April 28, 1964 L. R. RITTENBERRY 3,131,011

SUPPORTING DEVICE

Filed April 20, 1961 3 Sheets-Sheet 1

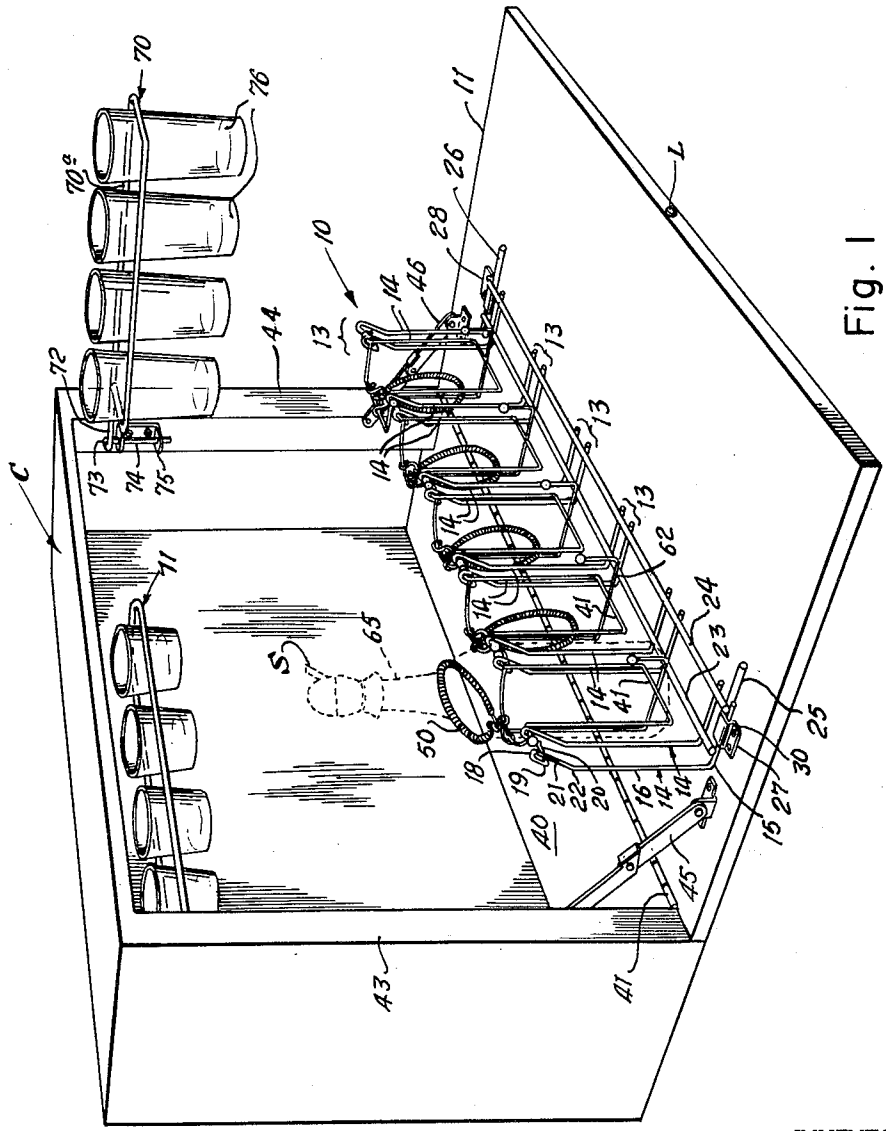


Fig. 1

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SUPPORTING DEVICE

