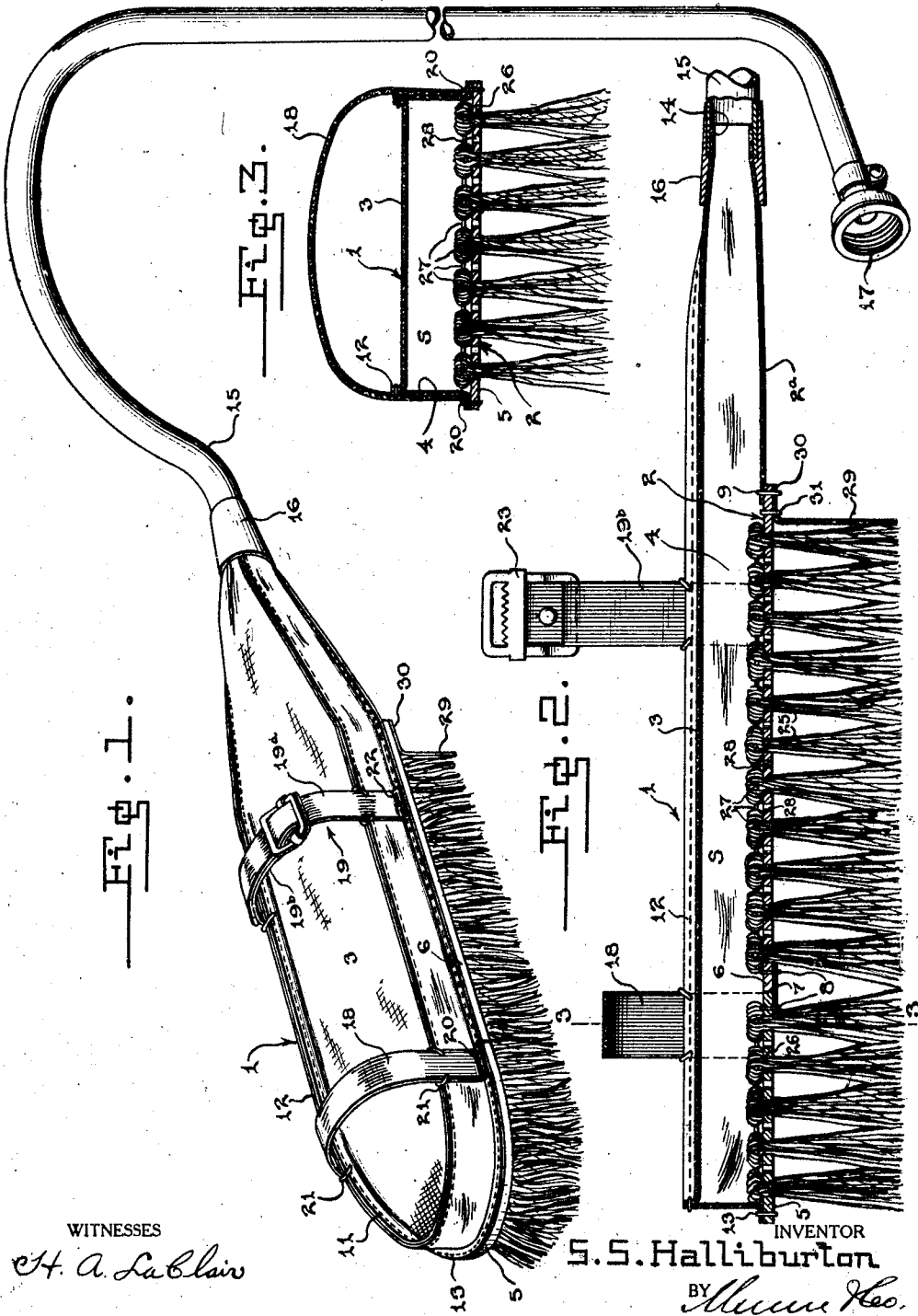


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S. S. HALLIBURTON
CLEANING AND WASHING DEVICE

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WITNESSES

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CLEANING AND WASHING DEVICE.

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This invention is an improvement in cleaning and washing devices having substantially the form of a brush and in which water or other cleaning liquid is caused to flow from the body or stock of the device through a permeable rubbing member to the surface being cleaned. The device is especially adapted for use in cleaning automobiles and other varnished, enameled or polished surfaces.

One of the principal objects of the invention resides in the provision of a cleaning and washing device of this character which may be easily handled and conveniently used to thoroughly clean the automobile or the like without danger of scratching or marring the surface thereof.

Another important object is to provide a device of this character which has no metal in its construction but which employs soft, pliable rubbing elements through which a well distributed supply of cleaning fluid is carried. This feature not only provides for enhancing the cleaning action due to the combined action of the rubbing or cleaning elements and the fluid but also avoids danger of the surface being scratched or marred since the fluid coursing through the rubbing elements carries away any grit or dirt which might be likely to do damage.

