Sept. 2, 1941. N. F. SCHLOSS 2,254,830

BATH TUB AND SHOWER MAT

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Fig. 1.

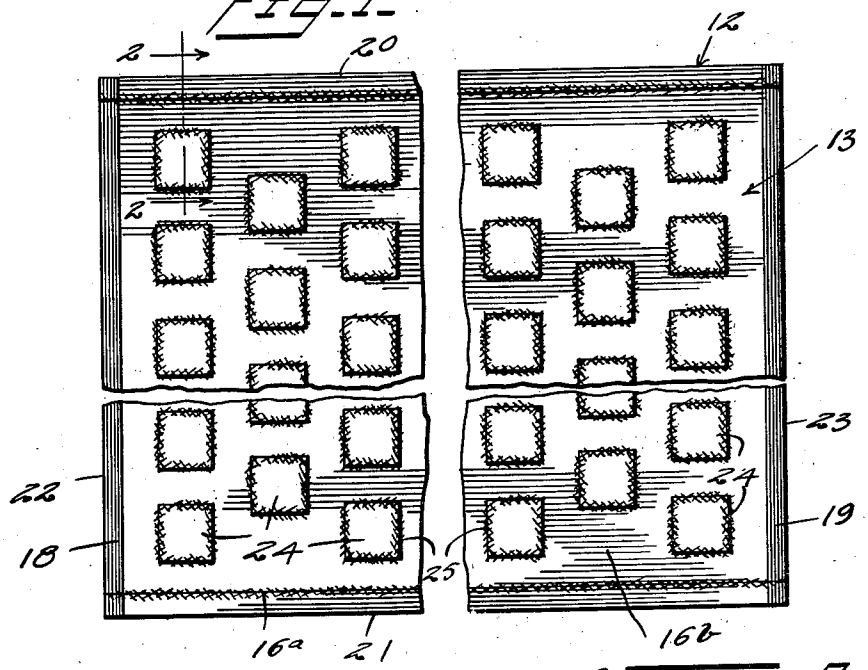


Fig. 3.

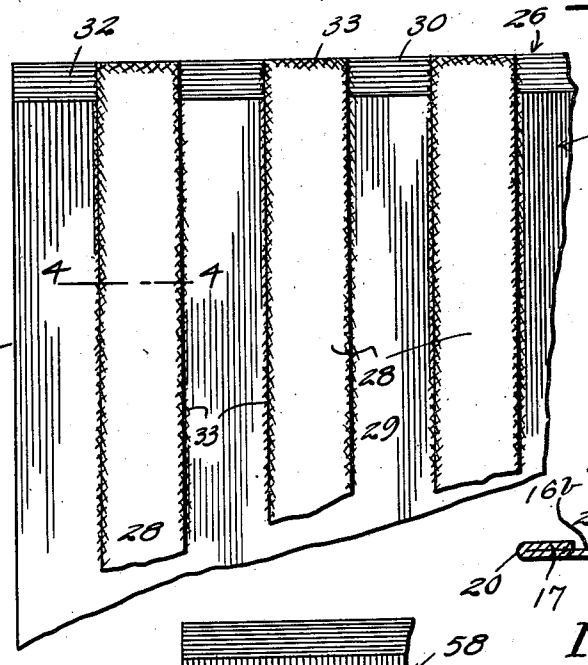


Fig. 4.

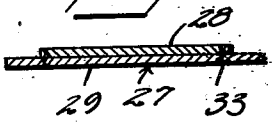


Fig. 2.

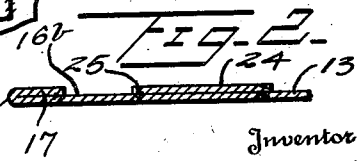
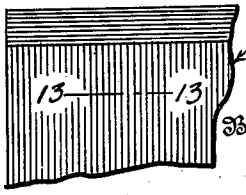


Fig. 12.



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Fig. 7.

