

Dec. 12, 1961

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3,012,919

SECTIONAL FABRIC FLOOR COVERING

Filed May 5, 1958

2 Sheets-Sheet 1

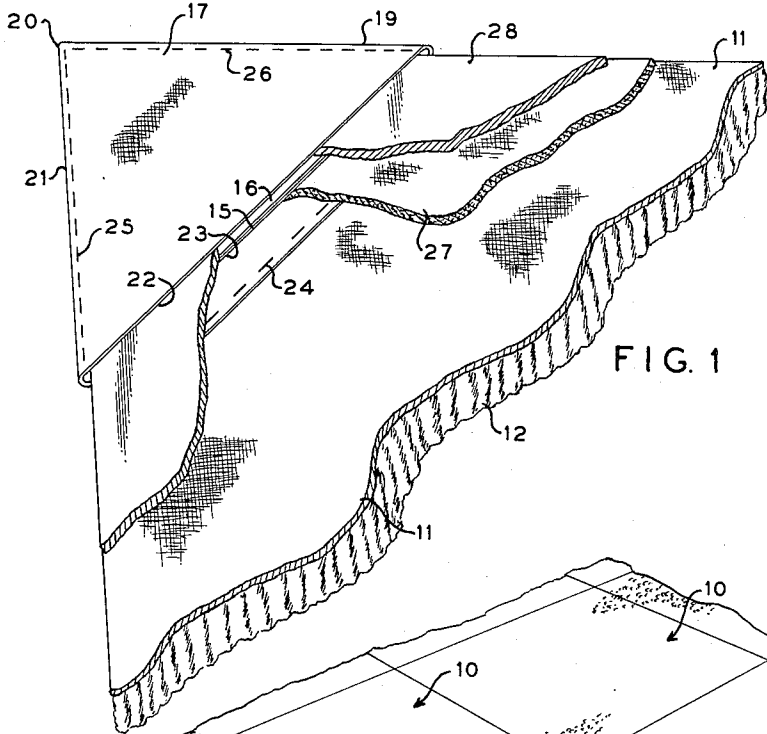


FIG. 1

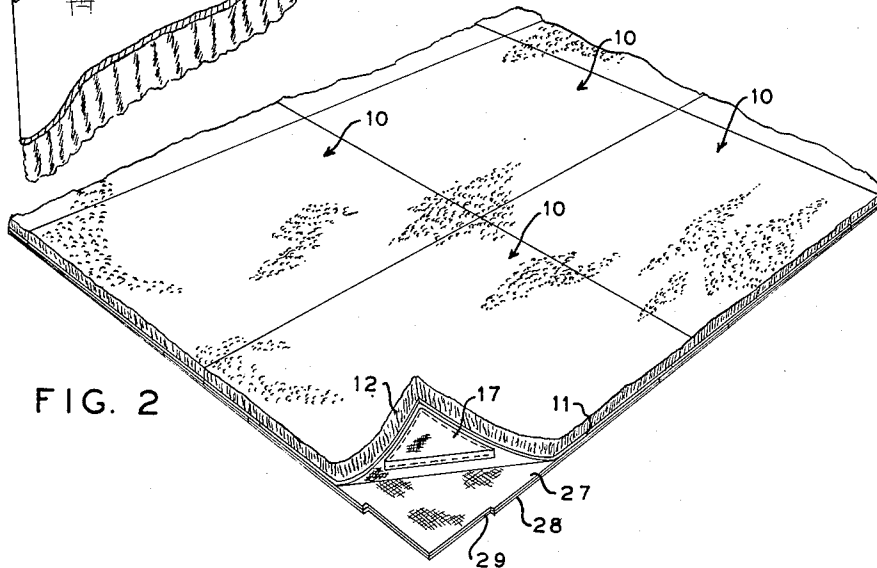


FIG. 2

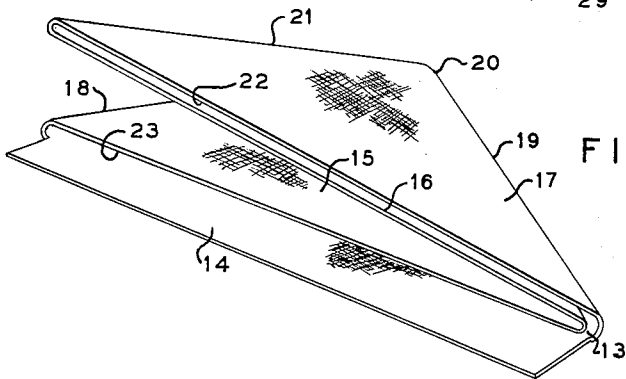


FIG. 3

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2 Sheets-Sheet 2

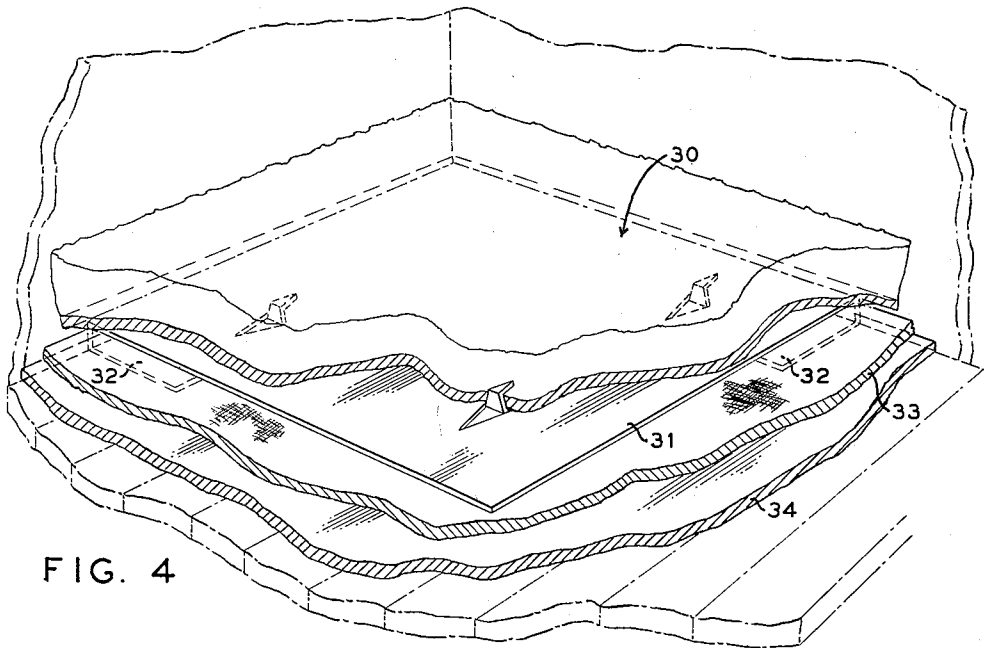


FIG. 4

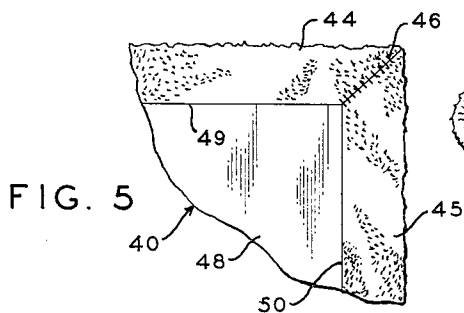


FIG. 5

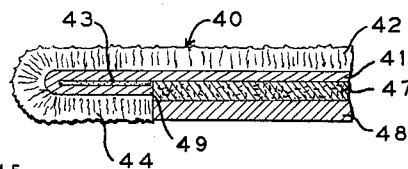


FIG. 6

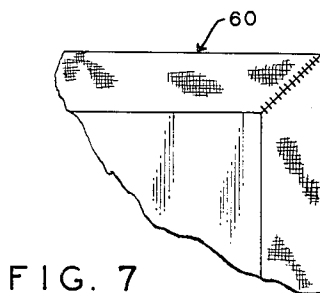


FIG. 7

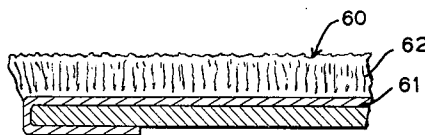


FIG. 8

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SECTIONAL FABRIC FLOOR COVERING
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 Filed May 5, 1958, Ser. No. 733,926
 15 Claims. (Cl. 154-49)

This invention relates to sectional fabric floor covering and is particularly concerned with rug or carpet type floor covering formed of individual geometrically shaped separate elements to be arranged in combination to constitute a single rug or carpet area free from interconnection between the elements.

