

No. 1,941.

PATENTED JAN. 23, 1841.

T. B. SMITH.
METHOD OF MANUFACTURING OR FORMING ICE.

Fig. 1.

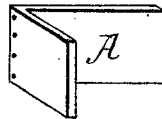
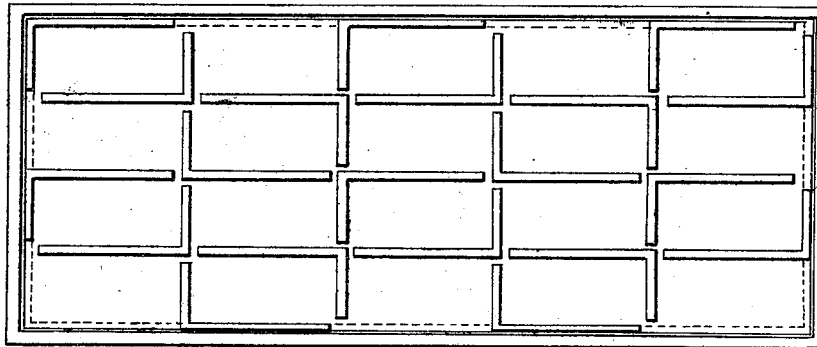


Fig. 2.



UNITED STATES PATENT OFFICE.

THOMAS B. SMITH, OF ST. LOUIS, MISSOURI.

METHOD OF MANUFACTURING OR FORMING ICE.

Specification of Letters Patent No. 1,941, dated January 23, 1841.

To all whom it may concern:

Be it known that I, THOMAS BRIGGS SMITH, of St. Louis, in the State of Missouri, have invented a new and useful
5 Method of or Process for the Rapidly Manufacturing or Forming of Ice Either to be Preserved in Ice-Houses or for Transportation; and I do hereby declare that the following is a full and exact description thereof.

My improved process for the rapid production of solid ice by the freezing of water, is dependent upon the well-known fact that a thin stratum of water when exposed to an atmosphere the temperature of which is at, or below, thirty two degrees of Fahrenheit's scale, very rapidly becomes frozen. It is also a fact that after a thin sheet of ice has been formed upon the surface of water, the process of freezing proceeds but slowly, in consequence of the bad conducting property of ice for the matter of heat. Taking advantage of these laws, I proceed in the formation, or the making, of ice, in the following way. I prepare a vat, or other suitable vessel of wood, or other material, of any size that I may deem convenient, and this I place on a level, in such situation as shall best expose it to the freezing influence of the atmosphere. From any suitable reservoir I cause a portion of water to run into this vat, or other vessel, so as to cover the bottom thereof to the depth of an eighth, or of a fourth, of an inch, more or less according to circumstances, and this water I allow to become completely frozen; when this has taken place I in like manner supply another portion of water to be converted into ice. Proceeding in this way,
40 I quickly obtain a thick stratum of ice, of perfect purity, if the water be pure, and of great solidity. This process may, of course, be carried on simultaneously in any number of vats, or other suitable vessels.

The foregoing description will serve fully to exemplify the principle upon which I proceed, but it will, probably, be in general preferred to form the ice in separate lumps, or masses, of such size as will admit of their
50 being conveniently handled, removed, and stowed away; and this I effect in the following manner. I place upon the bottom of the vat, or vessel, in which the ice is to be formed, a number of partition pieces of

wood, or of metal, in such manner as to 55 divide it into a number of rectangular, or other formed, cells, or compartments. These partition pieces may be conveniently formed and arranged in the following manner. A, A, Plate No. 1, in the accompanying 60 drawing, represents two pieces of board united to each other rectangularly, so as to constitute what may be called a semi-mold; or if metal should be preferred, said semi-molds may be made of a single sheet, bent 65 into the proper form. In Plate No. 2, B, B, are the edges of the vat in which the semi-molds are arranged, *a, a, a*, being their edges. I do not place these partition pieces, or semi-molds, in contact with each other, 70 but allow a space for the free passage of water from one to the other, as shown in the drawing. The vat being thus divided into the required number of cells, or molds, water is poured into it, in successive portions, in the manner already set forth, until the cells, or molds, are filled with ice. 75 When this has been done, thin boards, or plates of metal, may be laid over the whole, upon which boards or plates another series 80 of partition pieces may be laid, and the process repeated as before; and in this way several series of molded blocks of ice may be formed in the same vat, or other vessel.

I have mentioned both wood and metal as 85 materials of which the partition pieces may be made; and I will here remark that metal will offer one advantage over wood, in the facility with which it may be removed from the blocks of ice; its high conducting property rendering such removal easy under a very slight elevation of its temperature.

Having thus, fully described the nature of my process, and exemplified the manner in which the same is carried into operation, 95 what I claim therein, and desire to secure by Letters Patent, is—

The manner herein described of rapidly forming thick sheets, or blocks, of ice, by the successive pouring of small portions of 100 water into a vat, or other suitable vessel, allowing the same to freeze, and adding, in succession, fresh portions of water, as above set forth, until the process is completed.

THOS. B. SMITH.

Witnesses:

THOS. P. JONES,
B. K. MORSELL.