

Aug. 12, 1952

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2,606,435

LAUNDERING DEVICE

Filed Aug. 21, 1950

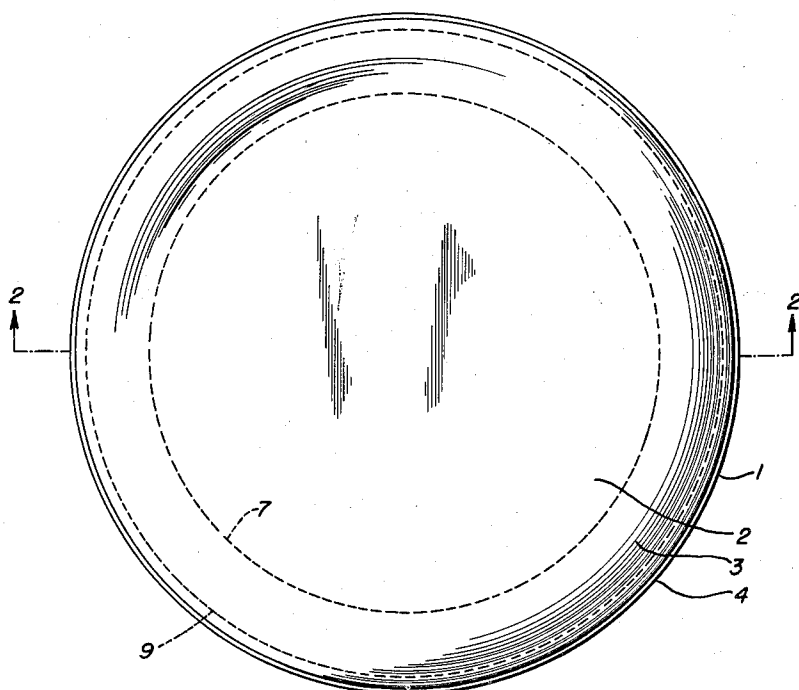


Fig. 1

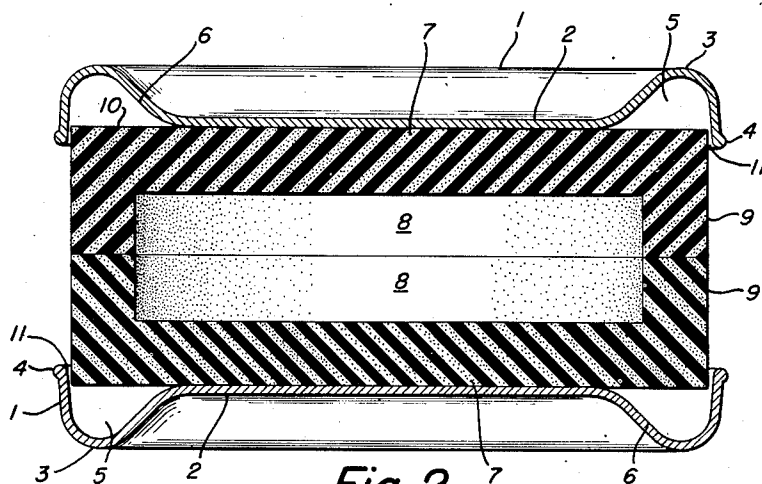


Fig. 2

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UNITED STATES PATENT OFFICE

2,606,435

LAUNDERING DEVICE

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Application August 21, 1950, Serial No. 180,564

7 Claims. (Cl. 68-213)

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My invention relates to devices for washing fabrics, clothing and the like and particularly to manually operable devices.

The object of my invention is to provide a simple and convenient device whereby clothing and other fabrics may be readily laundered without expensive or cumbersome equipment and with safety for the fabrics or clothing.

Another object is the provision of apparatus for manually laundering small batches of clothing and the like to perform the same with efficiency and ease.

Another object is the provision of a pair of novel elements adapted to cooperate for the laundering of clothing and the like as and when convenient and without cumbersome and expensive machinery.

Other objects and a fuller understanding of this invention may be had by referring to the following description and claims, taken in conjunction with the accompanying drawing, in which:

Figure 1 is a plan view looking down upon the top of my device; and

Figure 2 is a cross-sectional view of my device taken along the line 2-2 of Figure 1.

