May 22, 1934. A. CRUM 1,959,816

BRICK

Filed Dec. 10, 1932

FIG. 1.

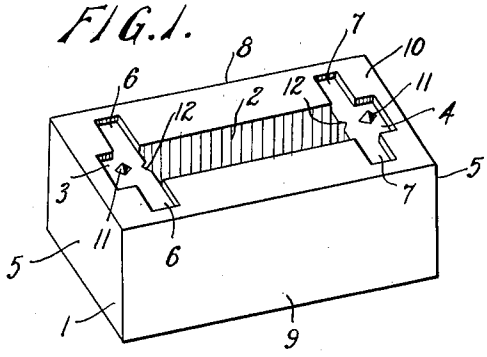


FIG. 2.

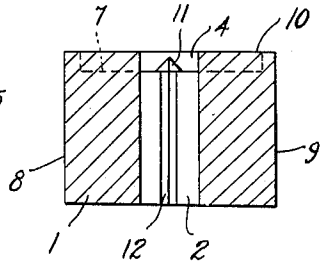


FIG. 3.

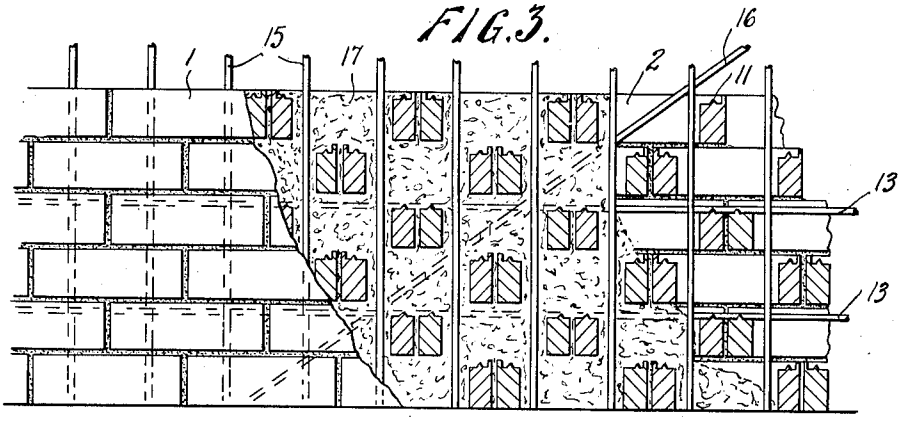
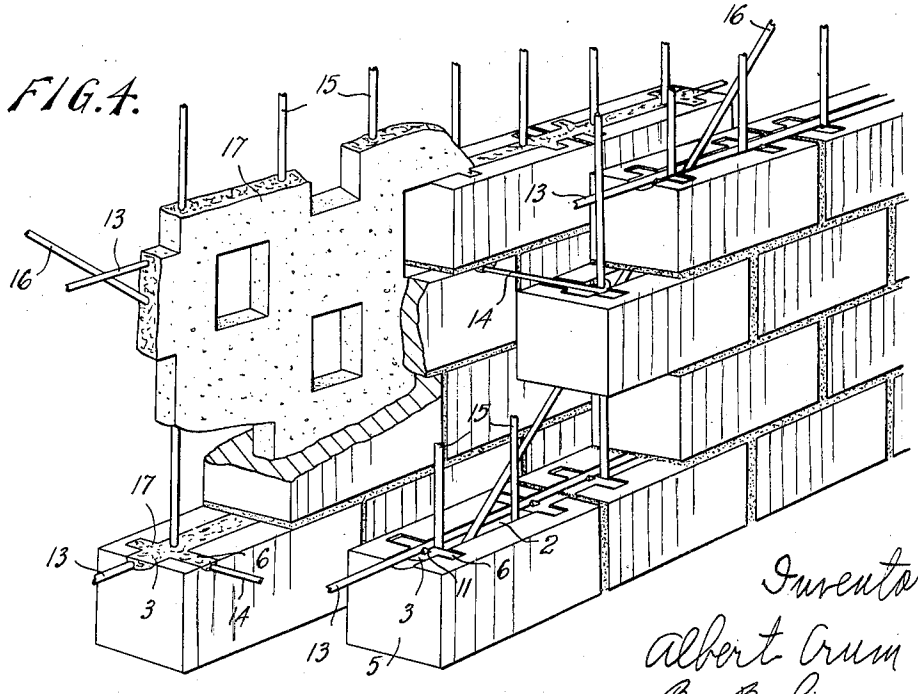


FIG. 4.



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UNITED STATES PATENT OFFICE

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BRICK

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Application December 10, 1932, Serial No. 646,694
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2 Claims. (Cl. 72—30)

This invention relates to building bricks of the well known ordinary type, the objects of the present invention being the provision of an improved brick which will permit of structures constructed therefrom in the ordinary way, being then reinforced by the addition of rods and grouting, will permit bricklayers to proceed with structures just as though the old ordinary bricks were being used, will be a cheaper brick in manufacture in that no additional work is involved in manufacture and less firing is required, will be lighter in weight although still having the standard brick sizes, will not have any side or end faces disfigured by slots, depressions or the like, and will permit brick buildings to be constructed having not only the advantages in appearance of brick buildings over concrete and like structures, but also having the reputed strength, elasticity, flexibility and like of said concrete structures when subjected to earthquakes and such like, a still further object being the provision of a brick which will meet all constructional requirements.

