(No Model.)

W. M. TAYLOR.

SUBSTITUTE FOR SPONGES, BRUSHES, &c.

No. 489,697. Patented Jan. 10, 1893.

FIG. 1.

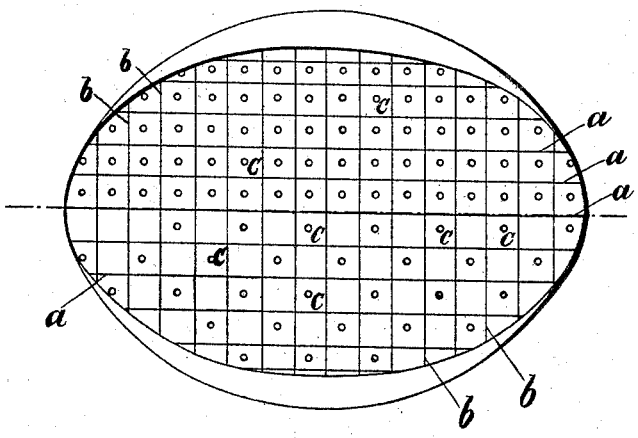


FIG. 2.

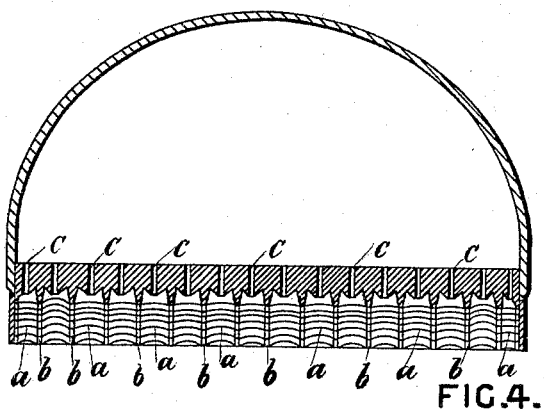


FIG. 3.

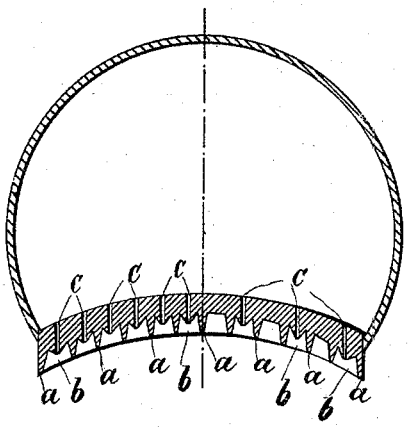
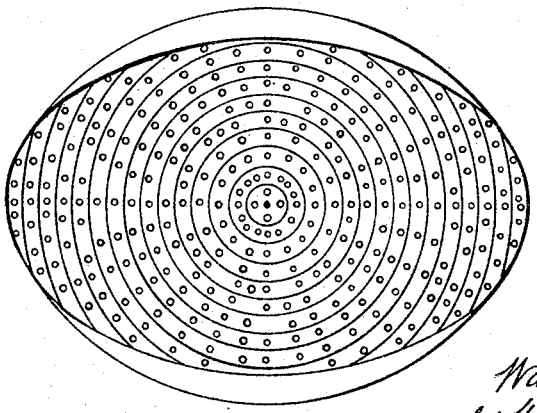


FIG. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

WALTER MARTENE TAYLOR, OF LONDON, ENGLAND.

SUBSTITUTE FOR SPONGES, BRUSHES, &c.

SPECIFICATION forming part of Letters Patent No. 489,697, dated January 10, 1893.

Application filed October 26, 1892. Serial No. 450,027. (No model.)

To all whom it may concern:

Be it known that I, WALTER MARTENE TAYLOR, mechanical engineer, a subject of the Queen of Great Britain, residing at 25 Regent Square, King's Cross, London, in the county of Middlesex, England, have invented a new or Improved Device, forming a Substitute for Sponges, Brushes, and the Like, for Bathing, Cleaning, Scrubbing, Polishing, and other Purposes, of which the following is a specification.

The object of this invention is to provide a cheap and effective substitute for sponges, brushes, and the like, for bathing, cleaning, scrubbing, polishing, and other purposes.

