

[54] **DISPOSABLE OIL DRIP PAN**

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206/813

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206/DIG. 18; 220/1 C, 9 F, 65; 229/3.5 MF;
184/106

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[57]

ABSTRACT

A disposable oil drip pan formed of a stiffened oil-resistant material which includes a plurality of interconnected accordion folds. Each of the accordion folds includes a pair of side walls and a ridge formed at the intersection of the pair of side walls with each accordion fold being movable between a flattened position with the side walls in contacting relation and an open position with the side walls inclined upwardly toward the ridge.

A plurality of valleys are formed in the oil drip pan with each valley being positioned between an adjacent pair of accordion folds. Each valley is formed by the intersection of a side wall of one accordion fold with a side wall of an adjacent accordion fold and foldable gusset closures are positioned at the ends of each of the valleys. The gusset closures are shaped and positioned to close the ends of the valleys with the accordion folds in an open position and to lie flat between adjacent accordion folds when the accordion folds are in a flattened position. Means are also provided to retain the accordion folds in an open position with the oil drip pan positioned on a supportive surface.

5 Claims, 3 Drawing Figures

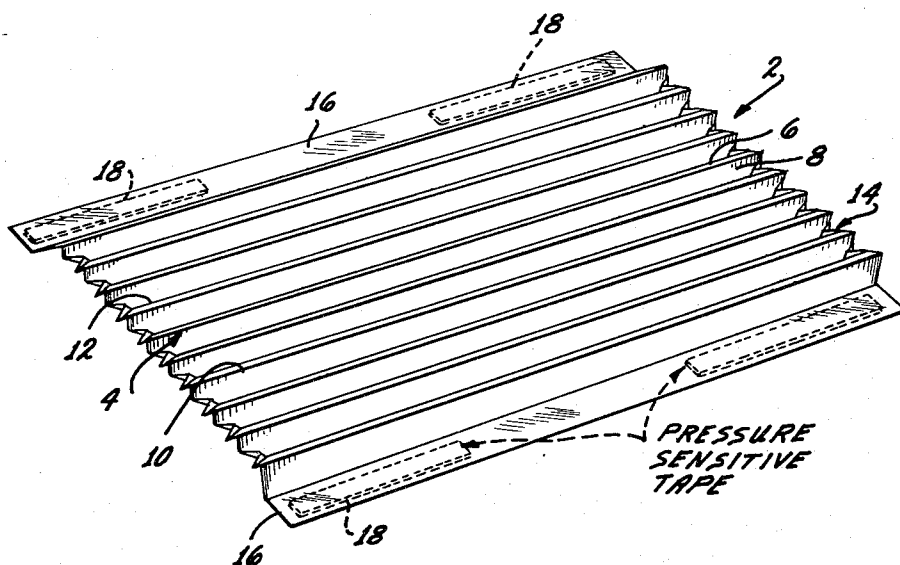


Fig. 1

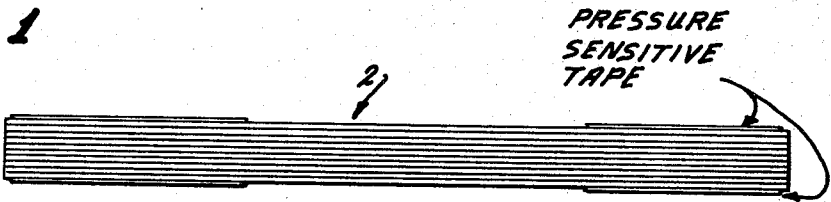


Fig. 2

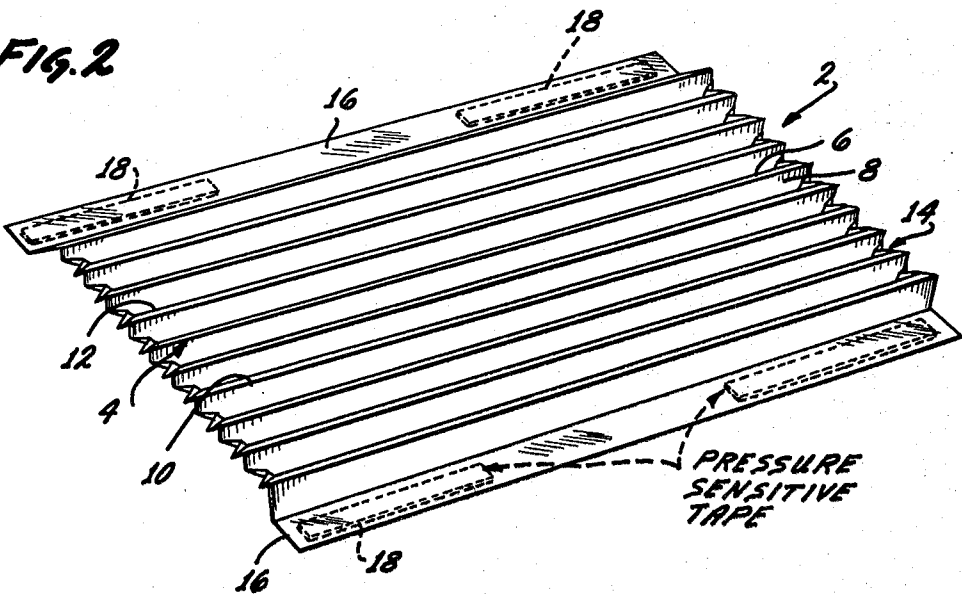
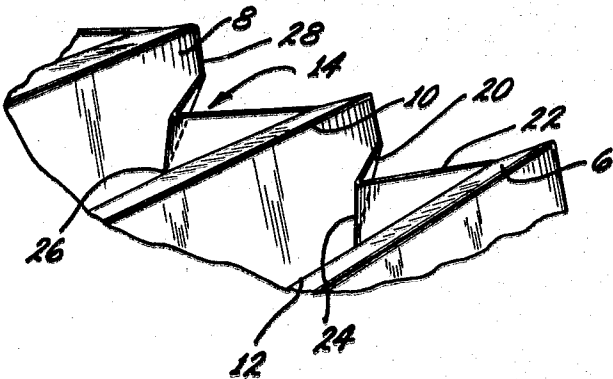


Fig. 3



DISPOSABLE OIL DRIP PAN

BACKGROUND OF THE INVENTION

For various reasons, such as leaky seals, etc., oil may drip from the underside of an automobile engine onto the floor of a garage or other enclosure in which the automobile is kept when not in use. This creates an unsightly stain on the floor. In addition, the oily surface holds dirt and makes it difficult to clean the garage area.