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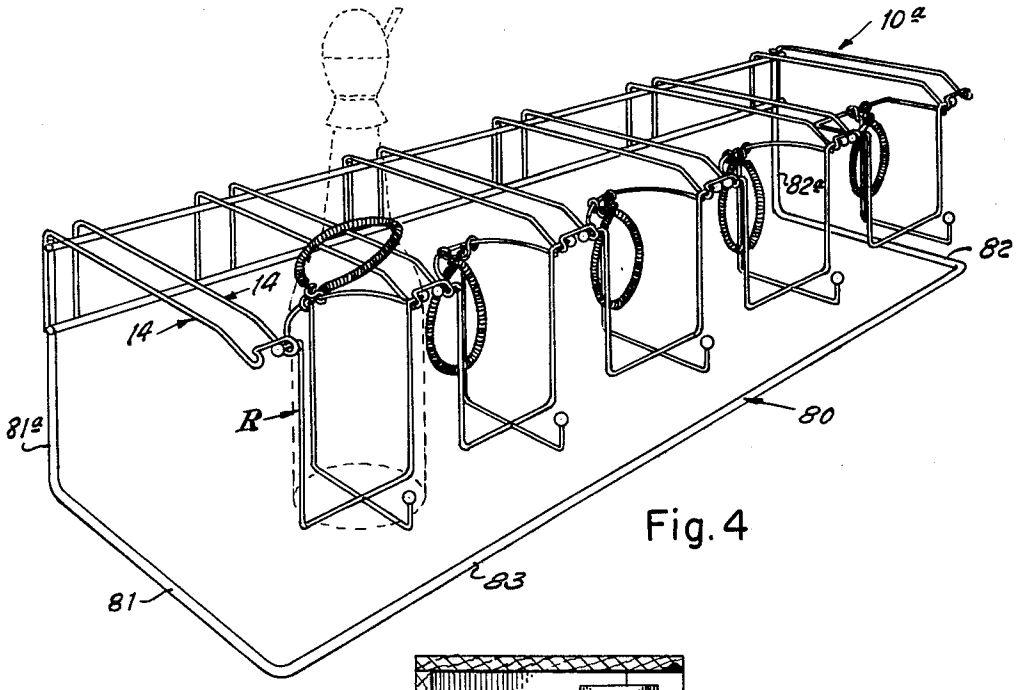


Fig. 4

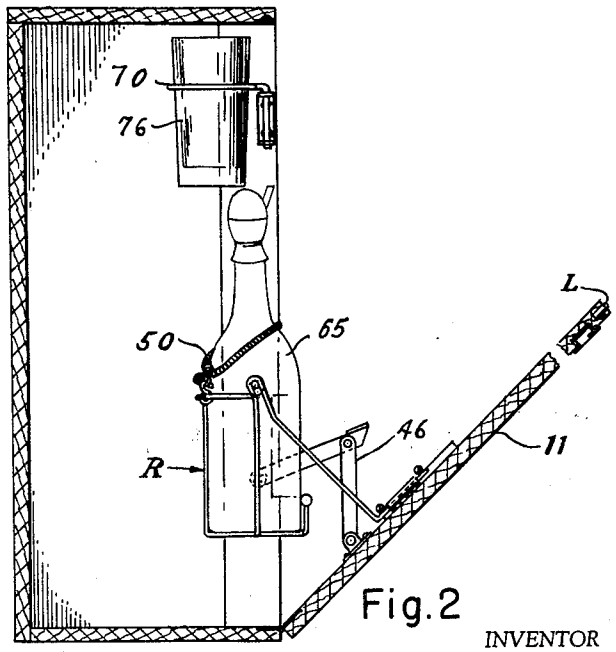


Fig. 2

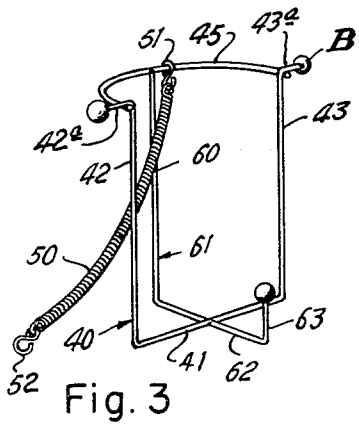


Fig. 3

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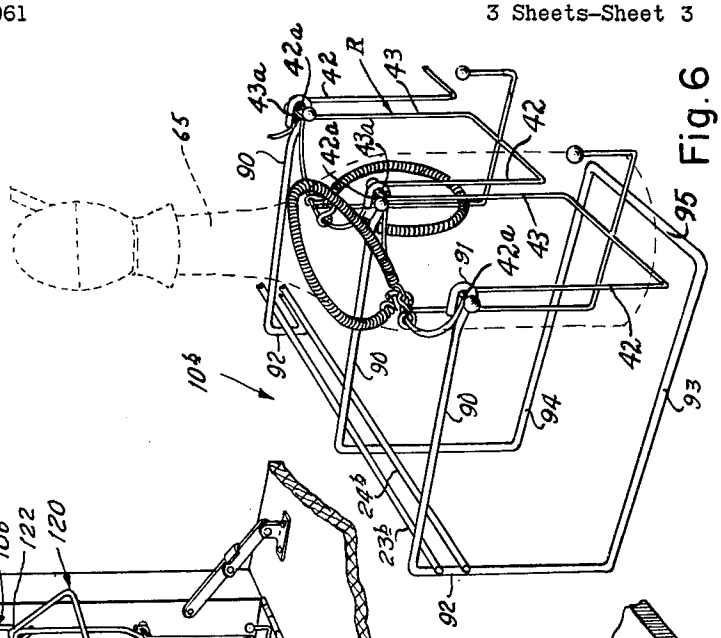


