Dec. 20, 1938. C. R. LENDLE 2,140,961

GARMENT STEAMING DEVICE

Filed April 26, 1937 3 Sheets-Sheet 1

Fig. 1.

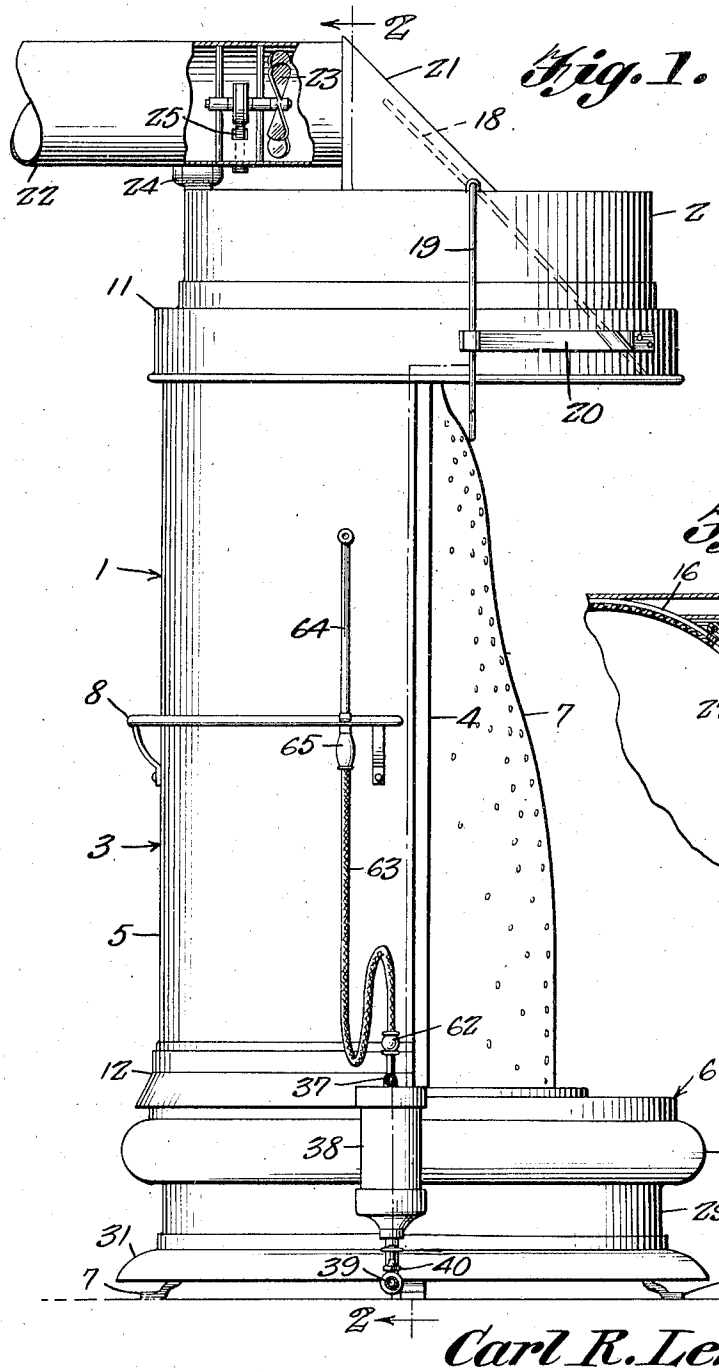
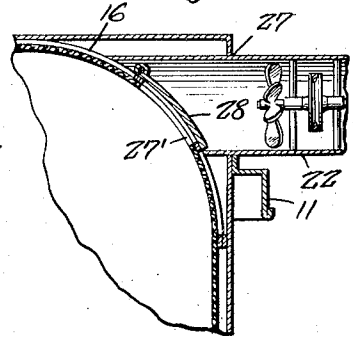


Fig. 6.