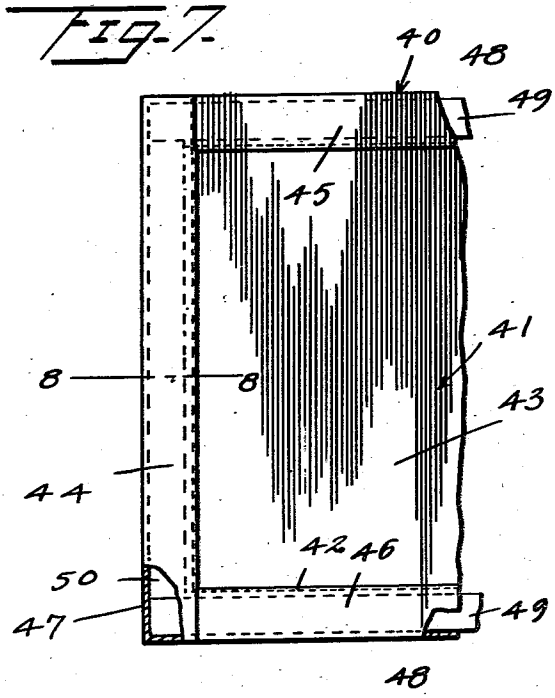


Fig. 5.

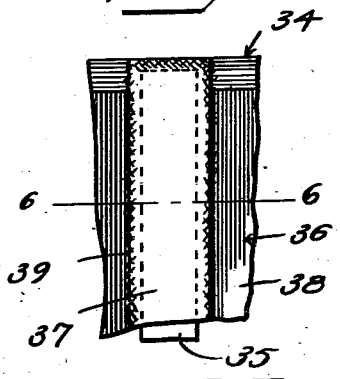


Fig. 6.

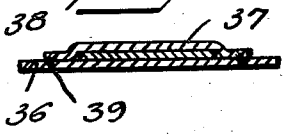


Fig. 8.

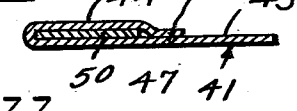


Fig. 9.

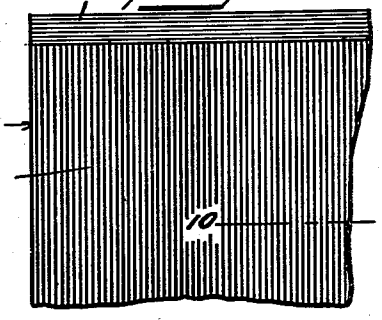
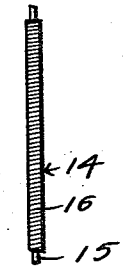


Fig. 11.



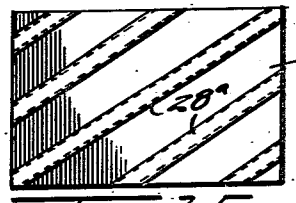


Fig. 15.

Fig. 14.

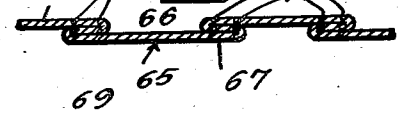




Fig. 10.

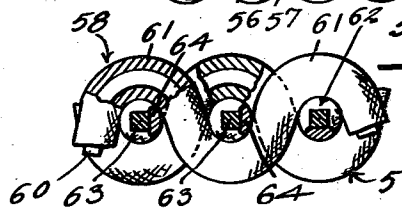


Fig. 13.

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UNITED STATES PATENT OFFICE

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BATH TUB AND SHOWER MAT

Norman F. Schloss, New York, N. Y.

Application May 29, 1940, Serial No. 337,936

3 Claims. (Cl. 4—185)

This invention relates to an anti-slipping mat designed primarily for use in a bathroom, and more especially in shower stalls and bath tubs, but it is to be understood that a mat, in accordance with this invention is for employment in any connection for which it may be found applicable or where it may be desired to guard against accidental slipping.

The invention aims to provide, in a manner as hereinafter set forth, a mat for disposition on the floor of a bath tub for the purpose of reducing to a minimum the chances of slipping therein of the user of the tub and for keeping the mat from slipping relative to the tub.

The invention further aims to provide, in a manner as hereinafter set forth, a mat for the purposes described, including a porous body possessing a gripping characteristic relative to the surface to which it is applied and to the bottom of the bare foot of a person stepping thereon, and with said body elastic either longitudinally or transversely or both to thereby provide it with an additional gripping or non-slipping characteristic when stretched by the foot of the user, said stretching resulting in the formation of a partial vacuum grip between the foot of the user and the surface to which the mat is applied to materially resist the slipping of the mat relative to such surface and the slipping of the foot of the user relative to the mat thereby reducing accidents to a minimum.

