June 13, 1933. G. T. RICHARDS 1,914,294

CONCRETE VENTILATING BLOCK

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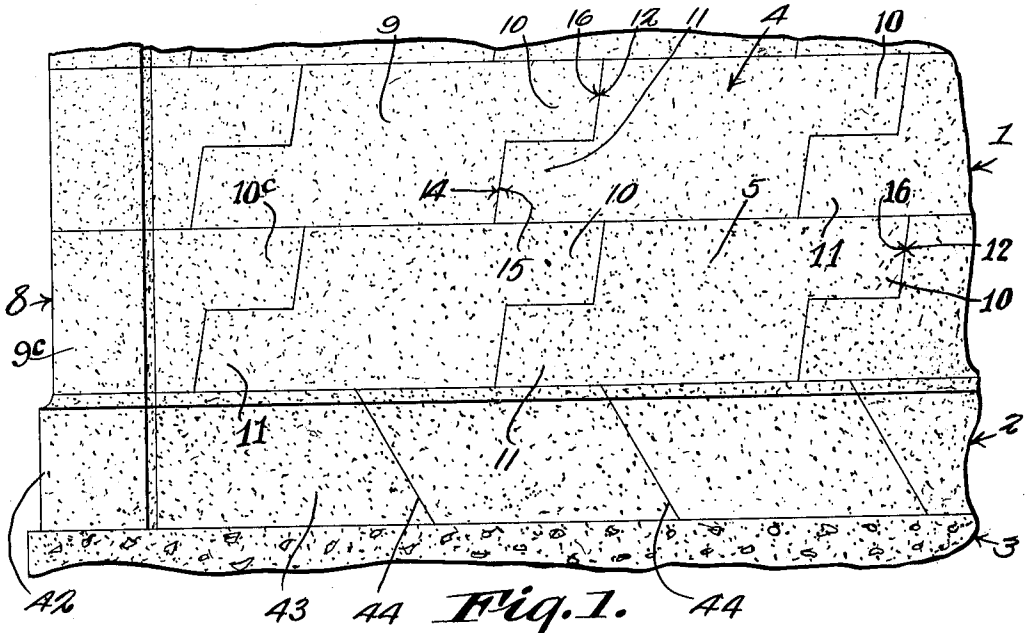


Fig. 1.

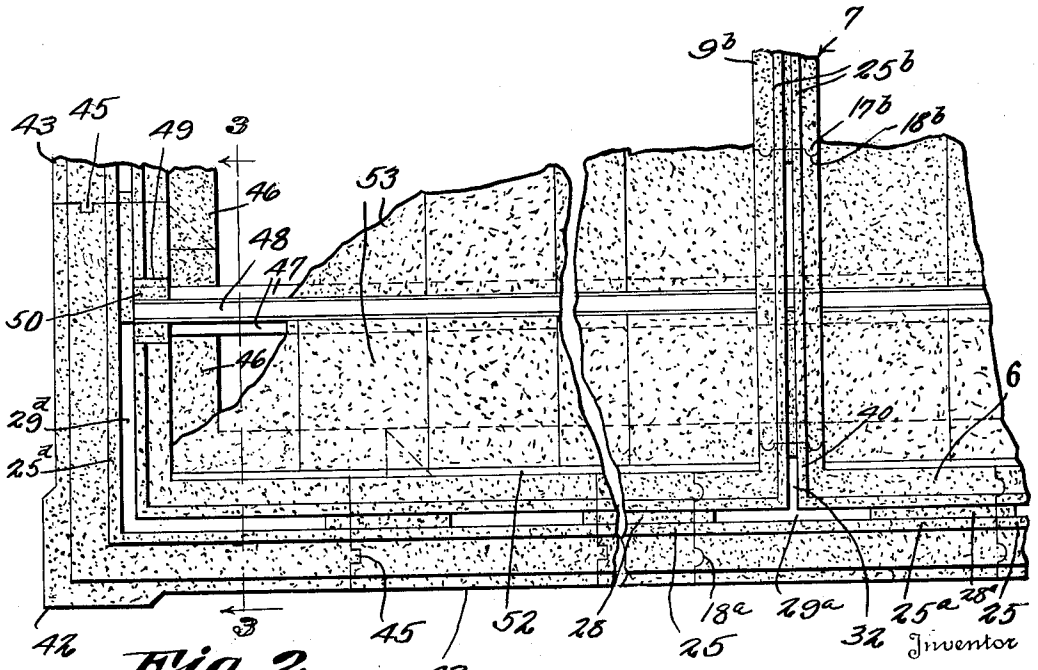


Fig. 2.

