

Feb. 14, 1939.

E. PIQUEREZ

2,147,349

PACKING OR WRAPPING FOR VISCOUS LIQUIDS AND PASTY MATERIALS

Filed Nov. 7, 1935

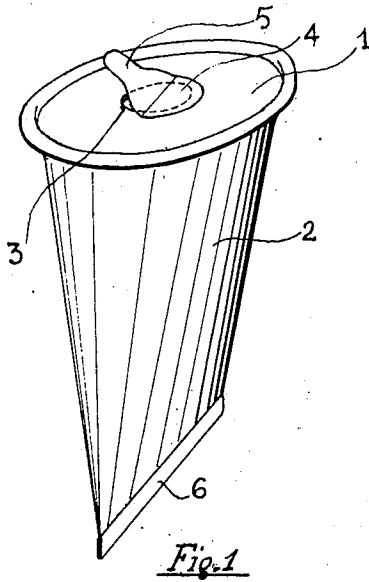


Fig. 1

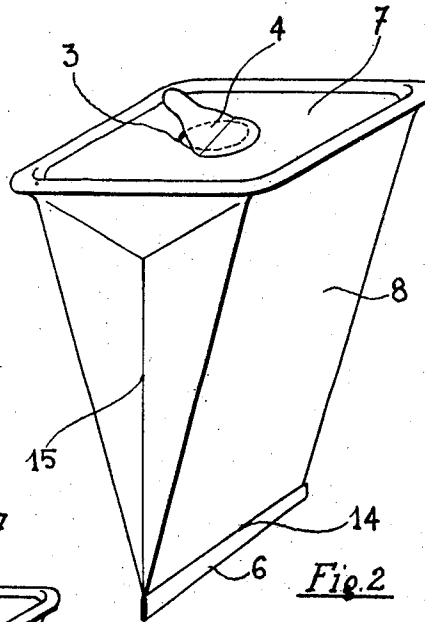


Fig. 2

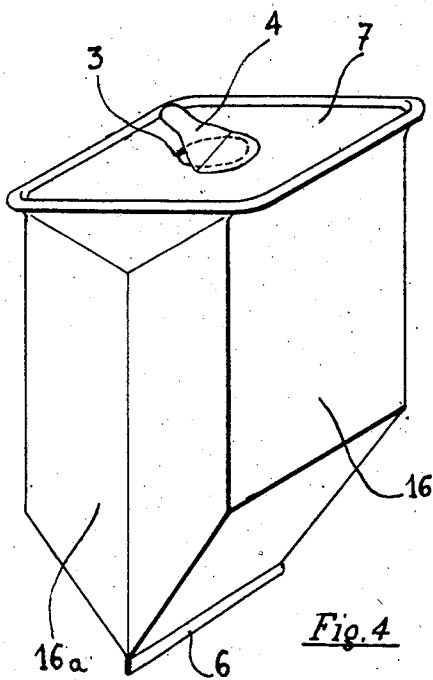


Fig. 4

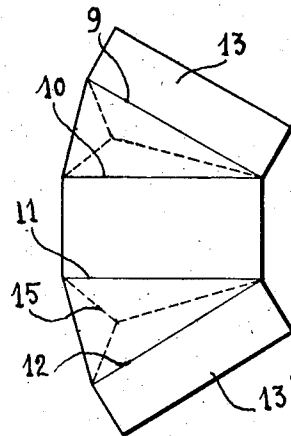


Fig. 3 Inventor
Emile Piquerez
By Summers & Young
Attys.

