APPARATUS FOR SECURELY RETAINING A REMOVABLE CONTAINER

Inventor: Lester L. Yoakum Jr., Las Vegas, NV (US)

Correspondence Address: WEISS & MOY PC
4204 NORTH BROWN AVENUE
SCOTTSDALE, AZ 85251 (US)

Appl. No.: 10/445,568
Filed: May 28, 2003

Publication Classification

Int. Cl. ................................. A47K 1/08
U.S. Cl. ................................. 248/311.2

An apparatus for securely retaining a removable NATO can that fits in a housing of the apparatus comprises a multiplicity of members for securing the NATO can within the housing. The housing has a vertical member and a horizontal member substantially perpendicular to one another. The vertical and horizontal members have a multiplicity of holes for mounting the housing onto a surface. The vertical member and the horizontal member are integral and respectively buttress a wide side of the NATO can and support a bottom portion of the NATO can. Two bent angular members are integral portions of the vertical member directed into the interior of the housing and also securely buttress two opposite narrow sides of the NATO can. The housing includes a securing member substantially perpendicular to the horizontal member for strapping the NATO can to the housing. The securing member is selectively lockable.
APPARATUS FOR SECURELY RETAINING A REMOVABLE CONTAINER

FIELD OF THE INVENTION

This invention relates generally to container holders, and more specifically to, apparatus for retaining a removable NATO can.

BACKGROUND OF THE INVENTION

In the past, removable containers filled with fluids have been retained by various types of holders. Generally, such holders were specific to the shape of the container and the ruggedness requirements for the container and its contents. For example, in cars, it was common to provide a console to hold a drink can. In this case, drink cans need to be held reasonably securely in the console without having the contents of the can spill and the can must be able to be easily lifted and replaced in the console.

Currently, in the case of larger quantities of fluids in larger containers such as NATO cans or their predecessors known as Jerry cans, holders are in a less advanced stage of development. NATO cans are heavy duty containers made for rugged conditions where it is necessary that the contents of the container are not lost or compromised in any fashion. The contents such as petroleum and diesel fuels may be flammable. Alternatively, the contents may be potable water that is necessary for survival in arid environments.

Typically, Jerry or NATO cans have been tied to any convenient member of a vehicle, or tied down with canvas. Bracket assemblies have also been bolted to vehicle floors to hold one or more fuel oil cans. Alternatively rail assemblies have been attached to vehicles, and NATO cans have been placed within these rails, which are close fitted to the sides of the NATO cans.

These NATO can holders are all able to retain NATO cans, but not in a secure fashion. They allow NATO cans to be removed with relative ease, but allow unauthorized access to the NATO cans.

Typically, construction of can holders for NATO or fuel oil cans has involved the assembly and joining of a large number of components. Such assembly is fairly complicated and is therefore more expensive.

For the foregoing reasons, there is a need to provide an improved and relatively simplified apparatus for securely retaining a NATO can.

SUMMARY OF THE INVENTION

Accordingly, it is an object of this invention to provide an improved apparatus for securely retaining a removable container.

It is a further object of this invention to provide an integral improved apparatus for securely retaining a removable container.

It is a still further object of this invention that the improved apparatus for securely retaining a removable container is conveniently mountable to a vehicle.

It is a still further object of this invention that the improved apparatus for securely retaining a removable container is selectively lockable.

It is a still further object of this invention that the improved apparatus securely retains a NATO can.