Fig. 6

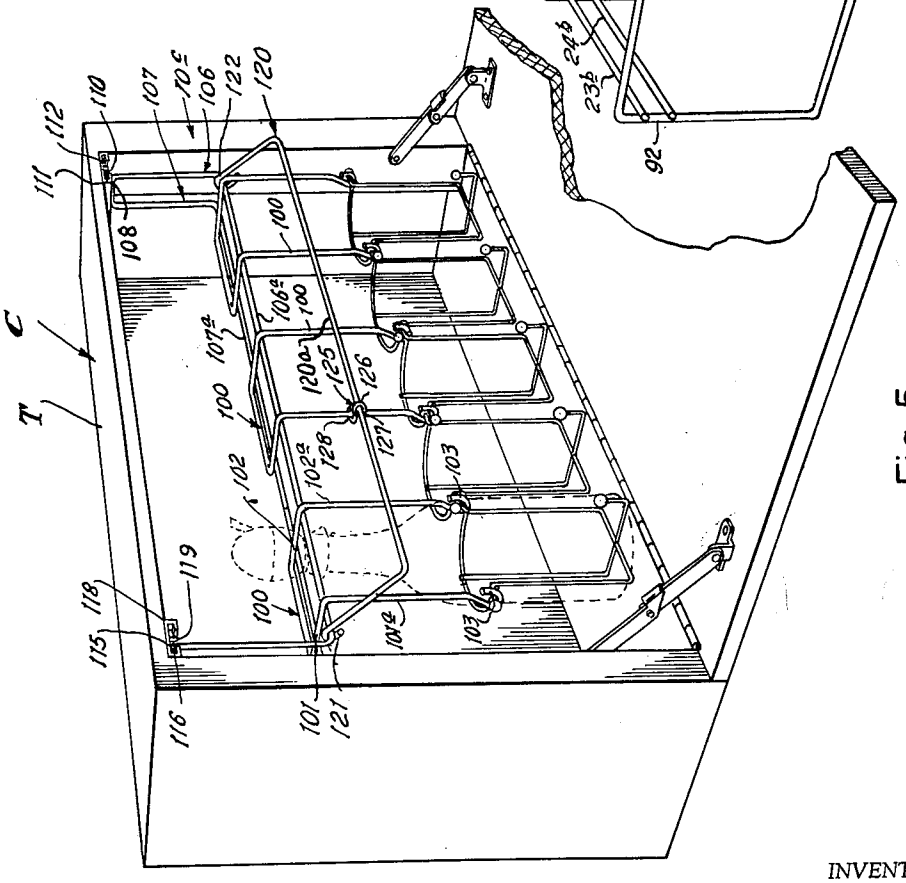


Fig. 5

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SUPPORTING DEVICE

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6 Claims. (Cl. 312—266)

This invention relates to devices for supporting containers or the like, and more particularly to a bottle supporting device which permits tilting of the bottles to dispense their contents.

One object of this invention is to provide a new and improved device for tiltably supporting bottles.

Another object is to provide a new and improved device for supporting containers, such as bottles or the like, wherein the containers are pivotally mounted to permit tilting of the containers when it is desired to dispense liquids therefrom.

Still another object is to provide a new and improved device for supporting bottles or the like which includes a supporting frame and bottle carrying receptacles or cradles which are pivotally mounted on the frame whereby the bottles are normally carried in a substantially upright position.

Still another object is to provide a new and improved supporting device having pivotally mounted receptacles or cradles for carrying objects such as bottles, or the like, which may be mounted on the inside of a cabinet door so that the receptacles and the objects carried therein will pivot and remain in an upright position as the cabinet door is swung between an upper vertical closed position and a lower horizontal open position.