Fabric floor coverings, characterized as rugs, are manufactured and sold in predetermined sizes. The size selected by the consumer is usually less than the floor area upon which the rug is to be placed so as to avoid cutting or mutilating the rugs to accommodate irregular floor configurations, door framings or the like. Where a complete wall to wall fabric coverage is desired, carpeting, wherein the material is supplied in strips of indeterminate length, is employed. Both rugs and strip carpeting represent a substantial portion of the furnishing investment to home owners as well as to hotel and restaurant proprietors, educational and philanthropic institutions, offices, churches and the like.

One of the unhappy factors in the use of both rugs and carpeting is the tendency toward spot wear and discoloration. While rugs or carpeting may, for the most part of that area, receive but infrequent use, particular areas, as for instance, those adjacent doors and in the line of usual traffic, may receive wear wholly disproportionate to the average wear over the entire surface. Such localized wear destroys the total artistic effect while most of the rug or carpeting area remains substantially free from deterioration. Foods, medicines, beverages and other liquids and solids may cause permanent soiling or discoloration of a portion of a rug or carpet. Chair and table legs also frequently produce unsightly spot deteriorations, sunlight may bleach a portion of a rug or carpeting and hence the rugs and carpetings are seldom uniformly worn before their appearance dictates replacement.

Other factors also militate against the selection of fabric rugs and floor coverings to cover an area, for example, certain size rugs, even though being easy to remove for cleaning, storage and for use in different locations, nevertheless fail to provide the total floor covering frequently desired. Carpeting, on the other hand, usually requires a permanent securement to the floor and hence removal for cleaning, storage, or a change in artistic motif, is seldom resorted to. Further, where the floor covering problems are those of a tenant, carpeting is frequently avoided since its securement to the floor may raise questions of ownership as to this attached property.

To meet these and other problems encountered in the use of fabric floor coverings, the present invention provides individual fabric floor covering elements which may be collectively arranged and combined, without permanent intersecurement, to provide a total floor covering of such area and configuration as may be required. Such elements, being free from permanent interconnection, permit individual removal and replacement and to facilitate the laying of the entire rug area and the removal of any number of elements thereof for cleaning, dyeing or other servicing. By the use of such individual elements, total floor coverage may be secured without exposed border areas and with a minimum of fabric cutting. Further, areas of spot wear may be compensated for by shifting of the elements whereby a worn element may be replaced by a new element or may be substituted by an element from an area less subject to wear. Such ele-

ments may be readily laid and taken up and may be cleaned as individual elements in domestic cleaning equipment or washing machines. Since the elements of the present invention are not permanently attached one to another and are not to be permanently secured to the floor, they do not constitute a fixture which may be considered the property of the owner of a building. Numerous other advantages of such individual elements may be readily recognized. Where floor covering designs are effected by the use of individual elements of differing shapes, configurations and colors, it will be seen that changes and variations may be readily achieved by a mere rearrangement of the individual elements and where a restricted area needs replacement, this may be achieved by replacement only of such individual elements as constitute such areas.

In that specific form of the present invention, here presented by way of illustration, the concept is embodied in an arrangement by which portions of individual relatively small fabric floor covering elements themselves are formed with pockets, recesses, or equivalent retainers, for engaging portions of relatively rigid, and yet flexible and relatively non-compressible base or backing members. Thus the arrangement is such that backing boards engage the pockets, recesses or retainers to secure the fabric in a smooth, stretched floor covering condition while permitting the removal of the elements from the backing board for exchange, replacement or cleaning. One form of the present invention herein illustrated further provides for the reception and retention of individual padding members which may be located between the backing board and the fabric to enhance the wearing qualities and the resiliency of the composite floor covering formed by the individual elements.

It will therefore be seen that it is among the primary objects of the present invention to provide a novel and improved fabric floor covering formed by the use of individual fabric floor covering elements arranged as a composite total constituting a completed floor covering area.

Another object of the present invention is to provide a fabric floor covering formed from a plurality of individual elements, each of which may serve its function in the total assembly of such elements but without requiring permanent or even a temporary interconnection of such elements or securement thereof to the floor.

Another object of the invention is to provide a fabric floor covering, individual areas of which may be readily removed and replaced without requiring the removal and replacement of the entire covering.

