June 30, 1942. S. T. HIATT 2,288,353

WASHING APPARATUS

Filed April 23, 1940

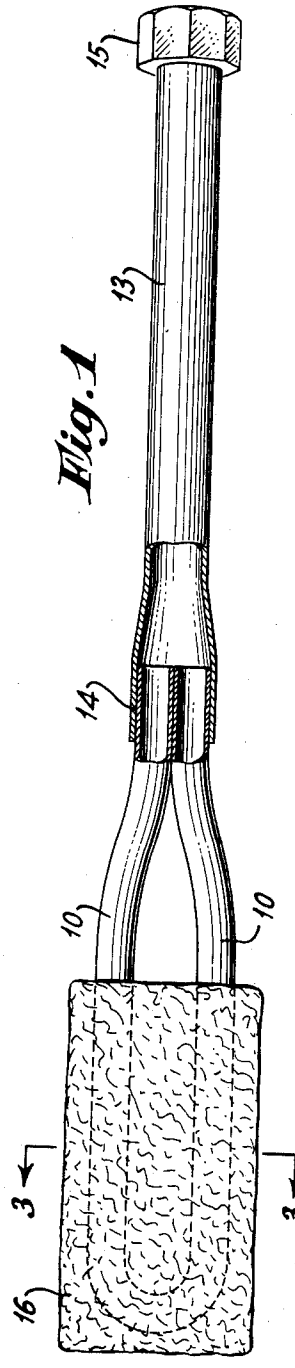


Fig. 1

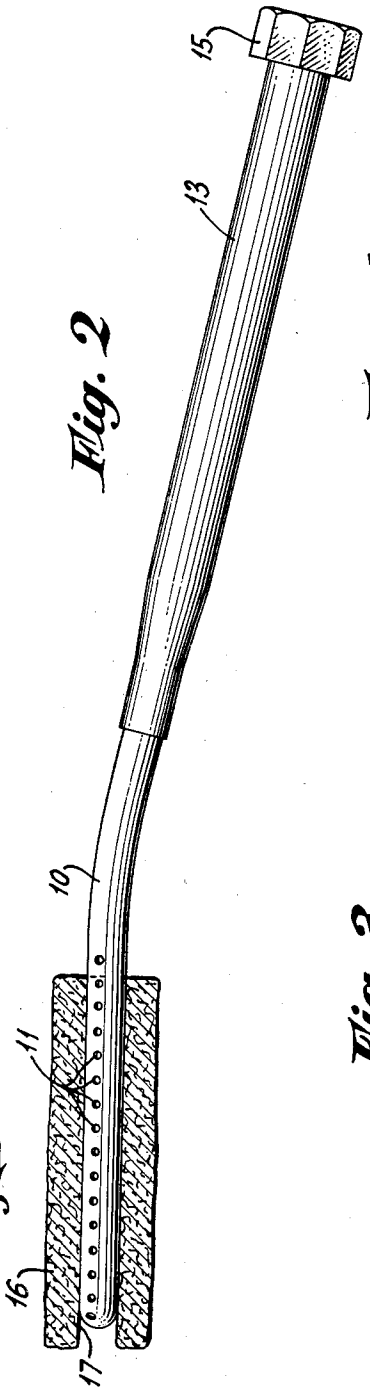


Fig. 2

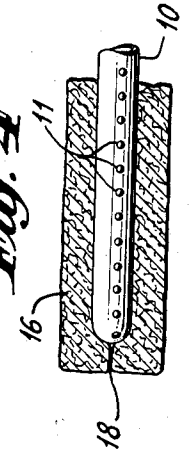


Fig. 4

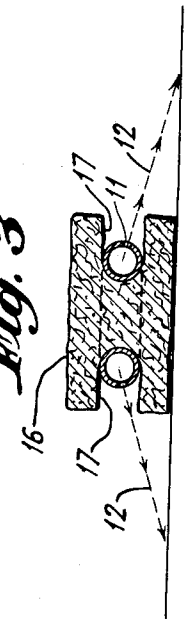


Fig. 3

INVENTOR.
STEPHEN T. HIATT

BY William A. Galesak
ATTORNEY.

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WASHING APPARATUS

Stephen T. Hiatt, Fanwood, N. J.

