

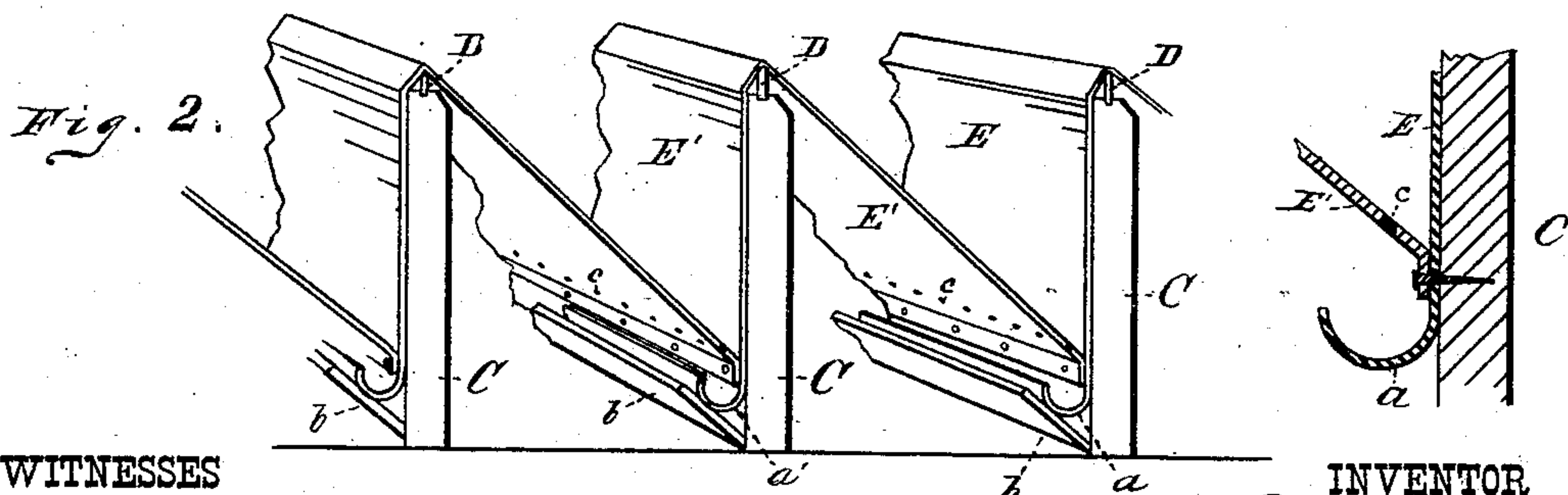
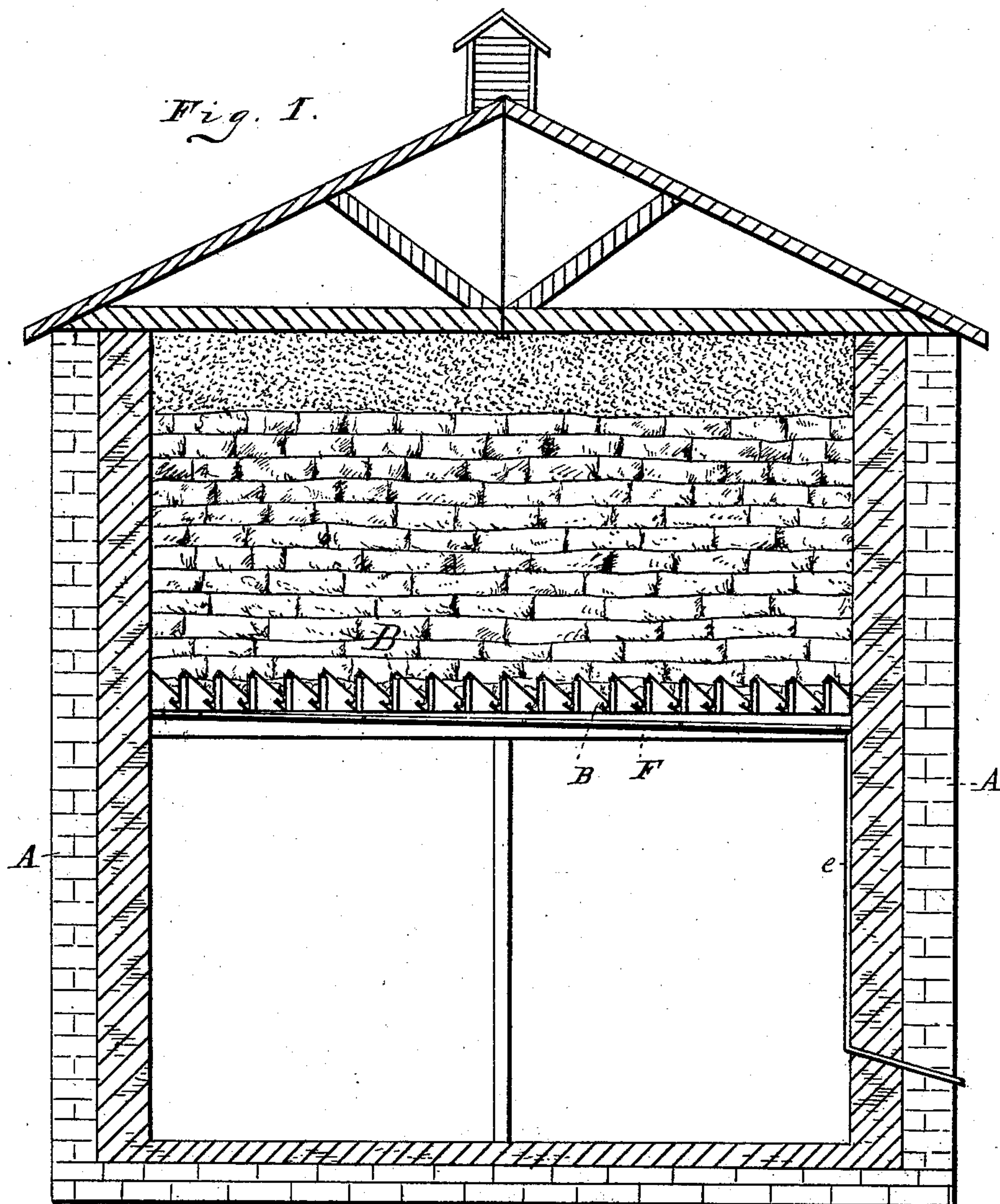
(No Model.)

