J. C. GRIFFITH.

CEMENT BLOCK MOLDING MACHINE.

APPLICATION FILED MAR. 10, 1913.

1,096,905.

Patented May 19, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

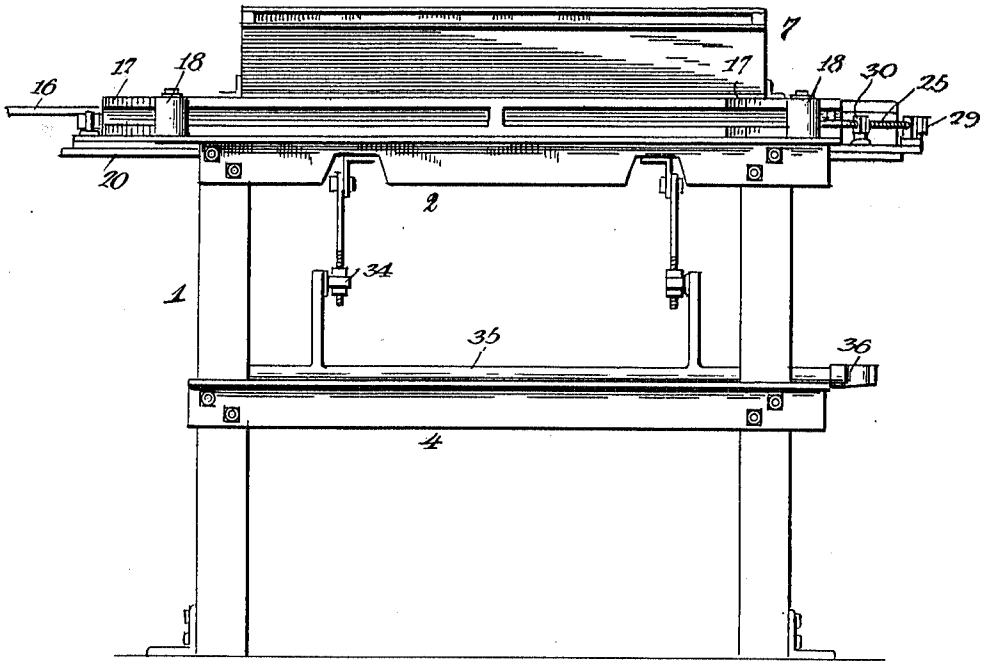
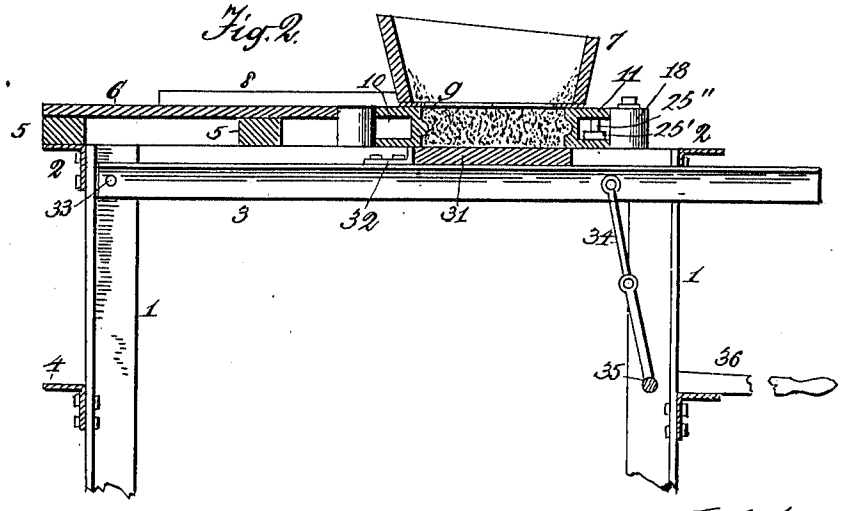


