

Aug. 6, 1957

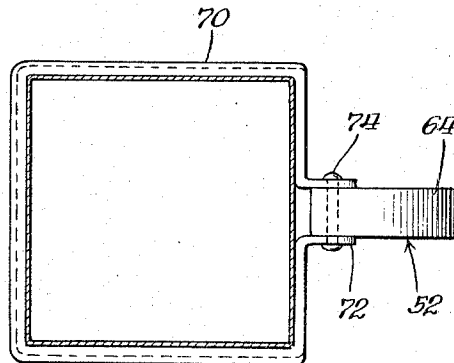
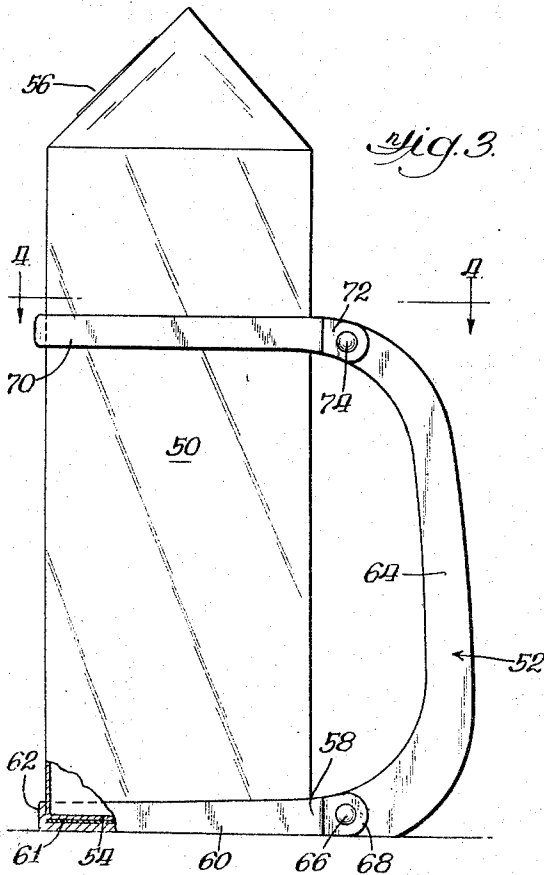
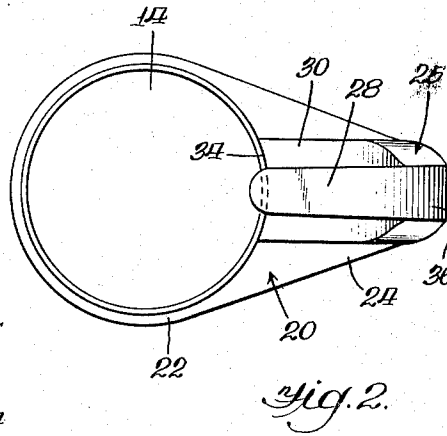
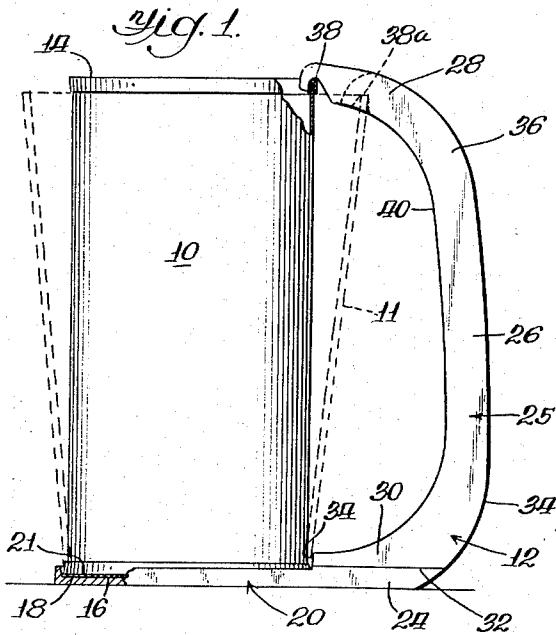
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2,801,743

