

A. KALTHOFF.
LIQUID DISPENSING APPARATUS.
APPLICATION FILED APR. 13, 1909.

1,038,595.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.

Fig. II.

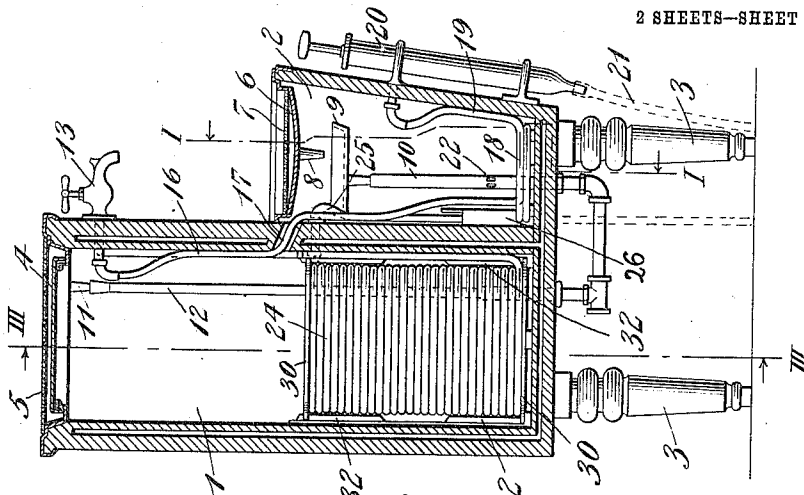
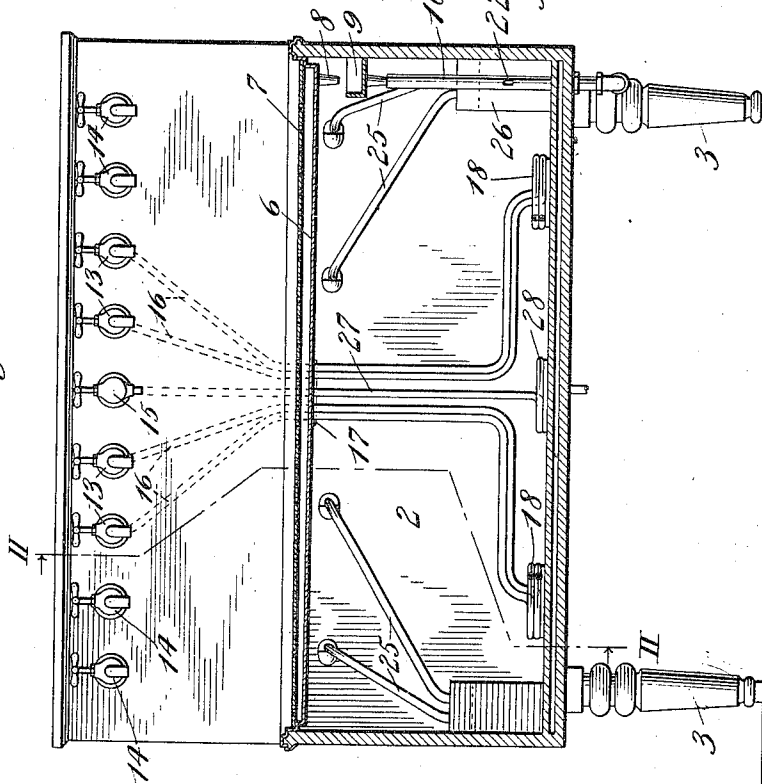


Fig. I.



WITNESSES

epo. le. chemy.
P. G. Brown.

