Sept. 9, 1941. N. E. PHILLIPS 2,255,712

TILE

Filed July 18, 1940

Fig. 1.

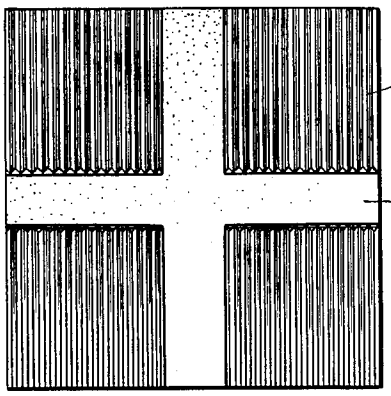


Fig. 3.

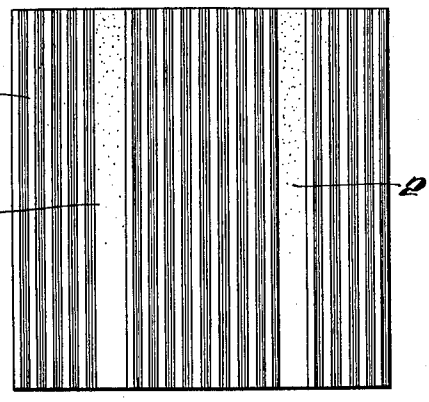


Fig. 2.



Fig. 4.

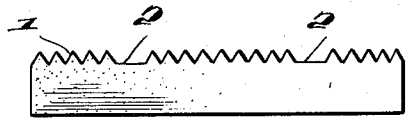


Fig. 5.

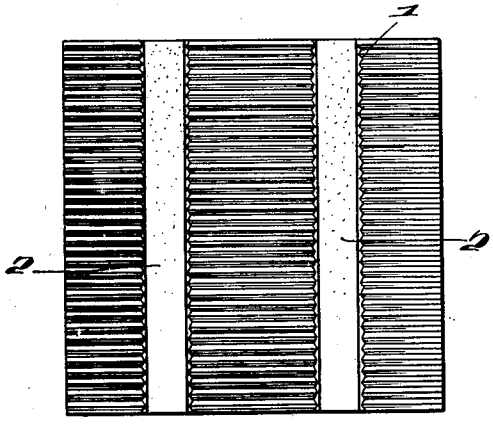


Fig. 7.

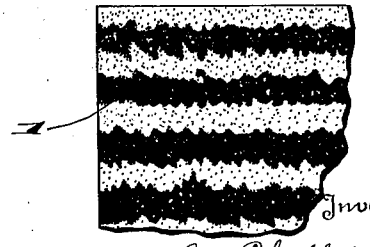
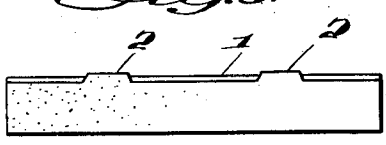


Fig. 6.



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Patented Sept. 9, 1941

2,255,712

UNITED STATES PATENT OFFICE

2,255,712

TILE

Norris E. Phillips, Olean, N. Y., assignor to Olean Tile Company, Olean, N. Y., a corporation of New York

Application July 18, 1940, Serial No. 346,215

1 Claim. (Cl. 72—18)

My invention relates to an improvement in tiles, and more particularly to the formation on the back of the tile.

The purpose of this invention is to make a tile which even though burned to complete vitrification will still have sufficient bonding surfaces and properties to make it hold to the cement bed under all conditions.

The invention consists in a tile, the back surface of which is roughened practically throughout, thereby giving it an increased bonding power and a greater surface area that is presented for the cement to "grow" to.

In the accompanying drawing:

Fig. 1 is a back view of one form of tile;

Fig. 2 is an end view of the same;

Fig. 3 is a back view of a tile of slightly different form;

Fig. 4 is an end view of the same;

Fig. 5 is an illustration of a third form;

Fig. 6 is an end view of the same; and

Fig. 7 is a greatly magnified view to show the roughness of the back surface of the tile.

As shown in the several figures, the major portion of the back may be corrugated or serrated throughout the major portion of its surface, and these corrugations or serrations 1 may be of different sizes and depths, as shown in Figs. 1 to 5.

These corrugations or serrations 1, when used, have a roughened tool-marked finish, as shown in Fig. 7, and while they are shown parallel with one another, they might run in any direction or in several directions, although it is more convenient to make them parallel and all running in one direction. This is due to the preferred method of manufacturing. In general, the rough back is secured by surfacing the punch at the back of the die with a tool marked finish as rough as possible. These tool marks may be fine, medium or coarse.

It is also possible that in addition to the tool marks, two or more smooth bars 2 may be formed across the back of the tile and these might run in various directions, and they might be raised or depressed as indicated in the different forms illustrated.

The essential feature of the invention resides in the rough tool marking better illustrated in Fig. 7, as such marking results in a great increase in the bonding power of the tile.

This roughening of the back of the tile is accomplished by using a special tool for roughening the metal punch which in production presses against the back surface of the tile, imparting to it a roughness which in contour is the exact opposite of the contour of the punch surface. In practice this roughness may take the form of slight ridges or corrugations which may be of various widths and depths, although these corrugations or ridges are not necessarily essential for the efficiency of the grip back, since they are merely incidental to it and of course help to increase the gripping function because of the greater roughened surface area they offer.

Hence it is not the corrugations or serrations as such, but the roughening which presents many uneven markings including tiny pits and ridges and irregularities into which the cement can "grow" when the tile is placed in the bed, and a greatly multiplied roughened area when the surface is corrugated or serrated.

While the smooth surfaces or bars 2 which intersect and form a cross in Fig. 1, and are indicated as parallel in Figs. 3 and 5, are not essential, they are, nevertheless, in many instances desirable. One of the main purposes of these bars 2 across the back is to make the back surface of the tile quickly recognizable in various lighting conditions to the employees who assemble the tiles in mounting them on sheets, as well as to the mechanic who frequently has occasion to stick in a few loose tiles in a floor or wall installation.

There are other manufacturing advantages in the use of these bars, although it is needless to mention them.

I claim:

A tile, the major portion of one surface at least of which is made up of corrugations or serrations, the surfaces of which are roughened throughout to present an extended area of uneven markings including tiny pits and ridges into which the cement can "grow" when the tile is placed in position.

NORRIS E. PHILLIPS.