Toy packaging is provided, including a toy and a lithophane panel that depicts an image. Typically the packaged toy set is configured so that at least a portion of the image depicted by the lithophane panel may be viewed by back illumination.
Fig. 5

1. Support a toy in association with a backing sheet
2. Support a lithophane panel in association with the backing sheet
3. Attach a substantially transparent cover blister to the backing sheet
PACKAGING FOR TOY AND LITHOPHANE COMBINATIONS

CROSS-REFERENCE TO RELATED APPLICATION


FIELD OF THE INVENTION

[0002] This invention relates generally to toy packaging, and relates particularly to packaging for combinations of lithophanes and figures.

BACKGROUND OF THE INVENTION

[0003] Lithophanes, or lithophanes, are generally flat plates of a translucent material that have been carved or molded with surface features of varying depth. The lithophone surface is generally shaped so that when the lithophone is viewed against an illumination source, or backlighting, the thicker portions of the lithophone appear darker, while the thinner portions appear lighter. In this way, a lithophone may present a highly detailed picture with a remarkable three-dimensional quality.

[0004] Lithophanes have historically been prepared from porcelain, either by hand-carving or through the use of molds. Modern lithophanes may be prepared by forming the desired features into a translucent polymer panel. For example, an image may be digitally scanned and the resulting light and dark values of the scanned image converted by an algorithm to corresponding depth values for the translucent material. The resulting three-dimensional model may be used to machine the desired lithophone using, for example, 3-dimensional computer-operating milling or laser stereolithography. Mass production of the desired lithophone may be facilitated by mirroring a three-dimensional model to produce a master mold from which multiple lithophanes may subsequently be cast.

[0005] Examples of lithophanes and methods of producing lithophanes are found in U.S. Pat. Nos. 1,158,863, 5,782,698, 5,925,426, 6,071,655, 6,287,492, and 6,306,470 (the disclosures of which are incorporated by reference), and in Australian patent publication 4518699, European patent nos. 0918208 and 1119448, United Kingdom patent nos. 5626, 2345458, and international patent application publication WO 00/20185. Commercial embodiments of computer-machined lithophanes and computer-machined molds for lithophanes were presented by ArtCam at the Jewelry Expo in Providence, R.I., in May, 1994 and sold under the name Lithacrylics at least as early as 1997, as shown in U.S. Trademark Registration No. 2,540,011. Photographs of such molds were available for inspection at least as early as 1996, as shown in U.S. Copyright Registration Nos. VUu-359-977, VUu-378-529, VUu-378-530, VUu-378-531, VUu-378-532, VUu-378-533, VUu-378-534, VUu-378-535, VUu-378-536, VUu-378-537, VUu-378-538, VUu-378-539, and VUu-441-575.

[0006] Although lithophanes had been produced in Europe since the early nineteenth century, historical examples of lithophanes are comparatively rare. A lithophone capable of yielding a superbly detailed image when illuminated properly may simply appear to be an oddly shaped piece of plain porcelain when viewed under normal light. Due to the plain or even odd appearance of most lithophanes when viewed under normal lighting (i.e. front-lighting) many were discarded before their true nature could be appreciated.

[0007] The same difficulties exist when marketing modern lithophanes. The odd appearance of lithophanes may make them difficult to market without an explanation of their properties. Unfortunately, product packaging must typically create interest in a potential purchaser quickly in order to efficiently sell a product. What is needed, therefore, is product packaging that permits a potential buyer to view the lithophone image, without either compromising the ability of the packaging to protect the package contents, or interfering with the attractive features of the packaging.

SUMMARY

[0008] This disclosure provides packaged toy sets, including a toy and a lithophone panel depicting an image. Typically the packaged toy set is configured so that at least a portion of the image depicted by the lithophone panel is viewable when backlit.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is an isometric view of a packaged toy according to an embodiment of the invention.

[0010] FIG. 2 is an exploded isometric view of the packaged toy of FIG. 1.

[0011] FIG. 3 is an isometric view of a packaged toy according to an alternative embodiment of the invention.

[0012] FIG. 4 is a rear view of the packaged toy of FIG. 3.

[0013] FIG. 5 shows a flowchart depicting a method of packaging a lithophone panel and a toy, according to an embodiment of the invention.

DETAILED DESCRIPTION

[0014] A packaged toy 10 according to an embodiment of the present invention is shown in FIG. 1. The packaged toy includes a toy 12, and a lithophone panel 14. Lithophone panel 14 generally depicts a scene or image, and the packaging, toy, and lithophone panel are typically configured so that both the toy and the lithophone panel are visible, and the depicted scene or image may be viewed when backlit.

[0015] Lithophone panel 14 may be packaged for sale with toy 12. The packaging for the lithophone panel and toy may include a backing sheet 16. Backing sheet 16 is typically thin and planar, and may include paper, foil, mylar, or any other suitable sheet material. Typically, the backing sheet includes a fibrous material that is readily cut to shape, such as cardboard or other heavy paper stock. The backing sheet may be printed with decorative graphics that may enhance the appeal of the packaged toys.