In keeping an automobile storage area clean, previous oil drip pans, which have been used by garages, have generally been formed of heavy sheet metal and provide a relatively large flat surface surrounded by an upstanding sidewall. In usage, the rigid upstanding sidewall of the previous oil drip pans may create problems if an automobile drives over the sidewall. This may tilt the pan upwardly and spill the contents of the pan onto the floor. Also, if a portion of the outer sidewall is bent to a flattened position by the wheel of an automobile, the contents of the pan then drains through the opening created by the flattened outer surface. Damage to any portion of the outer sidewall, therefore, makes the pan unusable for containing oil drippings.

Additionally, an oil drip pan may be moved from one place to another on a garage floor so that it is not properly positioned to receive oil drippings from the engine. For example, if the pan were accidentally kicked, it could be moved out of its desired position and would then be completely ineffective as a drip pan.

In providing a suitable oil drip pan, it would be desirable to have a pan which is relatively inexpensive, and light in weight for usage by an average homeowner and which has a plurality of valleys which could each contain oil drippings. Then, if the walls forming one of the valleys were damaged, the other valleys would still function to contain oil drippings. Also, it would be desirable to have a pan constructed of a stiffened oil-resistant material, which is, however, crushable or resilient if contacted by an automobile wheel. This would serve to prevent the pan from being tilted to an upright position by a force applied to it through an automobile wheel.

