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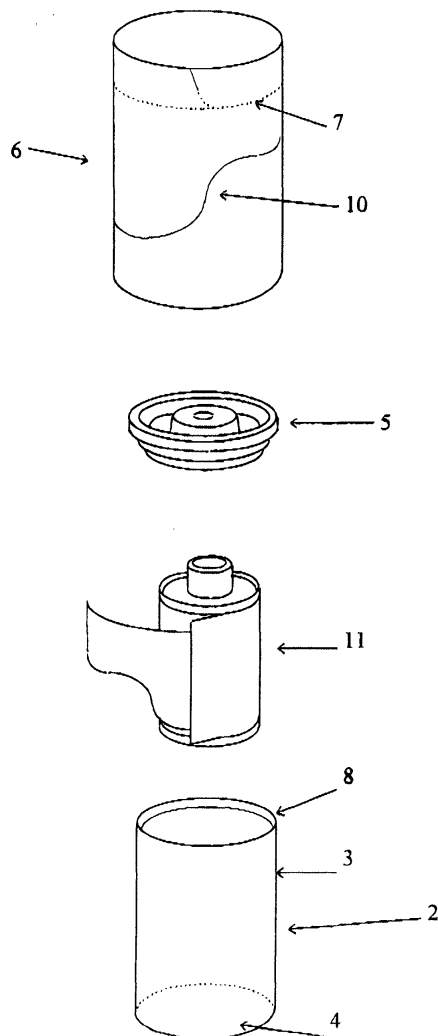
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(54) **Package for photographic film cartridges and method for packaging photographic film cartridges.**

(57) A package for protectively enclosing a photographic film cartridge (11), comprising a case body (2) having a cap (5) of substantially similar material matable with the opening and movable relative thereto to close and open the case body, said case body and cap being enclosed by a shrinking foil (6) with a tearable portion defined by a perforation (7) at the top end as a tamper evident means.

Figure 1



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Description

[0001] The invention relates to a package for photographic film cartridges.

[0002] Photographic film cartridges, suitable for use in for example photo cameras are known to be packaged in a container having a substantially cylindrical form, comprising a case body with a bottom and a removable cap, mounting on the open edge side. The cartridge is enclosed within said container, closed by said cap, after which said container is individually encased within a cardboard box, folded from a blank and closed around said container. On the outer side of said box indications are printed like number of exposures and the photographic speed for the type for photographic film enclosed.

[0003] This known type of packaging has the advantage that the photographic film is securely, moisture tight packaged, protected against damage and shielded from for example light. This known package has however the disadvantage that it is relatively complex, especially due to the cardboard outer package. Such packaging is therefore relatively expensive and time consuming in production. Moreover, in discarding this known package two materials have to be separated, plastic and cardboard, which is expensive. A further disadvantage is that the cap has to be fitted and can become separated from said container, which is inconvenient to both the manufacturer and the consumer.

[0004] A further package is known from US 5,031,786, disclosing a cartonless recyclable package for photographic film cartridges, comprising a recyclable plastic container and mating cap with recyclable compatible plastic labels thereon bearing product information. One such label on the cap has readily tearable tab portions extending therefrom and tautly secured to the container, to tear apart when the cap is first removed. A second label, secured to the container and overlapping the tearable tab portions, includes inner and outer sheets separably adhered together. This package has been applied in a tubular sales device, that is constructed and configured to display the product information at the plastic labels.

[0005] This known package has the advantage that no cardboard outer package is necessary but specifically designed for a tubular sales device. This container has the disadvantage that the foil package consists of many parts, that are adhered with difficulties together and that are easily lost after opening the container. Another disadvantage is related to the limited usage of this package for specific tubular sales devices.

[0006] The present invention relates to a package for photographic film cartridges in which the advantages of the above-mentioned packages are maintained, without the disadvantages thereof. To this end a package for photographic film cartridges according to the present invention is characterised by the features of claim 1.

[0007] In a first advantageous embodiment the pack-

age is provided with a cap for closing said package, said cap being secured to the container by a shrink foil with a readily tearable perforation wherein the top end of the foil is removable as tamper evident. The tamper evident prevents that the cap is easily moved relative to the container and that the container is opened without tearing said perforated tamper evident.