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

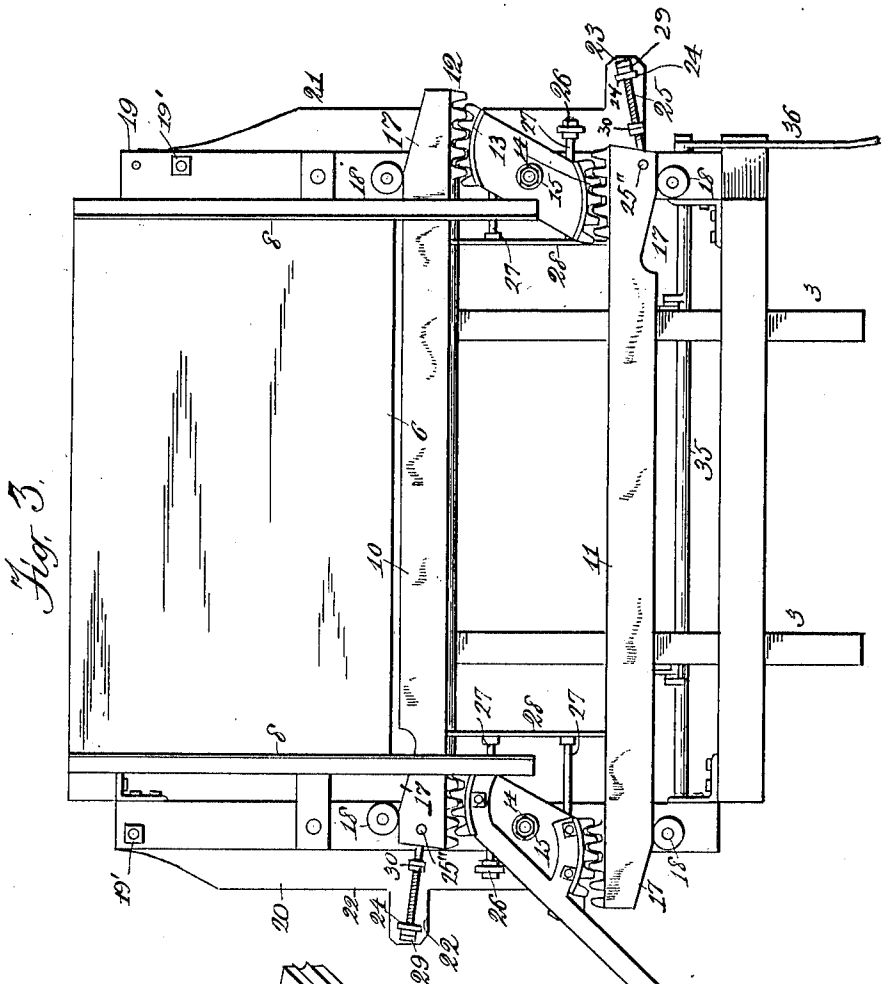
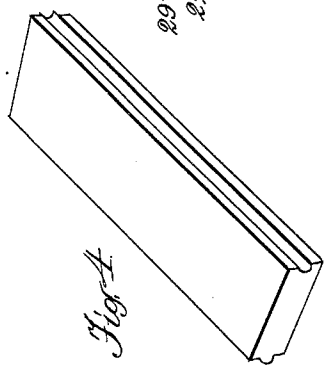


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN C. GRIFFITH, OF ANAMOSA, IOWA.

CEMENT-BLOCK-MOLDING MACHINE.

1,096,905. Specification of Letters Patent. Patented May 19, 1914.

Application filed March 10, 1913. Serial No. 753,459.

To all whom it may concern:

Be it known that I, JOHN C. GRIFFITH, a citizen of the United States, residing at Anamosa, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Cement-Block-Molding Machines, of which the following is a specification.

This invention relates to the construction of cement blocks, such as are used in the erection of circular silos or other structures of a similar nature, and the object of the invention is, to produce a molding machine for such blocks, adapted to the formation of the blocks in a simple and rapid manner, and by the use of easily operated mechanism.

The nature of the invention is fully disclosed in the description and claims following, reference being had to the accompanying drawing, in which—

Figure 1 is a front elevation of a machine embodying my invention, Fig. 2 is a transverse section of the same, Fig. 3 is a top view with the hopper and follow-board removed, the better to show other parts of the machine, and Fig. 4 is a view in perspective of the finished block.

