Nov. 1, 1966 R. P. FITZPATRICK 3,282,381

MULTI-CELLULAR ABSORPTIVE MAT

Filed July 20, 1964

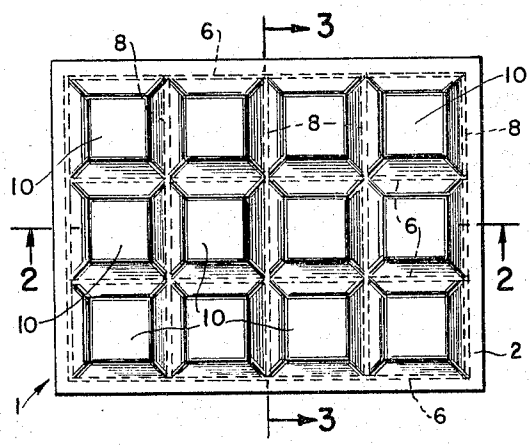


FIG. 1.

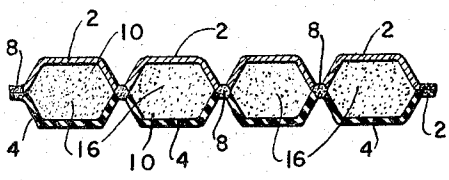


FIG. 2.

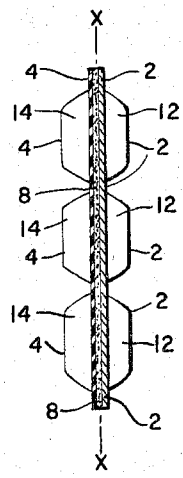


FIG. 3.

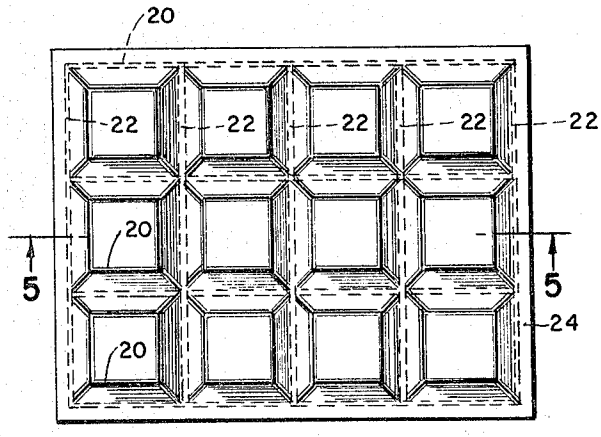


FIG. 4.

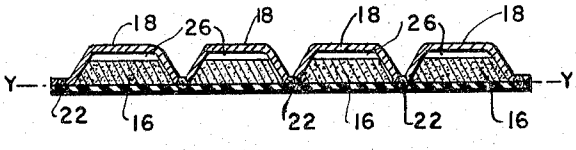


FIG. 5.

INVENTOR
Raymond P. Fitzpatrick

BY Clive H. Bramsow

ATTORNEY

United States Patent Office

3,282,381

Patented Nov. 1, 1966

3,282,381

MULTI-CELLULAR ABSORPTIVE MAT

Raymond P. Fitzpatrick, 59 Aberdeen Road, Hauppauge, N.Y.

Filed July 20, 1964, Ser. No. 383,787
6 Claims. (Cl. 184—106)

This application for Letters Patent is a continuation in part of my Patent Number 3,141,522, dated July 21, 1964 and filed October 29, 1962, said patent being entitled Disposable Absorptive Mat.

This invention relates generally to oil-drip catching devices and more particularly to a new and improved absorptive mat especially adapted to the end of absorbing automobile engine oil-drip to thus preclude soiling and staining of garage floors.

A primary object of the present invention is to provide an oil-absorptive mat of multi-cellular construction which will readily maintain the granular oil-absorptive substance contained therewithin in evenly distributed form.

