

May 24, 1949.

G. E. PRETTY

2,471,008

BATH MAT

Filed April 9, 1946

Fig. 1

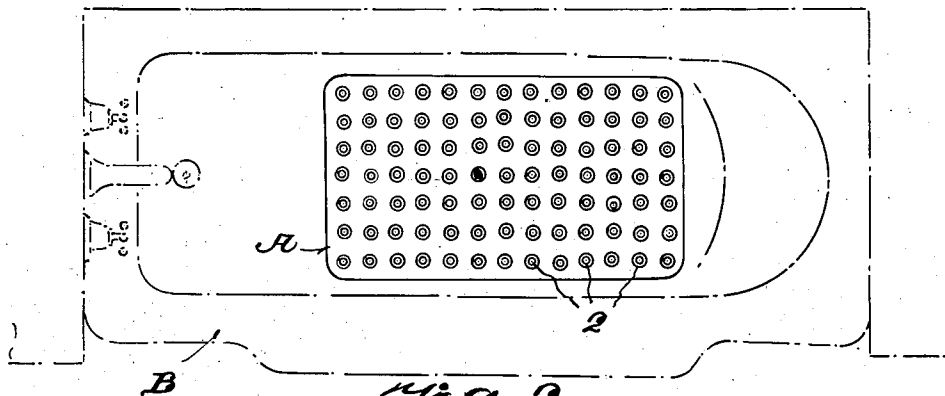


Fig. 2

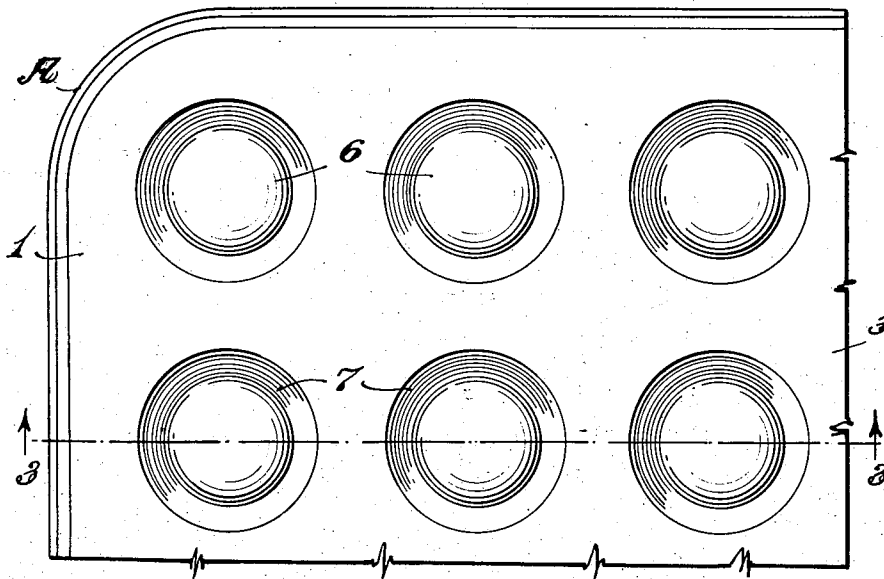
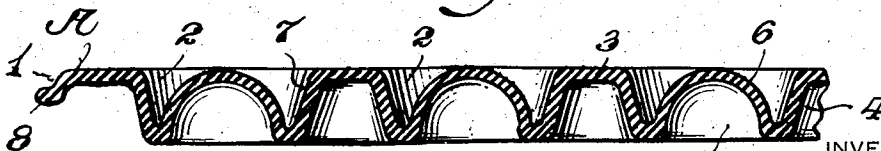


Fig. 3



INVENTOR
George E. Pretty,

BY
Milburn & Milburn
ATTORNEYS

UNITED STATES PATENT OFFICE

2,471,008

BATH MAT

George E. Pretty, Coshocton, Ohio, assignor to The
Pretty-Scheffer Company, Coshocton, Ohio, a
corporation of Ohio

Application April 9, 1946, Serial No. 660,629

7 Claims. (Cl. 4—185)

1

This invention relates to a mat especially designed and adapted for use on the bottom of a bath tub or on a bath room floor, but capable of being formed in different sizes, dimensions and shapes suitable for use in various other locations where a mat possessing the attributes of my improved construction may be advantageous and desirable.

The most important and essential characteristics of a mat of this kind are resiliency, cushion-like tread effect, efficient gripping action upon each surface preventing slipping of the mat or the user, and facility of production.

One of the most common defects observed in mats of this general character heretofore known and used has been the tendency of the mat to slip or slide on the surface of a tub or floor on which it is placed. This has been due largely to improper construction or design of the mat and its surface, and particularly the formation or number, arrangement and spacing of the projections, protuberances or cups upon such surface.

The principal objects of my invention are greater resiliency and more effective gripping action in a mat primarily intended for use as a bath mat or floor mat than is found in any of the mats heretofore known. These objects are attained by my improved design and construction and particularly by the formation of cups in the nature of vacuum cups on each surface of the mat and the positioning of the cups so closely together as to be separated by a relatively narrow web, so as to cover substantially the entire surface of each side of the mat with vacuum gripping means.

My preferred form of embodiment of the invention is illustrated in the drawings, wherein:

Figure 1 is a top plan view of my mat in use in a bath tub, the tub being shown in dash and dot lines;

Figure 2 is an enlarged fragmentary top plan view of a corner portion of the mat shown in Fig. 1; and

Figure 3 is a cross-sectional view of the mat shown in the other figures, taken on line 3—3 of Fig. 2 and looking in the direction indicated by the arrows.