Referring to the drawing, the numeral 1 designates the main frame of the machine, which is of simple rectangular construction, and formed for the most part of angle iron. To the supporting legs are screwed top bars 2 and 3 and lower connecting tie-bars 4. Across the upper bars are laid cross ties 5, carrying a platform 6, which forms a support for the hopper 7 when the same is slid back. The hopper moves between guides 8, secured to the platform. The hopper itself comprises suitable sideboards, to the bottom edge of which are screwed thin metal bars 9, which, in the act of sliding the hopper back across the face of the molded block, strike off the upper surface flat and level, the excess of material being carried back by these bottom plates, which project inwardly a little as shown. Across the upper faces of the top bars, lie the side-forming bars 10 and 11, the former having an inwardly projecting bead as shown in Fig. 2, and the latter having a corresponding groove as clearly shown. These, of course, form respectively opposite shapes in the block as molded. Near each end, these bars are provided with rack teeth, and between them are mounted eccentric gears 13, pivoted at 14 and 15 respectively. Attached to one of these gears, is a hand lever 16, by which the turning of the gear to which it is connected transmits concurrent motion to both the bars. Near each end of each bar is an incline 17, which, in the movement of the bar, engage adjacent rollers 18, the inclines coinciding with the eccentricity of the gears aforesaid. It will be evident by reference to Fig. 3 that if the handle of the hand lever be moved to the right, the molding bars will be moved first straight to the left and right respectively a short distance, and then outwardly for the remaining distance of their stroke. The effect of this is what is desired in constructions of this nature, the first action being to move the bars in parallel along the faces of the molded blocks to give a short troweling or smoothing action, beyond which the bars open outwardly so as to release the molded block.

Pivoted to the side top beams 19 by bolts 19′, is a pair of side bars 20 and 21, provided with lateral extensions 22 and 23 respectively. These are provided with upstanding lugs 24, to receive slip rods 25, which are pivotally connected with the molding bars at opposite ends by terminal eyes 25′ and pins 25″ as shown. The side bars are also provided with upstanding lugs 26, and to these are rigidly connected by rods 27 the end forming plates 28, as clearly shown in Fig. 3. The slip rods are provided with outer and inner lock nuts 29 and 30 respectively, and the rods are supposed to slip the distance between these respective nuts through the lugs 24. The effect of this will be readily seen. Through the greater part of their movement, the side-molding bars move independently of the end plates, which serve to hold the molded block endwise and prevent any disturbance in it until the side-bars have moved entirely away from it. When near the end of their movement, however, the molding bars are brought into engagement with the pivoted side bars 20 and 21, which are then forced outwardly a little, moving the end plates away from the finished block.

Referring to Fig. 2, it will be seen that the follow-board 31 rests on the cross bars 3, which are provided with stops 32, against which the follow-board is placed preparatory to molding the block thereon. These bars 3 are pivoted at 33, and connected by a toggle lever 34 with a rock shaft 35, pivoted

in the front legs of the frame. To this rock shaft is attached a hand lever 36, by means of which the toggle may be collapsed on the completion of the molding operation, and the supporting bars 3 may be let down in front to a suitable incline to permit the easy removal of the finished block.

When it is desired to mold a new block, the lever is depressed to the position shown in Fig. 2, the toggle then standing in the locked position indicated. The operator then places a follow-board in position, draws the hopper to the position shown in the same figure, fills the mold with raw material, and tamps it to produce the finished block. The hopper is then pushed back, the lever 16 is thrown to the right, and then, by elevating the lever 36, the cycle of operations is completed, excepting the manual removal of the finished block and its follow-board.

Having thus described my invention, I claim:

1. In a cement-block molding machine, the combination with a suitable supporting frame, of side-molding bars having outer faces presenting straight and inclined surfaces, guide rollers adjacent thereto, a lever, and a connection of said lever with said side-bars adapted to impart concurrent and opposite movement thereto, whereby they move endwise and outwardly, as described.

2. In a cement block molding machine, combined with a suitable supporting frame, a pair of side-molding bars having outer faces presenting straight and inclined surfaces, rollers adjacent thereto, racks on said side bars, and eccentric gearing engaging said racks, whereby concurrent movement is imparted to the molding bars in the manner indicated, that is to say, first in opposite and parallel directions and thence outwardly.

3. In a cement block molding machine, the combination, with a suitable supporting frame, of side-molding bars, mechanism adapted to impart to them opposite movement, first endwise and then outwardly, interposed end-plates, movable bars attached thereto, and a connection of the side bars with said movable bars, substantially as described.

4. In a cement-block molding machine, combined with a suitable frame, side-molding bars, mechanism adapted to impart to them opposite movement, first endwise and then outwardly, interposed end-plates, movable side-bars to which said end-plates are connected, and a connection of said molding-bars with the movable side-bars by means of slip-rods pivoted thereto, and provided with stop-nuts, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN C. GRIFFITH.

Witnesses:
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C. A. BEEMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."