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8 Claims. (Cl. 15—130)

My invention relates to washing apparatus, more particularly to improvements in combination spraying and scrubbing apparatus sometimes referred to as fountain sponges, and useful for washing and scrubbing flat or rounded surfaces of considerable area.

In devices of this kind heretofore available, the scrubbing element or elements of the device usually has the water or cleaning fluid forced through it so that wetting and scrubbing is a simultaneous operation. This causes scratching of the surface by the larger particles of dirt and grit being caught by the scrubbing element and rubbed across the finish of any painted surface being washed. As a rule no provision is made for properly shaping the washing apparatus to permit the device to have easy access to all parts of the surfaces to be washed, whether flat or curved, and no suitable means is provided for handling the apparatus. No means as a rule are provided for disengaging the scrubbing elements for the purpose of replacement or for the purpose of permitting cleaning. Further, in conventional arrangements, exposed metal parts of the apparatus can contact and harm the surfaces being cleaned.

It is an object of my invention to provide an improved washing apparatus of the type described having a spray for first wetting the surface to be washed to loosen the film and dirt particles so that they can be easily dislodged and washed away by the spray or by the scrubbing element to thus prevent scratching.

Another object of my invention is to provide such a device in which the metal parts of the washing apparatus are protected from coming into contact with the surface being cleaned and formed without sharp edges to prevent scratching and chipping of the surfaces being cleaned.

Another object of my invention is to provide such a device properly shaped and formed to permit easy access to all parts of the surfaces being cleaned whether flat or curved or not readily accessible, for example the surfaces of automobiles and the like where both flat and curved surfaces and surfaces not readily accessible are encountered.

A further object of my invention is to provide a handle of improved form to permit easy handling of the apparatus.

A still further object of my invention is to provide a combined spray and scrubbing element construction so that the scrubbing element or sponge can be easily removed for cleaning and replacement and which nevertheless requires no spring or locking element to retain the same in operating position, thus simplifying and making the construction of the washing apparatus less expensive.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims, but the invention itself will best be understood by reference to the following description taken in connection with the accompanying drawing in which Figure 1 is a plan view of a washing apparatus made according to my invention with parts in section to show details of construction, Figure 2 is a side view, Figure 3 is a section taken along line 3—3 of Figure 1 showing the relationship of the parts and the action of the spray on the surface being cleaned, and Figure 4 shows a modification of the apparatus made according to my invention.

Referring to Figure 1 the apparatus comprises a looped portion 10 comprising a hollow fluid conductor or pipe made preferably of some such material as copper pipe but not limited thereto and which is provided with a plurality of preferably aligned apertures 11 for providing a plurality of sprays of water for washing the surface in the manner shown in Figure 3 so that the surfaces are wet prior to the time that the scrubbing element or sponge 16 contacts the wetted surface. This loop may also be in the form of a U-shaped member closed at the ends of the legs. This looped conduit is provided with a hollow conducting handle 13 which may be brazed or otherwise secured with a water tight joint to the loop at 14. A coupling member 15, which may be screwed to the conventional hose arrangement, is provided at the other end of the handle. Detachably secured to and supported by the loop 10 is a scrubbing member 16 which may be a yielding porous or sponge-like material. The scrubbing element is provided with a groove 17 as best shown in Figures 2 and 3 which receives the perforated conduit. The conduit may retain the sponge between the legs of the loop under slight compression so that it is not easily dislodged. However, because of its flexibility it can be easily compressed and forced through the loop to release it.

As best shown in Figure 3, the apertures 11 are positioned below the mid-line of the conduit and the groove 17 in the scrubbing element is of such depth that when the apparatus is in use the streams of water 12 are directed past the edge of the groove without contact therewith onto the surface being washed. This action wets down the surface to be cleaned and loosens the larger particles of grit and dirt, so that when the scrubbing element is brushed across the surface to be washed danger from scratching is minimized and the scrubbing element can then easily brush away the dirt and film. Because the metal parts of the spray are well rounded and curved and because the sponge or scrubbing element extends well beyond the metal loop, contact between the

surfaces being cleaned and the spray portion of the apparatus is unlikely.

