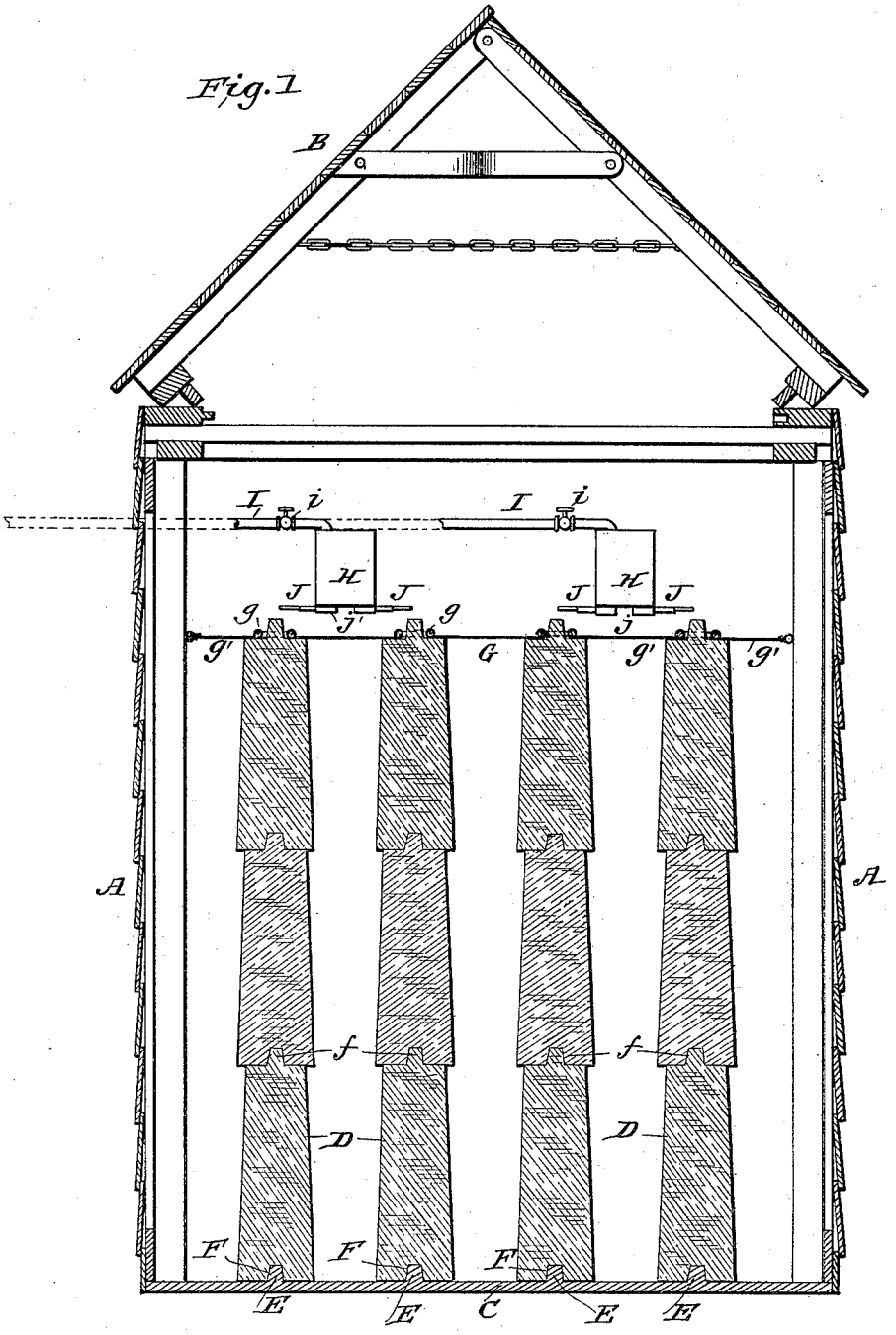
(No Model.) 2 Sheets—Sheet 1.

J. W. BROOK.

APPARATUS FOR THE MANUFACTURE OF ICE.

No. 423,306. Patented Mar. 11, 1890.

Fig. 1



WITNESSES:
Fred G. Dieterich
P. B. Turpin.

INVENTOR
James W. Brook
BY Munn & Co
ATTORNEY

(No Model.) 2 Sheets—Sheet 2.

