No. 657,383. Patented Sept. 4, 1900.

L. A. BECKER.

COOLING CABINET FOR LIQUID DISPENSING APPARATUS.

(Application filed Feb. 12, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

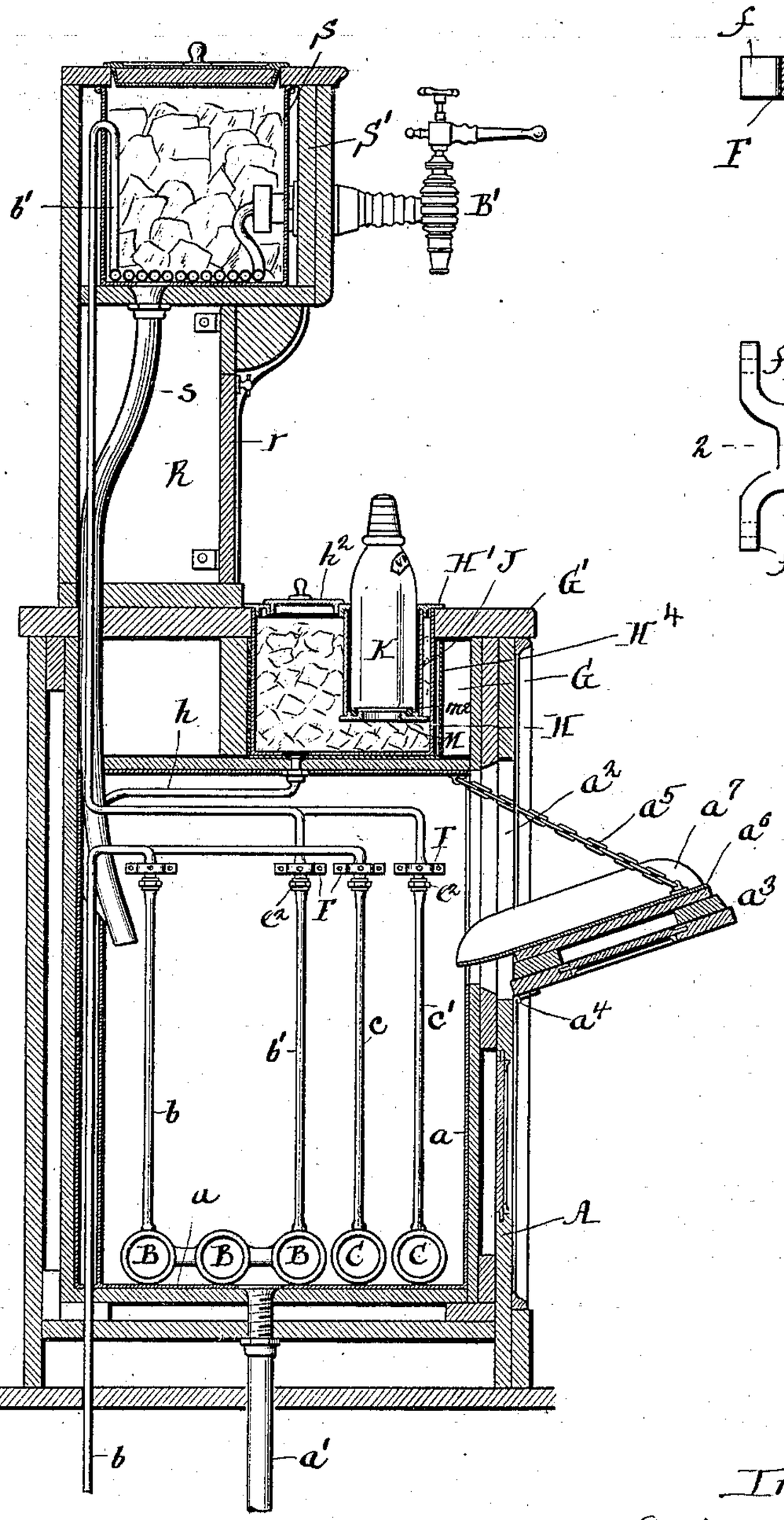


Fig. 2.

