Aug. 8, 1939. A. BECK 2,168,696

RUG

Filed Nov. 5, 1938

Fig. 1

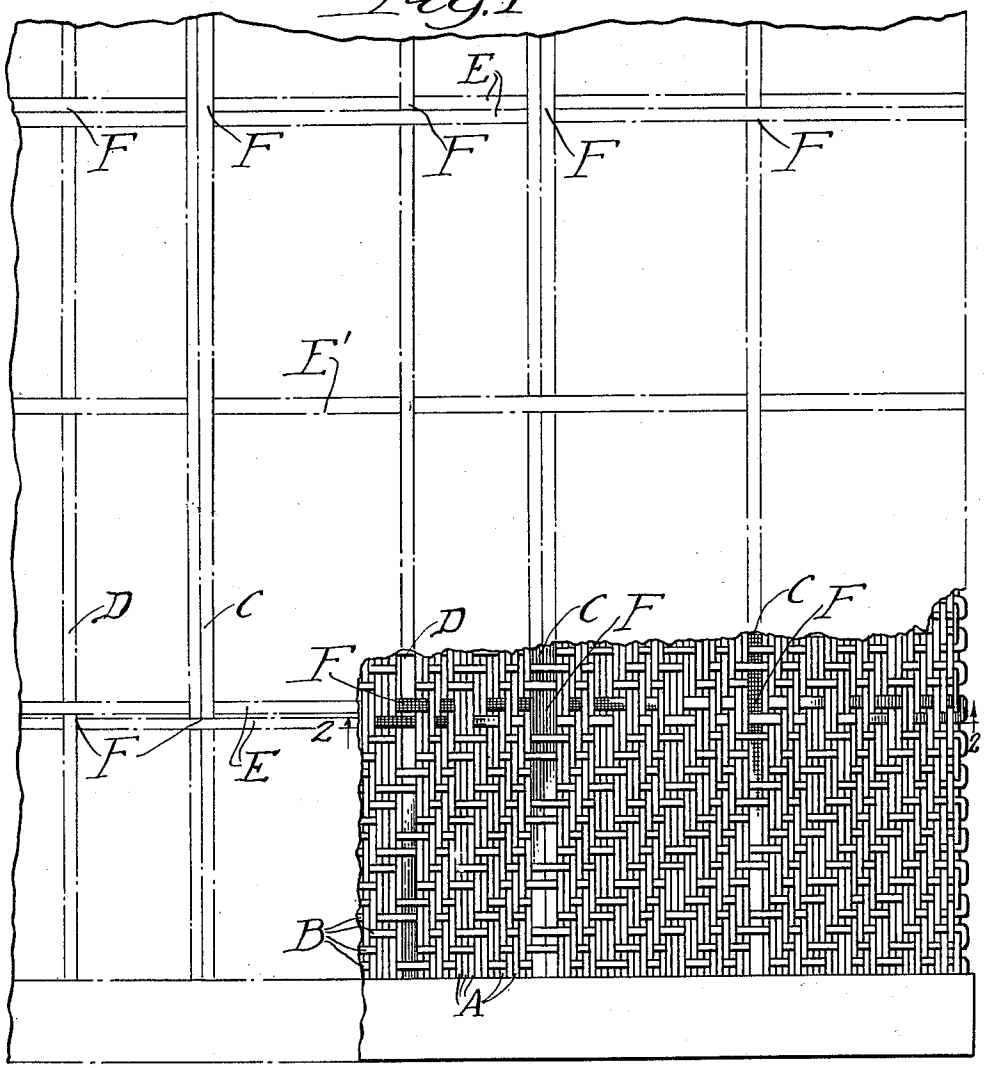
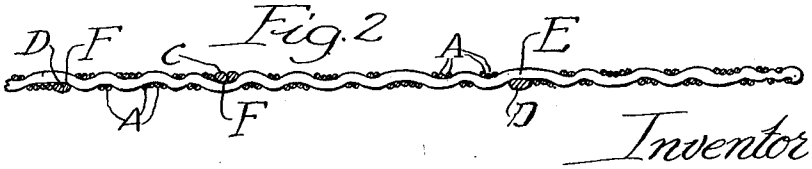



Fig. 2




Inventor:
August Beck,
By Banning & Banning
Attorneys.

