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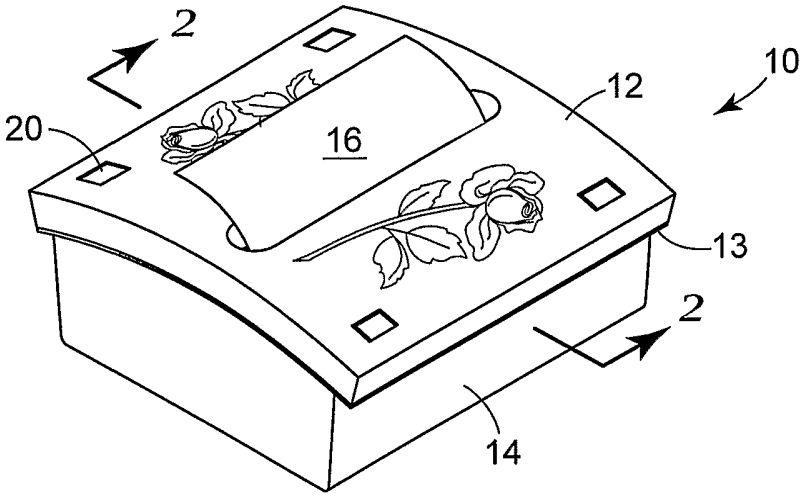
(54) Title: DISPENSER BEARING MULTI-DIMENSIONAL IMAGE



(57) Abstract: The present invention relates to a dispenser having a substantially transparent cover having opposing inner and outer surfaces, said cover having an opening disposed therein; an article bearing a multi-dimensional image, the article having opposing first and second sides and disposed proximate to the inner surface of the cover; and a housing having a cavity adapted for holding a pad of material.

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DISPENSER BEARING MULTI-DIMENSIONAL IMAGE

Field of Invention

The present invention relates to a dispenser for a pad of material, such as a pad of repositionable note or flag, or a pop-up tape, where the dispenser incorporates a multi-dimensional image.

Background

There are a wide variety of commercially available dispensers in the market for dispensing various materials, such as repositionable notes, flags, and tapes. Many dispensers contain a unique design, interesting and colorful images, or both to attract consumers. Dispensers may incorporate a particular company's logo, an advertising message, or iconic images. Dispenser designers continually examine and test different approaches to add aesthetic as well as functional value to the dispensers.

Summary

In one aspect, the present invention pertains to a dispenser having a multi-dimensional image. The dispenser comprises (1) a transparent cover having opposing inner and outer surfaces, the cover having an opening disposed therein; (2) an article bearing a multi-dimensional image, the article having opposing first and second sides and disposed proximate to the inner surface of the cover; and (3) a housing having a cavity adapted for holding a pad of material.

In another aspect, the present invention pertains to a dispenser comprising: (1) a housing comprising a cavity adapted for holding pad of material and a spring; (2) a substantially transparent cover comprising opposing inner and outer surfaces and a first aperture adapted for dispensing an item in the pad of material; and (3) an article bearing a multi-dimensional image, the article comprising: (i) a lenticular film having a first substantially transparent structured surface and an opposing second substantially flat surface; (ii) a base sheet having an imaged first side and an opposing second side; (iii) a transparent adhesive disposed between the second surface of the lenticular film and the first side of the base sheet; and (iv) a first opening in alignment with the first aperture of the cover.

In yet another aspect, the present invention pertains to a kit comprising: (1) a dispenser comprising a housing having a cavity, (2) a substantially transparent cover having a first aperture, and a spring; (3) an article bearing a multi-dimensional image, the article comprising a substantially transparent lenticular film having a first structured surface and a second substantially flat surface and an image disposed proximate to the second flat surface of the lenticular film; and (4) a pad of material selected from the group consisting of repositionable notes, repositionable flags, and precut tape.

As used herein, the term "transparent" generally means having the property of transmitting light without appreciable scattering so that images lying beyond can be seen. The term "multidimensional" means at least two-dimensional.

