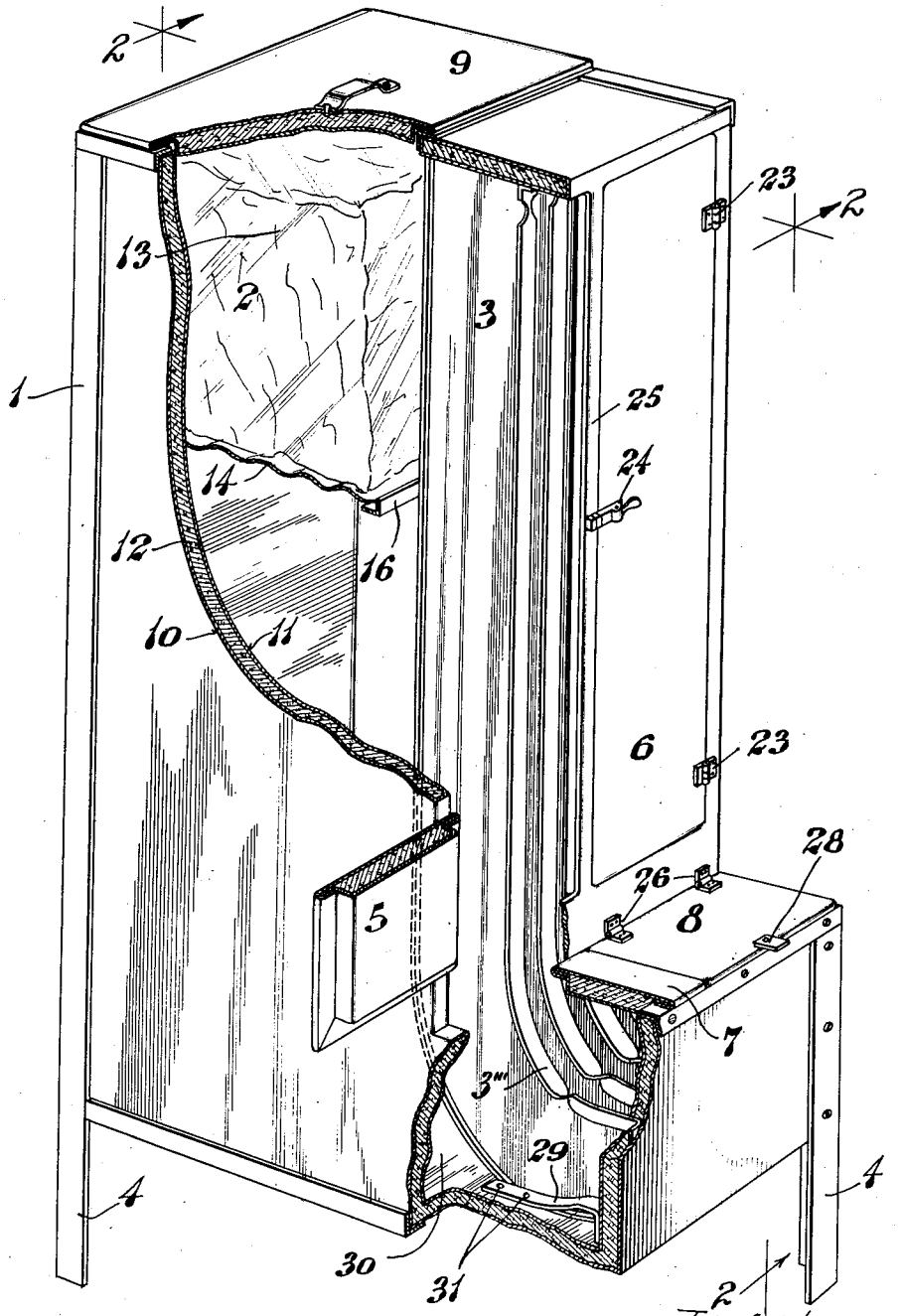
April 17, 1928. 1,666,575

R. E. LEE

GRAVITY FEED BOTTLE COOLING AND DISPENSING CABINET

Filed March 30. 1926 3 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