[0008] In a further advantageous embodiment, a package according to the present invention is further characterised by the features of claim 4. In this embodiment, cap and container will preferably be injection moulded in the colour typical for the company, so that it will be immediately recognisable for the user and packed in a partly transparent shrinking foil.

[0009] The transparent shrinking foil covers the complete container and it has preferably the print of the decoration at the inner side of the foil..

[0010] In a further advantageous embodiment, a package according to the present invention is further characterised by the features of claim 5. In such embodiment the container according the present invention is preferably packed in a multi pack, e.g. a transparent plastic box, blister or bag as a three pack with a means to be able to hang for example at a rack, suspending from a plate-shaped element, whereas said plate-shaped element provides for a surface which can be printed, see fig 3.

[0011] A package according to the present invention is preferably provided with decorations, which can be provided as described above by the printed decoration at the inner side of the shrinking foil.

[0012] For a better understanding of the present invention packages and methods according to the present invention are further elucidated in the following description, reference being made to the accompanying drawings.

Figure 1 shows, in exploded view, a package according to the present invention;

figure 2 shows the package according to figure 1, in assembled position;

figure 3 shows three packages in assembled position according to figure 2.

[0013] In these drawings corresponding parts have corresponding reference signs.

[0014] Figure 1 shows in perspective view a package 1 according to the present invention, in exploded view. This package 1 comprises a body part 2 partly shown transparently, having a circular side wall 3, a closed bottom 4 and an open top end 8 through which the film cartridge can be inserted for example under substantially atmospheric pressure. In said open top end cap 5 is attached, preferably by a snap lock or a similar snap ring connection in such way that the embodied film cartridge 11 is protected for external influences like e.g. moist and light. Case body 2 and cap 5 are injection moulded of slightly different materials to ensure a good

closure and protection of the embodied film cartridge. A cylindrical shrinking foil 6 is put over the case body 2, containing cartridge 11 and cap 5. Then the shrinking foil 6 will be shrunk, by a minimum exposure to heat radiation, to fit tightly at least part of around said case body and cap to form the package 1, that shows the decoration 10, like the brand mark and all other necessary product information. Surprisingly it has been found that such shrinking over said case body 2 and cap 5 is possible without damage to the film in the cartridge 11 contained therein. Near the top end the shrinking foil 6 has a perforation 7 that serves as a tamper evident that has to be torn before opening said package 1, without an obliged removal or destruction of the complete shrinking foil. Top and bottom of the package may be substantially free of foil 6.

[0015] In figure 2, the package 1 is shown in assembled position, having a case body 2 and a cap 5, and the tightly fitting shrinking foil 6 with the perforation 7 of the tamper evident, that has to be torn before opening the package. Decoration 10 is shown on the shrinking foil 3 tightly surrounding the case body 2 and the cap 5. The decoration is preferably provided at the inner side of the shrinking foil to prevent damaging of the text and symbols which happens easily when the decoration is printed at the outer side of the shrinking foil in use as well as when heating said foil. Decoration 10 can alternatively be provided by in mould labelling, stickers, printing, imprinting, embossing or the like.

[0016] Figure 3 shows preferred sales packages, containing three film packages, in perspective. The transparent plastic foil box, blister 12 or bag 13 serves as an extra protection. Alternatively a number of packages, comprising said shrink foil 6 can be enclosed in a common wrapper, for example in a common, further shrink foil or the like. The packages can be enclosed side to side, as shown, or for example top to bottom, forming a roll-shape. The latter provides for a relatively large surface of the wrapper, available for printing.

[0017] The package shows all necessary product information, like: brand name, ISO number, number of exposures. Alternatives to apply this decoration to the package are numerous: such as

- the case body may be injection moulded in a company characteristic colour, the decoration being applied by in mould labelling, screen printing, embossing or the like in combination with a blank shrinking foil.
- the case body may be company characteristic coloured, the shrinking foil being partly transparent partly coloured and containing the decoration.
- the case body may have any colour, e.g. for light protection, the shrinking foil having a company characteristic colour and containing the decoration, or any combination thereof.

[0018] The present invention is by no means limited

to the embodiments shown and discussed in the description. Various different embodiments are possible within the scope of protection as sought by the claims.

