R. L. RUTZLER.

HOLLOW BUILDING BLOCK.

APPLICATION FILED MAR. 21, 1922.

1,437,077. Patented Nov. 28, 1922.

FIG. 1

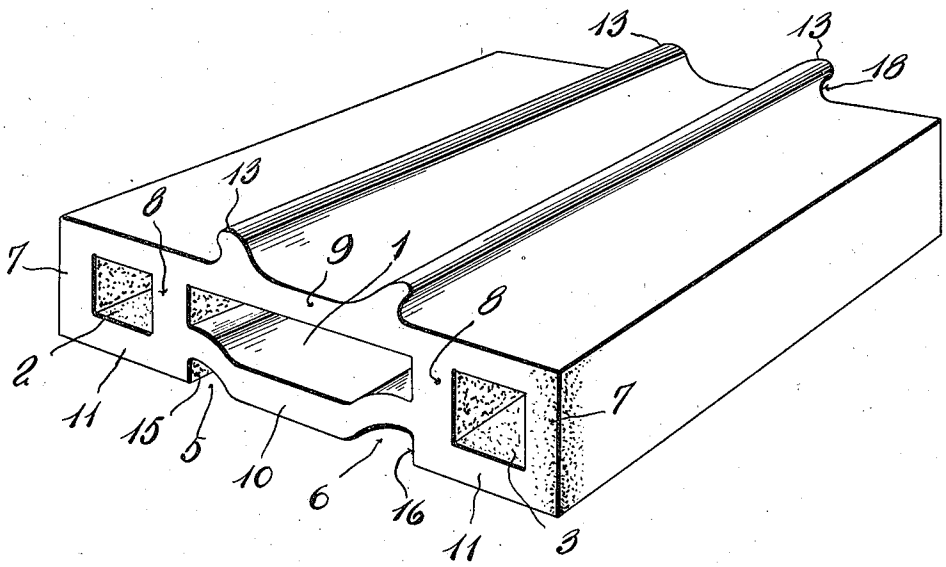
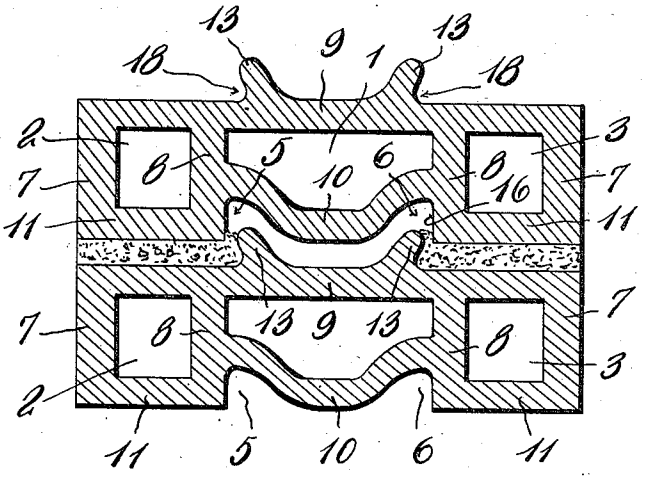


FIG. 2



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UNITED STATES PATENT OFFICE.

ROBERT LEE RUTZLER, OF CHARLOTTE, NORTH CAROLINA.

HOLLOW BUILDING BLOCK.

Application filed March 21, 1922. Serial No. 545,500.

To all whom it may concern:

Be it known that I, ROBERT L. RUTZLER, a citizen of the United States, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented certain new and useful Improvements in Hollow Building Blocks, of which the following is a specification.

This invention relates to hollow building blocks, and has for its object to provide an improved hollow brick, block or tile, characterized especially by a lock joint of novel construction, which will assist in preventing dislocation of any of the blocks when they are set in a wall. The construction is such that the block can be made of clay, shale, or any other suitable material, either by molding or by a continuous die process.

A further feature of the block is the provision of interlocking ribs and grooves which will confine and reduce the mortar bed, and so reduce the quantity of mortar required in building a wall, and will also form an air space in or between the mortar joints, which will prevent moisture penetrating through the joints, the body of the block being also provided with air spaces. In consequence of this construction, plastering can be applied directly to the face of the wall, without furring or lathing.

The ribs referred to extend beyond or break the mortar joint, so as to form baffles which prevent any moisture getting through the wall.

A further feature of the block is that it is provided with four vertical webs which support the load, and thereby supplies great strength to resist vertical pressure, and the hollows nevertheless reduce the weight of the block to a considerable extent.

A further feature of the block is that the cross sections of the walls are almost uniform throughout, so that when dried or burnt they will have practically the same contraction, and a product with true dimensions is assured.

A further feature of the block is that the ribs form a hand hold by means of which the blocks can be conveniently handled, and these ribs are nevertheless so constructed that they do not prevent uniform and convenient stacking of the blocks.

