Aug. 16, 1927. 1,639,063

LE ROY W. STEVENS

BUILDING BLOCK

Filed Aug. 27, 1924 3 Sheets-Sheet 1

Fig. 1.

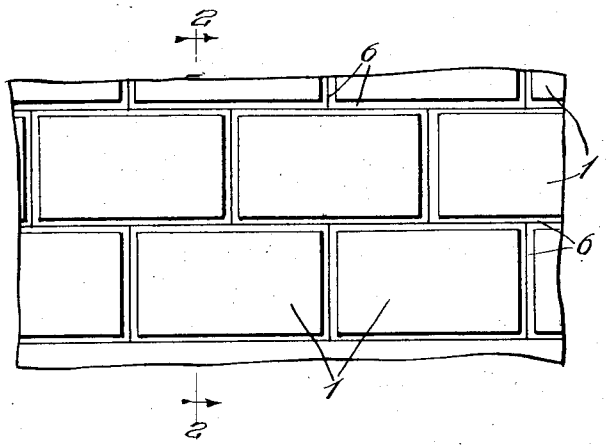
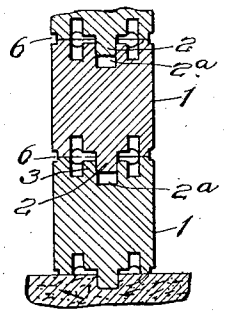


Fig. 2.



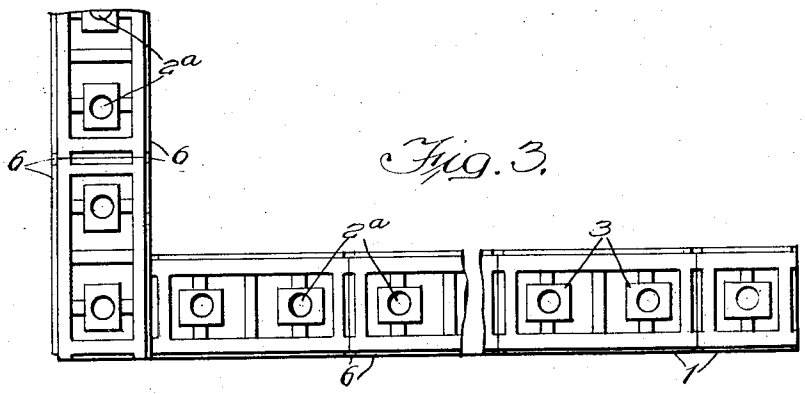


Fig. 3.

Fig. 4.

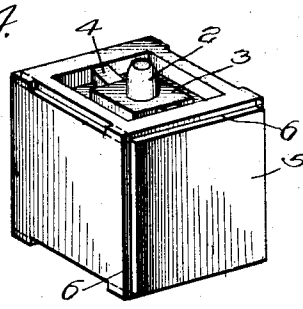
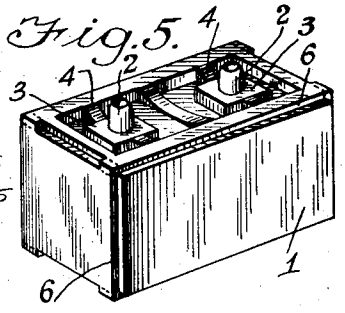


Fig. 5.



Witnesses:
W. P. Kilroy
Harry R. White

Inventor:
LeRoy W. Stevens
Acie H. Neil
By
Attys

Aug. 16, 1927. 1,639,063

LE ROY W. STEVENS

BUILDING BLOCK

Filed Aug. 27, 1924 3 Sheets-Sheet 2

Fig. 7.

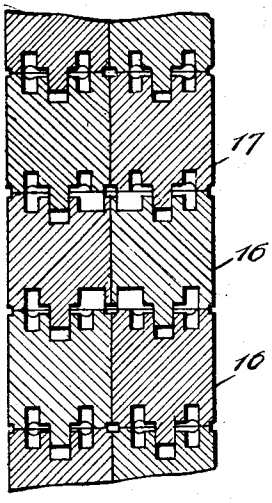


Fig. 6

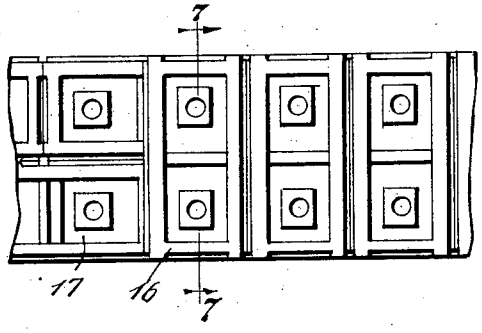


Fig. 9.