[0019] For example, a package according to the present invention can have a different cross section, for example oblong, square, non-square, multiple angled or the like. Furthermore, the case body 2 and the cap 5 can be injection moulded or formed otherwise as one part or have an alternative way of coupling and than be assembled such that during use the cap 5 will be hinged to the case body 2.

[0020] To improve the opening functionality of the package after tearing the tamper evident 7, the cap 5 may be provided with a thumb tab. This thumb tab may be of various shapes and is not shown in the figures 1-3.

[0021] To improve the tenability of the film the case body, film and cap can be assembled under a slightly reduced pressure, e.g. 700 mm Hg. It will be clear that too low a pressure causes collapse of the package. The mating of the case body and cap, and the extra sealing by the shrinking foil prevent any reactive gas from entering the package and reacting with the chemical compounds of the film. This way the time period of tenability of the film can at least be doubled. Alternatively, an inert or protective gas can be introduced, preferably slightly overpressurised, for the same purpose.

[0022] These and various other embodiments are considered to fall within the scope of protection as sought by the appending claims.

Claims

1. A package for protectively enclosing a photographic film cartridge, comprising a case body having a first end closed by a bottom and an opposite second open end through which the cartridge can be inserted and removed from the case body and a cap matable with the opening and movable relative thereto to close and open the case body, said case body and cap being at least partly enclosed by a shrinking foil.
2. A package according to claim 1, wherein said shrinking foil has at least one tearable portion by a perforation at the top end as tamper evident, to enable opening the package without destruction of the decoration.
3. A package according to anyone of the previous claims, wherein case body and cap or shrinking foil are coloured, preferably in one or more company specific colours and showing a decoration containing relevant product information.
4. A package according to anyone of the previous claims, wherein the case body and cap are injection moulded in one or more colours, preferably one or

more company specific colours, the case body being printed with relevant product information and the shrinking foil being transparent, showing said product information.

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5. A package according to anyone of claims 1-3, wherein the case body and cap are injection moulded in one or more colours, preferably one or more company specific colours and said shrinking foil being transparent and provided with a decoration, showing said relevant product information. 10
6. A package as according to claim 5, wherein said decoration is provided at the inner side of said shrinking foil. 15
7. A package according to anyone of the claims 1-3, wherein the case body and cap are injection moulded in a none specific colour and said shrinking foil has a company specific colour and is provided with a decoration, showing said relevant product information. 20
8. A package according the claim 7, wherein the shrinking foil is at least partly transparent and printed in the company specific colour with said decoration. 25
9. A package as according claim 8, wherein said company specific colour and said decoration are provided at the inner side of said shrinking foil. 30
10. A package according to anyone of the previous claims, wherein said cap is injection moulded with said case body and connected to said case body by a hinge, preferably a living hinge. 35
11. A package according to anyone of the previous claims, comprising a thumb tab on said cap to facilitate opening said case body. 40
12. A package as according to any of the previous claims, wherein a cartridge is enclosed in said package under reduced pressure. 45
13. A method for packaging at least one photographic film cartridge, in which said cartridge is enclosed in a case body, closed by a cap, wherein a pressure reduction is provided in said case body, wherein a shrink foil is provided fixing said cap to said case body and at least partly sealing said package. 50
14. A method for packaging at least one photographic film cartridge, in which said cartridge is enclosed in a case body, closed by a cap, wherein a pressure increase is provided in said case body, wherein a shrink foil is provided fixing said cap to said case body and at least partly sealing said package. 55