UNITED STATES PATENT OFFICE

2,147,349

PACKING OR WRAPPING FOR VISCOUS
LIQUIDS AND PASTY MATERIALS

Emile Piquerez, Saint Cloud, France

Application November 7, 1935, Serial No. 48,757
In France November 14, 1934

1 Claim. (Cl. 221—47.3)

The present invention relates to a novel improved economical package or carton, intended for the marketing of viscous liquids and doughy materials, such as oils or greases, the package being capable of being emptied easily and completely. At present, for small volumes of materials, cartons of soft metals, such as lead or tin, are used and from which the contents are expelled by crushing the carton. Such cartons, however, are useless for larger volumes, on the one hand by reason of their high cost price and, on the other hand, in consequence of their lack of solidity. In fact, in the course of handling, the larger the carton and the heavier the material, the more the ductile metal which constitutes the wall will be lengthened or otherwise deformed.

The improved carton which forms the subject of the invention, obviates these inconveniences. It is essentially constituted by a receptacle comprising a rigid end wall having an outlet aperture formed therein, normally closed in a suitable manner, the side walls of the said receptacle being formed of a flexible and practically inextensible material having the form of a surface capable of development and being foldable against the end wall of the receptacle when the latter is empty.

According to a first constructional form, the rigid end wall is circular, whilst the side walls have the form of the surface known in geometry under the name of the "Wallis corner".

According to another constructional form, the rigid end wall is square or rectangular, whilst the side walls are triangular prisms of which one of the faces is constituted by the end wall itself.

In another constructional form, the rigid end wall is square or rectangular, the wall having the form of a right prism having the bottom as its base, and surmounted by a triangular prism.

In all the constructional forms comprising plane faces, certain of these faces must form folds in order that the whole of the surface may, without tearing, be applied against the end wall. These folds will be facilitated by preliminary tracing or marking.

It may be convenient to make the different faces with sheets of material of different rigidity in order that certain faces may be folded before the others.

The side walls of cartons, according to this invention, will be advantageously and economically constituted by paper rendered impermeable to the product which it is required to contain by any suitable known means. The rigid end wall will be of cardboard, metal or any other

material and connected to the lateral wall by gripping, gluing or in any other manner, for instance, by rolling the edges of the end wall around the edges of the side wall so as to form a flexible bead projecting endwise beyond the end and sidewise beyond the sides, as is disclosed in more detail in my copending application Serial No. 48,758, filed November 7, 1935.

The side walls may be afforded by an impermeable fabric or by a mixture of paper and fabrics constituting a kind of reinforced paper.

The emptying orifice provided in the end wall, can be simply traced or marked on the latter, and only pierced at the time of use. This will be possible whenever it is possible to fill the receptacle, through a path other than that of the outlet orifice. It is particularly thus for the receptacle in the form of a Wallis corner, which can be obtained by crushing a truncated cone, until the small base is reduced to a straight line. This form of receptacle will be capable of being filled by that path, before closing of the small base.

The outlet may be closed by a cover stuck on the end wall, or soldered thereon if it is metallic. It may also be sealed by any suitable inviolable capsule means which renders impossible any fraudulent use of the receptacle.

Examples of constructions of packages according to the invention, are described hereinafter, with reference to the annexed drawing, on which:—

Figures 1, 2 and 4 show receptacles having, in Figure 1, the shape of a Wallis corner, in Figure 2 that of a triangular prism, and in Figure 4 that of a rectangular prism surmounted by a triangular prism. Figure 3 shows the sides of the form shown in Figure 2, opened out flat.

Referring to Figure 1, the carton comprises a circular end wall 1, of rigid cardboard or thin metal, and side walls 2 of strong paper rendered impermeable. Said side walls are obtained by cutting a paper blank having the form of the developed surface of a truncated cone, by rolling that surface to form the truncated cone, by then putting in place at the larger base of the cone the end wall 1 which is connected to the edges of side walls by strong gripping. The dimensions of the truncated cone are determined in such a manner that the length of the circumference of the small base is equal to double the diameter of the larger base. The end wall 1 has in its centre a hole 3 closed by a cover 4. If it is of cardboard, the cover 4 will be formed of a sheet of strong paper, stuck on the bottom,

the tongue 5 remaining raised in order to allow tearing off. If it is of metal, the cover will be formed of a plate of tin-plate soldered at its periphery, and which may be torn off by pulling on the tongue 5.

