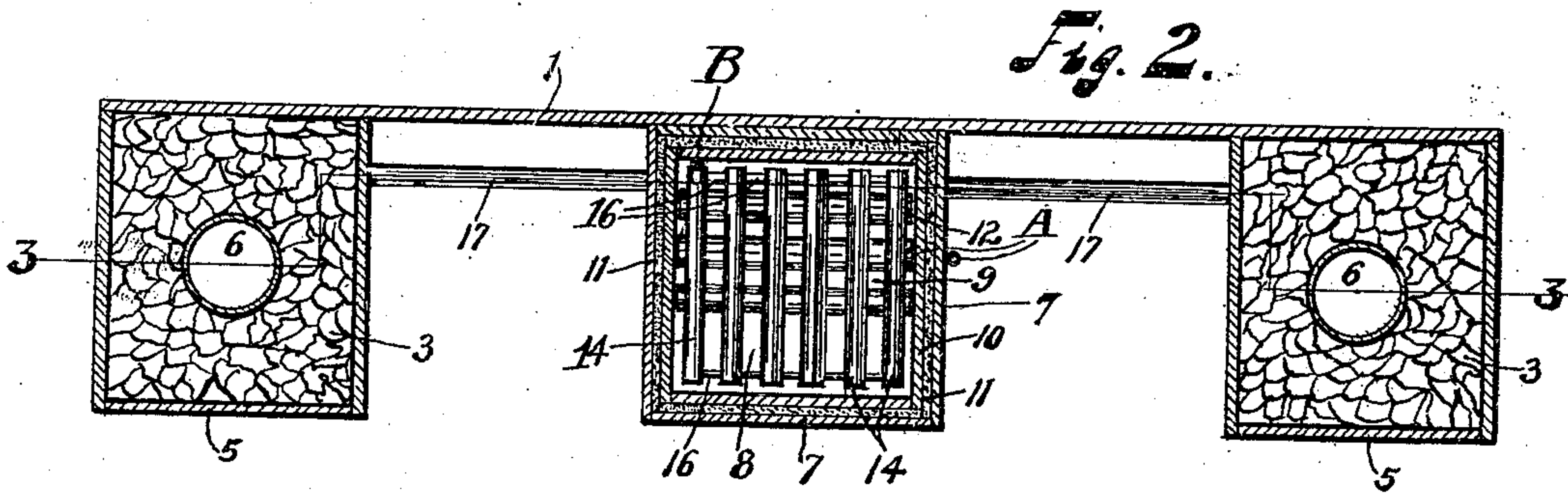
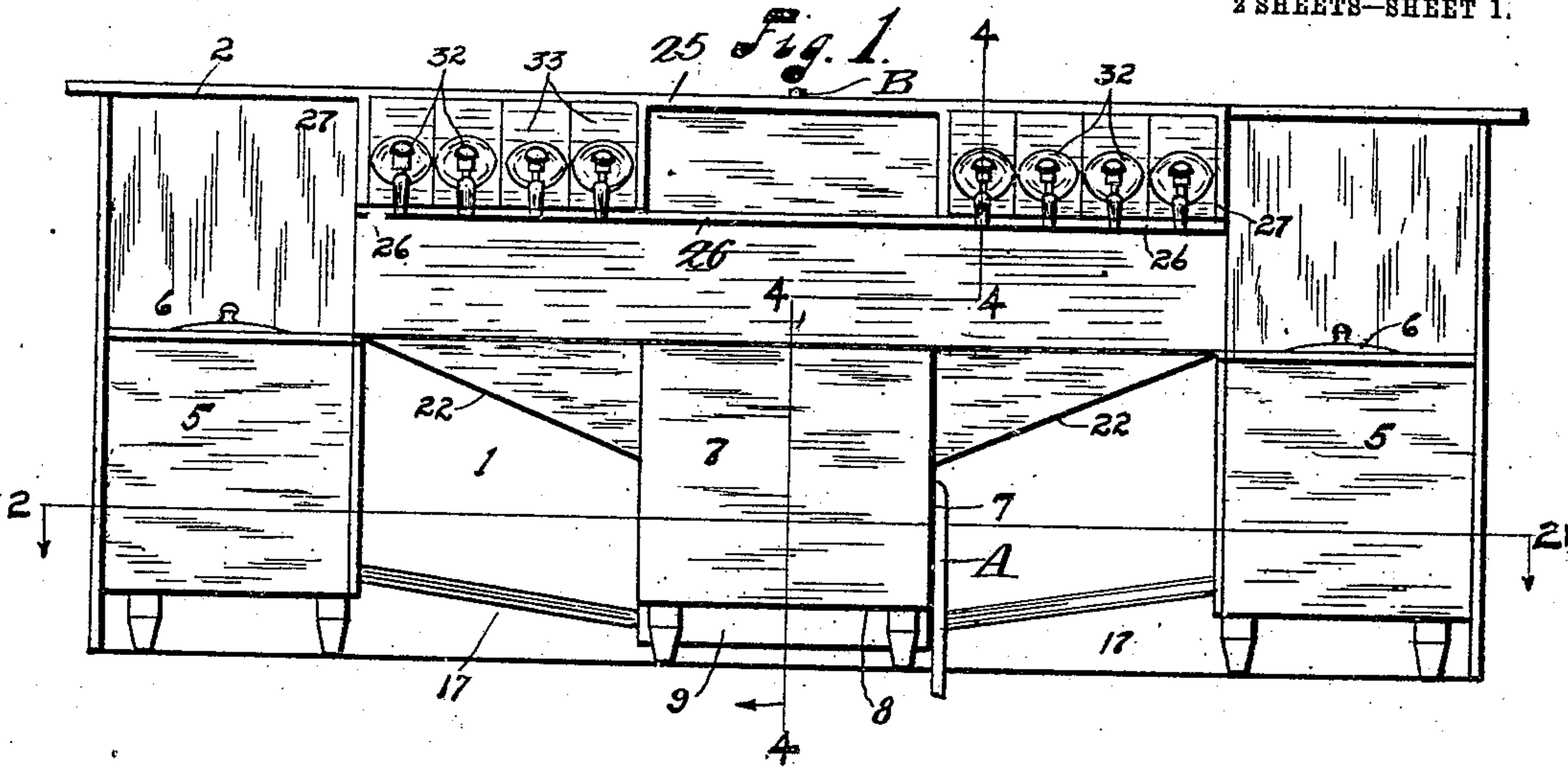