A further object is to provide a new and improved portable bottle carrying device including tiltable bottle-carrying receptacles or cradles which may be simply and economically manufactured and which are light weight.

A still further object is to provide a portable bottle carrying device formed entirely of wire components and including a supporting frame and bottle carrying receptacles or cradles pivotally mounted on the frame to permit tilting of the bottles when the frame is placed on a supporting surface, such as a table or the like, or is mounted in a portable case or cabinet.

A still further object is to provide a bottle carrying device or portable bar, including pivotally mounted bottle receptacles, which may be slidably mounted within a cabinet so that when the cabinet door is opened, the device may be slid toward the cabinet door opening to permit easy access to the bottles and to permit tilting of the bottles when it is desired to pour or dispense fluids therefrom.

A still further object is to provide a supporting frame having pivotally mounted receptacles or cradles for carrying bottles, or the like, which may be mounted in a cabinet wherein the receptacles and bottles may be tilted from an upright position to permit pouring from the bottles if desired, and wherein the cabinet is provided with glass holding racks pivotally mounted therein for movement into and out of the cabinet when the cabinet door is open to permit easy access to the glasses.

Another object is to provide a bottle supporting device whose base has pivotally mounted receptacles or cradles which are easily attached and detached from the supporting base.

Additional objects and advantages of the invention will be readily apparent from the reading of the following description of a device constructed in accordance with the invention, and reference to the accompanying drawings thereof, wherein:

FIGURE 1 is a perspective view of a cabinet having the bottle supporting device or bar embodying the invention, showing the bottle supporting device mounted on the inner surface of a cabinet door;

FIGURE 2 is a vertical sectional view showing a glass rack positioned within the cabinet and the cabinet door in partly closed position;

FIGURE 3 is a perspective view of a bottle-carrying receptacle or cradle incorporated in the bottle supporting device;

FIGURE 4 is a perspective view of a modified form of the bottle supporting device;

FIGURE 5 is a fragmentary perspective view of another modified form of the bottle supporting device showing the bottle supporting device or bar slidably mounted for limited movement within a cabinet; and,

FIGURE 6 is a fragmentary perspective view of still another modified form of the bottle supporting device.

Referring now particularly to FIGURE 1 of the drawings, the bottle supporting device **10** embodying the invention is shown secured to the inner surface of the door **11** of a cabinet C. The bottle supporting device comprises a plurality of pairs **13** of longitudinal wire rod support members **14**, disposed parallel to one another and having free end foot portions **15** lying flat against the inner surface of the door **11** and upright leg portions **16** extending right angularly to the door and the foot portion. The upper ends of the wire support members **14** are curved backwardly to form hooks **18** which define loops having narrow downwardly facing openings. The hook end **19** of each wire rod support member **14** is joined to the hook end of the support member with which it is paired by a rod connecting member **20** integral with the hook ends of each pair of support members, their hooks and the connecting member being formed from a single length of wire or rod. The portion **21** of each support member **14** below the hook is angled forwardly from a bend **22** so that the center of the hook is disposed substantially collinear with the upright portion **16** of the support member. Thus, since the weight of an object carried in the hooks when the support members are disposed vertically, as shown in FIGURE 1, is exerted downwardly along lines substantially collinear with their leg portions **16**, the support members are less likely to be bent by forces constantly exerted thereon by the cradles or receptacles R supported thereby.

The foot portions **15** of the support members **14** are joined to a pair of parallel spacer rods **23** and **24** which lie over the foot portions **15** and extend right angularly thereto. The pairs of support members are uniformly spaced along the length of the spacer rods a sufficient distance to accommodate a bottle-carrying cradle or receptacle R therebetween, and are connected to the spacer rods by their foot portions **15** which are welded or otherwise suitably attached thereto.

To provide a wider or more stable base for the bottle supporting device, extension rods **25** and **26** are connected along a portion of their length to the foot portions **15** of the two end members of the aligned array of support members **14** and to the parallel spacer rods **23** and **24**. The rods **25** and **26**, which may be joined to the foot portions and to the spacer rods by welding or other suitable means, form extensions of these foot portions and thereby increase the base dimensions and stability of the device **10**. Fastening clamps **27** and **28**, disposed about the portions **15** and the rods **25** and **26**, are secured to the cabinet door by bolts **30** and serve to anchor the bottle supporting device to the door.

