

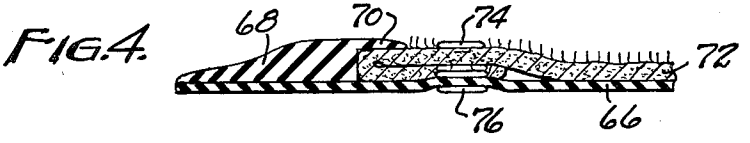
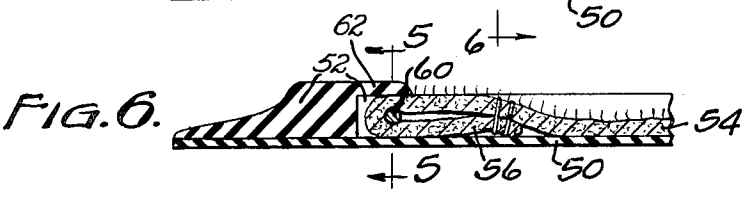
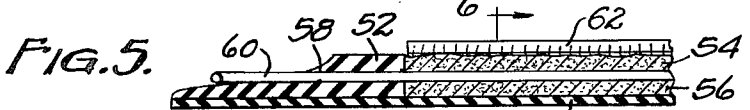
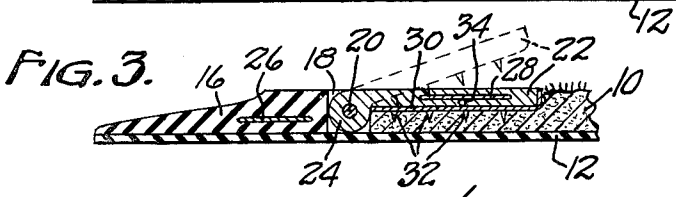
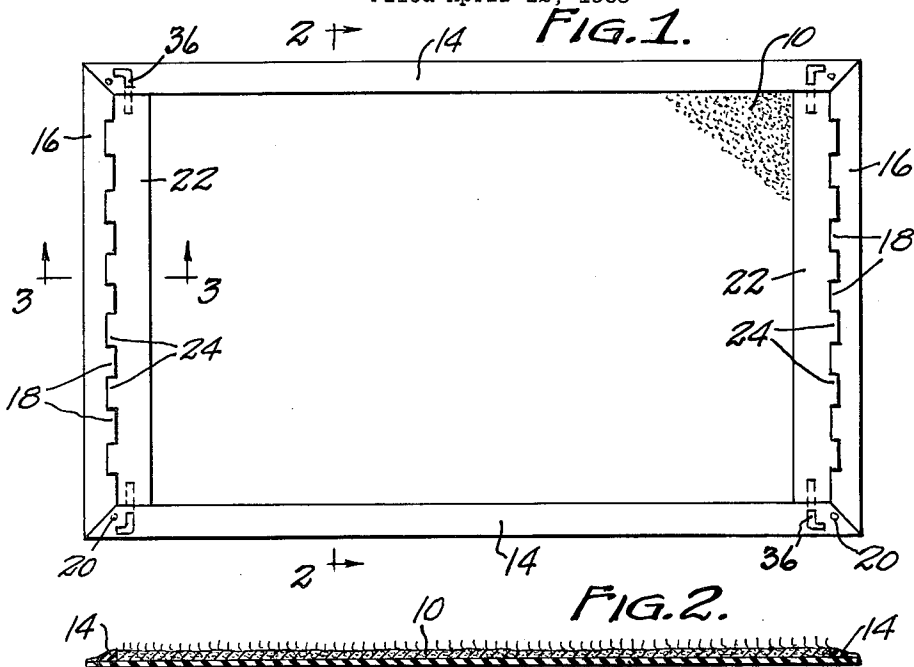
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3,234,577

FLOOR MAT

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3,234,577

FLOOR MAT

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3 Claims. (Cl. 15—217)

This invention relates to improvements in floor mats. Floor mats for use in the entryways of buildings are available in many forms. One common form which is widely used is formed of rubber sections connected together. Such mats have the advantage of retention of shape and position and capability of removing snow and dirt accumulations from the soles of shoes, and ease of cleaning thereof, but are usually heavy and are not capable of removing dust from the shoes of persons walking thereon, nor of effectively wiping or drying the shoes of persons walking thereon. Another type of mat which is widely used is a fiber mat. Such mats have some properties similar to rubber mats, both as to advantages and disadvantages, and also have the additional disadvantages that they absorb moisture and are difficult to clean and to dry.

