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(54) Return system and package consisting of an outer package and an inner package with identification means.

(57) The present invention provides a return system for processing returned packagings, comprising:

- one or more packagings provided with identification means; and
- recognition means for recognizing the identification means on the packagings.

In the case the packaging has environmentally contaminating contents such as paint or glue, the return system also comprises an inner packaging so that the (outer) packaging is returned clean. The inner packaging can then preferably comprise a tapering portion so that when the inner packaging is disposed of as waste as little material as possible with an environmental impact remains behind therein.

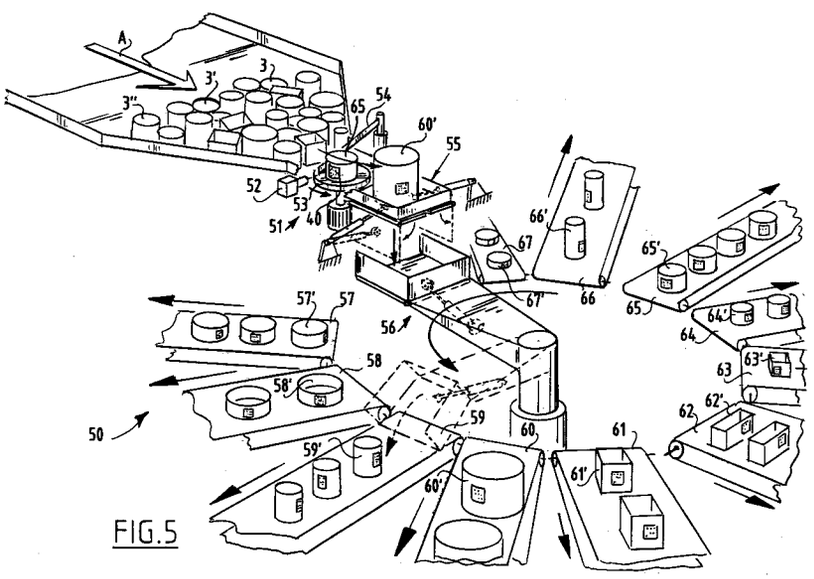

FIG.5

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Manufacturers of packagings, or their customers, are being compelled to an increasing extent to take back the packagings from the users thereof and re-use them as much as possible, or to ensure processing with as little unnecessary waste as possible. In a competitive market with different manufacturers of packagings, collection of the used packagings will present a great problem.

The present invention provides a return system for processing returned packagings, comprising:

- one or more packagings provided with identification means; and
- recognition means for recognizing the identification means on the packagings.

In the case the packaging has environmentally contaminating contents such as paint or glue, the return system also comprises an inner packaging so that the (outer) packaging is returned clean. The inner packaging can then preferably comprise a tapering portion so that when the inner packaging is disposed of as waste, as little material as possible with an environmental impact remains behind therein.

The present invention further provides a packaging in the form of a container on which identification means are arranged, and an inner packaging in the form of a bag of plastic material and provided with a tapering portion on the underside thereof.

Further advantages, features and details of the present invention will become apparent in the light of the following description with reference to the annexed drawings, in which:

fig. 1 shows a partly cut away view in perspective of an embodiment of a packaging according to the present invention;

fig. 2 shows a view in perspective of the packaging of fig. 1 in opened situation;

fig. 3 shows detail III of fig. 1;

fig. 4 is a schematic view of use of the inner packaging of the embodiment shown in fig. 1 and 2; and

fig. 5 is a schematic view in perspective of an embodiment of a return system according to the present invention.

A packaging 1 (fig. 1) comprises an outer packaging 3 (also known as a container pack), preferably in the form of a bucket or pail of plastic, for instance high density polyethylene, and a cover 2 placed thereon which is preferably formed from a slightly flexible plastic, for instance lower density polyethylene, so that an outside edge 7 thereof is movable from a hermetically closable position against a rim 4 on the outer wall 5 of the pail in order to open the packaging (fig. 2).

The packaging 1 preferably also comprises an inner packaging 12 (fig. 2, 4) in the form of a bag 6 of plastic foil in which for instance is situated glue C. The bag preferably has a length such that an edge 13 thereof can be folded over the outer wall 5 so that when the glue C is used, for instance to glue a floor covering, glue which is environmentally contaminating is prevented from adhering to the outer wall.