G. W. & H. A. WISE.
COOLING APPARATUS.
APPLICATION FILED OCT. 28, 1907.

955,242.

Patented Apr. 19, 1910.

2 SHEETS—SHEET 1.



Witnesses:
Edw. Lindmuller.
H. A. Keith.

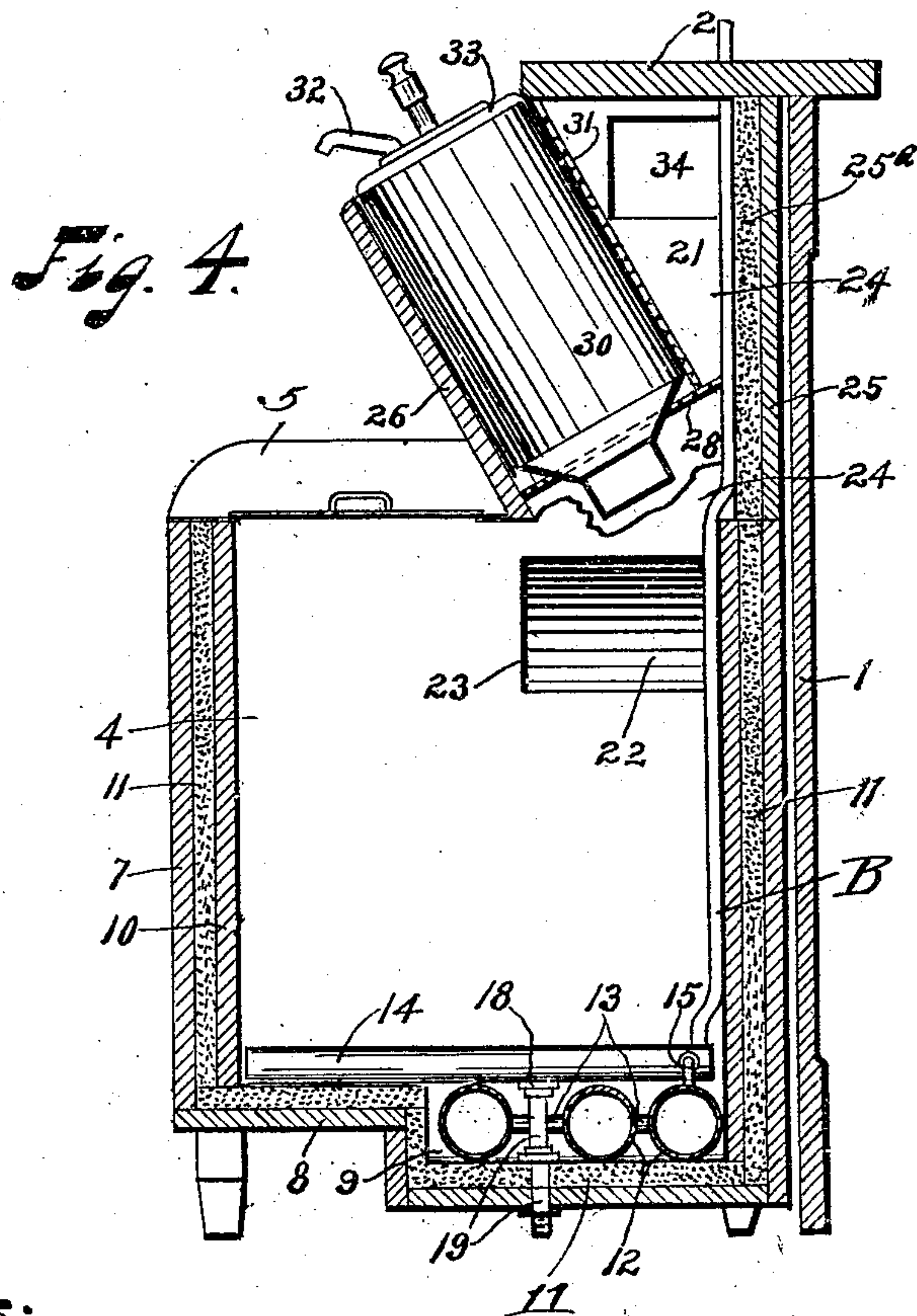
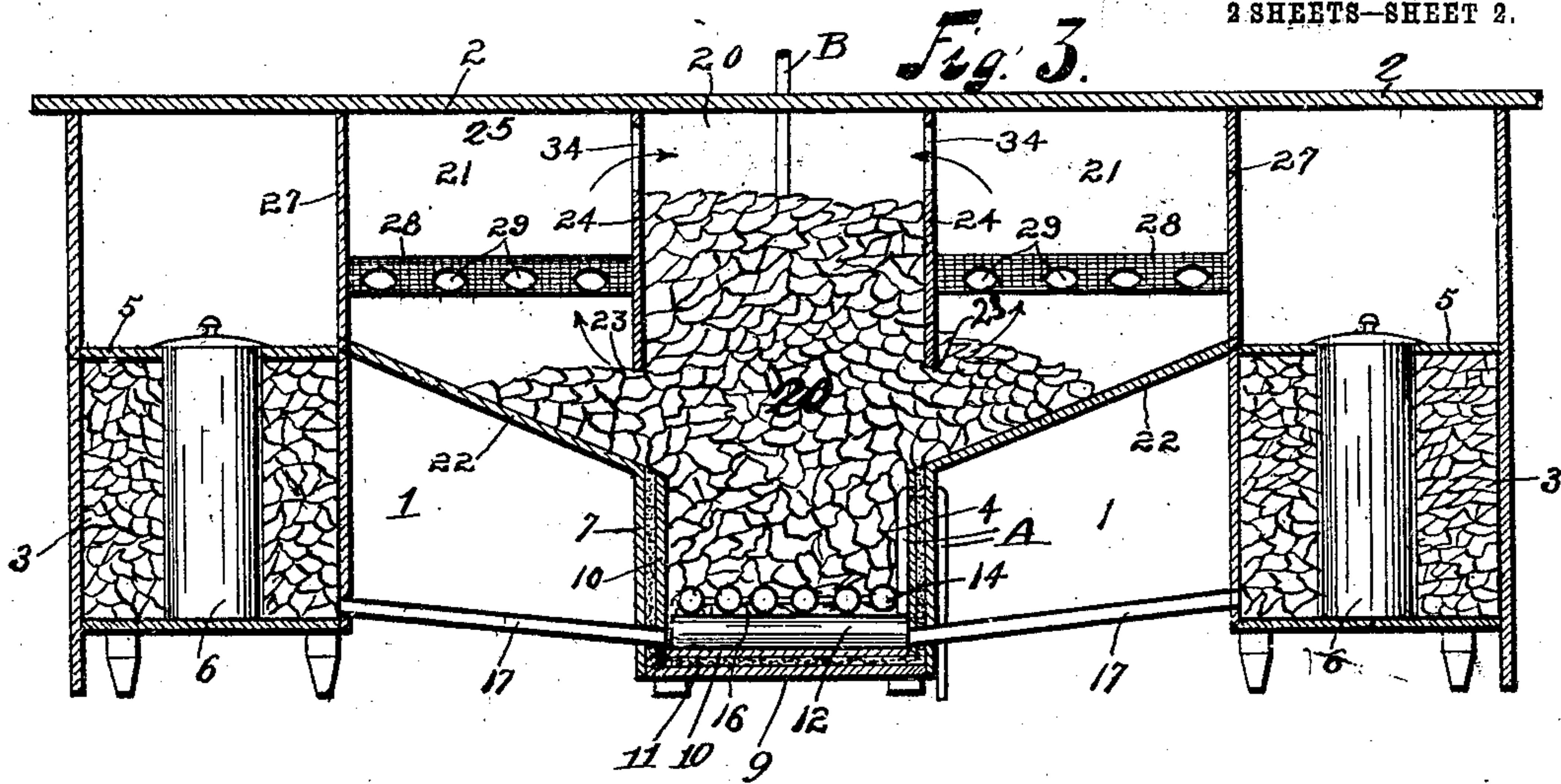
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UNITED STATES PATENT OFFICE.

