April 19, 1932. W. S. PHILLIPS 1,854,425

CONTINUOUS COOLING ICE BOX

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Fig. 1.

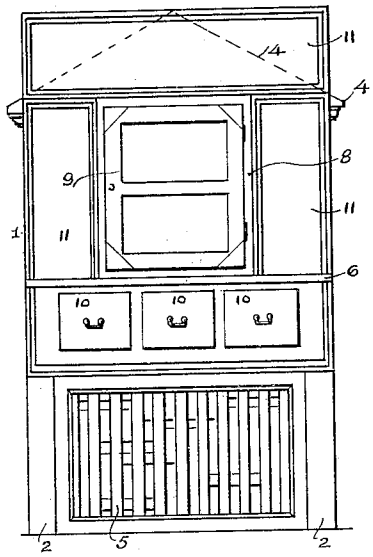
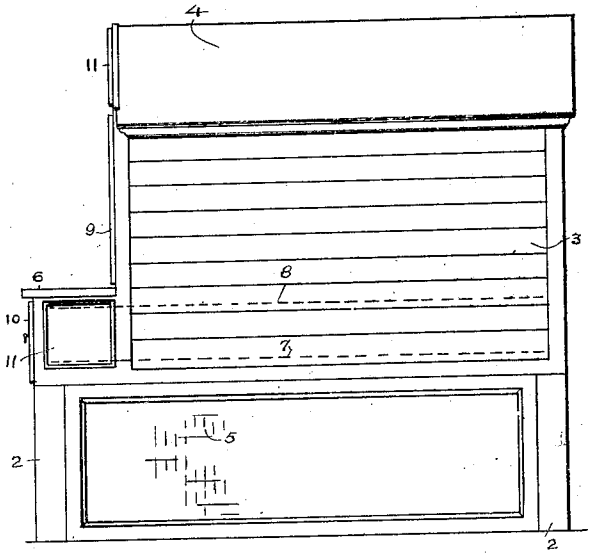


Fig. 2.



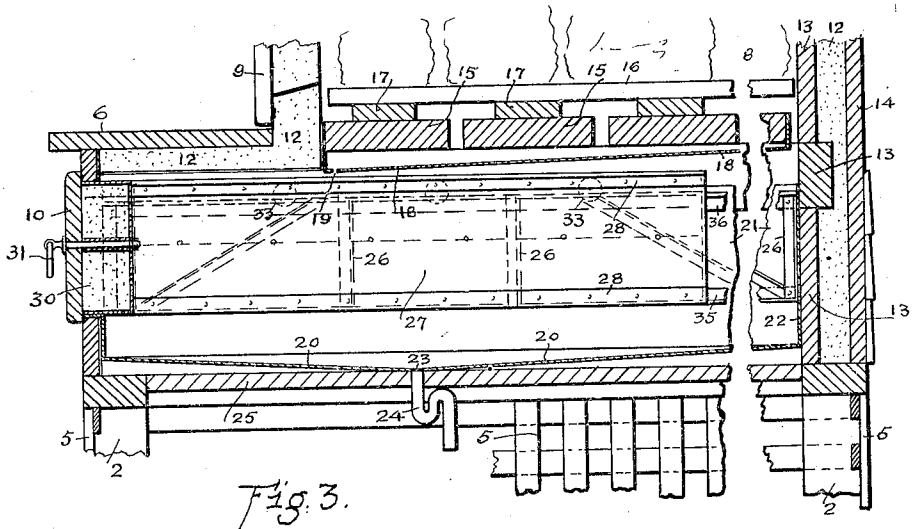


Fig. 3.

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Fig. 4.