CONTAINER HANDLING DEVICE IN PACKAGE COMBINATION

Filed Oct. 19, 1954

2 Sheets-Sheet 1



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CONTAINER HANDLING DEVICE IN PACKAGE COMBINATION

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2 Sheets-Sheet 2

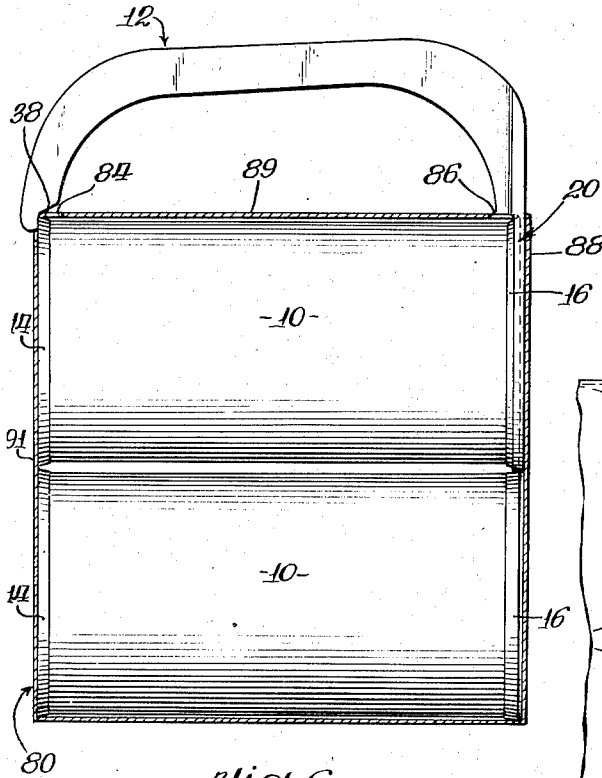


Fig. 6.

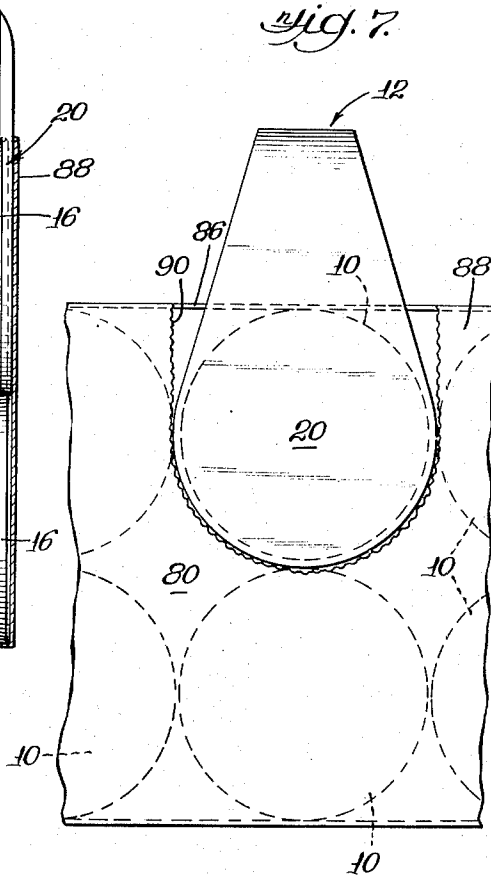


Fig. 7.

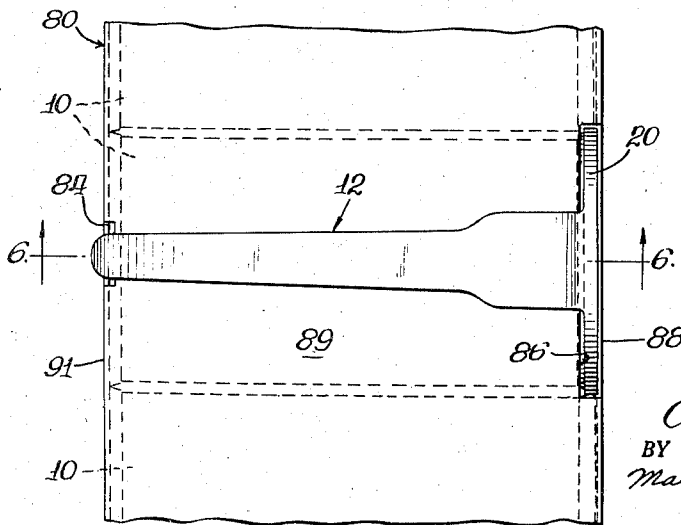


Fig. 5.

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2,801,743

CONTAINER HANDLING DEVICE IN PACKAGE COMBINATION

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2 Claims. (Cl. 206—65)

The present invention relates to devices for facilitating the manual manipulation of containers, particularly containers for liquids and beverages.