PREFERRED EMBODIMENTS OF THE INVENTION

In accordance with one embodiment of this invention, an apparatus for securely retaining a removable NATO can comprises in combination, a housing comprising a substantially vertical member and a substantially horizontal member connected to the substantially vertical member, the substantially vertical member being substantially perpendicular to an edge portion of the substantially horizontal member; and a pair of bent angular side members connected to opposite side portions of the substantially vertical member, each of the bent angular side members buttressing one side portion of the removable NATO can in the housing. Each of the bent angular members is essentially L-shaped and rigid for buttressing one side portion of the removable NATO can in the housing. The substantially vertical member has a multiplicity of holes for mounting the housing on a surface; the substantially horizontal member has a multiplicity of holes for mounting the housing on a surface. The apparatus further comprises a strap having a first end, the first end of the strap coupled to the substantially horizontal member, the strap having a second end, the second end of the strap coupled to the substantially vertical member for securing a top and side portion of the removable NATO can in the housing. The apparatus further comprises a securing member connected to an opposite edge of the substantially horizontal member, the securing member being substantially perpendicular to the substantially horizontal member, and a tab, a portion of the tab defining an opening, the tab connected to a face of the securing member, the tab being substantially perpendicular to the securing member, the tab coupled to the first end of the strap for selectively locking the removable NATO can in the housing. The apparatus further comprises a hook connected to the first end of the strap; and a latch, the latch including a buckle and a flange, a portion of the flange defining a slot, the buckle coupled to the hook, the flange coupled to the tab for selectively locking the removable NATO can in the housing. The apparatus includes a clasp segment at the second end of the strap, a portion of the substantially vertical member defining a slot, the slot proximate to a top edge of the substantially vertical member, the clasp segment coupled to the slot of the substantially vertical member to couple the strap to the substantially vertical member. The clasp segment is essentially L-shaped for coupling the clasp segment to the slot of the substantially vertical member. The clasp segment includes a lip, the lip at one end of the clasp segment for further securely coupling the clasp segment to the slot of the substantially vertical member.
rigid for buttressing one side portion of the removable container in the housing. The substantially vertical member has a multiplicity of holes for mounting the housing on a surface; the substantially horizontal member has a multiplicity of holes for mounting the housing on a surface. The apparatus further comprises a strap having a first end, the first end of the strap coupled to the substantially horizontal member, the strap having a second end, the second end of the strap coupled to the substantially vertical member for securing a top and side portion of the removable container in the housing. The apparatus further comprises a securing member connected to an opposite edge of the substantially horizontal member, the securing member being substantially perpendicular to the substantially horizontal member; and a tab, a portion of the tab defining an opening, the tab connected to a face of the securing member, the tab being substantially perpendicular to the securing member, the tab coupled to the first end of the strap for selectively locking the removable container in the housing. The apparatus further comprises a hook connected to the first end of the strap; and a latch, the latch including a buckle and a flange, a portion of the flange defining a slot, the buckle coupled to the hook, the flange coupled to the tab for selectively locking the removable container in the housing. The apparatus includes a clasp segment at the second end of the strap, a portion of the substantially vertical member defining a slot, the slot proximate to a top edge of the substantially vertical member, the clasp segment coupled to the slot of the substantially vertical member to couple the strap to the substantially vertical member. The clasp segment is essentially L-shaped for coupling the clasp segment to the slot of the substantially vertical member. The clasp segment includes a lip, the lip at one end of the clasp segment for further securely coupling the clasp segment to the slot of the substantially vertical member.

[0015] The foregoing and other objects, features, and advantages of the invention will be apparent from the following, more detailed description of the preferred embodiments of the invention, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a perspective view of an apparatus for securely retaining a removable NATO can, together with the enclosed NATO can in accordance with this invention;

[0017] FIG. 2 is a perspective view of the apparatus of FIG. 1 without the NATO can;

[0018] FIG. 3 is an enlarged perspective view of a first end of a container holding strap of the apparatus of FIG. 2 showing how the first end of the strap is coupled to a securing member of the housing of the apparatus;

[0019] FIG. 4 is an enlarged perspective view of a second end of the strap of the apparatus of FIG. 2 showing how the strap is secured to a vertical member of the housing of the apparatus;

[0020] FIG. 5 is an enlarged perspective view of a modified second end of the strap of the apparatus of FIG. 2 showing how the strap is alternatively secured to a vertical member of the housing of the apparatus.

DESCRIPTION OF THE INVENTION

[0021] According to FIG. 1, an apparatus for securely retaining a removable NATO can 36 comprises a housing 10 having a multiplicity of members for securing the NATO can 36 within the housing 10. The NATO can 36 is enclosed in the housing 10. The housing 10 has a vertical member 12, which is substantially perpendicular to an edge portion of a horizontal member 14. The vertical member 12 and the horizontal member 14 have a multiplicity of holes for mounting the housing onto a surface such as a wall or a floor of a vehicle (see FIG. 2).

