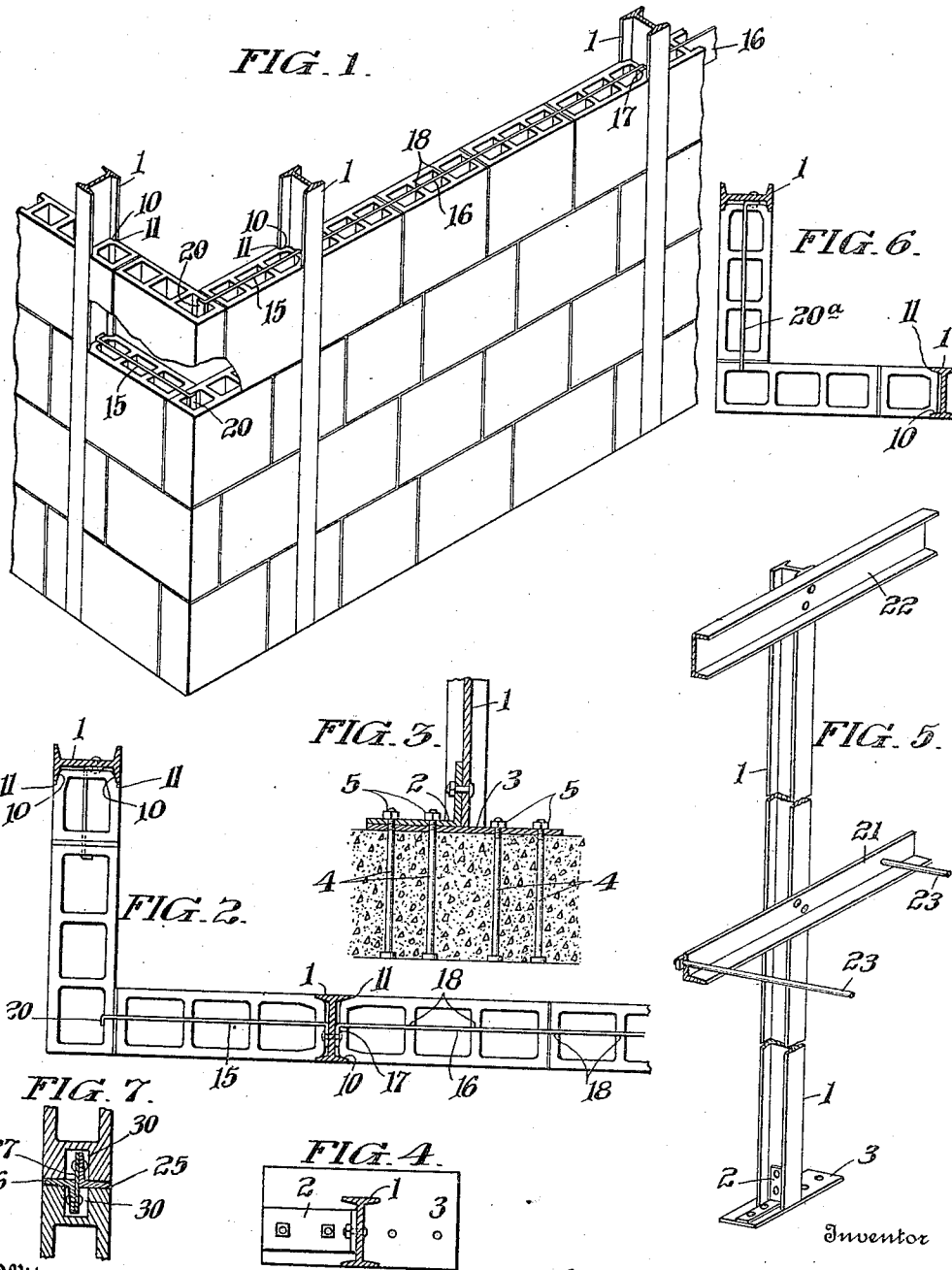


G. N. McALARNEY.
WALL FOR BUILDINGS.
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Witnesses
Carrie E. Kleinfelder
George N. McAlarney

George N. McAlarney
By Cyrus V. Anderson
Attorney

UNITED STATES PATENT OFFICE.

GEORGE N. McALARNEY, OF WILKES-BARRE, PENNSYLVANIA.

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To all whom it may concern:

Be it known that I, GEORGE N. McALARNEY, a citizen of the United States, and a resident of Wilkes-Barre, county of Luzerne, State of Pennsylvania, have invented certain new and useful Improvements in Walls for Buildings, of which the following is a specification.

My invention consists of a novel construction of wall for buildings and similar structures comprising upright columns of iron, steel or other suitable material placed at intervals with respect to each other and also comprising material such as hollow tiles, concrete or equivalent material, situated between the said columns and fitted thereto and also binding means or anchoring means for said tiles or other material having connection with said columns.

One of the objects of my invention is to provide means whereby a building combining the materials aforesaid may be economically and cheaply constructed.

Other objects and advantages of my invention will be referred to in the detailed description thereof which follows or will be apparent from such description.

In order that my invention may be readily comprehended and understood reference should be had to the accompanying drawing in which I have illustrated convenient forms of embodiment of my invention but it will be understood that changes in the details of construction may be made within the scope of the claim without departing from my said invention.

In the drawings:—Figure 1 is a perspective view of a portion of a wall embodying my invention, a portion thereof being broken away to show more clearly a detail of construction; Fig. 2 is a horizontal sectional view of a portion thereof, including a corner; Fig. 3 is a vertical sectional view of the lower part of a column and showing means whereby the same is connected with the foundation for the walls; Fig. 4 is a horizontal sectional view of a column showing a plan view of a portion of the means for securing the same to the foundation; Fig. 5 is a perspective view showing a column and horizontal beams connected therewith and also showing portions of rods for connecting oppositely disposed beams upon the sides of the building; Fig. 6 is a transverse sectional view showing a modified construction; and

Fig. 7 is a view showing still another modification of the construction.