According to this invention I provide a hollow vessel of any suitable shape and constructed of india-rubber or other suitable elastic or yielding material. A portion of the surface of this device is formed with a number of ribs, ridges, or other suitable projections arranged in any suitable manner. For instance, they may be in the form of a number of concentric circles, elipses, or rectangles, or they may be arranged in parallel lines crossing one another at right or other angles. The lower edges of these ridges should be notched or serrated to admit the air and so prevent the device adhering to the surface to which it is applied by a "sucker" like action. Between each of these ridges the vessel is perforated with a number of small holes. It will be readily understood that on the device being squeezed or otherwise compressed and inserted in water or other liquid and then allowed to resume its normal condition by the removal of the pressure, it will, in expanding, draw in a quantity of liquid by atmospheric pressure. The device thus charged may be transferred to any part of the body, or any other surface to which it may be applied, and, on being squeezed, will eject a shower of liquid.

While answering all the purposes of a sponge, it possesses one great advantage over the same, *i. e.* the liquid may be ejected from it with a certain amount of force as from the rose of a shower bath. As is well known this cannot be done with a sponge, the liquid from which drops heavily to the ground, no matter how suddenly the sponge is compressed.

When this device is to be employed for polishing or cleansing purposes, I sometimes form the rubbing surface or face thereof of an admixture of some grinding, polishing, or abrading material with the india-rubber or other substance of which the said device is formed.

In order that my invention may be more fully understood and carried into practice I will now proceed to describe the same with reference to the accompanying sheet of drawings illustrative of this invention.

In the drawings, Figure 1 is an underside plan; Figs. 2 and 3 longitudinal and transverse vertical sections respectively, and Fig. 4 an underside plan of the herein described device showing a modified arrangement of the ribs or ridges thereon.

As shown in the drawings this device consists of a hollow vessel of india-rubber or other suitable elastic material, a portion of the surface of the same being made hollow or concave and provided with a number of ribs or ridges arranged in any suitable manner. Figs. 2 and 3 show the curvature of this part of the device, and also the said ribs or ridges *a* and *b* which in the arrangement shown cross each other at right angles, as shown in plan, Fig. 1. All or certain of the spaces lying between these ridges are perforated at *c* so as to communicate with the interior of the device. These openings are shown in every alternate space on the lower half of Fig. 1 and right-hand half of Fig. 3, while they occupy every space in the upper half of Fig. 1 and left-hand side of Fig. 3. It will be readily understood that each half of these figures is intended to illustrate a different arrangement of perforations according to either of which the device may be constructed.

In order to insure the liquid ejected from the device passing out in a jet, even when but slight pressure is applied, and not running sidewise to the ridges by capillary attraction, I cause the exterior of each of the openings *c* to terminate in a slight projection or nipple as shown at Figs. 2 and 3 of the drawings.

To permit of the admission of air to the under side of the device and so prevent the same adhering to the surface to which it is applied by suction, I notch or serrate the edges of the ribs or ridges *a*, *b*, in as many places as may be necessary to allow access of air to the cells or chambers lying between the said ribs, also to prevent adhesion to the bottom of vessel

containing liquid. This may be done, as shown at Figs. 2 and 3, by hollowing out the edges of the longitudinal ridges only, which arrangement will be found to establish communication between the atmosphere and each of the said cells. It is obvious that any other suitable arrangement of notches or recesses may be employed for this purpose.

The arrangement shown at Fig. 4 differs from that already described in the arrangement of the ribs or ridges which in this case take the form of a number of concentric circles the perforations or openings into the interior of the device lying between them. Each of these circles is notched or recessed in at least one place so as to establish communication with the atmosphere in the manner and for the purpose already described.

Though it is obvious that the general form or shape of the device hereinbefore described may be varied considerably, I have shown in the drawings that form which in my opinion will be found the most suitable for general use. This, as an inspection of the drawings will show, is a most convenient form for readily grasping within the hand after the manner of an ordinary scrubbing brush, the device being made longer than it is broad to permit of its being more readily grasped. Again, owing to its mean diameter being less at the lower side than it is higher up it can be held for a long period with ease and comfort, the fingers of the operator's hand more nearly meeting at their tips or points.

What I claim is:—

The general arrangement and construction of the hereinbefore described device consisting of an elastic collapsible chamber, one face of which is provided with a number of ridges or points between which are arranged a number of perforations substantially as and for the purpose set forth and described and illustrated in the accompanying drawings.

WALTER MARTENE TAYLOR.

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