

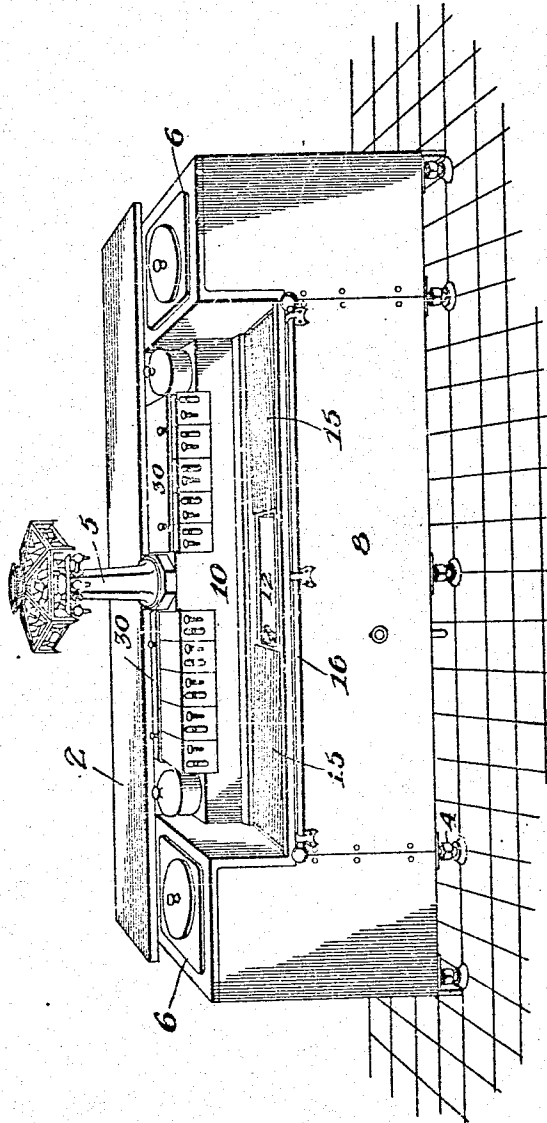
E. A. FRIESE.
DISPENSING APPARATUS.
APPLICATION FILED JAN. 31, 1910.

1,012,621.

Patented Dec. 26, 1911

4 SHEETS—SHEET 1.

FIG. 1.