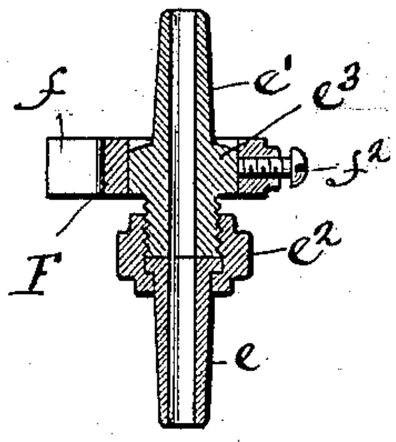
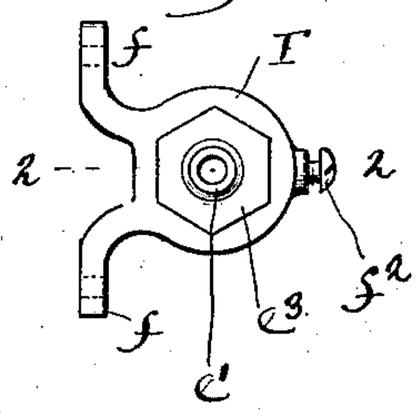


Fig. 3.



Witnesses:
Fred Gerlach
Alberta Adamick

Inventor:
Louis A. Becker
By Pierce & Fisher
his Attorneys.

No. 657,383. Patented Sept. 4, 1900.

L. A. BECKER.

COOLING CABINET FOR LIQUID DISPENSING APPARATUS.

(Application filed Feb. 12, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

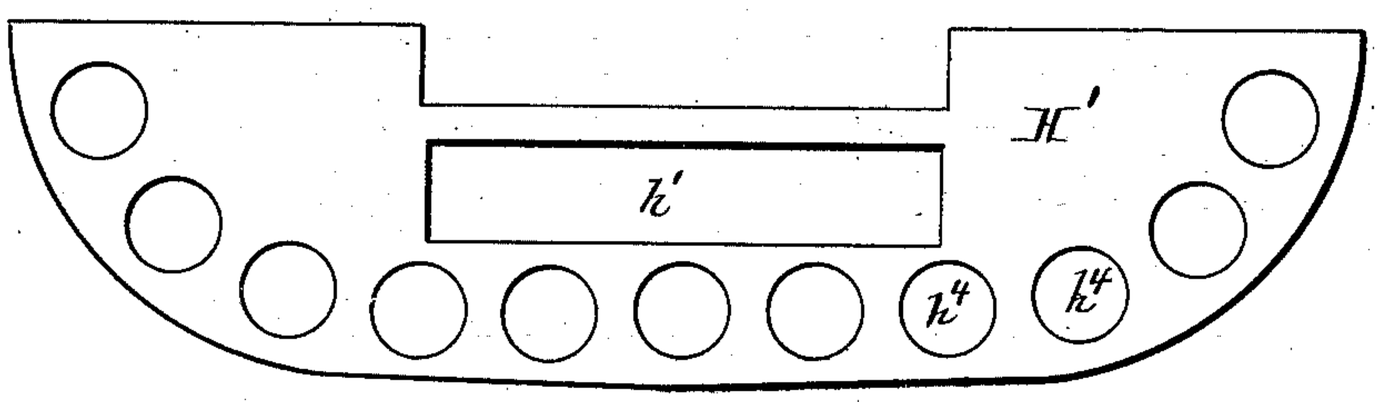


Fig. 5.

