An entertainment device includes a box, a crank, an interchangeable toy, and an interior spring arranged so that turning the crank causes the toy to pop out of the box at a present time under the influence of the spring. A custom mount can be attached to the interchangeable toy, while being mounted on the top of the spring. The toy can be any type of toy, e.g., a doll, truck, baseball, and so forth. Unlike a conventional jack-in-the-box where a toy is permanently attached to the spring, the toy of the present invention is attached to the spring though the custom mount and thus, is readily removable for additional play value. As a result, the entertainment device can be customized to suit the preference of the user by simply exchanging the toy.
ENTERTAINMENT DEVICE WITH INTERCHANGEABLE TOY

FIELD OF THE INVENTION

[0001] This invention relates to an entertainment device, and more particularly, to a jack-in-the-box type entertainment device having an interchangeable toy that is readily removable.

BACKGROUND OF THE INVENTION

[0002] A jack-in-the-box is a toy generally composed of a box with a crank. When the crank is turned, it plays a tune until a “surprise” is presented at a certain turn of the crank. At this point, the lid pops open and a figure, usually a clown placed on a spring, pops out of the box and startles the user. Some jack-in-the-boxes open at random times when cranked, enhancing the startling effect even more.

[0003] Jack-in-the-boxes are well known in the art. A variety of improvements and modifications have been made in order to enhance the play value of the conventional toys. One such example is shown in U.S. Pat. No. 4,407,504, issued to Popov where an amusement device using tumblers is disclosed. The box-like structure has a transparent, unlatchable lid that may be opened through the proper positioning of tumblers contained in the interior portion of the container. A troll-like figurine is released from the interior portion upon opening of the lid. If desired, the troll may contain a restrictively drawn check, monetary award, or other incentive deliverable to a person who successfully opens the container.

[0004] Another example is described in U.S. Pub. No. 2009/0176438, to Memo, where a gift card delivery device is disclosed. The device is spring loaded so that during an actuation event a gift card, which is usually inserted in an envelope, is shown and delivered to the recipient. Then the recipient may remove the card from the envelope.

[0005] As mentioned above, some of these toys have a portion of the figure (e.g., a gift card) that can be removable. However, the figure itself is always fixed to the spring. Therefore, conventionally, the types of the figures that pop out from the box limit the types of users to which the toys are demonstrated. For example, if the figure is a clown, it generally appeals to people at a certain age (i.e., children) but not to all age groups. Where the figure delivers a gift card or check it would not be suitable for a young child. Also, if the figure is a basketball, non-basketball fans may be excluded. Likewise, if the figure resembles an adult toy, some people may feel offended. The present invention has been developed to improve the range of these figures used in a typical jack-in-the-box, so that one box can be used for a variety of users, adding more entertainment value to the box at the same time.

SUMMARY OF THE INVENTION

[0006] The present invention is a typical a jack-in-the-box type entertainment device comprising a box, a crank, an interchangeable (removable) toy, and an interior spring. A custom mount can be attached to the interchangeable toy, while being mounted on the top of the spring. The toy can be any type of toys, e.g., a doll, truck, baseball, and could even be an adult toy. Usually the toy (e.g., a clown) is permanently attached to the spring that is fixed to the box. However, the toy of the present invention is attached to the spring though the custom mount and thus, is readily removable for additional play value. As a result, the entertainment device can be customized to suit the preference of the user by simply exchanging the toy.

[0007] Because the cost of the toy is usually less than the value of the entire jack-in-the-box, the users of the present invention can enjoy a wide selection of toys at less expense.

[0008] In addition, the emergence of a different (unexpected) toy from the same box would provide an added startling effect even to a person who has been presented the box in the past. This surprising effect would not be expected from the devices of any of the above-cited references where only a relatively small portion of the toy (e.g., a gift card) can be exchanged.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] These and other features and advantages of the present invention will become more readily appreciated when considered in connection with the following detailed description and appended drawings, wherein like designations denote like elements in the various views, and wherein:

[0010] FIG. 1 is a front, top perspective view of an entertainment device with an interchangeable toy in accordance with one embodiment of the present invention;

[0011] FIG. 2 is an exploded perspective view of an interior spring with a custom mount of the present invention;

[0012] FIG. 3A is a perspective view of one embodiment of a custom mount with the interior spring;

[0013] FIG. 3B is a perspective view of another embodiment of a custom mount with the interior spring;

[0014] FIG. 4A is a side view of one embodiment of a custom mount;

[0015] FIG. 4B is a perspective view of another embodiment (bayonet) of a custom mount;

[0016] FIG. 5 is a cross-sectional view of the entertainment device with an interchangeable toy in accordance with another embodiment of the present invention;

[0017] FIG. 6 is a top perspective view of the entertainment device of the present invention having one embodiment of an electronic crank; and

[0018] FIG. 7 is a top perspective view of the entertainment device of the present invention having a key pad module.