The invention further aims to provide, in a manner as hereinafter set forth, a bath tub or shower stall mat for the purpose referred to which is simple in its construction and arrangement, strong, durable, compact, thoroughly efficient when used, distinctive and pleasing in appearance, comparatively inexpensive to manufacture, and washable, and light in weight whereby it may be readily easily removed, will readily quickly dry and will not at any time become soggy.

Embodying the aims aforesaid and others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically described and illustrated in the accompanying drawings, wherein are shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a rear elevation, broken away of a mat in accordance with this invention,

Figure 2 is a section on line 2—2 Figure 1,

Figure 3 is a fragmentary view in rear elevation of a modified form of mat in accordance with this invention,

Figure 4 is a section on line 4—4 Figure 3,

Figure 5 is a fragmentary view in rear elevation of another modified form of mat in accordance with this invention,

Figure 6 is a section on line 6—6 Figure 5,

Figure 7 is a fragmentary view in rear elevation of still another modified form of mat in accordance with this invention,

Figure 8 is a section on line 8—8 Figure 7,

Figure 9 is a fragmentary view in front elevation of still another modified form of mat in accordance with this invention,

Figure 10 is a section on line 10—10 Figure 9,

Figure 11 is a fragmentary view in elevation of the form of composite weft employed in the mat,

Figure 12 is a fragmentary view in elevation of a modified form of mat body,

Figure 13 is a section on line 13—13 Figure 12,

Figure 14 is a fragmentary view in section of still another modified form of mat body, and

Figure 15 is a rear elevation upon a reduced scale of still another modified form of mat.

With reference to Figures 1 and 2, the mat generally indicated at 12 includes a closely woven ribbed-like thin flat porous fabric body 13 of the desired length and width. The body 13 comprises non-elastic fibrous warp threads and a composite elastic weft 14 (Figure 11) formed of an elastic core 15 and an annular stretchable casing 16 snugly encompassing the core throughout. The core 15 is continuous and consists of a rubber strip of polygonal cross section. The strip is formed from severing a rubber sheet in a manner to provide a continuous elastic core of a length equal to or greater than the casing 16. The latter is formed from a continuous closely coiled fibrous thread wound about the strip. The construction of the body 13 from the warp threads and a weft of the form referred to provides for said body to be elastic in but one direction, that is to say transversely thereof. The end terminal portions of body 13 are inturned against and secured by zig-zag stitching 16a to its inner or lower face 16b to form folds 17 for reinforcing purposes. The selvages of the body 13 are disposed at the sides thereof and designated 18, 19. The end edges of the body 13, indicated at 20, 21 are reinforced due to the bends formed between the folds 17. The side edges of body 13 are designated 22, 23.

Disposed throughout the lower face of the flat thin body 13 and arranged in spaced relation are

anti-slipping or anti-skidding members 24 preferably of square contour, but it is to be understood that they may be of any suitable contour desired. The members 24 are secured at their edges to the face 16b of body 13 by the zig-zag stitchings 25. Each of said members consists of a thin flat piece of woven fabric of the same type as the fabric from which body 13 is formed. The members 24 are elastic in but one direction and such direction corresponds to the direction in which body 13 is elastic, that is to say each member 24 is elastic transversely. The members 24 are spaced from the folds 17 and the selvages 18, 19. Preferably the members 24 will be arranged in equi-spaced rows and are so shown. The rows extend lengthwise of the inner or lower face of body 13. The members 24 of each row are disposed in equi-distant spaced relation. The number of members 24 of one row will be greater than the number of members of an adjacent row. The members 24 of each row having the smallest number of members are staggered with respect to members of the rows having the greater number of members. The members 24 of the rows having the greater number of members are disposed in alignment. The members 24 of the other rows are arranged in alignment. The said alignment is transversely with respect to the face 16b of body 13.