In the drawings, having reference to Figs. 1 to 5 inclusive, 1 designates upright columns consisting of I-beams which are arranged at suitable intervals in the walls of a building. Two of these columns, as indicated in Fig. 1, are situated adjacent to the corners of the building. The lower ends of each of the columns is connected to an angle iron 2 which rests upon a base plate 3. The base plate is secured upon the foundation, which may consist of concrete, by means of rods 4 which are buried in such concrete and the upper ends of which project through the base plate 3 and are engaged by nuts 5, as shown in Fig. 3. The upper ends of two of these rods, as shown in Fig. 3, project not only through the base plate 3 but also through the horizontal portion of the angle iron 2 so that the nuts 5 which engage the upper ends thereof are seated against the horizontal portion of such angle iron and result in securing the same to the base plate 3.

In the construction as illustrated I have employed hollow tile intermediate the upright columns 1, although it will be understood that concrete or other similar material may be used. One end of each of the tiles which is situated adjacent to an I-beam column is tapered so as to snugly fit between the flaring flanges of such columns, such taper being shown at 10. Each of these tiles is also provided with shoulders 11 upon their opposite sides which abut against the edges of the flanges. By thus constructing the tiles which are to be engaged with the I-beam columns such tiles may be more securely bound and held in place and cooperate more effectively with such beams than would be the case if the sides of the tile were straight or rectangular as is usually the case. In the latter case the corner edges of the ends of the tiles would contact with the inner sides of the opposing flanges of the I-beams at two points, that is to say, along two lines, whereas in the present construction where an end of each of the tiles which engage and cooperate with the I-beams is tapered the builder is enabled to seat the tiles firmly in position against the inner surfaces of the said flanges.

In order to more securely bind and hold the tiles or other material in place I have provided binding or tying plates 15 and 16.

- The tying plates 15 are connected with the beams which are situated adjacent to the corners and extend toward the corners in angular relation with respect to each other.
- 5 The tying or binding plates 16 extend between adjacent columns and are secured at their opposite ends to such columns. In the construction shown the tying plates 16 are provided at their ends with flanges 17 which
- 10 are connected to the webs of the I-beam columns 1 by means of rivets in known manner. These tie or binding plates extend through slots 18 formed in the tiles as shown. There may be a tie or binding plate for each of the
- 15 rows of tiles or a less number of tie or binding plates may be employed, as, for instance, one for alternate rows of such tiles. Instead of plates other forms of tying or binding means may be employed.
- 20 In one form of construction shown in Figs. 1 to 5 inclusive the tie or binding plates 15 are provided at their outer ends with bent or flanged portions 20 which engage a tile adjoining that through which the said tie
- 25 or binding plate extends longitudinally so as to more securely and firmly hold and tie the adjoining tiles together. This feature of construction is illustrated clearly in Figs. 1 and 2 of the drawings. These bent or
- 30 flanged portions 20 may be omitted as is shown in Fig. 6 of the drawings and straight unflanged plates 20^a employed instead.
- 21 and 22 designate binding joists which extend horizontally and which are connected
- 35 with the upright columns 1. These binding joists are shown respectively as angles and channels. It will be understood, however, that they may each consist of other shapes or forms. Although not shown there are
- 40 corresponding joists connected in opposing relation to the joists 21 and 22 at the opposite side or wall of the building. The joists 21 are connected to each other by means of tie rods 23 which hold the walls of the building
- 45 securely against spreading. The joists 22 may likewise be connected if desired.
- In the construction as thus far described I-beams are illustrated. When such beams
- 50 are employed the flanges thereof which are situated in alinement with the outer and inner surfaces of the wall present considerable areas of metallic surface. If it should be desired to construct a wall for a building or other structure embodying the principles of
- 55 my invention without showing any considerable portion of the metal of the upright beams upon the surfaces thereof the construction of beams shown in Fig. 7 may be employed which consists of two angle irons 25 and 26 each having one flange secured to an intermediate plate 27 with the other flanges thereof extending in opposite directions from the central part of the intermediate plate as shown.
- The ends of the tiles which are situated in 65 contact with the said columns are provided with central vertical slots 30 into which the opposite edges of the intermediate plate 27 and the flanges of the angle irons 25 and 26 which are connected to such plate project. 70
- When this form of column is employed the tying or binding plates extend between the same and are connected thereto as illustrated in connection with the construction shown in the previous figures. 75
- It will be seen that I have invented a novel construction of wall for buildings or similar structures in which the parts employed therein combine and cooperate with each other to form a unitary structure. 80
- I claim:—
- In a wall construction for buildings, the combination of I-beams situated at intervals in the said walls, two of the said I-beams being situated adjacent to each of the 85 corners in a building, building blocks arranged in rows between the said I-beams and extending beyond the beams adjacent to the corners of said building and cooperating therewith to form the walls of said 90 building, the said blocks alternately overlapping at the corners of said building, tying or binding means extending from those beams adjacent to the corners of the building toward such corners and being alternately arranged and each binding or tying means being situated within one wall and arranged in parallel relation thereto and being in engagement with the abutting portion of the adjacent corner portion of the other wall, 100 and tying or binding means connected with and extending between the beams situated in the respective walls and being in engagement with selected rows of the blocks in said walls, substantially as described. 105
- In testimony that I claim the foregoing as my invention I have hereunto signed my name this 25 day of August, A. D. 1915.
- GEORGE N. MCALARNEY.
- In the presence of—
W. H. GIBBS,
ESTHER EVANS.

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