Figure 1

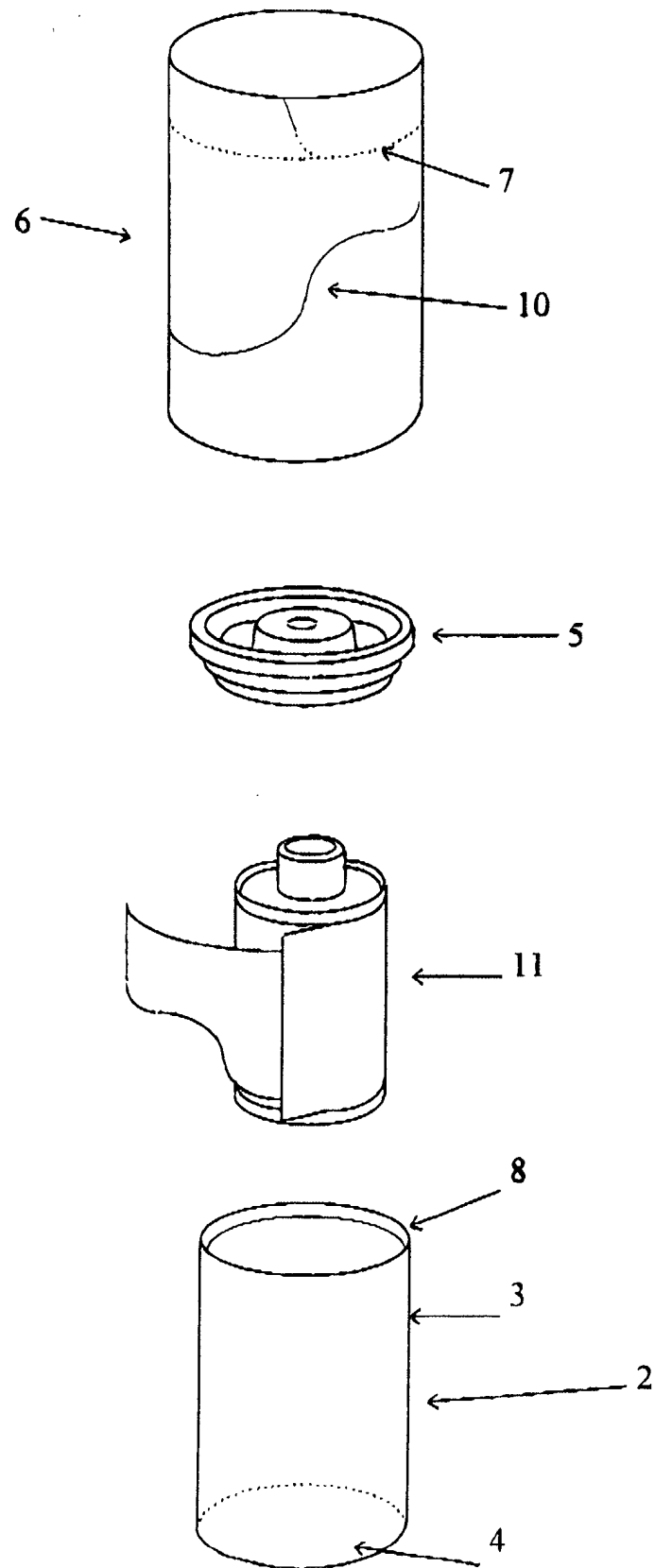


Figure 2

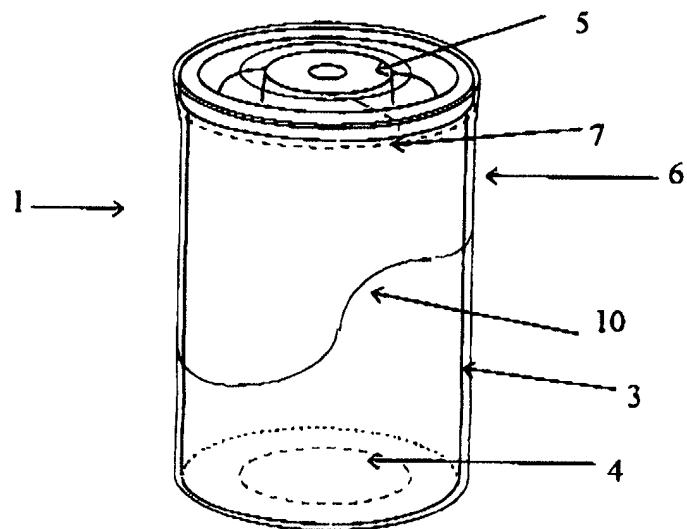
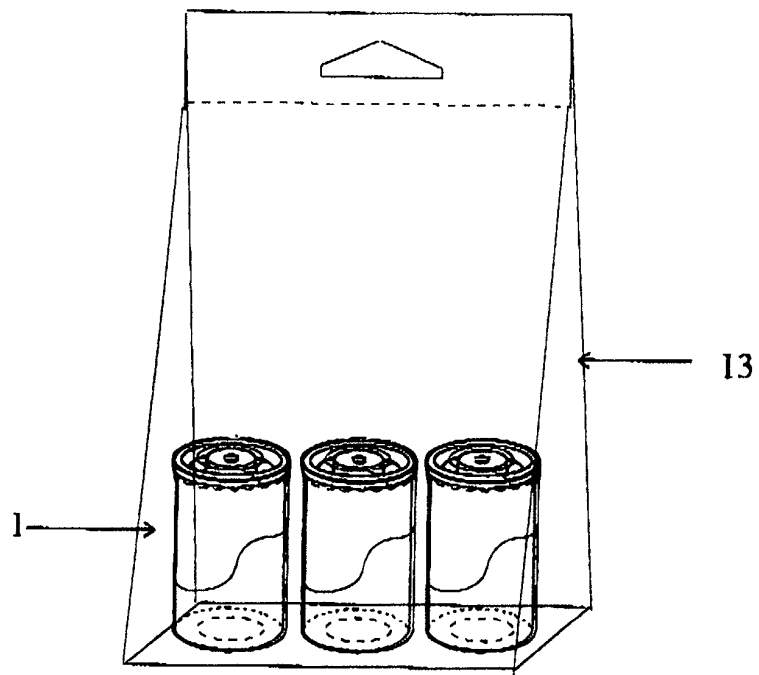
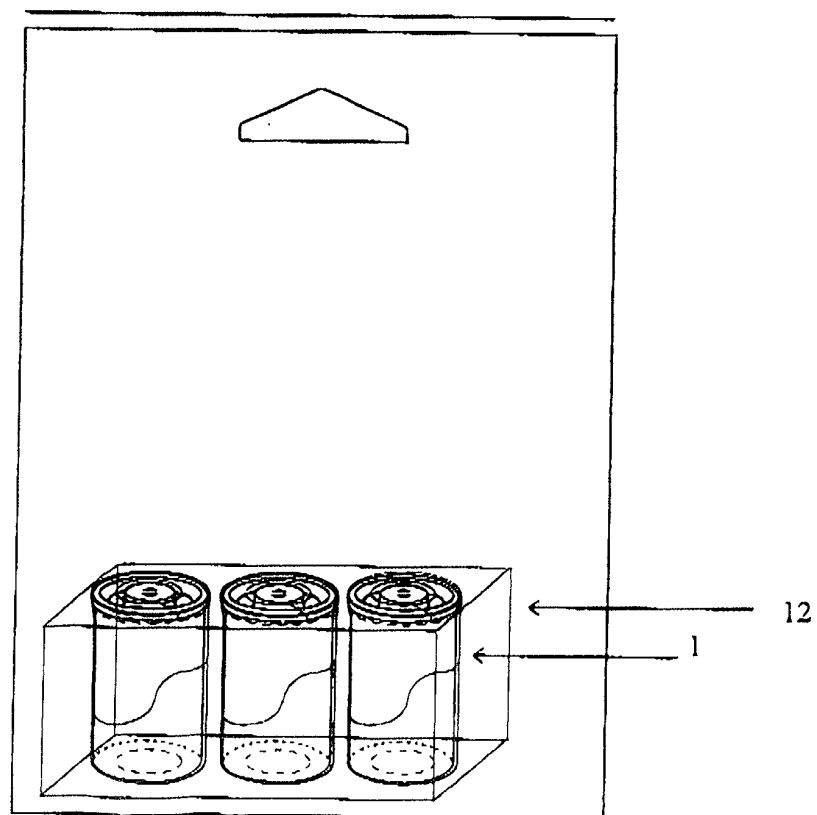


Figure 3



Transparent bag with printing



Three pack blister with printing



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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 2480

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	GB 2 213 135 A (FUJI PHOTO FILM CO LTD) 9 August 1989 (1989-08-09) * page 5, line 10 - line 18; figures 3,4 * * page 6, line 17 - line 28; figures 5,6 * * figure 7 *	1-5,7,8, 10	B65D75/00
Y	---	6,9	
Y	US 3 410 394 A (JACKSON CHARLES A ET AL) 12 November 1968 (1968-11-12) * column 4, line 19 - line 21 * * column 4, line 48 - line 49 * -----	6,9	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 November 2001	Examiner BRIDAULT, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-11



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LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 01 20 2480

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-11

A decorated package for a film cartridge comprising a case
and a shrink film

2. Claims: 12-14

A package for a film cartridge under modified pressure.

