

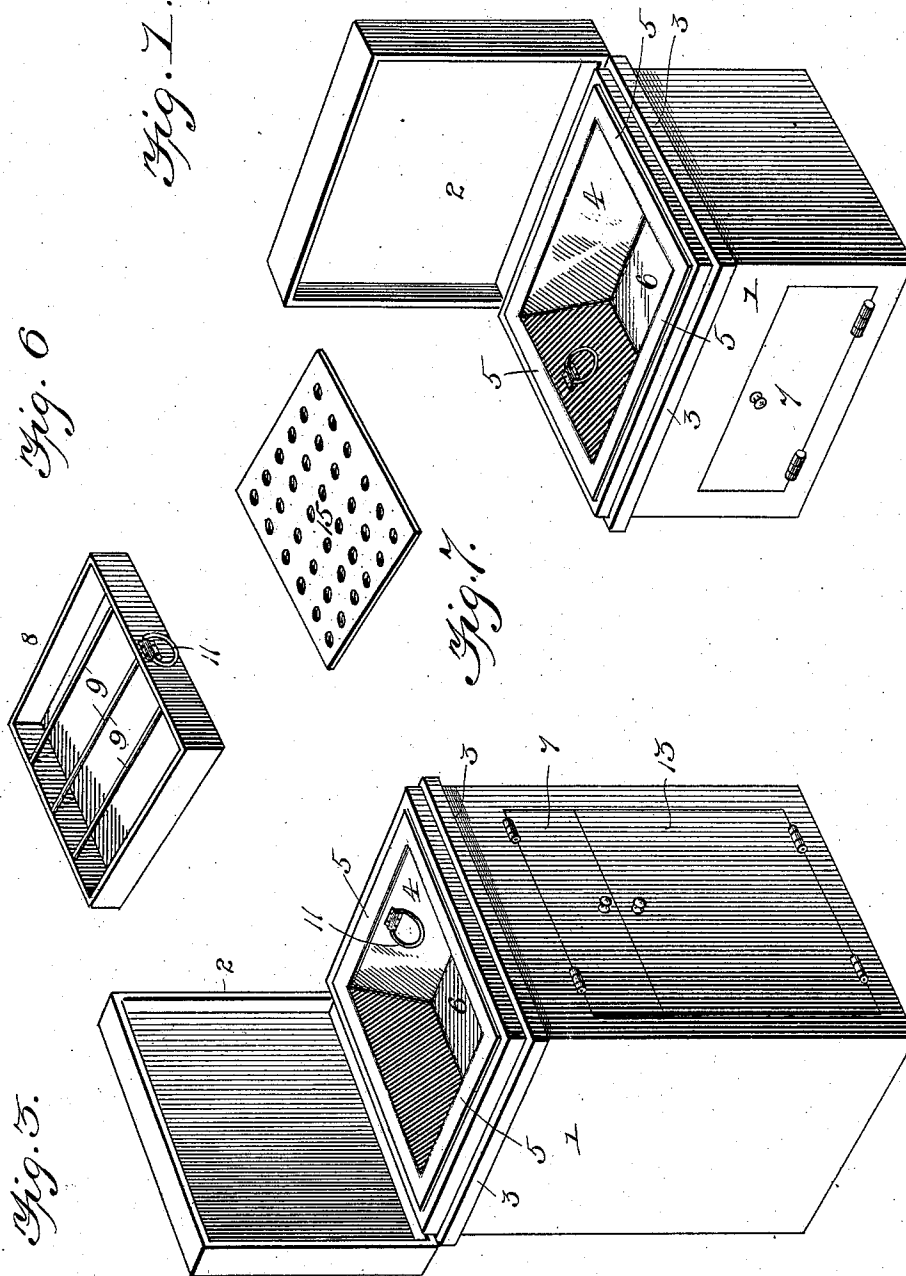
(No Model.)

G. A. MUENCHINGER.
REFRIGERATOR.

2 Sheets—Sheet 1.

No. 576,141.

Patented Feb. 2, 1897.



Inventor
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Witnesses
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By *his* Attorneys,

C. A. Snow & Co.

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Fig. 5.

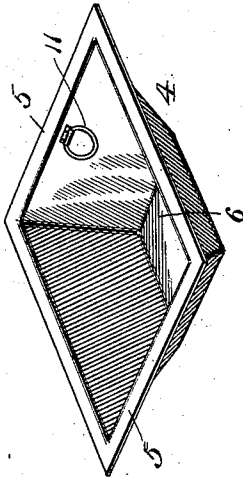


Fig. 2.