A plurality of the bottle receptacles or cradles R, one of which is illustrated in detail in FIGURE 3, are suspended on the hooks of the support members. Each cradle R includes a U-shaped wire or rod member **40** having a base portion **41** and legs **42** and **43**, the free end portions **42***a* and **43***a* of which are bent outwardly and at a right angle to the legs **41** and **42** in coplanar relation thereto and in collinear relation to one another.

The tip of each free end portion 42*a* and 43*a* is fitted with a ball B. A substantially semi-circular wire member 45 is attached at its ends to the U-member 40, by welding or other suitable means, and is disposed in a plane substantially perpendicular to the plane in which is disposed the U-shaped member 40. The upright leg 60 of an L-shaped member 61 is joined at its upper end to the center of the semi-circular member 45 and together therewith forms the back of the cradle. The lower leg 62 of the L-shaped member and the base portion 41 of the U-shaped member are disposed at right angles and joined together at their centers by welding, soldering, or otherwise, to form the bottom of the cradle. One of the members 41 or 62 is provided with a gap for accommodating the passage of the other so that the upper surfaces of the members will define a substantially level inner bottom surface for the cradle. A short extension 63 at the end of the leg 62, which extends upwardly and perpendicularly thereto, serves as a retainer for holding the lower end of an object, such as a bottle 65, within the cradle. The free end of each extension 63 is capped with a ball B.

A flexible member, such as a coil spring 50, having hooks 51 and 52 at its free ends is provided with each cradle for holding the top portions of the bottles in position within the cradle. The flexible member or spring is adapted to be looped about the neck of a bottle positioned in the cradle with its hooks fastened to the semi-circular member 45 on opposite sides of the leg 60, thus retaining the bottle in position in the cradle.

Each cradle R is adapted to be pivotally supported between the spaced pairs of support members 14 by its horizontal end portions 42*a* and 43*a* which are insertable in the hooks 18 of the members 14 and act as axles for the cradle. The hooks are sufficiently resilient to be flexed open to permit passage of the end portions 42*a* and 43*a* and the balls B when the cradles are installed thereon. The balls serve to retain the cradles in the hooks while permitting pivotal movement of the cradles. After the end portions and balls B are inserted through the mouths of the hooks, the hooks snap back to their normal configuration and prevent the cradles from falling out of the hooks.

When it is desired to remove a cradle, the cradle is tilted so that the bottom of the cradle faces upwardly. Sufficient pressure is then applied downwardly against one of the balls B on a shaft portion of the cradle to cause the ball to move downwardly around the connecting member 20. As pressure is applied against the ball B, the cradle is pivoted forwardly and downwardly to assist the ball B in rolling past the connecting member 20 so as to free one end of the cradle from a hook 18. The opposite ball B and the other shaft portion of the cradle may then be cleared of the other supporting hook 18 by partially rotating the cradle and freely moving the shaft portion downwardly. The shaft portions and the hooks being metallic are therefore somewhat resilient and flex as necessary to permit such disengagement of the cradle.

The cabinet door 11 is hinged to the cabinet bottom 40 by a hinge 41 and joined to the cabinet sides 43 and 44 by hinged braces 45 and 46, respectively. When the cabinet door is fully open, the braces support the door in co-planar relation with the cabinet bottom 40. The cradles are designed to accommodate bottles of such size and shape that the center of gravity of a cradle and a filled bottle carried thereby is below the pivotal axis of the cradle. Consequently, when the cabinet door is open and disposed horizontally, as in FIGURE 1, each of the bottles carried in the cradles is in erect upright position but may be readily pivoted to an inclined position whenever it is desired to dispense liquid from the bottle through its spout S.

If it is desired to close the cabinet door with the device 10 mounted thereon, the bottles will remain erect in their gravity oriented upright position as the cradles pivot about their connections with the hooks of the support members. The cabinet has dimensions which are sufficiently great to accommodate the bottles supporting device 10 and the bottles carried thereby when the cabinet door is fully closed. A suitable latching device, such as the latch L, may be provided on the door for latching the door in closed condition. The cabinet may be secured to a wall or rest upon a shelf, bar or the like.