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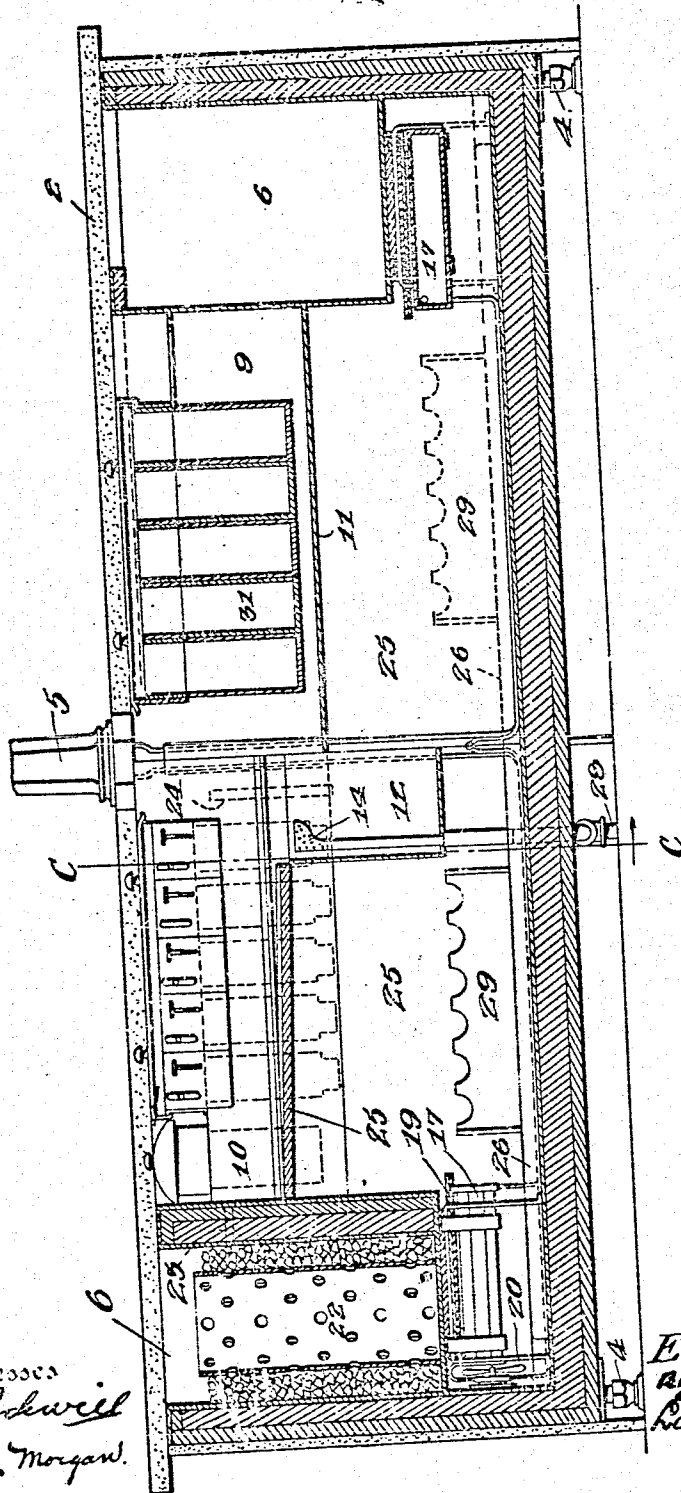
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4 SHEETS-SHEET 2.

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Fig. 2 -



2 Witnesses
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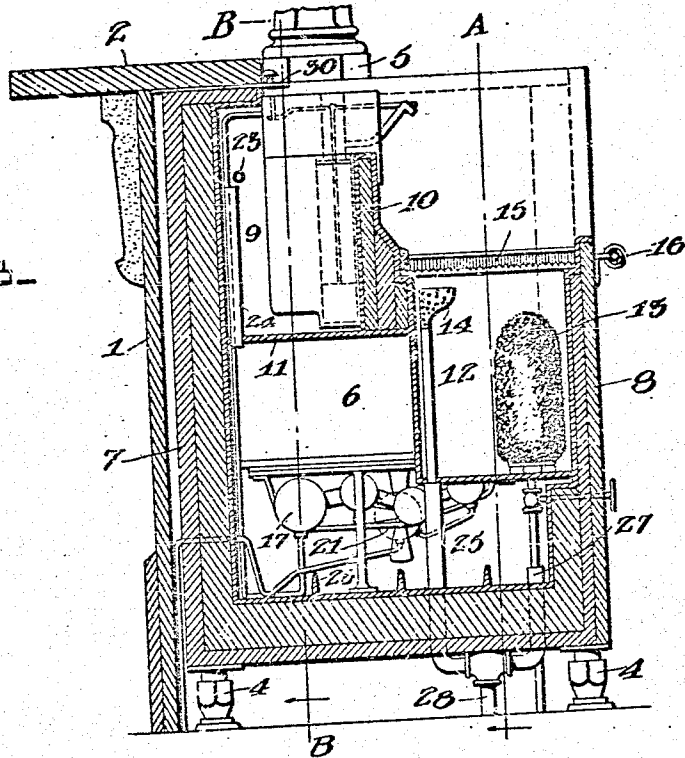
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Fig. 3.