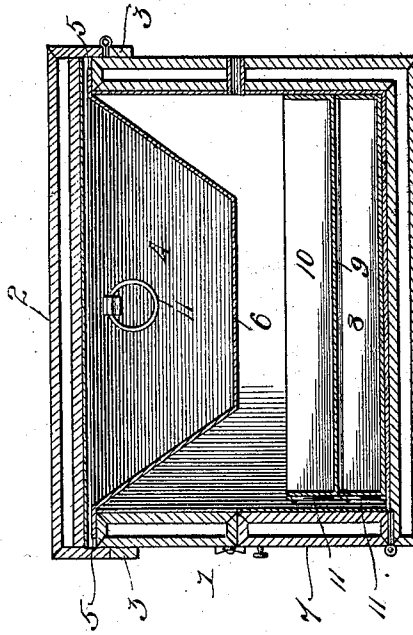
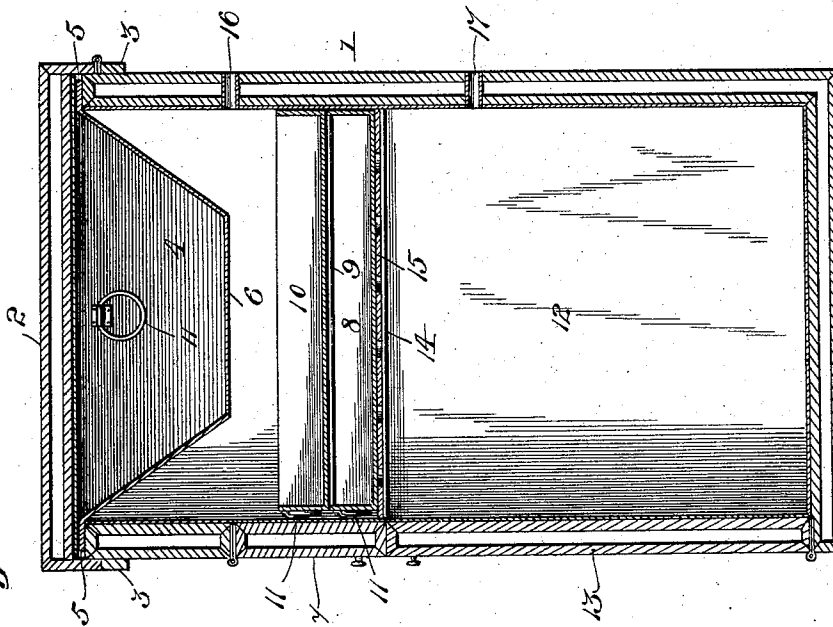


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAVE A. MUENCHINGER, OF NEWPORT, RHODE ISLAND.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 576,141, dated February 2, 1897.

Application filed January 27, 1896. Serial No. 577,026. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE A. MUENCHINGER, a citizen of the United States, residing at Newport, in the county of Newport and State of Rhode Island, have invented a new and useful Refrigerator, of which the following is a specification.

This invention relates to an improvement in refrigerators; and the object in view is to provide a simple and convenient ice-cabinet especially adapted for the reception of pastry and caterers' and confectioners' goods.

The invention is designed to fill a long-felt want among bakers, confectioners, caterers, and pastry-cooks and may also be used in small families for the making of pastry, jellies, custards, for cooling and preserving meats and meat dishes, for making fancy water-ices and creams, also for freezing figures to be used in the serving of punch, also in decorating fruit and flower water-ices and for keeping fancy forms of ice-cream, &c., frozen after the same have been decorated.

The improved cabinet or refrigerator which will be described is also adapted for many other purposes which will readily suggest themselves, and is constructed in such compact manner as to be readily portable from place to place, and by a special arrangement of cold-air compartments, ice-trays, &c., a lower temperature may be attained than has heretofore been practicable in articles of this character.

To the ends above enumerated the invention consists in an improved refrigerator involving certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally incorporated in the claim.

In the accompanying drawings, Figure 1 is a perspective view of the improved refrigerator or ice-cabinet constructed in accordance with the present invention. Fig. 2 is a vertical sectional view through the same. Fig. 3 is a perspective view of another form of the improved ice-cabinet, also embodying the present improvements. Fig. 4 is a vertical sectional view through the same. Fig. 5 is a detail perspective view of the upper ice-tray. Fig. 6 is a similar view of the lower ice tray

or pan. Fig. 7 is a similar view of the perforate shelf or rest for the lower ice-tray.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings. 55

Referring to the accompanying drawings, 1 designates a box-shaped cabinet, the same being constructed throughout with double walls, as illustrated in the sectional views, thus providing an intervening air-space between the inner and outer walls, or, if desired, such space may be filled with sawdust or any other suitable material which is a good non-conductor of heat and cold. The inside surface of the cabinet 1 is also lined with zinc or galvanized iron as to its sides and bottom, and the cabinet is further provided with a hinged top 2, having a depending surrounding edge portion which snugly embraces the upper portion of the cabinet, and when closed rests upon a horizontal ledge formed by the upper edges of a series of cleats 3, extending entirely around the cabinet. 60 65 70

