SPECIAL EFFECTS DEVICE

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ABSTRACT
A special effects device is disclosed having a transparent, flexible, static cling backing for removable attachment to glass or other smooth surfaces, a shatter object attached to the backing, and a shatter pattern imprinted on the backing. When attached to a surface such as glass or plastic, the device gives the visual effect of the shatter object having broken and partially penetrated the surface. A message, logo, or other alphanumeric identification can be imprinted on the shatter object for advertising purposes.
SPECIAL EFFECTS DEVICE

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application is related as a continuation of U.S. patent application Ser. No. 10/206,813, which was filed on Jul. 27, 2002.

BACKGROUND OF THE INVENTION

[0002] 1. Technical Field

[0003] The present invention relates to special effects devices, and more particularly to special effects devices designed to give the visual effect of a selected shatter object having broken and partially penetrated a surface such as glass. A message, logo, or other alphanumeric identification can be imprinted on the shatter object for promotional or advertising purposes.

[0004] 2. Description of Related Art

[0005] Special effects can be used for both personal and commercial purposes. For example, special effects of all sorts are common components of movie and theater productions. Various special effects devices are also commonly used by individuals for entertainment, amusement, and celebratory purposes. On the personal level, people frequently incorporate the use of special effects devices during the celebration of Halloween, to perform magic tricks, or when playing a practical joke on another person. As another example, U.S. Pat. No. 4,358,488 issued to Dunklin discloses a perforated polymer laminate sheet for attachment to the inside of a vehicle window. The outermost surface of the laminate includes artwork such that when viewed by an outside observer, simulates the appearance of a three-dimensional object such as a mechanical window Louver.

[0006] In commercial use, special effects devices are often used to market products. For example, U.S. Pat. No. 6,023,870 issued to McGarrah, discloses a system for displaying information interior to a vending machine, including a plurality of removable adhered graphical sheets adhered by static cling to a clear display panel for advertising and other promotional purposes.

BRIEF SUMMARY OF THE INVENTION

[0007] A primary advantage of the present invention is that it creates a non-destructive visual effect of a shatter object having broken and partially penetrated a surface such as glass. Another advantage of the present invention is that it permits the application of a wide variety of shatter objects to achieve different desired effects. Another advantage of the present invention is that it can be used as a novel means to promote goods, services, charities or other organizations, such as schools. Another advantage of the present invention is that it doesn’t require the use of adhesives or other materials in order to apply it to surfaces for novelty or advertising purposes. Another advantage of the present invention is that it can be applied and removed by hand, without the need for any tools.

[0008] Another advantage is that the shatter objects can be portions of actual sports objects, such as a golf ball or baseball. Another advantage of the object is that the printed shatter image on the backing may be an actual pattern of broken glass, translated to print via digital photography. Another advantage of the invention is that the backing is die cut to have an irregular perimeter, so as to further disguise the novelty’s visibility and enhance the perception of the special effect of the shatter object having impacted and partially penetrated the glass.

[0009] Other advantages of the present invention will become apparent from the following descriptions, taken in connection with the accompanying drawings, wherein, by way of illustration and example, an embodiment of the present invention is disclosed.

[0010] In the preferred embodiment of the present invention, a static cling backing made from a flexible polyvinyl-chloride (PVC) material is provided. In a preferred embodiment, the backing is approximately 8 millimeters thick. In another preferred embodiment, the static cling material is printed with an ultra-violet vinyl ink, cured in UV dryers, and then die-cut with molds unique to this invention. In another preferred embodiment, the die-cut molds create a non-uniform perimeter in the static cling material.

[0011] In a preferred embodiment, a shatter object is prepared by cutting, sanding, in some cases applying an enamel to the shatter objects in preparation for application of the shatter object adhesive. Once the preparation of the shatter object is complete, it is adhesively attached to the backing (no adhesion material is used on the surface of the backing for application to the glass) using a flexible vinyl compatible adhesive such as is readily available from 3M™. In a preferred embodiment, the adhesive material is die-cut from specially sized molds specifically designed for this invention. In a preferred embodiment, the backing has an irregular perimeter, though generally circular.