My laundering or washing device is comprised of two separable elements adapted to mate and cooperate in the laundering operation. These elements are similar to each other and each has the same parts. Each element has a disk member 1 of generally round shape and of relatively rigid material. The disk member 1 may be made of molded plastic, of metal or of other suitable material. Each disk member 1 has a central flat portion 2 disposed in a flat plane and intermediate its peripheral edges. Extending around the border of each disk member 1 there is a relieved portion or channel portion 3. This relieved portion 3 extends back from the central portion 2 as shown and then in a curve extends forwardly to terminate at the peripheral edge portion or bead 4. The relieved portion or channel portion 3 extends in a gradual slope 6 from the flat edge portion, as indicated in the drawing.

The relieved portion or channel 3 forms an annular groove or recess 5 extending around the boundary of each disk member 1. It is to be noted that the outer wall of the recess 5, terminating with the edge portion or bead 4, is substantially straight as it approaches the peripheral edge.

Each element of my device, besides including the disk member 1, also includes a cup member 7. Each cup member 7 consists of a sponge-like

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material and I have found that the porous rubber sponge or a porous cellulose sponge is well suited for the purpose. The material of each cup member 7 is such as to absorb liquid, such as a washing liquid of water and soap, when immersed in such liquid, and is also resilient and deformable. Upon compression of the sponge material of the cup member, liquid in the pores of the cup member is forceably expelled. Also the material of the cup member is such that it may be compressed or tightly squeezed and is resiliently deformable in response to pressure applied to it.

There is formed in each cup member 7 a recess 8, the recess 8 being centrally located between the peripheral edges of the cup member and on one side thereof. The general outline shape of the cup member 7 corresponds to the outline shape of the disk member 1. The outer boundary of the recess 8 generally conforms in shape to the outer outline of the cup member 7, but is of smaller dimension so as to leave the defining wall 9 surrounding the recess 8. Each cup member 7, therefore, has an open space or recess 8 on a side thereof. In general, the height of the defining wall 9 above the bottom wall is approximately the same as the thickness of the bottom wall disposed adjacent the disk member.

The bottom wall of each disk member is secured to the adjacent flat central portion 2 of a respective disk member 1. The securing is preferably done by means of a suitable cement or adhesive material disposed between the cup member 7 and the flat central portion 2. Of course, other suitable securing means may be utilized for firmly securing each disk member 1 and respective cup member 7 together, so that a cup member is carried by each disk member.

There is a peripheral portion 10 on the back side of each cup member 7, which is aligned with the defining wall 9 and which substantially covers or registers with the annular groove 5 of a respective disk member. In non-operating condition, the peripheral portion 10 extends straight across to substantially cover the groove 5, as shown in Figure 2 of the drawing. The cup member 7 does not extend outwardly quite to the outer wall of the disk member 1 at the peripheral edge portion 4, there being a clearance or small space 11 between the outer edges of a cup member 7 and respective disk member 1, as is seen in Figure 2 of the drawing.

In the operation of my device, the two elements are moved by hand, one element being entirely separate from the other. A small batch of fabric or clothing is placed within the recess 8 of one

of the elements. Soap and detergent may be added to the clothing, as desired, and within the recess. The other element is then placed over the first element so as to mate the defining walls together and to register the recesses 8. This is the position of the parts shown in Figure 2. It is seen that the two recesses 8 together form a chamber or compartment for holding the clothing or fabric to be washed. Holding the two elements together with the hands, the joined elements are then immersed in water, either in a pool of water or under running water so that the water enters into the chamber holding the clothing and is absorbed in the sponge material of the two cup members 7. Of course, other washing liquid may be used as well as water and soap. The dimensions of the parts are preferably such that the operator may stretch his or her hands across from one disk member to the other and thus clamp the elements together by a grip of the hands. By squeezing with the hands, the two disk members 1 may be moved toward each other, either in a straight line or by alternately tipping one side, then the other. By squeezing the two disk members together, the cup members are compressed and to some extent collapse. The liquid absorbed in the sponge material of the cup members is forceably expelled under pressure. The expelled liquid tends to be forced through the interstices of the fabric or clothing being washed by the device, and this forcing of liquid through the fabric or clothing tends to clean them, as is well known. The fabric or clothing is also manipulated and compressed by the opposed bottom walls of the cup members 7. By alternately pressing the disk members together and releasing the pressure so that the cup members may resume their normal shape (shown in Figure 2), a vigorous washing action is obtained. Liquid is alternately expelled from the cup members and forced through the fabric, and the fabric or the like is being alternately pressed and manipulated to obtain a good washing action.