Brief Description of the Drawings

The present invention can be further described with reference to the following drawings, wherein:

Figure **1** is a perspective view of one exemplary embodiment of the present invention;

Figure **2** is a cross sectional view of the dispenser of Figure **1** taken along line **2–2**;

Figure **3** is a cross sectional view of an exemplary article bearing a multi-dimensional image; and

Figure **4** is a top plan view of an exemplary article bearing a multi-dimensional image.

These drawings are idealized, are not drawn to scale, and are intended for illustrative purposes only.

Detailed Description

Figure **1** shows an isometric view of one exemplary embodiment of the present invention. Dispenser **10** includes housing **14**, a substantially transparent cover **12**, and an article bearing a multi-dimensional image **13**. The cover contains a first aperture adapted for dispensing an item in a pad of material, such as repositionable note **16** in a pad of material. Exemplary pad of material include, but is not limited to, repositionable notes such as Post-it® pop-up notes, repositionable flags such as the Post-it® flags, and precut tape, such as pop-up tape, all commercially available from 3M Company, St. Paul, MN.

Figure **2** is a cross-sectional view of the dispenser of Figure **1**. Housing **14** is polygonal and is similar in shape to that of pad of material **17**. The housing has a base and four upright walls extending from the base. The housing includes cavity **19** adapted for receiving the pad of material. The housing further includes spring **18** serving as a means for biasing the pad of material against the cover thereby allowing for continual dispensing of the pad of material until the entire pad is consumed. This particular dispenser is particularly suited for a pad of material that is assembled in a z-stack format, i.e., where the repositionable adhesive of a first item in the pad is disposed at the opposite edge of the repositionable adhesive of the next subsequent item in the pad. The figure shows repositionable note **16** exposing from and to the right hand side of the dispenser. In the z-stacked configuration, when a user pulls on the exposed note, the next available note will be dispensed to the left hand side of the dispenser. The housing further includes post **20**. As best shown in Figure **1**, four posts are used in this embodiment, each post residing approximately in the corner of the housing.

Cover **12** has opposing inner and outer surfaces, **12a** and **12b**, respectively. The cover includes first aperture **21** adapted for dispensing a pad of material and second aperture for mating with posts **20** in the housing. The second apertures are aligned with the posts of the housing. This particular design allows the cover to be attached and detached from the housing when a new pad of material needs to be loaded into the dispenser. The posts provide an interference fit with second apertures in the cover. If desired, the outer surface of the cover may include indicia, such as those used in the promotional market for advertising.

Dispensers that can be used in the present invention include but are not limited to those disclosed in US Patent Nos. 4,796,781; 4,921,127; 4,986,440; 4,993,590; 5,080,255; 5,167,346; 5,671,866, and 6,068,138. While these dispenser patents recited may not disclose that the cover is transparent, one can practice the invention by substituting a transparent cover.

Figure **3** shows one exemplary article **30** bearing a multi-dimensional image. The article is of multilayer construction and includes a substantially transparent lenticular film **32**. The lenticular film has first structured surface **32a** and opposing second substantially flat surface **32b**. Base sheet **36** includes first surface **36a** containing an image (not shown) and opposing second surface **36b**. Adhesive **34** attaches the lenticular film to the base

sheet. Any adhesive can be used in the present invention, so long as it does not interfere with the visual appearance of the article. In one embodiment, the adhesive is substantially transparent. In this particular construction, the image disposed on surface **36a** of the base sheet is buried and thus protected.

While the article in Figure **3** shows a multi-layer construction, it is within the scope of the present invention to have the image disposed directly on the second, substantially flat side **32b** of the lenticular film. If desired, a white ink can be printed directly over the image covering substantially all of the second side of the lenticular film. Whether a single or multi-layer construction is used, the image can be formed using any of a variety of printing techniques, including but not limited to inkjet printing, and other printing techniques, such as, but not limited to, silk screening, offset printing, and flexo-printing.

Figure **4** shows a top plan view of an exemplary article bearing a multi-dimensional image. In this particular case, for ease of understanding, the lenticular portion of the article has been removed. Article **40** includes images **41**, first opening **43** adapted for dispensing the pad of material, and second opening **45**. The first opening **43** is in alignment with the first aperture **21** of the cover and the second opening **45** is in alignment with the second aperture of the cover. The openings in the articles are typically formed by die-cutting. Once assembled, as best shown in Figure **2**, the article **40** covers substantially all of the inner surface **12a** of the cover.