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Fig. 3.

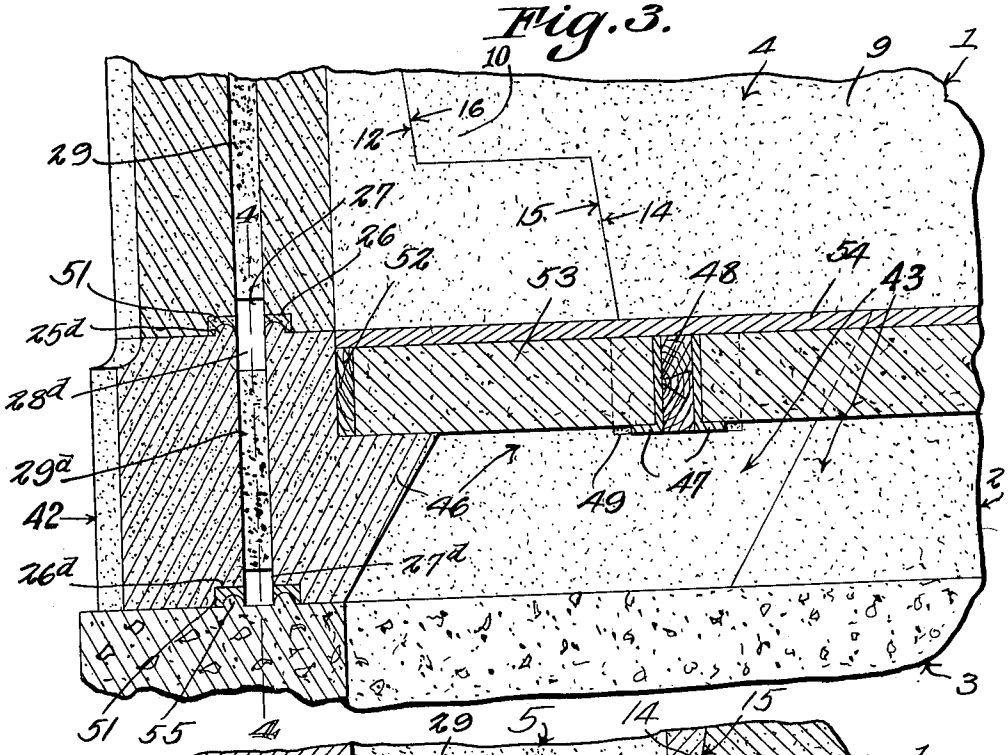


Fig. 4.

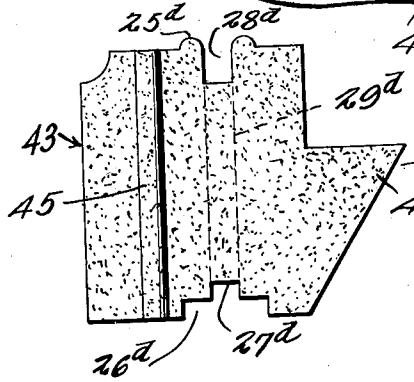


Fig. 5.

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CONCRETE VENTILATING BLOCK

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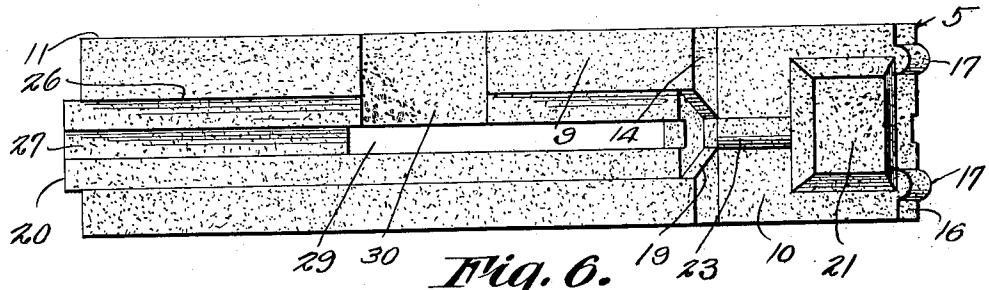


Fig. 6.