A. Kalthoff,
INVENTOR,

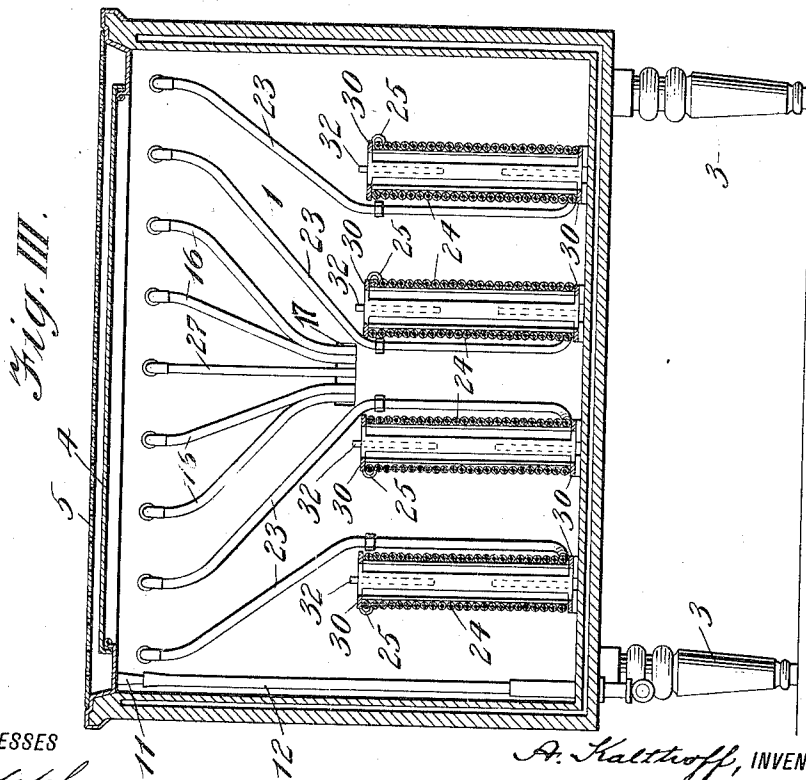
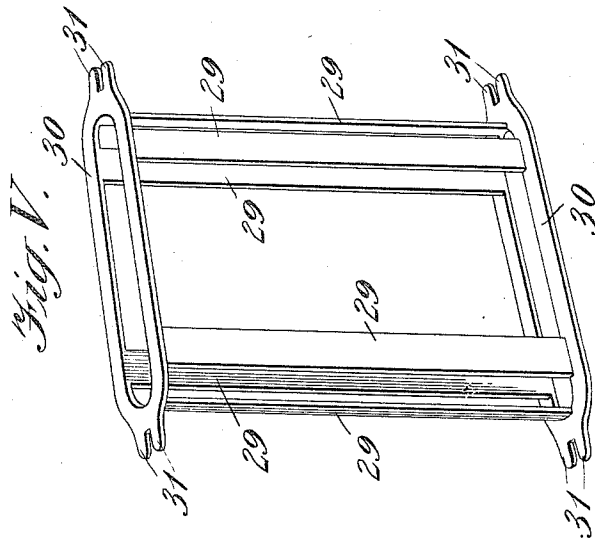
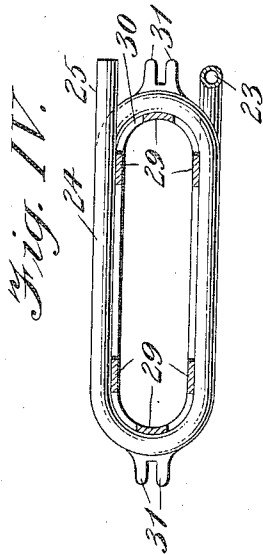
BY *Spencer*
ATTORNEY

A. KALTHOFF.
LIQUID DISPENSING APPARATUS.
APPLICATION FILED APR. 13, 1909.

1,038,595.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 2.



WITNESSES
G. L. Schenck
P. G. Brown

A. Kalthoff, INVENTOR,
BY *J. H. Schenck*
ATTORNEY

UNITED STATES PATENT OFFICE.

ALBRECHT KALTHOFF, OF NEW YORK, N. Y., ASSIGNOR TO H. D. BERNER & WINTER-BAUER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LIQUID-DISPENSING APPARATUS.

1,038,595.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed April 13, 1909. Serial No. 489,749.

