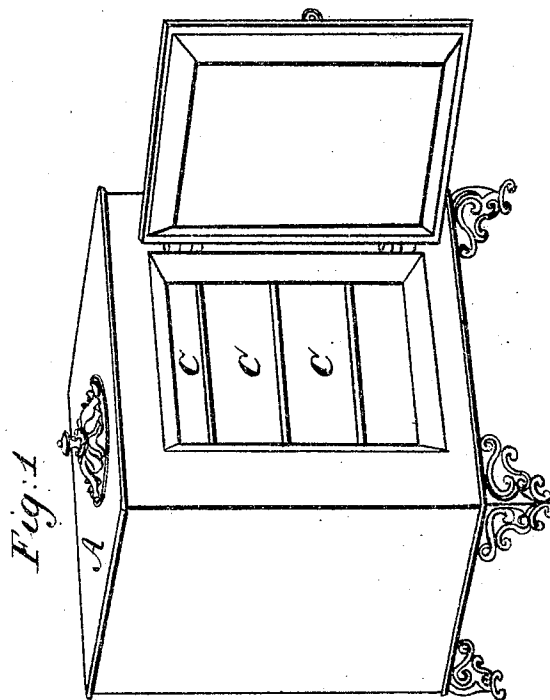
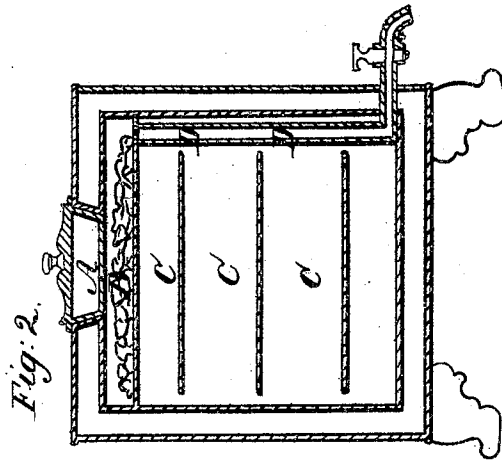


J. S. Gold.

Refrigerator

N^o 1998.

Patented Mar. 12. 1841.



UNITED STATES PATENT OFFICE.

JOB S. GOLD, OF PHILADELPHIA, PENNSYLVANIA.

REFRIGERATOR.

Specification of Letters Patent No. 1,998, dated March 12, 1841.

To all whom it may concern:

Be it known that I, JOB S. GOLD, of the city of Philadelphia, State of Pennsylvania, have invented a new and Improved Mode of Constructing Refrigerators; and I do hereby declare that the following is a full and exact description of my invention, which I distinguish by the name of the "Union Refrigerator."

The nature of my invention consists, in locating the place for the ice at the top, or in the upper part of the apparatus, termed "refrigerator" by making a separate apartment—and then, in a particular mode of disposing of the ice-water and, when shelves are used in the interior below in a systematic arrangement of them, the effect of which is to equalize the temperature, and produce the most extreme coldness, without that injury, which is caused by the dampness arising from the keeping of ice and ice-water in the same air with other things.

To give a correct and definite knowledge of the "union refrigerator" I will now describe its construction and operation.

I construct my refrigerator in any convenient form, but adopt the square form, as the most simple, and least expensive—as this will be generally preferred. The exterior double case, is constructed in the usual manner so that it shall transmit as little heat as possible. This double non-conducting case, or outside, being well known to all any way acquainted with the construction of refrigerators it is unnecessary to describe it further. In respect to material the outer part of the double case is usually made of wood and the inner case of a suitable metal, such as zinc. Tin or copper is the best, but more expensive. The whole may be made of metal. The door is made in one side, and if the article is very high, it will be well to have two doors; one over the other, so that it may not be necessary to expose the whole or so much of the interior, at once, to the external atmosphere. The door should not come up higher than to the apartment for the ice, and it should fit close, to prevent ingress or egress of air. The apartment for the ice is separated from the other apartment or apartments, by a metallic plate, which should be soldered in so as to make a watertight receptacle. The most convenient opening for access to this ice apartment, is by a cover or lid on the top of sufficient size, to introduce the ice,

and the apartment should be in proportion to the size of the whole apparatus. At one side or end of this plate, should be a strainer, by making fine holes, opening into a pipe suitable to conduct away the ice-water, as it forms, down through the part below, close by the side, to the bottom, that it may be drawn off, when desired by a side faucet. This pipe should be flat and thin, and if the side of the refrigerator is not very wide, may cover the whole side. This flat pipe will be a small reservoir for the ice-water, and extending from top to bottom, will have a cooling effect throughout the interior.

The interior of the refrigerator, for use, may have shelves, as many as are desired, but on the side of the ice-water reservoir, and on the opposite side, there should be a passage of one or two inches from top to the bottom, as seen in the sectional drawing, that the air may circulate in a direct current, around the shelves.

It will be seen that when ice is introduced into its appropriate place, the operation will be as follows: The top of the refrigerator is cooled by the ice and ice-water together. One side of the apparatus is cooled by the ice-water in the side reservoir above mentioned. Now as the top and one side are coldest the air at that side and the top will be most condensed, and a downward current of air will consequently be produced on that coldest side. The warmer and lighter air on the opposite side will of course ascend, and thus the circulation having commenced, will continue, and tend constantly to equalize the temperature throughout the whole interior. If there are no shelves, the side, ice-water reservoir, will have the same powerful effect on the temperature of the interior below. Also, if the shelves are full size, and no passages open, as above described, the ice-water reservoir at the side, will communicate its intensely cold temperature, laterally, to all the apartments formed by the shelves. But that arrangement of the shelves which opens the passages described from top to bottom, will quicken the operation. I consider the ice-water reservoir a most important part of the improvement. Without it, the ice-water; that is, the water at a point just below the freezing temperature, as it comes from the ice, would either remain at the top or would descend and collect in the bottom. If retained at the top, it would be of service

in aiding in cooling the air as it rises; but at the bottom, it may be said to be of no service, as cold air never moves upward. If however this cold water be carried and
5 kept at the side, it will be most efficient, as it will create a column of cold air close to it and the great preponderance of such a column will cause rapid motion and will diffuse its temperature throughout.

10 It is evident that an apparatus on the above improved plan, will be a powerful "refrigerator," and by having the ice and water in a separate apartment, all kinds of provisions, or anything that it is desir-
15 able to subject to a cold temperature, can be put into a dry apartment. Bread as well as anything else can thus be preserved in the article.

What I claim as my invention, and desire

to secure by Letters Patent, is: Not any 20 exact proportions or particular form; but

I claim,

1. The separate apartment for the ice at the top or in the upper part of the "re-
frigerator" substantially as above described. 25

2. I claim the combination of the ice-water reservoir, and the arrangement of the shelves with the apartment for ice as specified; for the purpose of producing the cir-
30 culation of air to equalize the temperature substantially as above described.

3. I also claim the ice-water reservoir in combination with the apartment for ice as described.

JOB S. GOLD.

Witnesses:

M. B. DYOTT,

H. B. NORTHROP.