Aug. 4, 1925.

1,548,485

W. H. QUIMBY

MOLD FOR CONCRETE TILES

Filed April 6, 1921

3 Sheets-Sheet 1

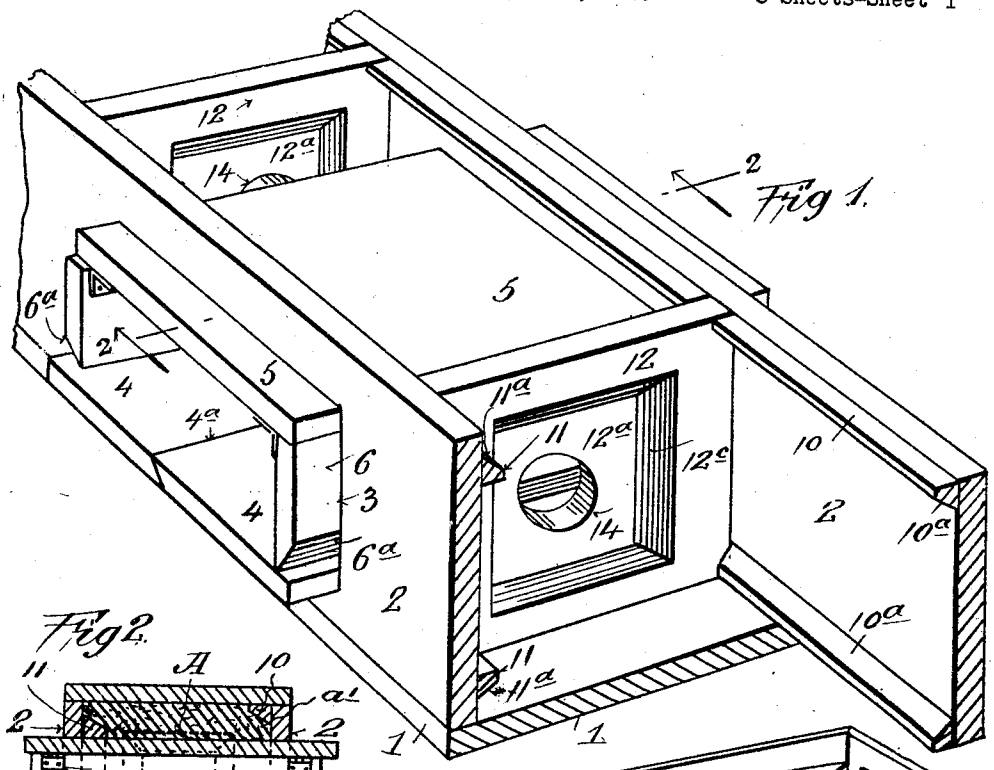


Fig 1.

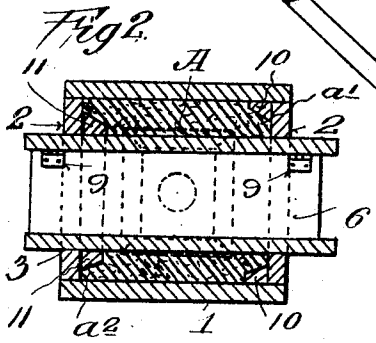
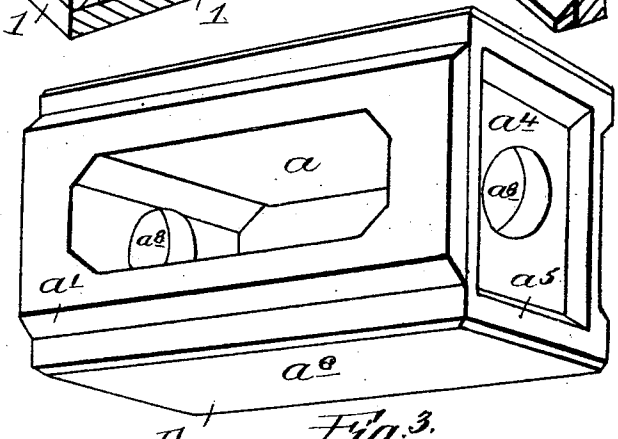


Fig 2.



A Fig. 3.

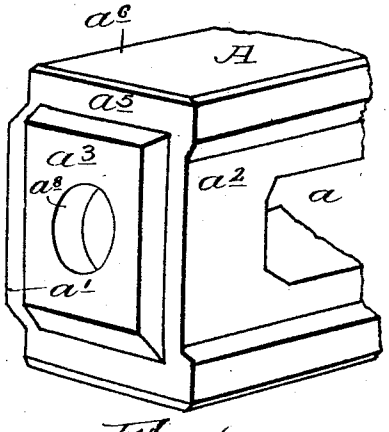


Fig. 4.