A pair of glass racks 70 and 71 may be pivotally secured to the cabinet. The racks are rectangular in form and are pivotally mounted for movement about vertical axes to the opposite sides 43 and 44 of the cabinet. An extension 72 of a longitudinal side 70*a* of the rectangular loop 70 is bent in successive right angles to provide a first spacer portion 73 extending at a right angle to the longitudinal side 70*a* of the loop 70 and co-planar therewith and a second portion or leg 74 extending downwardly at a right angle to the portion 73 and the loop 70. The leg 74 extends through vertically aligned apertures in a U-shaped bracket 75 fastened to the wall 44 of the cabinet. The leg 74 is loosely received by the bracket whereby the rectangular rack 70 is pivotally movable about vertical axis. The rectangular loop rack 71 is substantially identical to the rack 70 and is similarly mounted for pivotal movement on the opposite side 43 of the cabinet.

As shown in FIGURE 1, the rack 70 is adapted to carry a number of cocktail glasses 76, or the like, and may be pivoted inwardly or outwardly of the cabinet to provide easier access to the glasses. The spacer portion 73 of the extension 72 permits pivoting of the loop rack 70 out of the cabinet to a position wherein the loop and aligned glasses extend parallel to the longitudinal dimension of the cabinet, if desired, thereby being removed to an out of the way position relative to the device 10. The glasses supported in the rectangular racks or loops are of the type having top ends of greater dimension than the width of the loop and bottom ends of smaller dimension so that they may be easily inserted into the loop rack and carried thereby. The racks, of course, may readily carry glasses of types other than those illustrated.

A modified form of the bottle supporting device is illustrated in FIGURE 4. The device 10*a* substantially identical to the device 10 illustrated in FIGURE 1, but is further provided with a U-shaped base 80, formed of substantially larger diameter wire or rod material than the support members 14. The base has legs 81 and 82 and a connecting member 83. The legs 81 and 82 have upwardly extending members 81*a* and 82*a*, respectively, remote from the connecting member which are joined along a portion of their length to the foot portions 15 of the support members 14 in the same manner as the members 25 and 26 of the device of FIGURE 1. It will be readily apparent that the members 81*a* and 82*a* correspond to the members 25 and 26 of the device 10 and that the device 10*a* differs from the device 10 only by the provision of the base 80. While the device 10*a* might be employed with the members 81*a* and 82*a* serving as the base of the device as in the device 10 of FIGURE 1, the U-shaped base 80 provides greater stability when the bottle supporting device 10*a* merely rests on a supporting surface. The cradles and bottles are normally oriented at right angles to the supporting members 14 but are readily tiltable with respect thereto. It will thus be apparent that the bottle supporting device 10*a* is particularly adapted to be supported on a table, counter, or the like without being bolted or secured thereto.

It will further be apparent that the bottle supporting device may be slid on its base into a cabinet when not in use and does not have to be secured to the cabinet door.

A further modified and more simply constructed form of the bottle supporting device is illustrated in FIGURE 6. The bottle supporting device 10*b* is similar to the device 10*a* illustrated in FIGURE 4 but instead of pairs of wire support members 14, which provide pairs of hooks in

which the end portions of adjacent cradles may pivot, only a single support arm 90 and hook 91 are provided. Each support arm 90 has a right angular portion 92 corresponding to the foot portion 15 of the support members 14, which is joined to parallel spacer rods 23*b* and 24*b* corresponding to the spacer rods 23 and 24 of the device 10. The members 92 of the two support arms 90 adjacent one end of the device 10*b* are extended and joined respectively at their ends to the leg members 93 and 94 of a U-shaped base 95, similar in configuration to the U-shaped base 80 of device 10*a* illustrated in FIGURE 4. The members 92 are integrally formed with the legs 93 and 94 so that the two support arms 90 and the base 95 are formed of a single length of rod. The two support members 90 adjacent the other end of the device 10*b* are similarly provided with a base member 95 (not shown). It is apparent that since only one support member 90 is disposed between adjacent cradles, the end or shaft portions 42*a* and 43*a* of adjacent cradles must share a single hook 91. However, the hooks 91 are of sufficient size to easily accommodate two of the shaft portions.

In order that each cradle be pivotable about a horizontal axis, it is necessary to assemble the cradles on the hooks so that the shaft portions of alternate cradles are disposed forwardly in the hooks of the shaft portions of the other cradles disposed between such alternate cradles. The support arms 90 and the U-shaped base members 95 are formed of wire or rod material of substantially larger diameter than the wire or rod members which form the cradles, thus increasing the strength and rigidity of the device and providing for a sturdier and more simply manufactured type of device than represented by the devices 10*a* and 10*b*.

