Title: PACKAGING WITH SOUND STRIP

Abstract: The present invention is directed to a package having a sound generating device including a grooved strip, a sounding board and a mechanism configured to produce sound upon sequential engagement of the grooves. The sound generating device can be incorporated into the opening mechanism in which the device produces sound when the opening mechanism is activated to open and close the package.
PACKAGING WITH SOUND STRIP

TECHNICAL FIELD

[0001] The present invention relates to packaging or containers containing products and more particularly to packaging that includes a grooved strip and sounding board configured to deliver messages or sounds to consumers.

BACKGROUND OF THE INVENTION

[0002] It is well known to utilize various types of promotional devices to increase sales of packaged foods. Vending machines and display units have long been capable of delivering information and interesting messages to customers relating to the merchandise in the vending machines. See U.S. Pat. Nos. 3,609,250; 5,117,407 and 6,170,273.

[0003] Technology has recently allowed consumer products to include audio message producing means such as a micro chip connected to a speaker as described in U.S. Pat. No. 5,796,328 which produces an audio message, when activated, that delivers information on the consumer product that corresponds to written text on the product. U.S. Pat. Nos. 6,298,990 and 5,992,629 describe containers having a sound chip that is activated by a light sensor such that the sound chip is activated upon opening the container. U.S. Pat. No. 5,130,696 describes a container incorporating a sound-generating device that is activated by a light sensor, upon opening of the container, to emit a preprogrammed sequence of sounds. U.S. Pat. No. 5,283,567 to Howes for example, discloses a prize holding container assembly with an audible and/or visual prize related message delivery system contained within the container. In the Howes device, the message delivery system is placed within the contents of the container such that the message is not delivered until the consumer actually locates the message delivery system. U.S. Pat. No. 5,923,242 to Slage et al. also discloses a light-activated, sound-providing device which is secured to the interior of a container.

[0004] Packages and containers in the form of plastic bags that include various closure mechanisms are also known. Sealed flexible containers with peelable openings are described in U.S. Pat. No. 4,705,174 which is fully incorporated by reference herein. Male and female closure mechanisms are described in U.S. Pat. Nos. 5,384,942 and 5,209,574 which are
fully incorporated by reference herein. U.S. Pat. Nos. 5,067,208 and 6,327,754 describe male and female fasteners with slider mechanisms which are fully incorporated by reference herein.

[0005] It is an object of the present invention to provide a sound generating mechanism for packages and containers that does not require the use of a micro chip or a switching mechanism.

[0006] It is also an object of the present invention to provide a sound generating mechanism that is capable of producing sound when the package or container is opened as well as independently of the opening of the package or container.

BRIEF SUMMARY OF THE INVENTION

[0007] The present invention is directed to package having a sound generating mechanism. The sound generating device including a grooved strip, a sounding board and a mechanism configured to produce sound upon sequential engagement of the grooves. The sound generating device can be incorporated into the opening mechanism in which the device produces sound when the opening mechanism is activated to open and close the package.

[0008] The package opening mechanism can be non-recloseable or recloseable. The recloseable opening mechanism includes male and female interlocking members that are opened and closed by pressure or by a slider mechanism. The non-recloseable opening mechanism can include a tear strip or a peel strip.

[0009] The present invention is also directed to a package that includes a sound generating device incorporated into a surface of the package, such as an outer surface. The sound generating device includes a grooved strip and a sounding board in which the sound generating device produces sound when an object is used to produce sound upon the sequential engagement of the grooves. A fingernail of a consumer can be used to produce sound by the sequential engagement of the grooves in which the fingernail is run along the grooves.

[0010] The foregoing has outlined rather broadly the features and technical advantages of the present invention in order that the detailed description of the invention that follows may be better understood. Additional features and advantages of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed
may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims. The novel features which are believed to be characteristic of the invention, both as to its organization and method of operation, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] For a more complete understanding of the present invention, reference is now made to the following descriptions taken in conjunction with the accompanying drawing, in which:

[0012] FIGS. 1A and 1B are front plan views illustrating the recorded grooves on a portion of a recloseable zipper fastener of the present invention;

[0013] FIGS. 2A and 2B are front plan views illustrating the recloseable zipper fasteners of Figs. 1A and 1B incorporated into a package;

[0014] FIGS. 3A and 3B are front plan views illustration a recorded groove strip of the present invention incorporated into a non-recloseable opening mechanism on a package;

[0015] FIG. 4A and 4B are front plan views illustrating the recloseable zipper fasteners of Figs. 3 in alternate placements on a package.

