Aug. 2, 1949. J. R. CALDWELL 2,477,960

FLOOR AND CAR MAT

Filed Feb. 17, 1949

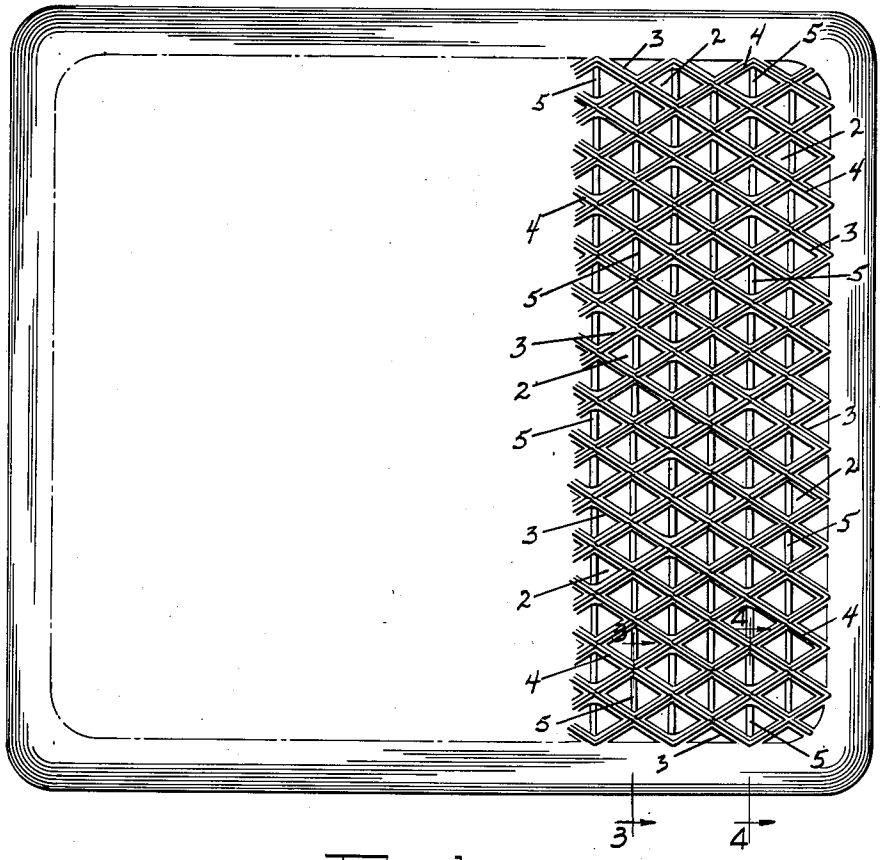


FIG. 1

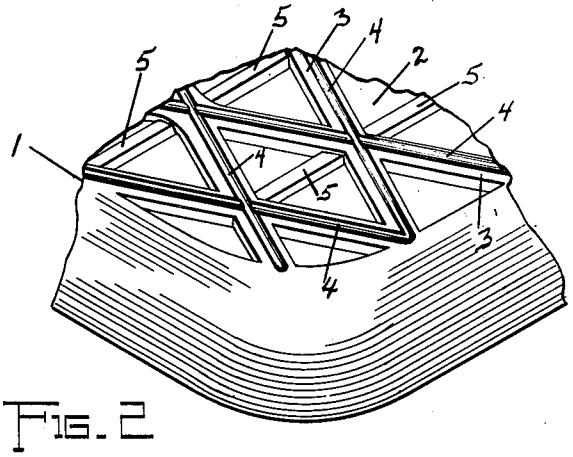


FIG. 2

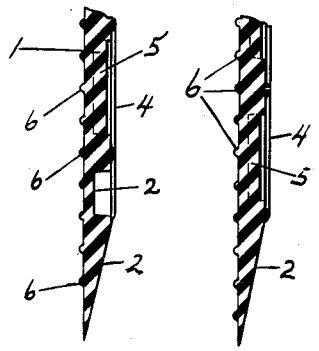


FIG. 3

FIG. 4

INVENTOR.

James R. Caldwell

BY Robb & Robb,

Attorneys

Patented Aug. 2, 1949 2,477,960

UNITED STATES PATENT OFFICE

2,477,960

FLOOR AND CAR MAT

James R. Caldwell, Wooster, Ohio, assignor to The Wooster Rubber Company, Wooster, Ohio, a corporation

Application February 17, 1949, Serial No. 76,869

2 Claims. (Cl. 15—215)

1

My present invention involves certain improvements in mats of the type commonly in use today, as door mats for houses or the like, and also useful in automobiles for laying upon the carpeted floor of the car, either in front or in rear of the front seat, or both.

Mats of the class to which I refer above are usually made of resilient material such as rubber or synthetic rubber, and are constructed so as to provide a series of recesses formed in the upper surface of the mat by molding or equivalent processing which recesses are produced by main ribs formed on the top surface of the mat and affording scraping parts for facilitating the scraping of dirt or foreign material from the soles of the shoes.