[0012] In another preferred embodiment, a shatter pattern is graphically imprinted on the backing. In another preferred embodiment, the imprinted shatter pattern is comprised of white lines printed with white UV vinyl ink or a glow-in-the-dark ink. In another preferred embodiment, the imprinted shatter pattern is comprised of a fracture-like pattern with lines decreasing in density at increasing radial distances from the center. The shatter pattern may be derived from photographs of glass broken with a shatter object. The digital images are transferred as the patterns for the printing processes.

[0013] In a preferred embodiment, the shatter object is comprised of a fractional portion of a sports object, such as baseball, golf ball, hockey puck, softball, soccer ball, football, tennis ball, basketball, sporting clay, or other sports object. In another preferred embodiment, foam is used to fill the interior of an otherwise hollow shatter device. In a more preferred embodiment, a rigid high density polyurethane foam is injected via a heated two part injection system to fill the interior of an otherwise hollow shatter object. In another preferred embodiment, the foam is dyed with pigments to compliment or enhance the shatter object appearance. In another preferred embodiment, die-cut circular tins are used as an intermediary attachment surface between the shatter object and the backing.

[0014] In another preferred embodiment, a message, logo, redeemable coupon, or other alphanumeric identification is graphically imprinted on the shatter object or on to the cling backing. In another preferred embodiment, the special
effects device is attached to a smooth, plastic-coated mounting sheet for retail sale. In another preferred embodiment, the mounting sheet is a dark color, such as black. In another preferred embodiment, the sheet is attached to a blister coated retail card and then sealed with blister seal coverings. In another preferred embodiment, the blister seal coverings are made from molds to fit the shatter object invention.

[0015] In a less preferred embodiment, the backing is removably adhered to a surface by a tacky adhesive.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0016] The drawings constitute a part of this specification and include exemplary embodiments to the invention, which may be embodied in various forms. It is to be understood that in some instances, various aspects of the invention may be shown exaggerated, enlarged, or otherwise spatially modified to facilitate an understanding of the invention.

[0017] FIG. 1 is a front view of a preferred embodiment of the special effects device according to the principles of the invention, in which the shatter object is a baseball.

[0018] FIG. 2 is a side view of the preferred embodiment of the special effects device shown in FIG. 1.

[0019] FIG. 3 is a back view of the preferred embodiment of the special effects device shown in FIG. 1 and FIG. 2.

[0020] FIG. 4 is a front view of another preferred embodiment of the special effects device according to the principles of the invention, in which the shatter object is a golf ball.

[0021] FIG. 5 is a front view of another preferred embodiment of the special effects device according to the principles of the invention, in which the shatter object is a soccer ball.

[0022] FIG. 6 is a front view of another preferred embodiment of the special effects device according to the principles of the invention, in which the shatter object is a tennis ball.

[0023] FIG. 7 is a back view of the preferred embodiment of the special effects device shown in FIG. 6.

[0024] FIG. 8 is a front view of another preferred embodiment of the special effects device according to the principles of the invention, in which the shatter object is a beer can.

[0025] FIG. 9 is a front view of another preferred embodiment according to the principles of the invention, in which a special effects device is adhered to a side window of an automobile.

[0026] FIG. 10 is a front view of another preferred embodiment according to the principles of the invention, in which a special effects device is adhered to the front window of an automobile.

[0027] FIG. 11 is a front view of another preferred embodiment according to the principles of the invention, in which a special effects device is adhered to the rear window of an automobile.

[0028] FIG. 12 is a front view of a preferred embodiment of the present invention in which special effects devices are shown in a manufacturing stage. The actual die-cut edge composing the outer edge of the special effects design is shown in FIG. A-1.

[0029] FIG. A-1 is a front view of the preferred embodiment according to the principles of the invention, in which the outer die-cut edge of the special effects device has an irregular shape surrounding the printed backing.

DETAILED DESCRIPTION OF THE INVENTION

[0030] The following description is presented to enable any person skilled in the art to make and use the invention, and is provided in the context of a particular application and its requirements. Various modifications to the disclosed embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the present invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

[0031] FIG. A-1 is the front view of a preferred embodiment of the present invention. This figure illustrates a preferred perimeter for special effect device 10. While FIGS. 1-12 show a perfect circle encapsulating the design, FIG. A-1 is the preferred die-cut outline.