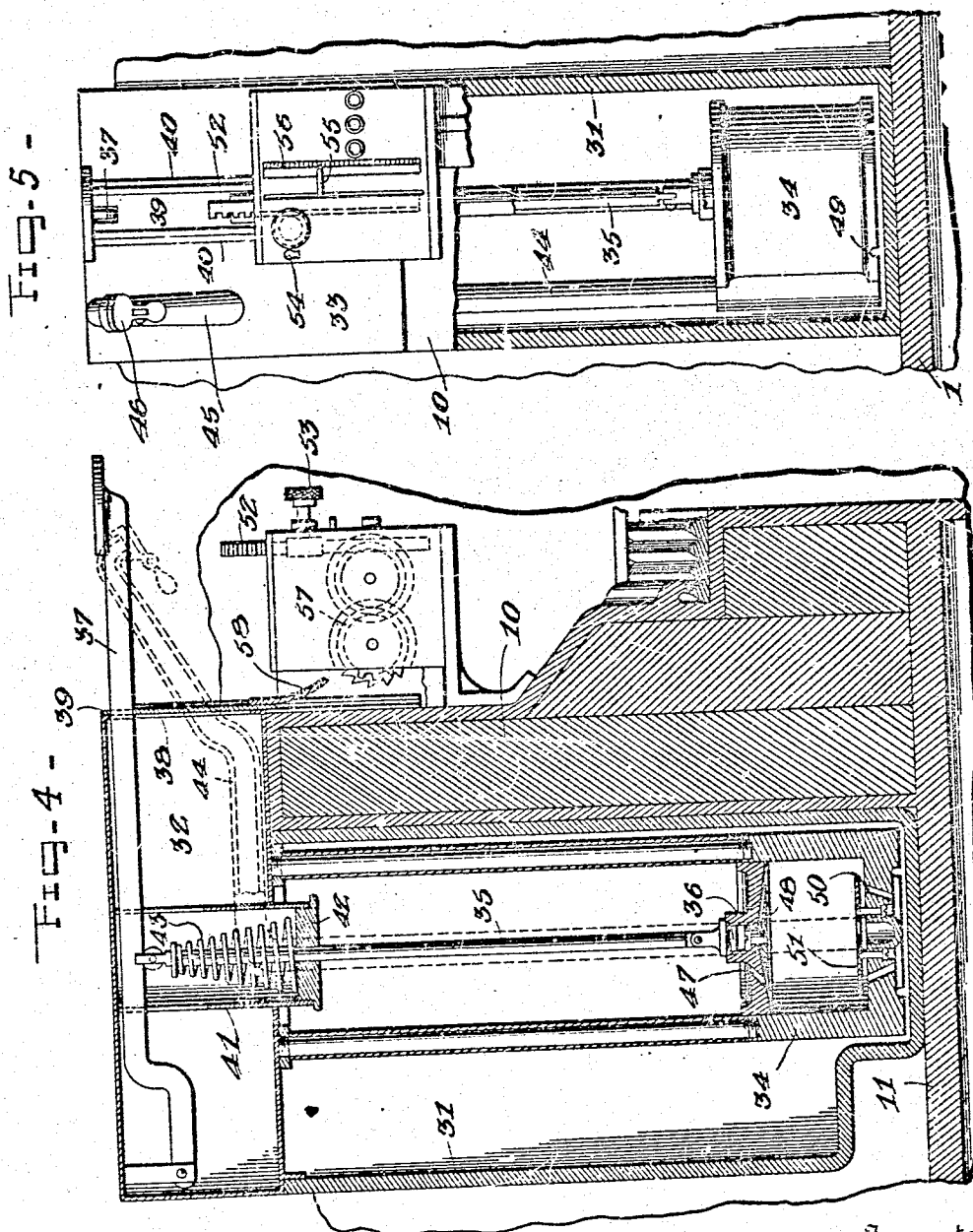
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UNITED STATES PATENT OFFICE.

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DISPENSING APPARATUS.

1,012,621.

Specification of Letters Patent.

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Application filed January 31, 1910. Serial No. 541,121.