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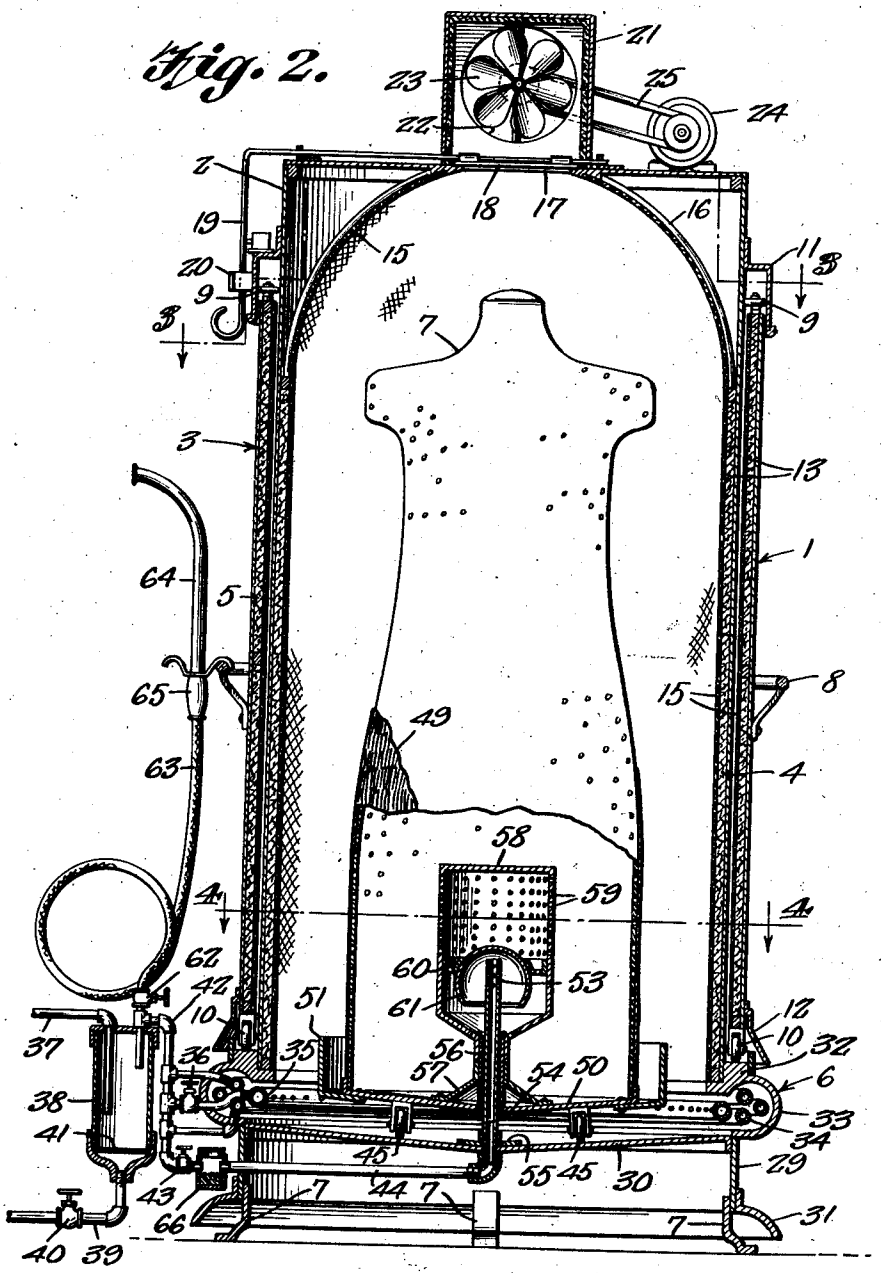
P. E. Hickey
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Filed April 26, 1937 3 Sheets-Sheet 2

Fig. 2.



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Fig. 3.