Within the upper portion of the cabinet is arranged in ice-pan 4, the same being about equal in its exterior dimensions at its upper edge to the dimensions of the ice-cabinet at its upper edge, so that the said pan fits snugly in the top of the cabinet. The said pan is also provided with a horizontal outwardly-projecting flange or lip 5, which extends entirely around the upper ledge thereof and rests upon the corresponding edge of the ice-cabinet when said pan is in place therein, thus supporting the pan in its proper position. The side and end walls of this pan are made downwardly convergent, as shown in Fig. 5, the bottom 6 of the pan being materially smaller than the top of the pan. This pan is ordinarily filled with cracked ice and by reason of the particular form given to said pan, or, in other words, on account of the convergency of its side walls, an increased cold-air-radiating surface is afforded, which, owing to the natural downward tendency of the cold air within the cabinet, will tend to produce an unusually low temperature within the same. 75 80 85 90 95

The cabinet 1 is provided with a door 7 in its front side and near the bottom, by which access is obtained to the cabinet beneath the 100

plane of the ice-pan 4. Within the cold-air compartments beneath the said pan 4 is introduced a second ice-pan 8, corresponding approximately in its dimensions to those of the ice-cabinet and being preferably made comparatively shallow, but sufficiently deep to hold any required supply of cracked ice. At its top edge the pan 8 is provided with a series of cross bars or slides 9, which form rests for a superposed tray or pan 10, corresponding in its general shape and dimensions to the pan 8, the slides or rests 9 being, however, omitted. The pan 10 is capable of being inserted and removed in and from the ice-cabinet together with or independently of the ice-pan 8, and when in place it will be seen that the said pan 10 occupies a position intermediate the upper ice-pan 4 and the lower ice-pan 8. The articles to be preserved or frozen are placed in the pan 10, which is afterward introduced into the cabinet in the relation above described, and it will thus be seen that the contents of said pan will be subjected to both the upward and downward currents of cold air proceeding from the upper and lower ice-pans. The trays 4, 8, and 10 may all be provided with suitable handles 11, by means of which they may be the more readily placed in position and taken therefrom.

In Fig. 3 is illustrated another form of cabinet embodying the same principles as that above described, but having in addition thereto a supplemental cold-air compartment 12, arranged beneath the lower ice-pan, as shown in Fig. 4. In this event an additional door 13 is provided for the front of the cabinet, the same being preferably hinged thereto adjacent to its bottom edge, as shown in Fig. 3. In order to support the lower ice-pan within the cabinet, a pair of oppositely-disposed horizontal cleats 14 are secured to the side walls of the cabinet, and upon these cleats is placed a foraminous or open-work metal shelf 15. This shelf is shown as composed of a piece of perforate sheet metal, but it will be apparent that the same may be formed of reticulated work or in grate form composed of parallel wires or rods. The function of this plate 15 is to serve as a rest and support for the lower ice-pan and the article-receiving tray or pan 10, placed thereon, and also to permit the downward passage of the cold-air currents from

both the upper and lower ice-trays into and their circulation through the lower cold-air compartment 12. Outlet-ports 16 and 17 are formed in the walls of the cabinet to allow of the escape of the cold air, and thus conduce to the proper circulation within the cabinet.

By means of the construction above described a very simple, effective, and economical refrigerator or ice-cabinet is obtained, in which it is necessary to use but a very small amount of ice to procure a greatly-reduced temperature. By actual test it has been demonstrated that with as small an amount of ice as ten pounds, brought into a properly-communited space, a temperature as low as 15° Fahrenheit can be attained. The refrigerator or cabinet will thus be especially valuable to bakers, confectioners, caterers, &c., particularly in view of the fact that it is compact and portable. It will be understood that these cabinets may be manufactured in any desired shape or size, and finished plainly or with considerable ornamentation; also that other changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

In a refrigerator, in combination, a suitable case, a hinged top for giving access to the upper portion thereof, an ice-pan removably supported in such upper portion and removable through the top of the case and comprising four converging side walls the upper edges of which terminate in horizontal flanges which rest on the top edges of the side walls of the case, a second ice-pan removably fitted in the case below the first pan and provided with cross-bars at its top forming rests, a removable tray supported directly on the rests of said lower ice-pan and located beneath the upper ice-pan, and a side door located below the plane of the upper ice-pan for permitting the introduction and removal of said tray and lower ice-pan, substantially as described.

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

GUSTAVE A. MUENCHINGER.

Witnesses:

A. C. WARD,
WM. G. WARD, Jr.