I am aware that tiles, blocks and the like having centrally disposed slots passing therethrough and used for building purposes are known. By the present invention however, I am able to use a standard size of brick, and it is not necessary to manufacture a variety of different sized or outwardly shaped bricks for the same job.

The novel features in my said brick will be clear from the succeeding description and the claims.

In describing the invention, reference will be made to the accompanying drawing in which Figure 1 shows a perspective view of the brick, Figure 2 is a sectional end view thereof, Figure 3 shows a side view of a wall partly in section and showing part of the interior filled with grouting and Figure 4 shows a perspective view of an ordinary cavity wall one side of which is shown filled with grouting and the brickwork broken away to illustrate the continuous formation of such grouting within the bricks.

In the invention, the brick 1 has a vertical slot 2 passing therethrough of such suitable length that when bricks are laid as at present clear vertical spaces are presented.

This vertical slot 2 is extended lengthwise at each end to form shallow depressions 3 and 4 which pass to within a short distance of the ends 5 of the brick 1, there being also preferably provided branch depressions 6 and 7 at right angles to the depressions 3 and 4 which terminate within a short distance of the side faces 8 and 9 of the brick 1, said depressions 3, 4, 6 and 7 being only in the top face 10.

Small studs 11 of pyramid or cone form project upwardly from within depressions 3 and 4 in a central position and vertical V notches 12 are provided at the ends of the slot 2.

In use, the bricklayer proceeds with the bricklaying as at present in any desired bond, the wetting of the bricks during laying operations being much easier and more thorough due to the slot 2 and if horizontal reinforcing rods 13 are required in the structure, he simply breaks away with his trowel the short pieces of brick between the depressions 3 and 4 and the brick ends 5, the rods 13 being dropped into the channel thus presented along the bricks, so that said rods 13 are substantially flush with the top faces 10 of said bricks, and due to the studs 11 centrally situated, the rods 12 will lie either to one side or the other of the studs 11 so that the horizontal rods 13 will not obstruct vertical rods to be inserted later.

Walls and structures built of brick have walls of different thickness in many cases, for instance, instead of the bricks being laid lengthwise as in Figures 3 and 4, the end faces 5 may be to the outside of the wall, and furthermore at the corners of structures, an end 5 of a brick may butt against the side face 8 of another brick to make the right angle corner.

In these cases the brick used will have branch depressions 6 and 7 and the pieces of brick between said depressions 6 or 7 and side faces 8 or 9 are broken away so that rods such as the stay rods 14 shown in Figure 4 can be placed at right angles to the bricks.

There are innumerable methods of laying bricks but these all follow a symmetrical pattern and permit of the use of reinforcing rods.

When a suitable amount of a wall or other structure has been completed, vertical rods 15 and/or diagonal rods 16 are put through the slots of the bricks and cement grouting 17 poured in so that all cavities are filled, thus forming an unbroken reinforced wall as shown in Figure 4 within the brick faced structure, all reinforcing rods being totally enclosed in cement grouting 17 and fully protected from the atmosphere, so that the structure formed has not only the compressive stress properties of a brick building, but permits of tensile stresses, enabling work formerly very little known in brick, such as beams, bridges, wide arches and the like to be constructed, and tall brick chimneys and like will not require outside steelwork, due to the steelwork being actually

contained within and protected from corrosion by the bricks.

The bricks can be easily broken across or lengthwise as at present by use of a trowel, to form the necessary smaller portions of brick such as "closers", the V notches 12 at the ends of slot 2 enabling a clean lengthwise break of the brick to be easily obtained.

Where large brick buildings are to be constructed, some bricks could be manufactured with the depressions 3 and 4 carried right through to the ends 5 so as to save the bricklayer the trouble of breaking away the small portion of brick at the ends of said depressions, but the standard brick manufactured would be as shown in Figure 1 having no outer face defaced by slots or depressions enabling any end 5 or side face 8 or 9 to be the outer face of the structure.

For very light partition walls such as found within office buildings and the like, instead of the slot 2 passing through the wide face 10 of the brick, it would pass through the narrow sides (from face 8 to face 9) so that the structure would be thinner due to the bricks being laid on their narrow faces.

I claim:—

1. A building brick closed at its ends and sides and having a vertical longitudinal slot extending therethrough from top to bottom and terminating short of the ends and further provided in its upper side with longitudinal and transverse depressions spaced at their outer ends from the ends and sides of the brick and communicating with the slot and further provided with upstanding studs rising from the bottom of the longitudinal depressions and substantially in line with the outer sides of the transverse depressions to locate horizontal reinforcing rods, said brick being further provided with vertical grooves at the ends of the slot to weaken the ends of the brick and facilitate the splitting thereof from end to end on vertical lines of cleavage.

2. A hollow brick having closed ends and sides and provided with a longitudinal slot extending therethrough from top to bottom and terminating short of the ends and further provided in the upper side with recesses communicating with said slot and extending therefrom to points near the ends and side of the brick and thereby forming readily removable side and end portions to facilitate the placing of reinforcing rods.

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