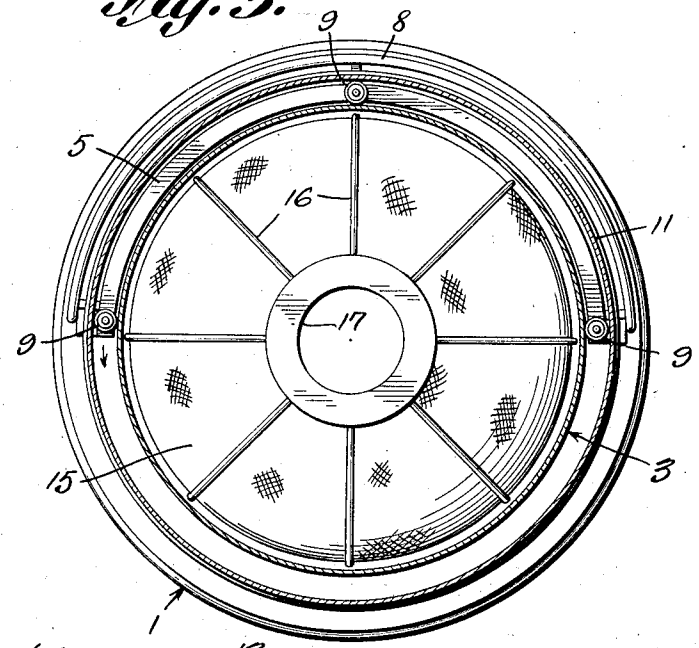


Fig. 4.

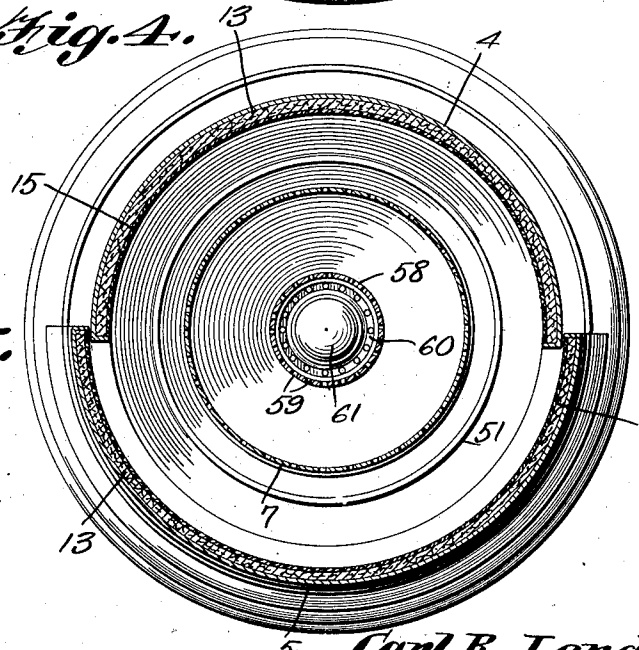
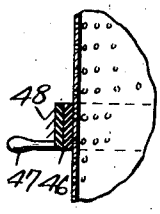


Fig. 5.



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Patented Dec. 20, 1938 2,140,961

UNITED STATES PATENT OFFICE

2,140,961

GARMENT STEAMING DEVICE

Carl R. Lendle, Youngstown, Ohio

Application April 26, 1937, Serial No. 139,087

3 Claims. (Cl. 223—71)

This invention relates to a garment renovating and sterilizing device wherein steam is employed as a renovating medium and has for the primary object the provision of a device of this character which will thoroughly clean a garment of dirt and other foreign matter without danger of damaging the fabric of the garment or shrinking the latter.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation partly in section illustrating a garment renovating device constructed in accordance with my invention and open to permit the application of a garment to the form thereof.

Figure 2 is a vertical sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

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

Figure 5 is a fragmentary sectional view showing a combined hand grip and garment fastening device applied to the form.

Figure 6 is a fragmentary vertical sectional view illustrating the steam exhaust means located at one side of the device instead of on top of the device as shown in Figure 1.