After manufacture, the receptacle is varnished or rendered impermeable in any suitable known manner, by using a material insoluble in the product which is to be contained in the packing.

Filling is effected through the small base of the cone which is left open; then the latter is pinched until the two lips are completely joined, whereupon the latter are closed by a metallic clasp 6 of U-shape, folded and clenched.

In the construction shown in Fig. 2, the end wall 7 of the container is of square form, with the corners slightly rounded, while the lateral walls 8 are formed by a sheet of paper having the developed form shown in Fig. 3. The sheet is folded on the lines 9—10—11—12 in order to form a triangular prism, and the two sides 13—13' are connected and stuck together. Preferably, the connection is made in one of the faces rather than along an edge, in order not to diminish the resistance of the whole. The end wall 7, of cardboard or of metal, having at its center the discharge hole 3 which is closed by the cover 4, is turned back and interfolded with and around the edges of the side walls 7.

Filling of the container is effected by separating the two sides forming the edge 14, that is connected thereafter by a metallic band 6 of U-shape folded and set over or clasped.

In order to expel the material contained in the carton by the orifice 3 it is sufficient to crush it by bringing together the lateral walls of the prism. The triangular faces must then bend along the lines 15. In order to facilitate the bending a marking is made on the paper following the dotted outlines 15 of Figure 3.

In the example of Figure 4, the end wall 7 is identical with that of Figure 2, but the sides are formed of a sheet 16 bent and stuck so as to form a rectangular prism the lower edges of which are brought together after filling and secured by a clasp 6 as in the preceding examples. This fastening necessitates a bending of the end faces 16a of the prism, on which the bends are traced during cutting of the paper.

Other forms of the receptacle are readily apparent, for example that of a regular tetrahedron, the bottom of which would be triangular, or of a pyramid the bottom of which would have a polygonal form, the lateral wall being formed by a sheet cut according to the geometric development of this surface. The cuts would be traced on each of the faces to facilitate the

bending and permit the complete crushing of the carton.

In the case of a form having an apex opposite the end wall, the side walls would be reinforced at this point and joined by a member of metal or moulded material shaped to the form of the surface and stuck on the wall. Filling would then be carried out through the outlet orifice, which would not be closed until after charging.

The side walls, instead of being paper, could be any other material sufficiently flexible to be capable of being crushed and bent on itself, but not extensible. Fabrics coated with any suitable material could be used; for example, oiled fabric. Paper reinforced by fabric could also be used.

The side walls could be formed in a mould of the particular shape; for example, in the case of a paper wall, this latter may be obtained by running a cellulose paste into a mould of appropriate form which permits the stuck seams and the clasp 6 to be dispensed with. Such methods of manufacturing paper articles are known in themselves and the invention contemplates in this connection only the novel application of these methods.

I claim:

A container for grease and like material that is too thick to flow by gravity comprising, a flat rigid end wall having a discharge opening, side walls of flexible, non-extensible, impermeable, material including two symmetrical walls terminating at and joined to said end wall, the sides forming a filling opening at their ends opposite said end wall, a straight member uniting the side walls at their ends opposite the rigid end wall and closing the filling opening so that said side walls are held substantially flat from the straight member to the rigid end wall, a flexible bead formed on the periphery of the rigid end wall by the union of the side walls of the container with said end wall, said bead projecting endwise with respect to the end wall and extending outwardly with respect to the side walls, and a flat closure member for the end wall discharge opening, said closure being of less thickness than the extent of the projection of the bead endwise beyond the end wall, and being completely removable to leave said end wall entirely smooth after the removal thereof, whereby, as a result of its bead and flat, smooth, rigid end wall, the container may be centered automatically in a casing, to be connected hermetically with a distributing connection of the casing and uniformly compressed through pneumatic pressure.

EMILE PIQUEREZ.