To all whom it may concern:

Be it known that I, EDWARD A. FRIESE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in Dispensing Apparatus, of which the following is a specification.

This invention relates to improvements in dispensing apparatus for liquids of any form, and more particularly to a dispensing apparatus for soda fountains.

It is the object of this invention to provide a casing to be adjusted beneath the dispensing slab of the soda fountain, which will contain the ice cream receptacle, jars for preserved fruit, jars for syrups of different flavors with their respective dispensing apparatus, a draft stand for the carbonated mineral or city waters, a refrigerator compartment for the cooling of the fruit and syrup jars, a separate refrigerating compartment for the carbonated water and other articles, together with a sink for the washing of glasses, in which the ice cream receptacles are so constructed and arranged that the ice and brine surrounding them will furnish the refrigerant for the refrigerator compartments. The refrigerating compartment which surrounds the fruit and syrup jars is so constructed that the refrigerant circulates freely about all of the jars and therefore preserves a uniform temperature. The refrigerant then passes into the lower refrigerating compartment and circulates therethrough before being discharged. As there is no insulation between the two compartments, the cold from the upper compartment is transmitted and assists in chilling the lower compartment. The temperature of this lower refrigerating compartment is controlled by the circulating brine, so that the temperature of this compartment which contains receptacles for the carbonated water will be the same as the upper refrigerating compartment, and therefore the carbonated water and syrup will be of the same temperature and the drink produced by the mixing of the two will be uniform. The tanks containing the carbonated and other water are placed directly beneath the ice cream receptacles and each end of the casing is provided with a means operated by the carbonated water passing therethrough when the draft tubes are operated to cause a circulation of air about the carbonated and

other water tanks and thereby prevents excessive cold being transmitted from the bottom of the ice cream receptacles. The syrup jars are provided with a particular form of dispensing apparatus adapted to be received under a part of the slab. The discharge nozzle projecting from the side is stationary and arranged at one side of the operating lever, thereby preventing any liquid or foreign substance which may be carried by the hand of the operator from dripping into the receiving receptacle as the syrup is being dispensed, as well as preventing the accidental breaking of the receptacle as often occurs with the movable nozzle. The register actuated by the operating lever will indicate the number of times the device has been operated. The preferred manner of arranging the syrup jars and dispensing apparatus therefor in relation to the dispensing counter and casing is such that the parts are very easily removed.

While the preferred forms of this invention are illustrated upon the accompanying sheets of drawing, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a perspective view of the entire apparatus looking from the back of the dispensing counter. Fig. 2 is a complete longitudinal sectional view taken through the casing containing the apparatus. The parts are symmetrically arranged on each side of the transverse central line, and the left hand side of Fig. 2 represents a section taken on the line A—A on Fig. 3, and the right hand part of Fig. 2 represents a section taken on the line B—B of Fig. 3. Fig. 3 is a view in transverse section taken on the line C—C of Fig. 2. Fig. 4 is an enlarged detail view in longitudinal section through one of the syrup jars and dispensing apparatus therefor. Fig. 5 is a view in front elevation of Fig. 5 with parts broken away.

The dispensing counter 1 and dispensing slab 2 are of the usual form. The casing containing the dispensing apparatus is mounted upon adjustable legs 4 whereby it may accommodate itself to dispensing counters of different heights. The casing centrally supports a draft stand 5 for the dispensing of the carbonated and other water. A compartment 6 is formed at each end of the casing for containing the ice cream receptacles, which extend downward from

