

June 20, 1950

W. G. CORSON
RUBBER FLOOR MAT

2,512,310

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2 Sheets-Sheet 1

FIG. 1

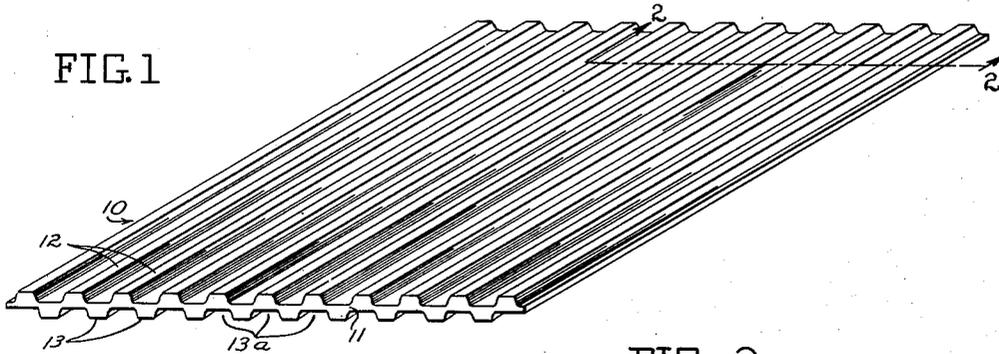


FIG. 2



FIG. 3

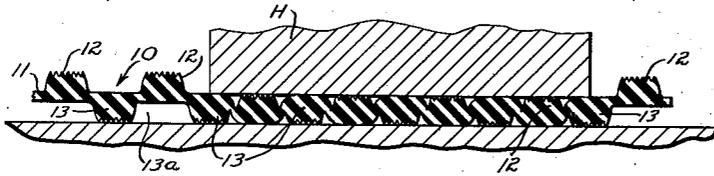
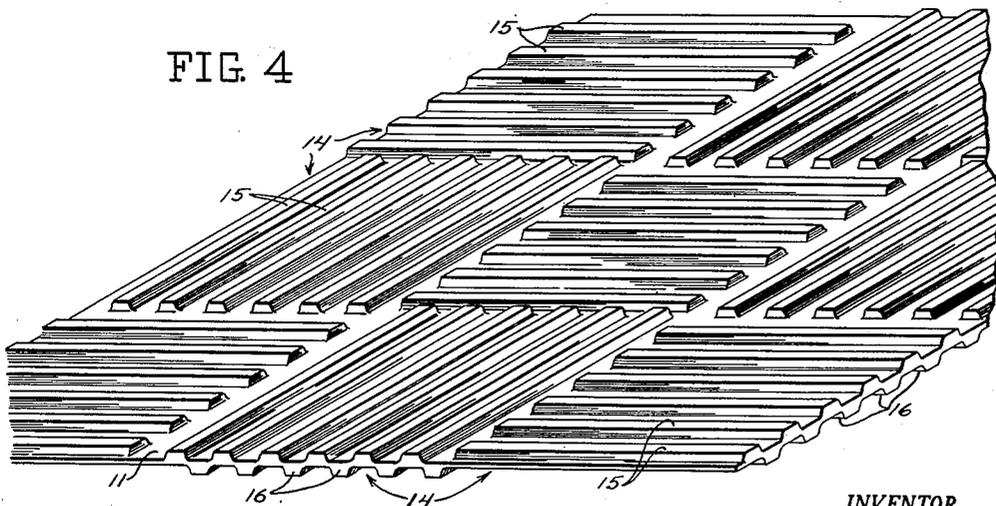


