Oct. 31, 1967 B. SALWAY 3,349,985

PACKAGE

Filed Feb. 3, 1966

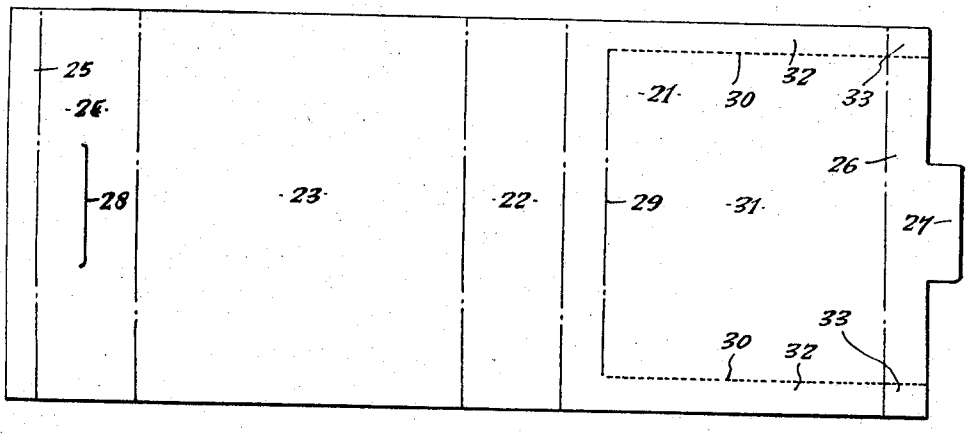


Fig. 1

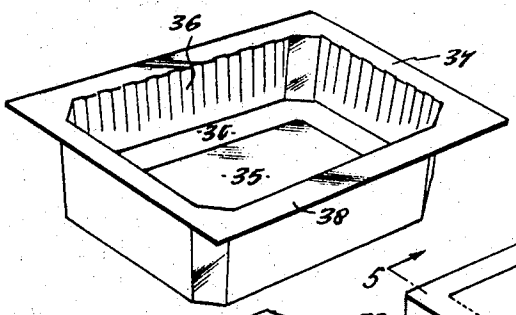


Fig. 2

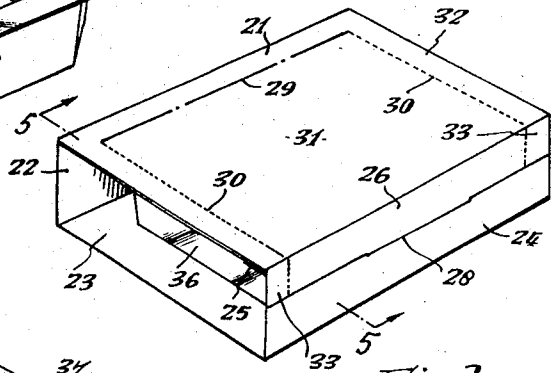


Fig. 3

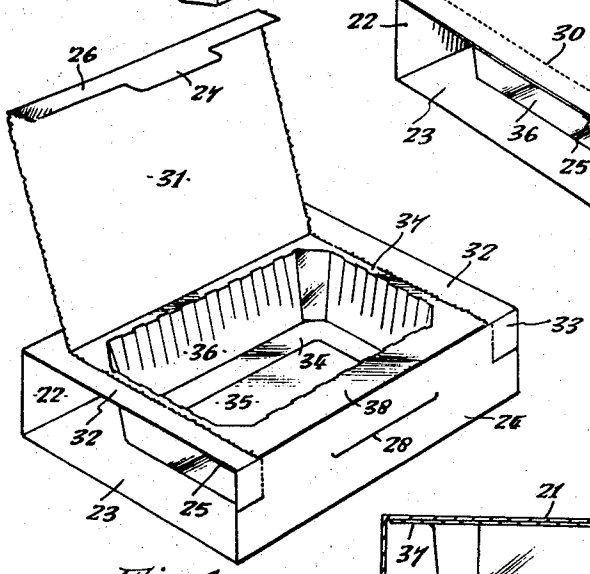


Fig. 4

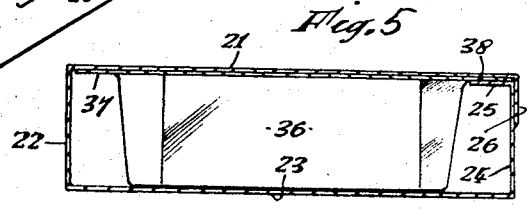


Fig. 5

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PACKAGE

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4 Claims. (Cl. 229—14)

ABSTRACT OF THE DISCLOSURE

Packages are described which are resistant to fluids, grease or the transmission of moisture vapour, each of which has a tray of plastics material for containing foodstuffs or the like and an enclosing shell sealed to the tray. The shell provides a combined lid and protective outer casing for the tray and may be attached to the tray by heat sealing or other suitable means.

This invention relates to packages particularly suitable for containing foodstuffs.