the top of the casing, but are terminated short of the bottom thereof or may be placed at the center or other desired position either in upright or slanting position. The ice cream receptacle compartments 6 extend the entire width of the casing, the front wall 7 of the casing extends continuously between the ice cream compartments on the under side of the dispensing slab, while the rear wall 8 of the casing continuously extends between the ice cream compartments, but is of considerably less height. A continuous compartment 9 is formed adjacent the front of the casing between the two ice cream compartments by a vertical partition 10 substantially on the longitudinal center line of the casing, and a horizontal partition 11 extending somewhat below the upper surface of the front wall of the casing. A sink 12 for washing glasses is centrally located between the vertical partition and the rear wall of the casing, which is provided with a glass cleaner 13 having an inlet at the bottom of the sink and a drain 14 near the top of the sink. Inclined drain boards 15 are mounted upon tracks on the vertical partition and rear of the casing, and extend on each side of the sink to the ice cream compartments. A towel rail 16 is secured to the rear wall 8. The inner walls of the casing are lined with heat insulating material, and the horizontal and vertical partitions between the ice cream compartments divide the remainder of the casing into upper and lower refrigerating compartments. Jars for preserved fruit and syrups of different flavors are supported within the upper refrigerating compartment 9.

Beneath the ice cream compartments 6 at each end, a plurality of carbonated water tanks 17 are supported upon brackets extending from the bottom of these compartments and are held thereby above the bottom of the casing or may rest on the bottom in the brine. Pads 19 of perforated insulating material may be inserted between the bottom of the ice cream compartment and the top of the tanks. It is preferable that the carbonated water be contained in a series of connected tanks with one end of the series in communication with the draft stand and the other end of the series in communication with the carbonating apparatus or source of carbonated water.

A rotating fan 20 operated by a water motor 21 is placed upon each end of the casing between the casing and the adjacent ends of the carbonated water tanks. The water motor of each fan is placed in the liquid circuit between the source and the inlet to the series of tanks, so that each time the dispensing apparatus of the draft stand is operated, the motor on the respective side of the casing will be operated and thereby cause the fan to circulate the air about the car-

bonated water tanks and force it toward the center of the lower refrigerating compartment.

The side walls of each ice cream compartment are lined with heat insulating material, and a perforated metallic member 22 for receiving the ice cream can is centrally located therein allowing a sufficient space between the walls of the member and the casing for the packing of ice and brine. Near the top of the upper refrigerating compartment a means of communication 23 is provided with the interior of each ice cream receptacle compartment, so that as the ice melts the brine in the ice cream receptacle compartment will rise and overflow into the upper refrigerating compartment 9. The height of the brine in the upper refrigerating compartment is controlled by an overflow pipe 24 leading to the lower refrigerating compartment 25. The bottom of the lower refrigerating compartment is divided by a series of staggered partitions 26, so that the brine will be caused to circulate between these partitions on the bottom of the casing before reaching the outlet 27 leading to the drain 28. A plurality of racks 29 may be provided in the lower refrigerating compartment extending above the staggered partitions upon which bottles containing different substances may be placed and thereby be prevented from coming into direct contact with the brine. Access is had to the lower refrigerating compartment by sliding one or the other of the drain boards 15 upon its tracks over the sink. The syrup jars and dispensing apparatus therefor are arranged in banks on each side of the draft stand.

A metallic cover 30 is arranged to normally cover the top of the dispensing apparatus upon the syrup jars, but may be slid forward under the dispensing slab to uncover the top of the dispensing apparatus when it is desired to refill any of the syrup jars. The cover 30 is shown in its normal position upon the right hand of Fig. 1, and in its retarded position upon the left hand of Fig. 1, and upon Fig. 3.

The construction of the syrup jars and dispensing apparatus therefor are shown in detail in Figs. 5 and 6. The syrup jar 31 rests upon the bottom 11 of the upper refrigerating compartment, and extends upward until level with the top of the side partition 10 thereof. The dispensing apparatus is supported by a casing 32 adapted to hermetically seal the top of the jar, which casing extends outward over the side partition and is provided with a depending face plate 33 engaging the outer side of the partition. From the bottom of the casing is supported a measuring chamber 34 which is received in a slightly larger contracted portion in the bottom of the jar. A rod 35