GEORGE W. WISE, OF WOOSTER, AND HENRY A. WISE, OF CLEVELAND, OHIO, ASSIGN-
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COOLING APPARATUS.

955,242.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed October 28, 1907. Serial No. 399,490.

To all whom it may concern:

Be it known that we, GEORGE W. WISE and HENRY A. WISE, citizens of the United States, residing at Wooster, in the county of Wayne and State of Ohio, and at Cleveland, in the county of Cuyahoga and State of Ohio, respectively, have invented certain new and useful Improvements in Cooling Apparatus, of which the following is a specification.

Our invention relates to improvements in cooling apparatus being designed with special reference for use in connection with dispensing-cabinets and soda-fountains used in dispensing carbonated beverages.

The primary object of the invention is to provide a generally-improved cooling means adapted to produce and utilize a maximum amount of cold air with a minimum consumption of ice, the main cooling chamber or ice-chest, in the present instance, being centrally located with reference to the storage-chambers, and provided at its upper portion with an ice-receiving-hopper intermediate the syrup-containers, and with laterally-extending compartments leading to and about said syrup-containers, with openings in the sides of said ice-receiving-hopper and ice-chest providing for a free circulation of air to and from said laterally-extending compartments.

With the above mentioned and other objects in view, the invention consists in the novel construction, arrangement and combination of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, Figure 1, is a rear elevation of a form of cooling apparatus embodying our invention. Fig. 2, a horizontal longitudinal sectional view taken through line 2—2, of Fig. 1. Fig. 3, a vertical longitudinal sectional view taken through line 3—3, of Fig. 2, with the main or central cooling-chamber filled with ice. Fig. 4, a transverse vertical sectional view taken through line 4—4, of Fig. 1.

