Aug. 2, 1966 F. D. RING 3,263,806

DISPENSING STORAGE CARRIER FOR CANNED BEVERAGE AND THE LIKE

Filed May 4, 1964

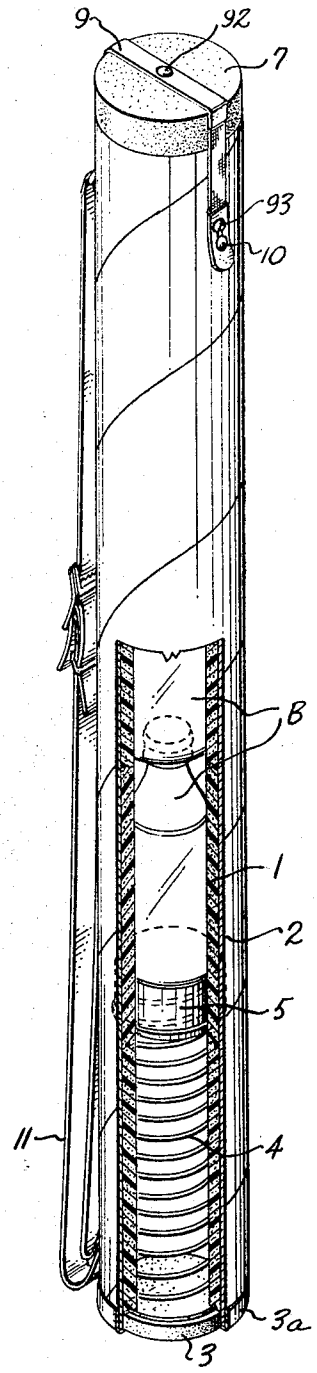


Fig. 1.

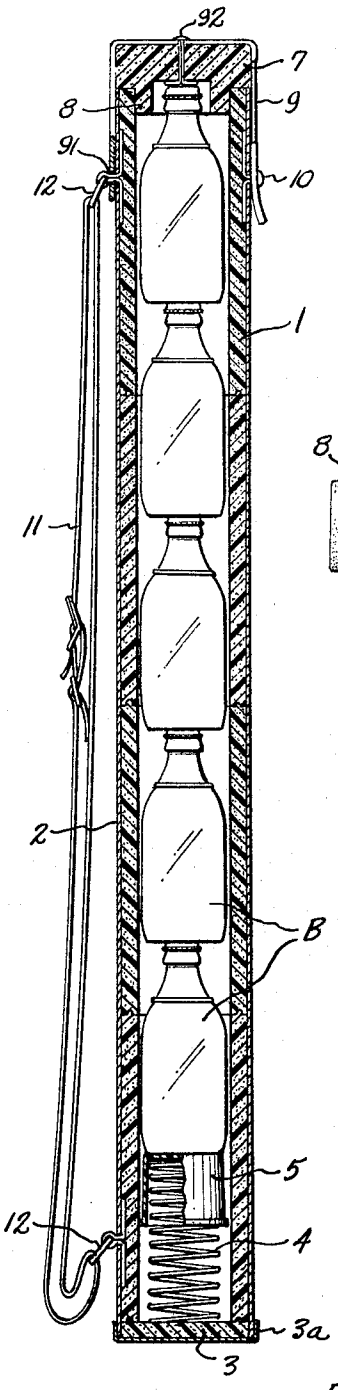


Fig. 2.

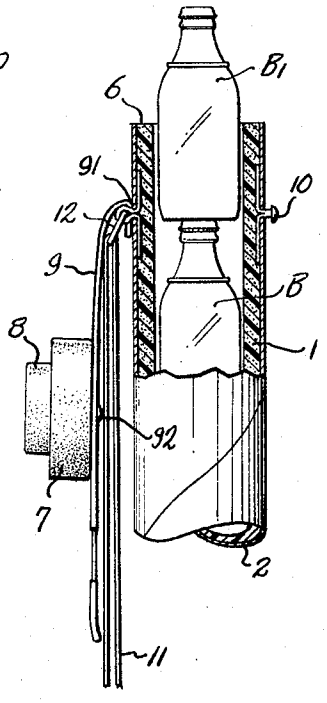


Fig. 3.

INVENTOR.
FRANCIS D. RING
BY
Reynolds & Christensen
ATTORNEYS

United States Patent Office 3,263,806 Patented August 2, 1966

3,263,806

DISPENSING STORAGE CARRIER FOR CANNED BEVERAGE AND THE LIKE

Francis D. Ring, 4102 169th, Bothell, Wash.

Filed May 4, 1964, Ser. No. 364,413
2 Claims. (Cl. 206—56)

This invention concerns an insulating carrier primarily intended for packing a plurality of bottles or similar containers of beverage in compact and conveniently dispensable manner. The invention is herein illustratively described by reference to the presently preferred embodiment thereof; however, it will be recognized that certain minor modifications and changes therein may be made with respect to details without departing from the essential features involved.

