

(No Model.)

2 Sheets—Sheet 1.

R. C. SIMMONS.
REFRIGERATOR.

No. 475,816.

Patented May 31, 1892.

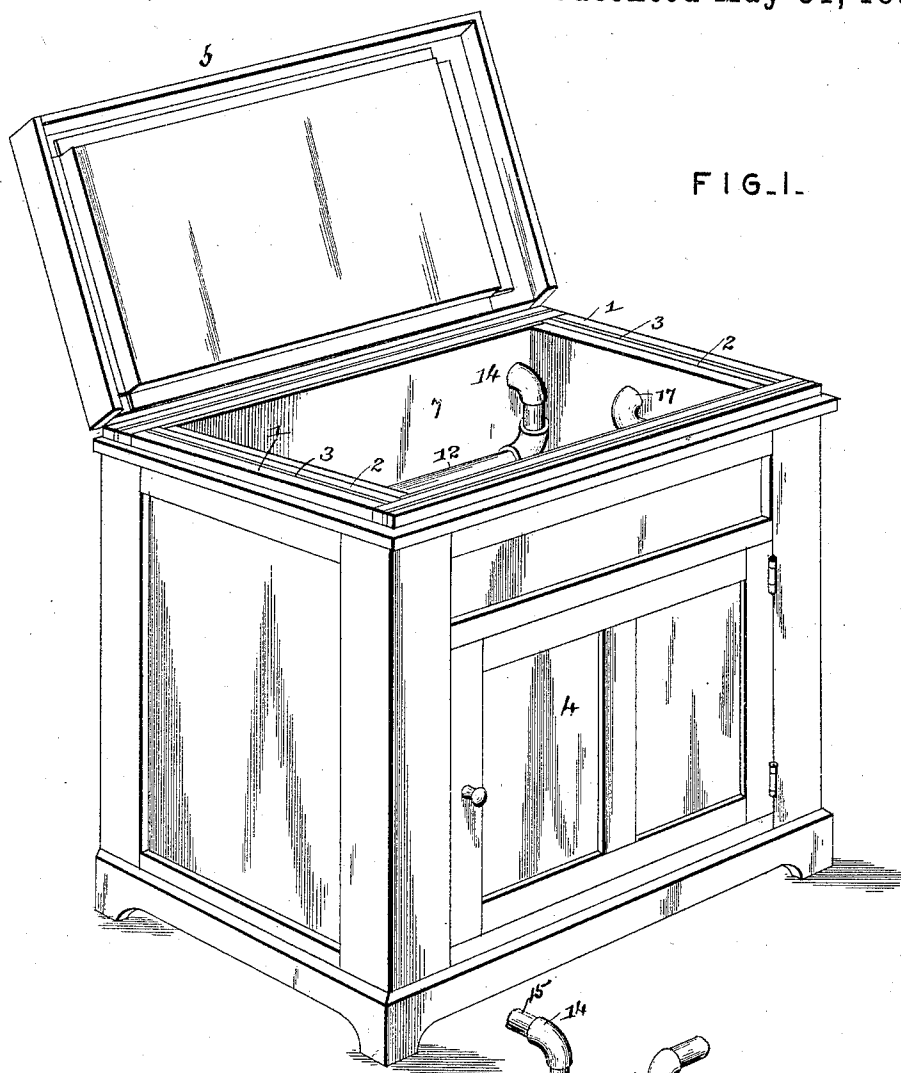
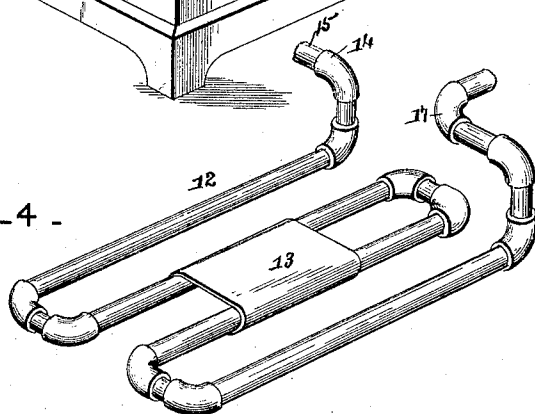


FIG. 1.

FIG. 4.



Witnesses:

Jas. K. McLathran
W. S. Duval

Inventor

R. C. Simmons

By his Attorneys,

C. A. Snow & Co.

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2 Sheets—Sheet 2.