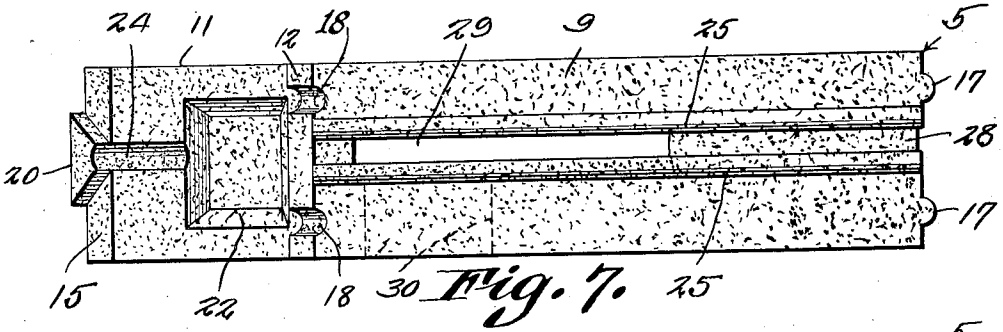


Fig. 7.

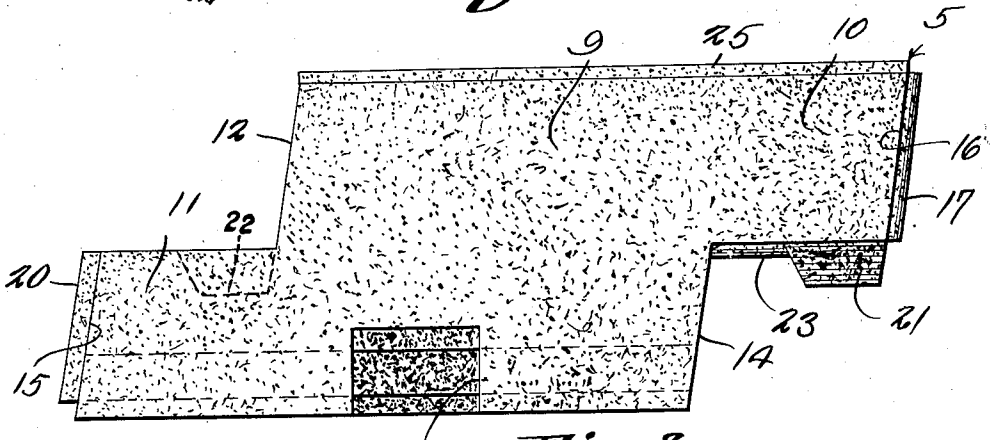


Fig. 8.

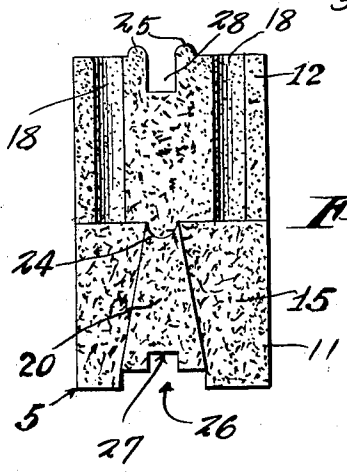


Fig. 9.

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CONCRETE VENTILATING BLOCK

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Fig. 10.