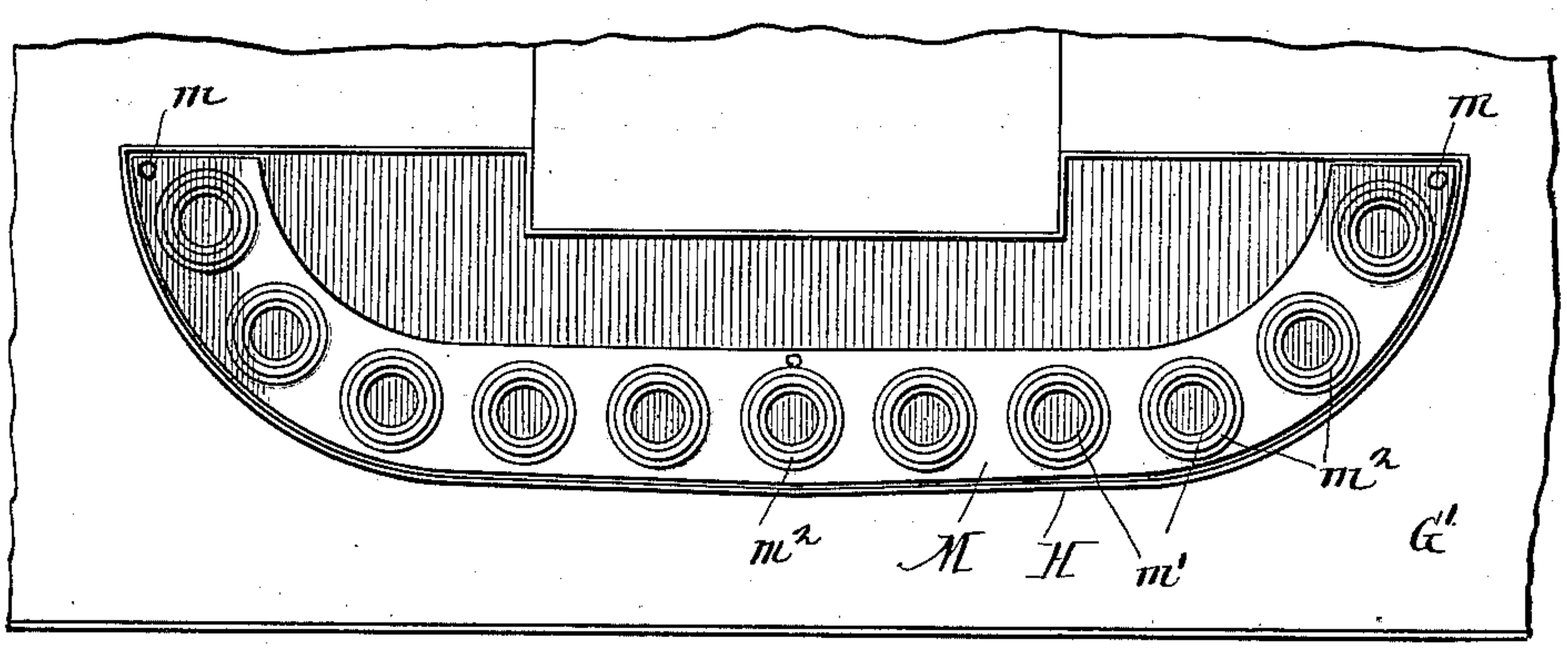
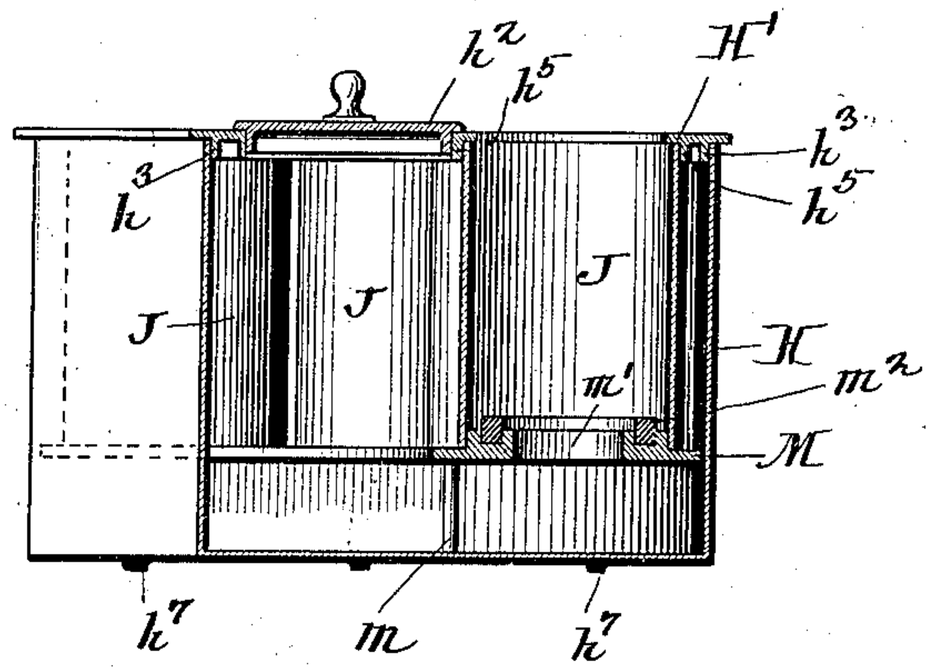


Fig. 6.



Witnesses:
Fred Gerlach
Alberta Adamick

Inventor.
Louis A. Becker
By Paine & Fisher
his Attorneys.