As illustrated, the mat A, which may be rubber, synthetic rubber or other suitable resilient material, comprises a sheet or body 1 having formed in it by molding, pressing or other appropriate process, a plurality of cups depending from the surface 3, which, for convenience, may be termed the top surface. The walls 4 of each cup 2 preferably incline inwardly and the cup 2, except for

2

the reverse cup formed in it, would be of generally inverted sugar-loaf conformation.

The completion of the mat by the reverse molding or stretching of the walls 4 of cup 2 to form cup 5 provides a hollow dome 6 which projects upwardly into cup 2 preferably substantially to the plane of the top surface of body 1 and establishes, with the adjacent portions of body 1, an adequate supporting surface while affording, through the annular chamber 7 in cup 2 between the walls of dome 6 and walls 4, a sufficient space to permit the efficient functioning of the vacuum cup 2. Thus my improved form of mat comprises a plurality of closely spaced vacuum gripping cups on each surface consisting of the annular chambers 7 of cups 2 on the top and cups 5 in the under sides of the hollow domes 6 on the bottom surface.

The mat A may be provided with a marginal rim 8, but this may be omitted, since it is not essential to the gripping action provided by the vacuum cups 2 and 5.

The manner of use of the mat which constitutes my invention will be sufficiently apparent without further description, but it may be noted that it is especially intended for use in a bath tub, on the bottom of the tub, as indicated in Fig. 1. Other beneficial uses, such as upon floors and in kitchen sinks, will readily suggest themselves.

The mat A is shown and described as having cups 2 in its top surface and cups 5 in its bottom surface. It is to be understood, however, that, although this is in accordance with the manner of use of mat A shown in Fig. 1, which is the preferred manner, mat A may be reversed so that the cups 2 are in the bottom surface and cups 5 in the top surface. In either position cups 2 and cups 5 function as vacuum cups and exercise an effective gripping and holding action upon each side of the mat A, between the mat A and the tub B (or a floor or other surface upon which mat A may be placed) and between the mat A and the person or article upon it.

Most effective gripping results are obtained by positioning the cups 2 as close together as manufacturing processes and requirements will conveniently permit. To this end the preferred arrangement is in parallel straight rows, as illustrated, with the distance between each cup 2 and the next adjacent cup 2, either of the same row or of an adjacent parallel row, substantially less than the diameter of the cups 2. The particular design or configuration of the combined cups 2 and 5 and their manner of arrangement, both as illustrated, represent the preferred form of em-

3

bodiment of my invention, but changes in the shape and dimensions of cups 2 and 5 and also in their arrangement in the body 1 of mat A may be made within the scope of my invention, as defined by the claims.

I claim:

1. A mat of the character described comprising a substantially flat body of resilient material having integral vacuum cup gripping members formed therein upon each of the opposite surfaces of the mat.

2. A mat of the character described comprising a substantially flat body of resilient material having integral cup-like members therein, each of said members being open on one side of said body, projecting beyond the opposite side of said body and formed in its bottom with a hollow dome-like protuberance disposed within said cup opening on the first-mentioned side of said body and forming a cup-like member on said opposite side of said body.

3. A mat of the character described comprising a substantially flat body of resilient material having integral open cup members therein providing vacuum gripping members upon each surface of said body, said cups being of substantially the same depth and each cup upon one of said surfaces having therein a centrally-disposed hollow dome open and forming a cup upon the surface of the mat opposite to the surface through which said first-mentioned cup members open.

4. A device of the character described comprising a substantially flat body of resilient material having formed therein closely spaced vacuum cups open through one surface of said body, said cups being of substantially the same depth and each having in its bottom a centrally-disposed hollow dome spaced from the walls of said cup and extending substantially to the plane of said surface, and each of said hollow domes being open and forming a vacuum cup on the surface

4

of the device opposite to the surface upon which said first-mentioned vacuum cups open.

5. A device of the character described comprising a substantially flat body of resilient material having vacuum cups therein, the space between adjacent cups being less than the diameter of said cups, each of said cups being open through one side of said body and having therein a dome-like projection dished on its opposite side to form a vacuum cup opening on the side of said body opposite to that through which said first-mentioned cups open.

6. A mat of the character described comprising a substantially flat body of resilient material having integral vacuum cup gripping portions formed therein upon each of the opposite surfaces of the mat so as to provide both sides of the mat with vacuum cup means for functioning simultaneously, said gripping portions upon opposite surfaces of the mat being arranged in pairs and the said portions of each pair being disposed co-axially with respect to each other.

7. A mat of the character described comprising a substantially flat body of resilient material having a plurality of integral vacuum cup gripping portions formed therein and each of said portions being provided with a re-entrant vacuum cup portion disposed co-axially and in spaced relation with respect thereto so as to provide both sides of the mat with vacuum cup means for functioning simultaneously.

GEORGE E. PRETTY.

REFERENCES CITED

35 The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,190,179	Livingston	July 4, 1916
2,284,494	Oakley	May 26, 1942

Patent No. 2,471,008.

Certificate of Correction

May 24, 1949.

GEORGE E. PRETTY

It is hereby certified that error appears in the above numbered patent requiring correction as follows:

In the drawing, signature of attorneys, for "Milbura & Milbura" read *Milburn & Milburn*;

and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 12th day of July, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.