[0016] FIGS 5A, B and C is a perspective view illustrating a consumer opening packages having opening mechanisms illustrated in Figs. 1 and 3 in which a message or sound is emitted;

[0017] FIGS. 6A and B is a perspective view illustrating a consumer closing packages having opening mechanisms illustrated in Figs. 1A and B in which a message or sound is emitted;
[0018] FIGS. 7A, B, C and D is a front plan view of a package incorporating the sound generating device of the present invention in a variety of positions on the package;

[0019] FIGS 8A, B, C and D is a perspective view of the packages of Figs 7 illustrating a consumer moving his or her fingernail along the sound generating device in order to emit a message or sound; and

[0020] FIG. 9 is cross sectional view of the opening mechanism of Fig. 2A along lines 9–9.

DETAILED DESCRIPTION OF THE INVENTION

[0021] The present invention relates to a mechanism for generating or producing sounds and, more particularly, pertains to a package or container 10 incorporating a sound generating device 12 which can be activated upon opening and closing of the container structure or is independently activated so as to emit a preprogrammed sequence of sounds. The term package, container and pouch are used interchangeably throughout and are considered to have the same meaning.

[0022] The package or container 10 can be formed from any flexible or semi-rigid material and can be in any desired shape generally suitable for food products or non-edible products. In one embodiment, the package or container structure can be in the form of a pouch, for example of the type that is widely distributed in the area of microwaveable food products. The pouch incorporates a sound-generating and emitting device which is activated upon the opening and closing of the pouch or is independently activated.

[0023] The package or container 10, incorporating a sound generating device 12 therein, will have numerous and diverse applications in commerce and industry, particularly when it is contemplated to utilize the package or container with the sound generating device in connection with a promotional or sales campaign concerning the particular product and/or manufacturer, industry or organization which is represented by the package or container. For example, the promotional or sales campaign can relate to and promote the sale of food items such as pet food or snack foods and non-edible products such as toys. Yet further, the food item may be a solid, liquid or semi-solid food item, examples include but are not limited to confections, baked goods, pet food, fresh food, snack food, etc.
[0024] The sound generating device 12 is formed from a non-magnetically recorded tape in the form of a grooved plastic strip 14 and sounding board that produces sound upon sequential engagement of the recorded grooves 16 by a suitable hard object such as a pick or fingernail 17. The grooved plastic strip 14 can be formed from materials such as hard plastic, nylon or polyester. In one preferred embodiment, the sound generating device 12 can be incorporated into the opening mechanism 18 on the package or container 10 (Figs. 2 and 3). Alternatively, the sound generating device 12 can be incorporated into the packaging or container 10 itself (Figs. 7 and 8). An example of the sound generating device of the subject invention is known as TALKIE TAPES® and are available from Talking Devices Company, 37 Brown Street, Weaverville, North Carolina 28787-9493. Any short message or sound can be recorded on the grooved plastic strip 14. Messages can be related to promotional or informational aspects of the product or the message can announce a “winner” of a prize. Alternatively, sounds such as animal sounds, can be recorded on the grooved plastic strips 14. For example, upon opening the package or container 10, the emitting sounds can “call to dinner” a companion animal.

[0025] Any kind of package or container 10 can be utilized, however for illustrative purposes only, a package in the shape of a pouch will be described. The exemplary pouch is generally of a flattened shape and has two opposing walls in sheet form extending approximately parallel to a longitudinal median plane of the pouch. The pouch can be formed for example, from either flexible or semi-rigid materials.

