

F. BURCHARTZ.
METHOD OF MAKING HOLLOW BUILDING BLOCKS.
APPLICATION FILED DEC. 10, 1910.

986,798.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

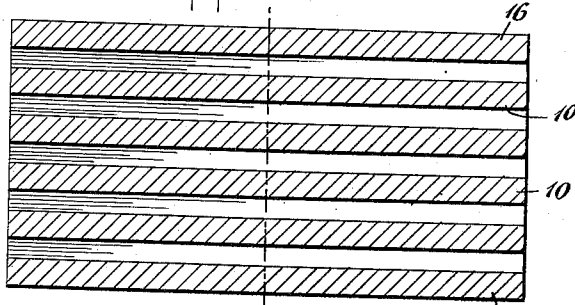


Fig. 2.

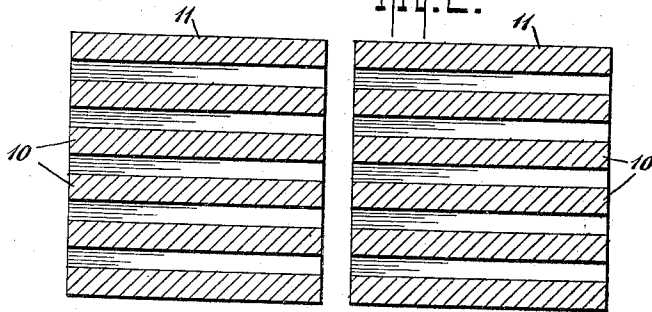


Fig. 3.

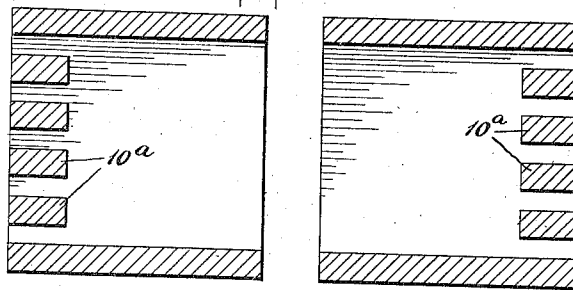
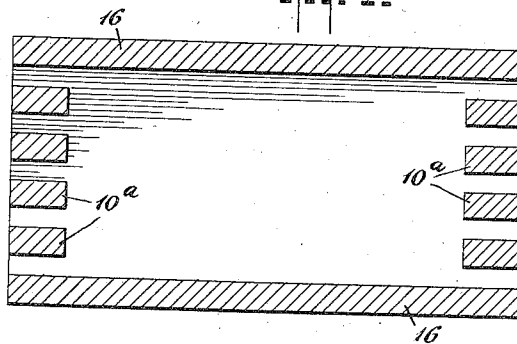


Fig. 4.



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2 SHEETS-SHEET 2.

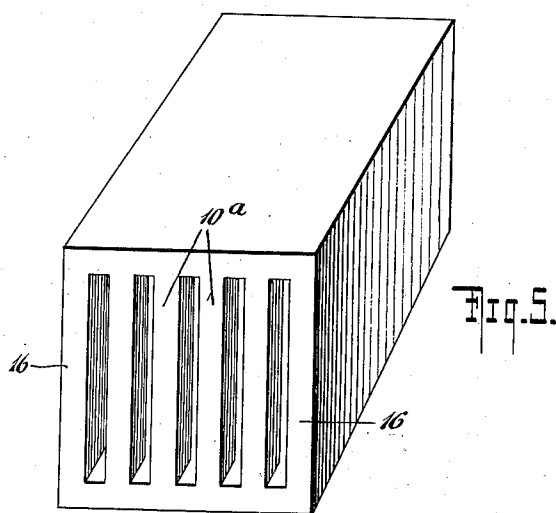


Fig. 5.

Fig. 6.

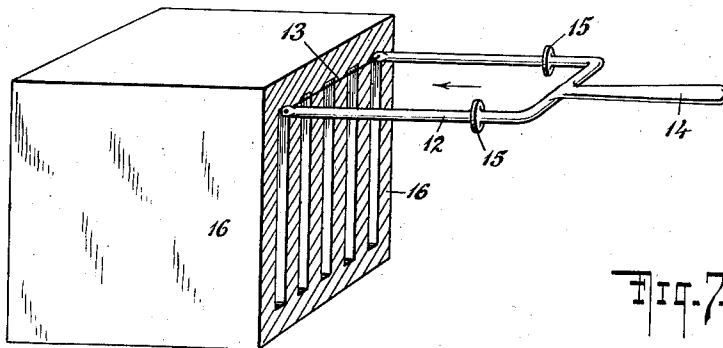


Fig. 7.

