

G. E. GRAY.  
 PUMPING MEANS FOR MASSAGE DEVICES.  
 APPLICATION FILED FEB. 21, 1913.

1,155,147.

Patented Sept. 28, 1915.

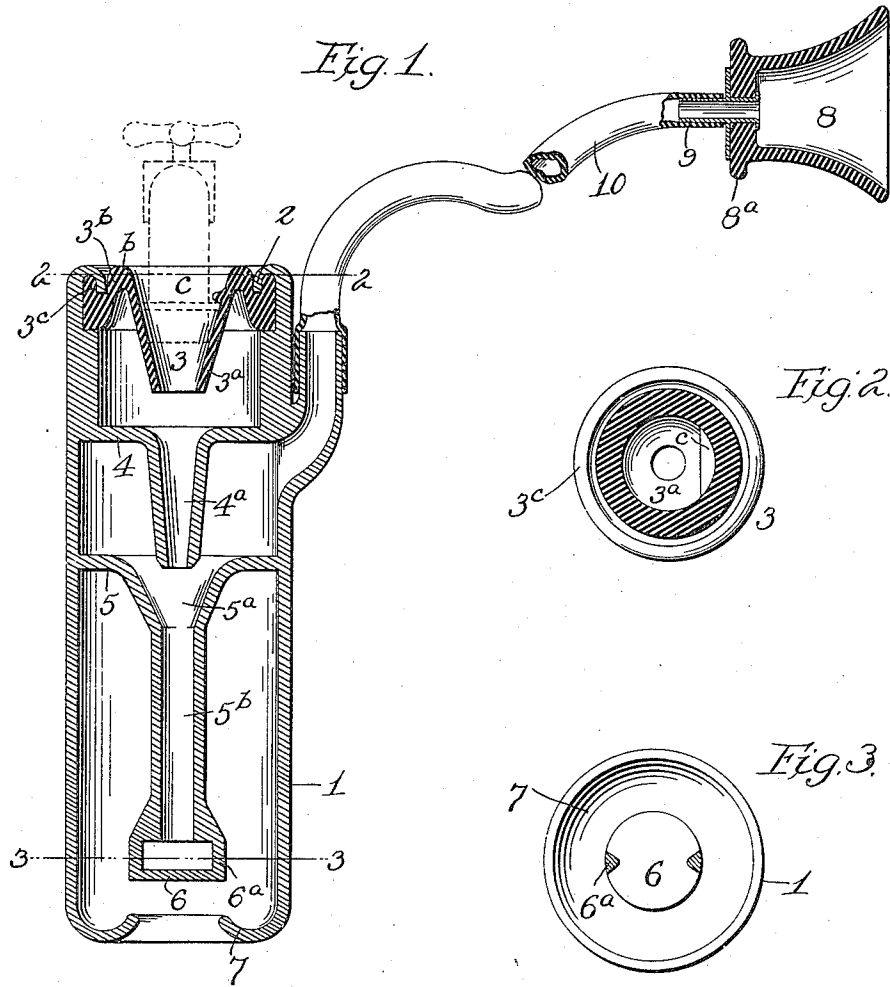


Fig. 1.

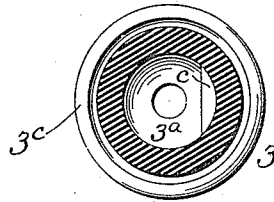


Fig. 2.

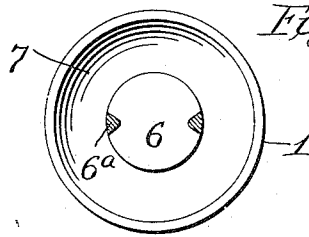
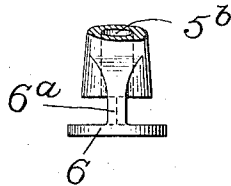


Fig. 3.

Fig. 4.



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# UNITED STATES PATENT OFFICE.

GEORGE ELMER GRAY, OF DES MOINES, IOWA.

PUMPING MEANS FOR MASSAGE DEVICES.

1,155,147.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Application filed February 21, 1913. Serial No. 749,936.

*To all whom it may concern:*

Be it known that I, GEORGE ELMER GRAY, citizen of the United States, residing at Des Moines, Iowa, have invented certain new and useful Improvements in Pumping Means for Massage Devices, of which the following is a specification.