Preferably arranged on the outer wall of pail 3 is a label 14 (fig. 1, 3) on which a DOT code is visible which forms an identification of for instance the material from which this pail is manufactured, the manufacturer, options for re-use etc. In similar manner the cover 2 is preferably also provided with identification means 15 which are arranged thereon and which can be arranged using a label, but can equally well be printed directly in a manner not shown onto both the outer wall of the pail and the cover.

When the inner packaging 12 is removed, the contents thereof can emptied via a tapering portion 16 on the underside thereof, for instance using scissors, into a work bucket or onto a surface for treating. Contamination of outer packaging 3 is herein prevented.

In an embodiment of a return system 50 (fig. 5) according to the present invention intended only as example, outer packagings 3, 3' and 3'' are fed via arrow A and recognized in a station 51 using a camera 52. In preference this recognition station 51 is provided with a rotary table 53 which is rotated as long as the identification means 40 is not located in front of the camera 52. After recognition a packaging is carried by an arm 54 to an intermediate station 55 which in turn delivers a packaging to a sorting station 56 which delivers the pail or outer packaging to one of the diverse discharge stations 57 where packagings 57' are delivered, 58 where packagings 58' are delivered, 59 where packagings 59' are delivered, 60 where packagings 60' are delivered, 61 where packagings 61' are delivered, 62 where packagings 62' are delivered, 63 where packagings 63' are delivered, 64 where packagings 64' are delivered, 65 where packagings 65' are delivered, 66 where packagings 66' are delivered, and 67 where packagings 67' are delivered.

In the embodiment shown the packagings with the same form and size are carried to the same discharge station. In another embodiment (not shown) of such a return system, all packagings for instance of the same manufacturer or manufactured from the same material can be carried to the same discharge station. It is equally conceivable for manual inspection and/or sorting to take place.

The embodiment shown makes use of DOT code, which identification system has been found to be reliable in practice, while a large amount of information can be arranged in an area of 1 x 1 m^2 to 500 x 500 m^2 (for example 6 x 6, 7 x 7, 8 x 8, 9 x 9, or 10 x 10 dots).

The present invention is not limited to the above described embodiment, within which many modifications are conceivable. The requested rights are defined by the following claims.

Claims

1. Return system for processing returned packagings, comprising:
   - one or more packagings provided with identification means; and
   - recognition means for recognizing the identification means on the packagings.

2. Return system as claimed in claim 1, comprising sorting means for sorting packagings with identification means recognized by the recognition means.

3. Return system as claimed in claim 1 or 2, provided with an inner packaging to protect the packaging against the contents of the inner packaging.

4. Return system as claimed in claim 3, wherein the inner packaging is provided with a tapering portion on the underside thereof.

5. Return system as claimed in any of the claims 1-4, wherein the identification means comprise a label with DOT code for arranging on the packaging.

6. Return system as claimed in any of the claims 1-5, wherein the recognition means comprise a camera.

7. Packaging comprising an outer packaging in the form of a container on which identification means are arranged, and an inner packaging in the form of a bag of plastic material and provided with a tapering portion on the underside thereof.