Another object of the instant invention resides in the provision of an oil-absorptive mat capable of retaining substantial volumes of oil, any oil absorbed thereby being held beneath the upper wall thereof and insulated against contact with the supporting floor surface.

A further object of the present invention resides in the provision of a mat capable of absorbing large volumes of oil relative to its shallow depth, and having the advantageous property of being incapable of being spilled.

A still further object of the invention is to provide a device of the foregoing character which may be expediently fabricated of an oil-absorptive wall and an oil-resistant wall, said walls being readily united to form oil-absorptive material containing compartments therebetween.

Another object of the present invention is to provide an oil-absorptive mat which can be utilized for many applications other than as above described with respect to automobile engine oil-drip.

Another general object of the present invention is to provide a device of the described character which will be readily foldable for storage and handling.

Of further importance, the instant invention will be seen to be simple in structure, economical of manufacture, easily and quickly installed and highly effective in use.

Other objects and advantages of the instant multi-cellular absorptive mat will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice of the invention, the same being realized and attained by means of the structure defined and pointed out in the appended claims.

The several features of the invention, whereby the above-mentioned and other objects may be attained, will be clearly understood from the following description and accompanying drawings, in which:

FIGURE 1 is a top plan view of the preferred embodiment of the multi-cellular absorptive mat;

FIGURE 2 is a cross-sectional elevational view taken along line 2—2 of FIGURE 1;

FIGURE 3 is a cross-sectional elevational view taken along line 3—3 of FIGURE 1;

FIGURE 4 is a bottom plan view of an alternate embodiment of the instant invention; and

FIGURE 5 is a cross-sectional side elevational view taken along line 5—5 of FIGURE 4.

Referring now in detail to the present preferred embodiment of the invention illustrated in the accompanying drawings, FIGURE 1 shows the multi-cellular absorptive mat designated generally by numeral **1**, the plurality of individual compartments thereof being seen therein.

As more specifically shown in FIGURES 2 and 3 of the drawings, the structure of the absorptive mat comprises an

upper wall **2** and a lower wall **4**, said walls being disposed in superposed relation and being further integrally connected along spacedly disposed longitudinal and transverse seams **6** and **8**, respectively. Said seams are preferably formed by heat sealing said upper and lower walls together as shown or by other suitable sealing means, as e.g., stitching, cementing or the like. Accordingly, and by dint of the foregoing seamed configuration, a plurality of individual sealed compartments **10** are provided, each compartment being pehipherally abounded and defined by said intersecting seams and portions **12** and **14** of said upper and lower walls **2** and **4**, respectively, said portions being disposed in spaced relation as shown in FIGURES 2 and 3 of the drawings whereby said portions respectively extend outwardly with respect to plane X—X which includes said longitudinal and transverse seams and on opposite sides of said plane.

The upper wall **2** is constructed of oil-absorptive material such as paper of high porosity or of other suitable material of like character. Lower wall **4**, however, is formed of polyethylene sheet or other suitable oil-resistant material or may be made of paper as in the case of the upper wall but of paper which has been coated with an oil-resistant material as e.g., polyethylene resin, cellulose acetate, carboxymethyl cellulose, methyl cellulose, vinyl alcohol or any other suitable oil-resistant coating comprising the present art.

With further reference to the drawings, it will be seen that the individual compartments **10** are arranged in checkerboard configuration such arrangement being by virtue of the perpendicular spaced relation of seams **6** and **8**. It will, however, be appreciated that other configurations of the individual compartments are as well within the contemplation of the present invention.

Contained within each of said individual compartments or cells, is a powdered or granular oil-absorptive substance **16**, said substance being preferably attapulgite

$$(Mg,Al)_5Si_8O_{22}(OH)_4 \cdot 4H_2O$$

a clay mineral. It will be understood, however, that other suitable oil-absorbent substances are within the purview of the present invention, the powdered or granular form thereof being of major consequence in view of the substantial surface area and absorptive capacity thereof.