H. C. CAIN.

ICE FLOOR FOR COLD STORAGE HOUSES.

No. 255,489.

Patented Mar. 28, 1882.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HOMER C. CAIN, OF CLEVELAND, OHIO.

## ICE-FLOOR FOR COLD STORAGE-HOUSES.

SPECIFICATION forming part of Letters Patent No. 255,489, dated March 28, 1882.

Application filed December 22, 1881 (No model.)

*To all whom it may concern:*

Be it known that I, HOMER C. CAIN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Ice-Floors for Cold Storage-Houses; 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 pertains to make and use the same.

My invention relates to ice-floors for cold storage-houses and like buildings; and it consists in the peculiar construction of the same, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is an elevation in section of a fruit-house. Fig. 2 is an enlarged view, showing more clearly the construction of the floor.

A represents the walls of a building. B is the ice-floor, which is constructed as follows: The joists C, upon which the ice-floor rests, have one edge of the top side beveled, and a bar of metal, D, preferably about one and one-half inch wide by about three-eighths inch thick, is then secured edgewise on top of the said joists C, running the full length of the same. Now, beginning at the first joist, a strip of metal, E, the width of the joist, with a trough, *a*, turned upon its lower edge, is nailed or secured in any other suitable manner to the joist, so that the trough *a* will run along the lower edge of the same. Another sheet of metal, E', is now secured to the same joist just above the trough. It is then carried diagonally up and over the top of the next joist, where it rests on the metal bar D. From thence it is bent straight down to the lower edge of the joist, where a trough, *a'*, is formed by turning up the edge of the sheet. Another sheet is then secured directly above this trough *a'* and carried diagonally up and over the next joist, and so on until the floor is complete. A strip of board, *b*, the width of the troughs *a* and *a'*, is secured underneath said troughs in any suitable manner, which prevents moisture from collecting on them. Directly above the troughs *a* and *a'* the sheets E and E' are provided with perforations *c*, where-

by the water formed by the melting of the ice is allowed to escape into the troughs *a* and *a'* and be carried away.

The operation of my device is as follows: The warm air from the storage-room, coming in contact with the ice-floor, causes the ice to melt and settle down and take the exact shape of the floor, which thus gives an ice-cold metallic surface, extending from the bottom of one joist diagonally across to the top of the opposite, and exposing a much greater cold surface than if the sheets extended horizontally across. The water formed by the melting ice passes through the perforations in the lower edges of the sheets into the troughs *a* and *a'* below, and is there mingled with the moisture which has condensed on the under side of the floor and collected in the said troughs and carried off by the waste-trough F and pipe *e*. The great amount of cold surface exposed gives a very low temperature to the air in the storage-room, and the manner of constructing the troughs so as to catch the condensed moisture and also the water from the melting ice gives a pure dry atmosphere below.

The object of providing the upper side of the joists with the bars D is to obviate taking up too much space, as would be the case were the metal sheets to rest directly on the top of the joist, and also to expose more cold surface.

What I claim is—

1. An ice-floor for cold storage-houses, consisting of plates of metal secured at one edge at or near the lower edge of one joist, and extending diagonally across to the top of the next joist, to which its opposite edge is secured, substantially as set forth.

2. An ice-floor for cold storage-houses, consisting of plates of metal secured at one edge at or near the lower edge of one joist, and then extending diagonally up and over the top of the next one, and then downwardly, and secured at or near the lower edge of the latter, substantially as set forth.

3. An ice-floor for cold storage-houses, consisting of plates of metal secured at or near the lower edge of one joist, and then extending di-

agonally up and over the next one, and down  
again till at or near the lower edge of this joist,  
where they are turned up to form a trough,  
substantially as and for the purpose shown and  
5 described.

4. In an ice-floor for cold storage-houses, the  
combination of the joist provided with metal  
bars on the upper edge, and the metal plate,  
substantially as and for the purpose shown and  
10 described.

In testimony whereof I have signed my name  
to this specification in the presence of two sub-  
scribing witnesses.

HOMER C. CAIN.

Witnesses:

ERNEST O. ORSBURN,  
ALBERT E. LYNCH.