Similar characters of reference designate like parts throughout all the figures of the drawings.

The present embodiment of the invention comprises a dispensing-cabinet and counter designed for use in dispensing carbonated beverages.

The face of the counter 1, and counter slab 2, may be of the usual construction, the dispensing cabinet being adapted to be used in conjunction therewith at the rear thereof, and comprising the independent storage chambers 3, at the ends and the main or central intermediate cooling-chamber 4. The end boxes or ice-cream cabinets 5, forming the storage-chambers 3, may be of the usual construction, containing the usual storage or ice-cream can 6, surrounded with ice in the conventional style. The main cooling-chamber 4, or main ice-containing-receptacle is formed by means of an ice-chest or box 7, provided in its bottom 8, with a supplemental chamber 9, and is preferably provided with an inner or second wall 10, having a lining of copper or other suitable material, and an insulating-material 11, of cork, mineral wool, or the like, interposed between said inner and outer walls 7, and 10, respectively. If desired, the walls of the ice-cream cabinets 5, may be similarly constructed and insulated.

The carbonated water to be cooled is conducted through a main inlet-pipe A, and thence through a plurality of cooling-cylinders 12, arranged in the supplemental chamber 9, and communicating with each other, alternately at each end, by means of small cross connecting-pipes 13, said cylinders 12, communicating with a plurality of cross-pipes 14, above, arranged at the bottom of the ice-chest 7, by means of a small pipe 15 (see Fig. 4) at the end of one of the cylinders 12, and leading to the end of one of the cross-pipes 14, said cross-pipes 14, being arranged above and extending at right angles to the cylinders 12, and communicating with each other by means of small cross-connecting-pipes 16, arranged similar to the connecting pipes 13. The cross cooling pipes 14, in the bottom of the ice-chest 7, form a piped bottom above the cooling cylinders 12, and their cross arrangement with respect to said cooling-cylinders brings their exterior surfaces into a more direct contact with the intervening cool air and thus imparts a higher degree of refrigeration to the liquid passing therethrough than in an arrangement in which the upper cooling-pipes are arranged parallel to and in alinement with the lower cooling pipes or cylinders. The cooling pipes 14, are also believed to be better adapted to keep the ice from com-

ing into direct contact with the cooling cylinders below, arranged, in the present instance, in a supplemental chamber 9, said chamber being designed to receive the drippings of water from the ice in said ice-chest 7, as well as utilize the salt-water from the ice-cream cabinets 5, as now described.

The supplemental chamber 9, is adapted not only to receive the ice-water from the ice contained in the ice-chest 7, but to receive the salt-water from the ice-cream cabinets 5, through the medium of drain-pipes 17, leading from the bottom portion of the cabinets 5, whereby the salt-water is not only effectually drained from said cabinets but is utilized by mingling with the water from the ice in the chest 7, and circulating about the cooling-cylinders 12, of the supplemental chamber 9. As a means of keeping the cylinders 12, submerged in said ice and salt waters, as well as keeping the same out of contact with the cross-pipes 14, and ice above in the bottom portions of the chest 7, the drain-head 18, (see Fig. 4) of the waste-pipe 19, is mounted just above the plane of the upper portions of the cylinders 12, and substantially in the same plane with the bottom 8, of the chest 7, and, it will be observed that as the outlets of the drain-pipes 17, are near the bottom of the supplemental chamber 9, the salt water will be conducted upwardly and over and about the cylinders 12, toward the drain or overflow head 18.