[0032] FIG. 1 is a front view of the present invention. In this view, the special effects device 10 is shown generally. A backing 12 is attached to a shatter object 14, by an adhesive 16 (not seen in this view). In the preferred embodiment, adhesive 16 is a custom die-cut circle of a double sided adhesive tape specifically designed to work in chemical conjuction with backing 12 material’s plasticizer elements, such as F-9465PC Adhesive Transfer Tape™ which is commercially available from 3M™.

[0033] In a preferred embodiment, shatter object 14 is a selected sports object, such as a baseball, golf ball, hockey puck, softball, tennis ball, soccer ball, football, or other shatter object 14. In another preferred embodiment, shatter object 14 is any non-sports object such as a rock, beer can, plastic soda bottle, hammer handle, potted plant, a hand, the rear end of a bird, cat, brick, fishing lure, or other modifiable and adhesivable products. It is readily seen by one of ordinary skill in the art that shatter object 14 can be any object for which it is desired to create the special effects of object 14 having partially penetrated a display surface such as glass. In the embodiment shown in FIG. 1, shatter object 14 is a portion of a baseball.

[0034] In the preferred embodiment of the present invention, backing 12 is made from a transparent, flexible static cling vinyl material. In another preferred embodiment, backing 12 is made of a PVC material that is approximately 8 millimeters in thickness. In another preferred embodiment, backing 12 is irregular in shape as depicted in FIG. A-1. In another preferred embodiment, a shatter pattern 18 comprised of at least one line 20, is imprinted on backing 12. In another preferred embodiment, lines 20 are printed in a UV vinyl white ink. Test of various colors resulted in the selection of white as the most preferred color for replication of actual fractures in glass surfaces.

[0035] In another preferred embodiment, a plurality of lines 20 form a fracture-like pattern in decreasing density at increasing radial distances from the center of shatter object 14. Digital photographs from actual glass shattering upon
impact of an object and studies of fractured glass surfaces resulted in the selection of line 20 concentrations in decreasing density at increasing radial distances from the center as a preferred replication of actual fractures in glass surfaces.

[0036] FIG. 2 is a side view of the embodiment of special effects device 10 illustrated in FIG. 1. As best seen in FIG. 2, in the preferred embodiment, shatter object 14 is a fraction of a whole object. In another preferred embodiment, shatter object 14 is comprised of approximately 60% of a whole object, though some objects might be used at slightly less or more than one-half of its original form. As best seen in FIG. 2, in the preferred embodiment, shatter object 14 is modified to include a substantially flat base 22, thereby defining a substantially flat section of the fractional portion. Base 22 can be attached to backing 12 with a thin layered flexible vinyl compatible adhesive 16 such as F-9465PC Adhesive Transfer Tape™, which is commercially from 3M™.

[0037] FIG. 3 is a back view of the embodiment of special effects device 10 illustrated in FIG. 1. In this view, it can be seen that base 22 is readily formed when sectioning solid shatter object 14, such as a baseball, softball, hockey puck, or golf ball. In another preferred embodiment, a flat circular tin 23 is adhered to base 22 to act as an intermediary. This embodiment is particularly useful where a foam 26 is used to form substantially flat base 22 of shatter object 14.

[0038] FIG. 4 is a front view of special effects device 10 in which shatter object 14 is a sectioned golf ball. FIG. 5 is a front view of special effects device 10 in which shatter object 14 is a sectioned soccer ball. In this instance, the soccer ball is a four and one-half inch leather replica of a real soccer ball, filled with a solidifying foam 26. A tin intermediary 23 (not shown) is adhered to solidified foam base 22 and then shatter object 14 is adhered to backing 12 with adhesive 16.

