

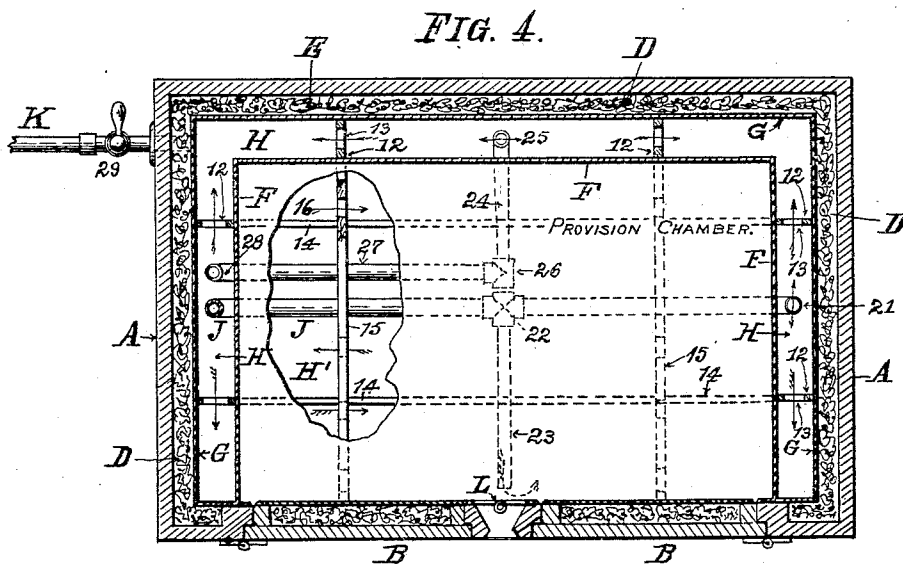
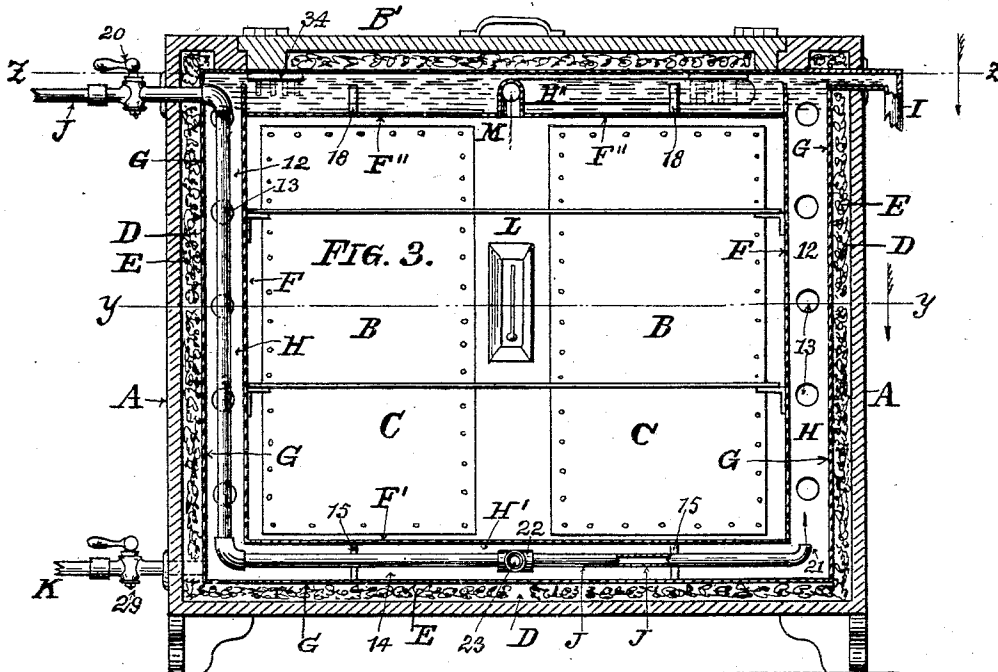
J. PFLANZ.
REFRIGERATOR.

APPLICATION FILED MAY 3, 1909.

934,011.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 2.



Witnesses:

C. B. Knudsen
A. S. Peterson.

Inventor:

Jacob Pflanz.
By *Michael Stark & Sons*
Attorneys.

UNITED STATES PATENT OFFICE.

JACOB PFLANZ, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ED. GEO. PFLANZ, OF CHICAGO, ILLINOIS.

REFRIGERATOR.

934,011.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed May 3, 1909. Serial No. 493,590.

To all whom it may concern:

Be it known that I, JACOB PFLANZ, a citizen of the United States, and resident of Chicago, Illinois, (whose post-office address is at No. 4358 South Dearborn street,) have invented certain new and useful Improvements in Refrigerators; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheets of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements in refrigerators; and it consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claim.

The object of this invention is the production of an efficient and serviceable refrigerator which can be used without the employment of ice or other calorific media, the cooling effect being produced by water flowing through a water-jacket surrounding the provision chamber. To attain this effect, I construct this refrigerator as shown in the drawings already referred to, in which—

Figure 1 is a perspective view of a refrigerator constructed in accordance with my invention. Fig. 2 is a horizontal sectional view taken on line $z z$ in Fig. 3, portions being broken away to disclose underlying parts. Fig. 3 is a longitudinal sectional elevation on line $x x$ of Fig. 2, in the direction of the arrow shown. Fig. 4 is a horizontal sectional view taken on line $y y$ of Fig. 3.