Patented Aug. 8, 1939 2,168,696

# UNITED STATES PATENT OFFICE

2,168,696

## RUG

August Beck, Oshkosh, Wis., assignor to Waite Carpet Company, Oshkosh, Wis., a corporation of Wisconsin

Application November 5, 1938, Serial No. 239,124

8 Claims. (Cl. 139—420)

This application is a continuation-in-part of my application, Serial No. 181,877, filed December 27, 1937, which latter is a continuation-in-part of my application, Serial No. 710,859, filed February 12, 1934.

The rug of the present invention is in the main composed preferably of fiber which in the language of the trade refers to a strand of twisted strips of paper in the form of paper twine. The fiber is of soft and pliable material well adapted for the making of relatively cheap rugs, in that the fiber strands can be closely packed together, or beaten up in the loom, but fiber rugs possess one disadvantage, in that the colors employed are relatively non-fast and somewhat dull in tone, so that a rug composed of fiber not only lacks sharp color tones in the first instance but tends after usage to become dull and dingy and to lose its appearance of newness or freshness after a comparatively short period of wear.

The object of the present invention is to compensate for these defects by the employment of conspicuously arranged strands of sisal which are intended to brighten up the general effect of the rug as a whole and to compensate against early deterioration in the general appearance of the rug due to the fading of the colors employed in the fiber background.

With these ends in view, the invention consists in the employment of relatively thick or conspicuous sisal strands both in the warp and in the woof or filler, which not only display fast colors but present a lustrous effect and an intensity of coloration which it is impossible to obtain with the fiber alone.

In the employment of sisal strands, however, I have found by experience that difficulties are involved in the use of a considerable amount of sisal in the warp and also in the woof, by reason of the character of the sisal which is a stiff wiry fiber which is difficult to compact within the loom, and this difficulty is greatly enhanced in cases where strands of sisal are used both in the warp and the woof, thereby introducing areas where the sisal strands intersect one another, which thus constitute points at which there is a tendency for the rug to warp or buckle.

In order to effectively use the sisal in both the warp and the woof of the rug it is essential to use the sisal somewhat sparingly, with wide intervening areas of fiber both in the warp and the woof, so that the fiber will serve to compact and anchor the sisal strands firmly in place, particularly at or near the points of intersection, so that the warping or buckling tendency will be overcome, particularly when the rug is exposed to dampness or variable weather conditions.

I have found that very effective use may be made of the lustrous sisal strands, both in the warp and in the woof, by employing for each sisal stripe one or two strands of conspicuously greater bulk than the intervening fiber strands, so that the sisal will be conspicuously displayed not only by its lustrous color but by its greater spread and contrast in appearance to the more closely woven fiber strands which compose the major portion of the rug body.

I have also found that where one or two bulky sisal strands (or at any rate a very limited number) are employed both in the warp and in the woof, the areas at the points of intersection are sufficiently reduced in extent, so that warping or buckling in the form of ridges or humps is prevented by the close anchoring of the sisal strands at these points of intersection; but experience has shown that where the intersecting areas are of as great an extent as three or four inches square within which the fabric of the rug is exclusively or mainly of sisal, difficulty is experienced by reason of the impossibility of anchoring the sisal strands throughout such an extended area and in such a way as to prevent bulging or buckling. Experience has shown, however, that where the areas of intersection of the sisal warp and woof strands do not exceed two inches square, the constituent warp and woof stripes thus afforded may be composed exclusively or mainly of sisal with the possible interspersion of a few fiber strands.

While some slight latitude is permissible in the quantity of sisal present at the points of intersection of the warp and woof, I have found that the most certain and reliable results are obtained where not more than two or possibly three bulky sisal strands are grouped to afford a conspicuous warp stripe in conjunction with a like arrangement of sisal strands in the woof, thereby reducing the areas of intersection to about an inch square where such a group arrangement is employed.