With reference now to FIGURES 4 and 5 of the drawings, wherein an alternate embodiment is illustrated, it will be appreciated that in substance the details of the aforedescribed preferred embodiment is the same, upper wall **18** thereof, however, being arranged to extend upwardly and outwardly of plane Y—Y which includes seams **20** and **22**, the longitudinal and transverse seams, respectively of the alternate embodiment. Lower wall **24**, which is constructed of rigid oil-resistant material or of rigid material which has been coated for oil resistivity is flat as shown, the said upper wall **18**, which is formed of oil-absorptive material being arranged to extend outwardly with respect to said seams. Thus, individual compartments **26** will be observed to be defined within the confines of the intersections of said longitudinal and transverse seams **20** and **22**, respectively, and of upper absorptive wall portions formed of upper wall **18** and of lower oil-resistant wall portions formed of lower oil-resistant wall **24**.

Attapulgite **16**, as aforedescribed, is utilized within said compartments **26** as the oil-absorptive material of granular or powdered character, said material being sealed therewithin for the ends described hereinabove with respect to the present preferred embodiment.

Whereas it will be appreciated that the preferred embodiment constructed in accordance with the disclosure of FIGURES 1–3 will contain in each compartment a substantially greater quantity of oil-absorptive material per

unit area than will be contained within the compartments of the alternate embodiment, the strength and stability of the latter embodiment will be relatively greater by virtue of the rigidity of the lower oil-resistant wall of the latter.

Although the preferred embodiment of the multi-cellular absorptive mat has been described, it will be understood that within the purview of this invention various changes may be made in the forms, details, proportion and arrangement of parts, the combination thereof and mode of operation, which generally stated consists in a device capable of carrying out the objects set forth as disclosed and defined in the appended claims.

What is claimed is:

1. A multi-cellular absorptive mat comprised of an upper wall of oil-absorptive material and a lower wall of oil-resistant material, said upper and lower walls being disposed in superposed relation, said walls being integrally connected along spaced intersecting longitudinal and transverse seams to form a plurality of individual sealed compartments, said seams lying in the same plane, each compartment being peripherally defined by said intersecting seams and portions of said upper and lower walls, said upper and lower wall portions being in spaced relation and an oil-absorptive substance being sealed within each said individual sealed compartment.

2. A multi-cellular absorptive mat as set forth in claim 1 wherein said portions of said upper and lower walls extend outwardly with respect to the plane including said longitudinal and transverse seams, said upper and lower portions, respectively, being disposed on opposite sides of said seams.

3. A multi-cellular absorptive mat as set forth in claim 1 wherein said portions of said upper wall extend outwardly with respect to said longitudinal and transverse seams, said portions of said lower wall being disposed in the plane including said seams.

4. A multi-cellular absorptive mat as set forth in claim 1 wherein said oil-absorptive substance is granular of character.

5. A multi-cellular absorptive mat as set forth in claim 4 wherein said oil-absorptive substance is attapulgite.

6. A multi-cellular absorptive mat comprised of an upper wall of oil-absorptive material and a lower wall of oil-resistant material, said upper and lower walls being disposed in superposed relation, said walls being integrally connected along spaced intersecting longitudinal and transverse seams to form a plurality of individual sealed compartments arranged in checkerboard configuration, said seams lying in the same plane, each compartment being peripherally defined by said intersecting seams and portions of said upper and lower walls, said upper and lower wall portions being in spaced relation and an oil-absorptive substance being sealed within each said individual sealed compartment.

References Cited by the Examiner

UNITED STATES PATENTS

2,057,162	10/1936	Richey.	
2,619,653	12/1952	Young.	
2,986,235	5/1961	Weibert	184—106
3,062,323	11/1962	Oganovic	184—106

LAVERNE D. GEIGER, *Primary Examiner.*

H. S. BELL, *Assistant Examiner.*