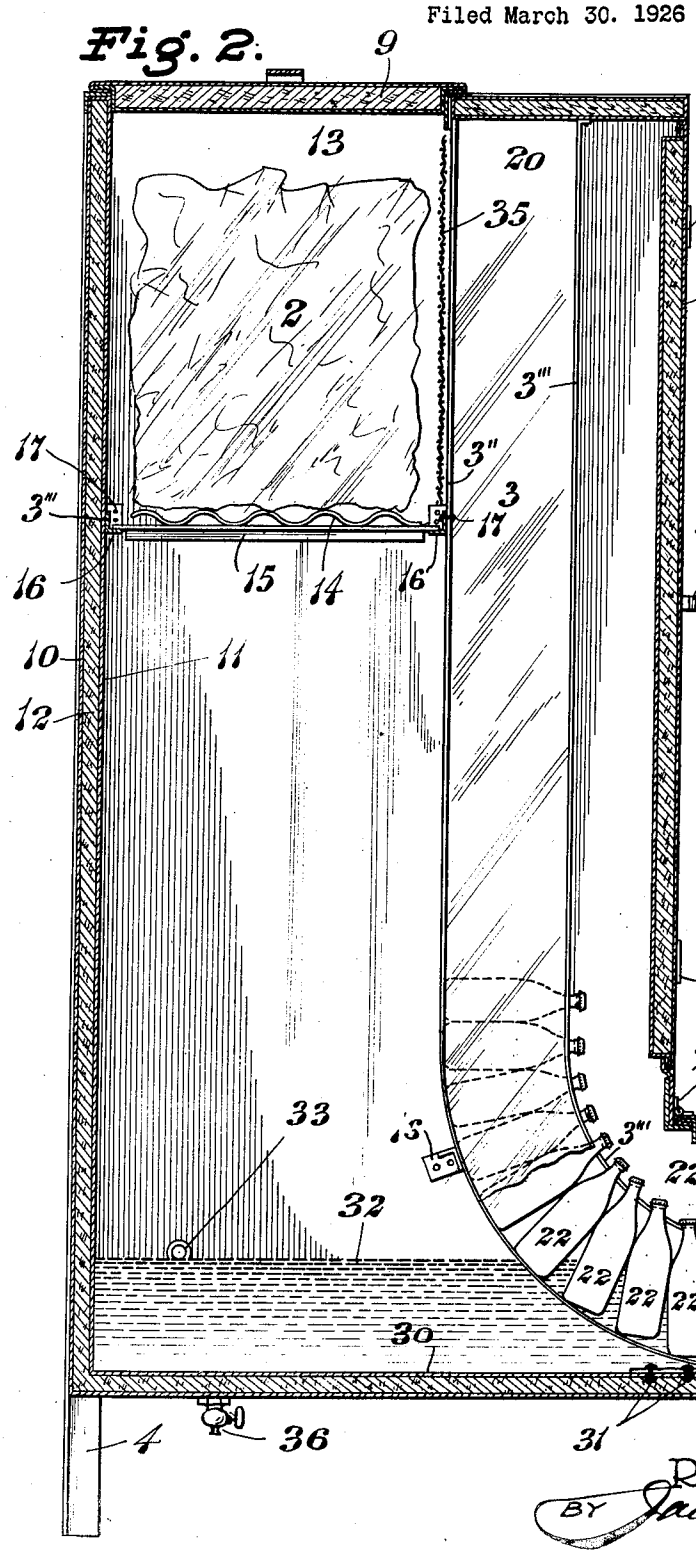


Fig. 3.

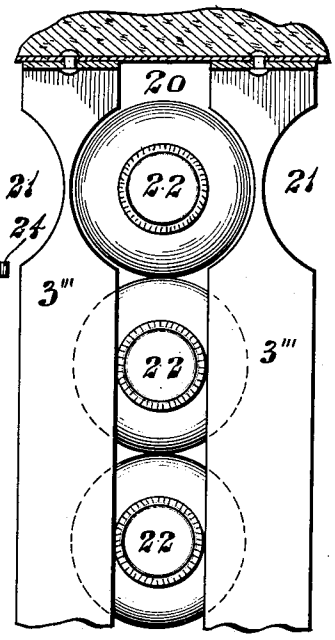
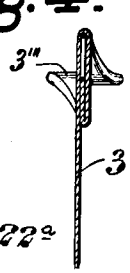


Fig. 4.



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Fig. 5.