It is also an object of the present invention to provide a fabric floor covering by which individual areas may be separately removed and which may provide for facility of laying and taking up the floor covering to be cleaned and laundered individually or in unison in domestic cleaning or washing equipment.

A further object of the present invention is to provide the combination with an individual geometric floor covering elements of relatively rigid and relatively noncompressing backing elements which serve to retain the individual elements in their composite combination constituting a complete floor covering area.

Another object of the present invention is to provide a floor covering element in which the surface fabric is in a smooth prestretched condition when laid, such that no concealed smaller hard objects are beneath it to cause uneven wear.

The invention also includes as an objective the provision of an individual floor covering element including surface fabric, stiff backing and a cushion or pad.

Numerous other objects, features and advantages of the present invention will be apparent from a consideration of

the following specification, taken in conjunction with the accompanying drawing, in which:

FIG. 1 is a perspective view of the rear face of one of the corners of an element formed in accordance with the present invention.

FIG. 2 is a perspective view of a group of elements of the present invention constituting a portion of a single floor covering area.

FIG. 3 is a detailed view of the corner retaining element of that form of the invention shown in FIG. 1.

FIG. 4 is a perspective view partly broken away illustrating a corner of an element of modified form.

FIG. 5 is a fragmentary bottom plan view of a cover of a further modified form of element.

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

FIG. 7 is a view similar to FIG. 5, of another modified form of the invention.

FIG. 8 is a sectional view taken along the line 8-8 of FIG. 7.

As illustrated more clearly in FIG. 2 of the drawings the elements of the present invention are adapted to be arranged in edge to edge abutment, preferably free of either permanent or temporary interengagement or floor securement except for frictional contact. As here shown the individual elements 10 are of rectangular configuration. It will of course be understood that such elements may be of other regular geometric outline such that edge to edge contact between adjacent elements will constitute a continuous cover. Triangular, trapezoidal, octagonal and parallelogram configurations are among those which lend themselves to the present inventive concept. However, in its broadest aspects, the invention is not limited to multiple elements of identical or regular configuration since it is readily conceivable that groups of irregular elements may be so formed and interrelated as to constitute a continuous floor covering. The invention will thus be seen to comprehend the formation of floor coverings by individual unattached fabric elements substantially irrespective of size or configuration.

Each element of the present invention includes a surface area of floor covering fabric or sheet 11 preferably formed with tufted material such as loops 12 which may be cut or left in looped condition to provide an upwardly facing pile in the nature of present day rugs or carpeting. It will, of course, be understood that the invention is in no way confined to the type of fabric used and that the selection of such fabric may be dictated by utility, taste and economy.

In that form of the invention illustrated in FIGS. 1 to 3 of the drawings, the rectangular fabric 11, with its pile 12, is formed with attached engaging member separately illustrated in FIG. 3. The engaging members of this form of invention may be conveniently made by folding of a rectangular sheet of light flexible fabric, preferably a durable more closely woven and/or thinner fabric than that of the fabric 11 and free from the loops or tufting 12. The engaging member of FIG. 3 is formed by folding the rectangular sheet along a diagonal fold line of a square portion of the sheet and then folding it again along the other diagonal fold line which is normal to the first diagonal fold line. In this way, the engaging member, as view in FIG. 3, provides a base quadrant or sheet 13 having an outwardly extending tab 14, the purposes of which will be described hereinafter. Overlying sheet 13 is an intermediate quadrant or sheet 15 which is normally contiguous with another intermediate quadrant or sheet 16, and overlying sheet 16 is an outer quadrant or sheet 17. The diagonal fold line between sheets 13 and 15 thus define an edge 18 while the diagonal fold line between sheets 13 and 17 define an edge 19 which intersect at an apex 20. The fold line between sheets 16 and 17 define an edge 21 which lies adjacent and parallel to edge 18.

Between sheet 13 and sheet 15 is thus formed a pad receiving pocket 22 and between sheet 16 and 17 is formed a backing receiving pocket 23.