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FIG. 3—

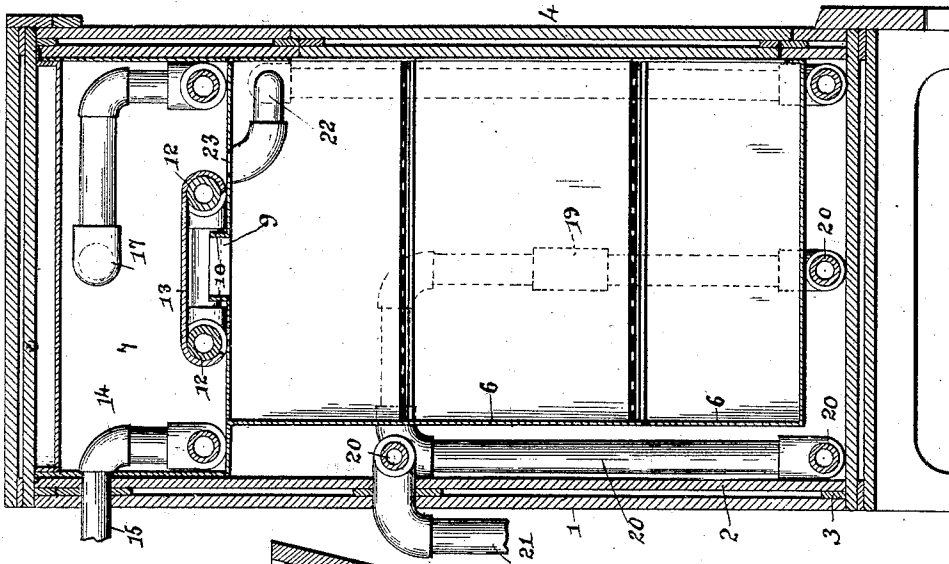
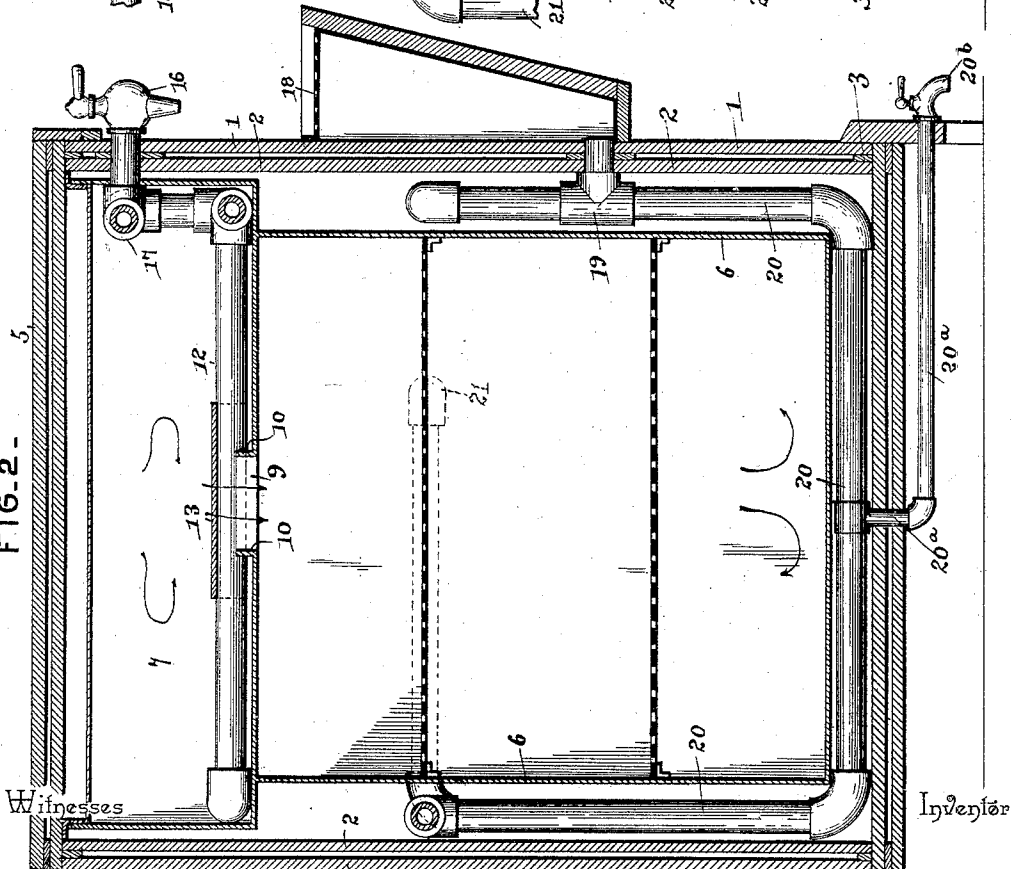


FIG. 2—



Witnesses

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UNITED STATES PATENT OFFICE.

ROSS C. SIMMONS, OF EAST TAWAS, MICHIGAN.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 475,816, dated May 31, 1892.

Application filed October 6, 1891. Serial No. 407,896. (No model.)

To all whom it may concern:

Be it known that I, ROSS C. SIMMONS, a citizen of the United States, residing at East Tawas, in the county of Iosco and State of Michigan, have invented a new and useful Refrigerator, of which the following is a specification.