American industry has in recent years devised new types of inexpensive, throw-away cartons for beverages which have received and enjoy a large popularity. Since the containers are to be thrown away they must be inexpensive, and it is relatively difficult to construct an inexpensive container for liquids. For this reason, most of the throw-away liquid containers in every day use are unfortunately difficult to handle.

One example of a throw-away liquid container which is difficult to manipulate is the wax cardboard carton, such as is presently used in the distribution of dairy products. These containers are made as large as the two quart size, and are difficult to grasp within a person's hand and difficult to retain due to the fact that the containers are not entirely rigid.

Due to the nature of some types of beverages, such as carbonated soft drinks and beer, the container used must be capable of withstanding a substantial internal pressure. It has been common practice to "can" beer, and it is becoming a common practice to treat carbonated beverages in this manner. The cylindrical cans used for canning beer, and other beverages, are not extremely difficult to hold, and it has become a common practice for the consumer of the beverage to drink the beverage directly out of the can. Cans can be opened with openers which will provide a smooth opening extending about the entire periphery of one end of the can, and hence there is no appreciable danger of cutting one's self while drinking the contents of the can. Two major difficulties arise however. The first is that the can continuously sweats since it is general practice to cool beverages to a temperature well below the ambient atmosphere before they are consumed. The moisture present in the ambient atmosphere thus causes water vapor to condense onto the cold surfaces of the can to produce "sweating." This phenomenon results from the fact that the metal used in forming the can has a relatively high coefficient of thermal conductivity. The high coefficient of thermal conductivity is desirable for the purpose of cooling the contents of the can, but it is undesirable when the beverage is consumed directly from the can because it leads to the process of sweating. Sweating causes the hand of the consumer to become moist, and this is an annoyance and inconvenience. Further, if the can is set upon a wood surface, or other surface which is injured by moisture, water will collect about the base of the can in a ring causing permanent damage to the surface.

It is an object of the present invention to provide a device for facilitating the handling of liquid containers.

It is a further object of the present invention to provide a device for overcoming the undesirable effects of the sweating of a beverage container.

Cylindrical containers commonly used for beverages are often packaged in a group, usually consisting of six containers, and supplied to the ultimate consumer in this manner. Such packages of containers are bulky and awkward to handle, and as a result efforts have been made to provide handles on the carton used to contain

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the group of containers. Once the containers are removed from the carton, the carton is of no further use and is disposed of. It is a further object of the present invention to provide a carton for a group of containers and a handling device which may be attached to the carton to facilitate handling the carton when the containers are disposed therein, the handling device also being useable in conjunction with individual containers when removed from the carton to aid in removing the contents of the containers.

The difficulties caused by sweating containers apply to all types of containers which are used in the process of the ultimate consumption of a beverage, including water tumblers, or glasses, as well as paper cartons and metal cans. It is therefore a further object of the present invention to provide a device for handling containers used for the ultimate consumption of a beverage.

Broadly speaking, the present invention comprises a carton for handling a group of containers and a removable handling device attached to the carton for aiding the manipulation of the carton when it is filled with containers. After the containers have been removed from the carton, the handling device may be removed therefrom and attached to individual containers for purposes of facilitating the handling of the individual containers. The handling device constructed according to the teachings of the present invention utilizes a platform which is provided with an indentation into which the base of the container may be disposed. A handle extends upwardly from the platform and is secured to the lip of the container.

The inventor points out the features of his device which he considers to be inventive in the claims appended hereto. Further objects and advantages of the present invention, and further details of its construction and method of operation are set forth in the remainder of this disclosure, particularly when viewed in the light of the drawings, in which:

Figure 1 is an elevational view of a container handling device constructed according to the teachings of the present invention as applied to the handling of cans or glasses;

Figure 2 is a plan view of the container handling device illustrated in Figure 1;

Figure 3 is an elevational view of a container handling device constructed according to the teachings of the present invention as applied to waxed cardboard liquid containers;

Figure 4 is a sectional view taken along line 4—4 of Figure 3;

Figure 5 is a plan view of a container carton with a handling device constructed according to the teachings of the present invention.

Figure 6 is a sectional view taken along line 6—6 of Figure 5; and

Figure 7 is an end elevational view of a modified container carton with a handling device illustrating another embodiment of the invention.

