METHOD AND APPARATUS FOR ATTACHING ARTICLE TO A CONTAINER

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ABSTRACT
The present invention comprises a method and apparatus for attaching an article, preferably comprising communication media, to a container. The container may be, inter alia, any form of container or receptacle. For example and without limitation, the container may be a gift bag or gift box. The container may comprise paper and/or cardboard or other material. One embodiment of the present invention may comprise a barbed protrusion or flexible biasing elements for securing attachment to the container. The attached article may comprise, inter alia, greeting cards, CD’s, DVD’s and the like. The apparatus may further comprise opposing grippable surfaces to grasp and securely hold the article while the apparatus is secured on container.
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CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of provisional patent application Ser. Nos. 60/990,474 filed Nov. 27, 2007 and 61/036,146 filed Mar. 13, 2008, the entire contents of which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention is generally directed to a method and apparatus for attaching an article, more preferably an article comprising communication media, to a container.

BRIEF SUMMARY OF THE INVENTION

The present invention comprises a method and apparatus for attaching an article, preferably comprising communication media, to a container. The container may be, inter alia, any form of container or receptacle. For example and without limitation, the container may be a gift bag or gift box. The container may comprise paper and/or cardboard or other material. One embodiment of the present invention may comprise a barbed protrusion or flexible biasing elements for securing attachment to the container. The attached article may comprise, inter alia, greeting cards, CD’s, DVD’s and the like. The apparatus may further comprise opposing grippable surfaces to grasp and securely hold the article while the apparatus is secured on container.

An object of the present invention is to provide a method and apparatus for removably securing an article to a container.

Another object of the present invention is to provide a method and apparatus for removably securing an article comprising communication media to a container.

Another object of the present invention is to provide a method and apparatus for removably securing an article to a container and removably securing a decoration to the apparatus.

Another object of the present invention is to provide a method and apparatus for removably securing an article comprising communication media to a container and removably securing a decoration to the apparatus.

The figures and the detailed description that follow more particularly exemplify these and other embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may be more completely understood in consideration of the following detailed description of various embodiments of the invention in connection with the accompanying drawings, which are included herein.

FIG. 1 is a front view of one embodiment of the present invention.

FIG. 2 is a side view of one embodiment of the present invention.

FIG. 3 is a perspective view of one embodiment of the present invention.

FIG. 4 is a side view of one embodiment of the present invention.

FIG. 5 is a front view of one embodiment of a container.

FIG. 6 is a front view of one embodiment of a decoration of the present invention.

FIG. 7A is a rear view of one embodiment of a decoration of the present invention.

FIG. 7B is a side view of one embodiment of a decoration of the present invention.

FIG. 8 is a side view of one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION, INCLUDING THE BEST MODE

While the invention is amenable to various modifications and alternative forms, specifics thereof are shown by way of example in the drawings and described in detail herein. It should be understood, however, that the intention is not to limit the invention to the particular embodiments described. On the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention.

As illustrated in the Figures, a method and apparatus for removably securing an article to a container is described. One embodiment of a gripping apparatus 10 of the present invention is illustrated in FIGS. 1-5.

As shown, the gripping apparatus 10 comprises front 12 and rear 14 opposing levers, preferably connected by a hinging mechanism (not shown). The front lever 12 may comprise an attachment mechanism 16 for attaching a decoration thereto. As indicated in the Figures, one embodiment of the attachment mechanism 16 may comprise an aperture wholly, or at least partially, through the front lever 12. Alternatively, the attachment mechanism 16 may comprise a magnet (not shown) to which the decoration may be magnetically affixed. Still more alternatively, the attachment mechanism 16 may comprise adhesive or double-sided tape to achieve affixation of the decoration thereto. The rear lever 14 comprises a front 18 and back 20 surfaces and a protruding barbed element 22 attached to the back surface 24.

The barbed element 22 preferably comprises a distal portion 24 and a proximal portion 26. The distal portion 24 comprises a tapered profile wherein the diameter and circumference (if the distal portion 24 comprises a circular shape) or perimeter (if the distal portion 24 comprises a non-circular shape) are at a maximum at the junction 28 of the distal portion 24 and the proximal portion 26. Barbed element 22 may comprise a non-flexible material such as a hardened plastic, metal or may comprise a more flexible material such as rubber.

