

R. A. SMITH & A SCHMID.

Floors for Refrigerator Buildings, &c.

No. 142,745.

Patented September 9, 1873.

Fig. 1.

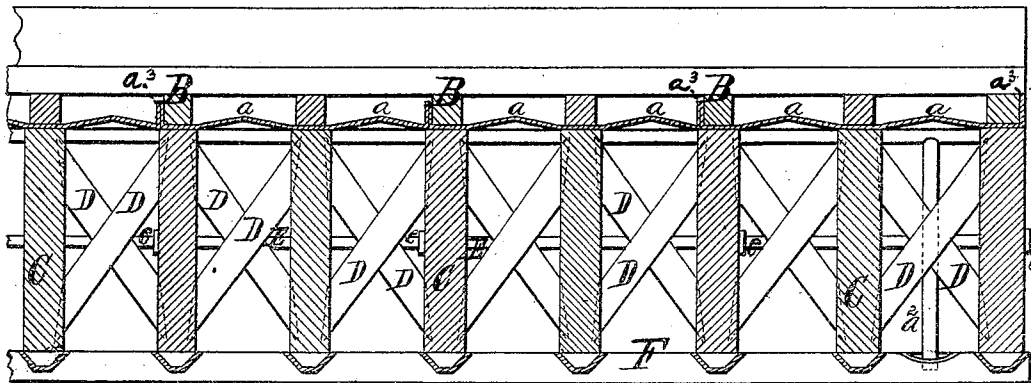
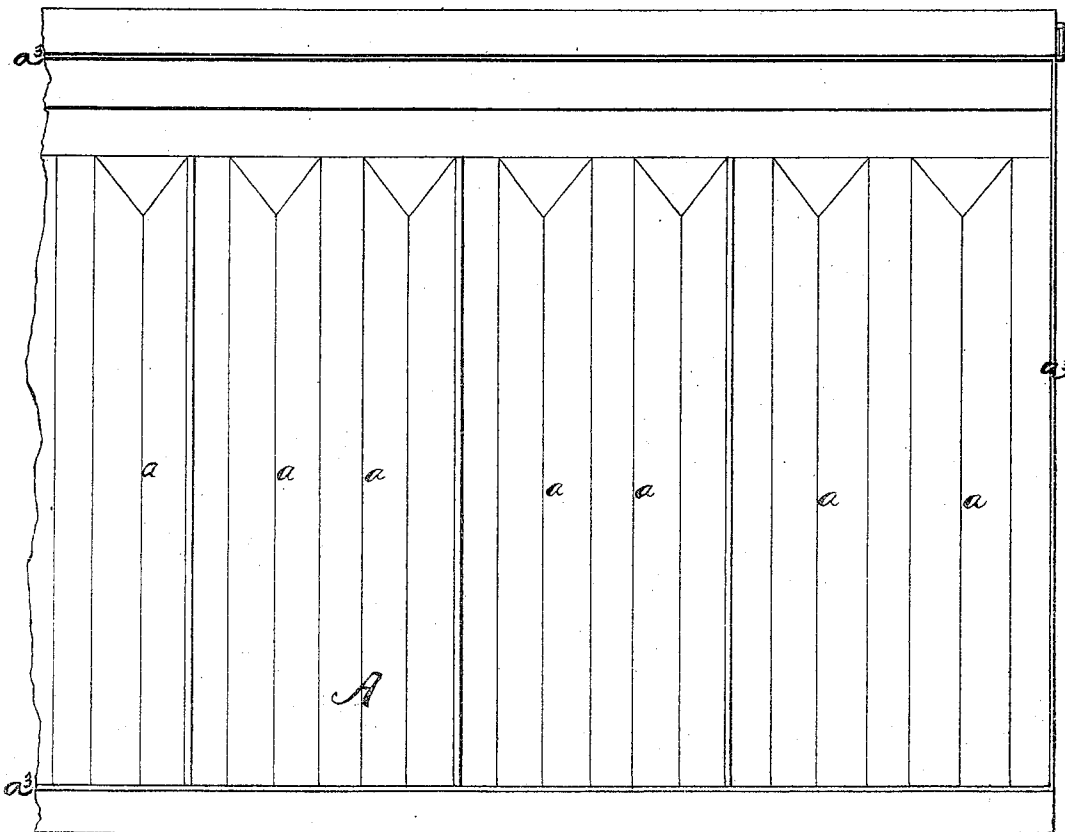


Fig. 2.



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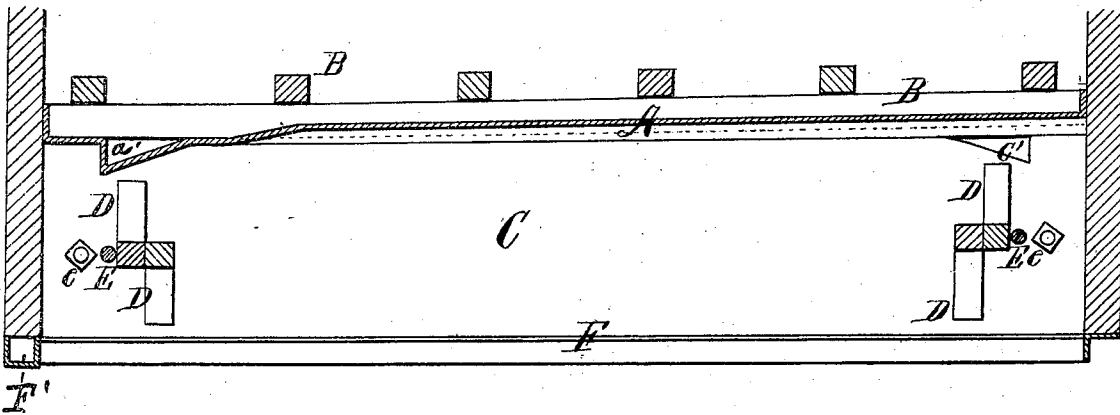
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Fig. 3.