[0026] The flexible materials, for example, can include but are not limited to polyolefins (oriented & cast polypropylene, low density polyethylene (LDPE), medium density polyethylene (MDPE), high density polyethylene (HDPE)), polyamide (nylon), polyethylene terephthalate and glycol copolymer, paper, foil, ethylene vinyl alcohol, poly(vinyl chloride), polyvinilidene chloride, acrylonitrile-butadiene-styrene, cellulose acetate-butylate, casein, chlorotrifluoroethylene, ethylene-ethyl acrylic acid, ethylene-methacrylic acid, ethylene-propylene polymer, ethylene-vinyl acetate, linear low-density polyethylene, polyethylene manufactured using metallocene catalysts, polyacrylonitrile, polycarbonate, polychlorotrifluoroethylene, polystryrene, polytetrafluoroethylene, polyurethane, poly(vinyl alcohol), or styrene-acrylonitrile. In preferred embodiments, the material used for the pouch may include, but is not limited to polyolefins, oriented & cast polypropylene or low density polyethylene (LDPE), medium density polyethylene (MDPE), high density polyethylene
(HDPE)), polyamide (nylon), polyethylene terephthalate and glycol copolymer, foil, ethylene vinyl alcohol, poly(vinyl chloride), or polyvinilidene chloride. It is also envisioned that these flexible materials can be used in combination as laminations of two or more materials. All of these materials can be retorted, using standard procedures, in order to sterilize the contents of the pouch. Standard retorting processes are well known in the art of pouch manufacturing.

[0027] Semi-ridged material can include for example, paperboard, corrugated board (micro-flute, E, F, C or B shaped flute or any other fluted board), paperboard canister, plastic sheeting such as polyethylene terephthalate (PET). The paperboard could be laminated with a number of films such as susceptor film, PET, polypropylene. These materials can also be coated or laminated in order to prevent moisture absorption. Any form of polyester would also be suitable as a semi-rigid or flexible material.

[0028] The pouch 10 may be formed using a processing line configured for the formation of the pouches from a heat sealable, continuous plastic film as is known to one skilled in the art of forming pouches. In a typical pouch forming process known to one skilled in the art, rolls of film are provided in which the film is fed through a plow in order to fold the sheet of film. The vertical sides of the folded film are sealed as well as the bottom of the pouch if necessary. This process creates a continuous strip of individual flexible pouches. The pouch 10 has top 20, bottom 22, and parallel side 24, 25 edges which are typically sealed using standard techniques that are well known and used in the art of packaging. All flexible films can be made heat sealable with coatings or co-extrusion or naturally sealable (oriented & cast polypropylene or LDPE).

[0029] In one embodiment of the present invention, the sound generating device 12 is incorporated in the opening mechanism 18 of the package or container 10. The opening mechanism 18 can be either non-recloseable (Figs 3) or recloseable (Figs. 2). Recloseable opening mechanisms typically are made to be recloseable via the use of a recloseable zipper. Recloseable zippers can be opened and closed either by pressure (Fig. 6A) or by the use of an auxiliary slider mechanism (Fig. 6B).

[0030] Packages or containers having recloseable opening mechanisms typically are provided with two zipper strips at their opening or mouth 21. These strips may be formed integrally with the pouch body or formed separately and attached to the film when the pouch
body is being formed. The various kinds of recloseable opening mechanisms and their manufacture are well known to one skilled in the art of recloseable packages and containers.

[0031] A typical zipper fastener 26 is one which has a groove 23 at one side of the pouch mouth 21 and a rib 27 at the other side, in which the rib 27 interlocks into the groove 23 when the sides 28, 29 of the pouch mouth 21 are pressed together (Fig. 9). Alternatively, a member having a plurality of ribs may be on one side of the pouch mouth, while a member having a plurality of channels may be on the other side, the ribs locking into the channels when the sides 28, 29 of the mouth 21 of the pouch are pressed together. In such a case, there may be no difference in appearance between the two members, as the ribs may simply be the intervals between channels on a strip which may lock into another of the same kind. In general, some form of male/female interengagement is used to join the two sides of the pouch mouth together. When a form of male/female interengagement is utilized as the opening mechanism 18, the grooved plastic strip 14 of the sound generating device is incorporated into the groove or channel portion 23 (female profile) of the zipper fastener 26 and the rib portion 27 (male profile) provides the “pick” mechanism for sequential engagement of the recorded grooves 16 (Fig. 1A). Other portions of the fastener act as the sounding board.

