

No. 632,909.

Patented Sept. 12, 1899.

F. L. O. WADSWORTH.

TILE STRUCTURE.

(Application filed Apr. 15, 1898.)

(No Model.)

Fig. 2.

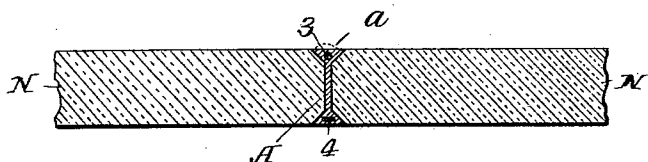


Fig. 3.

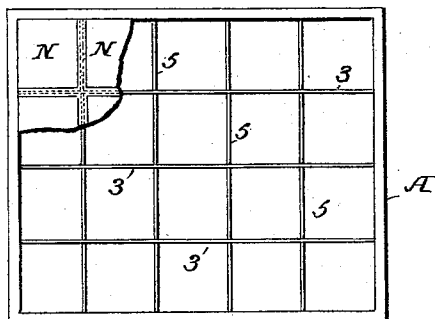


Fig. 1.

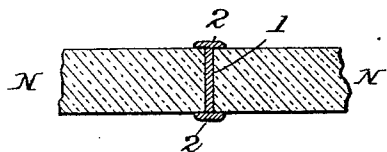
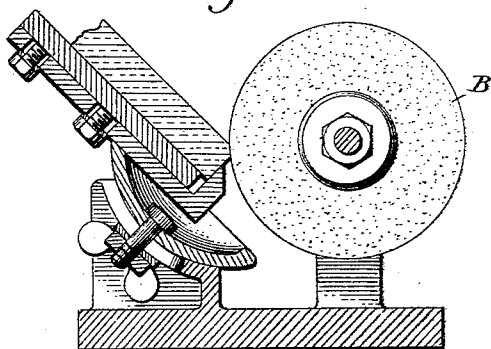


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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TILE STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 632,909, dated September 12, 1899.

Application filed April 15, 1898. Serial No. 677,738. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. O. WADSWORTH, a citizen of the United States, residing at Williams Bay, in the county of Walworth and State of Wisconsin, have invented certain new and useful Improvements in Tile Structures, of which the following is a specification.

My invention relates to that class of structures or panels composed of a series of tiles or plates assembled in the same plane; and it consists in constructing the tiles and the supporting-frame as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view illustrating an old form of tile structure. Fig. 2 is a similar view illustrating my improvements. Fig. 3 is a plan view showing the arrangement of the strengthening-strips, and Fig. 4 is a sectional view illustrating the means for beveling the edges of the tiles.

In prior constructions a supporting-frame for separated tiles N N has been formed by pouring molten metal into the spaces between the tiles and thereafter electrodepositing at each edge of the cast metal, section 1, Fig. 1, a cap-strip or flange 2. It will be evident that there is in this case but a limited area of union between the parts 1 and 2 and that but little pressure is requisite to displace the parts 2. Further, the cast metal on cooling always shrinks away from the tile portions and leaves them more or less loose. To avoid these difficulties and secure the tiles more effectually and generally to strengthen the structure, I bevel both the upper and lower edges of the tiles, for instance, by a grindstone or emery-wheel B, Fig. 4, so that when two tiles are arranged side by side, but with the sides slightly separated, the intervening space will be wider at the upper and lower portions, as in Fig. 2. If metal is then poured into this space, the tiles will be effectually wedged in place by the vertical contraction of the metal on cooling, which draws the wedged-shaped heads toward each other, while the strips A thus formed are flanged at top and bottom and will be much more rigid than in the construction shown in Fig. 1. This construction will have

the further advantage over the older one of allowing the rough projecting edges *a* of the strips A to be ground or rolled down to a level with the surfaces of the tiles without decreasing the strength of the joint. To secure greater strength and also, as described hereinafter, to facilitate the production of the frame by electrodeposit, I may make use of round or flat strips 3 4, arranged between the beveled edges in the wider parts of the spaces between the tiles, so as to be embedded in the metal of the completed strips forming part of the frame.

In building up the panel the series of tiles N N are suitably arranged within a frame A, Fig. 3, the strips 3 3 are stretched across the frame in one direction, and the cross-strips 5 5 are placed in position, and, if necessary, soldered or otherwise secured at the points when they rest on the strips 3. The molten metal is then poured into the spaces between the tiles and between the latter and the frame or metal is electrodeposited to fill said spaces, and in such case the strips 3 5 serve as conductors on which the deposit first takes place. To secure still firmer union between the tiles and the metal strips, the edges of the tiles may be coated with plumbago or metalized in any suitable manner.

In some cases where the metal is soft and malleable it may be so deposited as to form ribs projecting above the plane of the upper faces of the tiles, as shown in dotted lines, Fig. 1, and these protuberant parts may be subjected to pressure to condense the metal and force it into intimate contact with the edges of the tiles. After this the face of the structure may be ground down to a level at all points.

Without limiting myself to the precise construction and proportions shown, I claim—

1. A tile structure having tiles or plates with separated sides and upper and lower beveled edges, and intervening metal forming a continuous frame filling the spaces between both the sides and the beveled edges, substantially as set forth.

2. A tile structure having separated tiles or plates with upper and lower beveled edges and an intervening metallic frame filling the

spaces between the tiles and metallic strips extending between the tiles and embedded in said frame, substantially as set forth.

3. A tile structure consisting of separated
5 tiles or plates having beveled edges, and a continuous frame of metal conforming to the spaces between the tiles, substantially as set forth.

4. A tile structure consisting of separated
10 tiles or plates having upper and lower beveled edges, and a continuous frame of metal conforming to the spaces between the tiles and strips 3, 4, embedded in the frame between the beveled edges, substantially as set forth.

5. The within-described improvement in 15 the manufacture of tile structures, the same consisting in depositing metal between a series of separated tiles and above the faces of the latter, and then subjecting the protuberant portions on both sides to pressure, substantially as and for the purpose described. 20

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

FRANK L. O. WADSWORTH.

Witnesses:

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