

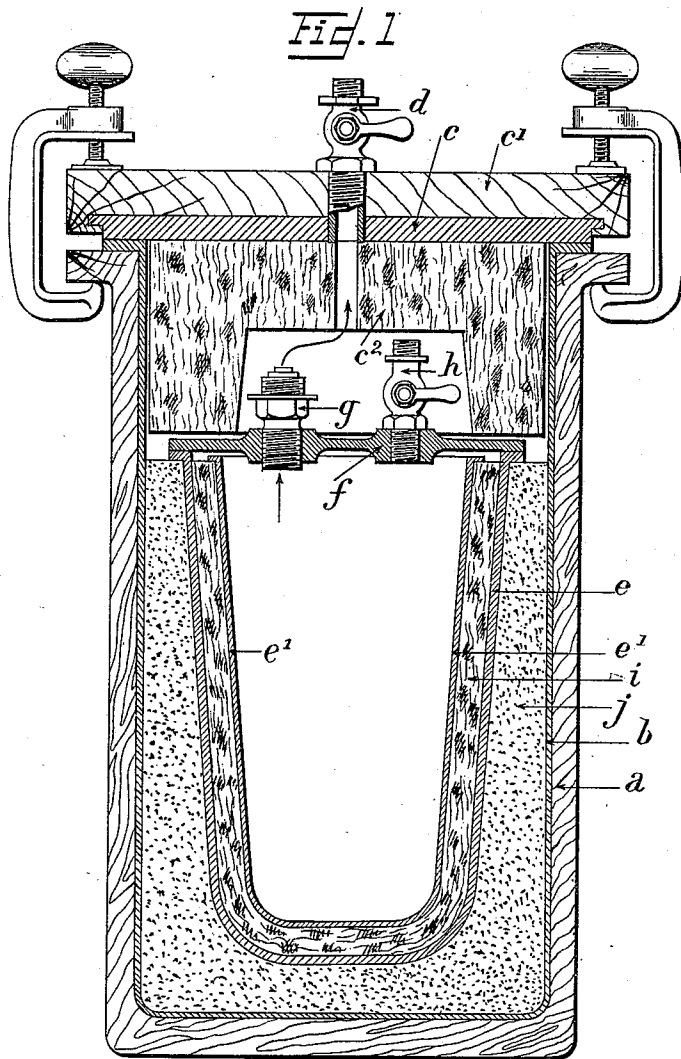
(No Model.)

3 Sheets—Sheet 1.

H. A. DOMENGET.
ICE BOX.

No. 552,424.

Patented Dec. 31, 1895.



Witnesses.
Thos. A. Green
Robert Emmett

Inventor.
Henri André Domenget.
By James L. Norris
Atty.

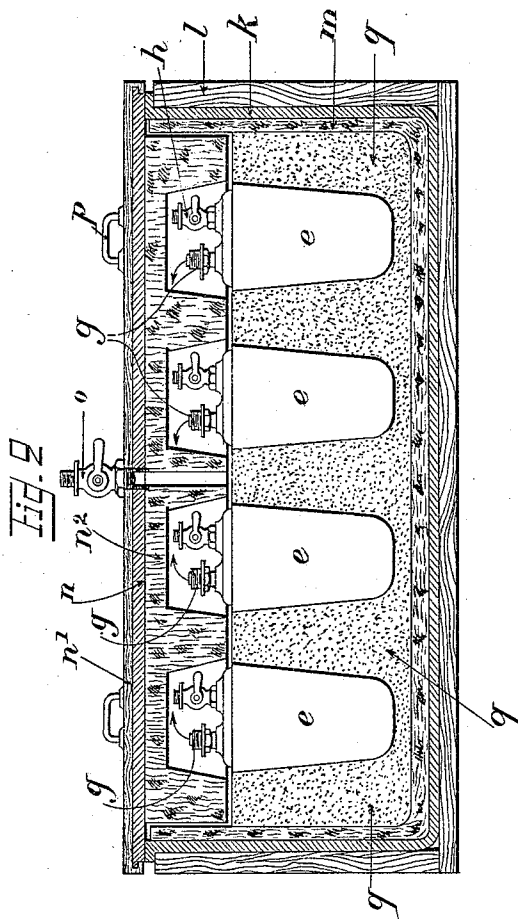
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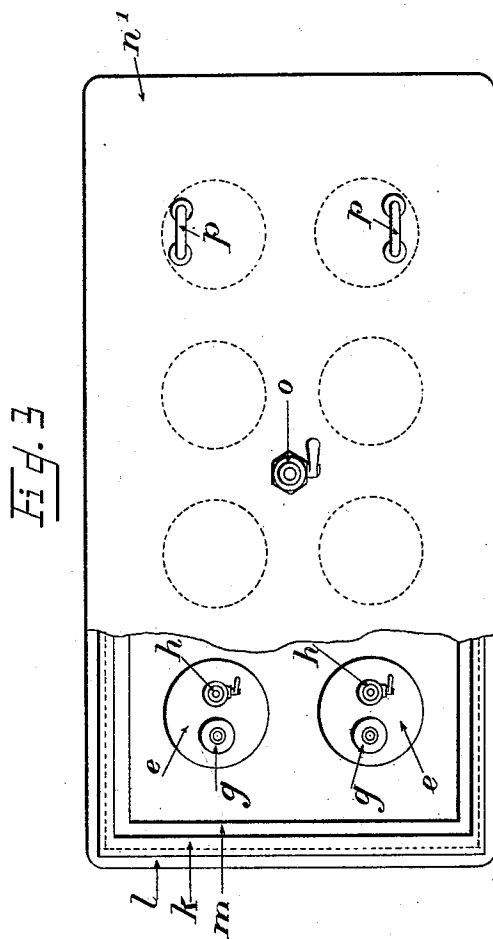
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3 Sheets—Sheet 3.