Light weight throw rugs or mats, such as chenille rugs, are frequently used in entryways either alone or alongside other mats. Such light weight mats can be handled and cleaned easily periodically, and can be treated to remove dust from the shoes of persons walking thereon. However, the light weight of such mats and the usual lack of body or stiffness thereof subjects them to shifting from desired flat extended condition by folding or bunching incident to walking thereon and to use thereof, and this presents a hazard to their use because of the possibility that users may trip thereon.

The primary object of this invention is to provide a mat wherein most of the advantages of each of the aforementioned prior types of mats are combined.

A further object of the invention is to provide means for mounting a light weight readily folded mat capable of ready cleaning and effective for the removal of dust and dirt from the shoes of users in a manner to hold it flat and extended so as to avoid bunching and folding thereof while at the same time permitting rapid and easy mounting and removal thereof and accommodating repeated mounting and dismounting without excessive wear or injury thereto.

A further object is to provide a mat having a marginal frame adapted to receive a flexible light weight rug and to anchor marginal portions thereof to hold said rug extended, which marginal frame includes shiftable portions which overlie the margins of the flexible rug.

A further object is to provide a device of this character wherein a carrier formed of shape-retaining material releasably mounts a sheet of flexible matting, said carrier having means for mechanically connecting the matting thereto in a readily removable manner, and including a part overlying the margin of the matting and normally retained in operative position.

Other objects will be apparent from the following specification.

In the drawings:

FIG. 1 is a plan view of a mat embodying my invention;

FIG. 2 is a vertical sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary vertical sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is an enlarged fragmentary detail sectional view taken on line 3—3 of FIG. 1 and illustrating a modified embodiment of the invention;

FIG. 5 is an enlarged fragmentary sectional view illus-

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trating another modified embodiment of the invention and taken on line 5—5 of FIG. 6;

FIG. 6 is a sectional view taken on line 6—6 of FIG. 5.

Referring to the drawings, and particularly to FIGS. 1 to 3 thereof, which illustrate one embodiment of the invention, the numeral 10 designates a light weight readily cleanable sheet of mat material, such as a chenille rug. This matting is mounted in a carrier or tray. This carrier has a base web or sheet 12 of substantially uniform thickness and of a size larger than the mat or sheet 10. At opposite sides, the sheet 12 mounts side parts 14 as by cementing or bonding thereof at opposite longitudinal margins of base 12. End parts of the carrier are designated 16 and are cemented or otherwise secured to opposite end margins. The end parts and the side parts are preferably tapered in cross-section, with their parts of maximum thickness at their inner margins. The parts 14 and 16 are preferably extrusions of rubber, synthetic rubber or synthetic resin material, although the same may be formed of wood, metal or any other material found suitable. The end parts 16 are characterized by the formation of a plurality of spaced longitudinal hinge knuckles 18 at the inner margin thereof, which knuckles have aligned passages to receive a pivot pin 20.

A mat retainer member 22 is pivoted to each carrier end part 16. Each retainer member has spaced knuckles 24 fitting between the knuckles 18 and having aligned passages therein receiving the pivot pin 20. The mat retainer member is preferably of reduced thickness for the major portion of its width, as best seen in FIG. 3, and may be formed of metal, rubber or any other material found suitable. The margin of the mat 10 underlies the mat retainer member 22 and is clamped thereby. If desired for purposes of rigidity, reinforcing members 26 may be mounted in the end carrier part 16 and reinforcing members 28 may be mounted in the retainer part 22. It will be understood that the parts 16 and 22 will preferably be formed of material which is normally shape-retaining and of limited flexibility.

Suitable means may be utilized to mechanically anchor the marginal portion of the mat 10 which underlies the retainer 22. I prefer to employ impaling means for this purpose and, in the form shown in FIG. 3, a metal plate 30 is mounted at the bottom face of the retainer member 22 and has a plurality of longitudinal rows of impaling prongs 32 struck therefrom and adapted to penetrate the mat 10. It will be understood that the mounting of the plate 30 upon the under face of the member 22 is illustrative and that such plate may be mounted upon the base member 12 if desired.

Suitable means may be provided to releasably anchor the retainer member 22 in operative position. Thus retainer members 22 may be provided with longitudinal passages 34 at each end thereof aligned with an aperture in the side carrier part 14 and adapted to releasably receive a pin or other lock member 36 to hold the retainer member in substantially mat-retaining position, as illustrated in full lines in FIG. 3.

The mat 10 is positively anchored in this device in taut or extended position so that it is not free to fold or to bunch incident to stresses applied in walking thereover. At the same time the mat is readily released by the simple expedient of releasing and withdrawing the locking pins or other means 36 and swinging the retainer member 22 upwardly, as shown in dotted lines in FIG. 3, to provide access to the marginal portions of the mat 10. The mat 10, when released from the impaling prongs 32, can readily be lifted from the mat carrier and dirt upon the mat carrier can readily be removed and any moisture thereon can be wiped and a clean mat can be placed upon the base. Thereupon the retainers 22

may be lowered, again impaling the mat and clamping and mechanically anchoring it in extended position. The frame members 14 and 16 being tapered provided minimum interference with freedom of users to walk thereon and minimum risk of having users trip thereon.

