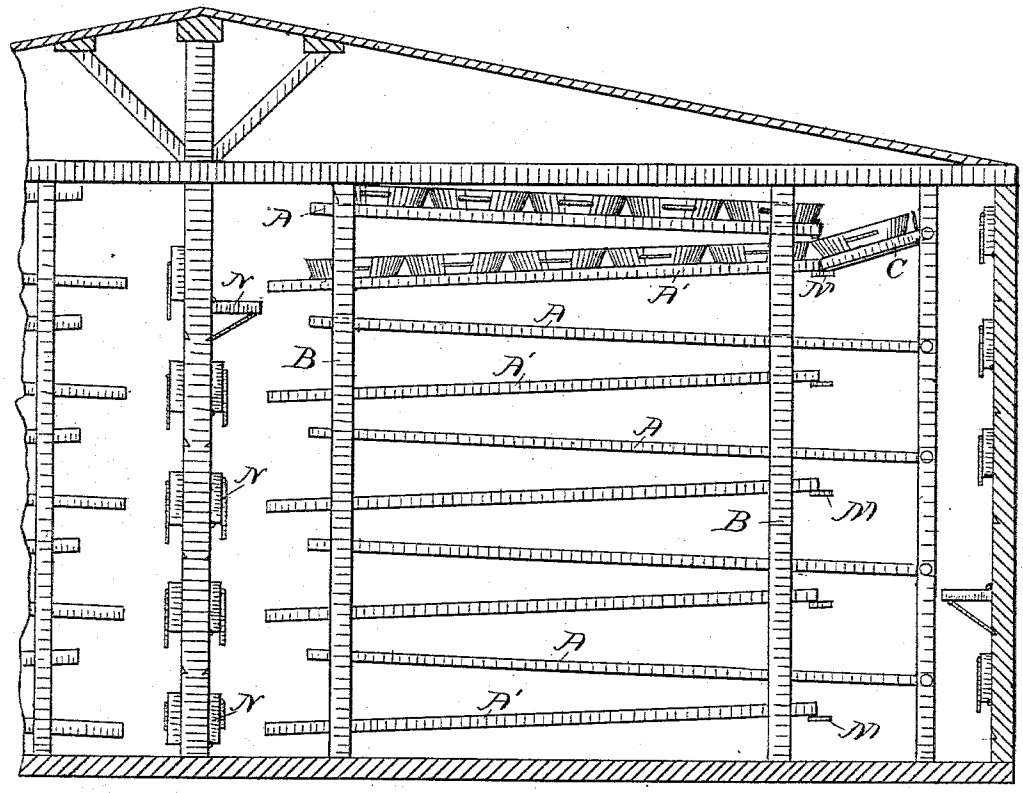
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G. NORWOOD.

MANUFACTURING AND STORING ICE.

No. 296,600. Patented Apr. 8, 1884.

Fig. 1.



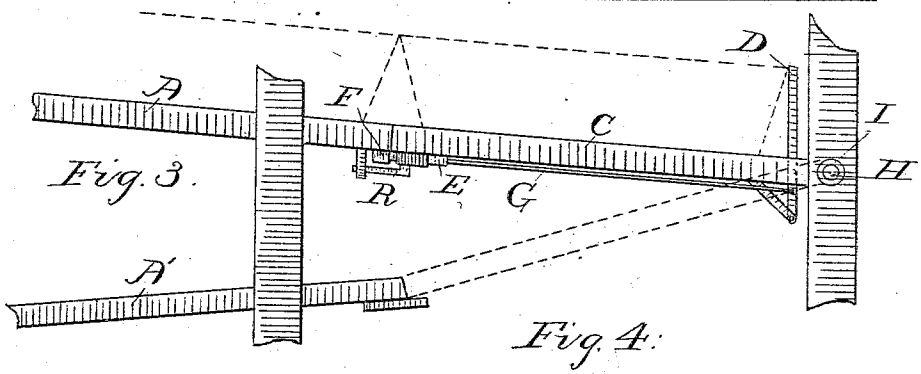
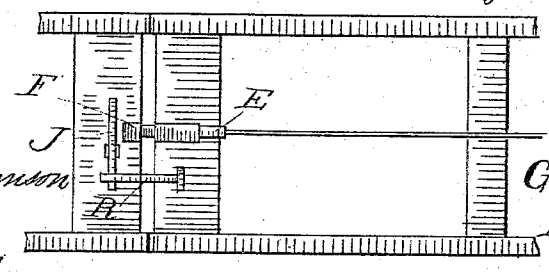


Fig. 3.

Fig. 4.



