An apparatus for fastening and carrying bottles includes a support ring and a connecting device. The support ring is inherently formed on the bottle and has at least an opening. The connecting device engages the opening of the support ring to allow people to carry the bottle by holding the connecting device or by engaging the connecting device with an object. The apparatus has many advantages, including never loss, low cost for manufacture, and recycle.
FIG. 7

FIG. 8
SUPPORT RING OF BOTTLE CAPABLE OF CARRYING THE BOTTLE AND CONNECTING BOTTLES

[0001] The current application claims a foreign priority to the patent application of Taiwan No. 100218879 filed on Oct. 7, 2011.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention
[0003] The present invention relates generally to a support ring of a bottle, with which a user may carry the bottle or connect bottles. The support ring has many functions, including never loss, low cost, and recyclable.

[0004] 2. Description of the Related Art
[0005] Plastic bottles are widely used in the market to contain liquid. These plastic bottles, especially for PET bottles, are simply a bottle with a cap to seal a top opening of the bottle. It is very inconvenient for user to carry it. The conventional plastic bottle has the following drawbacks:

[0006] 1. People usually carry the bottle by hand, and people will feel tired after holding the bottle for a long time. Sometimes, people may drop the bottle as well.

[0007] 2. People might have trouble to firmly hold the bottle when it is a big bottle or he/she has a small palm.

[0008] 3. It is hard for one to hold several bottles at the same time.

[0009] 4. The bottle will have water on it when the bottle is just taken out from refrigerator. People are unwilling to put the wet bottle in bag. The cold bottle is hard for people to hold it directly as well.

[0010] A carrying device is provided for user to carry single bottle. Such carrying device is taught in Taiwan patents M334101 and M368090. The carrying device is designed for one bottle, and it can’t carry two or more bottles. Besides, the device surrounds the cap so that it might unfasten the cap when a user carries the bottle by the device.

[0011] Taiwan patents 284152, 360208, and 530807 taught a carrying device for multiple bottles. However, user has to buy the device. The device is unrecycable and user might lose it. Another drawback of such device is that the price of the device is too high because of its complex structure.

[0012] Taiwan patent 284152 taught a bottle fastener, however, it can’t allow people to carry the bottles. Furthermore, the price of the fastener is too high because of the complex structure.

Therefore, it still has some portions to be improved in the conventional devices.

SUMMARY OF THE INVENTION

[0014] The primary objective of the present invention is to provide a support ring of a bottle, which may help a user to carry the bottle or connect bottles.

[0015] The secondary objective of the present invention is to provide a support ring of a bottle, which has low cost and is recyclable.

[0016] To achieve the objective of the present invention, an apparatus for fastening and carrying bottles includes a support ring and a connecting device. The support ring is inherently formed on the bottle, and has at least an opening. The connecting device engages the opening of the support ring to allow people to carry the bottle by holding the connecting device or by engaging the connecting device with an object.

[0017] The present invention has many advantages, including never loss, low cost for manufacture, and recycle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is an exploded view of a first preferred embodiment of the present invention;
[0019] FIG. 2 is a perspective view of the first preferred embodiment of the present invention;
[0020] FIG. 3 is a sectional view of the first preferred embodiment of the present invention;
[0021] FIG. 4 is a sectional view of the first preferred embodiment of the present invention, showing the connecting device connecting two bottles;
[0022] FIG. 5 is a perspective view of the first preferred embodiment of the present invention, showing user holding the connecting device;
[0023] FIG. 6 is a perspective view of the first preferred embodiment of the present invention, showing four bottles being connected;
[0024] FIG. 7 is a perspective view of the connecting device of a second preferred embodiment of the present invention;
[0025] FIG. 8 is a perspective view of the connecting device of a third preferred embodiment of the present invention;
[0026] FIG. 9 is a perspective view of the third preferred embodiment of the present invention, showing user holding the connecting device;
[0027] FIG. 10 is a perspective view of the connecting device of a fourth preferred embodiment of the present invention;
[0028] FIG. 11 is a perspective view of the support ring of a fifth preferred embodiment of the present invention; and
[0029] FIG. 12 is a perspective view of the support ring of a sixth preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0030] As shown in FIG. 2, an apparatus for fastening and carrying bottles of the first preferred embodiment includes a support ring 10 on a bottle 90 and a connecting device 20 detachably connected to the support ring 10. The connecting devices 20 may connect the support rings 10 on the bottles 90 in series (as shown in FIG. 5 and FIG. 6) or connect the bottle 90 to a predetermined object (not shown).

[0031] As shown in FIG. 1 to FIG. 3, the bottle 90 is a conventional PET bottle having a neck portion 91 and a cap 92.

