F. BAUMANN.
Malt-Kiln Floor.

No. 212,645. Patented Feb. 25, 1879.

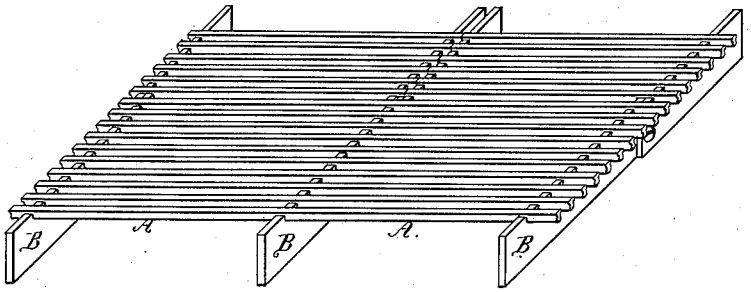

Fig: 1.

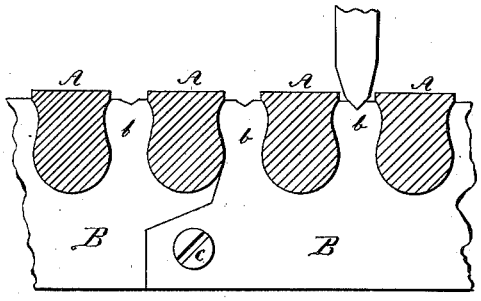

Fig: 2.

Witnesses
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FREDERICK BAUMANN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN MALT-KILN FLOORS.

Specification forming part of Letters Patent No. **212,645**, dated February 25, 1879; application filed July 16, 1878.

To all whom it may concern:

Be it known that I, FREDERICK BAUMANN, of the city of Chicago, county of Cook, State of Illinois, have invented new and useful Improvements in Malt-Kiln Floors, of which the following is a full and accurate description, reference being had to the accompanying drawings, which form part and parcel of this specification.

The nature of my invention relates to that class of malt-kiln floors which are composed or constructed of equidistant parallel floor-bars, secured to and supported by notched cross-bars.

The peculiarity of my construction is, that my floor-bars are made with concave or grooved sides, into which the metal of the bridges left between the notches of the cross-bars is crowded by means of upsetting.

Besides, I propose to make a very strong, substantial, and durable malt-kiln floor, which, at the same time, and nevertheless, contains air-spaces between the floor-bars to the amount of from thirty-three to forty-two per cent. of the whole surface—a result which has, in the combination of both points, never before been accomplished.

I have also a peculiar method of uniting the several sections of which the malt-kiln floor is composed, and which are previously made in some workshop, with the intention of forming a whole and unbroken floor after uniting.

My cross-bars project beyond the edges of the section of which they form a part. These projections of one section meet those of another section, and a rivet, bolt, or screw is passed through a hole prepared in the projections.

In the drawings, Figure 1 is a perspective view of a portion of my malt-kiln floor; Fig. 2, an enlarged sectional view of the same.

A A are the floor-bars, which I propose to make one-tenth to one-ninth of an inch wide at the upper edge; one-thirteenth to one-twelfth of an inch wide through the rounded lower part; one ninth to one-eighth of an inch deep from top to bottom; one-fifteenth to one-fourteenth of an inch wide across the concaved points.

The concave or grooved floor-bars are produced by the known process of drawing through dies. I would so space these floor-bars as to leave air-spaces between them which do not exceed one-sixteenth of an inch in width.

B B are the cross-bars, with their equidistant notches, which are punched or otherwise cut into the upper edges of the cross-bars. These notches are of less depth than are the floor-bars A, and so shaped as to allow the floor-bars A to be inserted from the top. The floor-bars A, being thus inserted into the notches of the cross-bars B, are then secured to and with the said cross-bars B by upsetting the bridges left between the said notches, by which means the metal of these bridges is crowded into the side grooves of the floor-bars A, so as to firmly clasp and hold them.

These cross-bars B, I propose to make, say, one-sixteenth of an inch in thickness, one and one-eighth inch in depth, and two feet in length, and place them from two to two and one-half inches apart from each other. Their ends are so trimmed as to leave standing a full bridge beyond the extreme notch, and then project in its lower portion about one-fourth of an inch beyond this point, having in this projection a hole for uniting the several sections composing the floor. These sections I propose to make about twelve feet wide and from four to six feet long, making the floor-bars A project at both ends beyond the extreme cross-bars of the section to the extent of one-half of their thickness, (or somewhat less.)

It is not difficult to understand how the several tiles thus prepared are to be united into one whole floor by means of the rivets, bolts, or screws C, put through the holes prepared in the projecting ends of the cross-bars B.

I further propose to unite the several sections composing the malt-kiln floor so as to break their joints. I accomplish this by uniting the central cross-bar of one tile with the extreme cross-bars of four other adjoining tiles, (two at each side.)

The support of this malt-kiln floor is assumed to be a rigid iron construction of I-

beams, which are made to form part of the building.

What I claim as my invention is—

A malt-kiln floor composed of floor-bars A, having concave or grooved sides, and secured to the notched cross-bars B by upsetting the metal of the cross-bars into the side grooves of the floor-bars, substantially as and for the purpose set forth.

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