Like parts are designated by corresponding symbols and characters of reference in all the figures.

This refrigerator comprises an outer wooden structure A of any desired design or configuration, which includes one or more doors B through which access can be had to the interior of the provision chamber C. This latter chamber is a sheet-metal structure made water-tight on all its sides, top and bottom, and it is sufficiently smaller in all of its dimensions than the interior dimensions of the outer structure, to afford spaces D, and H, H', and H'', the spaces D being separated from the spaces H, H', and H'', by water-tight walls G, said spaces D having therein a suitable non-conductor

of heat E, such as char-coal, mineral wool, asbestos fiber &c. The water-containing spaces H, H', and H'' surround the walls of the provision chamber, and of these water-containing spaces, the spaces indicated by the reference-letter H surround three of the four vertical walls thereof. In these water-containing spaces H there are a series of vertically disposed partitions 12, which partitions are secured to the inner metallic lining G of the structure A, and to the vertical walls of the provision chamber to retain the latter in position, said partitions 12 being perforated with a series of apertures 13, thereby affording communication between the several sections of the vertical water-spaces produced by said vertical partitions 12.

The water space H' below the provision chamber C has longitudinal partitions 14, and transverse partitions 15, all of which are perforated by apertures 16, said partitions 14 and 15 supporting the said provision chamber C. The water-space H'' above the provision chamber is likewise provided with partitions 18, and perforated with apertures 19, while that portion of the vertical walls F projecting above the top-plate F'' of the provision chamber is perforated at various places as shown at 37 in Fig. 2, this top-plate F'' together with the projecting portion of the vertical walls forming, as it were, a pan which incloses the water space H''. The vertical partitions 12 and the projecting portion of the vertical walls F do not reach to the top of the structure A but stop short thereof so as to prevent overflowing, there being an overflow pipe I, leading from the water-space to carry off the heated water, said overflow being suitably connected with sewer pipes, not shown.

J designates a water-supply pipe connecting the water-jacket of this refrigerator with any suitable source of water, there being a stop-cock 20, in this water-supply pipe J to regulate the flow of water to the water-jacket and to turn off the water supply at any time when necessary or desirable. This pipe J enters the water-space from above and it is carried downwardly in one of the vertical water-spaces H and then turned horizontally in the lower water-space H' which it traverses and it terminates in a short, upwardly-turned nozzle 21. In about the middle of this pipe J there is a pipe-fitting 22 from the branches of which lead

branch-pipes 23 and 24 respectively, the former pipe reaching to within a short distance of the front-wall of the structure wherein is located the door B, while the latter reaches into approximately the center of the water-space H near the rear-wall and it has a short, upwardly-turned nozzle 25. In the branch pipe 24 there is a pipe-fitting from the branch 26 of which leads a branch-pipe 27 which reaches into the water-space through which the supply-pipe J descends and which branch-pipe 27 has a short, upwardly-turned nozzle 28, similar to the nozzles heretofore described.

From the lower water-space H' leads a discharge-pipe K, having a faucet 29, whereby the water jacket may be drained and through which sediments may be removed. In the top of the wooden structure A there is a door or lid B' of usual construction, through which access may be had to the top-water space H''. In the door B leading to the provision chamber, or in the vertical stile when there are two doors leading to said provision chamber there is located a thermometer L which indicates the temperature in the provision chamber. Near the upper end of the front-wall of the wooden body A there is located a register or slide 30, of approved construction, which said slide serves as an adjustable inlet to an air-duct M, Figs. 2 and 3, which connects with the interior of the provision chamber C to afford means for carrying off heated air. There is in the front wall a further register or slide 31 governing an air-passage 34, Figs 2 and 3, leading above the water-line of the upper water-space H''.

The operation of this refrigerator is substantially as follows: Water being admitted to the water-jacket surrounding the provision chamber until it overflows at the overflow I, the temperature in the provision chamber will be at once reduced, the walls being of metal and good conductors of heat, until the temperature nearly approaches that of the incoming water. The upper surface of the water in the water-space H'' being in communication with the outer atmosphere

through the passage 34 and the register 31, the water will evaporate and thereby abstract heat from the surrounding objects and reduce the temperature, additional water being allowed to enter through the supply-pipe J as required. The water in the various channels formed by the partitions in the several water-spaces will circulate through these channels and thereby produce an even temperature in the provision chamber C. When an extremely low temperature is required in the provision chamber, ice may be introduced through the lid B' to cool off the water, and refrigerating media may be added thereto if desired.

Having thus fully described this invention, I claim as new and desire to secure to me by Letters Patent of the United States—

A refrigerator comprising an outer wooden structure; an inner metallic lining; a filling of a non-conductor of heat between the inner surface of said wooden structure and the inner metallic lining; a provision chamber smaller in dimensions than the inner metallic lining, the walls of which are of watertight construction and affording spaces between the inner lining and the outer surfaces of the provision chamber; vertical partitions in said spaces, said partitions being perforated and uniting the inner lining with the vertical walls of the provision chamber; a lower water-space, there being partitions in the latter space adapted to support the provision chamber; an upper water space; a water-supply-pipe entering the vertical water-space and passing downwardly into the lower water space; branches on said supply pipe entering the vertical water spaces, and an overflow leading from the upper water space.

In testimony that I claim the foregoing as my invention, I have hereunto set my hand in the presence of two subscribing witnesses.

JACOB PFLANZ.

Witnesses:

MICHAEL J. STARK,
EDWARD G. PFLANZ.