The primary object of my invention has been to deal with a problem arising in the construction of mats of the class referred to which due to bending may be caused to break at different places where the recess forming ribs are located.

In the carrying out of my invention therefore I have so designed the recessed portions of the mat provided by the main rib on the top surface with peculiar reinforcing beads which extend along the top of the main rib centrally thereof, and by providing reinforcing webs which extend cross wise of the recesses for reinforcing the walls of the recesses formed by the rib against breakage under bending stresses either in the handling of the mats, or in the actual use of the latter incident to foot pressure or the like.

An understanding of my invention will be had by referring to the following detailed description and to the accompanying drawings, and in the latter:

Figure 1 is a top plan view of a mat embodying my invention, the recessed formation of the top surface of the mat being partially illustrated only in order to bring out the novel features of my construction.

Figure 2 is a fragmentary detailed perspective view of a corner portion of the mat such as the lower right corner in Figure 1 bringing out more clearly the detail formation of the rib, the reinforcing beads on the top surfaces of the rib and the cross reinforcing web that spans or extends transversely of the recess section.

Figure 3 is a fragmentary sectional view taken about on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view taken on about the line 4—4 of Figure 1.

Referring to my drawings showing a preferred embodiment of my invention it will be noted that the body of the mat of the invention is designated

2

at 1. This body is fairly thick and of uniform thickness over the main section thereof which section is of the recessed formation previously referred to. From the thick recessed body section of the mat the edge portion of the mat slopes downwardly as seen best at 2 in Figures 3 and 4 providing inclined portion that terminates at the exact edge portion of the mat body.

The recesses in the upper surface of the mat body 1 may be said to be of substantially diamond shape and are preferably molded in the body in the customary manner.

The said recesses are designated at 2 and are formed by the main ribs 3 which are all of the same depth or vertical thickness and establish the depth of the recess as of a depth dimension vertically equal to the vertical thickness of the rib from their bases to their top surfaces.

It has been found in the construction of mats of the form described thus far, notably with the shallow recesses created by the ribs 3 that there is a tendency of the ribs to break at the corner portions thereof in the direction of the longer axis of the recesses 2. With the foregoing in mind I have made two provisions to counteract the above tendency of breakage which provisions comprise the employment of narrow beads 4 on the top of each of the ribs 3, which beads are much narrower than the width of the ribs and protrude upwardy a short distance from the top surface of the ribs. The beads 4 intersect or cross each other at the corners of the recesses 2 established by the junction points of the ribs 3 at such corners. The said beads 4 also afford additional thickness of the rib cross section by reason of their projection upwardly from the top surfaces of the rib and thus give a reinforcing function at said top surfaces, of an obvious nature.

In addition to the employment of the beads 4 in my mat construction and for the purpose of supplementally reinforcing the mat structure against breakage in the manner previously referred to are utilized webs 5 which extend across the recesses 2 in the direction of the shorter diameters of said recesses. The webs 5 are more shallow in depth than the depth of the rib 3 but are fairly broad in formation so as to provide the necessary reinforcing construction for the mat which as indicated above is desirable for affording an anti-breaking function.

Of course in the manufacture of my mat the mat body 1, the ribs 3, the beads 4 and the cross web 5 are made integral in the molding operation for the article so that the mat comprises a unitary structure fully completed by the

vulcanizing final operation customarily used for production of articles of this character.

The provision of the parts 4 and 5 has been found to be quite effective to accomplish the desired results of protecting the mat body against breakage along the longitudinal axes of the recesses 2, under practical conditions of use.

It is notable that the webs 5 are preferably of larger width than depth so as to form relatively wide though shallow reinforcing elements, and the top planes or surfaces of the web 5 are not only in the same general horizontal plane but they are in a slightly lower plane than the plane of the top surfaces of the main ribs 3.

On the bottom of the mat body 1 may be provided parallel ribs 6 to slightly space portions of the body from the surface on which it rests.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. As a new article of manufacture, a mat made of resilient material comprising a body formed with intersecting ribs projecting from its upper surface to provide a series of juxtaposed recesses, said ribs being of the same depth and intersecting each other at spaced points, each rib being formed with an upwardly projecting integral bead

of less width and less depth than the rib, and reinforcing webs extending across the recesses aforesaid on the bottoms thereof and integrally formed with the mat material at the base portions of the recesses.

2. A mat as claimed in claim 1, in which the recesses are of generally diamond shape with the ribs forming the walls thereof, and the webs are of less depth than the ribs and greater in width than the depth thereof so that their top surfaces lie in a plane lower than the top planes of the rib surfaces, said webs extending in a direction transverse to the longitudinal axes of the recesses, and connecting corner portions of the recesses being at points of juncture of the ribs.

JAMES R. CALDWELL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
451,633	Chalmer	May 5, 1891
665,370	Parker	Jan. 1, 1901
835,274	Burns	Nov. 6, 1906