FIG. 4



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FIG. 5

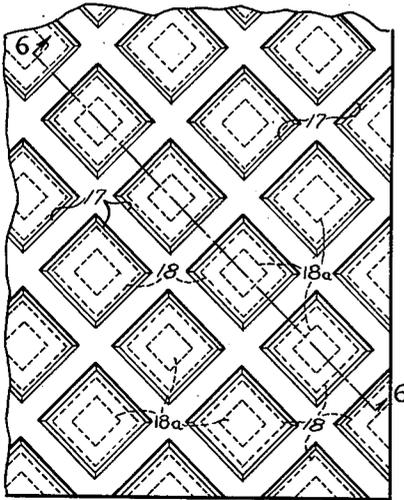


FIG. 6

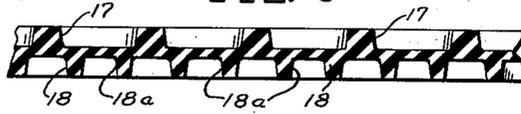


FIG. 7

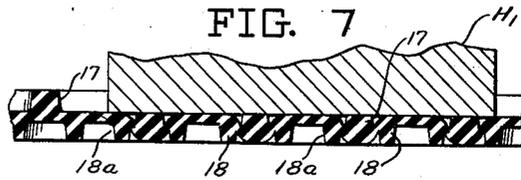


FIG. 8

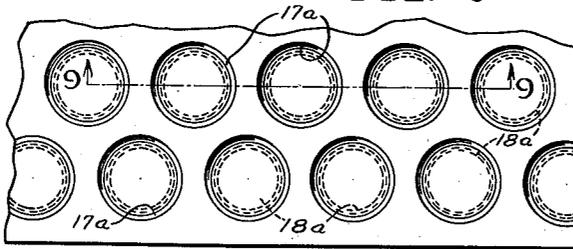


FIG. 9



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RUBBER FLOOR MAT

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5 Claims. (Cl. 15—215)

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This invention relates to rubber floor mats.

A general object of the invention is to provide an improved rubber floor mat having structural characteristics functioning upon application of foot pressure, to provide soft cushioning resiliency within the mat, in addition to the inherent resiliency of the material thereof.

Other objects of the invention will be manifest from the following brief description and the accompanying drawings.

Of the accompanying drawings:

Figure 1 is a top perspective view of a floor mat embodying the features of the invention.

Figure 2 is an enlarged fragmentary cross-section through the mat as viewed substantially on the line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 2, but illustrating the resilient cushioning action thereof upon application of foot pressure in use.

Figure 4 is a top perspective view of a modified form of floor mat embodying the features of the invention.

Figure 5 is a fragmentary top plan view of another modified form of floor mat.

Figure 6 is an enlarged fragmentary cross-section taken substantially on the line 6—6 of Figure 5.

Figure 7 is a view similar to Figure 6 illustrating application of foot pressure in the manner of Figure 3.

Figure 8 is a fragmentary top plan view of still another modified form of floor mat.

Figure 9 is a fragmentary cross-section taken substantially on the line 9—9 of Figure 8.

Referring particularly to the form of the improved floor mat shown in Figures 1, 2 and 3, the numeral 10 designates a vulcanized rubber pad including a thin flexible web 11 and spaced rib portions 12, 12 and 13, 13, integral with the web, co-extending at opposite sides thereof. The spaced ribs of both sides are straight and extend in parallelism, and the ribs of opposite sides are in such staggered relation that the respective ribs of either side are substantially complementary to the spaces defined between adjacent pairs of ribs of the other side. The ribs 12 and 13 may have transverse cross-sections on the order of an involute gear tooth, and in effect the adjacent opposite projections 12 and 13 are connected to each other by contiguous flexible portions of the web 11.

In use of the mat on a floor or other surface, as by a person standing on the same, pressure of a heel H, for example, will urge a number of upper ribs 12 downwardly into spaces 13a defined by

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correspondingly adjacent pairs of bottom ribs 13, substantially as shown in Figure 3. That is, said contiguous flexible web portions are sufficiently thin whereby the top ribs in the area subjected to said pressure of heel H are yieldingly urged downwardly within the substantially complementary spaces 13a and into contact with said surface, against resilient flexing along the contiguous flexible web portions and the inherent tendency of the pad to resume the normal vulcanized condition thereof best shown in Figure 2.

In the form of the invention shown in Figure 4, the rib construction is substantially as described above, except that the complete mat may include a series of integrally connected square sections 14, 14, each having oppositely disposed series of spaced rib portions 15, 15 and 16, 16, corresponding to ribs 12 and 13, the ribs of adjacent sections, however, extending in different angular directions with respect to each other. This mat otherwise functions as before, and like parts have been given like numerals.