[0032] The support ring 10 is on the neck portion 91 of the bottle 90 under threads for engaging the cap 92. The support ring 10 is inherently molded on the bottle 90 in the process of molding the bottle 90. As shown in FIGS., the support ring 10 has four openings 11 to engage the connecting device 20.

[0033] The connecting device 20 is a strip-like member made of plastic, rubber or metal, and the connecting device 20 is flexible. The connecting device 20 has teeth at an inner side. The connecting device 20 is provided with a post 21 and a bore 22 at opposite ends so that the connecting device 20 may be changed into a ring by the engagement of the post 21 and the bore 22. The strip-like connecting device 20 may pass through the opening 13 of the support ring 10, and then its opposite ends is engaged to form the ring-like connecting device 20. The post 21 has a head which is slightly bigger than the bore 22, so that the head may be forced to pass through the bore 21 to hold the engagement.
[0034] As shown in FIG. 2 and FIG. 3, the connecting device 20 is coupled to the support ring 10 so that a user may hold the ring-like connecting device 20, or engage the connecting device 20 with an object, such as a backpack, to carry the bottle 90. It is noted that the support ring 10 is initially molded on the bottle 90 in the factory so that it will not lose, and it is recyclable. The user only needs to get the connecting device 20 or anything like that to achieve the function of the present invention.

[0035] As shown in FIG. 4 and FIG. 5, to couple two bottles 90, one may pass the strip-like connecting device 20 through the opening 13 of the support ring 10 of a bottle 90 and the opening 13 of the support ring 10 of another bottle 90, and then engage the post 21 with the bore 22 to form the ring-like connecting device 20. Therefore, the user may hold the connecting device 20 to carry two bottles 90 by one hand.

[0036] As shown in FIG. 5 and FIG. 6, with the same steps as described above, we can serially connect the bottles 90 by the connecting devices 20. FIG. 6 shows that four bottles 90 are connected in a loop.

[0037] FIG. 7 shows a connecting device 20 of the second preferred embodiment, which has a plug at an end and a socket 24 at the other end. The connecting device 20 of the second preferred embodiment further has a protrusion 23 on the plug and a slot 25 communicated with the socket 24. The plug is inserted into the socket 24 and the protrusion 23 engages the slot 25 to secure the connecting device 20 in a ring shape. The way of operating the connecting device 20 and the function thereof are as same as above.

[0038] As shown in FIG. 8, a connecting device 20 of the third preferred embodiment has a ring member 26 and two hooks 27 at opposite sides of the ring member 26. The hooks 27 are perpendicular to the ring member 26 to engage the opening 13 of the support ring 10. FIG. 9 shows the connecting device 20 of the third preferred embodiment connecting two bottles 90.

[0039] FIG. 10 shows a connecting device 20 of the fourth preferred embodiment which has a ring member 28 and two hooks 29 at opposite sides of the ring member 28. The different part is that the hooks 29 are parallel to the ring member 28. The operation and the function of the fourth preferred embodiment are the same as above, so we don’t describe it again.

[0040] FIG. 11 shows an alternate design of the support ring 10 which has four semicircle ribs to form the opening 11, and FIG. 12 shows a support ring 10 which has U-shaped ribs. The support ring 10 has indentations 12 between the ribs to save material.

[0041] The support ring 10 may have various shapes to form the openings 11, and the openings 11 may be closed openings or open openings.

[0042] The description above is a few preferred embodiments of the present invention and the equivalence of the present invention is still in the scope of claim construction of the present invention.

What is claimed is:

1. An apparatus for carrying a bottle, wherein the bottle has a cavity and a cap to seal a top opening of the bottle, the apparatus comprising:
   a support ring, which is inherently formed on the bottle, having at least an opening; and
   a connecting device engaging the opening of the support ring for connecting bottles or for user to carry the bottle.

2. The apparatus as defined in claim 1, wherein the connecting device has a post and a bore at opposite ends, and the post has a head which is slightly bigger than the bore whereby the connecting device passes through the opening of the support ring and then the post engages the bore.

3. The apparatus as defined in claim 1, wherein the connecting device has a plug at an end, a socket at an opposite end, a protrusion on the plug, and a slot communicated with the socket whereby the connecting device passes through the opening of the support ring, and then the plug is inserted into the socket to engage the protrusion with the slot.

4. The apparatus as defined in claim 1, wherein the connecting device has a ring member and two hooks on opposite ends of the ring member, and the hooks are perpendicular to the ring member whereby the hook detachably engages the opening of the support ring.

5. The apparatus as defined in claim 2, wherein the connecting device has a ring member and two hooks on opposite ends of the ring member, and the hooks are parallel to the ring member whereby the hook detachably engages the opening of the support ring.

6. The apparatus as defined in claim 1, wherein the support ring is provided with at least a rib on an outer side to form the opening.