[0022] FIG. 2 is a perspective view of the apparatus of FIG. 1 without the NATO can 36, to more clearly show the multiplicity of members of the housing 10. The housing 10 comprises the vertical member 12 having a multiplicity of holes for mounting the housing 10 onto a vertical surface such as a wall of a vehicle. The vertical member 12 buttresses a wide side of the NATO can 36. A portion of the vertical member 12 also defines a slot proximate a top edge of the vertical member 12. The slot of the vertical member 12 receives a clasp segment 28, which is a portion of a strap 24 at a second end of the strap 24, and the strap 24 holds down a top surface and buttresses another wide side of the NATO can 36. The slot of the vertical member 12 is wider than the width of the clasp segment 28. The housing 10 further comprises the horizontal member 14 having a multiplicity of holes for mounting the housing 10 onto a horizontal surface such as a floor of a vehicle. The horizontal member 14 is integral with the vertical member 12. In this embodiment, the horizontal member 14 has the same width as the vertical member 12 and is shorter in length than the vertical member 12. The horizontal member 14 supports a bottom of the NATO can 36.

[0023] Referring further to FIG. 2, the housing 10 includes two bent angular members 16 and 18 for securely retaining two opposite narrow sides of the NATO can 36. In this embodiment, each of the bent angular members 16 and 18 is preferably rigid. Each one of the two bent angular members 16 and 18 is integral with the vertical member 12 and each bent angular member 16 and 18 is connected to the opposite side portions of the vertical member 12. Each one of the bent angular members 16 and 18 is essentially L-shaped, with an inner portion of the L-shape of each bent angular member 16 and 18 directed into the interior of the housing 10. The housing 10 further includes a securing member 20. The securing member 20 is integral with and substantially perpendicular to an opposite edge of the horizontal member 14. In this embodiment, the securing member 20 located in a region at an edge of the horizontal member 14 is of smaller width than the horizontal member 14. The securing member 20 is on the same side of the horizontal member 14 as the vertical member 12 and also is parallel to the vertical member 12. The securing member 20 retains a portion of another wide side of the NATO can 36. The securing member 20 includes a tab 22. The tab 24 is substantially perpendicular to the securing member 20 and is also attached to the securing member 20. In this embodiment, the tab 24 is preferably riveted to the securing member 20. A portion of the tab 22 defines an opening, which is selectively lockable, when used in combination with a latch 30 including a flange 34 and a portion of the flange 34 defining a slot.

[0024] In FIG. 2 the strap 24 comprises a hook 26 at a first end of the strap 24 for coupling to a buckle 32 of the latch 30 (see FIG. 3), and the clasp segment 28 at the second end of the strap 24 for coupling to the slot of the vertical member.
In this embodiment, the hook 26 is preferably riveted to the strap 24. The strap 24 is L-shaped, except at the second end of the strap 24 where the clasp segment 28 formed from the second end of the strap 24 is bent (see FIGS. 4 and 5) to couple to the slot of the vertical member 12. In this embodiment, the strap 24 is preferably rigid. The latch 30 comprises the buckle 32, which is coupled to an end of the latch 30, and the flange 34 at another end of the latch 30 for coupling to the tab 22. The flange 34 is arched so that a portion of the outer surface of the flange 34 touches a portion of the outer surface of the securing member 20. The slot of the flange 34 is wider than the tab 22 so that the tab 22 fits through the slot of the flange 34. When the flange 34 is fitted over the tab 22, a removable lock can be placed into the opening of the tab 22 to provide enhanced security. When it is desired to remove the NATO can 36, the flange 34 of the latch 30 is swung away from the tab 22. Since the latch 30 also pivots at the buckle 32, the swinging action decouples the buckle 32 from the hook 26 of the strap 24, so that the strap 24 can be moved out of the way of the NATO can 36. The second end of the strap 24 pivots where the clasp segment 28 is coupled to the slot of the vertical member 12. With the strap 24 out of the way, the NATO can 36 is then removable in an upward and outward action from the housing 10, which is no longer enclosed by the strap 24. Installation of the NATO can 36 follows the removal procedure in reverse.

