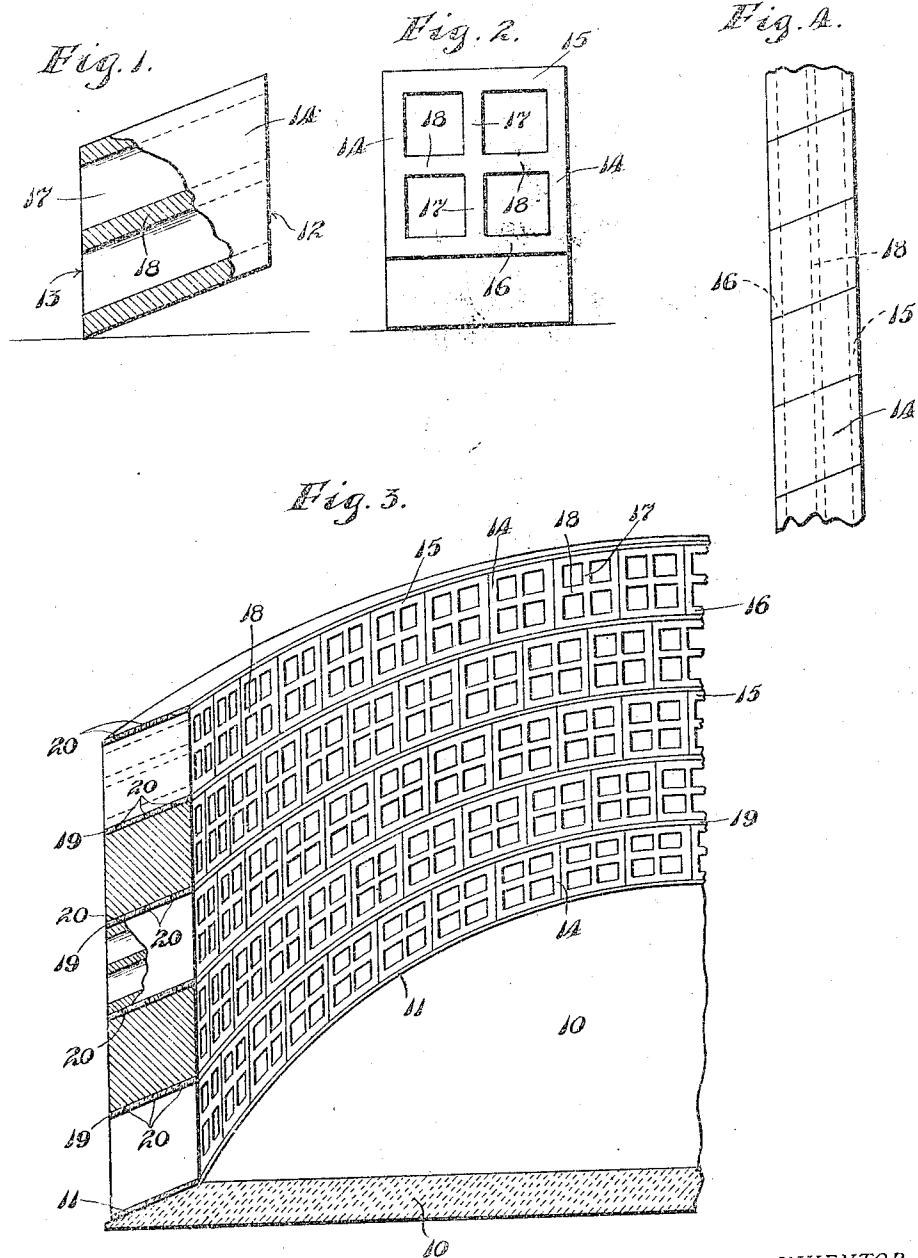


H. R. STRAIGHT.
VENTILATED BUILDING STRUCTURE.
APPLICATION FILED DEC. 9, 1912.

Patented Sept. 21, 1915.

1,154,219.



WITNESSES:
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VENTILATED BUILDING STRUCTURE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HALVER R. STRAIGHT, a citizen of the United States, and resident of Adel, in the county of Dallas and State of Iowa, have invented a certain new and useful Ventilated Building Structure, of which the following is a specification.

The object of my invention is to provide a ventilated building structure of simple, durable and inexpensive construction especially designed for use in connection with the construction of circular buildings such, for instance, as corn cribs, and especially designed to withstand excessive internal pressure.

More specifically, it is my object to provide a ventilated structure of this class that may be made of hollow vitrified clay, tile or the like, capable of being formed and produced on an ordinary hollow tile making machine and without hand work.

A further object is to provide a building structure of this class in which both the inner and outer walls of the building are vertical, straight and smooth except for the perforations therein.

A further object is to provide a building construction of this class in which the openings through the blocks, necessary for ventilation purposes, are all inclined at top and bottom downwardly and outwardly from the interior of the building so that in the event that rain or snow is driven against one side of the building, it will flow downwardly and outwardly toward the exterior of the building, and also to provide for giving a proper direction to the currents of air flowing into the circular building in an upwardly and inwardly inclined direction to assist in such circulation.

A further object is to provide a building construction of this character in which suitable binding wires or rods may be placed between each layer of the building blocks and embedded in cement so that when a straight outward pressure is applied to the wall from the interior, these binding wires will tend to crush the layer of cement and bind on top of the building blocks to thereby avoid the shearing strains of the binding wires or rods which ordinarily occur in structures of this kind where the binding wires or rods are laid between flat horizontal surfaces of the building blocks.