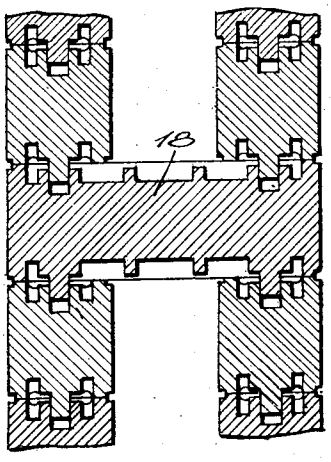
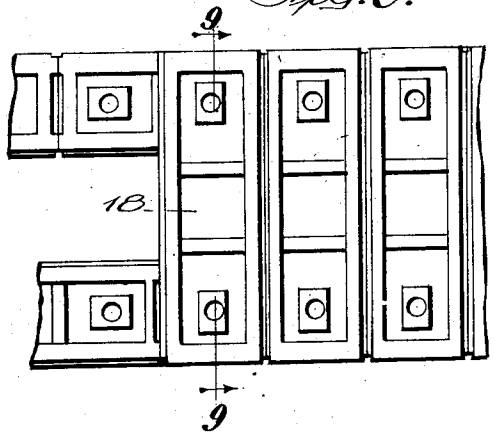


Fig. 8.



Witnesses:
W. P. Kilroy
Harry R. L. White

Inventor:
Le Roy W. Stevens
By Rice & Rice Attys

Aug. 16, 1927. 1,639,063

LE ROY W. STEVENS

BUILDING BLOCK

Filed Aug. 27, 1924 3 Sheets-Sheet 3

Fig. 10.

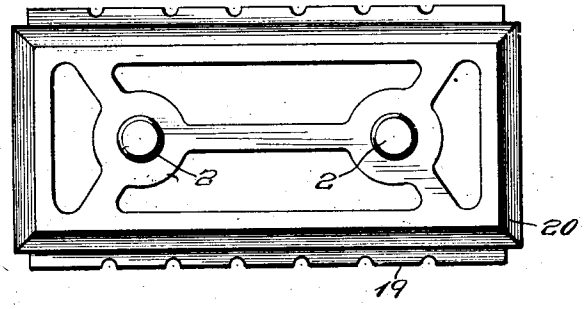


Fig. 11.

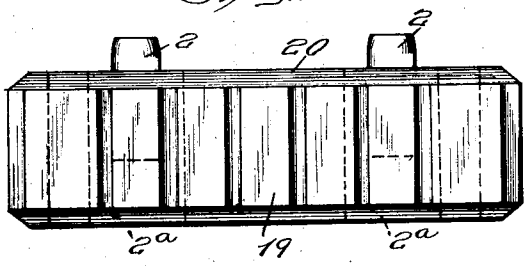


Fig. 12.

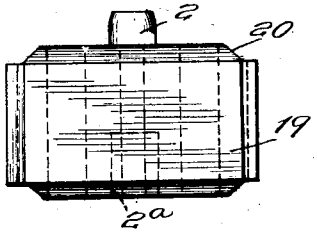


Fig. 13.

