

May 30, 1939.

M. D. DURHAM

2,160,328

WASHER

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Fig. 1.

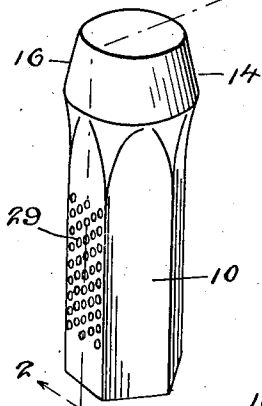


Fig. 3.

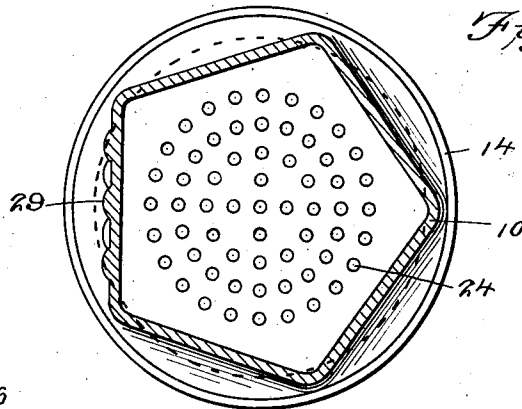


Fig. 2.

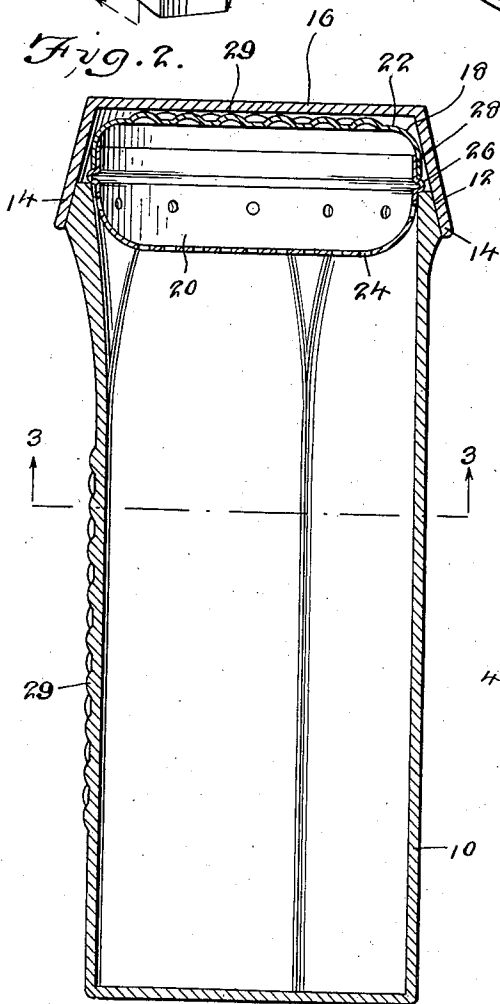


Fig. 4.

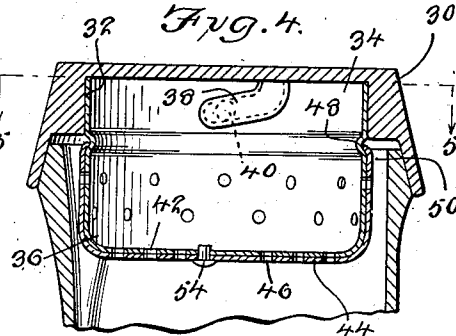
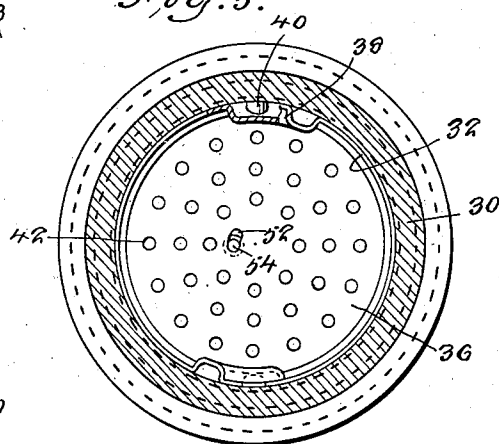


Fig. 5.



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UNITED STATES PATENT OFFICE

2,160,328

WASHER

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1 Claim. (Cl. 68—214)

My invention relates to the cleaning and washing of hosiery, laces, small garments, and fabric made of silk and other delicate materials, and has among its objects and advantages, the provision of an improved household washer.

An object of my invention is to provide a small washer designed to facilitate washing of delicate fabrics, and in which novel means is employed for adding soap to the washing liquid.

A further object is to provide a washer in which novel rubbing means is provided which are conveniently accessible both on a surface of the washer and also on a detachable part thereof.

Another object is to provide a washer in which the novel means for adding soap to the washing liquid is provided with means for cutting off the soap supply, and in which the soap added to the liquid is released through agitation of the liquid.