Additionally, it would be desirable to have an oil drip pan which could be secured to a supportive surface such as a garage floor. This would prevent the accidental movement of the pan from its desired position beneath the automobile engine. Lastly, it would be desirable to have an oil drip pan which is disposable and is foldable to a flattened configuration. Such a pan could then be conveniently stored in a flat position, open for usage, and then returned to a flat position for disposal.

SUMMARY OF THE INVENTION

In accord with the invention, there is provided a disposable oil drip pan which forms a compact package for carrying or storage. The oil drip pan may be formed of a stiffened oil-resistant material and may comprise a plurality of interconnected accordion folds with each of the accordion folds including a pair of side walls and a ridge formed at the intersection of the pair of side walls. Each of the accordion folds may be moved between a flattened position with the side walls in contacting relation and an open position with the side walls inclined upwardly toward the ridge.

A plurality of valleys are defined by the oil drip pan with each valley being positioned between an adjacent pair of accordion folds. Each valley is, thereby, formed by the intersection of a side wall of one accordion fold with a side wall of the adjacent accordion fold.

Foldable gusset closures are positioned at the ends of each of the valleys with the gusset closures being shaped and positioned to close the ends of the valleys with the accordion folds in an open position. With the accordion folds in a flattened position, the gusset closures are foldable to a flattened position with each gusset closure positioned between a pair of adjacent accordion folds.

On opening the oil drip pan with the accordion folds in an open position, means are provided to retain the accordion folds in an open position with the oil drip pan positioned on a supportive surface.

End folds may be provided along either side of the oil drip pan with the end folds being shaped and positioned to lie flat against a supportive surface for the oil drip pan with the accordion folds in an open position. In positioning the end folds against a supportive surface, adhesive means may be provided on the end folds to provide adhesion between the end folds and the supportive surface.

The disposable oil drip pan of the invention may be formed from a single sheet of stiffened oil-resistant material. Conveniently, the oil-resistant material may be a stiffened paper having an aluminum foil coating on the oil contacting surfaces of the paper.

BRIEF DESCRIPTION OF THE DRAWINGS

In illustrating an embodiment of the invention, reference is made to the drawing in which:

FIG. 1 is a side elevational view of a disposable oil drip pan in a folded condition;

FIG. 2 is a perspective view of the oil drip pan in an opened position, and

FIG. 3 is an enlarged fragmentary perspective view showing the relationship between the accordion folds of the oil drip pan, the valleys formed between adjacent accordion folds, and the foldable gusset closures positioned at either of the ends of the valleys.

DETAILED DESCRIPTION

A disposable oil drip pan is illustrated in FIG. 1 in a folded condition and is designated generally as 2. As shown, the oil drip pan 2 has a generally flat profile in its folded condition such that it may be conveniently shipped and stored.

In its open position, as illustrated in FIG. 2, the drip pan 2 is positioned to receive oil with the oil drip pan being retained upon a supportive surface. A plurality of accordion folds generally designated as 4 are defined in the surface of the pan 2 with each accordion fold having a pair of side walls 6 and 8 which are joined together to form a ridge 10. When the disposable drip pan 2 is in its folded condition, as shown in FIG. 1, the side walls 6 and 8 of the accordion folds 4 are in contacting relation. However, with the oil drip pan 2 in its open position, as shown in FIG. 2, each of the side walls 6 and 8 of a side wall pair are inclined upwardly toward the ridge 10 formed by their intersection.

A plurality of valleys 12 are formed in the surface of the oil drip pan 2 with each of the valleys 12 being positioned between an adjacent pair of accordion folds 4. Each valley 12 is formed by the intersection of a side

wall 6 of one accordion fold 4 with a side wall 8 of an adjacent accordion fold. The ends of the valleys 12 are closed when the drip pan 2 is in an open position through foldable gusset closures generally designated as 14. Thus, with the oil drip pan 2 in its open position, oil which is received within the valleys 12 is separately retained within each of the valleys by the gusset closures 14.