However, I have also found that the additional use of single strands of bulky sisal interspersed through the fiber warp and woof may be advantageously employed in conjunction with multiple strands, so that a considerable display of sisal will be afforded throughout the rug, without, however, concentrating the sisal at any one point to an extent which will preclude its firm anchorage into the more pliable and compactible fiber.

I have also found that by dip dyeing the sisal strands in fast colors in those sections of each skein which are immersed in the dye, and by alternating the sections of strands so dyed with sections which display the permanent silvery lustrous color of the natural sisal, highly effective results can be secured in providing a variegated display in permanent colors or lusters which are more conspicuous in appearance than the surrounding areas afforded by the duller and less permanent color tones of the fiber, so that after usage for a considerable period the rug will retain a fresh and pleasing appearance even though the less permanent dyes employed in the fiber have lost their original intensity. In this way, by the somewhat sparing use of sisal in interspersed relation to a much greater volume of fiber, it is possible to successfully employ the sisal and to obtain the highly desirable color effects characteristic of the material without impairing the quality of the fabric or introducing a factor which if otherwise uncontrolled would tend in a short time to cause such excessive warping or buckling as to render the rug unfit for service.

In order to more fully bring out the features above described as incorporated in a rug of proved value and excellence in character, reference is had to the accompanying drawing, wherein,—

Figure 1 is a plan view of a corner of a rug partly finished to illustrate the specific weave of the fiber and sisal strands, with the remainder of the figure illustrating a continuation of the same characteristic weaving; and

Fig. 2 is a section taken on line 2—2 of Fig. 1.

The rug as a whole consists in the main of interwoven fiber warp strands A and woof strands B, which are preferably of relatively small thickness or diameter as compared with the sisal strands presently to be described. As shown, the method of weaving the warp and woof fiber strands comprising the predominant area of the rug is one which gives a ribbed effect, and the strands being pliable and compactible are closely interwoven with one another.

At recurrent intervals in the body of the rug are sisal warp stripes which may be afforded by two or slightly more strands C bundled together in group relation with intervening single sisal warp strands D. As shown, the sisal strands are much heavier singly than the warp and woof fiber strands, and when united in groups of two or slightly more afford a very conspicuous contrast to the fiber body of the rug, not only by the greater bulk of the individual sisal strands but by reason of the permanent lustrous color tones afforded either by the display of the natural sisal or by the intense colors afforded by dip dyeing recurrent portions of each sisal strand. In like manner, woof strands of sisal are employed either in limited group arrangement as at E or singly as at E', it being understood, however, that in all cases the warp and woof strands, whether employed singly or in limited group arrangement, are anchored and imbedded within the surrounding fiber, which in quantity greatly exceeds the amount of sisal employed.

At the points of intersection F, where the grouped warp and sisal strands cross one another, the resultant thickness of the rug is necessarily increased in cases where bulky sisal strands are employed, and it is at these points that it becomes highly essential to restrict the area of intersection sufficiently to enable the surrounding fiber strands to afford a sufficiently firm grip and compression upon the sisal to prevent working or slipping of the sisal strands which if the area of intersection be materially extended will result in a warping or bulging effect at these points when the rug is subjected to atmospheric variations. By utilizing a limited amount of sisal in substantially the manner above described, or at any rate in a restricted amount conformable to the principles of the present invention, it is possible to secure highly satisfactory results both in the structure of the rug and in its coloration and to secure the freshness and permanent luster afforded by the sisal without sacrifice of those qualities in the rug structure which are essential.

Although the present description is intended to substantially indicate the limits within which the permanently dyed sisal may be employed for brightening up or improving the quality and appearance of a rug mainly composed of fiber, it will be understood that, within the limits stated, numerous highly effective designs can be developed and that the drawings serve merely for the purpose of illustrating the principle of the present invention as applied to a rug which has proven highly successful, both in coloration and in wearing qualities.

It will also be understood that although bulky sisal strands singly or in very limited group arrangement serve to present a satisfactory and conspicuous display of the lustrous sisal, nevertheless the use of groups of sisal strands of lesser bulk individually but of greater number may in proper cases be employed if the areas of intersection are limited in extent and the sisal strands are closely anchored and compacted by the surrounding fiber.

