

H. R. STRAIGHT.
 SELF SUPPORTING TILE ROOF.
 APPLICATION FILED DEC. 5, 1912.

Patented Nov. 7, 1916.

1,203,933.

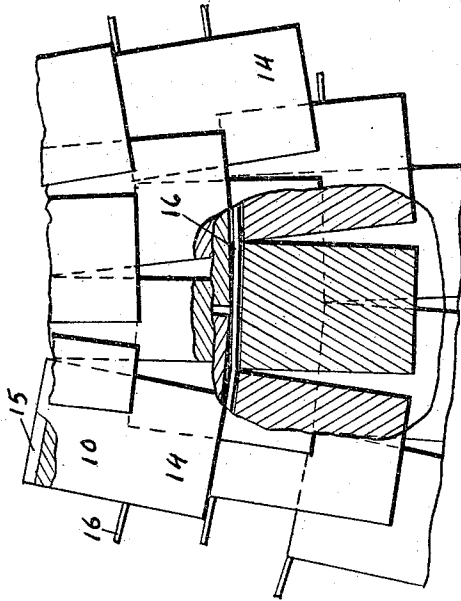


Fig. 2.

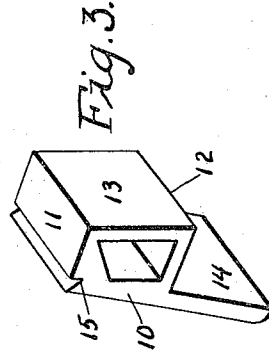


Fig. 3.

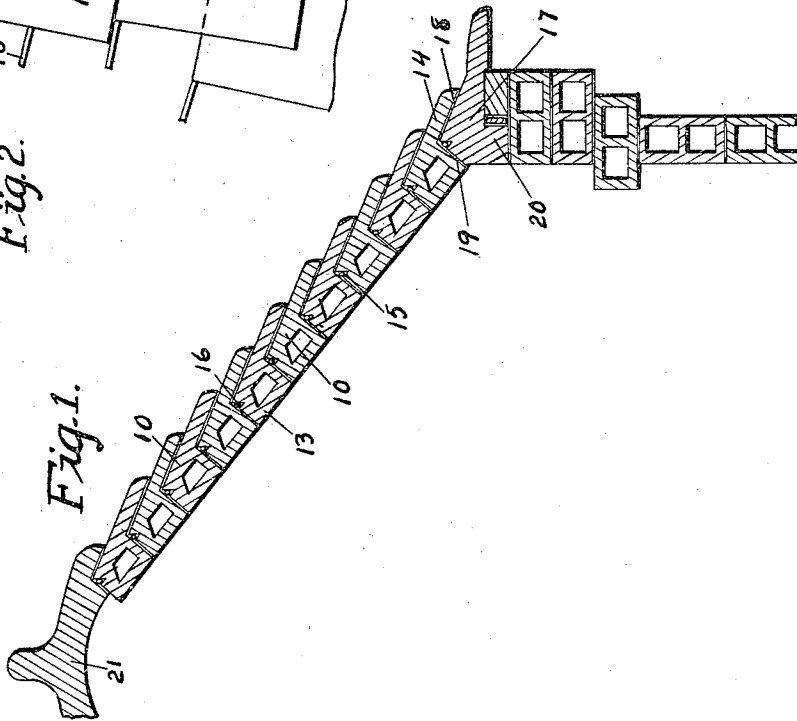


Fig. 1.

WITNESSES:

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HALVER R. STRAIGHT, OF ADEL, IOWA.

SELF-SUPPORTING-TILE ROOF.

1,203,933.

Specification of Letters Patent.

Patented Nov. 7, 1916.

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To all whom it may concern:

Be it known that I, HALVER R. STRAIGHT, a citizen of the United States, residing at Adel, in the county of Dallas and State of Iowa, have invented a certain new and useful Self-Supporting-Tile Roof, of which the following is a specification.

The object of my invention is to provide a self supporting tile roof of simple, durable and inexpensive construction that may be formed of vitrified tile blocks or other similar material of such shape that they may be made by means of an ordinary tile making machine provided with a suitable die and so shaped and constructed that they may be placed in layers or rows around the top of a circular building such, for instance, as a corn crib, silo, or the like, and also so that each block, when placed in position, will be self supporting, thus doing away with the necessity of providing rafters or temporary supporting scaffolds or the like.

A further object is to provide a tile of this kind provided with a notch or recess at its upper edge to receive a circular binding wire or rod to be laid in the mortar or cement and to firmly and securely hold the completed roof against collapsing on account of unequal weight applied thereto on a portion thereof, and also to hold the various blocks in a circular row in line with each other.

A further object is to provide a tile of this kind in which necessary material is employed in an economical manner and all of the material is utilized advantageously and without waste.

My invention consists in the construction and formation of the blocks proper and in their arrangement and combination in a circular roof structure together with the necessary binding rods, mortar and other parts, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Figure 1 shows a vertical, sectional view through a portion of a roof formed of my improved blocks and constructed to embody my invention. Fig. 2 shows a top or plan view of a portion of a roof embodying my invention, parts thereof being broken away to show structural details, and Fig. 3 shows a perspective view of one of my improved building blocks.

Referring to the accompanying drawings,

it will be noted that each building block is formed of a body portion indicated generally by the reference numeral 10 and comprising what is hereinafter described as the upper edge portion 11, the lower edge portion 12 and the bottom portion 13. Each block also comprises what I have termed a shingle portion indicated by the reference numeral 14 which also forms the top portion of the body 10 and might be described as an extension thereof.