Figures 1 and 2 of the drawings illustrate one embodiment of a container handling device constructed according to the present invention. In these figures, the solid lines illustrate a cylindrical container provided with end flanges or chimes, such as is commonly used in the distribution of soft drinks and beer, designated 10, disposed within a container holder designated 12. The container 10 is provided with an open top 14 and a closed bottom 16. While the container 10 is illustrated by the solid lines as a conventional beer can, the dashed lines in Figure 1 illustrate the invention practiced with a conventional glass tapered tumbler 11. The container 10 rests within an indentation 18 in a platform 20. The indentation 18 is shaped to conform to the closed end 16 of the container 10 and is slightly larger than this end 16 of the container

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10 to provide clearance. The platform 20 is constructed of rigid material and has a circular portion 22 which includes the circular indentation 18 and an outwardly extending portion 24 adjacent to the circular portion 22. Since the platform 20 will serve as a coaster and prevent condensation on the container 10 from running down into contact with any surface on which the container may be resting, it should be constructed of material capable of withstanding the presence of water for relatively long periods of time. A moisture absorbing liner 21, such as cork, has been secured to the surface of the indentation 18 to absorb this moisture, but it is to be understood that the invention may be practiced without the liner 26. Plastic or wood have been found to be suitable materials for this purpose. It is also necessary that the platform 20 be rigid, as will hereinafter be described, but it is not necessary that the platform 20 be resilient.

A generally U-shaped handle 25 has a central portion 26 disposed between a pair of legs 28 and 30. The one leg 30 has a flat portion 32 on the outer surface 34 of the U-shaped handle 25. This flat portion 32 is securely attached to the outwardly extending portion 24 of the platform 20, the leg 30 being disposed upon a radius of the indentation 18. The end of the leg 30 is disposed adjacent to the periphery of the indentation 18, and has an arcuate surface 34 conforming to this periphery. The leg 30 of the handle 25 is broader than any other portion of the handle 25 and has a larger cross section, so that the arcuate surface 34 extends through an arc of approximately 45 degrees, this surface confronting the container 10. The cross section of the central portion 26 and the other leg 28 of the handle 25 is smaller than the cross section of the leg 30 to provide resiliency in the handle, as will be hereinafter more fully described.

The flat portion 32, of the leg 30 extends substantially along the entire leg 30, and the central portion 26 of the handle 25 extends away from the platform 20 approximately normal to the flat portion 32 of the leg 30. The leg 30 therefore must be sufficiently long to provide clearance for a human hand to be disposed between the central portion 26 of the handle 25 and the container 10.

The central portion 26 and the leg 28 of the handle 25 are separated by a bend 36 which positions the end of the leg 28 over the open end 14 of the container 10. A slot 38 is disposed in the inner surface 40 of the U-shaped handle 25 adjacent to the end of the leg 28, the slot 38 being disposed about the open end 14 of the container 10. In the case of a cylindrical container 10 such as a can as illustrated in solid lines in Figure 1, the slot 38 is disposed directly over the periphery of the indentation 18 and approximately over the arcuate surface 34 at the end of the leg 30 of the handle 25. As illustrated in dashed lines in Figure 1, a tapered container 11 requires the slot, designated 38a, to be disposed over the leg 30 of the handle. The slot 38 is also curved to conform to the open end 14 of the container 10, and in the cylindrical container case, to the periphery of the indentation 18, and the slot is in the form of a wedge. The open end 14 of the container 10 is wedged within the slot 38, and thus securely held within the container holder 12.

In one construction of the invention, the handle 25 is constructed of wood and the central portion 26 and leg 28 have cross sections approximately $\frac{3}{8}$ inch by $\frac{1}{2}$ inch, and the leg 30 of the handle having a thickness tapering from $\frac{3}{8}$ of an inch adjacent to the indentation to $\frac{1}{4}$ inch at the junction of this leg 30 and the central portion 26 of the handle. The width of the portion 30 of the handle is approximately 1 inch. The inventor has found that a container holder constructed in this manner has sufficient resiliency to permit the container 10 to be inserted therein by first positioning the open end of the container 14 in the slot 28 and sliding the closed end of the container into abutment with the arcuate surface 34 of the leg 30. The container 10 then is tightly secured within the holder 12

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and will not drop out. Since in its usual application the container 10 will be filled with a beverage, or other liquid, it is necessary to maintain the container 10 in an upright position, and it will readily be seen that the container holder 12 can be inserted onto the container 10 while maintaining the container 10 in this position.