H. A. DOMENGET.
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No. 552,424.

Patented Dec. 31, 1895.



Witnesses.
Thos. A. Green
Chas. E. Smith

Inventor.
Henri André Domenget.
By James L. Norris.
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UNITED STATES PATENT OFFICE.

HENRI ANDRÉ DOMENGET, OF ARGENTEUIL, FRANCE.

ICE-BOX.

SPECIFICATION forming part of Letters Patent No. 552,424, dated December 31, 1895.

Application filed February 20, 1895. Serial No. 539,120. (No model.) Patented in Belgium January 9, 1895, No. 113,761; in France January 11, 1895, No. 244,273, and in England February 4, 1895, No. 2,438.

To all whom it may concern:

Be it known that I, HENRI ANDRÉ DOMENGET, chemist, a citizen of the Republic of France, residing at 1 Rue des Buchettes, Argenteuil, Seine-et-Oise, France, have invented a certain new and useful Improvement in Ice-Boxes, (for which I have secured patents in Belgium, dated January 9, 1895, No. 113,761; in France, dated January 11, 1895, No. 244,273, and in England, dated February 4, 1895, No. 2,438;) and I do hereby declare that the following is a full, clear, and exact description of the same, which will enable others skilled in the art to make and use the said invention.

The invention herein described consists in an apparatus for preserving ice, (whether in pieces or in molded blocks,) which is intended for cooling drinkable water and all other liquids for consumption or for other domestic or industrial purposes. For this purpose the invention consists in an improved box in which the ice, isolated from the outer walls of the box by means of bad heat-conducting casings, is out of reach of ambient air owing to the formation of a vacuum in the receiver containing the same. The ice can thus be kept until it is to be utilized. Moreover, an economical means of purifying ice is to some extent secured, owing to the fact that a vacuum is created which tends to destroy any organized being.

In order that my improvement may be understood and readily carried into effect, I will proceed to describe the same in detail in reference to the accompanying drawings, in which—

Figure 1 is a vertical section showing an ice-box having but a single compartment. Fig. 2 is a vertical section of a box constructed after the manner shown in Fig. 1, except that it has several compartments for containing a battery of ice-holders. Fig. 3 is a plan of Fig. 2, a portion of the cover being broken away in order to show the inside.

The apparatus is intended for use in preserving ice, either in pieces or in molded blocks, until it is to be made use of. The said apparatus, as shown in Fig. 1, is substantially composed of an outer box *a*, and it is provided with a cover which is hermetically secured onto the top of the box by any suit-

able means. As shown in the drawings, the cover is formed of a glass plate *c*, the ground edge of which rests upon a ground face of the lining *b*. The upper face of the plate *c* has a wooden covering *c'*, while its under face is provided with a stout lining *c²* of compressed or agglomerated cork. At the center, or at any other convenient place of the cover *c c'*, is an opening to which is fitted a valved nozzle *d* capable of being connected by a flexible or other pipe to a vacuum-producing apparatus.