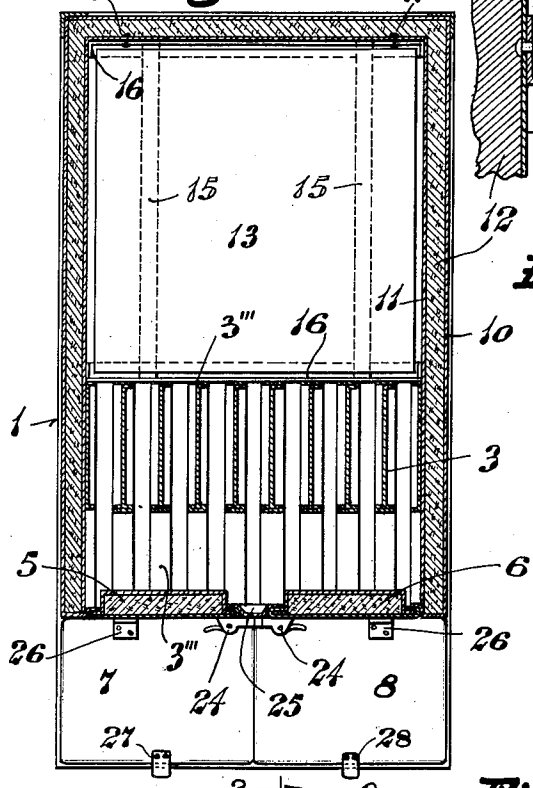


Fig. 7.

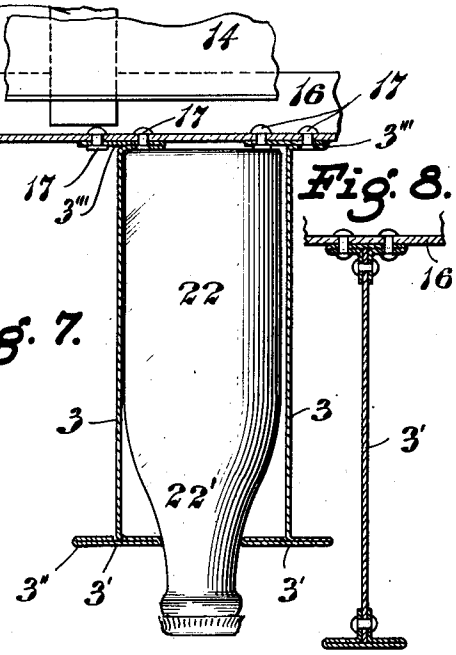


Fig. 8.

Fig. 6.

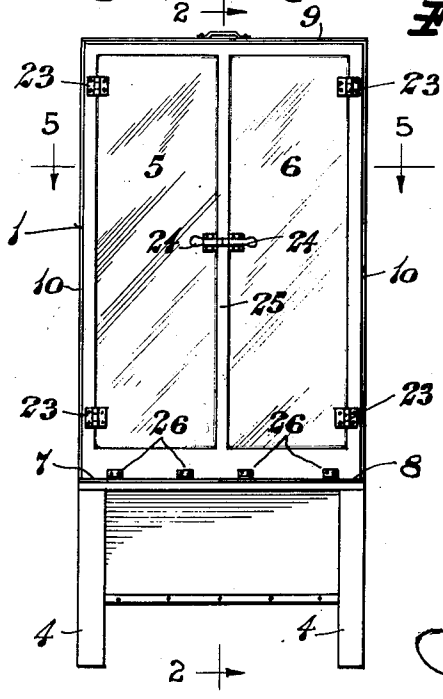
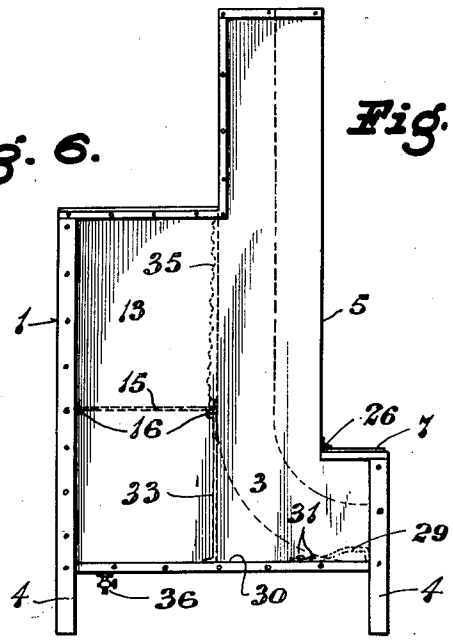


Fig. 9.