The problem of packing several bottles of beverage on a field trip or under circumstances in which the carrier must be transported manually for a considerable distance or under circumstances of rough handling (as by a golfer playing eighteen holes of golf) is not readily solved using conventional iceboxes or other insulated cases due to their ungainly shape and bulk. With bottles, breakage becomes a problem unless they are individually packed or separated, particularly after one or more have been removed from a closely packed group and room is left for those remaining to shift about. Because of this and the inconvenience of manipulating a conventional icebox, the dispensing of individual bottles is not sufficiently convenient to be done handily while on the go.

One of the objects of this invention is to devise a dispensing carrier of the nature described which will store several bottles compactly and in such relationship as to permit the carrier to be of a size and shape lending itself to convenient handling such as for slinging it over the shoulder, strapping it to a golf bag, etc. A further object is to arrange and hold the bottles securely against relative motion and breakage regardless of how many remain in the carrier at a given time. Convenient manipulation of the carrier for dispensing of the bottles one at a time is also an objective hereof.

Still another object is to devise a carrier of the type described which may be manufactured at relatively low cost and in a highly attractive and presentable form, yet which may be made adequately rugged and sufficiently light in weight for handling in the field.

Still another object is to permit capped beverage bottles to be carried under refrigerated conditions for the aforementioned purposes with minimum likelihood of breakage; and more specifically to rely upon the inherent cushioning properties of the metal caps on each bottle as a means to absorb shock in contacting an adjacent bottle in the carrier.

As herein disclosed the improved storage carrier comprises an elongated tubular body of insulating material having a closed bottom and an open top with a cover removably secured at the top and with the stored bottles stacked one upon the other within the tubular body and pressed upwardly therein by an elongated helical spring. The length and stiffness of the spring is such in relation to the weight and dimensions of the bottles or other containers that removal of the cover by disconnecting its means of securement permits the spring to elevate the stack of bottles just sufficiently to prevent the uppermost bottle projected partly above the top rim of the carrier to be grasped conveniently and removed. In lifting the uppermost bottle from the stack the spring elevates the remaining bottles incrementally. The uppermost thereof in turn may then be removed or it may be pressed back down fully into the carrier for reclosure and latching of the cover. Handle means such as a strap or other convenient carrying device can be mounted on the carrier so that it may be slung over the shoulder, strapped to a golf bag or otherwise utilized.

In its disclosed form the carrier tube comprises an expanded cellular plastic material such as beads of polystyrene forming an inside wall slightly larger in cross section than the outer cross section of the bottles, with the exterior of this tubular length of insulation material being protectively covered by a hard shell such as cardboard. Insulating ends including a permanently mounted lower end and a removable cover at the upper end complete the insulating enclosure. The coil spring is suitably designed as to length and stiffness to achieve the aforementioned purpose and to be accommodated within the interior of the tube at its lower end. The insulating cover precludes heating up of a bottle that otherwise would protrude at the top of the container, and become heated. Preferably the top of the spring is received within a plastic cup-like plunger serving as a support for the lowermost bottle and as a guide for the upper portion of the spring.

These and other features, objects and advantages of the invention will become more fully evident from the following description thereof by reference to the accompanying drawings.

FIGURE 1 is an isometric view of the closed dispenser, partly broken away to illustrate features of construction.

FIGURE 2 is an axial sectional view of the closed and wholly filled dispenser.

FIGURE 3 is an elevational view, partly in axial section, of the upper end of an open dispenser and its contents.

The dispensing carrier body **1** is made in elongated tubular form. The major portion of its wall thickness is made up of insulation material **1***a* such as expanded polystyrene beads for example. This tubular body of insulation may be of a single continuous length, or, as shown, may be composed of a plurality of shorter sections disposed in end-to-end relation for convenience in installing the clinchable strap clips to be described. Being relatively soft and somewhat lacking in structural strength this lightweight insulating liner **1***a* is protected by a relatively hard and strong jacketing material **2**, such as cardboard or an appropriate plastic or metal, suitably decorated to create an attractive appearance. The tube **1** is closed at its bottom by an insulation disk **3** and a protective end cap **3***a* of hard material. The carrier may be held or stored in any position or attitude, but is held more or less upright when ready for dispensing.

Since a given carrier would be designed to receive and dispense a desired maximum number of bottles B or similar containers of uniform size and weight, its interior cross section and its length will be determined accordingly. The bottles should be free to slide lengthwise therein, but without excessive clearance. The bottles are stacked one upon another in the carrier tube **1** which has a depth sufficient to accommodate several such bottles (five are shown in FIGURE 2) and the dispensing spring to be described.