To all whom it may concern:

Be it known that I, ALBRECHT KALTHOFF, a citizen of the United States, resident of the borough of Manhattan, county of New York, and State of New York, have invented certain new and useful Improvements in Liquid-Dispensing Apparatus, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The annexed drawings and the following description set forth in detail, one mechanical form embodying the invention; such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure I represents a longitudinal vertical section, on the line I—I in Fig. II, of my improved beer and ale cooler; Fig. II, a transverse section on the line II—II in Fig. I; Fig. III, a section on the line III—III in Fig. II; Fig. IV, a top plan view of one of the beer coils, and Fig. V a perspective view of the frame for one of said coils.

The cooler consists of a rectangular casing, preferably formed with double walls similar to the ordinary refrigerator or ice chest, and consisting of a tall rear compartment, 1, and a lower front compartment 2, of a height of about one-half of the rear compartment. The casing is preferably mounted upon legs 3. The compartments have open tops, and the top of the larger compartment is closed by a metal cover, 4, which forms a receptacle for the drainings from glasses or other vessels placed upon it and draining through a perforated top 5. The lower forward compartment has its open upper side closed by a cover 6, which also forms a drainage receptacle and has a perforated top, 7, and a discharge spout 8, at one end, which spout discharges into a small trough, 9, which discharges into a drain pipe, 10, which passes through the bottom of the compartment and has suitable connection to the sewer or other waste connection. The cover for the large compartment has also a discharge spout 11, which connects with a waste pipe 12, the lower end of which is joined to the waste pipe 10. A number of ale faucets, 13, beer faucets, 14, and a water faucet, 15, are secured in and through

the front side of the large rear compartment, near the top of the same. In the drawings are shown four ale faucets arranged two on each side of the central water faucet, 15, and four beer faucets, arranged two on each side of the ale faucets,—there being thus illustrated nine faucets. Pipes 16, are connected to the ale faucets and extend upon the inner side of the front wall of the rear compartment and through an opening 17, at the middle of said wall, into the forward compartment where said pipes are formed into coils, 18, resting on the bottom of the forward compartment, and preferably arranged in pairs, one coil superimposed upon the other. The coils extend in pipes 19, which are connected to ale pumps, 20, having feed-pipes, 21, connected to the casks. The opening 17, through which the ale pipes pass into the forward compartment, is forwardly inclined and opens into the upper part of the forward compartment and serves, besides its function as a passage for the ale pipes, as an overflow opening through which the ice water which melts off from the ice with which the rear compartment is packed into the forward compartment, where said ice water will serve to cool the ale coils. The drain pipe 10, in the forward compartment has openings 22, a distance above the tops of the ale coils, so that the water may flow out through these openings in the drain pipe when its level rises to said openings. Pipes, 23, connect the beer faucets with the lower ends of oblong beer cooling coils, 24, and the upper ends of these coils are connected with pipes 25, which pass through the forward wall of the rear compartment and down through the bottom of the forward compartment, where they are connected to the beer casks. These latter pipes are preferably arranged in pairs and the openings in the bottom of the forward compartment, through which these pipes pass, are protected by boxes or casings, 26, which extend above the drain openings in the waste pipe, so that the ice water which cools the ale coils cannot overflow these casings and flow out through the openings for the beer pipes. The water faucet has a pipe 27, which also passes out through the opening in the front wall of the rear compartment together with the ale pipes, and said water pipe is formed into a coil, 28, which rests upon the bottom of the forward

compartment and has connection through said bottom with a supply of either still or carbonated water. The beer coils, of which four are illustrated in the present cooler, are wound around supports composed of vertical bars, 29, which extend between two oblong frames 30, having pairs of lugs 31, at their ends. These lugs engage and slide upon vertical ribs 32, upon the inner sides of the front and rear wall of the rear compartment, and said ribs are formed with a gap at about their middles, so that the coil structure may be slid upward and then turned so as to permit of the coils passing by the beer and ale pipes which otherwise would prevent removal of the coils.