Referring in detail to the drawings, the numeral 1 indicates a cabinet consisting of a hood or top section 2, an intermediate cylindrical portion 3 including a fixed section 4 and a movable section 5 and a hollow base 6 supported by legs 7. The hood 2 is fixed to the section 4 while the movable section 5 is capable of sliding free relative to the hood and the base as well as the fixed section. The sections 4 and 5 each form one-half of the cylindrical portion of the cabinet so that when the movable section 5 is slid about the section 4 approximately one-half of the cylindrical portion is open to expose a garment form 7 so constructed as to support a garment as if worn by a person. A hand rail 8 is secured to the movable section 5 for facilitating the sliding of said section into positions for opening and closing the cabinet. The movable section 5 is supported by upper and lower groups of rollers 9 and 10. The lower group of rollers 10 ride upon the base while the upper group of rollers contact the walls of the cabinet or the hood 2 thereof and also a guard flange 11 secured to the hood 2. The movable section 5 thus mounted is free to slide which will be prevented from having an undue wabbling motion while being slid from one position to another. A skirt or protective flange 12 is secured to the movable section 5 and projects over the base to conceal the rollers 10 from view and also to prevent some foreign object coming in contact with the rollers and thereby interfere with the sliding movement of the movable section.

The cylindrical portion 3 of the cabinet is lined with insulation 13 and a fabric covering 15 is positioned over the insulation and extends into the hood 2. A skeleton frame 16 is arranged in the hood 2 for supporting the fabric 15 therein and in substantially dome-shape. The fabric at the top of the dome formed within the hood is cut away and the latter is also cut away to form an exhaust opening 17 controlled by a gate-type valve 18 and the latter is actuated by the manipulation of a crank handle 19 arranged exteriorly of the hood 2. A resilient clamp 20 is carried by the hood to engage the crank handle 19 for the purpose of securing the gate valve in any of its adjusted positions. A box-like structure 21 is carried by the hood 2 and is arranged over the exhaust opening and has connected thereto an exhaust pipe 22 in which operates a suction fan 23 driven by an electric motor 24 mounted on the hood 2. The electric motor is connected to the fan in any suitable way such as by an endless belt, as shown at 25.

While I have described the exhaust opening 17 as being located in the top of the hood 2 it may be located in one side of the hood, as indicated at 27, with the exhaust pipe 22 extending therein. The dome-shaped portion of the fabric contacts the inner end of the exhaust pipe 22 and is provided with an opening 27' controlled by a gate valve 28 mounted for movement in the exhaust pipe and on the skeleton frame 16.

The base 6 consists of a tubular portion 29 to which the legs 7 are secured and also a bottom wall 30. Carried by the tubular portion 29 is a skirt or guard 31 for shielding the legs. Carried by the cylindrical portion above the bottom wall 30 is an annular casting 32 providing a track for the rollers 10 and is offset to form an annular chamber 33 in which are located the convolutions of a coil pipe 34. The ends of the coil pipe are connected to a steam supply pipe 37. Steam entering the coil pipe 34 will heat the casting 32. Arranged adjacent the coil pipe is an annular spray nozzle 35 which receives heat

from the coil pipe 34 and is connected to the steam pipe 37 by a pipe having a control valve 36. Steam passing through and from the annular spray nozzle will be heated by heat derived from the coil pipe 34 obviating any possibility of the steam becoming chilled before escaping from the spray nozzle.

The steam supply pipe 37 is connected to a separator 38 to which a drain pipe 39 is connected. The drain pipe has a control valve 40. The steam supply pipe extends down part way within the separator and the lower portion of the separator is equipped with a screen 41 so that any condensation or water delivered into the separator will pass through the screen 41 and escape by way of the drain pipe 39 when the valve 40 is opened. A steam outlet pipe 42 is connected to the separator 38 at the upper end thereof and is connected to the valve 36 and also to a valve 43 of a steam pipe 44, the latter extending through the base under the bottom 30. The separator 38 acts to remove water from the steam so that the steam escaping from the nozzle 35 will be substantially dry. The base or casting 32 thereof being heated will prevent the steam chilling when leaving the nozzle 35 for passage up into the cabinet about the form 7.