In the accompanying drawing:

Fig. 1 is a perspective view of the washer;

Fig. 2 is a sectional view along the line 2—2 of Fig. 1;

Fig. 3 is a sectional view along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view of a different form of washer; and

Fig. 5 is a sectional view along the line 5—5 of Fig. 4.

In the embodiment selected to illustrate my invention, I make use of a receptacle 10 which contains the washing liquid and the garments to be washed. In Fig. 3, the receptacle is illustrated as being pentagonal in cross section, and its open end includes an angular surface 12 co-operating with the tapered flange 14 carried by the cap 16. The contacting relation between the surface 12 and the flange 14 is such as to provide a liquid tight connection. However, the relation is such as to permit the cap 16 to be easily removed.

The receptacle 10 is designed with sufficient capacity to permit garments, such as stockings and the like, to be washed therein. In washing, the receptacle is provided with the desired amount of liquid, and the garments are placed therein, and the washer is agitated by shaking. Both the receptacle 10 and the cap 16 are of such sizes and shapes as to permit a firm grasp to be secured.

Within the cap 16 and the upper end of the receptacle 10 I mount a soaping element 18 which comprises a box 20 and a cover 22. Box 20 is provided with a large number of perforations 24 and includes a bead 26 which engages the upper end of the receptacle 10. The wall 28 of the box

20 extends above the bead 26 so as to provide a flange for the reception of the cap 16. Cap 16 is frictionally retained on the wall 28 and may be removed to permit the box to be filled with soap.

The soaping element 18 fits loosely within the receptacle 10, and the cover 22 may be separated from the box to permit placement of soap therein. In operation, the soap is washed into the liquid by shaking the washer. After the proper amount of soap has been delivered to the liquid, the soaping element may be removed, and the washing action continued by further shaking of the device. From time to time the articles being washed may be rubbed on the rubbing surface 29 on the outer surface of the receptacle or upon the rubbing surface 29 on the cover 22. This cover is of such diameter as to permit convenient holding in the palm of the hand.

I prefer to make the receptacle 10 of composition materials which may be molded, and cast the rubbing surface 29 as an integral part of the receptacle. In the drawing, I have illustrated the soaping element 18 as being made of sheet metal.

Figs. 4 and 5 illustrate a slightly different form of soaping element. In this form the cap 30 includes a large bore 32 within which the flange 34 of the soap containing box 36 is positioned. Flange 34 is deformed to provide a groove 38 for the pin 40 carried by the cap 30. The groove 38 is angularly arranged and cooperates with the pin 40 for drawing the flange 34 firmly against the top of the cap. The angular nature of the groove 38 is such as to provide an effective connection between the flange 34 and the cap 30, but the flange may be released and the box 36 completely detached from the cap by rotating the flange slightly within the bore 32.

I provide the box 36 with a large number of perforation 42, which perforations may be closed by a cup 44 which is rotatably mounted on the box 36. This cup is provided with perforations 46 which register with the perforations 42 in one position of the cup, but the perforations 42 are closed when the cup 44 is rotated slightly about the box 36. I press a shallow groove 48 in the wall of the box 36 and deform the cup 44 at 50 to provide an operating connection between the cup and the box. The deformation 50 prevents relative movement between the cup and the box longitudinally of the box, but the relation is such as to permit rotation thereabout.

In the bottom of the box 36 I provide a short slot 52 through which a pin 54 projects, which pin is fixedly connected with the bottom of the

cup 44 as by welding. The pin limits the rotation of the cup about the box. When the cup is rotated its full limit in one direction, the perforations 42 and 46 will be in registration, and when the cup is rotated its full limit in the opposite direction, the perforations 42 will be closed. Pin 54 also serves as a means for latching the cup to the box to permit the latter to be detached from the cap 30 by rotation.

10 In the form illustrated in Figs. 4 and 5, the soap box need not be removed from the cap 30 during the washing operation. After the proper amount of soap has been delivered to the water, communication may be cut off between the soap box and the receptacle 10 by adjustment of the cup 44.

15 My washer embodies a construction devoid of sharp corners and projections which might tear delicate fabrics. The washing action is effective but of such a nature as to prevent breaking of delicate threads or other injuries to hosiery, etc., usually experienced in machine washing and the more general custom of washing by

hand. While I have illustrated a receptacle pentagonal in cross section, other shapes may be employed without departing from the spirit of the invention. The rubbing surfaces 26 and 28 embody gentle curvatures so as to protect the fabrics being rubber.

Without further elaboration, the foregoing will so fully explain my invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

A manually agitated washer comprising a receptacle having an open end, a perforated soap containing element shaped to fit partly inside the open end of the receptacle, means carried by the soap containing element and extending over edge portions of said open end of the receptacle, and a cover for closing the open end, said cover being so constructed as to partly house the soap containing element and for holding said means in operative relation with the receptacle.

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