Another modified form of the bottle supporting device which is adapted for mounting within a cabinet is illustrated in FIGURE 5. The bottle supporting device 10*c* comprises U-shaped support members 100 having arms 101 and 102, the free end portions 101*a* and 102*a* of which extend at right angles thereto. Each end portion 101*a* and 102*a* has a hook 103 for accommodating the shaft portions 42*a* and 43*a* of the cradles so that a cradle R may be supported by the support members 100 when its shaft portions are inserted within the hooks 103 of the support members. A plurality of the support members are secured at uniformly spaced intervals to a pair of U-shaped spacer members 106 and 107 by welding or other suitable means. The arms 101 and 102 of each support member are disposed right angularly to the center portions 106*a* and 107*a* of the spacer members 106 and 107 and joined thereto by welding, or other suitable means. Each support member 100, which is adapted to carry a cradle between its arms 101*a* and 102*a*, is spaced a sufficient distance from the next adjacent support member 100 that another cradle may be inserted therebetween and supported thereby.

Alternate cradles are first assembled on the support members so that when the other cradles are next assembled on the support members their shaft portions 42*a* and 43*a* will rest atop the shaft members 43*a* and 42*a*, respectively, of the alternate cradles.

The legs 108 and 109 of the U-shaped spacers 106 and 107, respectively, are secured to a dove-tailed slide plate 110 disposed for sliding movement within a dove-tailed groove 111 of a guide member 112 attached to the inner surface of the top of the cabinet. Similarly, legs 113 at the opposite ends of the U-shaped spacers, only the leg of the spacer 106 being shown in FIGURE 5 are attached to a slide plate 115 mounted for sliding movement within the dove-tailed groove 116 of a guide member 118. The guide members 118 and 112 are disposed in parallel relation so that the slide plates carried therein are moved in unison through their respective grooves. Stops 119, removably secured to the top T of the cabinet, as by threading into accommodating bores thereof, are disposed at the end of each guide member and extend downwardly into the grooves of the guide members to engage the ends of the slide plates and prevent the slide plates from being pulled out of the guide members. The top therefore constitutes a base or supporting means on which the U-shaped spacer members 106 and 107, which are connecting means for the support members 100, are mounted.

It will thus be readily seen that the bottle supporting device 10*c* is mounted for limited sliding movement within the cabinet and when the cabinet door is open may be withdrawn to the forward ends of the guide members. In the forward position, the bottles carried in the cradles may be tilted to permit pouring therefrom, the cradles then being spaced sufficiently far from the rear wall of the cabinet to permit free pivotal movement thereof without engaging the rear wall. When the device is disposed rearwardly of the guide members, the cabinet door may be closed and locked and the cabinet transported about, if desired.

To lock the bottles in the position illustrated in FIGURE 5, and prevent their rattling or movement, a U-shaped locking bar 120, having hooks 121 and 122 at its free ends disposed about the spacer rod 106, may be pivoted about the rod to the position where its central portion 120*a* engages the necks of the bottles carried in the cradles. A latch 125, which is provided with a flexible center portion 126 having hooks 127 and 128 at the ends thereof, may be employed to hold the locking bar in locking engagement with the bottles. The flexible portion of the latch is looped about the bar 120 and its hooks are attached to a support arm 101*a* or 102*a*. Since the necks of the bottles now engage the spacer rod 106, the lock bar, which is somewhat resilient being formed of metal, holds the bottles against movement and prevents rattling thereof against the various components of the supporting device and the cabinet. With the bottles locked in position, the cabinet C may be subjected to shocks and vibrations without fear of dislodgement of the bottles from the cradles or breaking thereof. As a result, the bottle supporting device 10*c* is particularly adapted for use in vehicles such as railroad cars and planes which are subjected to vibration.

In addition, the provision of the slide plates on the bottle supporting device and the guide members on the cabinet permits the cabinet to be of minimum dimensions and still permit for pivoting of the bottles during dispensing operations so that the device may be used where space is at a premium as in such vehicles.

It will thus be seen that a new and improved bottle supporting device formed entirely of wire or rod materials, has been disclosed herein which permits tilting of the bottles to dispense their contents whenever desired.