Upon the pressing of the elements tightly together, the cup members 7 in the region of the groove 5 may swing back against the sloping wall 6 and into the groove 5. In other words, the groove 5 of each disk member permits the cup member 7 to be displaced from the plane of the flat central portion 2 and back into the groove 5. This is most desirable because the cup member 7 is thicker around its peripheral edge and in alignment with the defining wall 9. By permitting the cup members 7 in alignment with the defining walls 9 and registering with the grooves 5 to be so displaced, the cup members may be more readily brought together in tight compression and the flat bottom walls of the cup members may be moved closer together in the compressing movement. Thus, the outer peripheral portion of the cup members 7 may readily swing back into the respective grooves 5 and the bottom opposed walls of the cup members 7 may more readily be brought into tight pressing engagement. The clearance 11 facilitates the swinging of the peripheral portion 10 of each cup member 7 back into the groove 5 and substantially against the sloping wall 6 of each disk member 1.

After the soapy water or other washing liquid has been thoroughly worked through the fabric, clothes or the like by the alternate pressing of the two elements together as described, the two joined elements with contents may be placed in a rinsing liquid, such as clear water. Then by alternately pressing the disk members together

and releasing them by a hand squeezing operation, the rinsing liquid or clear water is expelled from the sponge material of the cup members and forced through the interstices of the fabric, thoroughly rinsing the same. After removal of the assembled device from the water or other liquid, the parts may be again manipulated by alternately compressing the elements, that is, by alternately pressing and releasing the disk members, and this will tend to force water or other liquid from the fabric or clothing to thus partially dry the same. After this pressing operation to remove the excess liquid or water, the upper element is removed from the lower element so as to separate the two cup members and to thus divide the chamber. The fabric, clothing or other material may then be removed from the recess 8 of the containing element and it is then in a thoroughly laundered condition.

This device is particularly convenient and appropriate for home use and for laundering small batches of clothing and the like. It does not involve elaborate apparatus or machinery and is extremely simple to operate. The results obtained are surprisingly good and the device serves an extremely useful purpose.

Although this invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. A device for washing clothes and the like comprising in combination a pair of relatively rigid disk members, each of said disk members having a groove adjacent its peripheral edge and having a substantially flat central portion, the wall of said groove extending rearwardly from said flat central portion, a pair of resiliently flexible and porous cup members, each of said cup members having a recess surrounded by the peripheral wall of the cup member, and securing means securing the back wall of each cup member to the flat central portion of a respective disk member, each cup member and respective disk member being positioned in axial alignment and the peripheral wall of said cup member being aligned with, and substantially covering, said groove in the respective disk member, the peripheral edge of the respective disk member being disposed laterally outward of said cup member, the arrangement of said disk members and cup members secured thereto being such that the peripheral walls of the cup members may mate with said recesses opposed to each other to form a chamber for clothes and the like and upon pressing said disk members together said cup members may be compressed to collapse said chamber and to expel fluid in the porous cup members through said clothes and the like and the peripheral wall of each cup member may be depressed into the groove of the respective disk member.

2. A device for washing clothes and the like comprising a pair of similar members, each of said members comprising a relatively rigid disk member and a resilient and porous cup member carried by the disk member, said cup member having a recess formed therein, the resilient and porous material of the cup member forming a bottom wall and surrounding side wall of said

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recess, said disk member being disposed on the side of the cup member opposite to said recess and providing a backing support for said cup member, said disk member being relieved from said cup member at the location of said side wall to permit said side wall to be displaced upon compression of the side wall toward the said disk member, the combination of said similar members being such that clothes and the like may be placed in said recesses and between the cup members, and the cup members containing the clothes and the like may be saturated with liquid, and movement of the disk members toward each other compresses said cup members to squeeze said clothes and the like, to expel liquid in the pores of the cup member through said clothes and the like, and to displace said side wall of the respective cup members for diminishment of the volume of said recesses.

3. In apparatus for the washing of clothes and the like, an element comprising a disk member having a substantially flat central portion and a depressed portion extending rearwardly from and surrounding said central portion, and a cup member secured to, and supported by, said central portion, said cup member being formed of compressible, deformable and porous sponge material adapted to absorb liquid and to expel the same upon compression and to resiliently deform in response to pressure, said cup member having a recess centrally located on a side thereof, the cup member laterally outward of said recess being aligned to substantially register with said depressed portion of said disk member, a pair of said elements being adapted to accommodate clothes and the like placed therebetween in the chamber formed by opposed recesses of the elements, movement of said elements relative to each other providing compression of the cup members of the elements and partial displacement thereof rearwardly into the depressed portions of the respective disk members.