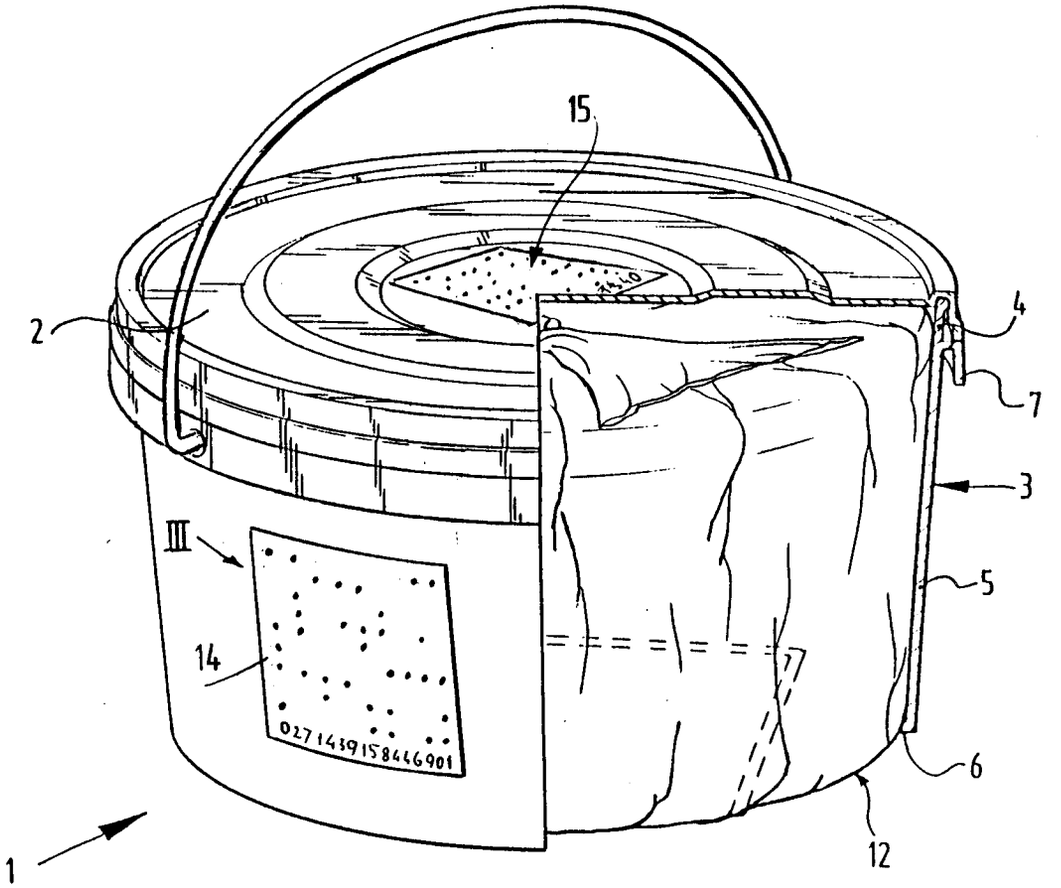

FIG.1

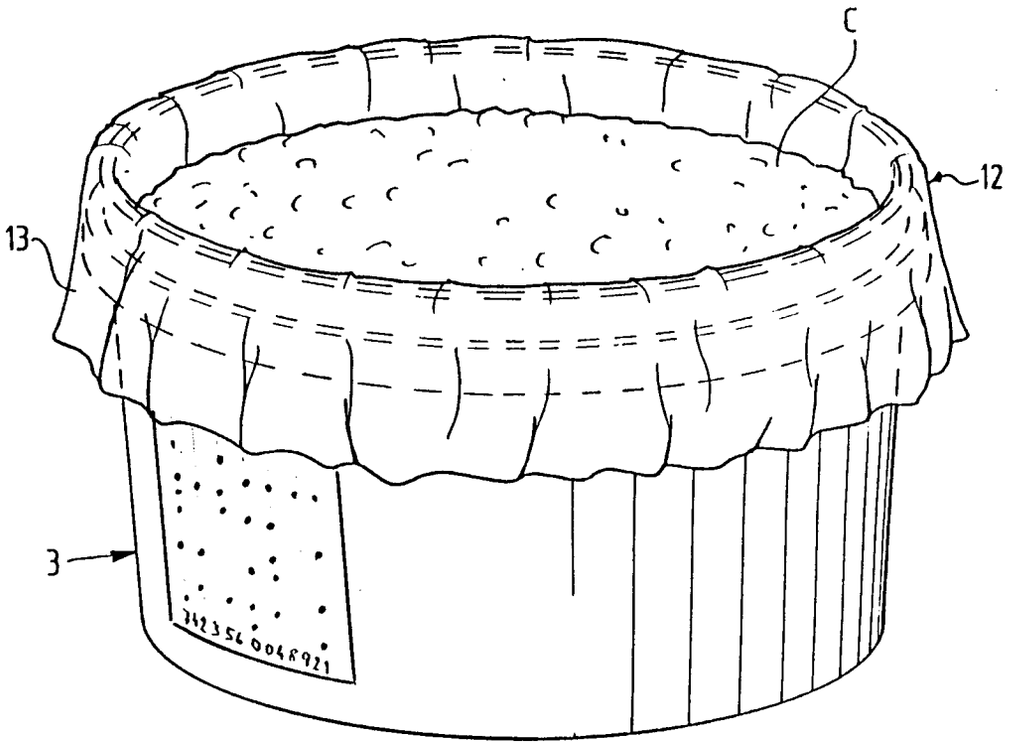

FIG. 2