[0032] Recloseable plastic pouches 10 are commonly formed of a sheet of plastic material on which the male/female profiles are integrally extruded or to which separately extruded profiles are bonded. When the male/female profiles 27, 23 respectively are integrally extruded, the formation of the appropriate recorded grooves 16 on the female portion 23 of the profile and the corresponding pick mechanism on the male portion 27 of the profile can be part of the extrusion process or while the profiles are still hot, the grooves 16 can be “pressed” into the film by means of a rotary tool. When the recloseable pouches are formed unitarily for example, by extruding the walls of the pouch and the profiles simultaneously, the film can initially be formed as a tube with integral male and female profiles formed on the interior surface thereof. As is well known in the art, the tube is slit along a line between the profiles and collapsed. The two profiles 23, 27 are joined to form two parallel sidewalls 28, 29, carrying the profiles, and with the slit line defining top edges for the sidewalls. The two profiles then provide the zipper for the recloseable pouch formed by slicing and sealing the side edges of an appropriate length of tubing.
[0033] Alternatively, the package 10 can be formed with a male extruded section and a female extruded section, which are connected with the pouch film and are adapted to be detachably connected with each other or the profiles may be extruded in the form of a strip or ribbon and joined to the pouch walls. In either situation, the appropriate recorded grooves 16 for a message or sound on the female profile 23 and the pick mechanism on the male profile 27 can be part of the extrusion process of the profiles or while the profiles are still hot, the grooves and pick mechanism can be “pressed” into the film by means of a rotary tool. In this embodiment, the pouch 10 includes front and rear walls 28, 29 seamed along three edges thereby forming an enclosure with an opening or mouth 21 positioned adjacent the fourth edge. Attached to the internal surface of the walls 28, 29 are male and female profiles 23, 27 respectively which close the opening when they are interlocked. In either embodiment, once the package or container 10 is open, a consumer can repeat the message or sound by engaging the grooves 16 on the groove or channel portion 23 (female profile) of the zipper fastener 26 the with his or her fingernail 17 (Fig. 5A).

[0034] In another embodiment, a recloseable fastener arrangement 30 includes a male track with a male profile, a female track with a female profile and a slider 32. The male and female profiles are releasably engageable with each other. The slider 32 is slidably mounted to the male and female tracks 34 for movement between a closed position and an open position. The male and female profiles are engaged to each other while the slider is in the closed position and the male and female profiles are disengaged from each other in response to movement of the slider from the closed position to the open position. In this embodiment, the appropriate recorded grooves 16 for a message or sound are imparted on either or both of at least a portion of the outside surfaces of the male and female tracks 34 (Figs 1B and 2B). Other portions of the fastener 30 serve as the sounding board. The slider 32 is configured to include the pick mechanism and the message is played or sound is created when the slider 32 moves over the outside surface of the male and female tracks 34 (Fig. 5B). The manufacture of zipper fasteners with sliders is well known to one skill in the art.

[0035] Alternatively, non-recloseable packages or containers 10 can be formed with a tear strip 36, that once broken, cannot be resealed (Fig. 3A). When grasped and torn away, the tear strip 36 will permit access to the contents of the pouch 10. The tear strip 36 generally is positioned on one side of the pouch wall near the mouth 21 of the pouch 10. The tear strips 36 can be formed of low density polyethylene and may also serve as a means for
stopping the run of the tear when the package is opened. The manufacture of tear strips is well known to one skill in the art. In this embodiment, the appropriate recorded message or sound grooves 16 are integrated into the tear strip 36 such that the message is played or sound is emitted when the outer portion of the tear strip 36 is pulled open (Fig. 5C). Once the package or container 10 is open, the grooved plastic strip 14 and sounding board remain on the package or container 10 so that a consumer can repeat the message or sound by engaging the grooves 16 with his or her fingernail 17.

[0036] In another embodiment, the package or container 10 can include a peel strip 38 or layer fixedly secured to the inner surface of the container and extending substantially the entire length of the mouth portion 21, with adjacent portions of the peel strip 38 or layer being in releasable engagement with each other (Fig. 3B). Some containers can be formed in accordance with the method for applying the peel strips transversely across a web of sheet material and heat sealing the strips to the material at longitudinally spaced locations and thereafter severing the web into sections which are formed into the container. The manufacture of peel strips is well known to one skilled in the art. As in the tear strip embodiment, the appropriate recorded message or sound grooves 16 are integrated into the peel strip 38 such that the message is played or sound is emitted when the peel strip 38 is pulled open. Once the package or container 10 is open, the grooved plastic strip 14 and sounding board remain on the package or container 10 so that a consumer can repeat the message or sound by engaging the grooves 16 with his or her fingernail 17. Figs 4A and B illustrate alternate positions for the placement of the tear strip 36 or peel strip 38.