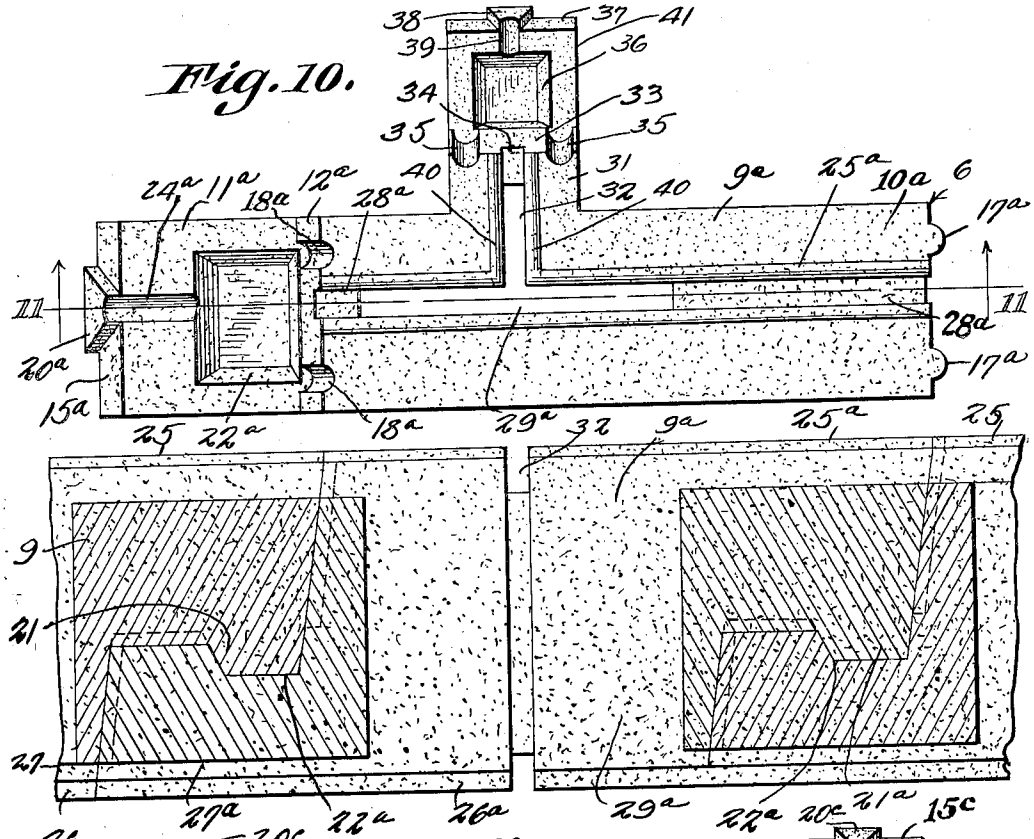


Fig. 11.

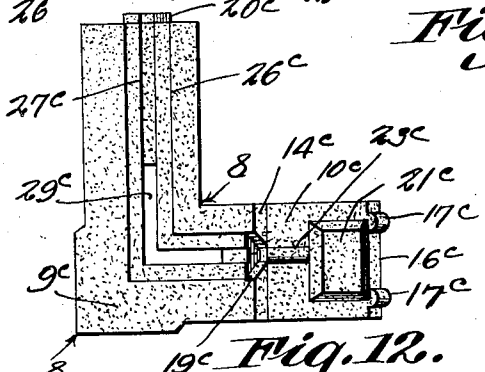


Fig. 12.

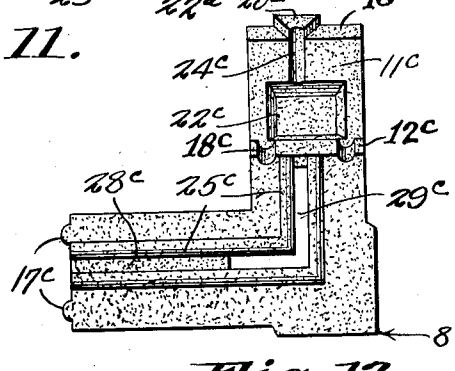


Fig. 13.

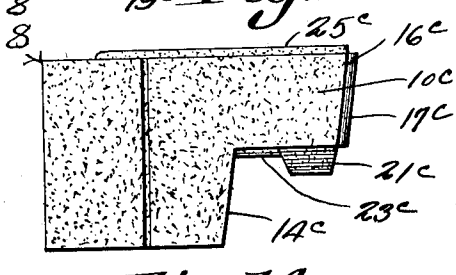


Fig. 14.

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Patented June 13, 1933 1,914,294

UNITED STATES PATENT OFFICE

GEORGE T. RICHARDS, OF SEATTLE, WASHINGTON

CONCRETE VENTILATING BLOCK

Application filed December 29, 1930. Serial No. 505,389.

This invention aims to provide novel blocks adapted to be used in building, the blocks preferably but not necessarily being made of concrete, novel means being provided for interlocking the blocks and novel means being supplied for providing a ventilation through the completed walls.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 shows in elevation, a portion of a wall constructed in accordance with the invention;

Figure 2 is a top plan;

Figure 3 is a sectional view taken approximately on the line 3—3 of Figure 2;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is an end view of one of the base blocks;

Figure 6 is a bottom plan of the lower wall block;

Figure 7 is a top plan of the lower wall block;

Figure 8 is a side elevation of the lower wall block;

Figure 9 is an end elevation of the lower wall block;

Figure 10 is a plan of the junction block;

Figure 11 is a section taken approximately on the line 11—11 of Figure 10, showing how blocks are interengaged with the junction block of Figure 10.

Figure 12 is a bottom plan of one of the corner blocks;

Figure 13 is a top plan of the corner block shown in Figure 12;

Figure 14 is a side elevation of the block depicted in Figures 12 and 13.