operating a piston 36 within the measuring chamber is mounted in a guide supported from the top of the casing. An operating lever 37 pivoted at the back of the casing passes over an antifriction bearing upon the upper end of the plunger rod, and extends through an opening 38 in the front plate 33 of the casing. This opening 38 in the front of the casing is a vertical slot extending down to the bottom thereof. The operating lever 37 also passes through an opening in the top of a plate 39 arranged to slide in tracks 40 on each side of the slot, and thereby close the opening when the operating rod is in its uppermost position, but which will allow of the reciprocation of the rod. The plunger rod guide comprises a tubular member 41 supported upon the under side of the top of the casing and passing through the bottom thereof is provided with an internal screw threaded portion at the lower end adapted to engage a centrally perforated cap 42 surrounding the plunger rod. A conical coil spring 43 is attached to the upper end of the plunger rod and rests upon the inner side of the cap, and thereby allows an adjustment thereof.

The measuring chamber is a cup-shaped member having a discharge tube 44 communicating centrally with the interior of the chamber and leading through the bottom thereof to one side and then upward in a vertical line through the bottom of the casing and thence out through the front plate thereof at one side of the operating lever. The discharge nozzle 45 of the discharge tube is provided with a pivoted cap 46 which will automatically close at the end of each discharge. The piston 36 is slightly recessed on the upper surface and is provided with a plurality of inclined ports 47 leading therethrough. The under side of the piston is conically recessed and is provided with a correspondingly shaped, centrally supported flap valve 48. The under surface of the dispensing chamber is recessed and is provided with a plurality of radial grooves 49 extending through the flange formed thereby. The bottom of the chamber is provided with a plurality of inclined ports 50 about the center thereof with a centrally perforated flap valve 51 on the inner side of the chamber adapted to close the ports and communicate with the discharge tube 44.

Upon the outer side of the partition a regulating and recording device may be secured. The regulating device comprises a rack bar 52 extending above the casing of the device in line with the operating lever 37, which will limit the downward movement of the lever and thereby regulate the amount of syrup discharged from the measuring chamber. This rack bar may be extended or withdrawn by means of a pinion

in engagement therewith carried upon a shaft 53 extending through the outer face of the casing and provided with a knurled head. In order to prevent tampering with the regulating device, an ordinary lock 54 may be provided with the bolt in position to engage the side of the pinion opposite the rack bar. A pointer 55 may be secured to the rack bar which extends through a vertical slot in the casing adapted to pass over a scale 56 thereon to indicate the amount of syrup dispensed with each operation. The registering device may consist of any form of odometer 57 operated by a spring member 58 secured upon the lower end of the reciprocating closure plate 39 carried upon the operating lever. This will allow, on the downward stroke, of the operation of the odometer, but will allow the operating member to slip over the operating mechanism on its upward stroke.

The draft stand may be placed upon the dispensing slab and the center space utilized for a shaved ice receptacle which will enter into the upper refrigerating compartment and re chill the brine before it enters the overflow into the lower compartment.

What I claim is:—

1. In a dispensing apparatus, a dispensing counter and slab, a plurality of liquid dispensing jars arranged below the level of and to one side of the slab, a slide mounted upon the under side of the slab normally covering the top of the jars and adapted to be received under the slab and uncover the jars for removal or refilling.

2. In a dispensing apparatus, a dispensing counter and slab, a plurality of liquid dispensing jars arranged below the level of and to one side of the slab, a slide mounted upon the under side of the slab normally covering the tops of the jars and adapted to be received under the slab to uncover the jars and the manually operated portion of the dispensing mechanism for each jar extending from one side thereof below the cover and adapted to be actuated from the rear of the slab.

3. In a dispensing apparatus, a dispensing counter and slab, a plurality of liquid dispensing jars arranged below the level of and to one side of the slab, a slide mounted upon the under side of the slab normally covering the tops of the jars and adapted to be received under the slab to uncover the jars, each jar provided with a discharge nozzle and an operating lever for the dispensing mechanism extending from one side of the jar below the cover.