In use, in one embodiment, the consumer is provided with at least one article bearing multi-dimensional image. A plurality of these articles can be provided and they can be coordinated with a particular holiday season (e.g., Easter, Christmas). Thus, the dispenser is designed to allow for different images to be displayed at different times by changing the article bearing the multi-dimensional image. The consumer aligns the article bearing the multi-dimensional image with the cover so that the apertures in the cover coincide with the openings in the article, loads the housing cavity with a pad of material, and then places the cover with the article on the housing.

In alternative embodiments, the cover may include mechanical means (such as, but not limited to, hooks, hook and loop fastening means) that allows for attachment of the article bearing the multi-dimensional image, thereby eliminating the need to rely on the consumer to align the article with the cover. In yet another embodiment, the article bearing the multi-dimensional image can be attached adhesively to the cover, so long as

the adhesive does not visually detract from the image. The adhesive may be repositionable, allowing for easy removal of the film bearing the multidimensional image and for replacement of a different film containing a different image.

In a lenticular film, a plurality of linear corrugations or grooves that are molded, embossed, or extruded. Such films are typically colorless, although they can be tinted. A one-dimensional image can be printed onto a base sheet and attached, such as by a lamination process, to the lenticular film. Alternatively, a photo can be used as the image. The combination of the printed base sheet or photo with the lenticular film transforms the one-dimensional image into a multi-dimensional image. Care should be taken to align the image with the lenticular film to produce a quality multi-dimensional image. If desired, the printed image or photo can be subjected to known photography techniques where commercially available software can be used to alter the picture so it is better suited with the lenticular film. As stated above, in an alternative embodiment, the lenticular film is the article bearing the multi-dimensional image. Commercially available lenticular films that may be used in the present invention include those supplied from LentiClear™ Lenticular Lens, Inc. in Itasca, Illinois under product name LentiClear™ Elliptical High Performance Lenticular Lens.

US Patent No. 6,288,842 discloses another useful article for use in the present invention, where various types of microlens sheeting with composite images are described. The composite image may be two-dimensional or three-dimensional. The image floats above and or below the sheeting. Suitable microlens sheeting that can be processed to include the composite images include exposed lens sheeting, embedded lens sheeting, encapsulated lens sheeting, and microlens sheeting comprises a transparent plano-convex or aspheric base sheet. The exposed lens type of microlens sheeting that includes a monolayer of transparent microspheres partially embedded in a binder, as described in greater detail in US Patent No. 2,326,634. The embedded lens type sheeting that includes a monolayer of transparent microspheres embedded in a transparent protective overcoat, as described in greater detail in US Patent No. 3,801,183. The encapsulated lens type sheeting is described in US Patent No. 5,064,272. The transparent plano-convex or aspheric base sheet has first and second broad faces, the second face being substantially planar and the first face having an array of substantially hemispheroidal or hemi-aspheroidal microlenses, as better described in US Patent No. 5,254,390.

Articles bearing holograms may also be used in the present invention. Holograms are typically generated by using small prisms or small ridges that scatter to diffract light in a periodic fashion. There are commercially available films that generate holograms.

Although specific embodiments of the present invention have been shown and described, it is understood that these embodiments are merely illustrative of the many possible specific arrangements that can be devised in application of the principles of the invention. Numerous and varied other arrangements can be devised in accordance with these principles by those of ordinary skill in the art without departing from the spirit and scope of the invention. Thus, the scope of the present invention should not be limited to the structures described in this application, but only by the structures described by the language of the claims and the equivalents of those structures.

What is claimed is:

1. A dispenser comprising:

a substantially transparent cover having opposing inner and outer surfaces, the cover having an opening disposed therein;

an article bearing a multi-dimensional image, the article having opposing first and second sides and disposed proximate to the inner surface of the cover; and

a housing having a cavity adapted for holding a pad of material.