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UNITED STATES PATENT OFFICE.

ROLLIN A. SMITH, OF FOND DU LAC, AND ALBERT SCHMID, OF GREEN BAY, WISCONSIN.

IMPROVEMENT IN FLOORS FOR REFRIGERATOR-BUILDINGS, &c.

Specification forming part of Letters Patent No. **142,745**, dated September 9, 1873; application filed January 25, 1873.

To all whom it may concern:

Be it known that we, R. A. SMITH, of Fond du Lac, in the county of Fond du Lac, and ALBERT SCHMID, of Green Bay, in the county of Brown, and State of Wisconsin, have invented a new and valuable Improvement in Brewery-Floors; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a cross-section of our floor. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal section of the same.

Our invention relates to what is known as an ice-floor, and is intended more particularly for use in breweries, but may be readily applied with advantage to preserving-houses, refrigerator-cars, and other similar chambers where a low temperature and dry atmosphere are required; and it consists in the construction and novel arrangement of the parts constituting an ice-floor, as will be hereinafter described and claimed.

We are aware of the patent of January 14, 1868, to E. D. Brainard, for improvements in the construction of refrigerating-chambers, &c.; but our invention possesses advantages over his, resulting from differences in construction.

To enable those skilled in the art to which our invention appertains to make and use the same, we will proceed to describe its construction and operation.

The floor A is made of galvanized iron, zinc, or other suitable non-corrosive sheet metal, and is composed of sheets with their edges soldered or otherwise securely joined together so as to form a continuous piece of the proper dimensions. The corrugations extend from one end to within a short distance of the opposite end, where they terminate in a groove or gutter running at right angles with the corrugations. When placed in position on the joists, the corrugations lie parallel with and between the joists, with the convex side upward, as shown at *a*, Figs. 1 and 2, and

the groove or gutter crosses the joists transversely, fitting in corresponding recesses in them, as shown at *a'*, Fig. 3. The portions of the floor which rest upon the joists are straight if the edges of the joists are flat; but, if the edges of the joists are rounded or angular, the corresponding portions of the floor are of corresponding form. The corrugations *a* are of angular in preference to curved form, for reasons hereinafter explained. A pipe leads from the groove or gutter *a'* to carry off the water resulting from the melting of the ice. The edges of the floor are turned up at right angles, as shown at *a*³, Figs. 1 and 3, and rest against the walls of the house or chamber. A frame-work, B, rests upon the metallic floor to receive the ice and prevent it from coming in immediate contact with the metal. This frame-work is composed of wooden bars crossing each other at right angles, the lower series running parallel with the joists, and at corresponding distances apart, so as to rest immediately over them, by which means the floor is held steadily in place, and all warping is prevented, while the frame-work itself is firmly supported. The joists C are of any suitable form and dimensions, and have their ends supported in the walls in the ordinary manner. They are strengthened by diagonal braces D D, whose ends fit in depressions made to receive them, and by iron rods E, passing through sets of two, three, or more, and fastened by nuts *e*, as shown. By this means we secure a light, strong, durable, and substantial foundation for the floor A and frame-work B to rest upon. The corrugations *a* are of angular in preference to curved form, in order that the condensed moisture may not drip from any but the lowest portion of the said corrugations; and, by having the concave side downward, the liquid flows from the center or apex of the corrugations toward the joists on each side, and from thence falls into the troughs F, which are placed immediately under the lower edges of the joists, and thus serve to receive not only the moisture condensed on the under side of the floor, but also that which may accumulate on the joists. These troughs F may be stamped from a single sheet of metal, if of suitable dimen-

sions, or they may have their ends connected by transverse strips or bars soldered, riveted, or otherwise attached to them, and which strips or bars provide the means for attaching the series of troughs to the joists by nailing or otherwise. One of these bars is formed into a trough, F', with which the troughs F communicate, and into which the pipe a^2 empties, and thus serves to carry off the condensed vapor from the troughs F, and also the water passing from the floor A through the pipe a^2 .

What we claim as new, and desire to secure by Letters Patent, is—

The combination of the floor A, formed with parallel angular corrugations a , the frame B,

joists C, diagonal braces D, and troughs F, arranged under the joists, and communicating with the transverse trough F', constructed and arranged substantially as shown and described.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ROLLIN AUGUSTUS SMITH.
ALBERT SCHMID.

Witnesses:

D. BABCOCK,
S. GOLDSTUCKER,
ANTON SEIBEL,
HENRY SCHNEIDER.