[0039] FIG. 6 is a front view of another preferred embodiment of special effects device 10, in which shatter object 14 is a tennis ball. FIG. 7 is a back view of shatter object 14 of FIG. 6, illustrating a natural hollow interior 24. In a preferred embodiment, foam 26 is a rigid high density polyurethane foam. In another preferred embodiment, foam 26 is injected via a two part electric pump injection system to fill hollow interior 24 of shatter object 14. When foam 26 hardens, it provides substantially flat base 22 for attachment of hollow shatter object 14 to backing 12 with adhesive 16. In another preferred embodiment an intermediary tin 23 is attached to foam 26 to form base 22. Tin 23 and shatter object 14 are attached to backing 12 with adhesive 16. In a preferred embodiment, a 2.2 pound high density rigid polyurethane foam 26 is used to fill hollow interior 24. In a less preferred embodiment, a polyurethane foam 26 may be cut and placed inside the object to provide substantially flat base 22.

[0040] Other shatter objects 14 having a hollow interior 24 include devices such as basketballs, soccer balls, footballs, and other non-sports objects such as beer cans, plastic soda and drink bottles, and hollow containers such as tobacco cans, coffee cans, and other containers having open space within their bodies. For example, FIG. 8 is a front view of another preferred embodiment of special effects device 10, in which shatter object 14 is a beer can. In a preferred embodiment for a transparent plastic soda bottle, the polyurethane foam is dried prior to injection so as to approximate the color of the contents of the bottle.

[0041] Referring back to FIG. 1, in another preferred embodiment, an image 15 is imprinted on shatter object 14. Examples of image 15 include, but are not limited to, a message 46, a logo 34, a redeemable coupon 36, or other graphic or alphanumeric identification, including such things as college, professional, or amateur sports team logos, company brand logos, event logos, or other types of graphical representations. In another preferred embodiment, an image 44 is imprinted on backing 12. Examples of image 44 also include, but are not limited to, a message 46, a logo 48, or other graphic or alphanumeric identification, including such things as college, professional, or amateur sports team logos, company brand logos, event logos, or other types of graphical representations.

[0042] In another preferred embodiment, special effects device 10 is attached to a smooth, plastic coated carrier sheet 40 for retail sale. In another preferred embodiment, carrier sheet 40 has a dark-colored surface 42, most preferably black. In another preferred embodiment, carrier sheet 40 with shatter object 10 is placed onto a blister-coated card 43 (not shown) and sealed with a plastic blister seal covering 44 (not shown) molded to accommodate shatter object 10.

[0043] In a preferred embodiment of the present invention, a method of displaying a special effect is disclosed, comprising the step of removable attaching special effects device 10 having shatter object 14 attached to a flexible backing 12 onto a display surface 50. This is best seen in FIGS. 9, 10 and 11, in which special effects device 10 is attached to the side window of an automobile, the front window of an automobile, and the rear window of an automobile respectively.

[0044] FIG. 12 is a front view of a preferred embodiment of the present invention in which special effects devices 10 are shown in a manufacturing stage. In a preferred embodiment of the present invention, a vinyl sheet 60 attached to a carrier sheet 62 is provided on a roll. In the preferred embodiment, carrier sheet 62 is colored black. Vinyl sheet 60 and carrier sheet 62 are dye-cut into a smaller sheet 63 that can be easily handled. Sheet 63 is cut to form the perimeter of backing 12 with the shape such as that illustrated in FIG. A-1.

[0045] In a preferred embodiment, shatter pattern 18 and backing image 44 are printed onto sheet 63. Shatter object 14 is attached to backing 12 with adhesive 16, and is then placed onto a blister card 43 and covered with a plastic blister seal 44 made to fit over shatter object 14. Blister card 43 is sealed with a sealing machine and readied for retail.

[0046] Operation of the Invention

[0047] In the preferred embodiment of the present invention, special effects device 10 is preferably marketed or otherwise distributed attached to a carrier sheet 40 formed from carrier sheet 62, having a dark-colored surface 42. Dark-colored surface 42 allows ready observation by contrast to white lines 20 of shatter pattern 18. Backing 12 adheres to mounting sheet 40 via static cling. Special effects device 10 can be placed on a generally smooth display surface 50 such as a windshield, office windows, glass doors, or otherwise smooth surfaces to achieve the illusion of the shatter object 14 having fractured or partially penetrated the various display surfaces 50.