With reference to Figures 3 and 4, the modified form shown thereby and indicated at 26 includes a thin flat fabric body 27 formed of a material corresponding to that of body 13. The body 27 is not provided with the folds 17. Otherwise than that as stated the body 27 will correspond in form to the body 13. The form 26 includes anti-slipping members 28. The difference between the modified form 26 and the form 12 resides in the manner in which the anti-slipping members 28 are formed and arranged. The said members 28 are of like form and of oblong contour and disposed in spaced parallel relation and against the lower or inner face 29 of body 27. Each member 28 is to be of a length to extend from one side edge to the other side edge of body 27, and it is of greater width than any of the members 24. But one side edge, one end edge and one selvage of body 27 are shown and they are indicated at 30, 31, 32 respectively. The edges of each member 28 are secured to the face 29 of body 27 by zig-zag stitchings 33. The members 28 are disposed in transverse relation with respect to the face 29 and are spaced from the ends of body 27. The anti-slipping members 28 are formed of a fabric corresponding to the fabric that body 27 is formed of, and are elastic in but one direction, that is to say in a direction transversely of body 27. The members 28 are of a length to extend upon the lower or inner face of spaced portions of the selvages of body 27.

The modified form shown by Figures 5 and 6 is designated 34, and it is of the same construction as the form 26 with this exception that the form 34 includes flexible stay elements 35. The flat body of form 34 is indicated at 36 and its anti-slipping members at 37. Each member 37 in connection with a portion of body 36 forms a casing in which is arranged a stay element 35, the latter is not secured to such casing and is loosely mounted therein. The length and width of a stay element 35 is less than the length and width of the casing so as not to impair the elastic movement of body 36 and members 37 in a transverse direction relative to the mat. The members 37 are secured against the lower or inner face 38 of body 36 by zig-zag stitching 39.

The modified form shown by Figures 7 and 8 is indicated generally at 40 and it does not include anti-slipping members and stay elements as are shown by the forms 12, 26, 34. The form 40 includes a thin flat body 41 consisting of a fabric corresponding to that of the body 13. The body 41 has its terminal portion at each end and at each side bent upon and secured by zig-zag stitchings 42 to its inner face 43 to provide a pair of side hems and a pair of end hems. But one of the end hems is shown and is indicated at 44. The side hems are designated 45, 46. Each folded and terminal portion of body 41 has its ends disposed in overlapping relation with respect to the outer face of an end terminal portion of each of the folded side portions. One of the stitchings 42 not only connects a folded end terminal portion to one end of the folded side terminal portions, but it also connects the said folded end terminal to the body 41. The hems coact with the body 41 to form the latter with pockets 47 at its ends and pockets 48 at its sides. The pockets 48 extend from one end to the other end of body 41. The pockets 47 open into the pockets 48. Arranged in each of the pockets 48 is a thin flat flexible strip-like metallic reinforcing member 49 of a length to extend from one end to the other end of such pocket. Arranged within each pocket 49 between and having its ends abutting the inner lengthwise edges of the members 49 is a thin flat flexible strip-like metallic reinforcing member 50. The members 49, 50 are not secured to body 41 or to the side and end folds. They are loosely mounted in the pockets and do not interfere with the elastic movement of the body 41 in a transverse direction relative to the mat. The members 49 are of greater length than the members 50 and have their inner lengthwise edges oppose or abut the end edges of the members 50. The body 41 is not provided with selvages.

The modified form disclosed by Figures 9 and 10 and designated 51 consists of a flat body 52 formed of a fabric corresponding to the fabric employed in connection with the forms 12, 26, 34, and 40. The body 52 is not provided with the end folds 17, but it includes side selvages; but one of the selvages is shown and indicated at 53. The body 52 possesses an elastic characteristic which coresponds to that of the bodies 13, 27, 36 and 41. The body 52 is free of pockets, anti-slipping members, stays and metallic reinforcements. A fragmentary lengthwise section of body 52 is illustrated by Figure 10 and such showing applies to each of the other flat bodies heretofore referred to. The warp threads of the body 52 are designated 54 and its composite weft at 55. The core and casing which forms the composite weft 54 are indicated at 56, 57 respectively. The core 56 is of polygonal contour in cross section and it is snugly encompassed by casing 57. The core as aforesaid consists of a continuous rubber strip and casing 57 is formed in a manner as heretofore referred to. The warp threads are of fibrous material and are alternately disposed with respect to the top and bottom of a pair of closely related parallel stretches of the weft. This manner of forming the fabric employed in connection with any one of the forms of the mat as shown provides a closely woven porous fabric having both of its faces of ribbed-like contour.