2. The dispenser of claim 1 further comprising indicia disposed on the outer surface of the cover.

3. The dispenser of claim 1, wherein the housing further comprises a means for biasing the pad of material against the inner surface of said cover.

4. The dispenser of claim 3, wherein the means for biasing the pad of materials is a spring.

5. The dispenser of claim 4, wherein the cavity comprises a platform upon which the pad of material can be disposed, the platform having an opening therein to accommodate for the spring.

6. The dispenser of claim 1, wherein the pad of material is selected from the group consisting of a pad of repositionable note, a pad of repositionable flag, a pad of precut tape, and combinations thereof.

7. The dispenser of claim 1, wherein the article bearing a multi-dimensional image is selected from the group consisting of lenticular film, microlens sheeting, and films containing holograms.

8. The dispenser of claim 7, wherein the lenticular film as a first structured surface and an opposing second substantially planar surface comprising an image.

9. The dispenser of claim 1, wherein the article bearing a multidimensional image is a composite comprising

a lenticular film having a first structured surface and an opposing second substantially flat surface; and

a base sheet having a first major surface comprising an image;

wherein the first major surface of the base sheet is proximate to the second surface of the lenticular film.

10. The dispenser of claim 9 further comprising a transparent adhesive disposed between the second surface of the lenticular film and the first major surface of the base sheet.

11. The dispenser of claims 7 or 9, wherein the lenticular film is transparent.

12. The dispenser of claims 8 or 9, wherein the image is printed via inkjet printing.

13. The dispenser of claim 1, wherein the cover is detachable from the housing.

14. The dispenser of claim 1, wherein cover and the article bearing a multi-dimensional image each comprise a first aperture adapted for dispensing in the pad of material.

15. The dispenser of claim 1, wherein the article bearing the multi-dimensional image covers substantially the entire inner surface of the cover.

16. The dispenser of claim 1, wherein the housing comprises a post for mating with a second aperture in the cover.

17. The article of claim 1, wherein the article bearing a multi-dimensional image is adhesively attached to the inner surface of the cover.

18. A dispenser comprising:

a housing comprising a cavity adapted for holding pad of material and a spring;

a substantially transparent cover comprising opposing inner and outer surfaces and a first aperture adapted for dispensing an item in the pad of material; and

an article bearing a multi-dimensional image, the article comprising:

a lenticular film having a first substantially transparent structured surface and an opposing second substantially flat surface;

a base sheet having an imaged first side and an opposing second side;

a transparent adhesive disposed between the second surface of the lenticular film and the first side of the base sheet; and

a first opening in alignment with the first aperture of the cover.

19. The dispenser of claim 18, wherein the pad of material is selected from the group consisting of repositionable note, repositionable flag, and precut tape.

20. A kit comprising:

A dispenser comprising a housing having a cavity, a substantially transparent cover having a first aperture, and a spring;

An article bearing a multi-dimensional image, the article comprising a substantially transparent lenticular film having a first structured surface and a second substantially flat surface and an image disposed proximate to the second flat surface of the lenticular film; and

A pad of material selected from the group consisting of repositionable notes, repositionable flags, and precut tape.