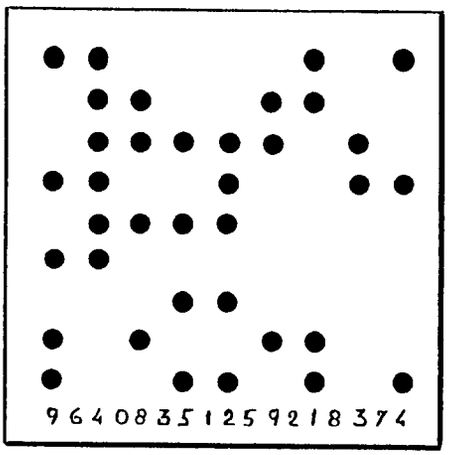

FIG.3

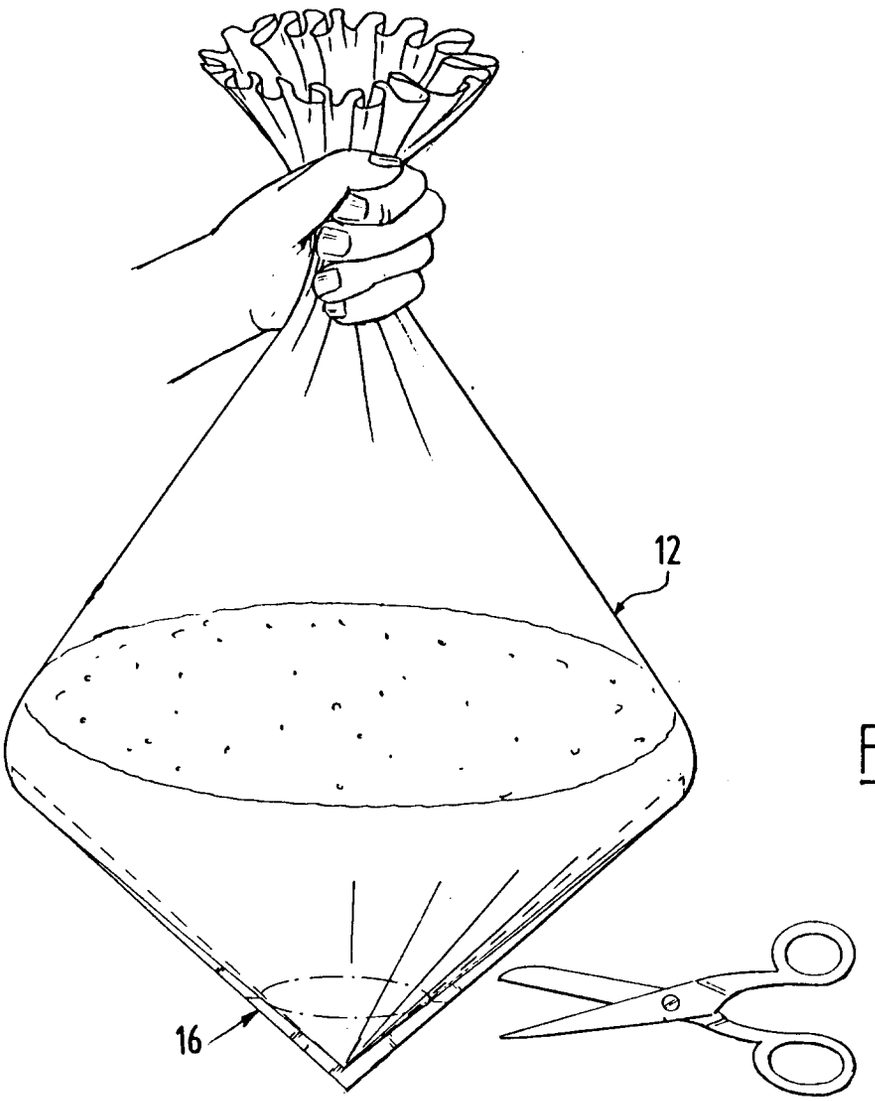

FIG.4

