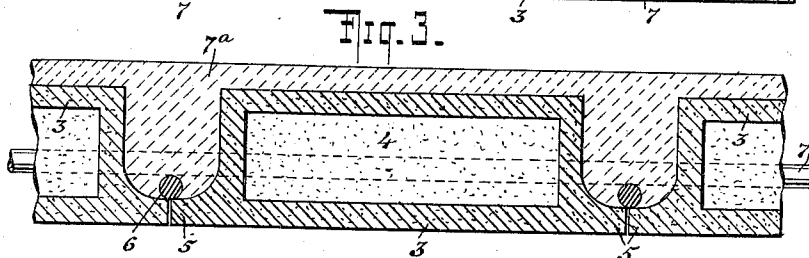
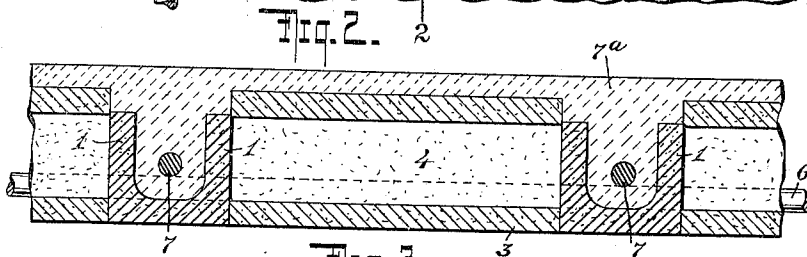
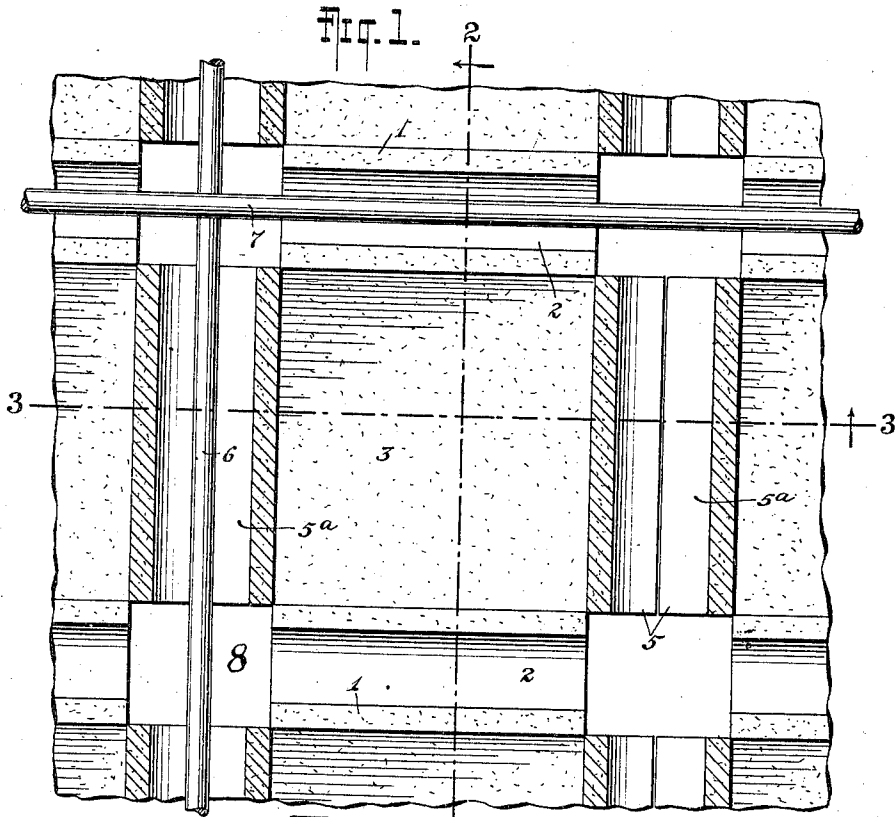


F. BURCHARTZ.
BLOCKS FOR BUILDING CONSTRUCTION.
APPLICATION FILED AUG. 4, 1910.

1,029,530.

Patented June 11, 1912.