With reference to Figures 12 and 13, there is shown a modified form of closely woven thin

porous ribbed fabric 58 which may be substituted for the fabric employed for the thin flat porous bodies 13, 27, 36, 41 and the fabric used for the anti-slipping members 24, 28 and 37. The fabric 58 is ribbed on each of its faces and it is formed of such form of warp threads and a form of weft to give it an elastic characteristic both transversely and longitudinally. Each of the warp threads 59 of the fabric 58 will consist of an elastic core 60 and a stretchable fabric casing 61 snugly encompassing the core 60. The weft 62 of fabric 58 will consist of a continuous elastic core 63 and a continuous stretchable casing 64 which snugly encompasses the core 63. The core and casing of a warp thread will be coextensive. The core of the weft will correspond in length or be of greater length than that of the casing of the weft. The cores 60, 63 will correspond in form, arrangement and material to that of the cores 15, 56 heretofore referred to. The casings 61, 64 will correspond in form, arrangement and material to that of the casings 16 and 54 heretofore referred to.

Although the thin flat porous bodies 13, 27, 36, 41 and the anti-slipping members 24, 48, 37 have been referred to as being elastic in one direction, that is to say transversely with respect to the mat, it is to be understood that such bodies and members may be elastic both transversely and longitudinally with respect to the mat by forming said bodies and members from the material 58.

The body of the mat may be folded upon itself transversely or lengthwise at spaced intervals to provide folds for reinforcing or stay purposes such as shown by Figure 14, and in this connection the flat body of the mat is indicated at 15 and it is formed with spaced parallel pairs of oppositely disposed spaced folds 66, 67 and inner and outer spaced partly overlapping spaced portions 68, 69 respectively between which folds 66, 67 extend. The folds 66, 67 are secured by stitchings 70 to the parts 68, 69. The folds extend from corresponding edges of said body.

It is to be understood that the anti-slipping members 28 and 37 may extend from one side edge to the other side edge or from one end edge to the other end edge of the flat bodies 27, 36 respectively and that they are shown by way of example as extending from one side edge to the other side edge of the flat body. It is also to be understood that the members 28 and 37 may be disposed in any suitable manner on the flat body of the mat and another mode would be diagonally such as shown by way of example by Figure 15 and by reference to the latter the flat body of the mat is indicated at 27a and the anti-slipping members at 28a. It is to be understood that if desired the members 28a may house stay elements 35 in a manner as the members 37.

It is also to be understood that the flat body of the mat may be set up from an open leno weave.

With the ordinary mats such as now in use, great difficulty is experienced in keeping them clean due to the fact that they are generally entirely of rubber. After a certain amount of repeated use, these mats acquire a very undesirable appearance. A mat of the present character eliminates all these undesirable features and provides a mat which is so thin as to be hardly noticeable yet is one which is very durable and has all the desired functions. In addition, it is extremely more sightly, lends itself to decoration and can be stored almost anywhere in a very small space.

What I claim is:

1. A mat for use in connection with tub and shower baths comprising a flat, closely ribbed, elastic, light weight, flexible, porous, anti-slipping, closely woven fabric body formed of warps and a composite weft including a continuous elastic core and a stretchable and contractible continuous casing snugly encompassing the core, said body being reinforced at its edges.

2. A mat for use in connction with tub and shower baths comprising a flat, closely ribbed, elastic, light weight, flexible, porous, anti-slipping, closely woven fabric body formed of warps and a composite weft including a continuous elastic core and a stretchable and contractible continuous casing snugly encompassing the core, said body being reinforced at its edges, spaced auxiliary anti-slipping members disposed against one face of said body and each formed of a closely woven fabric corresponding to that of the said body, and zig-zag stitchings connecting said members to said body.

3. A mat for use in connection with tub and shower baths comprising a flat, closely ribbed, elastic, light weight, flexible, porous, anti-slipping, closely woven fabric body formed of warps and a composite weft including a continuous elastic core and a stretchable and contractible continuous casing snugly encompassing the core, said body having opposited terminal portions thereof folded upon its inner face, zig-zag stitching for securing said folded portions to said inner face, spaced auxiliary anti-slipping members disposed throughout the inner face of said body and each formed of a closely woven fabric corresponding to that of the bady, and zig-zag stitchings connecting said member against the inner face of said body.

NORMAN F. SCHLOSS.