J. W. BROOK.

APPARATUS FOR THE MANUFACTURE OF ICE.

No. 423,306. Patented Mar. 11, 1890.

Fig. 2

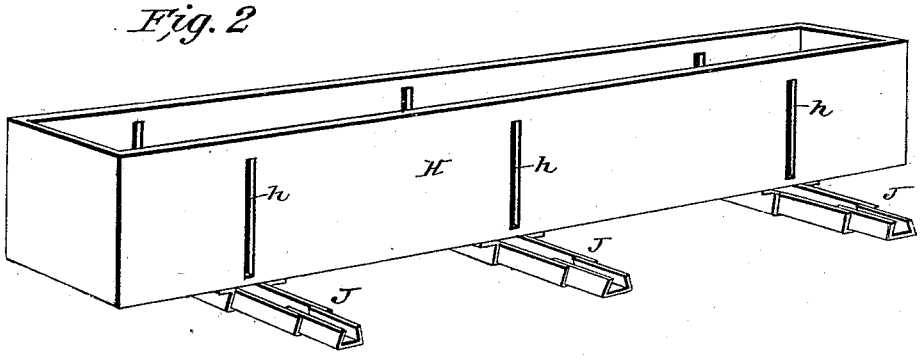


Fig. 3.

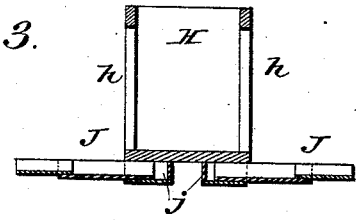
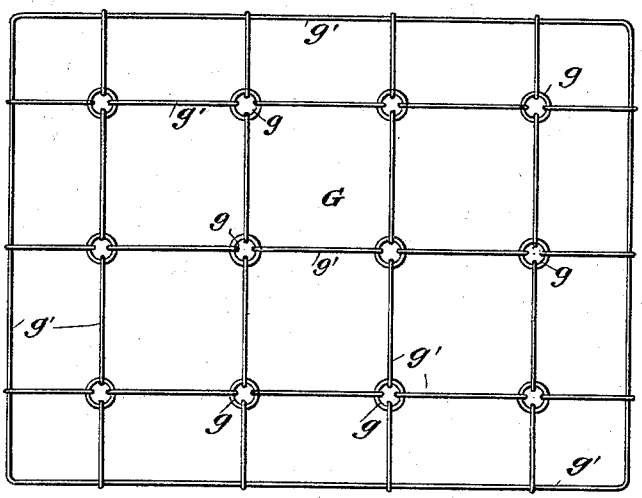


Fig. 4



WITNESSES:
Fred G. Dieterich
R. B. Turpin.

INVENTOR
James W. Brook
BY Munn & Co
ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES W. BROOK, OF LYNCHBURG, VIRGINIA.

APPARATUS FOR THE MANUFACTURE OF ICE.

SPECIFICATION forming part of Letters Patent No. 423,306, dated March 11, 1890.

Application filed April 29, 1889. Serial No. 309,119. ((No model.)

To all whom it may concern:

Be it known that I, JAMES W. BROOK, of Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Improvement in Apparatus for the Manufacture of Ice, of which the following is a specification.

My invention is an improvement in apparatus for the manufacture of ice, either by natural cold or by the use of artificial cold, as may be desired.

The invention consists in the novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical section of an ice-house provided with my improvements. Fig. 2 is a detail perspective view of the water-supply trough. Fig. 3 is a detail cross-sectional view of said trough, and Fig. 4 is a detail view of the ring-frame.

The house may be above or below ground, and may be of any suitable construction. The construction as shown is preferred, having the open sides provided with vertically-sliding sides A and the folding top or cover B; but the particular construction of such house is not claimed herein, it forming the subject-matter of a separate application for patent filed by me of even date herewith, and while this construction, as stated, is preferred any suitable construction of house may be employed. In fact a house is not necessary to some of the broad principles of my invention, as simply a supporting-frame may be employed to carry the holding-frame for the upper ends of the ice-cores and the water-troughs, which parts will be more fully described hereinafter.