Another object is to provide a device having these advantages and capacities and which is sufficiently flexible and controllable to render curving surfaces or surfaces otherwise difficult of access susceptible of comparatively ready cleaning.

A still further object is to provide a cleaning and washing device which is so constructed as to permit pressure exerted thereon by the hand which grips the brush to accelerate the flow of the washing fluid to the surface being cleaned. This feature also provides a cushion for the hand which facilitates the cleaning operation. In conjunction with this cushioning feature the device provides a flexible connecting portion between the brush proper and the hose leading to the brush which relieves to a large extent the wrist and arm of the user of strain.

Another object is to provide a device of this character wherein the cleaning fluid is prevented from running back down on the wrist, arm or sleeve of the user.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts which

will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming a part of this specification, and in which:—

Fig. 1 is a perspective view of a cleaning and washing device embodying the present invention;

Fig. 2 is a fragmentary view thereof in central vertical section; and

Fig. 3 is a view in transverse vertical section on line 3—3 of Fig. 2.

Referring to the drawings wherein for the sake of illustration is shown one embodiment of the invention, the numeral 1 designates generally the flat hollow body of the device, the flat hollow body having the general form of a brush body and including an inner or bottom, wall, designated generally at 2, an outer, or top wall, designated generally at 3, and a connecting wall, designated generally at 4, these walls defining between them a reservoir or chamber S.

The top 3 of the body in the embodiment illustrated comprises a single piece of rubberized canvas or other readily flexible waterproof material. The bottom 2 has a rear extension 2^a which is also constructed of rubberized canvas or other readily flexible material but the main portion of the bottom is made up of hinged sections 5 and 6, these sections 5 and 6 consisting of relatively stiff semi-flexible material such as rubber composition, which when flexed tends because of its elasticity to return to its flat or normal form. The material of which the sections 5 and 6 is composed is sufficiently stiff to give form and outline to the brush even under service conditions but is sufficiently flexible to permit the brush to flex as may be necessary to thoroughly and effectively wash and clean curving surfaces. This function of the device in adapting itself to the surface to be cleaned is further carried out by virtue of the hinged connection 7 between the sections 5 and 6. By reference to the drawings it will be noted that the section 6 is the largest or main section of the body, the section 5 being located at the front and being of relatively small area. The hinged connection 7 between the sections 5 and 6 consists of thin strips of pliable water-proof material which covers the meeting edges of the sections 5 and 6 and which is secured to said sections by rows of stitching 8 or any other suitable fastening means. The forward edge of the rear-

ward extension 2^a overlaps the rear end portion of the section 6 and is secured thereto by means of a row of stitching 9 or any other suitable fastening device. The connecting wall 4 has its lower marginal edge outturned and stitched to the margin of the bottom wall 2, as indicated at 13. The upper marginal edge of the connecting wall 4 is stitched to the upturned marginal edge 12 of the top wall 3, as indicated at 11. The stitching material used throughout the device is preferably flax and is relatively strong and substantially impervious to water and in all instances substantially waterproof joints are obtained. Means is provided for supplying water or any other cleaning fluid to the chamber or reservoir S and preferably consists of a rubber hose or tubing 15 having one end suitably connected to the tubular rear extremity 14 of the tapered rear end of the body 1. For the sake of simplicity and illustration the connection between the tubing and the body is illustrated as consisting of a sleeve 16 of rubber or the like. The end of the hose opposite its connection to the body 1 is provided with a fitting 17 whereby it may be connected to a suitable source of supply. The flexible tapered rear end portion, or extension, of the body should be of sufficient length, usually about one-third of the total length of the body, so that it will extend opposite and somewhat beyond the wrist of the user.

The body of the device is provided with the hand straps 18 and 19, respectively. The strap 18 is a one-piece member having the ends thereof secured to opposite side edge portions of the section 5 of the bottom of the body of the device by stitching, as at 20, and connected with side edge portions of the top by the stitching 21, while the strap 19 is of greater length than the strap 18 and comprises the sections 19^a and 19^b, respectively, having their opposite ends connected with side edge portions of the section 6 of the bottom of the body of the device, as by stitching, such as indicated at 22. The adjacent end portions of the strap sections 19^a and 19^b are adapted to be adjustably connected with each other, as by the provision of the buckle 23 on the section 19^b for engaging the section 19^a, and the sections 19^a and 19^b are connected with opposite side edge portions of the top of the body of the device by the stitching 22.