In practice, the pipes leading to the beer coils are suitably connected to the beer casks from which the beer is forced upward through the pipes and coils under suitable gas or air pressure. The suction pipes from the ale pumps are connected to the respective casks, and the ale is drawn from the casks by actuating the pump which forces the ale through the coil and up to the faucet. The water pipe and coil are connected to the water supply, which may be either the ordinary hydrant supply or in case of carbonated water, a tank or receptacle for the same. The entire rear compartment is packed with ice and the water which melts off from said ice overflows through the opening 17, in the front wall of this compartment and into the forward compartment, where this ice water cools the ale coils, overflowing through the openings of the waste pipe in said compartment when it rises to the level of said openings. By this arrangement the beer coils will be cooled by direct contact with the ice, while the ale coils will be cooled by the ice water which, of course, has a higher temperature than the ice, whereby too low a degree of cooling for the ale coils is prevented and said coils are kept cooled to a proper temperature, so that the ale may be drawn clear. In coolers in which the ale coils are cooled by direct contact with the ice the ale is liable to become cooled to a too low temperature, which renders the ale cloudy and also interferes with the taste and flavor of the ale, which become destroyed when cooled to a too low temperature. The beer coils may be thoroughly cleaned upon their outsides from any impurities from the ice which may lodge between the separate coils, as the coils may be detached from the supply and outlet pipes by unscrewing the couplings connecting said coils to said pipes, and each coil structure may then be raised until the lower pairs of lugs arrive at the gap between the vertical ribs, when the coil may be laterally turned and lifted out through the top of the rear compartment without being obstructed or interfered with by the ale or beer pipes and

the inner ends of the faucets which project inward from the forward wall of said compartment.

The combination of the overflow compartment into which the ice-water from the beer-coil compartment flows, not only effects the proper cooling of the ale-coils, preventing the clouding of the ale from too low a degree of cooling, but also effects a considerable saving in ice, inasmuch as no ice is consumed in cooling the ale, but the ale is cooled by ice-water which would otherwise flow into the sewer-connection and be wasted. It is evident that a considerable saving of ice is effected while the cooling of the ale is accomplished at a more desirable temperature without consuming any ice. In fact, the cooling of the ale is attained without any consumption of ice, and by what would otherwise be waste from the beer-cooling compartment.

Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth respectively in the following claims are employed.

I therefore particularly point out and distinctly claim as my invention:—

1. A liquid dispensing apparatus, comprising a rear ice-compartment formed with an overflow opening at about the middle of its front wall, a coil-structure in said compartment and extending to about the level of said overflow opening, a front compartment extending to above the overflow opening and having the latter communicating with its upper end, a coil-structure in said forward compartment, a faucet in the front wall of the rear compartment and communicating with the rear coil-structure, another faucet in said front wall, and a pipe from the coil-structure in the front compartment and passing through the overflow opening to said faucet.

2. In liquid dispensing apparatus, the combination with an ice compartment formed with vertical ribs upon its opposite sides, of a cooling coil structure consisting of a top and a bottom frame formed with pairs of lugs engaging and sliding upon the ribs and of vertical bars connecting said frames and of a pipe coiled around said bars between the frames.

3. In liquid dispensing apparatus, the combination with an ice compartment having faucet-couplings and pipes in and upon the inner side of its front wall, vertical ribs upon the inner sides of the front and rear walls one of each pair having a gap at its middle, and a cooling coil structure composed of an oblong top frame and an oblong bottom frame both formed with pairs of lugs at their ends engaging and sliding upon the

vertical ribs and of vertical bars connecting
said frames and of a pipe coiled around said
bars and between the frames,—the gaps in
the ribs admitting of the coil structure being
5 raised a short distance to disengage the lugs
and turned so as to be removed without in-
terfering with faucets and pipes in the
upper portion of the compartment.

In testimony that I claim the foregoing to
be my invention I have hereunto set my hand 10
this 26th day of March A. D. 1909.

ALBRECHT KALTHOFF.

Witnesses:

ROBERT C. BAIRD,
WM. SECHER.