[0037] In another embodiment, the recorded grooved plastic strip 14 and sounding board can be incorporated directly onto a surface of the package or container 10, such as an outside surface. Preferably, the grooves 16 can be formed into the sealed edges along the top 20, sides 24, 25 or bottom 22 edge of the package or container 10 (Figs. 7A-D). The recorded grooves 16 can be imprinted into the sealed edges with the heat sealing tool or other appropriate tool. The grooved strip 14 produces sound when an object is activated to produce sound upon sequential engagement of the grooves 16 on the strip. For example, a consumer can play the message or sound by engaging the grooves with his or her fingernail 17 as illustrated in Figs. 8A-D.
Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the invention as defined by the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure of the present invention, processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized according to the present invention. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.
CLAIMS

What is claimed is:

1. A sound generating opening device for a package comprising:

   a sound generating device incorporated into an opening
   mechanism for a package;

   the sound generating device including a grooved strip, a
   sounding board and a mechanism configured to produce sound upon sequential
   engagement of the grooves;

   wherein the sound generating device produces sound when the
   opening mechanism is activated to open and close the package.

2. The opening mechanism of claim 1, wherein the opening
   mechanism is recloseable.

3. The opening mechanism of claim 2, wherein the recloseable
   opening mechanism includes male and female interlocking members.

4. The opening mechanism of claim 3, wherein the male and
   female interlocking members are opened and closed by pressure.

5. The opening mechanism of claim 3, wherein the male and
   female interlocking members are opened and closed by a slider mechanism.

6. The opening mechanism of claim 3, wherein the grooved strip
   is incorporated into the female member and the male member incorporates the
   mechanism configured to produce sound upon sequential engagement of the
   grooves.

7. The opening mechanism of claim 3, wherein the grooved strip
   is incorporated into an outside portion of the male and female members and a
   slider mechanism incorporates the mechanism configured to produce sound upon
   sequential engagement of the grooves.
8. The opening mechanism of claim 1, wherein the opening mechanism is non-recloseable.

9. The opening mechanism of claim 8, wherein the non-recloseable opening mechanism is a tear strip or a peel strip.

10. A package including a sound generating opening mechanism comprising:

   a package including an opening mechanism;

   a sound generating device incorporated into the opening mechanism;

   the sound generating device including a grooved strip, a sounding board and a mechanism configured to produce sound upon sequential engagement of the grooves;

   wherein the sound generating device produces sound when the opening mechanism is activated to open and close the package.

11. The package of claim 10, wherein the opening mechanism is recloseable.

12. The package of claim 11, wherein the recloseable opening mechanism includes male and female interlocking members.

13. The package of claim 12, wherein the male and female interlocking members are opened and closed by pressure.

14. The package of claim 12, wherein the male and female interlocking members are opened and closed by a slider mechanism.

15. The package of claim 12, wherein the grooved strip is incorporated into the female member and the male member incorporates the mechanism configured to produce sound upon sequential engagement of the grooves.
16. The package of claim 12, wherein the grooved strip is incorporated into an outside portion of the male and female members and a slider mechanism incorporates the mechanism configured to produce sound upon sequential engagement of the grooves.

17. The package of claim 10, wherein the opening mechanism is non-recloseable.

18. The package of claim 17, wherein the non-recloseable opening mechanism is a tear strip or a peel strip.

19. The package of claim 10, wherein the package is formed from flexible or semi-rigid material.

20. A package including a sound generating mechanism comprising:

   a package including a sound generating device incorporated into a surface of the package;

   the sound generating device including a grooved strip and a sounding board;

   wherein the sound generating device produces sound when an object is activated to produce sound upon sequential engagement of the grooves.

21. The package of claim 20, wherein at least a portion of a top, bottom and parallel side edges of the package are sealed.

22. The package of claim 21, wherein at least a portion of the sealed top, bottom or side edges includes the grooved strip.

23. The package of claim 20, wherein the sound generating device is positioned on an outer surface of the package.

24. The package of claim 20, wherein the object to produce sound upon sequential engagement of the grooves is a fingernail of a consumer.