As shown in Figure 2, the handle extends downwardly. The apertures 11 are above the center line and in this position a surface above the washing apparatus can be cleaned since the sprays are directed upwardly against the surface being cleaned. This is of considerable advantage in cleaning the under parts of, for example, automobile fenders and the like.

I have found in practice that the angle between the apertured spray loop and the handle is best set at from 10 to 20 degrees. This angle permits easy handling for flat surfaces, curved surfaces and surfaces such as located between fenders and lights, for example, on automobiles.

In a modification the end of the sponge member may be closed as indicated in Figure 4, a slit 18 being provided to permit insertion of the spray loop into the groove.

It will thus be seen that I have provided a simple and effective device of improved design which is sturdy and of simple construction, which is suitable for washing different kinds of surfaces including flat and curved surfaces, and which is provided with an improved handle for permitting easy handling of the device.

Because the spray is directed ahead of the brushing element, the surface film and dirt is loosened and the larger particles are washed away by the spray, thus preventing scratching of the surface by the scrubbing element proper. The brushing element may be easily removed for cleaning or for replacement, and may be of natural or artificial construction.

While I have indicated the preferred embodiments of my invention of which I am now aware and have also indicated only one specific application for which my invention may be employed, it will be apparent that my invention is by no means limited to the exact forms illustrated or the use indicated, but that many variations may be made in the particular structure used and the purpose for which it is employed without departing from the scope of my invention as set forth in the appended claims.

What I claim as new is:

1. A washing apparatus including an elongated member of resilient porous material provided with a groove along opposite sides, a hollow conductor received entirely within said groove and being provided with apertures positioned to direct fluid streams to the exterior of the said member on to the surface being washed without contacting said member.

2. A washing apparatus including an elongated member of resilient porous material and of rectangular cross section and provided with a groove along opposite edges, a hollow conductor having oppositely disposed portions received entirely within said groove and engaging said member between said oppositely disposed portions, said conductor being provided with apertures positioned to direct fluid streams to the exterior of the member on to the surface being washed without contacting with said member.

3. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge for receiving the loop entirely within said groove whereby the scrubbing element is retained between the opposite sides of said loop, said loop having apertures along its length and positioned to direct fluid sprays against the surface being washed but without contact with the scrubbing element.

4. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge and of a depth to fully receive the loop entirely within said groove whereby the scrubbing element is retained between the opposite sides of said loop, said loop having apertures positioned along the loop and below the mid-line of the conductor to direct fluid sprays at an angle against the surface being washed but without contact with the scrubbing element.

5. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge and of a depth to fully receive the loop entirely within said groove whereby the scrubbing element is retained between the opposite sides of said loop, said loop having apertures positioned along the loop to direct fluid sprays against the surface being washed but without contact with the scrubbing element, and a hollow fluid conducting handle for said loop connected to and positioned at an angle with respect to the loop.

6. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge and of a depth to receive the loop entirely within said groove whereby the scrubbing element is retained between the opposite sides of said loop, said loop having apertures positioned to direct fluid sprays against the surface being washed but without contact with the scrubbing element, and a handle comprising a hollow conductor into which the ends of said loop extend and communicate and formed at an angle to said loop, said handle serving as a conductor for fluid into said loop.

7. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge for receiving the loop whereby the scrubbing element is retained under slight compression between the opposite sides of said loop, said loop having apertures positioned below the mid-line of the conductor to direct fluid sprays at an angle against the surface being washed but without contact with the scrubbing element, and a handle comprising a hollow conductor for receiving within one end the open ends of said loop and having at the other end a coupling member.

8. A washing apparatus including a fluid conductor formed into a loop, an elongated rectangular scrubbing element of resilient porous material provided with a groove along its edge of a depth to receive the loop entirely within said groove, said scrubbing element being retained between the opposite sides of said loop under slight compression, said loop having apertures positioned below the mid-line of the conductor to direct fluid sprays at an angle against the surface being washed but without contact with the scrubbing element, and a handle comprising a hollow conductor for receiving within one end the open ends of said loop and having at the other a coupling member, said scrubbing element being provided at the end opposite said handle with contacting portions for completely encircling the end of said loop.

STEPHEN T. HIATT.