UNITED STATES PATENT OFFICE.

LOUIS A. BECKER, OF CHICAGO, ILLINOIS.

COOLING-CABINET FOR LIQUID-DISPENSING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 657,383, dated September 4, 1900.

Application filed February 12, 1900. Serial No. 4,864. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. BECKER, a resident of the city of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Cooling-Cabinets for Liquid-Dispensing Apparatus, of which the following is a full, clear, and exact description.

This invention has for its object to provide an improved construction of cooling-cabinet more especially designed for use in connection with soda-water fountains.

One object of the invention is to provide improved means for cooling the syrups that are employed for imparting the desired flavor to the soda-water.

Another object of the invention is to improve the construction of the lower part of the cabinet, so that as the ice is delivered to the lower part of the cabinet the danger of injury to the pipes connected to the coolers at the bottom of the cabinet may be avoided.

The invention consists in the features of improvement hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in central vertical section through a soda-water fountain having my invention applied thereto. Fig. 2 is an enlarged detail view, in vertical section, on line 2 2 of Fig. 3. Fig. 3 is a detail plan view showing the bracket for sustaining the upper pipe-coupling in the lower part of the cabinet. Fig. 4 is a detail plan view of the cover of the syrup-cooling case. Fig. 5 is a detail plan view showing the upper part of the base of the cabinet with the syrup-cooling case therein, the cover of the case being removed. Fig. 6 is an enlarged detail view, in vertical cross-section, of the syrup-cooling case with the parts in position for use.

A designates the base-chamber of the cabinet, the walls of which are preferably formed of double thickness with dead-air spaces between the walls. The interior of the base-chamber A is provided with the usual sheet-metal lining *a* commonly employed in refrigerators, and from the bottom of the chamber A leads a drip-pipe *a'*, by which will be conducted away the water from the melting ice.

Within the base-chamber A is located a battery of cylindrical coolers B, such as are commonly employed in soda-water fountains, these coolers being connected together in the usual manner, and one of the coolers B is connected by a suitable delivery-pipe *b* with a carbonic-acid reservoir located in the basement or at any other convenient point. Within the base-chamber A are also shown two coolers C, that may be used for other aerated waters, such as mineral waters or the like. From the series of coolers B a discharge-pipe *b'* leads upward to a draft-arm or faucet B' at the top of the fountain, and from the coolers C C similar delivery and discharge pipes *c c'* will lead upward to corresponding draft-arms at the top of the fountain. I have not deemed it necessary to illustrate the draft-arms or faucets with which the pipe *c'* is connected, as the construction and arrangement of these draft-arms form no part of this invention.

Upon the interior of the base-chamber A and interposed in the pipes *b b'* and *c c'* are couplings, preferably of the construction shown in Figs. 1, 2, and 3 of the drawings. Each of these couplings comprises a lower section *e* and an upper section *e'*, that are united by the coupling-sleeve e^2. The pipes *b b'* and *c c'* are, as usual, of soft metal, and the upper and lower sections of these pipes are permanently joined, respectively, to the upper and lower sections *e'* and *e* of their couplings.

The base-chamber A is designed to receive ice that will rest upon the coolers B B and C C and will occupy the greater part of the interior of the chamber. In order to prevent the bending of the pipes *b b'* and *c c'* and the loosening of the couplings, and as well also in order to enable the couplings to be readily disconnected, so that the coolers B B and C C may be removed when required, I provide the interior of the chamber A with the brackets F, that engage the couplings, as shown more particularly in Figs. 2 and 3 of the drawings. Preferably each of the brackets F is formed with legs *f*, by which it will be attached to the interior of the chamber A, and, as shown, each bracket is formed with an opening of polygonal shape or otherwise suitably constructed to engage the upper section *e'* of the corresponding pipe-coupling. As shown, the upper section of each pipe-coupling is formed with a polygonal part e^3, and it will be understood also that the threaded sleeve e^2 of the coupling will be of polygonal outline in

order that the sleeve may be engaged by a wrench when the sections of the pipe are to be coupled or uncoupled. In prior constructions, so far as I am aware, the couplings that have been interposed in the pipes leading from the coolers to the draft-arms have been exposed, so that in placing ice in the chamber A the pipes would be more or less bent and the couplings loosened by reason of their being struck by the lumps of ice. With such prior constructions, also, it has been necessary when disconnecting the sections of the pipes to employ two wrenches, one for holding the upper section e' and the other for turning the sleeve e^2 of the coupling. By providing a bracket attached to the casing and serving to hold the upper section of the coupling e' not only do I avoid the necessity of employing a wrench for this purpose when the sections of the pipes are to be coupled or uncoupled; but these brackets also serve to give rigidity to the pipes, so that the danger of their being bent or marred by the lumps or blocks of ice is avoided. Preferably each of the brackets F is provided with a threaded opening adapted to receive a set-screw f^2, which will firmly engage the upper section e' of the corresponding coupling and securely retain it in position.