According to this invention a package comprises a tray of plastics material and an enclosing shell, the said tray having an out-turned peripheral flange with an upper face and an under face and the shell comprising a row of panels of carton forming material hinged one to the next, the upper face of the flange being sealed to the inside surface of the shell, the outer surface of one end panel of said shell being secured to the under face of said flange whereby part of said flange is sandwiched between two portions of the shell to provide a package resistant to fluids, grease or to moisture vapour transmission. The said tray may be pressure formed or thermo formed and made of protective material or of material which can be rendered so by coating or laminating. The shell may be pre-glued or flat and made of fully or partially coated or laminated material to give any barrier properties required and such material may be itself capable of being heat-sealed to the tray. Instead, a heat sealable coating medium in the form of an all over coating or pattern may be applied to areas to be sealed on the shell and/or the tray, or the areas to be sealed may be strip laminated. If desirable, the heat sealable coating medium may be "peelable" i.e. of such a character that the contacting surfaces of the tray and shell can be separated without being destroyed.

The term carton forming material is intended to cover cardboard and other fibrous sheet material and plastics.

One form of package made according to this invention is illustrated in the accompanying drawing wherein:

FIG. 1 is a blank of a form of shell.

FIG. 2 is a perspective view of the tray.

FIG. 3 is a perspective view of the package formed from the tray and shell.

FIG. 4 is a perspective view of the package in the open position.

FIG. 5 is a section taken on line 5—5 on FIG. 3.

Referring to the drawings, the shell is formed as a flat blank and erected around the tray. The blank shown in FIG. 1 comprises a top panel **21**, a back panel **22**, a bottom panel **23**, a front panel **24** having a flap **25**. The top panel **21** has a closing flap **26** with a tuck-in tab **27** which engages a slit **28** on the front panel **24**. The top panel **21** is also provided with a line of weakening **29** and two parallel lines of perforations **30** which together define a lid panel **31** and marginal panels **32**. The lines **30** extend into the flap **26** defining tabs **33** on the marginal portions of the flap **26**.

The tray shown in FIGS. 2–5 comprises a bottom **34** with a raised centre portion **35**, fluted walls **36** and a continuous peripheral flange **37**, the front part of which is numbered **38**.

In use, the tray is filled with the product to be packaged and the cardboard blank is applied to the tray by heat sealing the flap **25** to the underside of the front part **38** of the flange **37** and heat sealing the marginal portions of the top panel **21** to the upper surface of the flange **37**. The tabs **33** are adhered to the front panel **24**. The part **38** of the flange **37** is thus sandwiched between the two panels **25** and **21** of the blank. A spot of heat sealable or hot melt adhesive at the centre of the inside of the flap **26** adheres the flap **26** to the front panel **24**.

In order to gain access to the contents of the tray, the tab **27** is taken between the thumb and finger and the flap at **26** is raised from the front panel **24** thereby breaking through the lines of perforations **30** along the front and top of the shell so that the lid panel **31** can be raised along the hinge line **29**. The tabs **33** remain adhered to the front panel **24**.

If it is desired to retain any portion of the contents of the package which have not been used, the tab **27** can be inserted in the slit **28**.

The shell described herein is made of cardboard and the top panel **21** is lined with metal foil. A heat sealable adhesive is applied to the areas to be sealed.

If desired the perforations **30** can be dispensed with and part of the whole of the top made peelable.

The package can be used for any commodity at present packed in ordinary trays with sealed lids.

The rigidity and uniformity imparted by the shell makes possible the easy stacking in and dispensing from vending machines. The easy method of access makes it possible to increase the range of products packed to include fruit drinks, motor oil and milk.

The tray may be formed with multiple cavities, the shell being of construction previously described. The package can be used for whole meals, each item being arranged in a separate cavity, or single dish placed in a tray as previously described. In either case the food can be eaten directly from the package with the top of the shell removed.

The cardboard shell, even with the top panel removed, gives stability so that it is most suitable for pet foods.

Multiple packs can be made according to this invention comprising a series of trays being substantially the same as those described. and a multiple shell comprising

a series of shells united in such a way that one or more each with its own tray, can be readily separated from the remainder.

The package can be readily heated in a microwave oven. If desired the package can have a built-in heating system with disposable electrodes, the arrangement being such that when connected to an electric supply at low voltage, the food contained in the package can be heated and/or kept hot at an appropriate temperature.

What I claim and desire to secure by Letters Patent is:

1. A package comprising a tray of plastics material and an enclosing shell, the said tray having an out-turned peripheral flange with an upper face and an under face; said shell comprising a row of panels of carton forming material hinged one to the next, the upper face of said flange being sealed to the inside surface of said shell, the outer surface of one end panel of said shell being secured to the under face of said flange whereby part of said flange is sandwiched between two portions of said shell.

2. A package according to claim **1**, wherein one of said panels forms a top for said tray and wherein at least part of the top panel of said shell is readily openable to expose the contents of the tray while the rest of said shell remains attached to the tray.

3. A package according to claim **2**, wherein the said readily openable part of the top panel is a hinged lid.

4. A package according to claim **2**, wherein the readily openable part of the top panel is a hinged lid with a flap insertable into a slot in the shell.

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