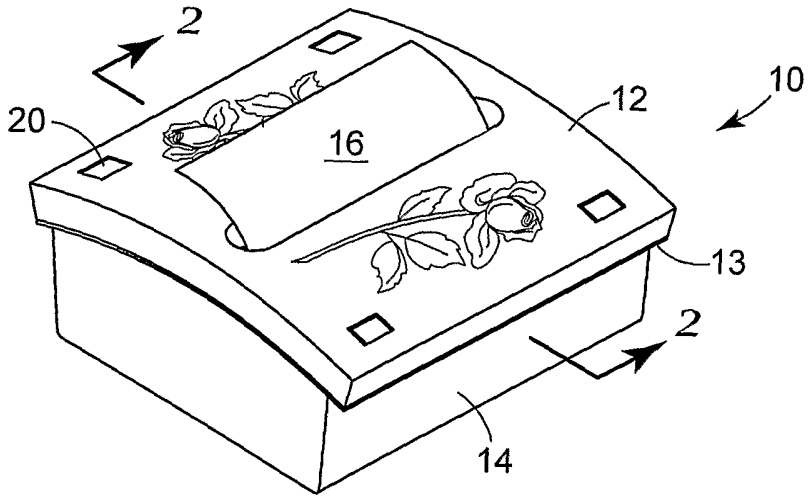

FIG. 1

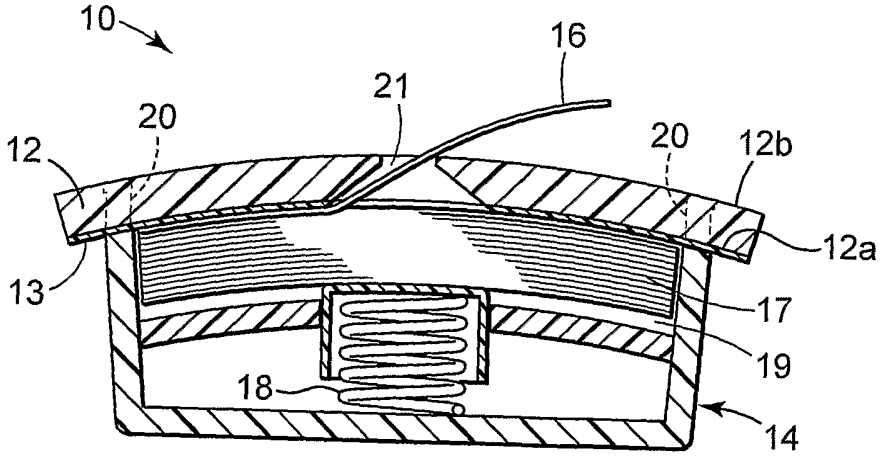

FIG. 2

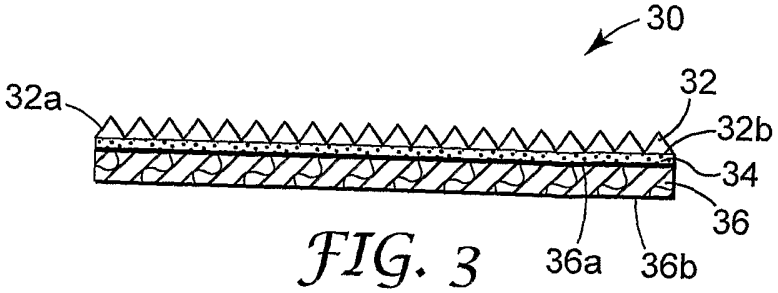

FIG. 3

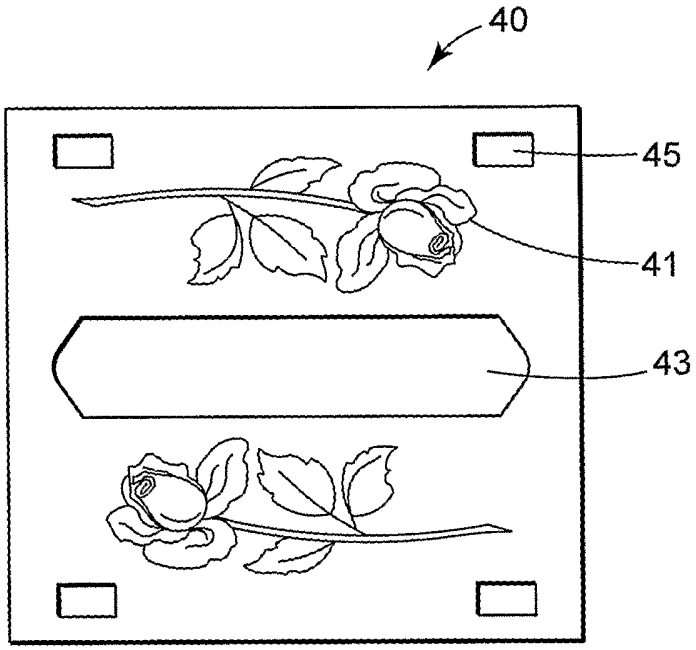

FIG. 4