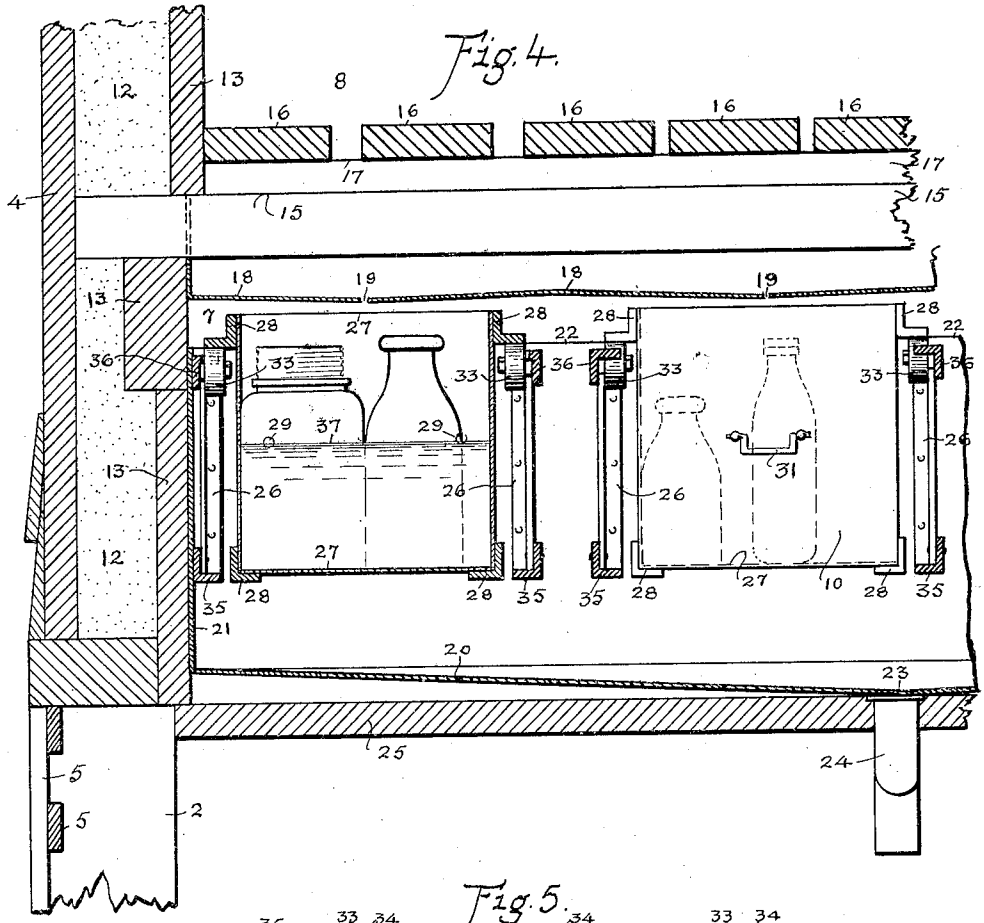


Fig. 5.

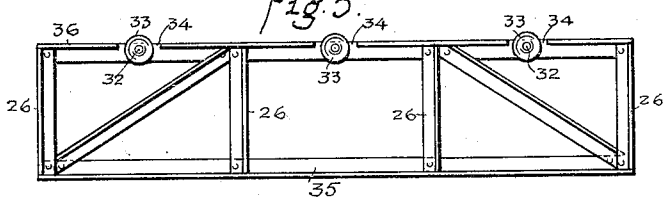


Fig. 6.

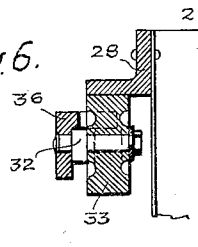
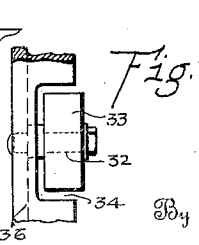


Fig. 7.



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UNITED STATES PATENT OFFICE

WALTER S. PHILLIPS, OF LAGRANGE, GEORGIA

CONTINUOUS COOLING ICE BOX

Application filed March 13, 1929. Serial No. 346,566.

My invention relates to improvements in a continuous cooling ice box, and it more especially consists of the features pointed out in the annexed claims.

The purpose of my invention is to provide an ice box of large capacity from which portions of ice may be retailed to individual customers without incurring the expense of delivery; that does not depend upon a circulation of cold air as is usual in well known types of refrigerators; that secures continuous cooling through the storage of cold water from the melting ice; that contrary to previous proposals in which the water from the melting ice was intended to trickle over the objects to be cooled, the water encircles the objects; that in contrast to the trickle method stores the cold water in drawers wherein the articles, milk bottles, soft drinks, and sealed containers are placed and remain in the water; that through these provisions an economy of refrigeration is secured which is not otherwise attainable with conventional types of ice boxes; that secures a steady degree of cooling through the continuous circulation of the cold water; and that employs any desired means of insulation around the cooling chambers.

With these and other ends in view, I illustrate in the accompanying drawings such instances of adaptation as will disclose the broad underlying features of my invention without limiting myself to the specific details shown thereon and described herein.

Figure 1 is a front elevation of one of these large capacity ice boxes.

Fig. 2 is a side elevation of Fig. 1, showing the interior compartments by dotted lines.

Fig. 3 is a side elevation in section of a cooling compartment.

Fig. 4 is an enlarged front elevation in section through a pair of water holding storage receptacles.

Fig. 5 is a side elevation of a supporting frame for the sliding storage receptacles or drawers.

Fig. 6 is an enlarged elevation in section of an anti-friction supporting wheel and the cooperating parts.

Fig. 7 is a plan view of Fig. 6.

In practically carrying out my invention, I may use whatever alternatives or equivalents of construction that the exigencies of varying conditions of use and installation may require, without departing from the broad underlying spirit of my invention.