The distance measured between the indentation 18 of the platform 20 and the slot 38 is slightly less than the height of the container 10, the inventor having found that with a wood handle 25 having a leg 28 and middle portion 26 with cross sections measuring $\frac{1}{2}$ inch by $\frac{3}{8}$ inch, a wooden platform having a thickness of $\frac{3}{16}$ inch, and an indentation of $\frac{1}{16}$ inch, a distance of $\frac{1}{16}$ inch less than the height of a 12-ounce beer can to be satisfactory, the height of the can being approximately $4\frac{1}{16}$ inches. As a result of this construction, the container 10 is securely held between the platform 20 and the leg 28 of the handle 25. Virtually all of the "give" in the handle 25 occurs in the central portion 26 and leg 28, because the cross sections of these portions of the handle 25 are substantially less than that of the portion 30 or the platform 20. As a result of this fact, the force applied to increase the distance between the platform 20 and the slot 38 in the leg 28 of the handle 25 is most effectively applied between the slot 38 and the portion of the platform 20 disposed between the arcuate surface 34 and the diameter of the indentation normal to that of the leg 30 of the handle 25. If the container 10 is held by a person desiring to remove it from the holder 12 with one hand, and the platform 20 held in this region with the other hand, the force applied to increase the distance of the slot 38 from the platform 20 will be most efficiently utilized and the container may be readily removed. Forces applied in other directions are not nearly so effective, and hence the container 10 will not accidentally become removed from the holder 12.

A second embodiment of a container handling device is illustrated in Figures 3 and 4. In this embodiment a rectangular paper carton designated 50 is disposed within a holder 52. The paper carton is provided with a flat rectangular base 54 at one end and a structure 56 which when opened provides a spout at the other end, as is in conventional use in the distribution of dairy products. The base 54 of the container 50 is disposed within a platform 58 which has a bottom 60 surrounded by a band 62 which is sealed to the bottom 60 to prevent moisture from seeping therethrough. A moisture absorbing liner 61 is disposed on the surface of the bottom 60 of the platform 58. A U-shaped handle 64 is secured at one end to the platform 58 by means of a pin 66 extending through the outwardly flaring ends 68 of the band 62 and this end of the handle 64. A second band 70 is disposed in a rectangular configuration identical to that of the band 62 and surrounds the container 50 above its middle point. The ends 72 of the band 70 extend outwardly normal to the band 70 and the other end of the handle 64 is secured between these outwardly flaring ends 72 by a pin 74. The pin 66 secures the platform 68 to the handle 64 so firmly that it prevents pivoting of the platform 58 relative to the handle 64 and bears the entire weight of the container 50 and its contents. The band 70 merely prevents the container 50 from falling off of the platform 58.

The container 50 is inserted into the holder 52 through the band 70, and its base 54 is then disposed on the platform 58. It may be readily seen that the contents of the container may be poured from the spout 56 by manipulation thereof with the handle 64. It is also apparent that condensation of water vapor which runs down the walls of the container 50 will be collected in the indentation in the platform 58, and will not contact any surface that the container 50 and holder 52 may be placed upon.

Figures 5, 6 and 7 illustrate the container handling device shown in Figures 1 and 2 applied to a carton of cylindrical containers, or cans. The containers 10 are

stacked in rows of two within a carton 80, the carton 80 being rectangular in shape and being open at both ends, in the conventional manner. A convention "six-pack" contains three rows 82 of two containers each, the middle row being shown in section in Figure 6. The carton 80 is provided with an aperture 84 adjacent to the end 14 of the container 10 in the middle row 82 and the leg 28 of the container handling device extends through this aperture 84 into the carton 80. The slot 38 of the handle 12 engages the end chimes of this end 14 of the container 10. A slot 86 is disposed in the same surface of the carton 80 adjacent to the other end 16 of the same container 10, and the platform 20 of the container handling device extends into the carton 80 through this slot 86 and is disposed between the end 16 of the container 10 and the adjacent wall 88 of the carton 80. The slot 86 is slightly longer than the maximum width of the platform 20, and is also slightly wider than the maximum height of the platform 20 to enable the platform to be readily inserted into the slot 86. Also, the aperture 84 is disposed at the corner of the carton adjacent to the row 82 of containers 10 and extends into both of the adjacent walls 89 and 91 of the carton 80 to enable this leg 28 of the container handling device to contact the end 14 of the container 10.