INVENTOR

Walter H. Quimby.

BY His ATTORNEY

D. & Bourne

Aug. 4, 1925.

1,548,485

W. H. QUIMBY

MOLD FOR CONCRETE TILES

Filed April 6, 1921

3 Sheets-Sheet 2

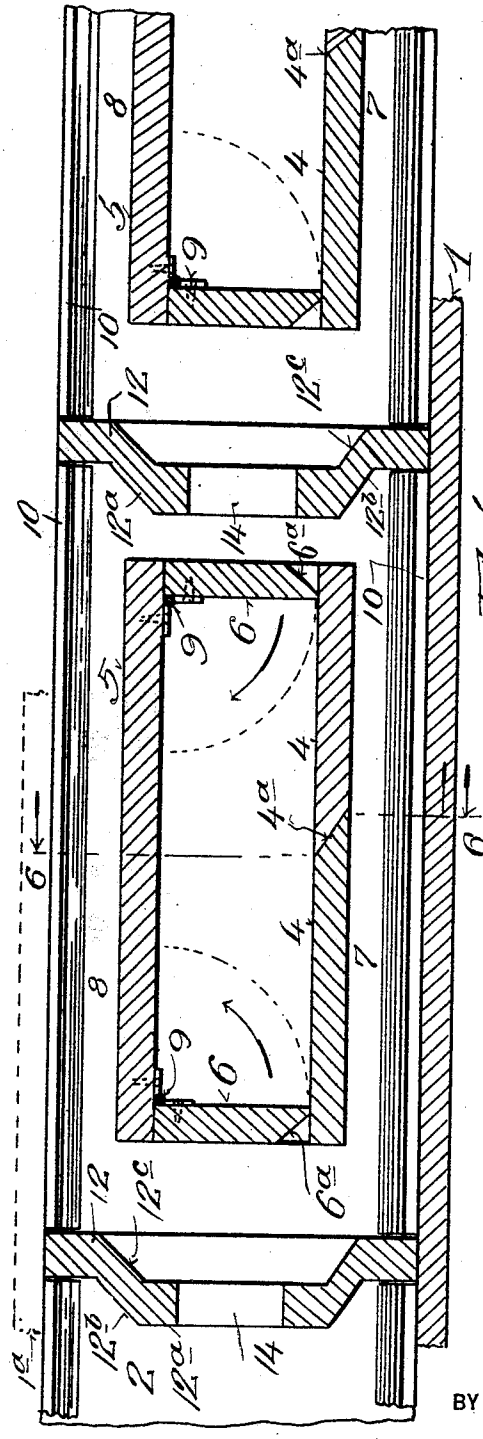


Fig. 5

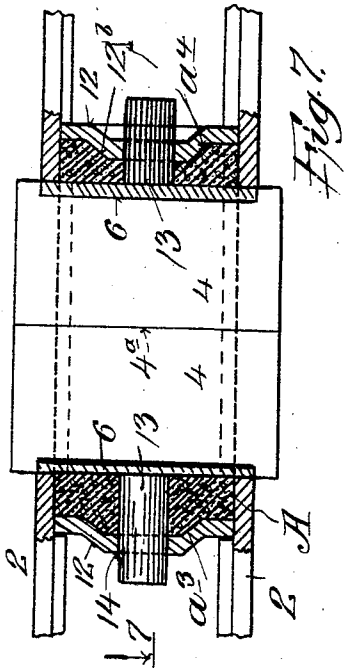


Fig. 7

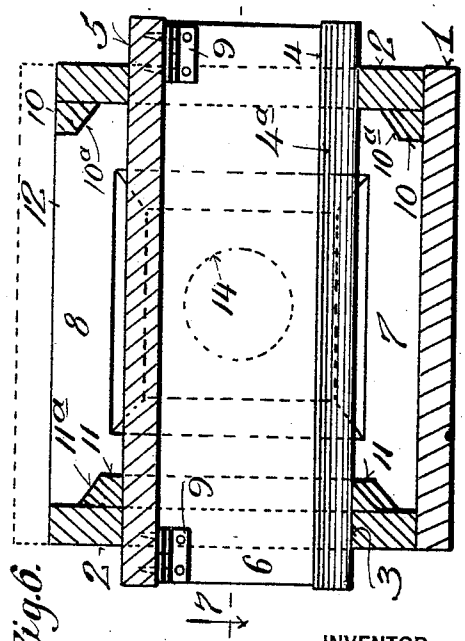


Fig. 6

INVENTOR

Walter H. Quimby

BY His ATTORNEY

T. F. Bourne

Aug. 4, 1925.