In the example instanced in the drawings a structure 1 represents an enclosing cabinet which may be of any desired style or design. It has corner supports 2 which raise the structure from off the floor. The space between the supports 2 may be filled with lattice work 5. The cabinet is enclosed by sides 3, a roof 4, a rear wall and a front door 9. This encloses an icing section 8 and a cooled storage section 7.

In front of the door 9 of the icing compartment 8 a shelf 6 is provided which facilitates the serving of ice to individual customers. The icing compartment is of such capacity that a very large amount of ice can be placed in it at one time, thus concentrating into a single large delivery what ordinarily would be peddled out in small quantities. The floor of the icing compartment is composed of flat planks 15, usually of 2 x 8 stock, so as to support the great weight of the stored ice. These so-called joists laid flatwise are spaced apart so as to permit the melted ice to pass between them. On top of the joists 15 narrower strips 17 are placed and crosswise of these flooring slats 16 are laid.

The parts 15, 16 and 17 are sufficiently separated from each other in respect of the individual layers as to allow the melted water to freely fall into a collecting pan 18. This pan slopes forward as shown in Fig. 3. It may have openings 19 above each one of the drawers or storage receptacles 27. These openings are so positioned as to prevent any water coming in contact with the supporting wheels 33, on which the drawers are positioned. The accumulating water will rise in the drawers 27 up to the height 37 of the overflow openings 29, from where it will fall on to a large drip pan placed beneath all of the drawers. This drip pan has sides 21, a rear

edge 22, and an inclined bottom 20. It has an outlet 23 which is connected to an ordinary trap 24. Adjacent the outlet 23 the trap 24 passes through the supporting floor board 25.

The drawers 27 may be made of galvanized iron with lengthwise reinforcing angles 28 placed along the top edges and along the length of the bottom corners. The angle bars placed lengthwise along the top edges serve to support the drawers on anti-friction rollers 33. The front end of the drawers is extended by reason of the insulation 30 placed between the external drawer front 10 and the drawer. Any suitable handle 31 may be attached to the drawer fronts for pulling the drawers in and out. The drawer fronts 10 and the icing door 9 may be provided with any desired form of gaskets. Each drawer is supported on a pair of frames 26.

These frames comprise lower angles 35 and upper angles 36 which are joined together in any suitable manner as exemplified in Fig. 5, and the frames 26 may be secured to the inside walls of the cabinet in any way desired. The lower angles 35 cooperate with the bottom corner angles of the drawers 28 to serve as a guide on which the drawers are moved. On the upper angles 36, recesses 34 are formed as shown in Fig. 7 to constitute clearance room for the wheels 33. These wheels are supported on studs 32 which may be riveted into the upper members 36 and be provided with reduced diameters to form shoulders for the wheels and the securing nuts and washers in any desired manner.

The inner walls 13 of the cabinet may be formed of boards, covered with a sheet metal lining, outside of which ordinary 2 x 4 studs may be placed on which the external sheathing 14 is secured. Between the inner walls 13 and the external sheathing 14 an insulating medium 12, such as cork or otherwise, is placed and this or a similar insulation may also be placed over the ceiling of the icing chamber. On the exterior of the simulated "house", advertising panels 11 may be placed as shown in Figs. 1 and 2, and if desired the exterior walls 3 may be covered with ordinary siding.

It is of course understood that the icing section 8 in addition to holding ice in larger or smaller portions to be retailed may in addition serve to hold sealed containers of any desired style or shape, which placed in direct contact with the ice or immediately adjacent to it will thereby increase the capacity of the ice box as a whole. In addition to receiving sealed containers certain food stuffs etc., may be placed in the icing section for preservation as desired. From this it is apparent that the ice box serves two interdependent purposes, relatively dry and liquid refrigeration.

What I claim is:

1. In an ice box, a suitable insulated cabinet comprising an ice containing compartment, a storage compartment, a floor in the icing compartment having openings therethrough, an inclined collecting pan beneath the floor having an outlet at its lowest point, a group of runways in the storage compartment, a sliding drawer positioned between a pair of runways, side projections lengthwise of the drawers, supporting wheels positioned on the runways on which the side projections rest, said drawers having limiting water level openings, a drip pan beneath the drawers, and an inclined bottom to the drip pan having an outlet opening from the lowest point of the incline.

2. In an ice box comprising an ice containing compartment, a floor therein having openings therethrough, a storage compartment beneath the floor, insulating walls around both compartments, sliding drawers within the storage compartment adapted to hold water at a predetermined level, runways for the drawers, an insulating front for each drawer, and an insulated door to the ice containing compartment.

In testimony whereof I affix my signature.

WALTER S. PHILLIPS.