This invention relates to improvements in refrigerators; and the objects in view are to provide a refrigerator of cheap and simple construction designed to utilize to the greatest extent the refrigerative qualities of the ice and prevent contact of hot air therewith, thus effecting a saving in the consumption of the same, to provide for the cooling of water for drinking purposes, and to maintain throughout the refrigerating-chamber a uniformly low temperature.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a refrigerator constructed in accordance with my invention, the cover being thrown back for the purpose of exposing to view the ice-chamber. Fig. 2 is a vertical longitudinal section of the refrigerator. Fig. 3 is a transverse vertical section. Fig. 4 is a detail in perspective of the ice-supporting water-cooling coil.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing the refrigerator I form the same of an inner and outer air-tight casing, designated as the "outer" casing 1 and the "inner" casing 2, locating between the two at suitable points narrow dead-air space-strips 3, whereby a space is formed between the adjacent faces of the inner and outer casing, and the inner casing is isolated from the outer casing. The refrigerator may be given any external shape desired, and the arrangement of the same hereinafter described may be built in a room permanently employed for cold-storage purposes, or in saloons, &c., or, as herein shown, in the domestic ice-chest or refrigerator. The refrigerator is provided at its front with a door 4, and its upper end is covered by a removable cover or lid 5. A zinc lining 6 is located within the refrigerator, the same consisting, in this instance, of

a back wall, opposite side walls, and a bottom, and said zinc lining extends from the bottom of the refrigerator to a point near the upper end thereof and is there surmounted by an oblong zinc ice-receiving tank 7. An opening 9 is formed in the bottom of the ice-tank at the center thereof, said opening being provided with a surrounding upwardly-projecting flange 10. By this arrangement the ice cooling the air within the tank causes said air to commingle with the air in the cooling-chamber, thus lowering the temperature of the said latter air.

Supported loosely by the ice-tank is a coil of pipe 12, the same extending back and forth within the tank and serving as a rest for the ice. A sheet-metal plate 13 connects the two inner coils and serves also to cover the opening 9 in the bottom of the tank and thus prevent ice from falling through. A coupling 14 connects with the rear end of the coil a water-supply pipe 15, which leads from any suitable source of supply—such as the city water-works, &c.—and from the opposite end of the coil there extends through the walls of the refrigerator a faucet 16, connected to the coil by a union or coupling 17, so that water contained within the coil being cooled by the ice may be drawn off through the faucet for drinking purposes. By connecting the coil with the city water-works or other source of supply said coil is at all times filled and the water therein cooled, it being understood that the coil is of such length as to amply provide for any ordinary amount of water used or required. Thus it will be seen that there is at all times a supply of cold drinking-water at hand. It will also be seen that in addition to serving as a water-coil the pipes serve as an ice-rack, readily supporting the large cakes of ice above the bottom of the tank and removing in a manner the weight of the same therefrom.

Secured to the outside of the refrigerator under the faucet is a drip-pan 18, and leading from the bottom of the same is a union 19, the said union extending through the walls 1 and 2 of the refrigerator and connecting with the intermediate portion of a water-coil 20. This water-coil 20 extends up and down the sides and across the bottom and rear wall of the refrigerator between the wall 2 thereof and

the metal lining and at its rear end terminates in a drip-pipe 21. The front end of the coil is connected by a union 22 with a perforation or waste-opening formed in the bottom 5 of the ice-tank, as indicated at 23. From this it will be seen that the drippings from the ice are carried off from the tank into the waste-coil, as are also the waste water from the drip-pan, which latter is elevated somewhat above 10 the coil to prevent overflowing. This water is already cooled, as it passes directly from the ice, and serves to cool the warm air at the bottom of the cooling-chamber, whereby said air is maintained at a low temperature 15 throughout the refrigerating-chamber. As the coil becomes full it overflows and drips in the rear side of the refrigerator.

From the foregoing description, taken in connection with the accompanying drawings, 20 it will be seen that I have provided a refrigerator which by its construction utilizes to the best advantage the ice, effecting a saving of the same by obviating the discharge of warm air directly upon the ice, and, furthermore, 25 that I utilize the drip of waste-water in its cool state, discharging the same as it becomes heated, and finally that I provide for the cooling of drinking-water as the same is conducted from a suitable source of supply.

30 The lower portion of the coil 20 is tapped and a drain-pipe 20^a connected thereto and leads under and to the side of the refrigerator, where it is provided with a faucet 20^b.

Having described my invention, what I 35 claim is—

1. In a refrigerator, the combination, with

a casing, the internal metal lining, the ice-tank supported above the same, the water-coil located in the ice-tank, a supply-pipe leading thereto, and a faucet connected to and 40 extending through the wall of the casing, of a waste-coil located between the metal lining and the wall of the casing, connections between one end of the coil and a drip-opening 45 in the ice-tank, the opposite end of said coil passing through the casing and terminating in a discharge, a drip-pan located upon the exterior of the casing above the drip-coil and under the faucet of the water-coil, and a connection between said drip-pan and the drip- 50 water coil, substantially as specified.

2. In a refrigerator, the combination, with the outer casing, the internal metal lining spaced therefrom, and the water-coil located 55 above the same and provided with inlet and outlet passages, of a drip-pan located upon the exterior of the casing below the outlet of the coil and a drip-coil arranged between the casing and lining, one end of the coil being 60 connected with the drip-pan and the other end extending through the casing to form a drip-discharge, and a drain-pipe connected to a lower intermediate point of the coil and terminating in a discharge-faucet, substantially as specified. 65

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROSS C. SIMMONS.

Witnesses:

REUBEN W. PLATT,
E. L. KING.