The front wall of the base-chamber A is formed with an opening a^2, that will be closed by a downwardly-swinging door a^3, this door being suitably hinged, as at a^4, to the front wall of the base-chamber. In order to limit the downward movement of the door a^3, I provide one or more chains a^5, that connect the upper part of the door with the top of the base-chamber A. The inner face of the door a^3 is provided with a lining-plate a^6, having side flanges a^7, the lining a^6 and the flanges a^7 extending downward to a considerable distance below the bottom of the door, so that when the door is in open position, as seen in Fig. 1, the lining a^6 will serve to prevent the lodgment of the ice in the space at the bottom of the door.

In the upper part or above the base-chamber A of the cabinet is formed a chamber G, adapted to receive the syrup-cooling case H, the construction of which is more particularly illustrated in Figs. 4, 5, and 6 of the drawings. This syrup-cooling case H is adapted to receive broken ice and is provided with a drip-pipe h, by which the water from the melting ice will be conveyed away either into the base-chamber A or outside thereof. The top of the syrup-cooling case H is provided with a top plate H', that will conform to the shape of the case, whatever that may be. As shown, the case H is a sheet-metal chamber of oblong shape, its back wall being of irregular outline to set around a projecting part of the cabinet. The top plate H' is formed with a central opening h', by which crushed ice will be delivered to the case H, and the opening h' will be closed by a suitable cover h^2. (See Figs. 1 and 6.) As shown, the top plate H' of the case H has its under side formed with a flange h^3, that sets within and conforms to the top of the case H, and in this top plate H' are formed a series of openings of proper size and number to receive the bottles K in which the different syrups will be contained. As shown, also, the under side of the top plate H' is formed with annular flanges h^5 around the holes h^4, and to each of these flanges h^5 is connected a depending cylinder J, the construction being preferably such that the cylinders J may be removed from the case H with the top plate H'. Within the case H is placed a tray M, and, as shown, this tray is supported upon suitable depending legs m, that rest upon the bottom of the case H. The stand or tray M is formed with a series of openings m' therein, these openings coinciding in position and number with the holes h^4 in the top plate H'. As shown, the tray M is provided around each of its openings m' with an annular raised part adapted to set within the lower end of the corresponding cylinder J, and around each of the openings m' is placed a rubber ring or gasket m^2, that may be conveniently held within an annular seat formed around each of the openings m'. In practice I prefer to form the top plate H' and the tray M of cast metal and separate from each other, and I prefer also to form the cylinders J of sheet metal and permanently attach them to the top plate, but manifestly this is not essential, nor is it essential that the tray M should be separate from the tubes J or that the tray should be in a single piece, since obviously each tube might have connected thereto that part of the tray that extends across its bottom, the tray in such case being formed of a number of sections.

By reference more particularly to Figs. 1 and 6 it will be seen that when the bottles K, containing syrup, are placed within the openings h^4 of the top plate the bottoms of the bottles will rest upon the rubber rings m^2. The openings m' will thus expose the bottles to the temperature of the ice within the lower part of the case H. The rubber rings serve not only as cushions to receive the impact of the bottles as they are dropped into the openings, but also form a seal, which prevents the access of warm air to the interior of the case when the bottles are in place. It will be understood, of course, that the chamber G, within which the case H is contained, may be packed with any suitable non-conducting material, if desired. It will thus be seen that the bottles of syrup K when in position within the case H have their side walls exposed to the cold air radiating from the cylinders J and their bottoms exposed to the cold air through the openings m' of the tray M, while the upper parts of the bottles, which usually contain the labels, are exposed to the view of the purchaser, so that he can see the character of the syrup that he may ask for.