End folds 16 may be provided along either side of the disposable oil drip pan 2 with the end folds being shaped and positioned to lie flat against a supportive surface with the oil pan in its open position. Adhesive means, such as the pressure sensitive tape designated 18 may be provided on the under-surfaces of the end folds 16. The pressure sensitive tape 18 may, thus, function to secure the end folds 16 against a supportive surface for the oil drip pan 2.

Turning to FIG. 3, the foldable gusset closures 14 are each composed of a pair of side folds 20 and 22 which are joined along crease lines 24. The crease lines 24 each intersect the bottom of the valleys 12 at a point of jointure designated 26 which may be spaced inwardly from the edges 28 of the side walls 6 and 8. Thus, when the oil drip pan 2 is moved to its closed position, each of the side folds 20 and 22 of a side-fold pair lie in contacting relation between the side faces 6 and 8 of adjacent accordion folds 4. On opening of the disposable oil drip pan 2 to the position shown in FIG. 3, the side folds 20 and 22 are in a generally up-right position so as to enclose the ends of the valleys 12 and to, thereby, prevent leakage of oil out of the valley ends.

The disposable oil drip pan 2 may be formed of any stiffened oil-resistant material. I have found, for example, that a stiffened paper having an aluminum foil coating works very well as a material of construction. The aluminum coating is oil-resistant and is, therefore, positioned on the oil-contacting surfaces of the stiffened paper.

As illustrated, the disposable drip pan 2 may be formed of a single sheet of stiffened oil-resistant material. However, the pan 2 may be formed of several pieces of oil-resistant material, if desired, with the pieces being joined together in any convenient manner such as by use of a paper tape having a gummy adhesive surface.

If desired, an emblem or printing of any sort may be provided on the surface of the drip pan 2 which is exposed when the pan is in its open position as shown in FIG. 2. The upper surface of the drip pan 2 would then convey an advertising message with the oil pan in its open condition. Also, if desired, a porous material (not shown) may be placed on the surface of the drip pan 2 which is exposed with the pan in an open position. The porous material may be utilized to absorb oil and to reduce the possibility of oil spillage from the pan 2.

I claim:

1. A disposable oil drip pan formed of an impermeate stiffened oil-resistant sheet material and comprising:
 - a plurality of interconnected accordion folds;
 - each of said accordion folds including a pair of side walls and a ridge formed at the intersection of the pair of side walls;
 - each of said accordion folds being movable between a flattened position with the side walls in contacting relation and an open position with the side walls inclined upwardly toward the ridge;
 - a plurality of valleys with each valley positioned between an adjacent pair of accordion folds;
 - each valley being formed by the intersection of a side wall of one accordion fold with the side wall of an adjacent accordion fold and each valley having an undersurface which runs along said intersection;
 - foldable gusset closures positioned at the ends of each of said valleys;
 - said gusset closures being shaped and positioned to close the ends of the valleys with the accordion folds in an open position and to extend inwardly of the outer ends of said valleys and lie flat between adjacent accordion folds with the accordion folds in a flattened position, and
 - means to retain the accordion folds in an open position with the oil drip pan positioned on a supportive surface through contact of the undersurfaces of said valleys with the supportive surface,
 - whereby the oil drip pan forms a compact package for carrying or storage with the accordion folds in a flattened position and may be opened to separately receive oil in the valleys by moving the accordion folds to an open position and retaining the accordion folds in an open position with the oil drip pan positioned on a supportive surface.
2. The disposable oil drip pan of claim 1 including end folds positioned along either side of the oil drip pan with the end folds being shaped and positioned to lie flat against a supportive surface for the oil drip pan with the accordion folds in an open position.
3. The disposable oil drip pan of claim 2 including adhesive means positioned on the end folds to provide adhesion between the end folds and a supportive surface with the accordion folds in an open position.
4. The disposable oil drip pan of claim 1 wherein the oil-resistant material is a stiffened paper having an aluminum coating on the oil-contacting surface of the paper.
5. The disposable oil drip pan of claim 1 wherein said gusset closures each include a pair of side folds with each side fold of a side-fold pair being joined to the other side fold of the pair along a crease line and each side fold being joined to a side wall of an accordion fold.

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