[0048] In another preferred embodiment, an imprinting 15 of a promotional message, such as a coupon, discount notice, advertisement, logo, or other message, is imprinted on shatter object 14.
While this invention has been described in connection with a preferred embodiment, it is not intended to limit the scope of the invention to the particular form set forth, but, on the contrary, it is intended to cover such alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

1. A special effects device comprising:
   a flexible polyvinylchloride static cling backing; and,
   a shatter object attached to the backing with a plasticizer migration resistant adhesive tape.

2. A special effects device in accordance with claim 1, wherein the shatter object is a fractional portion of a normally whole object.

3. A special effects device in accordance with claim 1, wherein the backing is made of a transparent PVC material.

4. A special effects device in accordance with claim 1, wherein the shatter object has a substantially flat base.

5. A special effects device in accordance with claim 1, wherein the backing has an is irregular perimeter.

6. A special effects device in accordance with claim 1, further comprising a shatter pattern imprinted on the backing.

7. A special effects device in accordance with claim 6, wherein the shatter pattern is comprised of a plurality of lines.

8. A special effects device in accordance with claim 7, wherein the lines are printed in white with a UV vinyl link.

9. A special effects device in accordance with claim 7, wherein the shatter pattern is comprised of a plurality of lines decreasing in density at increasing radial distances from the center of the backing.

10. A special effects device in accordance with claim 1, wherein the shatter object is a fractional portion of a sports object, such as a baseball, golf ball, hockey puck, softball, tennis ball, or other sports object.

11. A special effects device in accordance with claim 1, wherein the shatter object is filled with a solidifying foam.

12. A special effects device in accordance with claim 1, wherein the shatter object is comprised of a fractional portion of a beverage container.

13. A special effects device in accordance with claim 12, wherein the shatter object is filled with a solidifying foam.

14. A special effects device in accordance with claim 13, wherein the foam is dyed to match a color associated with the usual contents of the shatter object.

15. A special effects device in accordance with claim 1, wherein the shatter object is comprised of a fractional portion representation of a normally living thing.

16. A special effects device in accordance with claim 1, wherein the interior of the shatter object is filled with a solidifying foam.

17. A special effects device in accordance with claim 1, further comprising an imprinting on the shatter object.

18. A special effects device in accordance with claim 1, further comprising a text message imprinted on the backing.

19. A special effects device in accordance with claim 1, further comprising a plastic-coated transfer sheet for display of the attachment of the special effects device.

20. A special effects device in accordance with claim 19, wherein the transfer sheet has a dark-colored surface.

21. A method of advertising, comprising the steps of:
   a) imprinting a promotional message on the special effects device of claim 1; and,
   b) attaching the special effects device onto a display surface.

22. A method of advertising, comprising the steps of:
   a) imprinting a promotional message on the backing attached to the shatter object of a special effects device of claim 1; and,
   b) attaching the special effects device onto a display surface.

23. A method of manufacturing a special effects device, comprising the steps of:
   a) forming a shatter object by portioning a normally whole object;
   b) die-cutting a flexible static cling vinyl backing; and,
   c) adhering the shatter object to the backing with a double-sided, plasticizer migration resistant adhesive tape.

24. The method of manufacturing a special effects device of claim 23, the step of “portioning” further comprises the step of:
   a) creating a substantially flat base at the portioned surface section of the shatter object; and,
   b) applying an enamel to the flat base.

25. The method of manufacturing a special effects device of claim 23, further comprising the step of:
   a) imprinting a message or image on the backing.

26. The method of manufacturing a special effects device of claim 23 further comprising the step of:
   a) imprinting a shatter pattern on the backing.

27. The method of manufacturing a special effects device of claim 23, further comprising the step of:
   a) die-cutting the backing in irregular patterns from the vinyl sheets.

28. A method of manufacturing a special effects device comprising the steps of:
   a) forming a shatter object by portioning a normally whole object
   b) dyeing a solidifying foam,
   c) filling a hollow shatter object with the foam;
   d) allowing the foam to harden;
   e) sanding the hardened foam to form a substantially flat base;
   f) adhering a circular tin to the flat surface;
   g) die-cutting a flexible static cling vinyl backing; and,
   h) adhering the tin of the shatter object to the backing with a double-sided, plasticizer migration resistant adhesive tape.

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