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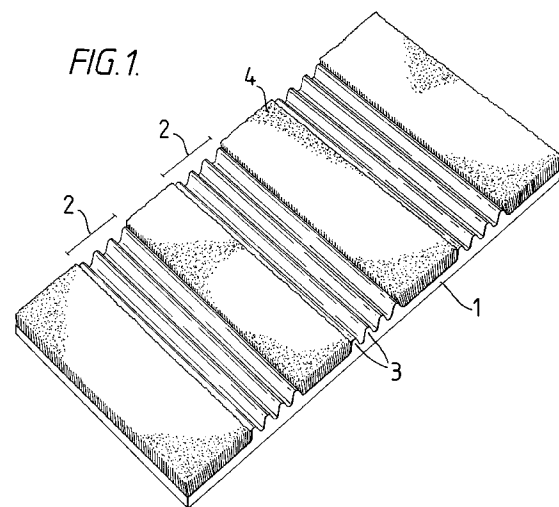
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54 **Threshold carpeting.**

57 A carpet product is provided with includes a flexible base substrate (1) which may be of rubber or plastics material and incorporates a plurality of scraper ribs (3) arranged in spaced groups; the spacing between groups including strips of carpeting material (4) incorporating stiff scraper fibres within an area of normal or less stiff carpet fibres.



The present invention relates to carpeting products, particularly to carpeting suitable for entrance mats for office buildings, stores and other high traffic areas.

In such areas it is desirable for the mat to be capable of effectively scraping dirt off shoes and in so doing there is the problem that conventional carpeting materials for the purpose easily become clogged.

The present invention is concerned with provision of a carpet product which solves the aforesaid problem.

Accordingly the present invention provides a carpet product comprising a flexible base substrate, for example of a rubber or plastics material, which substrate comprises a plurality of scraper ribs arranged in spaced groups, and within the space between at least one pair of spaced groups a piece of scraper carpeting. By scraper carpeting we mean carpeting with stiff scraper fibres within an area of normal or other carpet fibres.

Preferably the or each said piece of scraper carpeting is a scraper carpet comprising 75%- 98% by weight of yarn of first carpet fibres and from 2% - 25% by weight of second fibres or filaments which are stiffer than said yarns and act as dirt scrapers.

With this arrangement, two levels of scraping can arise and the first level of scraping within the scraper ribs allows dirt to be scraped from underneath shoes and to be able to collect within the ribs without risk of significant clogging. This then means that the scraper carpeting can clean off the rest of the soil from the shoe more effectively.

The flexible base substrate may be of a hard rubber or plastics material and preferably has a hardness between 40 and 80 shore hardness.

The surface area of the operative part of the substrate, i.e the ribs, should be in a ratio to the area of carpet which is between 15% ribs and 85% carpet to 95% ribs and 5% carpet.

The base substrate of rubber or plastics material may be a complete moulded product, or a number of moulded or extruded strips which are locked together in the assembly of the product.

The ribs may be between 1mm and 20mm high and may have a pitch of between 3mm and 50mm depending on the height.

The width of the group of ribs may be between 2.5cm and 35 cm.

The carpet material may be tufted on to a backing of for example nylon which is laminated by heat fusion on to the substrate, or the backing may be a thicker conventional jute backing which is attached to the substrate either by an adhesive or by locking into slots formed by inverted V sections at the edges of each group of ribs.

The width of the piece of carpet may be between 2.5cm and 25cm.

The total thickness of the combination of sub-

strate and carpet piece may be between 7mm and 50mm dependent on the required performance, and the total top surface area of the product may be between 50cm x 50cm and 3.66m x 1.52 metres.

The product may be provided in a particular size which is to be laid on to an existing floor or carpet within a ramped frame. Alternatively wider strips may be provided within an entrance region of a building.

The group of ribs and the pieces of carpet may, in area, be combined in a number of ways. Alternating strips across, down or diagonally left or right at any angle in complete lines within an area, alternating strips across and down in broken lines of carpet and of the ribs or in any combination of complete or broken lines in any geometrical computer designed pattern or logo.

