

No. 876,298.

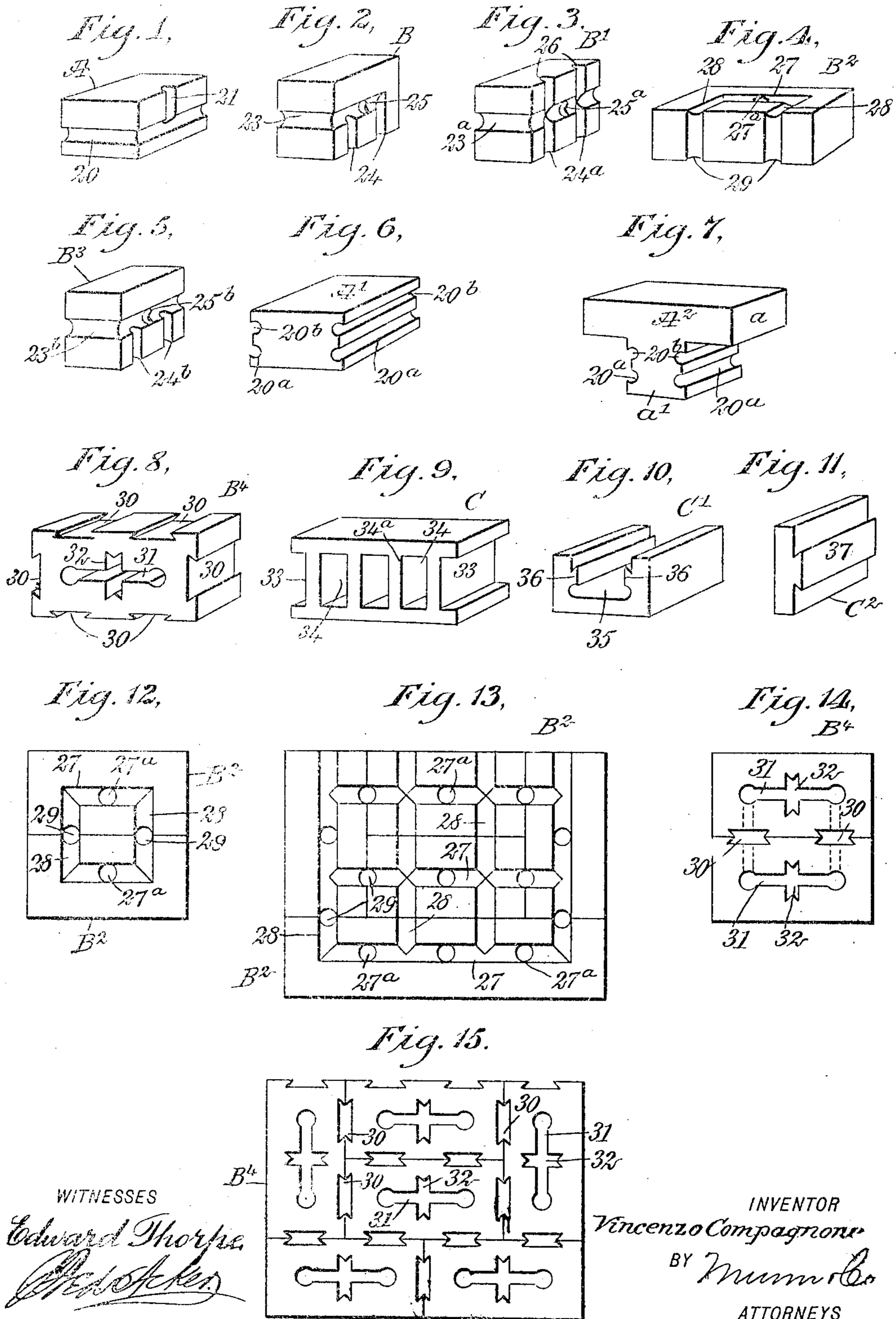
PATENTED JAN. 7, 1908.

V. COMPAGNONE.

BRICK MOLDED FOR WALLS WITH A MONOLITHIC INTERNAL SKELETON.

APPLICATION FILED MAY 3, 1907.

2 SHEETS—SHEET 1.



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WITNESSES

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# UNITED STATES PATENT OFFICE.

VINCENZO COMPAGNONE, OF NAPLES, ITALY.

BRICK MOLDED FOR WALLS WITH A MONOLITHIC INTERNAL SKELETON.

No. 876,298.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed May 3, 1907. Serial No. 371,671.