I claim:

1. A rug consisting of a groundwork of warp and woof strands of fiber dyed with relatively impermanent dyes, and sisal warp and woof strands dyed in part with relatively permanent dyes, said sisal strands being interspersed at relatively widely spaced intervals among the fiber strands and compacted and held in anchored relation to one another at the points of intersection of the sisal warp and woof strands, the areas of intersection being of such limited extent as to prevent warping due to displacement of the sisal strands.

2. A rug consisting of a groundwork of warp and woof strands of fiber dyed with relatively impermanent dyes, and sisal warp and woof strands dyed in part with relatively permanent dyes, certain of said sisal strands being grouped in contiguous relation to afford conspicuous stripes, said sisal warp and woof strands being compacted and anchored at the points of intersection of the fiber strands, and the grouping of the sisal strands being limited in number of strands to afford areas of intersection of the sisal warp and woof strands of such limited extent as to prevent displacement of the sisal strands at said points with attendant warping of the rug.

3. A rug consisting of a groundwork of warp and woof strands of fiber dyed with relatively impermanent dyes, and sisal warp and woof strands dyed in part with relatively permanent dyes, certain of said sisal strands being grouped in contiguous relation to afford conspicuous stripes, said sisal warp and woof strands being compacted and anchored at the points of intersection of the fiber strands, and the grouping of the sisal strands being limited in number of strands to afford areas of intersection of the sisal

warp and woof strands of such limited extent as to prevent displacement of the sisal strands at said points with attendant warping of the rug, and the individual sisal warp and woof strands being conspicuously greater in bulk than the fiber strands composing the groundwork of the rug.

4. A rug consisting of a groundwork of warp and woof strands of fiber dyed with relatively impermanent dyes and interspersed warp and woof strands of sisal dyed in part at least with relatively permanent dyes, certain of the sisal strands being grouped in contiguous relation to afford conspicuous stripes and the number of strands so grouped being limited in extent to afford areas of intersection of the warp and woof sisal strands not greater than two inches square, said sisal strands at the points of intersection being compacted and anchored by the contiguous fiber strands to prevent displacement of the sisal strands with attendant warping of the rug.

5. A rug consisting of a groundwork of warp and woof strands of fiber dyed with relatively impermanent dyes and interspersed warp and woof strands of sisal dyed at least in part with relatively permanent dyes, certain of the sisal strands being of conspicuously larger bulk than the fiber strands and grouped in contiguous relation to afford conspicuous stripes and the number of strands so grouped being limited in extent to afford areas of intersection of the warp and woof sisal strands not greater than two inches square, said sisal strands at the points in intersection being compacted and anchored by the contiguous fiber strands to prevent displacement of the sisal strands with attendant warping of the rug.

6. A rug consisting throughout substantially its entire body of warp and woof strands of compactible fiber dyed with relatively impermanent dyes giving a relatively dull coloration with the inclusion of relatively widely spaced apart single and groups of small numbers of sisal strands of relatively stiff wiry character interwoven with the fiber strands and effectively compacted and permanently anchored thereby against displacement, and displaying a relatively permanent highly lustrous coloration contrasting with the duller tones of the fiber.

7. A rug consisting throughout substantially its entire body of warp and woof strands of compactible fiber dyed with relatively impermanent dyes giving a relatively dull coloration with the inclusion of relatively widely spaced apart single sisal strands of relatively stiff wiry character interwoven with the fiber strands and effectively compacted and permanently anchored thereby against displacement, and displaying a relatively permanent highly lustrous coloration contrasting with the duller tones of the fiber.

8. A rug consisting throughout substantially its entire body of warp and woof strands of compactible fiber dyed with relatively impermanent dyes giving a relatively dull coloration with the inclusion of relatively widely spaced apart single sisal strands of relatively stiff wiry character and of relatively greater bulk then the fiber strands interwoven with the fiber strands and effectively compacted and permanently anchored thereby against displacement, and displaying a relatively permanent highly lustrous coloration contrasting with the duller tones of the fiber.

AUGUST BECK.