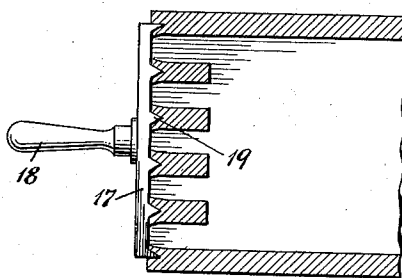
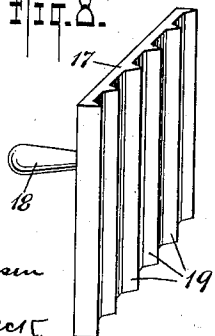


Fig. 8.



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METHOD OF MAKING HOLLOW BUILDING-BLOCKS.

986,798.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed December 10, 1910. Serial No. 596,618.

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 a certain new and useful Improvement in Methods of Making Hollow Building-Blocks, of which the following is a specification.

10 My invention relates to the manufacture of what are commonly known as hollow building blocks, that is, blocks made of concrete or similar material having hollow interiors, and has for its object to provide a method by means of which such blocks may be readily and cheaply made.

My improved method will be fully described hereinafter and its features of novelty pointed out in the appended claims.

20 Reference is to be had to the accompanying drawings illustrating the different steps of my improved method in which—

Figures 1, 2, 3 and 4 illustrate a block in horizontal section and respectively in the successive steps of my method. Fig. 5 is a perspective view of a completed block; Fig. 6 is a perspective view of a block unit showing a tool which may be used for performing one step of my improved method; Fig. 7 is a horizontal section of a portion of a block similar to Fig. 4 showing an added step sometimes used in my improved method, and Fig. 8 is a perspective view of a tool which may be used for carrying out this added step.

35 In carrying out my improved method the concrete or other material of which the block is being made is first shaped by any suitable means into a unit having the form shown in Fig. 1. The said unit has the outside configuration and length of the finished block and is provided with a series of spaced partitions 10 which extend lengthwise or longitudinally thereof from one end to the other. The said partitions are preferably placed close together so that the spaces therebetween are reduced to a minimum the reason for which will be explained more fully hereinafter. After the material has been formed into the unit just described the same while still plastic is cut transversely by means of a suitable cutting instrument at a point intermediate of the ends into two separate units 11 as indicated in Fig. 2. The transverse cut should preferably be made at a

point approximately central between the opposite ends of the original unit indicated by the dotted line in Fig. 1, although this is not absolutely necessary. In the second step of my method the two separate units 11 thus each have a series of partitions 10 extending through the entire length thereof. After these two separate units have been formed and while the block material is still plastic a portion of the partitions 10 are removed from the cut end toward the opposite end of each unit so that said units 11 will each have the appearance illustrated in Fig. 3. This removal of a portion of said partitions 10 may be accomplished in any suitable manner as for instance by means of the instrument shown in Fig. 6. This instrument comprises a fork 12 having its free ends connected by means of a cutting wire or blade 13 and an operating handle 14. Stops 15 may be provided on each member of the fork 12 to limit the inward movement of the cutting wire or blade 13. The distance between the outside of the free ends of the fork 12 should not be greater than the distance between the inner surfaces of those outside walls 16 of the unit which extend parallel with the partitions 10 and should preferably be slightly less so that said tool may be easily inserted between said side walls without damage to same in the manner now to be described.

The cutting wire or blade of this instrument is placed against the cut surface of a unit 11 at the points where the partitions join the upper outside walls of the said unit and then forced inwardly and preferably parallel with said wall until the stops 15 engage the cut surface of the particular unit being operated upon. These stops are so located relatively to the blade or wire that the inward movement of said blade or wire from the cut surface of the unit will be arrested at a point inside of the opposite end surface thereof. After the instrument has been thus moved inwardly adjacent to the upper outside wall of said unit and the upper ends of the partitions separated from the said upper wall the said instrument is moved downwardly at right angles to its previous movement so as to transversely cut through said partitions down to the lower wall of said unit and is then pulled forwardly adjacent to said lower wall to cut said partitions at the points where they connect with