*To all whom it may concern:*

Be it known that I, VINCENZO COMPAGNONE, a citizen of Italy, and a resident of Naples, Italy, have invented a new and useful Improvement in Molded Bricks for Walls, &c., of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a construction of new walls which, although composed of various elements separate and distinct of themselves, constitute a monolithic whole, and also to provide especially molded bricks which, by their special form when united and cemented, constitute a structure having a skeleton interior uninterrupted in every direction, whereby a maximum of resistance is obtained with a minimum of thickness.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of an improved brick adapted for floor construction; Figs. 2, 3, 4 and 5 are perspective views of differently constructed bricks adapted for use in the formation of walls; Figs. 6 and 7 are perspective views of bricks especially adapted for floor construction; Fig. 8 is a perspective view of a brick adapted for wall construction; Figs. 9, 10 and 11 are perspective views of bricks particularly adapted for use in the construction of beams; Fig. 12 is a plan view of two connected bricks of the type shown in Fig. 4; Fig. 13 represents a greater number of assembled bricks of the types shown in Figs. 2, 3 and 5; Fig. 14 represents two abutting bricks of the type shown in Fig. 8, the bricks appearing in plan view; Fig. 15 represents an assemblage in plan view of a greater number of bricks of the type shown in Fig. 8; Fig. 16 is a perspective view of a section of flooring showing an assemblage of the bricks of the type shown in Fig. 6, and likewise the type shown in Fig. 1; Fig. 17 is a perspective view of a portion of a beam constructed from the types of bricks shown in Figs. 9 and 10; and Fig. 18 is a perspective view of a section of flooring constructed from the type of bricks shown in Figs. 6 and 7.

The bricks necessary for composing the new construction of walls, floors, pilasters, etc., can be manufactured from any material adapted to the purpose, but they are preferably made of baked clay, and as is shown in the drawings, are of various formations. All of the bricks are substantially rectangular in general contour with the exception of one, namely that shown in Fig. 7, which is practically T-shaped. In the form of brick A shown in Fig. 1, a marginal groove 20 is provided, extending horizontally parallel with the top and the bottom of the brick, the side section of the groove being intersected by a vertical groove 21, and in the form of brick shown in Fig. 2, a marginal groove 23 is likewise produced, but the marginal groove extends along one end only and along two sides, terminating short of the opposite end, and the sections of the grooves 23 are met by vertical grooves 24, and an aperture 25 is produced in the brick extending through from side to side at the side section of the groove 23.

The brick shown in Fig. 1 is designated as A and that shown in Fig. 2 as B, and the brick illustrated in Fig. 3 is designated as B'. This brick is provided with a marginal groove 23<sup>a</sup> extending along its four sides, being intersected at its side portion by vertical lower grooves 24<sup>a</sup> and upper grooves 26, while an aperture 25<sup>a</sup> corresponding to the aperture 25 shown in Fig. 2 extends through the brick from side to side.

In the brick B<sup>2</sup> shown in Fig. 4, the said brick is provided with grooves in its upper and lower faces, the said grooves consisting of a longitudinal groove 27 and transverse grooves 28, the outer ends of the transverse grooves 28 meeting vertical grooves 29 in the side faces of the brick, and in the longitudinal groove 27 of the base grooves an aperture 27<sup>a</sup> is made that extends from side to side.

The brick B<sup>3</sup> shown in Fig. 5 approximates that shown in Fig. 3, being provided with a marginal groove 23<sup>b</sup> intersected by vertical side grooves 24<sup>b</sup>, and in the side portion of the marginal groove an aperture or opening 25<sup>b</sup> is made.

In the form of the brick A', shown in Fig. 6, it is provided with upper and lower grooves 20<sup>b</sup> and 20<sup>a</sup> produced in opposing sides, the grooves at each side being parallel.

The brick A<sup>2</sup> shown in Fig. 7 is substantially

T-shaped, as stated, comprising a body *a* and a shank member *a'*. Parallel horizontal grooves 20<sup>a</sup> are produced in the opposite sides of the shank *a'* of this brick, otherwise it is plain.

In the construction of the brick shown in Fig. 8, and designated as B<sup>4</sup>, the said brick is provided with dove-tailed recesses or channels 30 in its upper and lower face, and in its end portions, and is also provided with an elongated or longitudinal central opening 31 extending through from side to side, the opening 31 being crossed at its central portion by a vertical opening 32.

In the brick C, shown in Fig. 9, it is provided with end recesses 33 and with a series of chambers 34 between its ends produced by suitably located partitions 34<sup>a</sup>.

In the form of brick C', shown in Fig. 10, it is provided in one side face with a substantially U-shaped recess 35 extending through from end to end, and at the side walls of the recess 35 substantially dove-tailed shaped or under cut ribs 36 are formed.

In the construction of the brick C<sup>3</sup> illustrated in Fig. 11, said brick is provided with a single dove-tailed or under cut rib 37 that extends from end to end.