1,548,485

W. H. QUIMBY

MOLD FOR CONCRETE TILES

Filed April 6, 1921

3 Sheets-Sheet 3

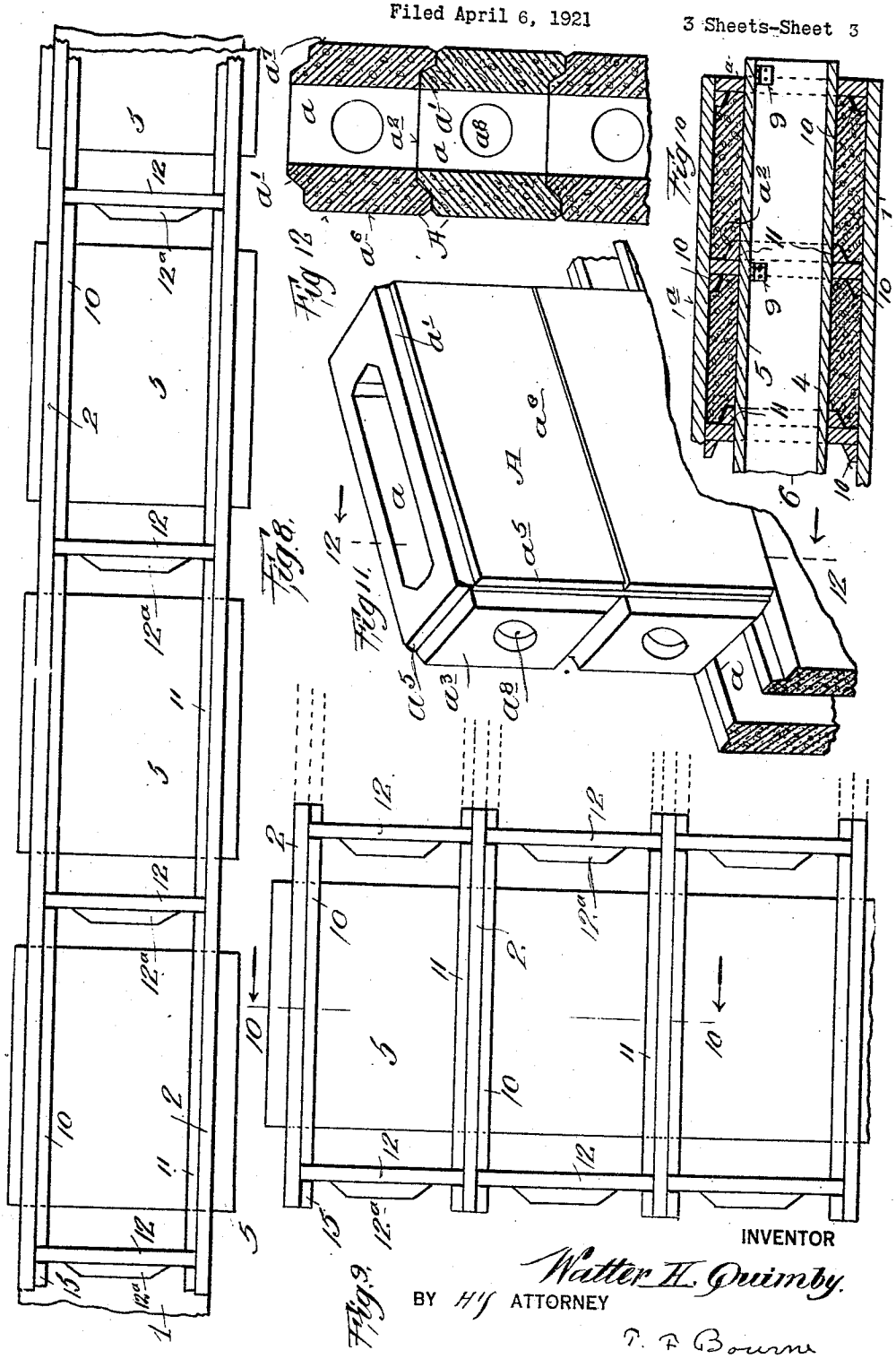


Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

INVENTOR

Walter H. Quimby.

BY H.J. ATTORNEY

T. F. Bourne

Patented Aug. 4, 1925. 1,548,485

UNITED STATES PATENT OFFICE.

WALTER H. QUIMBY, OF NEW YORK, N. Y.

MOLD FOR CONCRETE TILES.

Application filed April 6, 1921. Serial No. 459,007.