FIG. 3 is an enlarged perspective view of the first end of the strap 24 to more clearly show how the strap 24 is coupled to the securing member 20 through the latch 30 of the housing 10 as described above. FIG. 4 is an enlarged perspective view of the second end of the strap 24 to more clearly show how the clasp segment 28 of the strap 24 is secured to the vertical member 12 of the housing 10 as described above. In this embodiment, the clasp segment 28 is L-shaped at the second end of the strap 24, and the strap 24 fits over the top of the vertical member 12 so that the clasp segment 28 fits into the slot of the vertical member 12.

FIG. 5 is an enlarged perspective view of a modified second end of the strap 24 to more clearly show how the strap 24 is alternatively secured to the vertical member 12 of the housing 10 in a different embodiment. In this alternative embodiment, the modified clasp segment 38 of FIG. 5 is a C-shaped portion at the modified second end of the strap 24. The modified clasp segment 38 is formed by bending back an end portion of the clasp segment 28 of the second end of the strap 24 in FIG. 4 towards the strap 24, thereby forming a lip. The modified clasp segment 38 of FIG. 5 at the second end of the strap 24 more securely holds the strap 24 in the slot of the vertical member 12.

In summary, the present invention is directed to an apparatus for securely retaining a removable NATO can that fits in a housing of the apparatus comprising a multiplicity of members for securing the NATO can within the housing. The housing has a vertical member and a horizontal member that are substantially perpendicular to one another and the vertical member and horizontal member have a multiplicity of holes for mounting the housing onto a surface such as a wall or a floor of a vehicle. The vertical member and the horizontal member are integral and respectively buttress a wide side of the NATO can and support a bottom portion of the NATO can. Two bent angular members are integral portions of the vertical member directed into the interior of the housing and also securely buttress two opposite narrow sides of the NATO can. The housing includes a securing member also substantially perpendicular to the horizontal member and integral with the horizontal, vertical and bent angular members, which provides a tab and a portion of the tab defining an opening that couples to a latch. The latch comprises a flange and a portion of the flange defining a slot at an end of the latch, which fits over the tab so that the apparatus is selectively lockable, and also a buckle at another end of the latch, which couples to a hook at a first end of a strap. The strap fits over the NATO can. The strap has a clasp segment at a second end of the strap that fits over the top of the vertical member and the clasp couples to a portion of the vertical member defining a slot. In an alternative embodiment of the clasp segment of the strap, the clasp segment has a lip for more securely holding the strap in the slot of the vertical member. The strap buttresses another wide side of the NATO can and holds down a top surface of the NATO can. The integral design of the housing results in inexpensive production costs for the apparatus of this invention.

While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that the foregoing and other changes in form and details may be made therein without departing from the spirit and scope of the invention. For example, while the preferred embodiments for materials of construction is 14 gauge cold rolled steel or aluminum, other metals can be used. The housing could also be made from fiber reinforced plastics and the strap could be made from fibers having high tensile strength. Other types of containers could be enclosed within the housing of the apparatus. The size of the components of the apparatus could be altered to accommodate different sized containers. The hook could be altered so that the buckle does not completely decouple from the hook or the latch could be permanently attached to the first end of the strap, so that only the flange couples with the tab. The term NATO can as used in this application and in the claims is intended to cover Jerry can and fuel oil can.

1. (Cancelled)
2. The apparatus for securely retaining a removable NATO can according to claim 4 wherein each of said bent angular members is essentially L-shaped and rigid for buttressing one side portion of said removable NATO can in said housing.
3. The apparatus for securely retaining a removable NATO can according to claim 4 wherein said substantially vertical member having a multiplicity of holes for mounting said housing on a surface; said substantially horizontal member having a multiplicity of holes for mounting said housing on a surface.
4. An apparatus for securely retaining a removable NATO can comprising, in combination: a housing comprising a substantially vertical member and a substantially horizontal member connected to said substantially vertical member, said substantially vertical member being substantially perpendicular to an edge portion of said substantially horizontal member; a pair of bent angular side members connected to opposite side portions of said substantially vertical member, each of said bent angular side members buttressing one side portion of said removable NATO can in said housing; and a strap having a first end, the first end of said strap coupled to
said substantially horizontal member, said strap having a second end, the second end of said strap coupled to said substantially vertical member for securing a top and side portion of said removable NATO can in said housing.