said lower wall. This operation having been completed the other unit 11 is similarly treated so that the partitions for a part of the distance inward from the cut surface of the two units 11 are free and may be easily removed leaving said units with hollow interiors and with portions of the original partitions remaining in each unit to form ribs as they might now be termed which extend across one end of each of the units 11. After the partitions or rather a portion thereof have thus been removed the cut ends or surfaces of each unit 11 are again brought together and united so that the two units again become a single unit having the appearance illustrated in Fig. 4 that is in other words, a complete block having a hollow interior and spaced partitions or ribs 10^a extending across the opposite ends thereof. The complete block is shown in Fig. 5.

To recapitulate the present method thus consists in first forming the material of which the block is being made, that is, concrete or the like, into a single unit having spaced partitions extending lengthwise or longitudinally thereof from end to end, cutting said unit transversely at a point intermediate of its ends into two separate units, removing a portion of the partitions from each unit inwardly from the cut and then re-uniting the cut ends or surfaces to again form a single unit having a hollow interior and partitions or ribs extending across each opposite end thereof. After the two separate units 11 have been re-united as described the block is burned or cured in the usual way. During this curing operation the block material contracts and the spaces between the adjacent partitions or ribs at each end of the block are reduced in width so that said partitions practically contact with each other in the final block and a finished block is formed having solid side walls and substantially solid end walls. The spaces between the partitions in the final block are small enough to prevent cement or any other binder which may be used to bind the blocks together when in use from entering the interior of said blocks in any quantity, yet said spaces are sufficient to provide for a ventilation of the said interior before said blocks are set up in use and during the curing thereof.

While it is preferable to arrange the partitions 10 originally close enough together to attain the result described above, it may be found advantageous at times to space them farther apart. In this instance the outside surfaces of each series of partitions or ribs at each end of the block are spread so as to project toward each other as indicated in Fig. 7 so as to reduce the spaces between each two partitions and between the outside two partitions and the two side walls

of the block. This step when found necessary takes place while the block material is still plastic and before curing so that in the curing a result similar to the one described above will be secured.

The spreading of the partitions and side walls as described may be accomplished in any suitable manner as for instance by means of the tool shown in Figs. 7 and 8. This tool comprises a metallic or other plate 17 having a handle 18 and sufficient in area to cover the end of the block and provided at intervals corresponding to the center line of each partition and each side wall with cam projections 19. These cam projections 19 all have oppositely inclined surfaces to form sharp edges excepting the two outside ones which need have only one inclined surface to form said edge, the other surface being preferably at right angles to the surface of the plate. In use this plate 17 is forced into contact with each end face of the block with the sharp edges of each projection in line with the longitudinal center of each partition and each side wall. As pressure is exerted on said plate toward the block the projections 19 will spread the material constituting each partition in two opposite directions and the material constituting each side wall inwardly toward the adjacent partitions. The material is thus spread out or opened to form wings as it were which extend toward each other and reduce the width of the spaces between adjacent partitions at their outer ends and also between the side walls and adjacent partitions. This reduction is sufficient to bring about substantially a closing of said spaces as the block is cured as hereinbefore described. It is to be understood that this last step if used preferably follows the other steps of the method as described.

My improvement thus provides a simple and efficient method for readily and cheaply constructing hollow building blocks of concrete or similar material. Hollow blocks of this description are very strong and yet extremely light in weight so that the dead load of a floor or ceiling or other structure in which these blocks are used is materially reduced without sacrificing strength.

Various modifications may be made within the scope of the claims without departing from the spirit of my invention.

I claim:—

1. The method of making hollow building blocks which consists in forming the block material into a unit having spaced partitions extending longitudinally thereof from end to end, cutting said unit transversely into two units, removing a portion of said partitions from each unit for a distance from the cut, and reuniting said two units at the cut surfaces.

2. The method of making hollow building

blocks which consists in forming the block material into a unit having spaced partitions extending longitudinally thereof from end to end, cutting said unit transversely
5 into two units, removing a portion of said partitions from each unit for a distance from the cut, reuniting said two units at the cut surfaces, and spreading the outer surfaces of the partitions and side walls to-
10 ward each other to reduce the spaces be-

tween the partitions and between the partitions and the walls of the block.

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

FERDINAND BURCHARTZ.

Witnesses:

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M. H. LOCKWOOD.