Another embodiment of the invention is illustrated in FIGS. 5 and 6. In this construction a base sheet 50 has marginal frame members 52 cemented or otherwise secured thereto at its upper face and extending therearound. The mat 54, such as a chenille rug, is of the character having a marginal part 56 thereof turned thereunder and sewn or otherwise anchored as by cementing so as to form a loop portion. Side frame members 52 have transverse passages 58 therethrough adjacent each end thereof and aligned with similar passages in the opposite side member and adapted to receive elongated retainer pin 60 which passes through the end loop of the mat and thus mechanically holds the mat extended between opposed ends thereof. The frame members 52 may each include a longitudinal inner flexible lip 62 adapted to fit over a marginal portion of the mat 54.

Another embodiment of the invention is illustrated in FIG. 4, wherein a base sheet or web 66 has marginal frame parts 68 cemented or otherwise secured to its upper surface at its sides and ends. The frame members 68 are preferably of shape-retaining extruded material, such as rubber or synthetic material, and may include a longitudinal inner lip 70 adapted to fit over a marginal portion of a mat 72. At a plurality of spaced points at opposite margins of the mat, the same may carry snap fastener members 74 which are releasably interlocked with snap fastener parts 76 carried by the web 66. The snap fasteners interlock and are preferably positioned adjacent the web 70 and serve to positively but releasably anchor the mat to the base while the margin of the mat is overlapped by the adjacent frame lips 70.

In each of the embodiments shown in FIGS. 4, 5 and 6, it will be understood that the bottom web thereof may mount frame members at only two sides thereof, or at all four sides thereof as desired. The mat is removably mounted in each of these embodiments, and is positively positioned in flat extended position by mechanical means. The mat is easily applied and removed in all forms, and the mat carrier is easily cleaned and excess dirt easily removed therefrom by a wiping action. The extension of the mat in flat form in all embodiments is a safeguard against bunching of a character which would cause tripping of a user. At the same time the ready removability of the mat accommodates rapid periodic replacement by a clean mat.

While the preferred embodiments of the invention have been illustrated and described, it will be understood that changes in the construction may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. A floor mat comprising a flexible light weight readily cleanable mat sheet of the type tending to bunch and fold when used as a floor mat, a carrier unit formed of shape-retaining material and mounting said sheet therein; and mechanical sheet anchoring means on said carrier unit for holding said mat sheet extended, said carrier unit including a base member and a pair of opposed frame members, each having an elongated flexible retainer at its inner margin adapted normally to releasably overlies a margin of said mat sheet, said sheet anchoring means constituting multiple sheet impaling prongs carried by the bottom surface of each retainer, said retainers being shiftable relative to said base for insertion of the margins of a mat thereunder and en-

- agement of the margin of the mat with said anchoring means.
2. A floor mat comprising a flexible light weight readily cleanable mat sheet of the type tending to bunch and fold when used as a floor mat, a carrier unit formed of shape-retaining material and mounting said sheet therein; and mechanical sheet anchoring means on said carrier unit for holding said mat sheet extended, said carrier unit including a base member and a pair of opposed frame members, each having an elongated flexible retainer at its inner margin adapted normally to releasably overlies a margin of said mat sheet, said sheet anchoring means being located alongside and adjacent to said opposed frame members and retainers, said retainers being shiftable relative to said base for insertion of the margins of a mat thereunder and engagement of the margin of the mat with said anchoring means, said mechanical sheet anchoring means constituting separable fasteners having parts carried by said carrier unit and sheet, respectively.
3. A floor mat comprising a flexible light weight readily cleanable mat sheet of the type tending to bunch and fold when used as a floor mat, a carrier unit formed of shape-retaining material and mounting said sheet therein; and mechanical sheet anchoring means on said carrier unit for holding said mat sheet extended, said carrier unit including a base member and a pair of opposed frame members, each having an elongated flexible retainer at its inner margin adapted normally to releasably overlies a margin of said mat sheet, said sheet anchoring means being located alongside and adjacent to said opposed frame members and retainers, said retainers being shiftable relative to said base for insertion of the margins of a mat thereunder and engagement of the margin of the mat with said anchoring means, said mat sheet having loop portions at opposite margins thereof, said opposed frame members having apertures adjacent opposite ends thereof, and rods supported in said frame apertures and extending through said mat loops to maintain said mat sheet in flat extended position within said carrier unit.

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