When the engaging member of FIG. 3 is installed on the back side of fabric 11, tab 14 is stitched by means of thread 24 to fabric 11 diagonally, as shown in FIG. 1. Also, the apex 20 of the engaging member may be stitched to the corner of fabric 11. It is preferable however to provide stitching 25 along edges 18 and 21, binding these two edges to the edge of fabric 11 and stitching 26 along edge 19 binding edge 19 to the edge of fabric 11 such that the edges 19 and 21 are complementary with the edges of fabric 11 and also the apex 20 is complementary with the apex of fabric 11 formed by its edges at one corner.

It will be understood that in a rectangular element 10, such as shown in FIG. 2, four engaging members will be secured to the four corners thereof with all pockets opening inwardly. Of course, when the elements 10 are made in other geometrical shapes, the corners thereof will be provided with complementary engaging members at such corners as may be provided. In any event, these engaging members should be spaced radially from each other not more than 120 degrees for best results. The purpose of this spacing not more than 120 degrees is that it is preferable to tension the fabric in at least two directions and this cannot be efficiently accomplished with less than three engaging members. The pocket 22 is adapted to receive a corner of a rectangular cushioning pad 27 which is positioned beneath the under surface of the fabric element 10 to provide wear resistance, resiliency and deep pile feel to the floor covering. Pocket 23 is adapted to receive a relatively stiff yet flexible thin form sustaining and supporting backing board 28. The edges of board 28 may be reduced as indicated at 29 adjacent the corner apex so that the board may be received in the pocket 23 despite the stitching. The corners of the pad 27 may likewise be reduced to facilitate securement of the pad 27 within the retaining pocket 23, thus, both pad 27 and board 28 will be of the same general outline or shape conforming to the outlines or shape of the element 10 and disposed in registration therewith.

To simplify the handling of the backing board 28 and the pad 27, it may be found desirable to glue or otherwise secure the pad 27 to backing board 28. Indeed, in the mass production of my invention it may be found desirable to glue an entire sheet of padding material to a large portion of backing board and then cut the composite thus formed into the predetermined size squares necessary to abut the fabric 11.

It will be understood that while the board 28 is flat and substantially rigid, it is of sufficient flexibility and/or there is sufficient elasticity in fabric 11 to permit fabric 11 to be attached and removed from the board 28 with or without pad 27. Thus, fabric 11 may be removed from the pad 27 and board 28 to permit replacement, repairs or laundering operations. Since the elements 10 themselves are flexible and of small size as compared with conventional or carpeting rugs, the elements 10 may be readily laundered in conventional domestic laundry equipment. Preferably, the size of the individual elements 10 may range from a few inches to several feet along a side.

The form of the invention shown in FIG. 4 is particularly adapted for use in corners or adjacent the edge of a room where there is little likelihood of wear and the element must be urged against the wall or base board or into a corner to give a wall-to-wall appearance. Further, since it is usually necessary to cut the elements adjacent a wall so as to make the edge of the element abut the edge of the wall, it will be found necessary in these instances to provide new engaging members for at least two corners of each element. The sewing or otherwise affixing of the engaging element shown in FIG. 3 may require a sewing machine or other special tools; therefore,

that form of the invention shown in FIG. 4 is particularly useful as a means for attaching an engaging member without the use of special tools or equipment.

In FIG. 4 the corner element 30 is generally rectangular in form, and is provided with a relatively rigid corner piece or engaging member 31 formed of metal or plastic material and provided with inturned edge flanges 32 to receive a corner of pad 33 and a corner of backing board 34. In this form of the invention the fabric 35 of element 30 could be removably or permanently secured to engaging member 31 by any desired securing means. For this purpose, I have, however, provided a plurality of struck out pointed cleats 36. Cleats 36 protrude upwardly and horizontally from the engaging member 31 to project through the fabric 11 for retaining this corner of the fabric 35 in position. Obviously, the engaging member 31 may be permanently secured in position in a corner of a room or spaced along a side of a room so that the board, pad and fabric may be secured to it and removed from it as desired. It will be understood that the other corners of element 30 may have the engaging member of FIGS. 1, 2 and 3, if desired, or be provided with members 31.