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Patented Apr. 17, 1928. 1,666,575

UNITED STATES PATENT OFFICE.

ROBERT E. LEE, OF CINCINNATI, OHIO.

GRAVITY-FEED BOTTLE COOLING AND DISPENSING CABINET.

Application filed March 30, 1926. Serial No. 98,467.

My invention relates to means for storing, cooling and automatically feeding bottles containing beverages, such as soft drinks.

The objects of my invention are to provide simple, compact, economical, convenient and efficient bottle cooling and feeding cabinets for use wherever bottled beverages are dispensed.

My invention consists in providing a cabinet containing a cooling agent, such as ice, and having a series of vertical chutes or slotted compartments in which the bottles containing the liquid may be separately inserted horizontally and drawn downwardly to rest upon each other, except near the bottom, where they are disposed in an upright position and as the end bottle is withdrawn the other bottles feed downwardly and forwardly by gravity, the end bottle always being slightly elevated above the next bottle convenient for withdrawal for the purpose of serving.

My invention further consists in the vertical slotted chute having a curved lower portion with an inclined and elevated bottle support at the lower end, and also in the construction, combination, arrangement and location of parts, as well as in the several novel features, as herein set forth and claimed.

In the drawings:

Fig. 1 is a perspective view of the invention, partly broken away to show the inner construction;

Fig. 2 is a vertical cross section taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged detail view showing the manner of inserting the bottles within the guideways;

Fig. 4 is a vertical section on the plane corresponding to line 4—4 of Fig. 2;

Fig. 5 is a transverse cross-section of the invention taken on a plane corresponding to line 5—5 of Fig. 6;

Fig. 6 is a front elevation of the invention;

Fig. 7 is an enlarged detail view showing one of the bottle-guideways in cross-section and a bottle in elevation;

Fig. 8 is a section showing a modification; and

Fig. 9 is a side elevation showing a modified construction.

In the embodiment of my invention as illustrated and which shows preferred constructions, I provide a bottle-cooler and automatic-feeder which comprises cabinet 1, ice-compartment 2 and bottle-guideways 3. Cabinet 1 is supported by legs 4 and has doors 5, 6, 7 and 8, respectively, and lid 9. Cabinet 1 is constructed of double walls 10 and 11 between which cork-insulation 12 is placed for the purpose of making cabinet 1 suitable for retaining cold air within the cabinet and preventing warm air on the outside from entering it. Lid 9 may be lifted off in order to place ice 13 within ice-compartment 2. Ice 13 rests on corrugated rack 14 which is supported by cross-bars 15. Said bars are supported by cross-members 16 secured to the inside of inner walls 11 and angle-members 3''' by suitable fastening means, such as rivets 17.

Bottle-guideways 3 are formed of metal partitions, the outer end 3' being bent upon itself to form right-angle member 3'' (Fig. 7). The inner end of said partition has a similar bend forming right-angle member 3''' which is secured to one of the cross-members 16 by rivets 17. Towards the top 20 of cabinet 1 right-angle members 3''' are cut away at 21 (as shown in Figs. 1 and 3) to form openings so that bottles 22 may be partly inserted within guideways 3, as shown in Figs. 2 and 3. The sectional view (Fig. 7) shows how the right-angle members 3''' guide the necks 22' of bottles 22 after said bottles pass below said openings or cut-out recesses 21. Doors 5 and 6, respectively, are pivoted to cabinet 1 by hinges 23 and when closed are held by latches 24 mounted on central column or jamb 25 (Figs. 5 and 6). Doors 7 and 8 are also pivoted to cabinet 1 by hinges 26 and are provided with handles 27 and 28, respectively. Said doors 5 and 6 may be provided with glass to enable the owner of the cabinet to see how many bottles he has in each guideway 3, without opening the doors. The lower portions of the guide-ways are curved and right-angle members 3''' are bent to a vertical position, as shown in Fig.

1 to form space to permit the bottles 22 to be removed separately or one at a time.