[0016] The backing sheet typically includes an aperture 18, as shown in FIG. 2 and the lithophone panel and the backing sheet are arranged to that at least a portion of the scene or image depicted by the lithophone panel is aligned
with the aperture, and may be viewed. That is, by holding the packaging between the viewer and an illumination source, the lithophane panel is back-lit through the aperture in the backing sheet, and a lithophane image is therefore visible.

[0017] The toy and lithophane may be at least substantially enclosed by a substantially transparent cover blister that is associated with the backing sheet. By associated is meant that the cover blister is partially or fully attached or connected to the backing sheet, for example using adhesive, fasteners such as staples, heat treatment, or any other method of association.

[0018] The cover blister is typically a substantially transparent "bubble," generally formed from plastic or other polymer by hot or cold pressing the sheet into a mold. The blister may be shaped to enclose the lithophane and toy, and may include a flat circumferential lip configured to be partially or fully sealed to backing sheet.

[0019] The lithophane panel, the backing sheet, and the blister cover are generally arranged so that at least a portion of the toy and lithophane are visible, and at least a portion of the lithophane image may be viewed through the blister cover while the lithophane panel is back-lit through the aperture in the backing sheet.

[0020] The packaged toy of FIG. 1 may additionally include a cover sheet. The cover sheet is typically thin and planar, such as cardboard or heavy paper stock. The cover sheet typically includes at least one aperture, configured so that when the lithophane panel is disposed between the cover sheet and backing sheet, the apertures may be at least partially aligned to permit the lithophane image to be viewed when illuminated from the rear of the backing sheet. Cover sheet may be printed with decorative graphics, and may be decorated so as to match selected graphic elements printed on backing sheet, or relating to toy. For example, a graphic element on the backing sheet that might otherwise be obscured by the lithophane panel may be continued on the cover sheet, resulting in a pleasing and harmonious appearance for the packaging.

[0021] The cover sheet, backing sheet, or both, may include an indication that the lithophane panel is viewable when backlit. The indication may include one or more of written instructions, pictorial elements, and/or alterations in the outline of aperture, among other indicia. Generally, the indicator should urge the potential purchaser to hold the package between the viewer's eye and an illumination source, so that the portion of the lithophane panel disposed between apertures is illuminated from behind. For example, as shown in FIGS. 1 and 2, indication makes a pictorial element and an arrowlike intrusion into the outline of the otherwise circular aperture.

[0022] Toy packaging may also include a support blister, as shown in FIG. 2. Support blister is omitted from FIG. 1 for clarity. The support blister is also typically substantially transparent, and is generally configured to support at least one of toy and lithophane panel, or both. Support blister may support the toy by providing a recess or aperture that is formed in the blister, that is complementary to a portion of the toy and permits the toy to nest in the recess or aperture. In one example, the support blister mates with and/or partially encloses a portion of the toy. Additionally, or in the alternative, the support blister may support the toy by providing a surface to which the toy may be attached, for example by an adhesive, or a fastener such as a flexible wire fastener, among others. Toy may be disposed between the support blister and cover blister.

[0023] Alternatively, or in addition, the support blister may support the lithophane panel. The lithophane panel may also be supported by, for example, one or more lips or edges formed in the support blister. The support blister may also support the lithophane panel, for example by the inclusions of one or more indentations configured to secure and retain the lithophane panel. The lithophane panel may be disposed between backing sheet and support blister, or the support blister may be disposed between the backing sheet and the lithophane panel. The support blister may aid in retaining the lithophane panel in an appropriate position so that the lithophane panel may be viewed via light passing through aperture in the backing sheet.

[0024] The scene or image depicted in the lithophane panel that may be related or unrelated to the toy associated with the lithophane panel. However, the depicted image is typically related to the associated toy. For example, toy may depict a figure, such as a particular character, and image may depict the lithophane panel may include the same character depicted by the figure. Typically, the lithophane panel includes an image at least related to the figure character, and may include a representation of the same character depicted by the figure. In a particular example, where the toy depicts a popular cartoon character the lithophane panel may depict an image of that character in a scene from the cartoon, or depict the character in an action situation.

[0025] The packaged toy of this disclosure may alternatively include a plurality of toys and lithophane panels, for example as shown by packaged toy of FIG. 3. As described above, each toy and lithophane panel may depict a character figure, and each lithophane panel may depict an image related to those characters. The packaged toy of FIG. 3 includes a blister cover and a backing sheet having an aperture, similar to the packaged toy of FIGS. 1 and 2. However, the packaged toy may include a lithophane panel disposed so that the lithophane image may be viewed by placing the packaging between the viewer and an illumination source.

[0026] As described for packaging, packaging may include a cover sheet for the lithophane panel(s). As described above, cover sheet may further include an indicator that provides instruction for viewing the lithophane panel(s).