Above the chamber G is shown a cabinet R, the front of which is closed by a door r, this

cabinet affording a convenient receptacle for bottled mineral waters or the like that are usually exposed for sale at soda-water fountains. Above the cabinet R is mounted the upper cooling-chamber S, the inclosing walls S′ of this chamber S being of more or less ornamental character. From the bottom of the chamber S leads a drip-pipe *s*, that may terminate in the base-chamber A or may lead outside the cabinet, if preferred. The pipes *b′* and *c′*, that lead, respectively, from the coolers B and C, extend up through the cabinet R and into the upper cooling-chamber S, where they are coiled along the bottom of the chamber and are connected to their respective draft-arms. I have shown only the pipe *b′* as coiled within the upper cooling-chamber S, this pipe being connected in the usual manner to the draft-arm or faucet B′. The purpose of the upper cooling-chamber S is to reduce the temperature of the liquid within that part of the pipe *b′* adjacent the draft-arm B′, so that each glass of soda-water or mineral water will be cold, even when there are intervals between the drawing of the water. The top G′ of the chamber G, which may be of marble, affords a convenient support for the glasses, &c., and the top plate H′ of the cooling case or chamber H will be of more or less ornamental character.

Preferably, although not essentially, the cooling-chamber H is surrounded by a metal jacket H^4, built permanently in the chamber G, (see Fig. 1,) the purpose of this jacket, which is slightly larger than the chamber H, being to collect the water of condensation and allow it to pass away by the drip-pipe *h*. The bottom of the chamber H may be provided with lugs h^7 to allow the water to flow freely to the drip-pipe.

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

1. A cooling-cabinet of the character described, comprising a base-chamber adapted to receive the coolers for aerated water, an ice-box located above the top of said base-chamber, the top plate of said ice-box being provided with openings to receive syrup-bottles, separate endless-tube portions extending downwardly from the openings in said top plate and terminating above the bottom of said ice-box, an inwardly-projecting annulus provided at the extreme lower end of each of said endless-tube portions to serve as a support for bottles placed within said tube portions, whereby bottles may be placed within said tube portions in direct contact with the ice in said box.

2. A cooling-cabinet of the character described comprising a base-chamber, a slab or top G′ extending over said base-chamber, a cooling-case H located beneath said top or slab G′ and provided with a cover H′ having openings h^4 therein to receive bottles, tubes J connected to and depending from said cover H′ and a tray M extending beneath said tubes J, said tray serving as a support for the bottles and being provided with openings *m′* at the bottoms of the tubes.

3. A cabinet of the character described comprising a base-chamber, a top or slab G′ extending over said base-chamber, a cooling-chamber H located below said top or slab, said cooling-chamber H being provided with a top plate H′ having bottle-openings h^4 therein and having tubes J depending below said bottle-openings and a tray M extending beneath said tubes J and provided with openings *m′* and with rubber rings m^2 around said openings.

4. A cabinet of the character described comprising a base-chamber A adapted to receive the coolers for aerated water, said base-chamber being formed with an opening a^2, a door a^3 pivoted at its bottom to the front wall of the base-chamber and provided with a lining a^6 having said flanges a^7 extending below the bottom of the door, and a suitable support for limiting the downward movement of said door.

5. A cooling-cabinet for liquids, comprising an ice-chamber, coolers for liquids located therein and provided with inlet and outlet pipes, supply and draw-off pipes connected to said inlet and outlet pipes by couplings composed of two members, and brackets secured to the walls of said chamber provided with means for engaging one of the members of said couplings to hold the same against movement.

6. A cooling-cabinet for liquids, comprising an ice-chamber, coolers for liquids in the lower part thereof provided with inlet and outlet pipes extending to the upper part of said chamber, supply and draw-off pipes connected to said inlet and outlet pipes by couplings composed of two parts and brackets secured to the walls of said ice-chamber provided with means for engaging the members of the couplings attached to said supply and draw-off pipes to hold the members of said couplings from movement and the ends of said pipes in their proper relative positions.

7. A cabinet of the character described comprising a base-chamber A, a chamber G located above said base-chamber and having a top or slab G′, a cooling-case H located within said chamber G and below its top G′, said cooling-case H being provided with a top having bottle-openings therein and having tubes depending below said bottle-openings, a case R above said chamber G and an elevated cooling-chamber S above said case R, said elevated case S having coiled therein a pipe leading from coolers within the base-chamber and a draft-arm arranged outside said elevated case S and connected to said pipe.

LOUIS A. BECKER.

Witnesses:
GEO. P. FISHER, Jr.,
FRED GERLACH.