The form of the invention shown in FIGS. 5 and 6 is particularly adapted for use along an outer or exposed edge of the carpeting which does not abut a wall or other vertical surface. Such edges are used when the carpeting terminates between rooms in a house. In the embodiment of FIGS. 5 and 6, it will be seen that, in the element 40, the fabric 41 containing the tufting 42 is turned under at its edge or edges so that the fabric may be secured against itself with glue or other adhesive 43. Where the hems 44 and 45 form by the edges as above described but, they may be cut at a 45° angle and secured together by stitchings 46, as seen in FIG. 5. Engaging members such as shown in FIGS. 1, 2 and 3 may be secured inwardly of these hems to receive the pad and backing board or the fabric 41 and pile 42 may be sufficiently thick that no engaging members need be employed. In such a case, the pad 47 and backing board 48 may be formed of a smaller size sufficient to abut the inner edges 49 and 50 of the hems 44 and 45.

In that form of the invention shown in FIGS. 7 and 8, element 60 is provided with the fabric 61 extending beyond the tufting 62 to be turned inwardly to form a hem 63 and/or a pad. This element 60 may be substituted for element 10 or intermingled therewith if desired.

Thus it is seen that in a complete wall-to-wall carpet formed according to my invention in say a single room in a house having say a door leading from one room to the next, the corners of the room would be provided with elements 30, the portion of the room across the door would be provided with elements 40 and the remaining floor of the room would be covered with elements 10 or 60 so that each element abutted the next to give the appearance of a continuous carpet. Of course, the elements 30 could be used to define the outer perimeter along the walls of the room if desired, and indeed, elements 40 could be used in place of elements 10 and 60, however, I do not recommend the use of elements 30 except in places where there is little likelihood of the same being walked upon. It will thus be seen that the present invention provides a total floor covering consisting of a composite of individual relatively small fabric floor covering elements, the fabric of each being in flat form retained by a relatively rigid backing board having a similar shaped pad interposed therebetween. It will, of course, be understood that the configuration and size of the individual elements may be widely varied as may the type of fabric. The invention is not restricted to the manner of engaging and securing either the backing elements and/or the pad, nor is the invention restricted to the use of either with the individual fabric. Thus, it will be understood that in the practice of the invention, numerous changes, modifications and the full use of equivalents may be restored to without

departure from the spirit or scope of the invention as outlined in the appended claims.

I claim:

1. An element for a composite fabric floor covering including a piece of fabric floor covering material, means for releasably attaching thereto a relatively stiff backing board of conforming configuration, said means being adapted to permit said backing board to hold said material in a stretched condition, and means for retainably attaching thereto a pad of like configuration.
2. An element for a composite fabric floor covering including a piece of fabric floor covering material, means for releasably attaching thereto a relatively stiff backing board of conforming configuration, said means being adapted to permit said backing board to hold said material in a stretched condition, and a pad of like configuration, said means including pocket forming members secured said fabric.
3. An element for a composite fabric floor covering including a piece of floor fabric covering material, means for releasably attaching thereto a relatively stiff backing board of conforming configuration, said means being adapted to permit said backing board to hold said material in a stretched condition, and a pad of like configuration, said means including pocket forming members secured to the corners of said material, said members forming individual pockets for said board and pad.
4. A floor covering including a group of individual fabric elements of regular geometric outline laid in edge to edge abutment and retained in floor covering position by edge to edge contact, each of said elements including carpet fabric and a removable attached, relatively stiff backing member, said backing member holding said fabric in a stretched condition.
5. A floor covering including a group of individual fabric elements of regular geometric outline laid in edge to edge abutment and retained in floor covering position by edge to edge contact, each of said elements including carpet fabric and a removable attached relatively stiff backing member together with a removable pad, said backing member holding said fabric in a stretched condition.
6. A floor covering including a group of individual fabric elements of regular geometric outline laid in edge to edge contact, each of said elements including a fabric sheet and a removable attached relatively stiff backing member together with a removable pad, said backing member and pad being of like configuration with said element and being arranged in conforming position to be interengaged at their corners, said fabric sheet being in a stretched condition.
7. A fabric floor covering element including a fabric sheet, a peripheral hem formed at the edges of said sheet defining peripheral gussets and a relatively stiff flexible resilient backing member having its edges retained in said gussets.
8. A fabric floor covering element including a generally rectangular piece of floor covering material, corner securing means attached to the corners of the underface of said elements and a relatively stiff flexible resilient backing element, of like configuration with said sheet, having its corners engaged by said corner securing elements.
9. A fabric floor covering element including a generally rectangular piece of floor covering material, engaging means attached to the corners of the underface of said material and a relatively stiff flexible resilient backing element, of like configuration with said sheet, having its corners engaged in said engaging means, said engaging means each including a sheet of fabric secured to the floor covering material.
10. A fabric floor covering element including a sheet of floor covering fabric, a channeled corner member secured to a corner of the under face of said sheet and a corner of a relatively stiff board secured in the channels of said member.
11. A floor covering extending substantially through-