In the box *a* is arranged an ice-holder formed of a glass casing *e*, upon the ground flange of which is placed a ground-glass cover *f*, into which is fitted a check-valve *g*, opening upwardly, and also a suitable cock *h*. The casing *e* is lined with compressed cellulose *i*, and the space between the casing *e* and the inner walls of the glass lining *b* is filled with agglomerated cork or with pulverized cork *j*, which is pressed in. Into the glass casing *e*, within its cellulose lining *i*, is placed a metallic jacket *e'* for containing the ice to be kept. If the ice is in the shape of a molded block, the jacket *e'* forms the mold itself in which the ice has been produced.

The operation is as follows: Ice having been placed into the jacket *e'*, the cover *f* is applied. The ground surface of the latter is preferably coated with a little oil, so as to improve the joint with the ground flange of the casing *e*. The box *a* is then hermetically closed by means of the cover *c c' c²*, after which the valve of the nozzle *d* is connected to an exhaust apparatus and a vacuum is produced, the air contained in the ice-holder *e e'* being drawn out through the valve *g* in the direction of the arrows. It is obvious that while the operation is going on the cock *h* is closed. When a sufficient vacuum is formed, the valve of the nozzle *d* is closed. The ice being thus completely isolated from ambient air will keep for a great length of time. In order to remove the ice from the holder, the valve of the nozzle *d* is opened in order to allow air to penetrate the box, the cover *c c' c²* is removed and the cock *h* is opened in order to allow air to also penetrate the casing *e*. When the vacuum has been so destroyed, the cover *f*, which is no longer held in place by atmos-

pheric pressure, is taken off, and the contents of the ice-holder are taken out as required.

It is obvious that certain modifications might be made to the herein-described arrangement of box without departing from the spirit of the invention. For instance, the cock *h* might be suppressed and the valve *g* itself be utilized for destroying the vacuum in the casing *e'*.

In Figs. 2 and 3 I have shown a multiple apparatus constituting a battery of ice-holders. The holders *e* are similar to the one hereinbefore described and the number of the same varies according to the importance of the battery. They are contained in a box comprising a glass casing *k* covered externally with wood *l* and lined with cork *m*. The said box is closed by a ground-glass cover *n*, the upper face of which is covered with wood, while its inner face is lined with cork. In the center is fitted a nozzle *o* having a cock by which vacuum can be made in all the ice-holders *e* simultaneously by the action of the valves *g*, which, as hereinbefore stated, operate so as to allow the air to be pumped outwardly. The spaces between the ice-holders *e*, and also the space between these and the lining *m*, are fitted with pulverized cork *q*. The operation of this multiple apparatus is the same as that hereinbefore described with reference to Fig. 1. In order to take ice out of any of the holders *e*, air is allowed to enter the casing *k*, the cover *n* is removed, for which purpose it may be provided with handles *p*, and air is also allowed to enter such of the holders *e* which it is desired to have

access to in order that the ice thereof may be taken out. It will then be sufficient, as before, to remove the cover *f* of the holder or holders *e*.

I claim—

1. An ice box consisting of an outer casing having a hermetically secured cover provided with a valved nozzle for connection with a vacuum producing apparatus, an interior ice holder comprising an inner metallic vessel *e'* in which the ice may be molded and an outer glass vessel *e* lined with and surrounded by bad heat conducting material, and a cover *f* for said interior ice holder, provided with check valve *g* and cock *h*, substantially as described.

2. An ice box consisting of an outer casing having a hermetically secured cover provided with a valved nozzle for connection with a vacuum producing apparatus, the inner glass vessel *e* having a glass cover *f* provided with a check valve *g* and cock *h*, the metal vessel *e'* adapted to serve as a mold for the ice and inclosed in the glass vessel *e*, a packing of cellulose intermediate the vessels *e* and *e'* and a packing of bad heat conducting material intermediate the vessel *e* and outer casing, substantially as described.

In witness whereof I have hereunto set my hand this 28th day of January, 1895, in presence of two subscribing witnesses.

HENRI ANDRÉ DOMENGET.

Witnesses:

D. H. BRANDON,
CLYDE SHROPSHIRE.