WITNESSES:

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BLOCKS FOR BUILDING CONSTRUCTION.

1,029,530.

Specification of Letters Patent.

Patented June 11, 1912.

Original application filed November 2, 1909, Serial No. 525,878. Divided and this application filed August 4, 1910. Serial No. 575,533.

To all whom it may concern:

Be it known that I, FERDINAND BURCHARTZ, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Blocks for Building Construction, of which the following is a specification.

My invention relates to building construction and more particularly to blocks used in the construction of fire proof floors and ceilings and consists in the combination of block sections of cement-like material which, when placed together, form recesses for accommodating tie-rods placed at right angles to one another, one set of these block sections serving to close the open ends of the other set. Said sections are arranged to be assembled in a certain correlation to each other to form hollow blocks which comprise parts of a complete floor or ceiling that shall be light and fire-proof and possessed of great stability and strength.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a plan view, partly in section of a floor constructed according to my invention before the concrete is introduced; Fig. 2 is a cross section thereof, on the line 2—2 of Fig. 1, after the cement has been added; and Fig. 3 is a section on the line 3—3 of Fig. 1.

Referring to the drawings, 1 represents sections made of a suitable fire-proof material such as cement, terra cotta or the like, each grooved as at 2, its groove extending longitudinally thereof as shown best in Fig. 1. These sections 1 are arranged in parallel rows with a considerable space intervening between each pair of rows. Fig. 2 clearly shows the U-shaped cross section of these blocks 1, but they may be of other equivalent form so long as they form an open groove or channel for the reception of the tie-rods 7. Each block 1 is preferably made in a single piece. The space between each pair of rows of grooved blocks or sections 1 is occupied by a row of blocks 3. Each block 3 is hollow, having an inner passage 4 extending at an angle to the channels 2 of the section 1 when the sections and blocks are assembled. In other words, when the sections 1 and blocks 3 are set in posi-

tion the opposite open ends of the passage 4 of each block 3 will be closed by means of a section 1. The blocks 3 are further provided at their closed ends with flanges 5 extending outwardly therefrom near the bottom, the flanges of adjacent sections abutting against each other to space and maintain said blocks in a definite relative position to each other. These abutting flanges of adjacent blocks also form the bottoms of transversely extending grooves or channels 5^a for receiving the transverse tie-rods 6, the other tie-rods 7 which are called longitudinal being located in the grooves or channels 2 of the sections 1.

As shown in Fig. 2 the blocks 3 are preferably so constructed that their top faces are in a higher plane than the tops of sections 1 so that the compression area of a completed floor is continuous. That is to say, the cement or concrete binding subsequently applied incases the upper wall of the blocks 3 so that there is no dry joint between the blocks 3 and the sections 1 and the said blocks are consequently maintained against displacement. The upper wall of each block 3 is preferably so arranged that when the blocks and sections are set together, the lower surface of said upper wall will not be above the upper edge of each section 1 and thus prevents cement or other coalescent material from reaching the interior of the blocks 3; otherwise the floor would be unnecessarily weighted by concrete entering the hollows 4. Furthermore, the blocks 3 are also preferably somewhat longer than the sections 1 for the same reason, as indicated in Fig. 1. It is to be understood that the vertical walls of each block 3 are so arranged that when said blocks are placed symmetrically in position with regard to the sections 1 the inside surfaces of said walls will, however, not extend beyond the ends of the sections 1. This is to prevent concrete from entering the interior of the blocks 3 at these points.

After the sections 1 and the blocks 3 have been placed in relative position on a temporary scaffolding or centering the rods 6 and 7 are properly positioned in the channels 5^a and the grooves 2 respectively. Concrete or other coalescent material 7^a is then applied to fill the grooves of each section 1

and the cross channels 5^a of blocks 3 as well as into the angular recesses between adjacent edges of the blocks 3 and sections 1.