The barbed element 22 is designed to, as illustrated in FIGS. 4 and 5, removably engage a wall 40 of a container 42 in order to removably secure the gripping apparatus 10 to the container. The container may comprise paper as in a typical gift bag or cardboard and thus may be amenable to piercing by the barbed element 22. The tapered profile of the distal portion 24 of the barbed element 22 presents in certain embodiments a pointed distal tip 43. This distal tip 43 may thus be used to engage the container’s wall 40 and create an aperture 44 therethrough if sufficient force is applied. Alternatively, the container’s wall 40 may comprise a pre-formed aperture 44 which may be utilized if the container comprises a material not readily pierced by the distal tip 43 of the barbed element 22.
The preferred aperture 44 shape, whether preformed or created through the force of the user pressing the pointed distal tip 43 through the wall 40 is approximately that of a circle, though other equivalent shapes will present themselves to the skilled artisan, each such shape is within the scope of the present invention. Dimensionally, it is preferred that the maximum diameter and circumference or perimeter of the distal portion 24 of the barbed element 22 be at least slightly larger than the diameter of the aperture 44. Thus, the barbed element 22 will engage the inner surface 46 of the wall, preventing egress of the distal portion 24 from the aperture 44. Alternatively, the aperture 44 and the maximum diameter and circumference or perimeter of the distal portion of the barbed element may be substantially similar in size. In this case, the weight of the gripping apparatus 10 may cause the apparatus 10, and the barbed element 22 inserted into aperture 44, to rotate downwardly, causing the barbed element 22 to engage the inner surface 46 of wall 40, thus preventing egress of the barbed element 22 from the aperture 44. Those skilled in the art will recognize that the barbed element 22 may be removed from the aperture 44 by application of sufficient force, particularly in the case where the container comprises paper or cardboard or the like and/or where the barbed element 22 comprises rubber or the like.

Returning now to FIGS. 1-3, the front 12 and rear 14 opposing levers comprise front 30 and rear 32 opposing gripping elements. FIG. 2 illustrates the front gripping element 30 and the rear gripping element 32 in the closed position. Preferably, the gripping apparatus 10 is biasingly held in the closed position by a biasing spring 34. The gripping apparatus 10 may be opened, i.e., the front gripping element 30 and the rear gripping element 32 urged away and apart from each other, by placing inwardly directed pressure on the opposing levers 12, 14 as indicated by arrows in FIG. 2 and overcoming the force provided by the biasing spring 34 which biases the apparatus 10 in the closed position as shown in FIGS. 1-2. FIG. 3 provides a perspective view of the present invention in the opened position.

The front gripping element 30 and the rear gripping element 32 are opposing and further comprise inner surfaces 36 that are also opposing and, as such, facilitate gripping of an article (not shown) placed therebetween when the gripping apparatus 10 is in the open position and then allowed to biasingly close against the article, thus removably securing the article between the front gripping element 30 and the rear gripping element 32.

As will be well understood by those skilled in the art, articles may be grippingly secured between the inner surfaces 36 of the front and rear gripping elements 30, 32. Such secured gripping comprises utilizing the biasing force of the biasing spring 34, which biases the inner surfaces 36 of the front and rear gripping elements 30, 32 toward the closed position. Thus, applying force on the opposing levers 12, 14, as indicated by arrows in FIG. 2, to overcome the biasing spring 34 force opens the front and rear gripping elements 30, 32. Insertion of an article between the opened front and rear gripping elements 30, 32, with subsequent release of force on the opposing levers 12, 14 allows the inner surfaces 36 of the front and rear gripping elements 30, 32 to close on each side of the article, thus engaging the article held therebetween. Thus, as long as the biasing force of the biasing spring 34 can overcome the gravitational force of the article’s mass, the article will be removably secured between the front and rear gripping elements 30, 32. The inner surfaces 36 of the front and rear gripping elements 30, 32 may be coated with a rubber (or similar) material and/or may be textured to increase the ability to grip the article therein. As the skilled artisan will readily recognize, the article may be comprise, without limitation, communication media such as greeting cards, CD’s, DVD’s and the like.

As described above, the front lever 12 may comprise an attachment mechanism 16 that facilitates removable attachment of a suitable decoration thereto. An exemplary decoration 50 is provided in FIGS. 6, 7A and 7B. The decoration 50 comprises a complementary attachment mechanism 16 which allows removable securing of the decoration 50 with the attachment mechanism 16 of the front lever 12.

As illustrated in FIG. 7B, the attachment mechanism is a barbed element similar to that described above in connection with the securing of the gripping apparatus 10 to the container 42. This embodiment of the complementary attachment mechanism 16 is complementary with the aperture embodiment of the attachment mechanism 16 shown in FIGS. 2 and 4 which receives the complementary attachment mechanism 16 therein. Alternatively, the attachment mechanism 16 and its complementary attachment mechanism 16 of the decoration 50 may comprise attracting magnets, adhesive and/or double-sided tape, all of which allow removable attachment of the decoration 50 to the front lever 12, specifically to the attachment mechanism 16 of the front lever 12.

Turning now to FIG. 8, an alternate embodiment of the gripping apparatus 10 is provided. In this embodiment, the gripping apparatus 10 may be reversibly in that in one aspect, it may removably secured and hung from the edge of container 42 with the article removably secured by double-sided tape or attracting magnets. In the reverse aspect, the gripping apparatus 10 may be removably secured by double-sided tape or attracting magnets to the wall 40 of the container 42 with the article removably hung within the gripping apparatus 10.

This alternate gripping apparatus 10 embodiment comprises a frame 60, with a front side 62, a top side 64 and a back side 66, each having interior surfaces 62a, 64b, 66a and exterior surfaces 62b, 64b and 66b. The apparatus 10 further comprises an interior section 68 with a width, a height and a depth that is defined by the interior surfaces of the front side 62, top side 64 and back side 66.