My invention consists in the construction of the building blocks proper and in the ar-

rangement and combination thereof in a circular building with binding wires, layers of cement, etc., as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of a building block of the kind employed in my improved ventilated building structure. Fig. 2 shows an inside face view of same. Fig. 3 shows a sectional perspective view of a portion of the permanent base and a part of the ventilated building wall embodying my invention supported on the base, and Fig. 4 shows a top or plan view of a long section of hollow tile as it would appear coming from a mold or tile forming machine with the various blocks cut apart on oblique lines to form the building blocks used in my improved ventilated building structure.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate a base, preferably a concrete, on which the walls of the building structure are supported. This base is provided with an inclined portion 11 extending downwardly and outwardly, and it is on this inclined portion that the wall structure is erected.

The building blocks which form the body of the wall structure are shaped generally oblique and like the ordinary hollow building tile now in common use, preferably with one central vertical partition and one central, horizontal partition, thus forming four openings through each block. All of the side walls and partitions are parallel and straight so that the building blocks may be made on an ordinary building block making machine with the use of ordinary dies. The two ends, however, of each block are cut on obtuse angles relative to the size of the block, as clearly shown in Figs. 1 and 2. In Fig. 1, the inner end is indicated by the numeral 12 and the outer end by the numeral 13. In Fig. 2 the sides of the block are indicated by the numeral 14, the top by the numeral 15 and the bottom by the numeral 16. The central, vertical partition is indicated by the numeral 17 and the central horizontal partition by the numeral 18. The angle on which the ends of the block are cut diverges from a right angle from the sides of the block to such an extent that when the blocks are laid on an inclined base 11 and on top of each other, the inner and outer

ends of each block will be vertical and parallel, as clearly shown in Fig. 3, while the top, bottom and horizontal central partition will be inclined downwardly and outwardly.

5 In constructing a ventilated building wall, and after the first layer of blocks is in position, as shown in Fig. 3, a layer of cement or plaster 19 is applied on the top surface of the blocks and a series of binding wires or
10 rods 20 is embedded in the mortar or plaster. These wires preferably run circularly around the wall and the ends thereof are permitted to overlap in the plaster or mortar, thus binding the ends together in the plaster or
15 mortar and preventing expansion of the circular rings of wire or rods thus formed. Then the additional layers are placed on top of the first layer to any extent desired.

Some of the numerous advantages of my
20 improved ventilated building structure are as follows: The blocks may be made on an ordinary hollow tile making machine by the use of ordinary dies, and the ends thereof may be cut obliquely by the use of an ordi-
25 nary cutting machine having the wires thereof arranged to make oblique cuts instead of cuts at right angles to the sides, thus providing a building block that may be constructed at slight expense, and when con-
30 structed of vitrified clay, is practically indestructible. The building, when completed, will have both its inner and outer faces smooth, straight and vertical so that material contained within the building will not
35 become caught on the irregular surfaces of the inner face of the wall and so that wire netting or other material may be supported on the inner face of the wall conveniently and easily for the purpose of preventing
40 mice etc. from entering the building.

A further advantage is that a minimum of material may be employed to produce a completed wall.

Another advantage is that the wall is pro-
45 vided with numerous rectangular ventilated openings extending from one face of the wall to the other and said openings are inclined from the interior downwardly and outwardly to thereby perform the double
50 function of permitting rain or snow to drain out through the openings and also of giving a proper direction to incoming air for ventilating purposes, it being understood in this connection that when a building of this kind
55 is used for the purpose, such for instance, as a corn crib, the heat generated by the corn

would tend to rise and cause a circulation of air inwardly through the passageways through the pile.

A further advantage is that by having the
60 upper and lower surfaces of the blocks in the building inclined downwardly and outwardly, the binding wires or rods in the layer of cement or mortar will bind upon the top surfaces of the blocks and thus resist
65 outward pressure upon the walls to a far greater extent than if the top and bottom surfaces of the blocks were arranged horizontally, as in ordinary buildings of this character, for the reason that a far less out-
70 ward pressure would be necessary to cause the wires to shear through the horizontally arranged layer of mortar than would be the case in my device where in order for the wall
75 to spread it would be necessary for the wires to apply a crushing strain to the layer of mortar and also to the tops of the building blocks before the wall could spread, and in a light structure of this character that is
80 designed to contain a large quantity of material that effects a heavy outward thrust upon the walls, this is a very important and valuable consideration.

I claim as my invention:

A substantially circular ventilated build-
85 ing structure, formed of hollow blocks, the tops and bottoms thereof being parallel and of uniform thickness and the sides also being parallel and of uniform thickness, whereby said blocks are adapted to be made
90 on a tile making machine, the ends of said blocks being parallel with each other but formed at such angles relative to the tops and bottoms, that when the ends are upright
95 the tops and bottoms will incline downwardly, said blocks being laid in rows one on top of the other with the ends of the blocks forming smooth vertical surfaces or walls and the
100 tops and bottoms of the blocks inclining downwardly and outwardly, layers of material, such as cement, between the rows of blocks and binding wires or rods being arranged to co-act with the inclined tops and
105 bottoms of the blocks to prevent the wires or rods from shearing out the cement on account of internal pressure.

Des Moines, Iowa, November 26, 1912.

HALVER R. STRAIGHT.

Witnesses:

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