Inclined strips 29 are secured to the bottom 30 off cabinet 1 between the respective guideway partitions by rivets 31 and extend upwardly between guideways 3 (as shown in Figs. 1 and 2) for the purpose of taking the weight off of the first bottle 22^a and permit it to be easily removed when desired for serving. After the bottle 22^a is removed bottle 22^b is forced up into its place by the weight of the other bottles 22. When it is desired to have the bottles 22 pass through ice water 32 it is necessary to have an overflow pipe 33 located in the side of cabinet 1, at the desired height of said ice water. However, the bottles 22 may be thoroughly cooled without passing them through the ice water 32. This is accomplished by inserting a partition 33 between the guideways 3 and back 34 of cabinet 1, as shown in the modified construction in Fig. 9.

Screen 35 is not necessary when cooling cabinet 1 with a block of ice 13 but it has been found in practice to be necessary when cooling the cabinet with cracked or chipped ice, as chipped ice has a tendency to melt and freeze in a solid mass and protrude into guideways 3 which interferes with the feeding of bottles 22.

The operation of my invention is as follows:

Assuming that the ice-compartment 2 has been supplied with ice 13 the next step is to load the guideways 3 with bottles 22. This is accomplished by opening door 5 or 6 and inserting bottles 22, one at a time, through cut-away or opening 21 into guideways 3. It is necessary to hold onto bottle-neck 22′ while inserting said bottles 22 within said guideways until it rests against the next bottle. After each guideway 3 on one side has been filled with bottles 22 the door on that side is closed to retain the cold air and exclude the warm air and need not be again opened until it is necessary to refill said guideways. After said guideways have been filled with bottles, in order to remove bottle 22^a in any guideway 3, simply raise door 7 or 8, according to the bottle of desired contents required and lift said bottle out, whereupon the weight of the bottles 22 forces bottle 22^b into the position just occupied by bottle 22^a, and so on, until the entire number of bottles have been removed. A suitable outlet 36 is provided to drain the cabinet when desired.

An advantage of my invention is that the cabinet 1 is so constructed as to deliver the bottles 22 by gravity feed to the compartment beneath doors 7 and 8, convenient for serving.

Another advantage of my invention is that the cabinet 1 is capable of receiving a large number of bottles of various flavors, cooling them all simultaneously and keeping the various flavors from mixing with each other in separate guideways, thereby enabling the removal of a desired flavor without disturbing the remaining flavors or bottles.

A further advantage is that the bottles may be thoroughly cooled without passing through ice water, thereby enabling the owner to serve the bottles in a cold "dry" condition, thus avoiding the usual disadvantage of wet bottles which are not only "mussy" to handle but often-times drip on the customer's clothing.

My invention is capable of modification without departing from the scope or spirit thereof as defined in the claims, as for instance, the partitions for the guideways may be constructed, as shown in Fig. 8 in which it is formed of three pieces instead of one, the flange parts being bent in the shape of a T with the partition 3′ inserted therein and riveted. This manner of construction is easier and more economical than that shown in Fig. 7; also the device may be provided with partition 33, as shown in Fig. 9, to enable the bottles to be served dry, as heretofore explained; further in this latter construction the ice-compartment is placed at a lower elevation which renders it easier to insert the ice and also requires less material in its construction.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A gravity feed bottle cooling cabinet provided with a cooling agent and having a bottle chute extending from vertical to horizontal position whereby the bottles are fed therethrough from parallel horizontal position to parallel vertical position and guiding means adapted to direct the lower end bottle to an elevated position parallel to the next succeeding bottle whereby it may be easily withdrawn vertically and endwise from said cabinet.

2. In a gravity feed bottle cooling cabinet provided with a cooling agent, a slotted chute extending vertically downward and curved forward into a horizontal position, means for opening and closing said cabinet whereby bottles may be inserted into the horizontal portion of said chute in vertical parallel relation and whereby bottles may be inserted into the vertical portion and intermediate portion of said chute in substantially parallel relation with each other in such a manner that as the bottles are fed forward by gravity they assume a vertical position in the horizontal portion, and an inclined track in said horizontal portion adapted to support the lower end bottle in elevated position relative to the other bottles for easy and convenient removal of said end bottle.

3. In a bottle cooler and feeder of the class described, a guideway formed of partitions and having flanges adapted to engage the neck of the bottles and hold them in proper position therein, said flanges being bent substantially parallel with said partitions at their lower ends to permit ready removal of the bottles.

4. In a bottle cooler and feeder, a partition having a vertical front flange recessed near its top and curved downwardly and outwardly near the bottom and bent vertically near its lower end with a lateral holding flange at the end.

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