The sections 5 and 6 of the bottom wall carry rubbing or cleaning elements 25 which form the permeable rubbing member, or material and which are soft and pliable and which preferably consist of tufts of short lengths of cotton twine doubled and suitably held in openings 26 in the sections 5 and 6. The tufts may be held in position by vulcanizing them to the sections 5 and 6, or by means of a flexible element 27 extended through the bights formed when the twine is doubled. The sections 5 and 6 also have openings 28

formed therein, the openings 28 being located between the cleaning or rubbing elements and serving as discharge orifices from the chamber S, so that the water or other cleaning fluid employed will course out between and around the cleaning elements and onto the surface to be cleaned.

A flexible apron 29 has the upper edge portion 30 thereof turned rearwardly to lie flatwise against the lower face of the rearward edge portion of the section 6 of the bottom of the body of the device and is secured to said section 6 by the row of stitching 9 and an additional row of stitching 31. The pendant portion of the apron 29 thus extends transversely of the bottom of the device and is of substantially the same length as the pendant portions of the cleaning elements 25.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The hand of a user is inserted between the straps 18 and 19 and the top of the body of the device. The horizontal sectional contour of the body of the device is substantially the same as that of the extended hand of a user of the device and the body of the device, therefore, can be manipulated conveniently and easily to move the cleaning elements 25 in contact with the surface that is to be cleaned and to exert a desirable pressure on said surface. The flange 12 tends to confine the hand of the user to the top of the body of the device.

The cleaning operation is effected by virtue of the rubbing action of the soft pliable cleaning elements 25 and by virtue of the water being distributed entirely over the active area of the brush in such a way as to apply it onto the surface to be cleaned to aid the cleaning action and yet clear the cleaning or rubbing elements 25 of any dirt or grit that may adhere thereto, whereby to prevent scratching or marring of the surface being cleaned. The sections 5 and 6 which carry the rubbing or cleaning elements are sufficiently flexible both longitudinally and transversely to enable the hand to cause the device to conform to the contour of the surface being cleaned. The swinging or hinged front section 5 even further facilitates this adaptation of the device to the contour of the surface being cleaned. By virtue of the provision of the flexible walls 3 and 4 the flow of cleaning fluid through the orifices 28 may be accelerated at any time by simply exerting a greater pressure on the top wall 3, to force the top wall toward the bottom wall, these walls being normally spaced apart when the device is in use. The tubular rear end portion, or extension, of the body of the brush being constructed entirely of flexible material greatly facilitates manipulation of the brush and relieves the strain that would otherwise be imposed on the muscles of the arm and wrist of the user. The apron 29

prevents the water from running back down the hose and down the sleeve of the operator.

What is claimed is:

1. In a cleaning and washing device, a flexible flat hollow body having spaced bottom and top walls and collapsible edge walls, the top and edge walls being of flexible material, and the bottom wall being of relatively stiff elastic material and being provided with permeable rubbing material formed of tufts of soft pliable material secured in said wall, and said wall having perforations between the bases of the tufts for the outflow of liquid through the rubbing material.

2. In a cleaning and washing device, a flat hollow collapsible body having spaced bottom and top walls connected by collapsible edge walls of flexible material, the bottom wall being of relatively stiff elastic material, and rubbing material formed of soft pliable cleaning elements carried by the bottom wall, said bottom wall having perforations forming liquid discharge outlets between the cleaning elements.

3. In a cleaning and washing device, a flexible flat hollow collapsible body of approximately the shape and size of the extended hand of a user having a bottom wall of relatively stiff elastic material provided with permeable rubbing material and perforated for the outflow of liquid, a flexible top wall provided with an upwardly projecting edge flange and adapted to serve as a rest for the user's hand, and a flexible and collapsible edge wall, and means for holding the hand of the user against the top wall.

4. A cleaning and washing device, comprising a flexible flat hollow body having spaced bottom and top walls and collapsible

edge walls, the top and edge walls being of flexible material, and the bottom wall being of relatively stiff elastic material and being provided with permeable rubbing material and perforated for outflow of liquid, a flexible tapering rearward extension from one end of the body for connection with a liquid supply hose, and a flexible apron extending from the body transversely between the rubbing member and said extension.

5. A cleaning and washing device, comprising a flexible flat elongated hollow body having a bottom wall of relatively stiff elastic material provided with permeable rubbing material and perforated for outflow of liquid to said material, said body having flexible top and edge walls, and having a flexible tapering rearward extension for connection with a liquid supply hose, said extension being formed by rearwardly extending flexible walls extending from the top and edge walls and a flexible wall secured to and extending from said bottom wall, and said extension being of sufficient length to extend beyond the wrist of the user.

6. A cleaning and washing device, comprising a flat hollow body having one side provided with permeable rubbing material and perforated for the outflow of liquid to said material, and a flexible tapering rearward extension for connection with a liquid supply hose, said extension being formed by rearwardly extending flexible walls extending from the top, bottom and edge walls of the body, and said extension being of sufficient length to extend beyond the wrist of the user.

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