The floor C supports the ice-posts D, and is by preference provided with projections E to enter sockets F in the base of such posts to steady same in position. These posts have at their upper ends stems or tenons *f*. By preference these posts consist of a number of sections or ice-blocks, as shown, each having in its lower end a socket F and at its upper end a stem or tenon, and the said sections being joined to form the post by fitting the stem or shank of one into the socket of the other, as will be understood from the drawings. This post, it will be seen, forms a foundation or core around which the ice-block is formed by applying water to such posts and freezing it thereon.

In applying the water to the posts it may be sprayed thereon in any suitable manner; but it is preferred to flow it thereon, as will be hereinafter described. At their upper ends the posts are steadied by the frame G, having openings *g* for the tenons or stems *f*, which are securely held in said openings. By preference the openings *g* are rings connected together and with the framing of the house by wires *g'*, the whole forming a suitable ring-frame for holding the upper ends of the several posts.

In applying the water to be frozen to the ice posts or foundations I provide troughs H, to which water may be supplied in suitable quantities through pipes I controlled by valve *i*. I provide one of these troughs for each two rows of posts, as shown, and provide it with spouts J, which lead out from its opposite sides and discharge directly above the upper end of the ice-core. Communication is provided between these spouts J and the interior of the trough by forming the sides of the latter with slots *h*, leading from its bottom upward, the spouts J connecting with the troughs immediately below such slots. By preference the spouts J are connected adjustably with the troughs, so that their outer or discharge ends may be set out or in, as desired. In the construction shown this is effected by forming guides *j* on the bottom of the trough and fitting the spouts at their inner ends to engage said guides, so that they may readily slide in and out, as desired. A further adjustment is secured by forming the spouts in sections sliding upon each other, as will be understood from the drawings.

The purpose of the slotted formation *h* is that in case water should accumulate and freeze in the bottom of the trough water will flow out to the spout, and thence to the core, to be frozen upon until such accumulation shall have reached nearly or quite to the tops of the troughs, which will not, in the usual course of operation, occur until the desired quantity of ice has been frozen on the cores or foundations. For the said reasons the slotted formation of the troughs is important and desirable. When the desired quantity

of ice has been frozen, the house may be shut up and the ice retained in said house; or it may be removed thence and stored in another house, as may be desired.

It will be understood that by my construction the ice-maker can, when it commences to freeze, operate the apparatus and accumulate ice until it becomes warmer, when the ice formed may be shut up and preserved until another cold spell, when the formation of the ice may be resumed, the user thus availing himself of the short intervals of freezing weather with intervening warmer weather to form the ice in the desired quantity.

Having thus described my invention, what I claim as new is—

1. In an apparatus for the manufacture of ice, the combination, with a support or frame, of a holding-frame arranged to secure the upper ends of the ice cores or posts, substantially as set forth.

2. The improved apparatus, substantially as described, consisting of the support or frame, the ice cores or posts formed of sections or blocks of ice placed one upon the other, and the trough or troughs by which to discharge water to such cores or posts, substantially as set forth.

3. In an apparatus for the manufacture of ice, the support or frame provided with a holding-frame having openings to receive the upper ends of the ice cores or posts, substantially as set forth.

4. In an apparatus substantially as described, the support or frame having its floor provided with projections E to enter the lower ends of the ice-posts, and provided with the holding-frame having openings to receive the upper ends of the said posts, substantially as set forth.

5. An apparatus, substantially as described, having a water-supply trough provided in its side with a vertically-elongated slot extending from its bottom upward, and having a spout arranged at the base of such slot, substantially as set forth.

6. In an apparatus substantially as described, the combination, with the support or framing and the ice-holding frame, of a water-supply trough having in its sides vertically-elongated slots extending from its bottom upward, and provided at the base of such slots with lateral spouts arranged to receive water flowing out of the slots, substantially as set forth.

7. In an apparatus for the manufacture of ice, a water-supply trough having in its sides vertical slots extending from its bottom upward, combined with spouts connected with such trough at the base of said slots and adjustable laterally with respect to said trough, substantially as set forth.

8. The improved apparatus for the manufacture of ice, consisting of the support or frame having its floor provided with projections E, the holding-frame formed of rings adapted to receive the upper ends of the ice-posts, and wires connecting such rings together and with the supporting-frame, the troughs having their sides provided with vertically-elongated slots and the spouts connected with the troughs at the bases of such slots and adjustable laterally, all substantially as set forth.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

JAMES W. BROOK.

Witnesses:
P. B. TURPIN,
SOLON C. KEMON.