To all whom it may concern:

Be it known that I, WALTER H. QUIMBY, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Molds for Concrete Tiles, of which the following is a specification.

The object of my invention is to provide a mold for making concrete tiles or blocks, whereby the mold parts may be readily set up for use and the parts may be quickly detached for removing the molded tile or block. My improved mold is particularly adapted for making tiles or blocks having inner air spaces for inter-communication vertically when the blocks are set up and registering end holes for communication with said air spaces for lateral air circulation, providing hollow air enclosed walls. The mold also provides interlocking tiles both vertically and laterally with smooth or other desired exterior and interior surfaces, affording great resistance to side pressure as well as vertical pressure.

My invention comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein—

Figure 1 is a perspective view of a mold embodying my invention; Fig. 2 is a section on line 2, 2 in Fig. 1, on a reduced scale, showing the concrete in position; Figs. 3 and 4 are perspective views illustrating different portions of the molded tile or block; Fig. 5 is an enlarged longitudinal section of the mold; Fig. 6 is a section on line 6, 6 in Fig. 5; Fig. 7 is a horizontal section on line 7, 7 in Fig. 6; Fig. 8 is a plan view illustrating my improvements having the mold members for casting individual tiles arranged in end-to-end relation; Fig. 9 is a plan view illustrating the mold members in side-by-side relation; Fig. 10 is a cross section on line 10, 10 in Fig. 9; Fig. 11 is a perspective view showing tile assembled; Fig. 12 is a section on line 12, 12 in Fig. 11.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates the base board of the mold upon which the vertical side walls 2 are erected and spaced apart according to the desired dimensions of the tile or block to be molded. Side walls 2 have opposing openings at 3 through which bottom and top boards 4, 5, are passed, said boards being maintained spaced apart by spaced boards 6 extending through the openings 3 of the side walls. When the parts 4, 5, 6, are assembled spaces 7 and 8 are provided within the mold between the bottom and top boards 1, 1^a, respectively, for the concrete. The boards 4, 5, 6, provide a hollow knock-down and removable core for producing the spaces a in the tiles or blocks A. The side boards 6 of the core are preferably hinged at 9 to the top board 5, and the outer lower corners of the boards 6 are shown cut away or beveled at 6^a whereby the boards 6 may be swung from the board 4 up against the board 5 to release the core members from the molded concrete tile. By preference the bottom board 4 is made in at least two parts having overlapping tapering joint at 4^a (Fig. 5), whereby when the boards 6 are swung away from the board 4 the latter may be conveniently removed from opening a of the tile or block A, and thereby the boards 5, 6, may be similarly removed. The tiles or blocks A have projecting and re-entrant portions a', a^2, on opposite sides around the open ends of the openings a, for interlocking the opposing projecting and re-entrant portions of superimposed tiles, as illustrated in Fig. 12. The projecting portions a' are produced by means of longitudinally disposed spaced strips 10 having inclined tapering inner edges at 10^a diverging from a side wall 2, to the inner faces of which wall the strips are secured on opposite sides of the core boards 4, 5, (Figs. 2 and 10). The re-entrant portions a^2 of the tiles or blocks are produced by longitudinally disposed strips 11 secured along the side wall 2 opposite the strips 10, the outer edges 11^a of which strips 11 are beveled or inclined converging inwardly from the adjacent side wall 2 corresponding to the inclination of the edges 10^a of strips 10. The strips 11 are spaced a suitable distance from the top and bottom edges of side wall 2. When the concrete is poured into the mold it will enter the space between upper and lower strips 10 to produce the projecting portions a' and will flow outside of the strips 11 and of fillers on the corresponding side wall between the gates, the core, and the adjacent ends of strips 11 to produce the re-entrant portions a^2 of the tiles or blocks, (Figs. 2 and 10).

The ends of the blocks are provided with

projecting and re-entrant portions a^3, a^4, respectively, for interlocking of the blocks endwise disposed. To produce the projecting and re-entrant portions a^3, 34, I provide end gates or walls 12 that extend between the bottom board and the side walls of the mold, spaced from the boards 4, 5, 6 of the core and located at the ends of the strips 10, 11 for a tile. The gates or walls 12 have interior hollow projecting portions 12^a facing in the same direction and shown provided with outer and inner correspondingly beveled faces 12^b, 12^c, (Figs. 1 and 5). The gates 12 are detachable from the mold and may be slid into place between the ends of the strips 10, 11. The hollow portion 12^c of one gate 12 will produce the projecting portion a^3 of a tile and the projecting surface 12^b of the opposing gate will produce the re-entrant portion a^4 of the tile, the opposing plane surfaces of the gates producing the end faces a^5 of the tile. The side surfaces a^6, a^7, are produced by the bottom and top boards of the mold.