My present invention relates to improvements in massage apparatus of the type in which water from a faucet is used to secure the necessary suction or partial vacuum.

The invention has among others for its objects to provide an apparatus which may be readily applied to and removed from any ordinary faucet, which will secure a maximum amount of suction, and give an efficient massage action; and which will be of simple and economical construction.

With these and other objects in view, the invention includes the novel features of construction and arrangement and combination of parts hereinafter described and particularly defined by the appended claim.

In the drawing Figure 1 is a central longitudinal section of my improved apparatus; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a section on line 3—3 of Fig. 1; and Fig. 4 is a detail view.

Referring by reference characters to this drawing, the numeral 1 designates the outer shell of the suction generator of my apparatus, which may be formed of any suitable material, preferably by casting. It is of substantially cylindrical shape, as shown, and provided with an overturned upper edge 2 forming a downwardly extending annular flange. This flange is adapted to engage a special coupling or connecting washer 3 which comprises a body portion 3<sup>a</sup> of tapered or truncated cone shape adapted to frictionally engage the nozzles of faucets of various sizes. At its upper end the body has a cylindrical portion 3<sup>b</sup> provided at its lower edge with an outwardly extended and upwardly elongated annular flange 3<sup>c</sup> adapted to rest in the recess formed beneath the overturned upper edge 2<sup>a</sup> of the body 2 and the internal annular shoulder. The upper edge *b* of the washer is preferably substantially flush with the upper edge of the body 2. The washer is further provided with a transverse rib *c* on one side.

The shell 1 of the generator is provided, a short distance below the lower end of the washer, with a horizontal partition 4, which has a central depending injector nozzle 4<sup>a</sup>

arranged axially of the body of the washer. Below the partition 4 is a second partition 5 having a downwardly tapered portion 5<sup>a</sup> terminating in a depending tubular portion 5<sup>b</sup> axially in line with the injector nozzle 4<sup>a</sup>. Beneath the lower end of the tubular portion 5<sup>b</sup> and spaced therefrom is placed a deflecting disk 6 supported by the portions 6<sup>a</sup>. The water flowing down through the injector nozzle 4<sup>a</sup> into the cone 5 and tube or leg 5<sup>b</sup> causes a suction in the space or chamber between partitions 4 and 5, and as this chamber is in communication with applicator 8 through nipple 9 and hose 10, the suction on the applicator is produced. The lower edge of the shell 1 is curved inwardly and upwardly, as indicated at 7, so as to provide an annular trough with its inner edge beneath the outer edge of the disk 6.

The portion 4<sup>a</sup> is preferably tapered, as shown, and provided with a beveled lower edge, and this, in connection with the tapered wall 5<sup>a</sup>, produces an efficient suction, while this is maintained and assisted by the distributor 6, which throws the water outward from the lower end of the leg or tube 5<sup>b</sup> against the wall of the shell, whence dropping into the channel at the bottom, it will tend to be thrown up by the annular curved wall against the bottom of the disk 6.

The construction of the suction device which I have hereinbefore described I have found gives me a maximum amount of suction, while at the same time the construction is extremely simple and such as lends itself to being formed by casting in one integral whole, the only separate parts being the washer and hose and applicator. Furthermore, my particular construction of washer not only adapts itself to various sizes of faucets, but also effects secure connection with the faucet, as excessive pressure within the chamber surrounding the conical portion of the faucet only tends to cause the washer to grip the faucet nozzle more tightly.

Sometimes a faucet may be somewhat irregular in shape with the result that when the washer is applied thereto the water will spurt up between the washer and faucet on account of such irregularity. This the presence of the lip *c* will prevent.

Having thus described my invention what I claim is:—

A suction generator comprising a hollow cylindrical shell having at its upper end

means for attachment to a faucet and having its lower end curved inwardly and upwardly, a horizontal partition provided with a depending nozzle, a second partition below said first named partition and having a depending tube or leg axially alined with said nozzle, a suction passage connected with the space between said partitions, and a

spreader disk below the lower end of said tube or leg, substantially as described. 13

In testimony whereof, I affix my signature in presence of two witnesses.

GEORGE ELMER GRAY.

Witnesses:

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