It is to be noted, that the carton 80 is slightly distorted by the platform 20 since the platform 20 is forced between the container 10 and the wall 88, this distortion tending to secure the platform 20 more tightly in the carton 80. Further, the containers 10 in the center row 82 will be slightly displaced from each other at their ends 16 due to the insertion of the platform 20 between the containers 12 in this center row 82. This displacement again tends to hold the platform 20 of the container holding device more securely within the carton 80.

If thicker platforms than those described in the particular construction are used, it may be desirable to remove a portion of the wall 88 of the carton 80 adjacent to the end of the container 10 which is attached to the handling device. Figure 7 illustrates a modification of the present invention in which the wall 88 of the carton 80 has been provided with perforations, illustrated at 90, which extend downwardly from the slot 86 into the wall 88 so that this entire portion of the wall 88 may be removed to provide access to the end 16 of the adjacent container 10. The perforations extend into the wall 88 from the ends of the slot 86. By providing perforations 90, rather than merely having an aperture sufficiently large to accommodate the platform of the container handling device, the containers 10 will all be securely maintained within the carton 80 without the necessity of utilizing the container handling device, so that the cartons may be shipped or handled without having the protruding handling device.

It will be readily apparent, that the inventor has provided a carton which may be used to ship and otherwise handle containers, and that this carton has particular application for the shipping of beverages from a bottling plant to a distribution outlet. The inventor has also provided a handling device which may be attached to the carton to facilitate the handling of the cartons, particularly by the ultimate consumer who obtains them from the distribution point. After the containers are removed from the carton, the handling device may itself be removed from the carton and applied to individual containers to facilitate handling of the containers while the contents are being consumed.

The man skilled in the art will readily perceive many other types of containers and shapes of containers that may be used in practicing the present invention. The foregoing embodiments of the invention have been specific and directed to specific items only, and therefore it is intended that the scope of the present invention be not limited to the foregoing disclosure, but rather only by the appended claims.

What the inventor claims as his invention and desires to obtain a United States Letters Patent therefor is:

1. An article of manufacture comprising, in combination, a hollow rectangular carton open at both ends, a plurality of cylindrical containers having end chimes disposed in parallel rows of two within the carton, said containers having their axes disposed parallel to the open ends of the carton, the carton being provided with an aperture adjacent to one end of one of the containers and a slot adjacent to the other end of that container, and a container handling device removably attached to that container, said container handling device having a flat platform with a circular indentation on one surface thereof disposed in contact with one end of said container, said platform having an outwardly extending portion adjacent to the indentation extending through the slot in the carton, a U-shaped handle constructed of material having at least the resiliency and elastic limit of wood consisting of a pair of legs separated by a central portion, one leg having a flat portion on the outer surface thereof and the other leg a wedge-shaped arcuate slot on the inner surface thereof essentially normal to the axis of the leg, the flat portion of the handle being securely attached to the outwardly extending portion of the platform with the end of the leg disposed adjacent to the periphery of the indentation in the platform, and the other leg curving over the end of the container opposite to the end abutting the platform, said leg extending through the aperture in the carton and the arcuate slot therein engaging the end chime adjacent to the aperture, whereby the entire carton of containers is effectively attached to the container handling device.

2. An article of manufacture comprising, in combination, a hollow rectangular carton open at both ends, a plurality of cylindrical containers having end chimes disposed in parallel rows of two within the carton, said containers having their axes disposed parallel to the open ends of the carton, the carton being provided with an aperture adjacent to one end of one of the containers and a slot adjacent to the other end of that container, the wall of said carton being perforated adjacent to the end of the container to form a removable panel therein, said panel being removed to form an orifice, and a container handling device removably attached to that container, said container handling device having a flat platform slightly smaller than the removable panel in the wall of the carton with a circular indentation on one surface thereof disposed in contact with one end of said container, said platform having an outwardly extending portion adjacent to the indentation extending through the slot in the carton, a U-shaped handle constructed of material having at least the resiliency and elastic limit of wood consisting of a pair of legs separated by a central portion, one leg having a flat portion on the outer surface thereof and the other leg a wedge-shaped arcuate slot on the inner surface thereof essentially normal to the axis of the leg, the flat portion of the handle being securely attached to the outwardly extending portion of the platform with the end of the leg disposed adjacent to the periphery of the indentation in the platform, and the other leg curving over the end of the container opposite to the end abutting the platform, said leg extending through the aperture in the carton and the arcuate slot therein engaging the end chime of the container adjacent to the aperture, whereby the entire carton of containers is effectively attached to the container handling device.

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