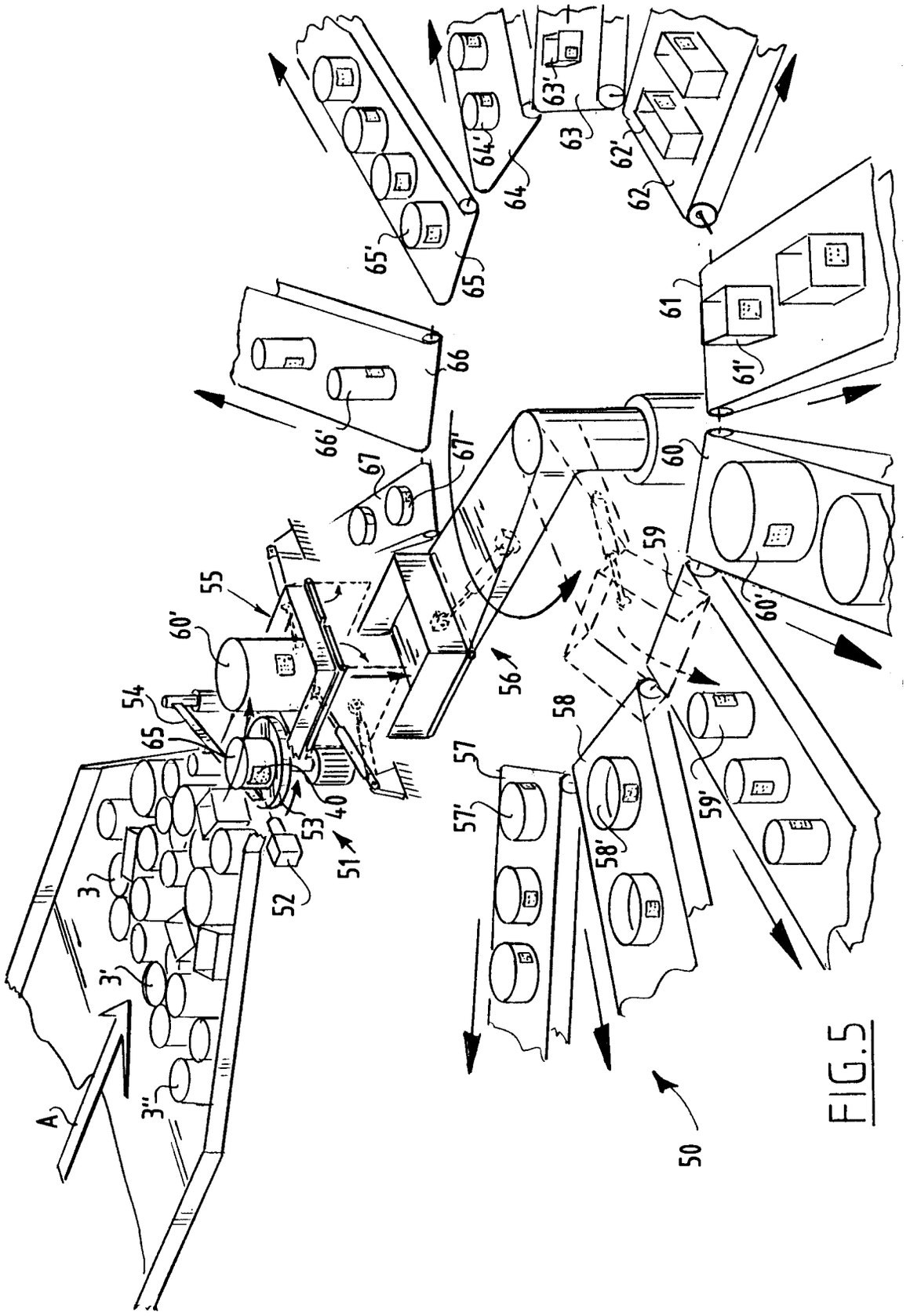
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FIG.5