To all whom it may concern:

Be it known that I, ARTHUR W. BROWN, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improved Method of and Means for Burning Tiles, of which the following is a specification.

My invention relates to an improved method of burning tiles for roofing or like purposes and has for its principal object the provision of an improved method of this character which will be highly efficient in use and economical in manufacture.

To fully appreciate the value of my improved method I call attention to the method now well known in the art of making tiles of the character having a belly or arched portion which consists of erecting and mounting the tiles in a knock-down support comprising a number of plate supports (a), Fig. 5, in an upright position, on the edges thereof in close proximity with respect to each other and providing a strap (b), Fig. 5, for holding the tile in such position and to form an air space or spaces for the passage of the agent employed for baking the tiles. Due to the puddy-like condition of the tiles, they cannot, when arranged in this position, sustain any undue pressure and in my experience I have found that when the tiles are turned out as finished products often the tiles are found to be warped and unfit for their respective purposes. This is sometimes caused by undue pressure and sometimes is traced to the weakness of the tiles themselves. As it is essential that the surfaces of the tiles be absolutely true it can be readily understood that the loss involved is at times whole rows of tiles as the warping of one single tile will cause the adjacent tiles to warp.

I, therefore, propose to alleviate these difficulties by the method to be hereinafter more fully set forth.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a fragmentary view of a kiln showing my improved method of burning tiles,

Fig. 2 is a perspective view of the belly or arched support, embodied in the invention,

Fig. 3 is a cross-sectional detail view of a bundle of tiles such as are illustrated in Fig. 1,

Fig. 4 is a top plan view taken substantially on line 4—4 of Fig. 3, and

Fig. 5 is a fragmentary view of a kiln showing the old method of burning tiles.

Referring to Figs. 1 to 4 inclusive, 10 indicates rectangular shaped plates arranged in the manner illustrated in Fig. 1 forming a plurality of pigeon holes 11 and which constitutes the supports for the tiles during the baking process thereof. The plates 10 are erected in the position shown in Fig. 1 in a kiln of any approved type or construction.

My improved method is especially related to an improved method of burning tiles having a belly or arched portion and as shown in Figs. 1 and 4, I arrange the tiles in a horizontal plane, in bundle-like portions having their arched portions 13 coinciding. In arranging the tiles in loose bundle-like portions, preferably consisting of four or five tiles, I separate each bundle-like portion by narrow straps 14, the purposes of which are to form air spaces 15 for the passage of the agent employed for baking the tiles.

In the embodiment of my invention I provide a support for the arched portions of the tiles which comprises a semi-elliptical tile 16 having a longitudinal passage 17 for the passage of the baking agent, said tile being adapted to be arranged in the position shown in Fig. 1.

Calling attention to Fig. 5 which is primarily illustrated to show the advantage of my invention, it will be seen that the tiles 18 are mounted on their edges, and in such position are not capable of sustaining any undue pressure. Comparing the illustration of Fig. 1 and that of Fig. 5 it will be readily seen that no undue pressure is applied to the tiles when arranged in the position illustrated in Fig. 1 as there would be when the tiles are arranged vertically on their edges.

The downward pressure of the tiles upon one another is sustained by the tile mem-
ber 16 and springing or warping of the tiles is impossible when the tiles are arranged as illustrated in Fig. 1, whereas in the illustration in Fig. 5 there is a tendency of the tiles to spring laterally, causing a warp in the finished product.

From experience I have found by the employment of the tile member 16 and by arranging the tiles 12 in the position illustrated in Fig. 1 a more satisfactory job can be accomplished and the tiles being arranged in loose bundles are turned out with true surfaces which is very essential when the tiles are arranged mechanically together as roofing tiles or the like.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention, I, therefore, do not wish to be limited to the precise details of the construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A method of burning tiles having arch portions, consisting of arranging the tiles in loose bundle-like portions in a kiln and supporting the arch portions thereof during baking of the tiles.

2. A method of burning tiles having arch portions, consisting of arranging the tiles in horizontal, loose, bundle-like portions and supporting the arch portions thereof during baking of the tiles.

3. A method of burning tiles having arch portions, consisting of arranging the tiles in a horizontal plane, dividing the tiles into loose, bundle-like lots and supporting the arch portions thereof during baking of the tiles.

4. A method of burning tiles having undulating surfaces, consisting of arranging the tiles in a kiln, providing narrow straps for dividing the tiles into bundle-like portions, and arranging a tile member under the weak undulating surface of the lowermost tile to resist downward pressure applied thereto.

5. A method of burning tiles having arched portions, consisting of arranging the tiles in horizontal plane one above the other, separating the tiles in bundle-like portions and arranging a semi-elliptical member under the arch portion of the lowermost tile to resist downward pressure thereof.

6. A method of burning tiles having curved surfaces, consisting of arranging the tiles in horizontal plane one above the other, dividing the tiles into bundle-like portions with narrow straps forming air spaces between said bundle-like portions, and arranging a semi-elliptical hollow member under the curved portion of the lowermost tile.

7. Means for preventing warping of tiles, having arch portions, during the baking thereof comprising a hollow, semi-elliptical shaped member adapted to be arranged under the arch portion of one of said tiles.

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

Witnesses:

ARTHUR W. BROWN.

J. M. WILLIAMS,
B. A. CAMPBELL.