Referring now to Figures 5, 6 and 7, there is illustrated a rubber floor mat comprising a relatively thin flexible pad having closely spaced square recesses 17, 17 in an upper face thereof, and having integral projections 18, 18 on the underside of the same. The bottom faces of the projections 18 may be recessed as indicated at 18a, to provide maximum adhesion of the mat to a surface by use of a vacuum principle, as well as to provide maximum foot-wiping action when the mat is reversed to present the projections on top thereof. The projections 18 are arranged directly opposite the respective recesses 17 and have outlines substantially complementary thereto, whereby upon application of foot-pressure, as shown at H in Figure 7, the projections 18 are relatively engaged or flexed within the complementary recesses 17 against resilient flexing of the thin contiguous web portions of the mat connecting said opposite complementary recesses and projections.

The form of the invention illustrated in Figures 8 and 9 is substantially the same as that shown in Figures 5 to 7, except that the recesses 17a are round instead of square, and the complementary projections 18a are solid rather than recessed. The cushioning action is the same as shown in Figure 7.

Thus, has been shown and described several forms of the improved floor mat, which are soft and yielding with respect to the weight of a person standing upon the same. This resiliency may be readily controlled in production by varying the thickness of the webs of the mats, or by

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varying the clearance between the complementally interengageable parts.

All forms of the mat are ideally suited for use of persons such as bank tellers, for example, who must necessarily stand at one place for long periods of time. Each form of the invention described is adapted to be used with either side up.

Other modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A floor mat comprising a pad including a flexible web of resilient material and cooperating projections at opposite sides of the same, the projections of one said side of the web having opposed edge portions defining spaces therebetween and the projections of the other side of the web being complementary to said spaces, the complementary edge portions of said cooperating projections of said opposite sides of the web being connected by contiguous flexible portions of the web, said flexible web portions being of sufficient thickness whereby upon application of downward pressure to an area of the pad while the same is at rest on a surface said cooperating projections on opposite sides of the web at the pressure area will be yieldingly relatively urged toward each other in the plane of the pad against resilient flexing along said flexible web portions, the projections of said other side of the web thereby engaging to a substantial extent within said complementary spaces of said one side of the web.

2. A mat of the character described comprising a pad of rubber or like resilient material including a flexible web and cooperating projections at opposite sides of the same, the projections of one said side of the web having opposed edge portions defining spaces therebetween and the projections of the other side of the web being generally complementary to said spaces, the complementary edge portions of said cooperating projections at said opposite sides of the web being connected by contiguous flexible portions of the web, said flexible web portions being of sufficient thickness whereby upon application of pressure to an area of the pad while the same is at rest on a surface said cooperating projections on opposite sides of the web at the pressure area will be yieldingly relatively urged toward each other in the plane of the pad against resilient flexing along flexible said web portions, the projections of said other side of the web thereby engaging to a substantial extent within said complementary spaces of said one side of the web.

3. A floor mat comprising a pad of resilient material including elongated projections coextending at opposite sides of the same, adjacent

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projections of one side of the pad defining spaces therebetween and cooperating projections of the other side of the pad being substantially complementary to said spaces, complementary edge portions of said opposite cooperating projections being connected by contiguous flexible web portions of the pad, said contiguous flexible web portions being of said relative thickness whereby upon application of pressure to an area of the pad while the same is at rest on a surface the opposite cooperating projections at the pressure area will be yieldingly relatively urged toward each other in the plane of the pad against resilient flexing along said contiguous flexible web portions and the resiliency of the material of the pad, the projections of said other side of the pad thereby engaging within said complementary spaces.

4. A floor mat comprising a pad including a flexible web portion of resilient material, parallel rib portions on opposite top and bottom sides of said web, the rib portions on one side of said web being staggered with respect to the rib portions on the other side thereof, the oppositely adjacent ribs being connected to each other by contiguous flexible web portions of such thickness whereby upon application of pressure to an area of the pad while the same is at rest on a surface the ribs of said top side will be yieldingly urged into the spaces between corresponding adjacent ribs of the bottom side against resilient flexing of said contiguous flexible web portions and the resiliency of the material of the pad.

5. A floor mat comprising a pad of flexible, resilient material, said pad having spaced recesses in one face thereof and the other side thereof having projections of outer outline complementary to the inner outline of the recesses, said projections being connected to the pad by contiguous flexible web portions of such thickness whereby upon application of pressure to an area of the pad while the same is at rest on a surface said projections at the pressure area will be yieldingly urged into corresponding said recesses against resilient flexing of said contiguous flexible web portions and the resiliency of the pad material.

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