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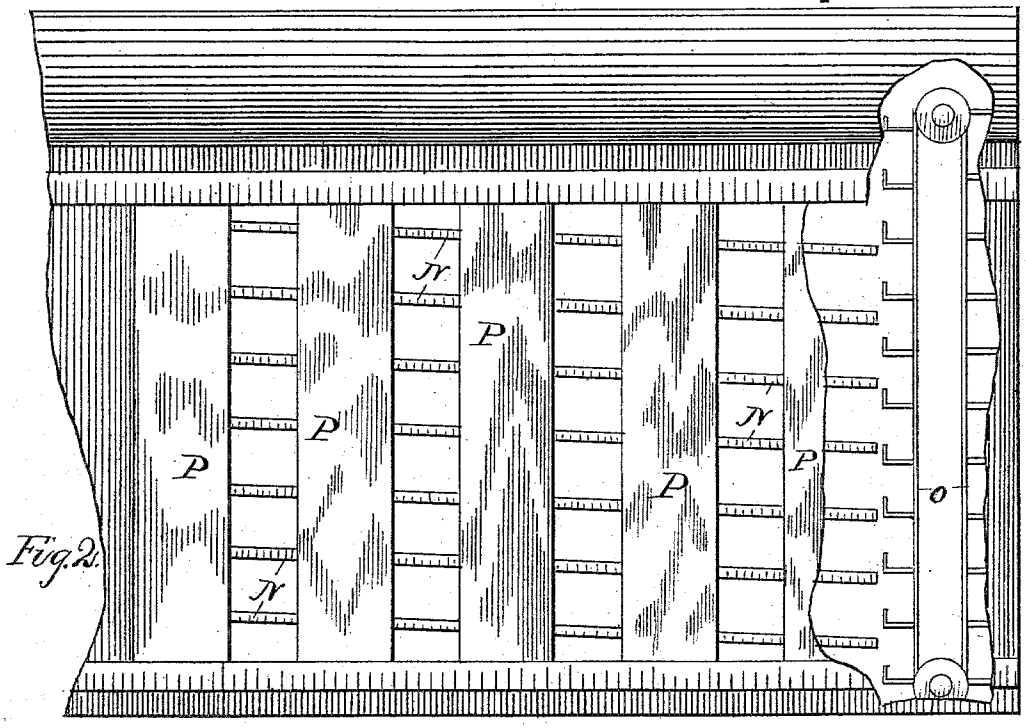
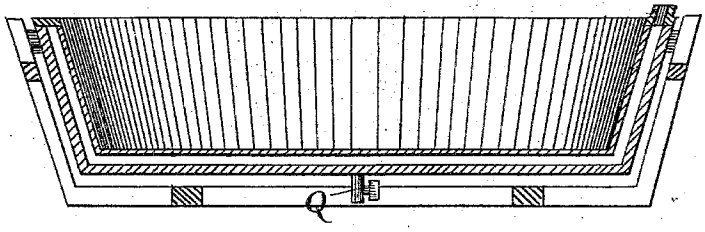


Fig. 2.

Fig. 6.



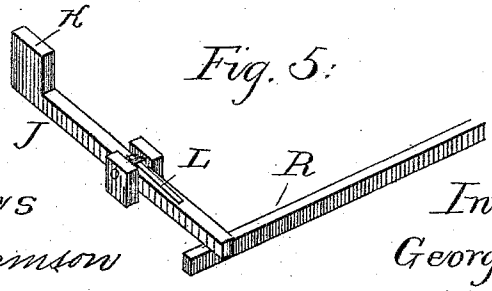


Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE NORWOOD, OF BRIDGEPORT, CONNECTICUT.

MANUFACTURING AND STORING ICE.

SPECIFICATION forming part of Letters Patent No. 296,600, dated April 8, 1884.

Application filed August 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE NORWOOD, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Manufacturing and Storing Ice; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain novel and useful improvements in the construction of buildings for the purpose of manufacturing ice, and also in the arrangement and operation of the devices for manipulating the ice cakes after they are formed, and has for its object to freeze the water so that independent cakes shall be formed, and at the same time their transfer to the storehouse shall be ready and simple; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter fully and in detail described, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand its construction and operation, I will proceed to describe the same in detail, referring by letters to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a cross-section of a house or building equipped with my improvement; Fig. 2, a side elevation of my improvement, showing the platforms inclined toward the endless chain, and also ventilator sides for the purpose of opening the building and allowing a free circulation of air; Figs. 3 and 4, detail views, showing the hinged or drop portion of the shelves, and the mechanism for operating the same; Fig. 5, a detail perspective, illustrating the mechanism for throwing the stop to prevent the pans from sliding when the end pan drops down; and Fig. 6 a detail sectional view of the pan, showing the compartment.