The block can be made in a standard size to accord with the dimensions of an ordinary brick, so that such bricks can be set to tie in on corners or around any openings. The mortar is also laid on a flat bed, and when the blocks are laid in the wall the mortar will rise in joints beside the ribs, to assist in interlocking the blocks together.

The vertical webs, it may be mentioned, are all in line and so form a plurality of practically continuous webs extending from the top to the bottom of the wall.

Various other advantages will be apparent from the following description and the accompanying drawings, in which Fig. 1 is a perspective view of one of the blocks. Fig. 2 is a vertical section of a wall made of the blocks.

The block comprises a top wall 9, outer side walls 7, inner vertical walls 8 parallel to the side walls, and bottom walls 11 connecting each pair of side walls 7 and 8. These walls define or produce longitudinal parallel hollows or air chambers 2 and 3, located at opposite sides of the block, and between these is an intermediate longitudinal air cell or chamber 1 which is bounded at the top by the middle part of the top wall 9, and at the bottom by an inverted arch shaped wall 10 the lower surface of which is slightly or somewhat above the plane of the lower face of the bottom walls 11.

Upon the top of the top wall 9 is formed a pair of longitudinal ribs 13 which are adapted to fit in or interlock with a pair of grooves 5 and 6 formed in the bottom of the block above in consequence of the shape of the lower middle wall 10. The ribs 13 are somewhat higher than the thickness of an ordinary mortar joint, so that they project into the grooves far enough to form an interlock when the blocks are laid in a wall with mortar between, as shown in Fig. 2. They also form stops for the mortar and prevent it from getting into an air space 4 which is produced between the top wall 9 and the lower wall 10 when the blocks are set in a wall with the mortar between. The mortar is laid on sufficiently heavy to cause it to ooze up into the recess or joint between the outer side or edge of the rib 13 and the adjacent outer surfaces 15 and 16 of each of the grooves 5 and 6, and this part of the mortar also serves to assist in locking the blocks together and preventing moisture from working through the joint. In any event, any moisture which soaks in through the joint will be stopped by one or both of the ribs 13, as well as by the intervening air space or trough under

the cross wall 10. This construction permits plaster or the like to be applied to the inner face of the wall with an assurance that it will not be dislodged or dampened by leakage through the wall.

The ribs 13 are also slightly undercut on their outer sides, as indicated at 18, so that they form a convenient hand hold for handling the blocks. Furthermore, the blocks can be readily stacked, the ribs 13 then fitting in the grooves of the blocks above. The mortar beds are relatively small, so that saving of mortar is effected, but they are advantageously located at both the inside and outside of the wall, and are furthermore located directly under the compression members 7 and 8, whereby a wall is produced which will not readily crush under weight. And it will be noticed that these compression members are four in number, and extend practically continuously from the top to the bottom of the wall, there being no hollow spaces in the load bearing lines.

The block may be made in such dimensions that by knocking off one of the ribs 13 a common brick can be laid on the block to form a lock joint as at corners, the other rib remaining to serve as a stop to prevent seepage of moisture through the wall.

As the mortar beds are defined by the ribs 13 the mortar can be quickly applied, the ribs acting as a stop to prevent mortar from spreading into the central air space, and these ribs will also to some extent form a gage for the depth of the mortar. The ribs extend the full length of the block so that they will effectively resist lateral movement or dislocation of any of the blocks, whereby a stout and rigid wall is produced.

No limitation is implied with respect to the dimensions of the blocks, and they can be made of any proportions consistent with good practice and local conditions. They thus have advantages with respect to manufacture and also with respect to handling, as well as advantages resulting from the location of the load bearing webs and the ease and facility with which they may be laid in a wall. Other advantages will be apparent to those skilled in the art.

I claim:

1. A building block comprising a top wall, two pairs of vertical walls depending therefrom, each pair being located toward opposite side edges of the top wall whereby a middle air space is produced, a bottom wall connecting the walls of each pair of vertical walls, and an inverted arch shaped bottom wall connecting the inner members of each pair of vertical walls.

2. A building block comprising a top wall, two pairs of vertical walls depending therefrom, each pair being located toward opposite side edges of the top wall whereby a middle air space is produced, a bottom wall connecting the walls of each pair of vertical walls, and an inverted arch shaped bottom wall connecting the inner members of each pair of vertical walls, the top wall having a pair of longitudinal ribs and the inverted arch shaped wall forming a pair of longitudinal grooves adapted to receive the ribs of an adjacent block.

In testimony whereof, I affix my signature in presence of two witnesses.

ROBERT LEE RUTZLER.

Witnesses:
MARVIN L. RITCH,
JNO. C. KILGO, Jr.