It will also be seen that a bottle supporting device has been disclosed herein which is adaptable for mounting on supporting surfaces such as tables, counters, or the like, or in a cabinet, wherein the bottles are pivotally mounted to permit their being tilted whenever it is desired to pour therefrom.

It will also be apparent, that if desired, the bottle supporting device 10*b* of FIGURE 6 may be modified to include only a single pair of support arms 90 and a single U-shaped base member 95 in which form the device is adapted to support only a single bottle carrying cradle.

The foregoing description of the invention is explanatory only, and changes in the details of the construction illustrated may be made by those skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A bottle supporting device comprising: a plurality of support members each provided with a hook at one end, each of said hooks having an open substantially upwardly opening throat; means for mounting said support members in a plurality of longitudinally aligned pairs wherein the hook of a support member of each pair of support mem-

bers is substantially horizontally aligned with the hook of the other support member of said pair; a plurality of cradles, each of said cradles having a pair of aligned axle members receivable respectively in the hooks of a pair of said support members whereby each cradle is individually independently pivotally supported by a pair of said support members, the hooks of the support members disposed between the outermost end support members each receiving the axle members of two adjacent cradles; and means on the ends of said axle members of larger dimension in a direction perpendicular to the axle members than the throats of the hooks whereby said axle members are prevented from moving axially out of said hooks.

2. A cradle supporting structure comprising: a plurality of support members each provided with a hook at one end, each of said hooks having a substantially upwardly opening mouth, said support members being resiliently flexible to permit enlarging of the mouth of the hook; means for mounting said support members in a plurality of longitudinally aligned pairs wherein the hook of a support member in each pair of support members is substantially horizontally aligned with the hook of the other support member of said pair; a plurality of cradles, each of said cradle having a pair of aligned axle members supported respectively in the hooks of a pair of said support members whereby said cradles are individually independently pivotally mounted on said support members, said axle members, the hooks of the support members disposed between the outermost end support members each receiving the axle members of two adjacent cradles being insertable in said hooks by flexing the hooks to open the mouths thereof whereby said axle members may be passed through the mouth of the hooks.

3. In combination: a cabinet having a top member and provided with a side opening a door for closing said side opening; a plurality of support members each provided with a hook at one end; means connecting said support members in spaced array wherein the hooks of said support members are substantially aligned; a plurality of cradles each adapted to carry a bottle therein and individually independently pivotally supported by a pair of said support members; means mounting said support member connecting means to said cabinet top member for limited movement relative to said door whereby said connecting means and cradles may be drawn forward to said opening

of said cabinet when said cabinet door is open to permit tilting of the cradles from their normally disposed gravity oriented positions.

4. The device of claim 3 and locking means carried by said connecting means and engageable with bottles carried by said cradles to lock said bottles against movement in the cabinet when said cradles are disposed in said cabinet.

5. In combination: a cabinet having a side opening and a door pivotally connected to the cabinet for closing said side opening; a plurality of wire rod support members each provided with a hook at one end; wire rod means connecting said support members in longitudinally aligned spaced array wherein the hooks of said support members are substantially horizontally aligned; a plurality of cradles each adapted to carry a bottle and each having axle members releasably held by a pair of adjacent hooks whereby each cradle is individually independently pivotally supported by a pair of said hooks; means mounting said support member connecting means to said cabinet for limited horizontal movement through said open side whereby said connecting means and said cradles may be moved forward to said opening of said cabinet when said cabinet door is open to permit tilting of the cradles from their normally disposed gravity oriented positions.

6. The device of claim 5, and longitudinally extending locking means carried by said connecting means and movable into engagement with all bottles carried by said cradles to lock said bottles against movement in the cabinet when said cradles are disposed in said cabinet.

References Cited in the file of this patent

UNITED STATES PATENTS

1,005,235	Langguth	Oct. 11, 1911
1,203,202	Kinsella	Oct. 31, 1916
2,061,010	Sticht	Nov. 17, 1936
2,240,960	Sherwood	May 6, 1941
2,326,710	Waycott	Aug. 10, 1943
2,467,866	Smoldern	Apr. 19, 1949
2,478,809	Deal	Aug. 9, 1949
2,542,162	Sutton	Feb. 20, 1951
2,776,756	Allan	Jan. 8, 1957

FOREIGN PATENTS

1,128,656	France	Aug. 27, 1956