- 5 It will be observed that the sections 1 in each row do not abut, and likewise that the flanged extensions 5 of two rows of blocks 3 do not abut. Between these are formed open spaces 8, which permit of the intro-
 10 duction of the tie-rods 6 and 7 and which in the completed floor are finally also filled with concrete. Thus the concrete in these spaces 8 locks the channel sections 1, 1, in their predetermined positions. After this
 15 concrete has set or hardened the temporary centering is removed leaving the complete fire proof floor or ceiling in position. By making the sections 1 and the hollow blocks 3 separate these parts are easily and cheaply
 20 manufactured and when assembled as described, form a complete hollow block which is fireproof, light in construction and also extremely strong and capable of sustaining great weight.
- 25 It will be understood that changes in the specific constructions shown and described may be made within the scope of the claims without departing from the spirit of my invention.
- 30 This application is a division of my application for United States Letters Patent for "block for building construction" which application has been filed by me on November 2, 1909, Serial No. 525,878.

35 I claim:

1. In a floor construction, the combination of open ended blocks arranged in alinement in intersecting rows, and spaced from each other, channel blocks separate from said open
 40 ended blocks, and substantially U-shaped in cross section, located between and closing the open ends of said open ended blocks, and forming substantially continuous channels and a coalescent material in said channels.

45 2. In a floor construction, the combination of open ended blocks arranged in alinement in intersecting rows, and spaced from each other, channel blocks separate from said open ended blocks and substantially U-
 50 shaped in cross section, located between and closing the open ends of said open ended blocks and forming substantially continuous channels, said channel blocks terminating below the upper surfaces of said open ended
 55 blocks, and a coalescent material in said channels and extending over the tops of the channel blocks.

3. In a floor construction, the combination of open ended blocks arranged in alinement
 60 in intersecting rows and spaced from each other, channel blocks separate from said open ended blocks and substantially U-shaped in cross section, located between and closing the open ends of said open ended

blocks and forming substantially continuous 65 channels, said channel blocks being shorter than said open ended blocks and a coalescent material in said channels and extending over the ends of the channel blocks.

4. In a floor construction, the combination 70 of open ended blocks arranged in alinement in intersecting rows and spaced from each other, channel blocks, separate from said open ended blocks, and substantially U-shaped in cross section, located between and 75 closing the open ends of said open ended blocks and forming substantially continuous channels, said channel blocks terminating below the upper surfaces of and being shorter than said open ended blocks and a 80 coalescent material in said channels and extending over the tops and ends of the channel blocks.

5. In a floor construction, the combination 85 of open ended blocks arranged in intersecting rows and spaced from each other, channeled closure blocks located between and closing the open ends of said open ended blocks, said closure blocks being arranged in longitudinal alinement with each other in 90 rows to form substantially continuous channels, and having the opposed ends of the closure blocks in each row spaced from each other, and a coalescent material extending into said channels and into the spaces be- 95 tween said opposed ends of said closure blocks.

6. In a floor construction, the combination of open ended blocks arranged in intersecting rows, means for spacing said blocks 100 apart in one direction, channeled closure blocks for closing the open ends of said open ended blocks and for spacing them apart in another direction, and a coalescent material in the spaces between said open ended blocks 105 and in the channels of the closure blocks, said coalescent material also extending between the ends of the spacing means, and the ends of the closure blocks for preventing displacement thereof. 110

7. In a fireproof floor construction, the combination with hollow panel tile having open ends and spaced apart longitudinally and transversely and arranged in longitu- 115 dinal and transverse rows, channel tile extending transversely between and closing the hollows of said panel tile, a network of longitudinal and transverse concrete ribs filling said channel tile and the spaces between the sides of said panel tile, and tensile acting 120 reinforcements for said concrete ribs, substantially as specified.

8. In a fireproof floor construction, the combination with hollow panel tile having open ends and spaced apart longitudinally 125 and transversely and arranged in longitudinal and transverse rows, channel tile extending transversely between and closing the

hollows of said panel tile, a network of longitudinal and transverse concrete ribs filling said channel tile and the spaces between the sides of said panel tile, and tensile acting
5 reinforcements for said concrete ribs, said reinforcements extending both longitudinally and transversely, substantially as specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 10 witnesses.

FERDINAND BURCHARTZ.

Witnesses:

OTTO V. SCHRENK,
FRANK F. KIRKPATRICK.