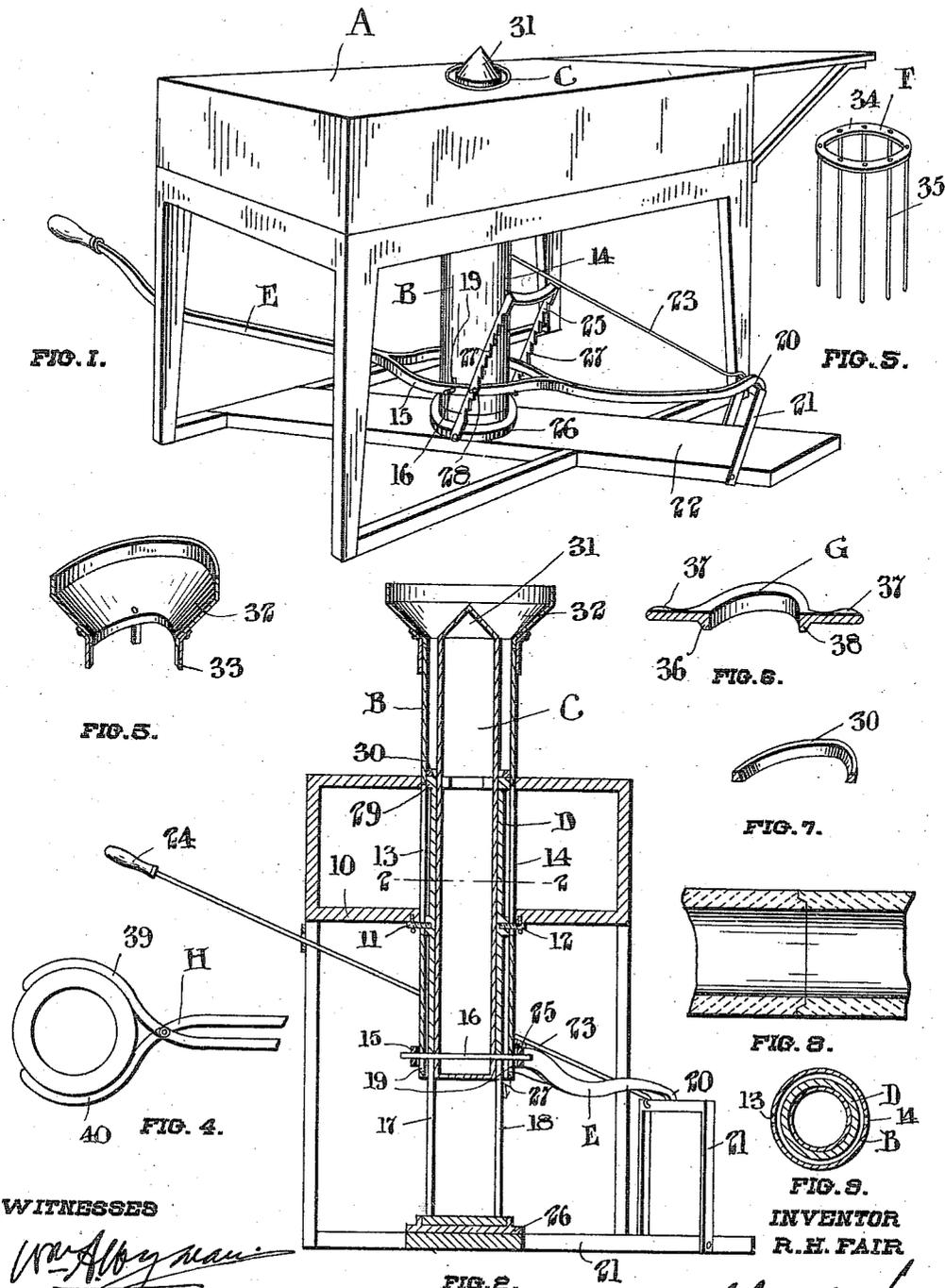


R. H. FAIR.  
 MACHINE FOR MOLDING TILES AND THE LIKE.  
 APPLICATION FILED FEB. 24, 1909.

985,888.

Patented Mar. 7, 1911.



WITNESSES

*Wm. H. ...*  
*Russell ...*

FIG. 2.

BY

*Frank ...*

ATT'Y.

# UNITED STATES PATENT OFFICE.

ROBERT HEWTON FAIR, OF KINGSTON STATION, ONTARIO, CANADA.

MACHINE FOR MOLDING TILES AND THE LIKE.

985,888.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed February 24, 1909. Serial No. 479,838.

*To all whom it may concern:*

Be it known that I, ROBERT HEWTON FAIR, of Kingston Station, in the county of Frontenac, Province of Ontario, Canada, have invented certain new and useful Improvements in Machines for Molding Tiles and the Like, of which the following is a specification.

My invention relates to improvements in machines for molding tiles and the like, and the objects of my invention are to provide a simple and effective machine for quickly molding tiles out of plastering material such as concrete, whereby said tiles may be molded in form without the use of a separate mold for each tile, thereby greatly decreasing the cost of production and producing a better finished article.

The invention further relates to means for tamping the concrete in the tiles and for feeding the material into the mold, and also for separating the sides of the molds from the finished tiles; all these and other features being described hereinafter in detail in the accompanying specification and drawings.

In the drawings, Figure 1 is a perspective view of the machine. Fig. 2 is a vertical section through the same. Fig. 3 is a sectional perspective view through the funnel used to fill the mold. Fig. 4 is a plan view of the end of the tongs used to remove the finished tile. Fig. 5 is a perspective view of the tamping device. Fig. 6 is a sectional perspective view of the ring used to mold the upper edge of the tile. Fig. 7 is a sectional perspective of the ring used to mold the bottom of the tile and on which the tiles are removed from the machine. Fig. 8 is a sectional view showing the juncture between two of the finished tiles. Fig. 9 is a section on the line 2—2, Fig. 2.