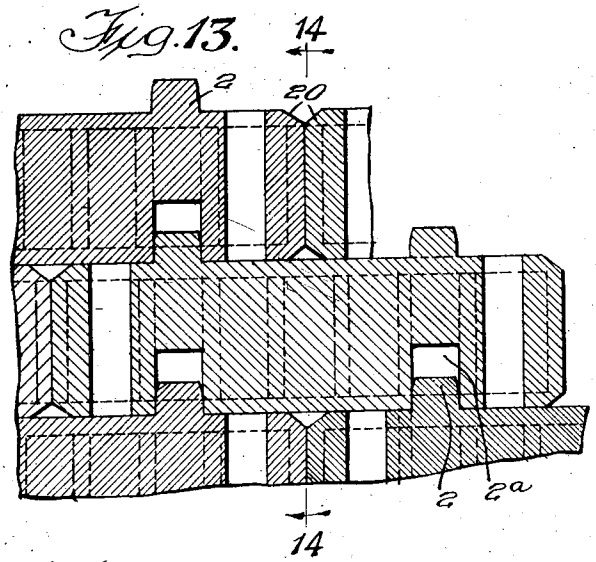
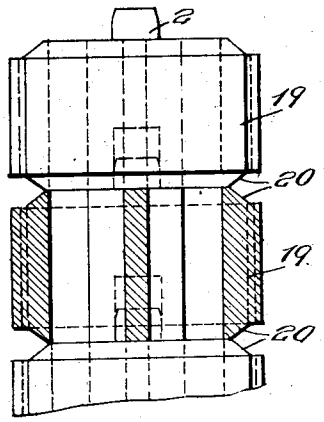


Fig. 14.



Witnesses:
W. P. Kilroy
Harry R. L. Whit

Inventor:
Le Roy W. Stevens
By Frei Neil Attys

Patented Aug. 16, 1927. 1,639,063

UNITED STATES PATENT OFFICE.

LE ROY W. STEVENS, OF CHICAGO, ILLINOIS.

BUILDING BLOCK.

Original application filed November 29, 1920, Serial No. 427,145. Divided and this application filed August 27, 1924. Serial No. 734,521.

My invention relates principally to improvements in building block construction and has for its principal object to provide blocks of such general form and shape that they may be laid so as to secure economy in their use and result in a strong, durable and substantially impervious wall.

A further object is to provide such blocks that may be laid either in the ordinary manner of bonding between each course, or preferably that they may be laid by laying up the blocks preferably in a dry condition and then bonding both the exterior and interior walls by forcing bonding material into channels formed for that purpose either by hand, or by the use of a suitable device for that purpose. This particularly applies to bonding the side walls rather than bonding by means of placing the binding material on the top of the wall.

Where the blocks are laid dry upon a suitable foundation, I prefer, after the wall is completed, to bond the wall both inside and outside of the building by the use of a cement gun which forcibly drives the bonding material into all of the bonding spaces and interstices between the blocks. This kind of material is very economical to operate and gives very satisfactory results.

This application is a division of my prior application for Letters Patent bearing Serial No. 427,145, filed November 29, 1920.

To this end, my invention consists in the novel form of blocks described and claimed and the preferred method of using the same, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts,

Fig. 1 is an elevation of a section of wall illustrating the use of my interlocking type of block;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a plan view of the same;

Fig. 4 is a detailed perspective of a corner or end block which is half the length of the full sized block of the preferred form;

Fig. 5 is a detailed perspective of the regular size interlocking block of the preferred form;

Fig. 6 is a plan view of a double wall;

Fig. 7 is a section on line 7—7 of Fig. 6;

Fig. 8 is a plan view of a double wall providing an air space between the inner and outer walls;

Fig. 9 is a section on line 9—9 of Fig. 8.

Fig. 10 is a plan view of a slightly modified form of block in which the bonding spaces are enlarged and changed in form;

Fig. 11 is a side or edge view of the same;

Fig. 12 is an end view of said block;

Fig. 13 is a central vertical section through a wall laid up by my improved method and block; and

Fig. 14 is a transverse section of the same on line 14—14 of Fig. 13.

One of the important economical advantages of my invention lies in the method of laying up walls with my improved blocks, which are particularly formed to make such method possible.

The method consists of providing and truing up a foundation with the blocks laid thereon dry to build up a wall to the desired height, and with the use of the cooperating short blocks and pilasters, providing suitable openings for the doors, windows, etc. This actual work, by my method, may be done by unskilled labor, perhaps under the direction of a foreman of sufficient experience to understand the general plan of the building.

After the dry wall is thus laid up, the wall is bonded preferably both on the interior and the exterior thereof, and preferably by the use of a cement gun or the like by means of which the cement is driven against the walls with sufficient force to fill all the bonding spaces and drive the cement into all grooves and slight openings that may be left.

