A. BRANDT.

Cooling-Floor for Breweries.

No. 160,077. Patented Feb. 23, 1875.

Fig: 1

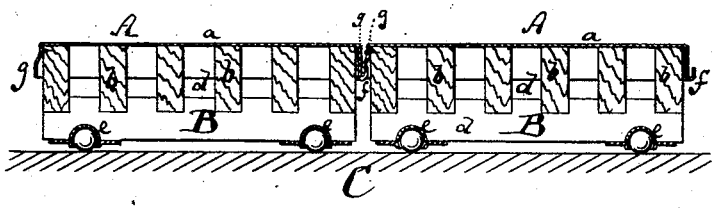
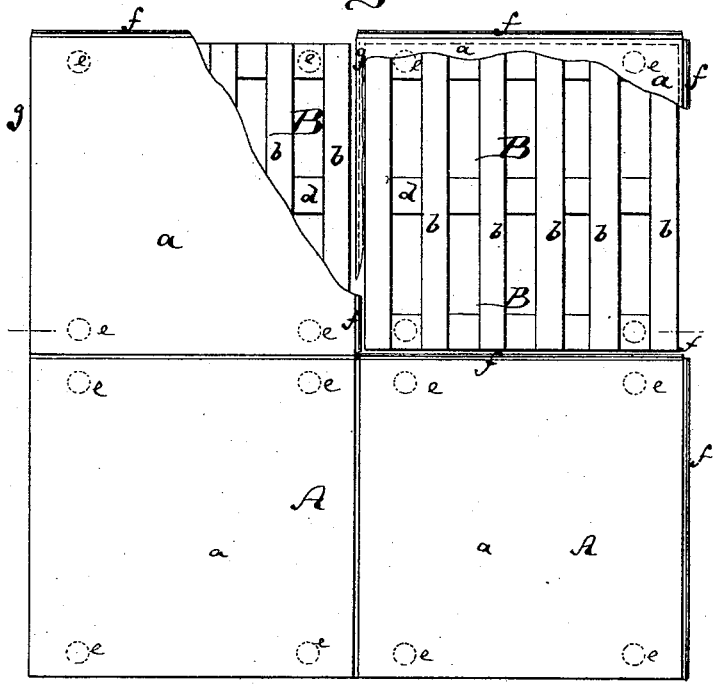


Fig: 2



Witnesses:

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UNITED STATES PATENT OFFICE.

ADAM BRANDT, OF NEW YORK, N. Y.

IMPROVEMENT IN COOLING-FLOORS FOR BREWERIES.

Specification forming part of Letters Patent No. **160,077**, dated February 23, 1875; application filed December 24, 1874.

To all whom it may concern:

Be it known that I, ADAM BRANDT, of New York, in the county of New York and State of New York, have invented a new and Improved Cooling-Floor for Breweries, &c., of which the following is a specification:

Figure 1 is a vertical cross-section of my improved cooling-floor for breweries, &c. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to produce a metallic cooling-floor for breweries, &c., that will not be apt to be torn off its supports under the influences of heat and cold, to which it is alternately exposed.

The invention consists, first, in securing sections of metallic flooring to a movable section of wooden flooring, so that the wooden support will be at liberty to follow in the motions of the metal floor during the expansion and contraction of the latter. The invention also consists in the new manner of joining the sections of the metal floor, as hereinafter more fully described.

In the accompanying drawing, the letter A represents the metal floor or cooling-surface. The same is made in sections of sheet metal, marked *a a*, each section being about two feet square, more or less, all the sections being joined together at their contiguous edges, in the manner hereinafter more fully described. Beneath each section *a* is a corresponding section, B, of the supporting-floor, so that each wooden section B will support just one metal section *a*, which covers it entirely, as indicated. Each wooden section B is composed of beams *b*, that are connected together by cross-ties or braces *d* in such a way that the entire wooden floor, composed of the several sections B B, will not obstruct the passage of air beneath the metal floor A in any direction, but will, on the contrary, form convenient channels for allowing the air to freely circulate beneath the metal floor. The several wooden sections B B rest or stand on a suitable stationary floor, C, on which they are movable, and to facilitate their motion I may provide each section B with rollers *e e*, as indicated, so that less friction will be produced by the motion of the sections B on the support C. Every metal section *a* has downwardly-extending flanges *g g*, which lap around the four sides of its supporting-section B, two of these flanges being at their extremities turned up, as shown at *f*, to form troughs.

The floor is constructed as follows: Every section B is first covered with its sheet-metal top *a*, the same being fastened by nails driven through the flanges *g* into the wood, as indicated in Fig. 1, or in other equivalent manner, so that the metal top *a* will be intimately connected with its sectional support B, although the top surface of *a* will not be pierced by any nails or other fastening device. When two wooden sections B have thus been covered with sheet metal they are joined by dropping the flange *g* of one into the trough *f* of the other, as shown in the middle of Fig. 1. The space between the two sheet-metal plates *a a* is then filled with solder, which is finished up even with the surface of the flooring, the trough *f* preventing the solder from escaping downwardly. In this manner all the several sections are finally joined one to another by dropping the flange *g* of one into the trough *f* of the other, and pouring solder into the space between the two flanges.

A floor thus constructed will, as it appears, be strictly sectional, each section having its sheet metal fastened at the edges, and free to bulge up in the middle. Thus, the inherent elasticity of the sheet metal can be utilized for allowing each section to expand without interfering with any of the other sections; but, if during expansion or contraction, all the sections on one side or end of the floor should be more affected by heat or cold than the remaining sections of the floor, then the corresponding increase of motion at one part will be very conveniently permitted by the movability of the supporting-sections B B on the stationary support C.

As heretofore made metallic cooling floors were invariably supported on immovable beams, and were mostly made of sheet-metal plates that overlapped each other at the joints. Such floors when the boiling liquid was poured upon them would, in expanding, exert such power at their fastenings as to be usually torn off the wooden floor at one place or another. Moreover, the whole floor would bulge up in

the middle, or whenever it was farthest from the fastening, and not present that evenness of surface which it is desired to have in a cooling-floor. Again, the overlapping edges always allow the liquid to enter between the plates to a greater or less degree, and there to make the floor unclean, and invite injury to the successive charges that are poured over the floor by fermentation or otherwise. Some floors have heretofore also been made with sectional cast-iron plates; but these were fastened to immovable frames, and, being of cast-iron, were too thick to change from heat to cold with sufficient rapidity, and too rigid to expand and contract without injury in the manner in which my sectional sheet-metal covers *a* will expand and contract.

I claim as my invention—

1. The cooling-floor, composed of sheet-metal sections *a a* that are respectively fastened to, and combined with, movable sections B B of flooring, substantially in the manner herein shown and described.

2. The sheet-metal sectional plate *a* of the cooling-floor, made with pendent flanges *g g*, of which two are formed into troughs *f*, substantially as herein shown and described.

3. The flooring B, constructed in movable sections to constitute a sectional support for a metallic cooling-floor, with which it is combined, substantially as specified.

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Witnesses:
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