In the drawings, like figures of reference indicate corresponding parts in each figure. Referring to the drawings A represents a table of any suitable construction and from which the various elements in the mechanism are supported.

The molding of the inner and outer surfaces of the tile, which will usually be cylindrical, is accomplished by an outer forming member B and an inner forming member C, the space between being adapted, when the mold is in proper position, to be filled by the plastering material of which the tile is to be formed. Between these forming mem-

bers an intermediate member D is provided by means of which the tile is ejected from the mold when finished, and means are provided for effecting a relative movement between the intermediate member D and the outer and inner forming members.

In the particular embodiment illustrated, the intermediate member D is fixed, being supported from a cross bar 10 on the table by means of projections 11 and 12 secured to the member and to the table and extending through slots 13 and 14 in the outer member B.

The movement of the outer and inner forming members is effected through the medium of a lever E provided with an integral ring 15 which extends around the member B and is provided with a transversely extending bolt 16 which extends through the outer and inner forming members and through longitudinal slots 17 and 18 in the intermediate member D.

It is desirable that the inner member should be moved upwardly farther than the outer member, whereby on the downward movement it will be the first to move, thereby giving better formation to the upper edge of the tile and preventing cracking of the same. This is accomplished by providing short slots 19 in the member B through which the bolt 16 extends.

One extremity of the lever E is provided with a hook 20 adapted during the raising of the forming members to engage a pivoted bail 21 secured to a diagonally extending plank 22, the said bail being adapted to be raised or lowered by means of a rod 23 pivoted thereto and having a handle 24 in convenient position to be grasped by the operator of the machine.

It is found that the withdrawal of the forming members requires considerably more pressure than the raising of them, and hence I provide a different means for lowering them and such means as will allow a step by step movement to be made. These means consist of a bail 25 pivoted to the sides of a flange 26 on the bottom of the intermediate member D, the edges of the said bail being provided with ratchet teeth 27 adapted to be engaged by pins 28 on the sides of the ring 15. In this way a considerably greater leverage can be obtained and the step by step movement can be effected by moving the lever to the successive teeth as the members descend.

The top of the intermediate member D is of such width as will exactly fill the space between the members B and C and this may be accomplished by providing an integral ring 29 on top thereof. Above this integral ring, when it is desired to mold a tile, a removable ring 30 is placed of such shape as to properly mold the bottom of the tile.

In order to deflect the material to the space between the members, a conical cap 31 is provided for the top of the inner forming member C and a removable funnel 32 is provided adapted to be secured to the member B as by downwardly projecting arms 33 thereon adapted to engage the outer surface of the member B.

The tamping of the concrete in the mold is accomplished by means of a tamping tool F comprising a ring 34 having a plurality of dependent and pivoted arms 35 adapted to extend in the mold.

In operating the machine, the inner and outer forming members are first raised by means of the lever E to the position shown in Fig. 2, the ring 30 having first been placed in position. The funnel 32 is then placed on the top of the outer forming member B and the mold formed by the forming members is filled with concrete, the same being tamped during filling by means of the member F. This tamping may be accomplished by moving the member F up and down in the mold and at the same time turning it slightly. As soon as the mold is filled and properly tamped the funnel 32 is removed and the top of the tile molded by means of a tamping tool G comprising a ring 36 and handles 37, the said ring having a flange 38 thereon adapted to mold a rabbet on the end of the tile. As soon as the molding of the top is completed, the forming members are withdrawn by the actuation of the lever E. This leaves the molded tile supported on the ring 30 on top of the fixed intermediate member and it may then be removed by means of a pair of tongs H having semi-annular ends 39 and 40 adapted to engage the ring 30.

It will be observed that in the operation of the machine, the tile itself is not moved after molding, as the intermediate member is fixed. Both the inner and outer surfaces of the tile are, however, given a desirable smooth finish by the sliding movement of the inner and outer members. I have found that if the intermediate member is moved the operation is not as effective, as in this case, the tile would be moved and this tends to crack and spoil the structure

of the same. The tile and ring may then be set away until such time as the tile hardens and is ready for use.

The size and shape of the tile to be made by the machine can evidently be varied greatly and other means than those indicated might be employed to effect the various mechanical movements necessary.

As many changes could be made in the above construction, and many apparently widely different embodiments of my invention within the scope of the claims, could be made without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. A machine for molding tiles and the like including an inner and outer forming member, an intermediate member slidable with respect to the other members, a mechanism for effecting a step by step movement between the intermediate member and the other members, the said mechanism comprising a pivoted bail having ratchet teeth therein, a lever pivoted to the movable member having a pin adapted to engage said ratchet teeth.

2. A machine for the purpose specified, including a table, two molding members adapted to mold the interior and exterior of a tile, the said members in lowest position being adapted to extend substantially level with the top of the table, an intermediate member slidable with respect to the other members having a longitudinal slot therein, a bolt extending through the outer and inner members and through the slots in the intermediate member and the outer member and means for actuating the bolt to cause movement of the outer and inner members.

3. A machine for molding tiles and the like including a base, an inner and outer forming member, an intermediate member slidable with respect to the other members, a bail pivoted to the base provided with ratchet teeth, a lever pivoted to the movable member having a pin adapted to engage said ratchet teeth, and a fixed rest distant from the base adapted to engage and form a fulcrum for the lever.

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

ROBERT HEWTON FAIR.

Witnesses:

RUSSEL S. SMART,  
WM. A. WYMAN.