DETAILED DESCRIPTION OF THE INVENTION

[0019] With reference now to the drawings, an improved entertainment device with an interchangeable toy will be described in detail. As shown in FIG. 1, an entertainment device 10 of the present invention comprises a box 12, a crank 13, a lid 14, an opening 15, and an interchangeable toy 16, e.g., a stuffed bear. As is common with jack-in-the-box toys of this type, the box 12 is first presented with the lid 14 closed over the opening 15 and the interchangeable toy 16 within the box. The user is instructed to turn the crank 13, the effect of which may be to generate a musical tune and/or a cracking sound. At some point during the turning of the crank 13, the lid 14 is released, and the interchangeable toy 16, which is compressing a spring in the box, is released. As a result, the spring propels the toy upward through the opening 15. This can have a startling effect, and the entertainment from this device can be enjoyed, at least by young children, over and over.

[0020] FIG. 2 shows a detailed structure of an inner portion of the box 12, which contains an interior spring 20 and a custom mount 30. The custom mount 30 is placed on the top
of the interior spring 20, which can be compressed downward when the lid 15 is closed. The custom mount 30 comprises two portions; an attaching portion 31 that is formed at the upper portion of the mount 30, and a mounting portion 32 that is formed at the bottom portion of the mount 30. The interior spring 20 may be covered with any type of fabric (not shown) so as not to be seen by the user when the toy is detached.

[0021] FIG. 3A shows one embodiment of the custom mount of the present invention used for a toy that is made of soft materials including, but not limited to, fabric. In this embodiment, the mount is a heavy duty sewing snap 40 with a male part 41 of the snap being attached to the top of the spring 20, while a female part 42 of the snap is sewn into the interchangeable toy 16. This configuration of the mount 40 and the spring 20 allows for an easy attachment/detachment of the toy 16 from the box.

[0022] FIG. 3B shows another embodiment of the custom mount of the present invention used for a toy that is made of hard materials including, but not limited to, plastic, rubber, glass and so forth. In this embodiment, the mount is a plastic nipple 50 with a female coupling portion 51 permanently installed into the interchangeable toy 16, while a male bottom portion 52 is attached to the top of the interior spring 20. This design allows the user to “slide” the toy on and off. With this design, the frictional engagement between the portions 51, 52 must be great enough that the toy does not fly off the spring when it pops out of the box, but weak enough that the toy can be manually separated by a child.

[0023] FIG. 4A shows one example of the mount that consists of two portions, i.e., an insertion portion 61 and a mounting portion 62, which can be separated. For some toys, hard toys in particular, it is important that the mounting portion 62 extends over the spring by more than an inch so that the interior spring is not bent over when the toy is pushed into the box. The design of FIG. 4A accomplishes this.

[0024] With the design of FIG. 4B, rather than rely on a frictional engagement, a protrusion 73 and slot 74 of a bayonet connection 70 can be provided between the portions 71, 72 so that there is a secure mechanical connection that can be released by a twist of the toy.

[0025] Any suitable means can be used to connect the custom mount and the interior spring. Those means include, but not limited to, adhesive, molding, binding (e.g., metal wrap) or welding.

[0026] Also, any suitable means can be used to connect the interchangeable toy and the custom mount as long as it allows for an easy attachment/detachment of the toy from the box. Those means include, but not limited to, snapping, bayonet connection (for hard toys), and Velcro (for soft toys).

[0027] The interior spring 20 can be made of any suitable material including metal and/or plastic, as long as it is compressible inside the box 12. The interior spring 20 is secured on the bottom of the box 12 and is compressed downward when the toy is pushed into the opening 15 and the lid 14 is closed.

[0028] As shown in FIG. 2, the interior spring is usually tapered, with the diameter of the coil formed on the top of the spring being smaller than the diameter of the coil formed on the bottom of the spring. In one preferable embodiment, the diameter of the bottom of the spring is 2.5 times of the diameter of the top of the spring. However, it is possible to have the diameter of the coil on the top of the spring that is larger than the diameter of the coil on the bottom of the spring, or to have a cylindrical spring of generally uniform diameter.

[0029] Referring to FIG. 5, a mechanism for launching the interchangeable toy 16 is shown in accordance with another embodiment of the present invention. When the lid 14 is to be closed, the interchangeable toy 16 is pivoted downward so as to fit inside the box 12. A spring is attached to the toy and the pivot axis so that when the toy is pivoted into the box, it is under spring tension. A lid 14 holds down the interchangeable toy 16 against the force of the spring. In addition, a latch 40 may be used to assist in holding the toy within the box. When the lid 14 is opened, the latch 40 is released and the interchangeable toy 16 swings up out of the box due to the pressure of the interior spring 20.

[0030] The interchangeable toy 16 can be any type and size, including, but not limited to, figures, balls, frames, containers, adult toys and so forth. If a photo frame is employed as an interchangeable toy 16, the toy itself may become a gift to be given away to the person to which the device is presented. Further, if a container, which can have a gift (e.g., a ring) inside, is employed as an interchangeable toy 16, the recipient can remove the container and get access to the gift inside the container when the lid opens. The owner of the box can recycle it for further presentations of gifts. In light of the above description, it is readily apparent that the present invention may provide a unique and entertaining device.