[0027] Packaging may also further include a substantially transparent support blister, configured to support the enclosed figures within the cover blister. The support blister may be configured to support or retain one or more of the enclosed lithophane panels, typically through complementary shaped features. Alternatively, or in addition, packaging may include a substantially transparent lithophane support blister that is configured to cradle or otherwise support the lithophane(s) in an appropriate position for viewing the lithophane image. Such a lithophane support blister may be disposed between the backing sheet and the lithophane panel(s). Alternatively, the lithophane support blister may be disposed so that the lithophane panel lies between the...
The packaging described herein lends itself to the advantageous presentation of toy and lithophane combinations, as it permits both the toy and the accompanying lithophane panel to be displayed to a potential purchaser, particularly in that the image depicted by the lithophane may be viewed without removing the lithophane from the package. A method of packaging a lithophane panel and a toy is set out in flowchart 50 of FIG. 5, and includes supporting the toy in association with a backing sheet, at 52, supporting the lithophane panel in association with the backing sheet, at 54, and attaching a substantially transparent cover blister to the backing sheet, at 56. As a result of the method, the supported lithophane panel is aligned with an aperture in the backing sheet so that the lithophane image may be viewed when backlit through the aperture. In a particular example, the lithophane panel is supported by a lithophane support blister that is disposed between the lithophane panel and the backing sheet.

It should be understood that the choice of a single figure and three figures as shown in this disclosure is a matter of choice, and variations may be envisioned in the number and placement of figures and/or lithophane panels. Similarly, the packaging described herein may not be limited to a particular type of toy, but may be suitable for packaging a variety of types of toy, including vehicles, animals, insects, dragons, monsters, etc. without departing from the scope of the invention.

Although the present invention has been shown and described with reference to the foregoing operational principles and preferred embodiments, it will be apparent to those skilled in the art that various changes in form and detail may be made without departing from the spirit and scope of the invention. The present invention is intended to embrace all such alternatives, modifications and variations that fall within the scope of the following claims.

What is claimed is:

1. A toy set, comprising:
   a) a toy figure depicting a character; and
   b) a lithophane panel depicting an image.

2. The toy set of claim 1, where the lithophane panel is configured to function as a base for the toy figure.

3. The toy set of claim 1, where the depicted image includes the depicted character.

4. The toy set of claim 1, wherein the toy set is packaged so that both the toy figure and the lithophane panel are visible, and the depicted image may be viewed when backlit.

5. A packaged toy, comprising:
   a) a backing sheet having at least one aperture; 
   b) a toy associated with the backing sheet; and 
   c) a lithophane panel associated with the backing sheet; 

   wherein at least a portion of an image depicted by the lithophane panel is aligned with the aperture so that it is viewable when backlit.

6. The packaged toy of claim 1, wherein the toy and the lithophane panel are associated with the backing sheet by a substantially transparent cover blister.

7. The packaged toy of claim 6, wherein the cover blister at least substantially encloses the toy and the lithophane panel.

8. The packaged toy of claim 5, where the lithophane panel image relates to the toy.

9. The packaged toy of claim 8, where the toy is a character figure, and the lithophane panel image includes a representation of the figure.

10. The packaged toy of claim 9, where the lithophane panel is configured to function as a base for the character figure.

11. The packaged toy of claim 5, including a plurality of toys and lithophane panels associated with the backing sheet, wherein each lithophane panel includes an image, and each lithophane panel is aligned so that at least a portion of each image is viewable when backlit.

12. The packaged toy of claim 5, further comprising a support blister supporting at least one of the toy and the lithophane panel.

13. The packaged toy of claim 12, where the lithophane panel is disposed between the backing sheet and the support blister.

14. The packaged toy of claim 12, where the lithophane panel is disposed between the support blister and a substantially transparent cover blister.

15. The packaged toy of claim 5, further comprising a toy support blister and a lithophane support blister, wherein the lithophane support blister is disposed between the lithophane panel and the backing sheet such that the lithophane panel is supported by both the lithophane support blister and the toy support blister.

16. A packaged toy, comprising:
   a) a planar backing sheet having at least one aperture; 
   b) a toy figure; 
   c) a lithophane panel; 
   d) a substantially transparent cover blister that is attached to the backing sheet, where the cover blister at least substantially encloses the figure and the lithophane panel; 
   e) a support blister disposed between the cover blister and the backing sheet that is configured to support at least one of the figure and the lithophane panel; 

   wherein at least a portion of an image depicted by the lithophane panel is aligned with the aperture so that it is viewable when backlit.

17. The packaged toy of claim 16, wherein the lithophane panel image includes a representation of the figure.

18. The packaged toy of claim 16, wherein the support blister is disposed between the backing sheet and the lithophane panel.
19. A method of packaging a lithophane panel and toy, comprising:
   a) supporting the toy in association with a backing sheet;
   b) supporting the lithophane panel in association with the backing sheet, wherein the supported lithophane panel is aligned with an aperture in the backing sheet; and
   c) attaching a substantially transparent cover blister to the backing sheet.

20. The method of claim 19, where supporting the lithophane panel includes orienting the lithophane so that an image depicted by the lithophane panel is viewable when backlit through the aperture.

21. The method of claim 19, where supporting the lithophane panel includes supporting the lithophane panel with a lithophane support blister that is disposed between the lithophane panel and the backing sheet.