The form 7 is supported by rollers 45 which ride on the wall 30 of the base so that the form may be rotated within the cabinet and to facilitate the rotation of said form, members of the type shown at 46 may be secured on the form and equipped with handles 47. The members 46 carry a plurality of pins 48 on which the garment may be fastened for holding said garment properly draped on the form, the garment being indicated fragmentarily as shown at 49. The form 7 is perforated substantially throughout its length and the lower end of the form is closed by a wall 50 on which the rollers 45 are mounted. A shield 51 is secured to the lower portion of the form to prevent the direct escape of steam from the nozzle 35 onto the lower portion of the garment eliminating any danger of the garment being burnt or otherwise injured by too hot steam.

A steam jet 53 is located in the form 7 and extends through the wall 50 of said form in the shape of a pipe, as indicated at 54, and is connected to a fitting 55 carried by the wall 30 of the base. The fitting 55 connects the pipe 54 to the steam pipe 44. A bearing sleeve 56 is journaled on the pipe 54 and is secured to the wall 50 of the form 7, as shown at 57. The part 57 also supports a steam distributing cylinder 58 in which the nozzle 53 is located. The cylinder 58 has a series of perforations 59 located in a plane above the nozzle 50 and also has located therein a perforated spider 60 arranged below the perforations 59 and supporting a substantially spherical-shaped deflector 61 positioned over the nozzle 53 for the purpose of deflecting the steam downwardly in the cylinder 58 as it leaves the nozzle and bringing about an even distribution of the steam within the cylinder for escape therefrom by way of the perforations 59. The steam escaping into the form 7 fills the latter and passes therefrom by way of the perforations in the form contacting the garment on the interior thereof so that said steam may travel through the fabric of the garment and escape to the interior of the cabinet. The steam passing through the fabric of the garment will loosen and carry to the outer surface of the fabric dirt and other foreign matter and the steam discharged by the nozzle and passing over the exterior of the garment will take up the dislodged foreign matter. With the suction fan 23 in operation, the steam discharged into the cabinet will be caused to pass rapidly from the cabinet and away from the garment before condensing thereby reducing the amount that the garment will be moistened. By keeping the garment as dry as possible, the liability of shrinkage is reduced to a minimum. The amount of suction from the fan in the cabinet can be controlled by the gate valve 18 and if at any time it is desired to steam a garment without the escape of the steam the gate valve 18 is closed and only opened when it is desired to exhaust the steam after the steaming operation. Of course, an operation of this kind will wet a garment to a greater extent than the previously described operation.

A valve 62 is connected to the steam pipe 42 and has connected thereto a flexible hose 63. A suitable spray nozzle 64 is connected to the hose 63 and is equipped with a hand grip 65. The nozzle 64 is employed when it is desired to hand-steam a garment or a portion thereof when held exteriorly of the cabinet. Normally the nozzle 64 is supported on the hand rail 8, as shown in Figure 2, with the valve 62 closed.

It is to be understood that the pipe 22 conveys the exhaust of steam from the cabinet to the atmosphere exteriorly of the room in which the cabinet is located.

A disinfectant receptacle 66 is connected in the pipe 44 so that the steam passing to the nozzle 53 will become impregnated with disinfectant whereby the garment steamed will be also sterilized.

What is claimed is:

1. A garment renovating device comprising a cabinet, an exhaust means connected to said cabinet, a perforated garment form located in the cabinet, means for introducing steam in the cabinet outwardly of the form, means for introducing steam interiorly of the form for passing through the fabric of a garment on the form, and a shield carried by the form to prevent the steam from the first-named means from damaging the fabric of the garment adjacent where said steam enters the cabinet.

2. A garment renovating device comprising a cabinet, exhaust means for said cabinet, a perforated garment form mounted in the cabinet, a steam nozzle located in the form and extending exteriorly thereof, a steam supply connected to said nozzle, a perforated cylinder overlying the nozzle, a semispherical-shaped deflector arranged between the nozzle and the cylinder, and means connected to the steam supply for introducing steam into the cabinet exteriorly of the form.

3. A garment renovating device comprising a cabinet, exhaust means for said cabinet, a garment form mounted in said cabinet, a steam nozzle for introducing steam into the cabinet exteriorly of the form, a steam heating coil connected to and located adjacent the nozzle, a steam supply means connected to said coil, and means for introducing steam to the interior of the form and connected to the steam supply.

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