[0031] The box 12 can also be any type and size, depending upon the interchangeable toy 16 placed inside the box. However, due to the nature of the device, which is for surprising people, it is preferable that the box be made of a non-transparent material. Any material that would imply the content of the box is preferably excluded.

[0032] The crank 13, which is turned manually by hand, is connected to a musical device inside the box. FIG. 6 shows one preferred embodiment of the present invention where the function of the crank is replaced by a button 13A. By pressing the button 13A, the box starts playing music or sound effect and stops playing it after a predetermined time. At this point, the lid 14 pops open and the toy springs out.

[0033] In another embodiment, as shown in FIG. 7, the box can have a series of keys or key pad module 80, which allows the user to enter a set of data, e.g., name, date of birth, preferred number, etc. via keys 81. The display 84 may be provided on the module 80 so the user can see the sequence of keys actuated. Then, a processor in the box (not shown) calculates and decides the timing of the release of the toy out of the box based on the data entered. For instance, if the user enters his/her date of birth as 01/27/70, the lid may be set to open after 98 (1+27+70) seconds, or even better 9.8 seconds.

[0034] Having described preferred embodiments for entertainment devices with interchangeable toys (which are intended to be illustrative and not limiting), it is noted that modifications and variations can be made by persons skilled in the art in light of the above teachings. It is therefore understood that changes may be made in the particular embodiments of the invention disclosed which are within the scope and spirit of the invention as outlined by the appended claims.

What is claimed is:
1. An entertainment device comprising:
   - a box having an opening and a lid covering the opening;
   - an interchangeable toy that is stored in the box when the lid is in a closed position and is released from the box through the opening when the lid is in an open position;
   - an interior spring that is fixed within the box and is arranged to urge the toy out of the box; and
a custom mount by which the spring is detachably connected to the interchangeable toy.

2. The entertainment device according to claim 1, wherein an attaching portion of the custom mount is insertable into the interchangeable toy.

3. The entertainment device according to claim 1, further comprising:
   a crank attached to a side of the box; and
   a sound mechanism for producing a melody or sound effect that is located inside the box, wherein the crank is connected to the sound mechanism, and the melody is reproduced when the crank is turned with the lid in a closed position and stops when the lid opens.

4. The entertainment device according to claim 1, wherein the custom mount is a sewing snap that comprises:
   a male part being attached to the top of the interior spring; and
   a female part being sewn into the interchangeable toy.

5. The entertainment device according to claim 1, wherein the custom mount is a plastic nipple that comprises:
   a female coupling portion installed in the interchangeable toy; and
   a male bottom portion attached to the top of the interior spring.

6. The entertainment device according to claim 1, wherein the interchangeable toy is made of soft materials including fabric.

7. The entertainment device according to claim 1, wherein the interchangeable toy is made of hard materials selected from the group consisting of plastic, rubber, and glass.

8. The entertainment device according to claim 1, wherein the interchangeable toy and custom mount are connected via a bayonet connection.

9. The entertainment device according to claim 1, wherein the interchangeable toy and custom mount are connected via snapping.

10. The entertainment device according to claim 1, wherein the interchangeable toy and custom mount are connected via Velcro.

11. The entertainment device according to claim 1, wherein the custom mount is a plastic nipple that comprises:
   a female coupling portion installed in the interchangeable toy; and
   a male bottom portion attached to the top of the interior spring.

12. The entertainment device according to claim 1, wherein the interior spring is in a tapered form.

13. The entertainment device according to claim 9, wherein a diameter of a coil formed on the bottom of the interior spring is 2.5 times a diameter of a coil formed on the top of the interior spring.

14. The entertainment device according to claim 1, wherein the interchangeable toy is a photo frame.

15. The entertainment device according to claim 1, wherein the interchangeable toy is a container.

16. The entertainment device according to claim 1, wherein the custom mount has a bottom part that is pivotally connected inside the box, and the interior spring biases the custom mount to move in a pivot from inside the box to outside the box.

17. The entertainment device according to claim 1, further comprising:
   a button attached to a side of the box; and
   a sound mechanism for producing a melody or sound effect that is located inside the box, wherein the button is connected to the sound mechanism, and the melody is reproduced when the button is pressed with the lid in a closed position and stops when the lid opens.

18. The entertainment device according to claim 1, further including a key pad module on the surface of the box, said key pad module comprising:
   data input keys, and
   a timing calculator, wherein
   a melody or sound effect is reproduced when a set of data is entered with the lid in a closed position, said music or sound effect stopping when the lid opens, and the timing calculator determines timing to release the interchangeable toy from the box based on the data entered throughout the data input keys.

19. The entertainment device according to claim 18, further including a display for displaying a sequence in which the date input keys are actuated.

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