In Fig. 12 I have shown two bricks placed edge to edge, of the type illustrated in Fig. 4, and in Fig. 13 I have shown a greater quantity of the same type of bricks assembled.

In Fig. 14 I have illustrated two of the bricks of the type shown in Fig. 8 assembled, and in Fig. 15 a greater quantity of the same type of bricks is shown, laid together to constitute a wall construction.

In Fig. 16 I have shown a section of floor construction made up of the type of bricks shown in Fig. 6, laid side by side in engagement with each other, and the said construction shown in Fig. 16 is typical of the grouping of the type of bricks shown in Fig. 1, also, and in this construction shown in Fig. 16, I have therefore shown vertical openings *a*<sup>2</sup> which may be considered the equivalents of the opening for the grooves 21 in the brick A, shown in Fig. 1.

In Fig. 17 I have illustrated a section of a beam constructed from the type of bricks C and C' shown in Figs. 9 and 10, the bricks C constituting the intermediate course and the bricks C' the outer course, and in this construction I have illustrated vertical openings *c* connecting with the openings made by the grooves heretofore mentioned so as to enable liquid cement to be poured into and to fill all of the channels or chambers in the structure, and it may be here stated that these ports as they may be termed can be and preferably are employed in all the constructions which the bricks are capable of producing. Finally in Fig. 18 I have illustrated a floor construction in which the type of bricks

shown in Figs. 6 and 7 are employed with the addition of sundry ports *a*<sup>3</sup> produced therein.

With reference particularly to the bricks shown in Fig. 8, the channelings or groovings 30 can be suppressed in part or in whole according to the external or internal position that the brick may occupy, as may be observed with reference to Figs. 14 and 15 which represent the level placing of said bricks for the construction of pilasters and walls. The manner of proceeding to make such walls is substantially as follows: to build pilasters, walls, and the like, the bricks are placed in horizontal rows alternating with one another with the usual intervening cement or mortar, taking care that the apertures and channelings correspond vertically and horizontally. The peripheral joinings are now cemented or plastered, or are filled or covered with stucco, and when the pilasters, walls, and similar constructions must be cemented upon reaching a convenient or given height, the cement in convenient liquid form is poured from above into one or more centrally located passages, as for example, the passages *a*<sup>2</sup>, *a*<sup>3</sup> or *c*, so that the liquid cement can flow into all of the passages or channels adapted to receive it. The same method is followed for building vaults, floors, and the like. For these latter constructions, it is evident that above all it will be necessary to provide for the forms and the plain or curved supports, in such a manner that their superficies remain perfectly smooth and in a measure waterproof; that is, in such a condition as not to permit the loss of the liquid cementing material that may purposely find its way through some point between bricks not properly filled up.

It is clear from the above mentioned construction, that the cement poured into one of the channels that are to be observed in the superficies of the structure shown in Figs. 16, 17 and 18, or in any one of the many channels shown in Figs. 12, 13, 14 and 14, is introduced into all of the channels or cavities, filling them to such an extent that when the cement becomes hard the internal monolithic skeleton above referred to is obtained. It should be well noted that a still greater resistance in the same direction can be obtained by the addition of metallic rods placed in the diverse channels horizontally or vertically, which rods are embedded in the cement run into said channels.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A beam or the like, comprising a plurality of rectangular bricks laid in courses, the bricks of the intermediate course being set edgewise and each having its ends recessed and provided with a plurality of transverse partitions, and the bricks of the

outer courses being set flatwise and each having in one side face a U-shaped recess, the side walls of which are provided with undercut ribs, the whole being adapted to be filled  
5 with cement.

2. A beam or the like, comprising a plurality of bricks laid in courses, the bricks of the intermediate course being set edgewise and each having its ends recessed and provided with a plurality of chambers, and the  
10 bricks of the outer courses being set flatwise and each having in one side face a U-shaped recess, the side walls of which are provided with ribs, the whole being adapted to be  
15 filled with cement.

3. A beam or the like, comprising a plurality of bricks laid in courses, the bricks of the intermediate course being set edgewise and each having its ends recessed, and the  
20 bricks of the outer courses being set flatwise

and each having in one side face a U-shaped recess, the side walls of which are provided with undercut ribs, the whole being adapted to be filled with cement.

4. A beam or the like, comprising a plurality of bricks laid in courses, the bricks of the intermediate course each having a recess at each end, and the bricks of the outer courses each having in its side face a longitudinal recess communicating at its ends with  
25 the end recess of the intermediate bricks, the whole being adapted to be filled with a bonding material.  
30

In testimony, that I claim the foregoing as my invention, I have signed my name in  
35 presence of two subscribing witnesses.

VINCENZO COMPAGNONE.

Witnesses:

WILLIAM GARGIULO,  
ROBERTO DE MASELLIN.