At least one pair of opposable flexible filaments 70 is affixed within the interior section 68, the at least one pair of opposable flexible filaments comprising a flexible filament 70f attached to the front interior surface 62a and another flexible filament 70r attached to the back side interior surface 66a. FIG. 8 illustrates three pairs of opposable flexible filaments 70. Each flexible filament 70f and 70r comprising a pair of opposable flexible filaments 70 is arranged so that each filament 70f and 70r are biased upwardly toward the interior surface of top side 64a, thus forming a passage of very low upward and very high downward resistance as the article or container edge moves upwardly into the interior section 68 and enters the passage 72 between the at least one pair of opposable flexible filaments 70 and engages the free end 74 of each of the flexible filaments 70f and 70r in the pair 70.

Each of the filaments 70f, 70r are comprised of a relatively rigid material such as a plastic, rubber or the like. The filaments 70f, 70r may flex upwardly as an object moves upwardly into the interior section 68 between the filament pairs 70 because of the upwardly biased arrangement of the filament pairs 70. However, attempted removal of the object that is engaged between filament pair(s) 70 will result in an
encountering of resistance due to the opposing forces placed on the object by the upwardly biased and relatively rigid filament pair(s) 70.

[0034] In the embodiment where an article is engaged by the at least one pair of filaments 70, releasing the article will result in gravitational force urging the article downward, with the filament pair(s) 70 providing an opposing force against the sides of the article. As long as the filament pair(s) 70 are able to provide a force that is not overcome by the gravitational force resulting from the mass of the article, the article will be held within the interior section 68 by the filament pair(s) 70. The article may be removed simply by applying enough force to overcome the opposing force of the filament pair(s) 70. In this embodiment, the gripping apparatus 10 may be removably secured to the container wall 40 by use of an attachment mechanism 76, e.g., double sided tape or opposing magnets.

[0035] In the embodiment where the interior surface engages the edge of a container wall 40, the gripping apparatus 10 is lowered onto and over the wall edge, thus engaging the container wall 40 within the passageway 72 between filament pair(s) 70 as described above. The apparatus 10 will be secured to the container wall 40 by the oppositional force of the filament pair(s) 70 until sufficient upward force is applied to overcome the force of the filament pair(s) 70, thus allowing removal of the apparatus 10 from the container wall 40. In this embodiment, the article may be removably secured to the gripping apparatus 10 by use of an attachment mechanism 76, e.g., double sided tape or opposing magnets.

[0036] The present invention should not be considered limited to the particular examples described above, but rather should be understood to cover all aspects of the invention. Various modifications, equivalent processes, as well as numerous structures to which the present invention may be applicable will be readily apparent to those of skill in the art to which the present invention is directed upon review of the present specification.

We claim:

1. An apparatus for attaching an article to a container, comprising:
   - front and rear opposing levers, the front lever having a front surface and the rear lever having a back surface;
   - a biasing spring disposed between the front and rear opposing levers;
   - a front gripping element comprising an inner surface and disposed on the front opposing lever;
   - a rear gripping element comprising an inner surface and disposed on the rear opposing lever, wherein the inner surfaces of the front and rear gripping elements are opposing and wherein the biasing spring provides a biasing force that may be overcome and that biases the inner surfaces of the front and rear gripping elements together in a closed position;
   - a barbed element attached to the back surface of the rear lever, the barbed element comprising a distal portion, a proximal portion and a junction therebetween, the distal portion comprising a tapered profile and a pointed distal tip;
   - an attachment mechanism attached to the front surface of the front lever; and
   - a decoration comprising a complementary attachment mechanism, whereby the decoration is removably attached to the attachment mechanism.

2. The apparatus of claim 1, wherein the attachment mechanism attached to the front surface of the front lever comprises a barbed element and wherein the complementary attachment mechanism on the decoration comprises an aperture.

3. The apparatus of claim 1, wherein the attachment mechanism and complementary attachment mechanism comprise opposable magnets.

4. An apparatus for attaching an article to a container, comprising:
   - a frame comprising a front side, the front side having an interior surface and an exterior surface, a top side, the top side having an interior and an exterior surface, a back side, the back side having an interior and an exterior surface;
   - an interior section defined by the interior surfaces of the front side, top side and back side;
   - at least one pair of opposable flexible filaments affixed within the interior section, comprising one flexible filament attached to the front interior surface of the frame and the opposable flexible filament attached to the back side interior surface, wherein the pair of opposable flexible filaments are biased upwardly;
   - a passageway of low upward and high downward resistance between the at least one pair of opposable flexible filaments and an attachment mechanism on the exterior surface of the back side.

5. The apparatus of claim 4, further comprising at least two pairs of opposable flexible filaments.

6. The apparatus of claim 5, further comprising at least three pairs of opposable flexible filaments.

7. The apparatus of claim 4, wherein an edge of a container is removably received within passageway of low upward and high downward resistance and wherein an article is attached to the attachment mechanism.

8. The apparatus of claim 4, wherein the attachment mechanism is attached to a side wall of a container and wherein an article is removably received within passageway of low upward and high downward resistance.

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