The substrate may have strips at its edge to act as borders on the mat, and the edges may have an interlocking feature to interlock with a similar adjacent mat.

The back of the mat may be flat or it may be ridged or it may have gripper foot arrangements.

In regard to the carpeting material, preferably the second fibres or filaments, i.e those to act as dirt scrapers, are monofilaments of nylon, polyester or unplasticised polypropylene.

Preferably these monofilaments are of 30-300 tex. Alternatively the second fibres or filaments may be metallic fibres or filaments.

The second fibres or filaments may be in the form of a twisted yarn which has been resinated for stiffening.

An embodiment of the invention will now be described by way of example with reference to the accompanying diagrammatic drawings in which:

Figure 1 is a perspective view of a carpeting product in accordance with the invention;

Figure 2 is an end view of the Figure 1 product; and

Figure 3 is a diagrammatic view showing an alternative way of fitting the carpeting to the substrate.

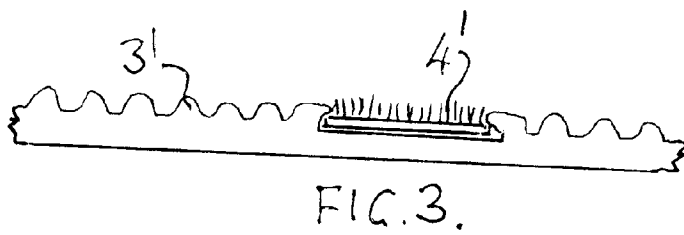
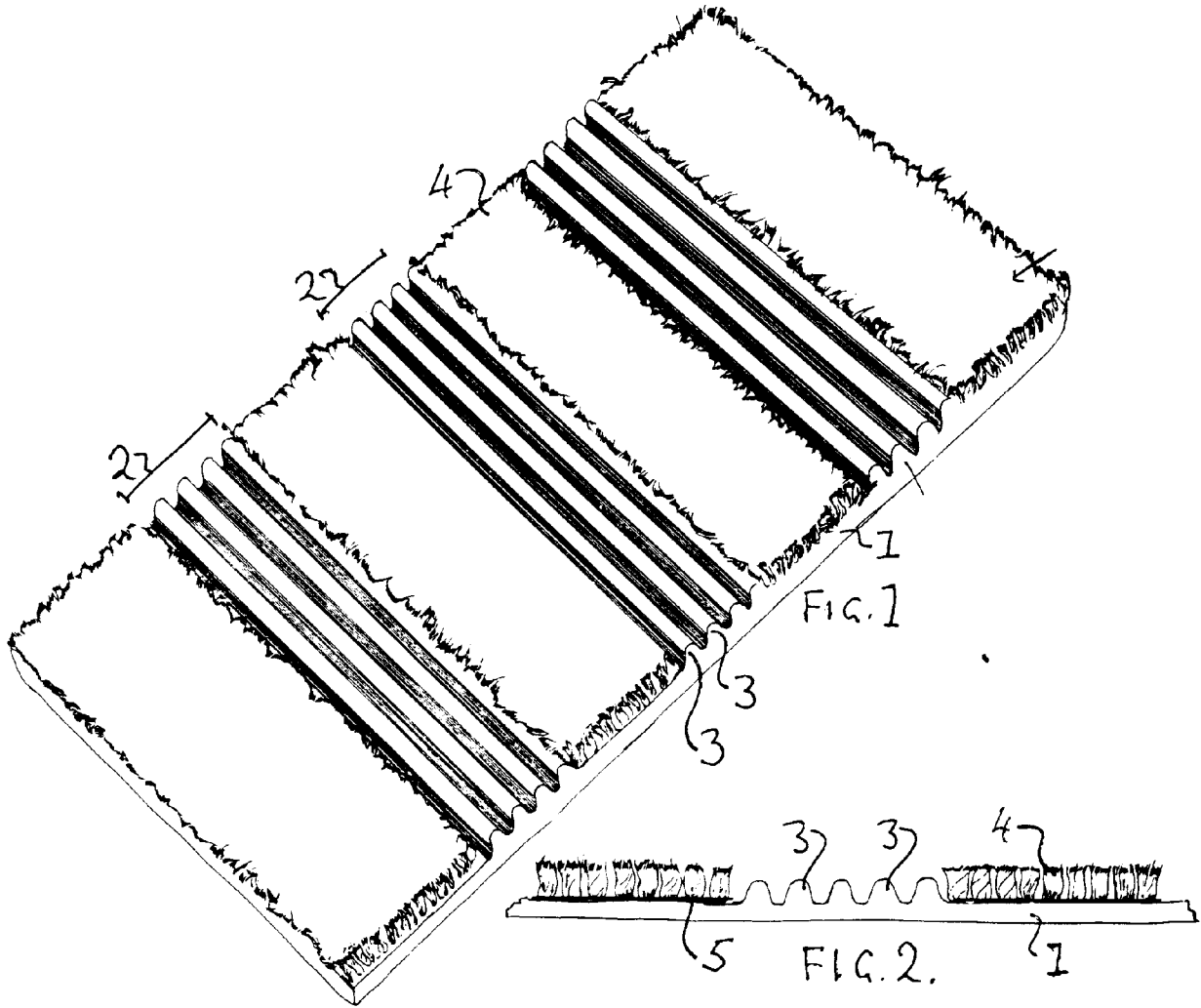
Referring to Figure 1, a substrate 1 of moulded rubber comprises a number of spaced groups 2 of up-standing ribs 3. In the space between each pair of spaced groups 2 is a piece of carpeting 4.