Referring to Figure 1 of the drawings, there is shown a wall constructed in accordance with the invention, and embodying a superstructure 1, a base 2, and a foundation 3.

The superstructure 1 is made up of upper wall blocks 4 shown in Figure 1, lower wall blocks 5, shown in Figures 6, 7, 8 and 9, junction blocks 6, shown in Figures 10 and 2, partition blocks 7, shown in Figure 2, and corner blocks 8, shown in Figures 1, 12, 13 and 14.

The lower wall block 5 will be described first, in detail, and in this connection, let Figures 6, 7, 8, and 9 be noted.

The lower wall block 5 comprises a body 9, supplied at one end with an overhanging upper arm 10, and supplied at its opposite end with a projecting lower arm 11. There is an inclined shoulder 12, at one end of the body 9, the shoulder 12 being located at the inner end of the lower arm 11. There is an inclined shoulder 14 at the opposite end of the body 9, the shoulder 14 being disposed at the inner end of the upper arm 10. The lower arm 11 has an inclined end 15 that is parallel to the shoulder 14. The upper arm 10 has an inclined end 16 which is parallel to the shoulder 12.

On the inclined end 16 of the upper arm 10, there are vertical, outstanding, parallel ribs 17, adapted to enter correspondingly shaped grooves 18 formed in the shoulder 12 of the body 9. On the inclined end 15 of the lower arm 11, there is an outstanding V-shaped lug 20, adapted to be received in a correspondingly shaped seat 19, formed in the shoulder 14 of the body 9.

On the lower surface of the upper arm 10, there is a depending tapered projection 21 that is spaced from the shoulder 14. The projection 21 is adapted to be received in a correspondingly shaped socket 22 formed in the upper surface of the lower arm 11. Depending rib 23 extends between the projection 21 and the shoulder 14. This rib 23 is adapted to be received in a correspondingly shaped longitudinal groove 24, formed in the upper surface of the lower arm 11 and ex-

tending from the socket 22 outwardly across the upper end of the lug 20 on the end 15 of the lower arm 11. On the upper surface of the body 9 and on the upper arm 10 there are parallel longitudinal ribs 25, adapted to be received in a longitudinal recess 26 formed in the lower surface of the body 9 and of the lower arm 11. In the lower surface of the body 9 and of the lower arm 11, and more specifically, in the top wall of the recess 26, there is a reduced longitudinal groove 27 adapted to register with a corresponding longitudinal groove 28 formed in the upper surface of the body 9 and of the arm 10, the groove 28 being disposed between the ribs 25. The body 9 has a vertical passage 29 communicating with the grooves 27 and 28. In one side of the body 9 of the lower wall block 5 there is an opening 30 which communicates with the vertical passage 29. This opening 30 is the characteristic feature of the lower wall block 5. Aside from the opening 30, the upper wall block 4 is like the lower wall block 5, the upper wall block 4 simply being devoid of the opening 30.

In laying up the superstructure 1, using the blocks 4 and 5, the upper arm 10 is disposed above the lower arm 11 of an adjoining block. The end 16 of the upper arm 10 abuts against the shoulder 12 on the body 9. The end 15 of the lower arm 11 abuts against the shoulder 14 of the body 9. The projection 21 on the upper arm 10 is received in the socket 22 of the lower arm 11. The rib 23 of the upper arm 10 is received in the groove 24 of the lower arm 11. The lug 20 on the end of the lower arm 11 is received in the seat 19 that is formed in the shoulder 14 of the body 9. The ribs 17 on the end of the upper arm 10 are received in the grooves 18 of the shoulder 12 of the body 9. The ribs 25 on the upper surface of the body 9 and of the upper arm 10 are received in the recess 26 formed in the lower surface of the body 9 and in the lower surface of the lower arm 11 of a like block.

It will be seen that a very secure interlock between the blocks 4 and 5 of the superstructure 1 is afforded.

As to ventilation, the air enters the wall blocks 5 by way of the opening 30 and moves upwardly through the passage 29. The passages 29 are in communication, in superposed courses in the wall, and there is a vertical movement of the air. Moreover, there is a horizontal movement of the air from the passages 29, through the registering grooves 27 and 28 (Figure 9) of superposed courses.

As to the junction block 6 of Figure 10, it is constructed very much like the wall blocks 4 and 5, hereinbefore described, and parts hereinbefore detailed have been designated in Figure 10, by numerals previously used, with the suffix "*a*".

