises a body portion 17 having an annular valve seat 18, and laterally extending inlet and outlet ports 19 and 20 respectively, said ports communicating with opposite sides of the valve seat. The lower portion 21 of the valve body 17 is preferably of an enlarged diameter, and fitted with a screw threaded closure plug 22 having a bore 23 serving as a guide for a stem 24 of a valve 25. A compression spring 26 is disposed between the upper side of the plug 22 and an annular shoulder 27 on the lower side of valve 25, whereby to force the valve against the valve seat 18, and in order to provide a tight sealing, the valve 25 preferably carries on its upper side a disc 28 of rubber, fiber, or other suitable composition material to contact with the seat 18. The disc 28 may be held in place by a screw 29 or other fastening means. The upper portion of the valve body 17 is formed with a threaded bore 30 in alinement with the valve seat 18, and into which is screwed a centrally operated plug 31 which cooperates with a packing gland 32 to maintain compressible packing 33. For the purpose of operating the valve 25 against the action of the spring 26, a plunger 34 is slidable through the members 31 and 32, the lower end of said plunger contacting the head of the screw 29, and the upper end extending beyond the gland 32 for engagement by a lever 35 which is pivoted at 36 to a bifurcated extension 37 of the valve body 17. Thus by depression of the lever 35, the valve is forced away from its seat 18, allowing the water or other fluid to pass from the inlet port 19 to the outlet port 20.

The inlet port 19 is connected to the flexible coupling 10, which may preferably comprise a piece of hose of rubber or waterproof fabric, and in order that the coupling may have a suitable degree of resiliency, I may surround it with a helical spring 38. Water or other spraying fluid is supplied through the conduit 14 and flexible coupling 10 to the inlet port 19. The water is under pressure varying in accordance with local working conditions, good results having been obtained with pressures ranging from 60 to 80 pounds per square inch.

The outlet port 20 extends through a stem 39 which supports the sinuously channeled member 12 having a plurality of reversely disposed passages 40 connected together at their ends as clearly shown at 41 in Fig. 2, and terminating in a downward direction as at 42.

A nipple 43 is carried by the member 12 in alinement with the passage 42, for the connection of the spraying nozzle 13, which comprises a hollow shell or cap 44 internally threaded at 45. A deflector 46 is adjustably mounted within the threaded portion 45 of the shell 44, and is provided with diagonal passages 47 at opposite sides of its periphery, and may have a stem 48 to facilitate its assembly and adjustment in the shell 44. The outer wall 49 of the shell 44 is relatively thin and preferably tapering toward its center where a small opening 50 is formed, the wall material at the edge of the opening being practically a knife edge.

As water or other spraying fluid enters the shell 44 from the nipple 43 it strikes the deflector 46 and is forced through the diagonal passages 47 against the outer wall 49. By virtue of the angular disposition of the passages 47 and the taper of the inner surface of the wall 49 the whirling motion of the fluid is greatly increased, and this, coupled with the passage through the restricted opening 50, effectively breaks up the stream and produces a fine spray which diverges from the nozzle. The angular divergence of the spray may be varied by adjusting the deflector longitudinally in the shell 44, lowering the position of the deflector being effective to widen the spray.

In use, the device is mounted as shown in Fig. 1, the normal position of the parts being substantially as shown in full lines in this view. The garment 16 to be pressed is properly spread out upon the table 15, whereupon the operator grasps the body 21 of the valve 11 between the thumb and fingers of one hand with the palm of the hand overlying the handle 35. The device is then moved, by flexure of the coupling 10, to the dotted line position, after which the handle 35 is depressed to open the valve and permit the passage of water through the sinuously channeled member and nozzle. In carrying out the operation, the device may be moved laterally, or in fact, in any direction necessary, thus insuring the spraying of any garment regardless of variations in size or shape. When the garment has been completely sprayed, the device is released, and it automatically returns to its normal, substantially upright position, under the action of the spring 38, and because of such position and the presence of member 12, a volume of liquid remains between the valve and the nozzle. After the device has returned to its inoperative position as in Fig. 1, the nozzle is at the highest point in the system, and therefore there will be no after-drip from it, and the entrapped volume of liquid remaining between the valve 11 and the nozzle 13 results in practically instantaneous projection of a spray in the next operation so that a high efficiency is obtained.

From the foregoing it will be evident that I have provided a spraying device simple in construction, and efficient in operation. While I have described the device as being particularly adapted for spraying garments, I do not limit myself to such use, since it may be adapted with equal advantage to other purposes. The invention is susceptible of modification and I reserve the right to make such changes as fall within the scope of the appended claims without departing from the spirit of the invention.

Having thus described my invention, what I claim is:

1. In a spraying device of the class described, the combination with a vertically fixed conduit, of a flexible, resilient, conduit in communication at one end with the upper end of the fixed conduit, and adapted by its resilience to normally stand in a substantially vertical position, and a spray nozzle positioned on the other end of the resilient conduit so that it will be at substantially the highest point in the conduit when the device is inoperative.

2. In a spraying device of the class described, the combination with a vertically fixed conduit for fluid, of a flexible, resilient, conduit in communication at one end with the upper end of the fixed conduit, and adapted by its resilience to normally stand in a substantially vertical position, the resilient conduit comprising a length of flexible tubing enclosed by a helical spring wound thereon, a third conduit communicating with the other end of the resilient conduit and provided with a manually controlled valve, and a spray nozzle positioned on the third conduit so that it will be at substantially the highest point in the conduit when the device is inoperative.

SAMUEL G. BUSKARD.