To produce the end holes a^8 in the tiles or blocks I provide the gates 12 with plugs 13, (Fig. 7) which may be removably inserted in holes 14 in the projections 12^a of the gates 12, preferably centrally disposed, and projecting suitably from the gates, whereby when the concrete is molded around the plugs and the latter are removed the holes a^8 will be formed in the tile.

While my improved mold may be made in individual units for molding tiles or blocks singly, I prefer to arrange several mold members in series, either longitudinally end to end, as in Fig. 8, or side by side, as in Fig. 9, or combined longitudinally and side by side as indicated by the dotted lines in Fig. 9. The extreme end gates 12 will be retained in place by vertical cleats 15 spaced from the adjacent ends of the strips 10, 11, to admit the gates 12, which construction will occur at both extreme ends of the molds, the strips 10, 11, spaced end to end, as in Fig. 8, removably admitting the gates 12 therebetween. The construction of the mold members in series permits the concrete to be poured at one time for a large number of tiles or blocks, similarly arranged, so that they may all set and harden together, saving time in producing the tiles, since all the mold parts may be set up together and all may be readily dismantled. The boards 4, 5, 6 of the core may extend a considerable distance across several molds, as in Fig. 9, so that the core boards for several tiles or blocks may be removed at once by pulling the boards endwise through the cored openings in the adjacent tiles or blocks.

After the concrete has been poured the top board 1^a may be slid along the top surface of the concrete to smooth it, and may be left in position for setting of the concrete or may be removed as desired. When the concrete has set and after the core boards have been removed, the side walls may be removed and the gates withdrawn from the blocks in a convenient and expeditious manner, after which the mold members may be re-assembled for the next pouring of concrete, and so on. The outer side walls 2 may be braced on the ground in any desired manner.

The inner surfaces of the bottom and top boards 1 and 1^a may be fashioned in any desired manner to produce any desired designs in the surface a^6 or a^7, or both, of the tiles or blocks for architectual treatment for the exposed surfaces. When my improved blocks are piled up, as for a wall, the openings a of the vertically disposed blocks will correspondingly coincide, and the openings a^8 at the ends of the blocks will coincide, whereby the blocks are thoroughly vented in their hollow spaces, both vertically and horizontally, the circulation of air within the blocks serving to keep their interior surfaces dry. Such air space within the blocks serves as insulation, by reason of the contained air, to keep the room warm in winter and cool in summer, owing to complete communication of the interior of all the blocks. The interlocking of the blocks on four sides secures against insecure or improper setting, since the blocks may be set up by ordinary labor and no mortar in the joints need be used, although it may be if desired. While the blocks are shown in rectangular form it will be understood that the mold members may be made for straight, angular, or curved walls with special shapes for jambs, lintels, sills and other structural parts. The construction of the blocks is such that pipes may be run through the interior spaces for water, gas, wiring, or heating. My improved molds permit making of the concrete blocks not only for buildings but for silos and other structures, and afford all the advantages of concrete blocks for structures and the like with reduced quantity of concrete for volume of tile by reason of the hollow interior of the blocks.

Having now described my invention, what I claim is:—

1. A mold for concrete tile comprising a bottom and spaced side walls thereon provided with opposed openings, core boards removably fitted to said openings, supported by said walls and spaced from the bottom, and gates removably fitted between said walls spaced from opposite sides of the core boards and extending in the direction of said boards said gates having corresponding projecting and re-entrant portions spaced from said core boards, said projecting and re-entrant portions having outwardly projecting plugs.

2. A mold for a multiplicity of concrete tile end to end comprising a bottom and spaced walls thereon, said walls being provided with opposed openings, detachable core boards in said openings extending between and supported by said walls, strips along the inner faces of said walls, corresponding strips being spaced apart end to end, and gates between said walls upon said bottom having their end portions interposed in the spaces between said strips, the strips on one wall engaging the upper and lower core boards and the strips on the other wall being spaced respectively above and below said boards.

3. A mold for a multiplicity of concrete tile end to end comprising a bottom and spaced walls thereon, said walls being provided with opposed openings, detachable core boards in said openings extending between said walls and supported thereby, strips along the inner faces of said walls above and below said boards, corresponding strips being spaced apart end to end, and gates between said walls upon said bottom having their end portions interposed in the spaces between said strips and extending in the direction of said core boards, said gates having projecting and re-entrant portions extending in the same direction and spaced from the core boards.

Signed at New York city, in the county of New York, and State of New York, this 1st day of April, A. D. 1921.

WALTER H. QUIMBY.