The junction block 6 of Figure 10 has a rectangular offset 31 provided with a recess 32 communicating with the recess 29*a*. The shoulder 33 at the outer end of the offset 31 corresponds to the shoulder 12*a*. The groove 34 in the offset 31 corresponds to the groove 28*a*. The groves 35 in the shoulder 33 correspond to the grooves 18*a*. The socket 36 corresponds to the socket 22*a* and is formed in the lower arm 41 of the offset 31. The inclined end 37 of the arm 41 corresponds to the inclined end 15*a*. The lug 38 on the inclined end 37 is represented by the lug 20*a*. The groove 39 is the counterpart of the groove 24*a*. The ribs 40 join the ribs 25*a* and have the same function as the ribs 25*a*.

As to the partition block 7 of Figure 2, it is constructed like the wall blocks 4 and 5, saving for the fact that it need not necessarily be so thick as the wall blocks. In Figure 2, referring to the partition block 7, parts hereinbefore described have been designated by numerals previously used, with the suffix "*b*". The partition blocks 7 cooperate with the offset 31 of the junction block 6 of Figure 10 in a way which will be understood readily when the description of Figures 6, 7, 8 and 9, is recalled.

The corner blocks 8 of Figures 1, 12, 13 and 14 need not be described in detail, because they are substantially like the blocks shown in Figures 6, 7, 8 and 9, aside from the fact that they are of rectangular form, whereas the blocks shown in Figures 6, 7, 8 and 9 are straight. In Figures 12, 13 and 14, parts hereinbefore described have been designated by numerals previously used, with the suffix "*c*".

Having concluded the description of the superstructure 1 of Figure 1, the construction of the base 2 will now be taken up, the superstructure being mounted on the base. The base embodies corner blocks 42 and wall blocks 43. They comprise the recess 26*d*, the groove 27*d*, the groove 28*d*, the ribs 25*d*, and the passage 29*d*.

The blocks 42 and 43 of the base 2 are tongued and grooved together at their ends, as shown in Figs. 2 and 5, at 45, and have their ends bevelled, as at 44. The blocks 42 and 43 have an inwardly extended ledge 46, carrying angle bars 47 between which is located, if desired, a strip of wood as shown at 48. The inner portions of the blocks 42 and 43 may be supplied with recesses 49 (Figures 2 and 3), receiving the ends of the angle bars 47 and the end of the strip 48. If desired, the recesses 49 may be filled with cement, as shown at 50 in Figure 2, above the horizontal flanges of the angle bars 47. It will be understood, moreover, that cement may be used wherever desired, as shown, at 51 in Figure 3 although the use of cement as indicated is optional. The strip of wood shown at 52 may extend parallel to the beams 47—48, and be supported on the ledges 46.

The floor blocks 53, which are made out of cement or any other suitable material, are supported by ledges 46 and the horizontal flanges of the angle bars 47 of the beams. Over the parts 50, 53, 47 and 48 (Figure 3) is laid the floor 54. It will be understood, however, that the general flooring structure depicted in Figure 3 may be changed, should the builders so desire.

The base 2 rests on the foundation 3, which need not be described in detail saving to state, that, if the contractor wishes, he can provide the foundation 3 with ribs 55, extending upwardly into the recess 26*d* of the base 2, as shown in Figure 5.

Having thus described the invention, what is claimed is:

1. A block comprising a body provided at one end with an overhanging upper arm, and provided at its opposite end with a projecting lower arm, the arms having elements adapted and shaped to interengage when like blocks are brought together with the upper arm of one block disposed above the lower end of the other block, the body of the block being provided with a vertical passage, and there being open grooves in the upper surface of the upper arm, and in the lower surface of the lower arm, the grooves communicating at their inner ends with the passage.

2. A block comprising a body provided at one end with an overhanging upper arm, and provided at its opposite end with a projecting lower arm, the body being provided with a vertical air passage spaced from the arm, the body and the upper arm being provided on their upper surface with upstanding ribs, and the body and the lower arm being provided on their lower surface with a recess which receives the ribs of a like block, there being a groove in the lower surface of the body and of the lower arm, said groove being disposed in the top of the recess, and there being a groove in the upper surface of the body and of the upper arm, the last-specified groove being located between the ribs, the grooves communicating with the passage, and the grooves communicating in superposed blocks to afford a horizontal communication between the passages of adjoining blocks in the same course.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

GEORGE T. RICHARDS.