4. A device for washing fabrics by hand comprising a pair of similar elements adapted to accommodate said fabrics therebetween and to subject the same to a washing liquid, each of said elements comprising a cup-like member of resilient and porous sponge material, said cup-like members having opposed recesses adapted to form upon mating of the cup-like members a chamber for accommodating said fabrics therein, each said cup-like members having a defining wall around the said recess, and a backing member of relatively rigid material axially aligned with, and secured to the back of, each said cup-like member on its side opposite said recess, each said backing member engaging a respective cup-like member intermediate its peripheral edges to provide support thereto, each said backing member having a groove around its peripheral extent and registered with the defining wall of the respective cup-like member, the mouth of said groove opening forwardly toward the respective cup-like member, the peripheral edge of each of said backing member around said groove extending laterally outward from the peripheral edge of the respective cup-like member and free therefrom to permit relative movement therebetween, the inner wall of said groove opposite from the peripheral edge of each said backing member being on a gradual slope extending rearwardly from the respective cup-like member, the arrangement of said cup-like members and backing members being such that movement of the backing members toward

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each other upon the mating of the cup-like members with fabrics in the chamber formed by said recesses compresses said cup-like members to expel liquid absorbed therein and to displace said defining wall into said groove and against said sloping wall of the groove, whereby said fabric is washed by manipulation and movement of liquid therethrough.

5. In apparatus for the washing of clothes and the like, a device comprising a relatively rigid disk member and a cup member secured to, and carried by, the disk member, said cup member being formed of compressible, deformable and porous sponge material adapted to absorb liquid and expel the same upon compression and to resiliently deform in response to pressure, said cup member having a recess centrally located on a first side thereof, the bottom and side walls of said recess having the porosity of said sponge material, the opposite side of said cup member being disposed in a substantially flat plane, said disk member having a substantially flat portion disposed in said plane and at a central location spaced from the peripheral edges of said cup member, the flat portion of the disk member providing backing for said cup member at said central location, the edge portions of the said cup member aligned with said side walls and bordering said peripheral edges being extended in said plane outwardly beyond the peripheral boundary of said flat portion of said disk member to permit displacement from said plane away from said first side, the arrangement of cup member and disk member providing for the displacement of said edge portions of the cup member upon the compression of the cup member by a force exerted upon said first side of the cup member, a pair of said devices providing for washing manipulation of material placed within the chamber formed by mating recesses of opposed cup members.

6. A device for washing fabrics by hand comprising a pair of similar elements adapted to accommodate said fabrics therebetween and to subject the same to a washing liquid, each of said elements comprising a cup-like member of resilient and porous sponge material, said cup-like members having opposed recesses adapted to form upon mating of the cup-like members a chamber for accommodating said fabrics therein, each said cup-like member having a defining wall around the said recess, and a backing member of relatively rigid material axially aligned with, and secured to the back of, each said cup-like member on its side opposite said recess, each said backing member engaging a respective cup-like member intermediate its peripheral edges to provide support thereto, each said backing member around its peripheral extent and rearwardly of the said cup-like member being withdrawn from said cup-like member to provide an open space between the backing member and cup member in alignment with the said defining wall around the recess of the respective cup member, the arrangement of the cup-like members and backing members being such that movement of the backing members toward each other upon the mating of the cup-like members with fabrics in the chamber formed by said recesses compresses said cup-like members to expel liquid absorbed therein and to displace said defining walls into said open space, whereby said fabric is washed by manipulation of liquid therethrough.

7. Apparatus for manually manipulating clothes and the like in a washing liquid to wash the same comprising in combination, a pair of

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cup-like members of resilient and porous sponge material adapted to absorb and expel liquid and to be deformed under pressure, said cup-like members having opposed recesses adapted to form a chamber for said clothes and the like upon mating of said cup-like members, the resilient and porous material of each cup member forming the bottom wall and surrounding side wall of the respective recesses, and a pair of backing members each secured to and supporting a respective cup-like member, each of said backing members having a portion positioned in alignment with the recess of a respective cup-like member and engaging the cup-like member to provide a backing to the bottom wall of said recess, the peripheral boundary of said portion of each backing member being spaced inwardly of the peripheral boundary of the respective cup-like member to permit displacement of said cup-like member adjoining its peripheral boundary away from the plane of said portion, movement of said backing members toward each other upon mating of the cup-like members compressing and deforming said cup-like members and displacing

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the cup-like members around the peripheral boundaries of the cup-like members backwardly from the planes of the respective said portions of the backing members to diminish the volume of said chamber whereby clothes and the like therein may be washed by manipulation and by expelling of said liquid from the cup-like members through said clothes and the like.

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