The upper portion of the main cooling-chamber or ice-containing receptacle 4, comprises an ice-receiving hopper 20, (see Fig. 3,) and laterally-extending communicating compartments 21, provided with downwardly and inwardly inclined bottoms 22, leading to the ice-chest 7, through openings 23, in the sides 24, of the hopper 20, and walls of the ice-chest. The front and rear walls 25, and 26, respectively, form the front and rear walls of the ice receiving-hopper 20, and compartments 21, said front wall 25, being arranged at the rear of the counter-face 1, and preferably provided with insulation 25^a, and said rear wall 26, being preferably, inclined rearwardly away from the rear edge of the counter-slab 2, with its upper edge overhanging, the ends 27, of the compartments 21, and the sides 24, of the hopper 20, being adapted to take under the counter-slab 2.

Inclined container-shelves 28, preferably of galvanized wire-netting, or other foraminous material, are mounted in the laterally-extending compartments 21, connected to the front and rear walls 25 and 26, and ends 27, and provided with openings 29, adapted to take over the lower or trap ends of the jars or containers 30, supported on said shelves 28, and inclined and resting against the inclined rear wall or slab 26. The shelves 28, are further supported by means

of wire-netting 31, at the rear of the containers 30, extending from the rear of the counter-slab 2, and connected at its lower edge to the shelves 28. Dispensing-pumps 32, are carried by the container-lids 33, and openings 34, in the sides 24, of the hopper 20, above and at the rear of the shelves 28, and wire-netting 31, respectively, provide for circulation of cool air at all times to and from the ice-receiving-hopper 20, and laterally-extending compartments 21, and over and about the containers 30. If desired, ice may be passed through the openings 34, over and along the shelves 28, and wire netting 31, at the rear of the containers 30. The openings 23, are formed in the walls of the hopper 20, and the ice-chest 7, above the chutes 22, so that the ice may extend into the compartments 21, and over the lower ends of the chutes 22, as shown most clearly in Fig. 3, of the drawings, as well as providing at all times for the circulation of air between said compartments 21, and the main cooling-chamber 4.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of our invention will be readily understood.

Having thus described our invention, without having to set forth all the forms in which it may be made or all the modes of its use, we declare that what we claim and desire to secure by Letters Patent is,—

1. A cooling apparatus, comprising storage-cabinets, an intermediate cooling-chamber provided with a supplemental chamber below the plane of the bottom of said storage-cabinets and carrying a plurality of communicating cooling-cylinders, and drain-pipes leading from said storage cabinets to said supplemental chamber, and a plurality of communicating cross-cooling-pipes arranged above said cooling-cylinders.

2. A cooling apparatus, comprising storage cabinets, an ice-chest, drain pipes communicating with said storage-cabinets and emptying into the lower portion of said ice-chest, cooling-cylinders mounted in the lower portion of said ice-chest and below the horizontal plane of the bottoms of said storage cabinets, and a plurality of communicating cooling-pipes arranged above said cooling-cylinders and extending at right angles thereto.

3. A cooling apparatus, comprising a storage cabinet, a cooling-chamber, a drain-pipe leading from the bottom of said storage-cabinet to the lower portion of said cooling-chamber, and cooling-cylinders mounted in the lower portion of said cooling chamber and communicating with a plurality of cross cooling-pipes arranged above the same.

4. In a cooling apparatus, a storage cabinet, a cooling chamber, a plurality of com-

communicating cooling-cylinders mounted in the bottom portion of said cooling-chamber, a drain-pipe extending from said storage cabinet to the bottom portion of said cooling-chamber, a plurality of cross-cooling-pipes arranged above and communicating with said cooling-cylinders, and a waste-pipe having its head above the horizontal plane of the upper edges of said cooling-cylinders.

5. A cooling-apparatus, comprising storage cabinets, a main cooling-chamber having its bottom below the plane of the bottom of said storage-cabinets, drain-pipes leading from the bottom portions of said cabinets to the bottom portion of said cooling-cham-

ber, a plurality of liquid-cooling-cylinders mounted in said bottom portion of said cooling-chamber, a plurality of communicating cooling-pipes arranged in said cooling-chamber above and extending at right angles to said liquid-cooling-cylinders, and a waste-pipe having its head above said liquid-cooling-cylinders and below the cooling pipes.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

GEORGE W. WISE.
HENRY A. WISE.

Witnesses:

C. E. ALDEN,
E. J. HOPPLE.