Experience shows that walls constructed in this manner are bonded to a sufficient extent to secure all necessary rigidity and permanency, while the cost of laying such a wall is materially reduced.

If desired, however, the bonding material may be placed thereon by hand, the bonding material being forced into the recesses, cracks and grooves by hand pressure. Obviously, however, the method first described is preferable.

Referring particularly to the drawings, (Fig. 5), 1 represents the preferred form of my block in which, also, the length is twice the width. It will be seen here that the top horizontal face of the block is provided with dowels or lugs 2, which project above the top surface to a point where they will engage cooperating apertures 2^a (Fig. 2) formed on the lower face of the adjacent block. In the preferred form, these dowels are carried upon centrally positioned por-

tions 3 which are sustained in proper position by connecting walls or webs 4 or equivalent construction. This reduces the weight and the material of the block without sacrificing any of its advantages, and provides sufficient air spaces through the wall to secure satisfactory results. Referring to Fig. 4, the block 5 there shown is a half block of the same general construction and adapted to cooperate with the full blocks at the openings and corners and at such other points as may be necessary.

On the exterior faces of the block at all of the various exterior angles recesses 6 are provided, which with the adjacent blocks form bonding spaces or channels within which the bonding material will be forced and tend to lock the blocks together. The end channels may if desired not extend entirely to the exterior, but they may also extend entirely from side to side as shown in dotted lines.

Figs. 1, 2 and 3 clearly show the manner of laying up the blocks and the position they occupy when ready for bonding. The blocks may be positioned upon the foundation wall as illustrated in Fig. 2, with one of the dowel pins engaging the wall, or, if preferred, the blocks may be placed in the reverse position with the flat face laid upon the wall and the dowels extending upward.

Figs. 6 and 7 show a wall of suitable thickness in which the courses are interlaced by using some of the blocks as headers 16 and others as stretchers 17. Figs. 8 and 9 show a double wall provided with an air space between the inner and outer walls. This is accomplished by using blocks 18 of suitable length, depending upon the size of the desired air spaces.

As shown in Figs. 10 to 14 inclusive, the bonding spaces are further recessed or modified as clearly illustrated in Fig. 14.

As here shown, the blocks 19 are formed substantially as heretofore described, with the addition of an extension to the bonding space as shown, by inclined faces 20. These extensions extend inward from the outer faces of the block, but preferably not sufficiently to communicate with the inner open spaces in the block. By this means it will be seen that there is a suitable extension to the bonding space, and in the manufacture of the block these parts may be roughened or otherwise formed so as to cause a firmer engagement of the bonding material with the block itself.

By my peculiar construction, it is clear that to secure the best results, as clearly shown in the figures, the dowel pins or lugs 2 should be centrally positioned between the side walls as well as an equal distance from the end wall, that is, equi-distant from the side wall and the end wall in order that when a corner is reached and the adjacent block is placed at right angles, the engagement of the dowel with the corresponding depression will suitably engage as before described.

I am aware that heretofore building blocks or bricks have been constructed in which there were registering portions to cause the adjacent blocks to assume proper position in relation to one another, but I am not aware of any construction in which a block with simple means for this purpose is also specifically provided with cooperating bonding spaces whereby the blocks may be laid up dry and will necessarily assume a proper relative position one to the other and after the wall is erected the bonding may then be forced into the channels and the wall be completed, the bonding being preferably both on the inner and outer face of the wall.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A building block comprising a body portion having depressions formed in its top and bottom surfaces, integral lugs positioned in said depressions and having surfaces substantially flush with the top and bottom surfaces of the body portion, one of said lugs having a recess therein, and an integral dowel projecting from another of said lugs and disposed coaxially with said recess.

2. A building block comprising a body portion having depressions formed in its top and bottom surfaces, the peripheral corners or angles of two opposed side surfaces of the body portion being grooved to receive bonding material, integral lugs positioned in said depressions and having surfaces substantially flush with the top and bottom surfaces of the body portion, one of said lugs having a recess therein, and an integral dowel projecting from another of said lugs and disposed coaxially with said recess.

In testimony whereof, I have hereunto signed my name.

LE ROY W. STEVENS.