out a room comprising a plurality of abutting floor covering elements of geometrical design such that the edge of one element abuts an edge of an adjacent element to present a substantially continuous surface, each of said elements including a floor covering fabric, a pad beneath said floor covering fabric and a backing board beneath said pad, said pad and said backing board being of substantially the same geometric configuration as said floor covering fabric, and pockets at the corners of said floor covering fabric, said pockets being secured to the underside of said floor covering fabric, said pockets receiving the corners of said pad and said backing board whereby said floor covering fabric is retained in a flat stretched condition when said backing board is flat, said backing board being rigid resilient and sufficiently flexible that the corners thereof may be removed from said pockets upon flexion of said backing board.

12. A floor covering extending substantially throughout a room comprising a plurality of abutting floor covering elements of rectangular design such that the edge of one element abuts an edge of an adjacent element to present a substantially continuous surface, each of said elements including a floor covering fabric, a pad beneath said floor covering fabric and a backing board beneath said pad, said pad and said backing board being of substantially the same geometric configuration as said floor covering fabric, and pockets at the corners of said floor covering fabric, said pockets being secured to the underside of said floor covering fabric, said pockets receiving the corners of said pad and said backing board whereby said floor covering fabric is retained in a flat stretched condition when said backing board is flat, said backing board being rigid resilient and sufficiently flexible that the corners thereof may be removed from said fabric pockets upon flexion of said backing board, the corners of said backing board being reduced to be received in said pockets.

13. A floor covering extending substantially throughout a room comprising a plurality of abutting floor covering elements of geometrical design such that the edge of one element abuts an edge of an adjacent element to present a substantially continuous surface, each of said elements including a floor covering fabric, a backing board beneath said floor covering fabric, said backing board being of substantially the same geometric configuration as said floor covering fabric, and fabric pockets at the corners of said floor covering fabric, said fabric pockets being secured to the underside of said floor covering fabric, said pockets receiving the corners of said backing board whereby said floor covering fabric is retained in a flat stretched condition when said backing board is flat, said backing board being rigid resilient and sufficiently flexible that the corners thereof may be removed from said fabric pockets upon flexion of said backing board.

14. A floor covering extending substantially throughout a room having a door leading thereto comprising a plurality of abutting floor covering elements of geometrical design such that the edge of one element abuts an

edge of an adjacent element to present a substantially continuous surface, each of said elements including a floor covering fabric, a pad beneath said floor covering fabric and a backing board beneath said pad, said pad and said backing board being of substantially the same geometric configuration as said floor covering fabric, certain of said elements each including fabric pockets at the corners of said floor covering fabric, said fabric pockets being secured to the underside of said floor covering fabric, said pockets receiving the corners of said pad and said backing board whereby said floor covering fabric is retained in a flat stretched condition when said backing board is flat, said backing board being rigid resilient and sufficiently flexible that the corners thereof may be removed from said fabric pockets upon flexion of said backing board, said floor covering fabric of the elements adjacent said door including at least one edge having a hem.

15. A floor covering extending substantially throughout a room having a door leading thereto and corners in the room comprising a plurality of abutting floor covering elements of geometrical design such that the edge of one element abuts an edge of an adjacent element to present a substantially continuous surface, each of said elements including a floor covering fabric, a pad beneath said floor covering fabric and a backing board beneath said pad, said pad and said backing board being of substantially the same geometric configuration as said floor covering fabric, certain of said elements each including fabric pockets at the corners of said floor covering fabric, said fabric pockets being secured to the underside of said floor covering fabric, said pockets receiving the corners of said pad and said backing board whereby said floor covering fabric is retained in a flat stretched condition when said backing board is flat, said backing board being rigid and sufficiently flexible that the corners thereof may be removed from said fabric pockets upon flexion of said backing board, said floor covering fabric of the elements adjacent said door including at least one edge having a hem, the elements adjacent said corners including a metal engaging member at the corner thereof, and means projecting from said metal engaging member through said floor covering fabric.

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