Reacting from the bottom **3**, an elongated helical compression spring **4** has its upper end accommodated within an inverted cup-like slider **5**. The lowermost bottle B rests upon this slider. With the bottles being of uniform weight and size, the spring **4** is appropriately designed as to stiffness and recoilable length as to sustain the weight of the stack of bottles with the uppermost bottle B1 (FIGURE 3) projected partially above the open upper end **6** of the tube **1**, in position where it will be held steadily yet can readily be grasped and lifted out. Upon its removal, the weight of the remaining stack is reduced sufficiently that the spring is enabled to lift the stack incrementally so as to present the uppermost bottle projected partially above the upper edge **6**, where it can be

gasped and removed in its turn. This process recurs automatically with removal of successive bottles until all have been withdrawn.

Until such time as the bottles are to be withdrawn they are all held depressed below the upper end **6** against the spring by a removable insulating cover **7** which fits the tube's upper end and comprises a hard protective cap *7a*. This cover is normally in lowered, covering position to serve as a positive stop maintaining the bottles depressed, cooled, and protectively enclosed within the carrier. The cover may be of any suitable design; in the illustration it has a flange **8** that fits closely and frictionally within the tube's upper end **6**. It is fastened to the carrier tube and held closed in positive manner by a strap **9** anchored at one end, **91**, to the side of tube **1** near the top of the tube. The strap is secured intermediate its ends to the top side of the cover **7** by a clinched clip **92**, and its free end has a metal rimmed keyhole-shaped aperture **93** which cooperates with a headed stud **10** outstanding from the tube at a location opposite clip-end **91**. When the strap is so engaged the force of spring **4** cannot force the cover **7** from its closed position, as in FIGURE 2, and all bottles are held depressed within the tube. Moreover because of compression of the spring beyond the weight load of the bottles, the bottles are held in firm contact and from knocking back and forth against each other. Because of the end-to-end stacking relationship, the bottle caps act as bearing elements which cushion any jarring or shocks that may occur.

The elongated carrier is of somewhat the size and shape of a small golf bag, and can be arranged for carrying in the same manner or for being carried with a golf bag by strapping it alongside the golf bag. Thus the preferred handle arrangement comprises a sling strap **11** received in loop clips **12** secured by clinching their inner ends in the side wall of the tubular body **1** near the respective upper and lower ends of the tube.

The container is loaded initially by pressing down successive bottles (usually precooled) into the tubular body **1**, thereby compressing the spring **4** progressively with each added bottle. The cover **7** is then closed and latched with the uppermost bottle pressed down into the carrier tube. The container can be slung from a shoulder, or placed in any position, not necessarily upright, as horizontally within the trunk of a vehicle. For dispensing purposes the tube is held upright, and the cover released and moved aside. Now the uppermost bottle B1 is automatically projected above the top of the tube for access and, as it is removed, the next bottle is similarly presented. When the cover is reclosed, no matter how many bottles remain, approximately the same force is required as initially to depress and latch the cover in place. This same force holds the remaining bottle or bottles in firm contact with each other so as to be adequately protected

against relative motion and breakage. Lateral shocks are of course absorbed by the semiresilient plastic wall which is fairly soft. Longitudinal shocks are absorbed by the ends and by the cushioning action of the spring and, between bottles, by the bottle caps which prevent undue stress concentrations in the glass.

These and other aspects and advantages of the invention will be recognized from the present disclosure of the presently preferred embodiment thereof.

I claim as my invention:

1. An enclosed dispensing carrier for a plurality of individual packages of substantially uniform weight and size, comprising a portable elongated tubular enclosure of heat-insulating material which is generally upright in use and has an internal cross section and length to receive a plurality of such packages stacked one upon another therein, said enclosure having an open top, an elongated compression spring extending lengthwise within said enclosure interposed under compression between the lowermost package and the bottom of said enclosure, said spring being of such stiffness in relation to the weight of the packages as to sustain the combined weight of such packages with the uppermost package projected by a fractional portion of its height above the tube's upper edge, in position to be grasped and lifted from the tube, upon removal of a cover, said spring being of such recoilable length as to raise all remaining packages in the enclosure progressively by substantially the height of one package each time the uppermost package is removed, a removable cover also of heat-insulating material for the open top of the enclosure, and means to secured said cover removably in position to effectively close the open top of said enclosure and thus to hold the packages cooled and depressed within the same against the lifting force of the spring, regardless of the attitude of the carrier.

2. The dispensing carrier defined in claim **1**, wherein the enclosure comprises a thermal insulating wall of expanded plastic material surrounded by a relatively self-sustaining protective outer layer.

References Cited by the Examiner

UNITED STATES PATENTS

764,529	5/1904	Ingalls	221—279
1,121,072	12/1914	Corwin	229—14
1,671,285	5/1928	Hanna	221—279
2,226,308	12/1940	Gibbs	221—279
2,484,608	10/1949	Cheyney et al.	229—14
2,897,864	8/1959	Schmidt	225—1.5
3,121,522	2/1964	Ragnow	229—14

ROBERT B. REEVES, *Primary Examiner.*

WALTER SOBIN, LOUIS J. DEMBO, *Examiners.*