Similar letters of reference denote like parts in the several figures of the drawings.

A A′ are shelves, which extend in pairs from the top to the bottom of the building, and are supported by the posts B. These shelves are all inclined, as shown, and made in sections at one extremity, as seen at C.

D is a lever pivoted below the section C, and extending upward through the latter.

E is a latch-bolt housed in any ordinary way and attached to the bottom of the section, and operating within a socket, F, on the shelf proper. This bolt is connected to the lever D by a rod, G, which is attached to said lever between the bottom of the section C and the pivotal point of the lever, so that it will be readily understood that the movement of the lever will effect the withdrawal of the bolt. The sections are hinged or pivoted, as seen at H, and connected with a coil-spring, I, or any other suitable spring, which operates to bring the section back to its normal position, as shown in solid lines, Fig. 3.

Pivoted underneath the shelf A is a short bar, J, having an upwardly-projecting lug, K, at one extremity, as seen more plainly at Fig. 5. This lug extends through the shelf A, above the surface of the same, and the spring L tends to keep the lug in this position. By depressing the other extremity of the bar the lug is thrown below the surface of the shelf, as will be hereinafter fully explained.

The shelves A′ are provided with shoulders M, against which the sections abut and rest when they are dropped.

N are platforms, arranged one above the other, and adapted to be swung back out of the way. These platforms are slightly below the level of the lower extremities of the shelves A′, and are inclined, as shown at Fig. 2. Instead of being constructed in one long platform, the latter may be made in as many sections as desirable, in order to facilitate the swinging back of the same. The lower ends of the platforms extend to an endless chain, O, and ice cakes may be readily slid along the platforms and deposited on said chain, and thence conveyed up or down into a storehouse.

In the manufacture of ice, my improved construction is adapted for use as follows: Pans filled with water are placed upon the shelves A A′, as shown at Fig. 1. The building may be opened, to admit of a free circulation, by sliding doors or panels P. The pans are double, as shown at Fig. 6, so that a compartment is formed. When the water in the pans

is frozen, a jet of steam, hot water, or air is introduced within the compartment, and the ice thereby loosened from the pan. The waters of condensation are drawn off by means of a petcock, Q, in the pan. When the cake of ice has become loosened, as above set forth, the workman stands upon one of the platforms N and takes the pan which rests on the lower extremity of the shelf A′ and dumps the ice cake on the platform on which he stands, and slides it down toward the endless chain. As fast as a pan is removed the remaining pans will of course slide down. When the pan that rests upon the section C slides off from the same, the action of the spring I will bring it upward, as hereinbefore explained. As the bolt E latches within the socket F, the arm or projection R will strike against the bar J and throw the lug K below the surface of the shelf A, thereby permitting the pan which rested against said lug to slide down, strike against the lever D, and cause the section to drop, and at the same time release the bar J and allow the spring L to throw the lug K upward in front of the next preceding pan, and stopping the latter from sliding down while a pan remains on the section. The pans are dumped, and continue to slide along the shelves, and the section C continues to swing back and forth automatically until the ice has all been removed from that particular pair of shelves. As fast as the pans are emptied they are placed on the shelf A and will resume their proper position, as will be readily understood. The workman now occupies another platform and the operation continues, as before described.

It will thus be seen that I am enabled to make ice in cakes and store it with little or no trouble.

I do not wish to be understood as laying claim to the manufacture of ice by freezing water in pans, as such is not of the essence of my invention, the gist of which rests in the broad idea of constructing and arranging the shelves and platforms so that the pans may be received and dumped by the workman, without any occasion for the latter to change his position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The shelves constructed, as described, with hinged or pivoted sections and inclined, whereby the ice cakes may slide automatically toward the platforms, substantially as set forth.

2. A building for the manufacture of ice, constructed with shelves sectioned and inclined, as described, and platforms inclined toward the storing devices, substantially as set forth.

3. The shelves A, inclined, as shown, and having sections C, adapted to be dropped down upon the shoulder M, substantially as shown.

4. The section C, hinged at H, and adapted to be secured to the shelf A by means of bolt E, connected by rod G to lever D, the latter pivoted below the section, substantially as set forth.

5. The shelf A, having bar J, pivoted on the under side of said shelf and provided with upwardly-projecting lug K, in combination with the section C, having arm R, substantially as set forth and described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE NORWOOD.

Witnesses:
F. W. SMITH, Jr.,
S. S. WILLIAMSON.