The piece of carpeting 4 is a scraper carpet comprising between 78% and 90% by weight of yarn of carpet fibres and from 2% to 25% by weight of a second form of fibres or filaments which are stiffer than the yarns of the first fibres and act as dirt scrapers. This carpeting is formed by tufting on a nylon backing 5 which is heat laminated to the rubber substrate 1.

Figure 3 shows an alternative arrangement where the piece of carpeting 4' has a heavier jute backing and slots into inverted V sections at the edges of respective groups of ribs 3'.

Claims

1. A carpet product comprising a flexible base substrate (1), for example of a rubber or plastics material, which substrate comprises a plurality of scraper ribs (3) arranged in spaced groups, and within the space between at least one pair of spaced groups a piece of carpeting material (4), characterised in that the carpeting material is in the form of scraper carpeting in which a plurality of stiff scraper fibres are incorporated within an area of normal or less stiff carpet fibres. 5
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2. A carpet product according to claim 1, in which said scraper carpeting comprises 75 - 98% by weight of yarn of a first kind of carpet fibres or filaments and from 2% - 25% by weight of a second kind of fibres or filaments which are stiffer than said fibres or filaments of the first kind and act as dirt scrapers. 15
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3. A carpet product according to claim 1 or claim 2, in which said flexible base substrate is of a hard rubber or plastics material. 25
4. A carpet product according to any one of claims 1 to 3, in which said carpeting is attached to said base material by adhesive or heat fusion.
5. A carpet product according to any of claims 1 to 3, in which said carpeting is attached to said flexible base substrate by being locked within inverted V sections of the scraper ribs. 30
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European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 30 4402

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	GB-A-2 125 289 (NUWAY MANUFACTURING COMPANY LTD) * page 2, line 2 - line 63 * * page 3, line 3 - line 7; figures * ---	1-5	A47G27/02 A47L23/26
Y	CH-A-614 853 (PETER SMITH ASSOCIATES LTD ET AL) * page 2, right column, line 20 - page 3, left column, line 4; claim 1 * ---	1-5	
A	US-A-2 436 315 (G. DEL P. LIBERATORE) * column 2, line 9 - column 3, line 28; figures 1,3-5 * ---	1,3	
A	FR-A-852 638 (WATINE) * page 2, line 66 - page 3, line 26; figures 1,4 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47G A47L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 JULY 1992	Examiner BODART P.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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