I preferably construct these improved roof tiles of vitrified clay and they are so designed that they may be made by the use of an ordinary tile machine provided with a suitable die and as the material of which the tiles are formed passes from the machine they are cut into relatively short lengths by means of an ordinary tile cutting machine, and then burned in the ordinary manner, thus doing away with the necessity of hand work and making a comparatively inexpensive finished product.

It will be noted that the body portion 10 is substantially of the same shape as an ordinary piece of rectangular hollow tile without partitions and that the shingle portion consists, generally speaking, of an extension on the top portion of the body.

The advantages of this structure, for the purpose of constructing a self supporting circular roof are numerous. The chief advantages are first that by forming the shingle portion of solid material and the body portion of hollow material the blocks may be arranged in layers on a roof inclined at an angle of about forty-five degrees and each block, when placed, will be supported on the adjacent block or blocks in the layer below even without the adhesion of the cement or mortar because a preponderance of the weight of each block, when so laid, will be on the end containing the shingle portion, it being understood in this connection that if a vertical line were drawn through the block when laid in position on a roof, as shown in Fig. 1, from the lower corner of the body portion, the material on the shingle end of the block would be of greater weight than the material on the opposite end. Another advantage is that in the construction of a roof, the hollow tile body portions are laid close together, thus providing a comparatively large surface to receive cement or mortar and also providing a roof which, when completed, will have a dead air space be-

tween the upper and lower portions thereof. Another advantage is that by having the shingle portion shaped and arranged in the manner illustrated the shingle portion protects the cement or mortar joints against the action of the water and also provides a roof of neat and attractive appearance to last indefinitely and which will not be affected by the elements.

In the face of the upper edge portion 11, I have formed a notch 15 designed to receive circular binding wires or rods 16. In the construction of a roof and after one circular layer of blocks has been completed, the operator places cement or mortar on the upper edges of all of the blocks in the layer, thus filling the notches 15. The binding wires or rods are placed in these notches either before or after the cement or mortar is placed in position and then the next layer of blocks is laid in position. In this way the binding wires or rods are securely held in the notches and embedded in the cement or mortar. The blocks of a particular row are all held in line with each other and inasmuch as the blocks in the sides of a row are in engagement with each other and hence cannot move laterally the roof is prevented from collapsing even if a great weight were placed upon one side of the roof only because said binding wires or rods will prevent the opposite side from bulging outwardly which of course will prevent the side to which an excessive weight is applied from moving inwardly and thus collapsing.

Another advantage of having the body portions formed of hollow tile and hence provided with relatively large contacting surfaces, and also on account of the shingle portion, an operator may very readily and easily lay the blocks in position, and when thus laid a roof will be formed of the proper pitch and in a uniform and symmetrical manner.

I also preferably provide as part of the roof structure, a number of wall cap blocks 17 having their top surfaces shaped at 18 to receive a shingle portion and at 19 to receive a body portion of my improved self-supporting tile roof blocks. The body portions 20 of these wall cap blocks are shaped to fit upon and be supported in a substantially horizontal position by a circular wall and when thus placed, the operator, without any special attention on his part and by simply laying the roof block members in position, will give to the completed roof the proper pitch. I also preferably provide a roof cap member 21 which of course must be specifically molded or prepared and which is designed to rest upon and cover the top of the roof.

The length of said shingle member; that is to say, the part thereof that extends beyond the body portion, is somewhat greater

than the length of the body portion itself from its upper to its lower edge so that water striking upon the roof and upon said shingle portions will be carried past the cement or mortar joint of the next lower row of body portions, thus protecting the cement or mortar joints and concealing them from view and of forming a roof of neat and attractive appearance.

In the foregoing specification, I have described my improved roof structure as being made of vitrified clay. It is obvious however that other suitable materials may be employed without departing from the sphere of my invention and I do not desire to be understood as limiting my invention to the use of this particular material.

I claim as my invention:

1. A self supporting tile roof comprising a series of blocks laid in layers, each block being provided with a water shed extension of a length capable of extending across and beyond the block in the adjacent layer below, for the purposes stated.

2. A hollow roof tile block, comprising a substantially rectangular body portion, and an extension formed integral with the top of the body portion, said blocks being so shaped and proportioned that when placed in layers to form a roof at an angle of about forty-five degrees, each block when placed in position will be supported by one or more adjacent blocks, and said extension being of such length and shape that it will rest on the top of the adjoining block on the layer below, and project beyond the block on the layer below.

3. A hollow roof tile block, comprising a substantially rectangular body portion, and an extension formed integral with the top of the body portion, said blocks being so shaped and proportioned that when placed in layers to form a roof at an angle of about forty-five degrees, each block when placed in position will be supported by one or more adjacent blocks, and each block being provided at the upper edge of the body portion thereof with a notch designed to receive binding wires or rods, for the purposes stated.

4. An improved self supporting hollow tile roof, comprising a number of layers of roof blocks and arranged in circular form and to form a roof, each block being formed with a substantially rectangular hollow body portion and an extension integral with the top of the hollow body portion and the said extension being designed to rest upon the top of an adjacent row of similar blocks below, a layer of cement or mortar between the adjacent faces of the body portions of the blocks, said parts being so arranged that when erected in a roof at an angle of about forty-five degrees each block when placed in position will overlap and protect the ce-

ment or mortar blocks in the layer below, each block being also provided with a notch in its upper edge portion, and circular binding wires or rods placed in said notches and
5 embedded in the cement or mortar, for the purposes stated.

5. A self supporting tile roof comprising a series of blocks laid in layers, each block
10 of a length capable of extending across and

beyond the block in the adjacent layer below, said blocks and their extensions being so shaped and proportioned that each block as it is being laid in position will be supported by the adjacent blocks.

Des Moines, Iowa, Nov. 26, 1912.

HALVER R. STRAIGHT.

Witnesses:

M. WALLACE,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."