5. The apparatus for securely retaining a removable NATO can according to claim 4 further comprising a securing member connected to an opposite edge of said substantially horizontal member, said securing member being substantially perpendicular to said substantially horizontal member; and a tab, a portion of said tab defining an opening, said tab connected to a face of said securing member, said tab being substantially perpendicular to said securing member, said tab coupled to the first end of said strap for selectively locking said removable NATO can in said housing.

6. The apparatus for securely retaining a removable NATO can according to claim 5 further comprising a hook connected to the first end of said strap; and a latch, said latch including a buckle and a flange, a portion of said flange defining a slot, said buckle coupled to said hook, said flange coupled to said tab for selectively locking said removable NATO can in said housing.

7. The apparatus for securely retaining a removable NATO can according to claim 4 including a clasp segment at the second end of said strap, a portion of said substantially vertical member defining a slot, said slot proximate to a top edge of said substantially vertical member, said clasp segment coupled to said slot of said substantially vertical member to couple said strap to said substantially vertical member.

8. The apparatus for securely retaining a removable NATO can according to claim 7 wherein said clasp segment is essentially L-shaped for coupling said clasp segment to said slot of said substantially vertical member.

9. The apparatus for securely retaining a removable NATO can according to claim 8 wherein said clasp segment including a lip, said lip at one end of said clasp segment for further securing coupling said clasp segment to said slot of said substantially vertical member.

10. (Cancelled)

11. The apparatus for securely retaining a removable container according to claim 13 wherein each of said bent angular members is essentially L-shaped and rigid for butressing one side portion of said removable container in said housing.

12. The apparatus for securely retaining a removable container according to claim 13 wherein said substantially vertical member having a multiplicity of holes for mounting said housing on a surface; said substantially horizontal member having a multiplicity of holes for mounting said housing on a surface.

13. An apparatus for securely retaining a removable container comprising, in combination: a housing comprising a substantially vertical member and a substantially horizontal member connected to said substantially vertical member being substantially perpendicular to an edge portion of said substantially horizontal member; a pair of bent angular side members connected to opposite side portions of said substantially vertical member, each of said bent angular side members butressing one side portion of said removable container in said housing; and a strap having a first end, the first end of said strap coupled to said substantially horizontal member, said strap having a second end, the second end of said strap coupled to said substantially vertical member for securing a top and side portion of said removable container in said housing.

14. The apparatus for securely retaining a removable container according to claim 13 further comprising a securing member connected to an opposite edge of said substantially horizontal member, said securing member being substantially perpendicular to said substantially horizontal member; and a tab, a portion of said tab defining an opening, said tab connected to a face of said securing member, said tab being substantially perpendicular to said securing member, said tab coupled to the first end of said strap for selectively locking said removable container in said housing.

15. The apparatus for securely retaining a removable container according to claim 14 further comprising a hook connected to the first end of said strap; and a latch, said latch including a buckle and a flange, a portion of said flange defining a slot, said buckle coupled to said hook, said flange coupled to said tab for selectively locking said removable container in said housing.

16. The apparatus for securely retaining a removable container according to claim 13 including a clasp segment at the second end of said strap, a portion of said substantially vertical member defining a slot, said slot proximate to a top edge of said substantially vertical member, said clasp segment coupled to said slot of said substantially vertical member to couple said strap to said substantially vertical member.

17. The apparatus for securely retaining a removable container according to claim 16 wherein said clasp segment is essentially L-shaped for coupling said clasp segment to said slot of said substantially vertical member.

18. The apparatus for securely retaining a removable container according to claim 13 including a clasp segment at the second end of said strap, a portion of said substantially vertical member defining a slot, said slot proximate to a top edge of said substantially vertical member, said clasp segment coupled to said slot of said substantially vertical member to couple said strap to said substantially vertical member.

19. An apparatus for securely retaining a removable NATO can comprising, in combination: a NATO can; a housing comprising a substantially vertical member and a substantially horizontal member connected to said substantially vertical member located adjacent to said NATO can, said substantially vertical member being substantially perpendicular to an edge portion of said substantially horizontal member; and a pair of bent angular side members connected to opposite side portions of said substantially vertical member, said bent angular side members configured to hold opposite side portions of said NATO can.