4. In a dispensing apparatus, a dispensing counter and slab, having a slidable cover, a casing mounted under the slab adapted to contain and support a plurality of syrup jars, and having a vertical partition in contact with said jars, a dispensing mechanism

carrying cover upon each jar extending over and engaging the said partition, said cover adapted to be received under the sliding cover in its extended position.

5. In a dispensing apparatus, a dispensing counter and slab, having a sliding cover mounted on the under side thereof, a casing mounted under the slab adapted to contain and support a plurality of syrup jars, having a longitudinal vertical partition in front of the jars, a cover over each jar carrying dispensing mechanism extending over and engaging the vertical partition and adapted to be received under the sliding cover in its extended position, said mechanism comprising a measuring chamber and a discharge nozzle from the bottom thereof extending from one side of the jar cover, a piston and an operating lever extending from one side of the jar cover and to one side of the discharge nozzle.

6. In a dispensing apparatus, a dispensing counter and a slab, a sliding cover mounted on the under side thereof, a casing mounted under the slab adapted to contain and support a plurality of syrup jars and having a vertical, longitudinal partition, a cover for each jar carrying a dispensing mechanism and extending over and engaging the vertical partition, said cover adapted to be received under the sliding cover in the extended position, said mechanism comprising a discharge nozzle extending from one side of the jar and an operating lever extending through an opening in the jar cover and a closure for said opening carried by said lever.

7. In a dispensing apparatus, a dispensing counter and a slab, a slidable cover mounted on the under side thereof, a casing mounted under the slab adapted to contain and support a plurality of syrup jars, a vertical longitudinal partition, a cover for each jar supporting dispensing mechanism and extending over and engaging the vertical partition adapted to be received under the slab cover in its extended position, said mechanism comprising a discharge nozzle and an operating lever extending from one side of the jar cover, said operating lever extending through an aperture in the side of the jar cover over the vertical partition, and adjustable means for limiting the stroke of the lever mounted upon the vertical partition.

8. In a dispensing apparatus, a dispensing counter and a slab, a slidable cover mounted on the under side thereof, a casing mounted under the slab adapted to contain

and support a plurality of syrup jars, a vertical longitudinal partition, a cover for each jar supporting dispensing mechanism and extending over and engaging the vertical partition and adapted to be received under the slab cover in its extended position, said mechanism comprising a discharge nozzle and an operating lever extending from one side of the jar cover, said operating lever extending through an aperture in the side of the jar cover over the vertical partition, and adjustable means for limiting the stroke of the lever mounted upon the vertical partition, and means for locking the adjusting mechanism.

9. In a dispensing apparatus, a dispensing counter and a slab, a sliding cover mounted on the under side thereof, a casing mounted under the slab adapted to contain and support a plurality of syrup jars and having a longitudinal vertical partition, a cover for each jar carrying a dispensing mechanism and extending over and engaging the vertical partition, said cover adapted to be received under the sliding cover in its extended position, said dispensing mechanism comprising a discharge nozzle and an operating lever extending from one side of the jar cover, said operating lever extending through the jar cover over the vertical partition, a registering device mounted upon the partition and means carried upon the lever to operate said registering device upon each operation of the lever.

10. In a dispensing apparatus, a dispensing counter and slab, a slidable cover mounted on the under side thereof, a casing mounted under the slab and adapted to contain and support a plurality of syrup jars and having a longitudinal vertical partition, a cover for each jar supporting a dispensing mechanism and extending over and engaging the vertical partition, said cover adapted to be received under the sliding cover in its extended position, said dispensing mechanism comprising a discharge nozzle and operating lever extending side by side from the jar cover over the vertical partition, and adjustable means for limiting the stroke of the operating lever and a registering device mounted upon the partition below the operating lever and adapted to be actuated by each operation of the lever.

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Witnesses:

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