W. H. PATTERSON.

BLOCK MOLD.

APPLICATION FILED SEPT. 20, 1919.

1,335,525. **Patented Mar. 30, 1920.**

3 SHEETS—SHEET 1.

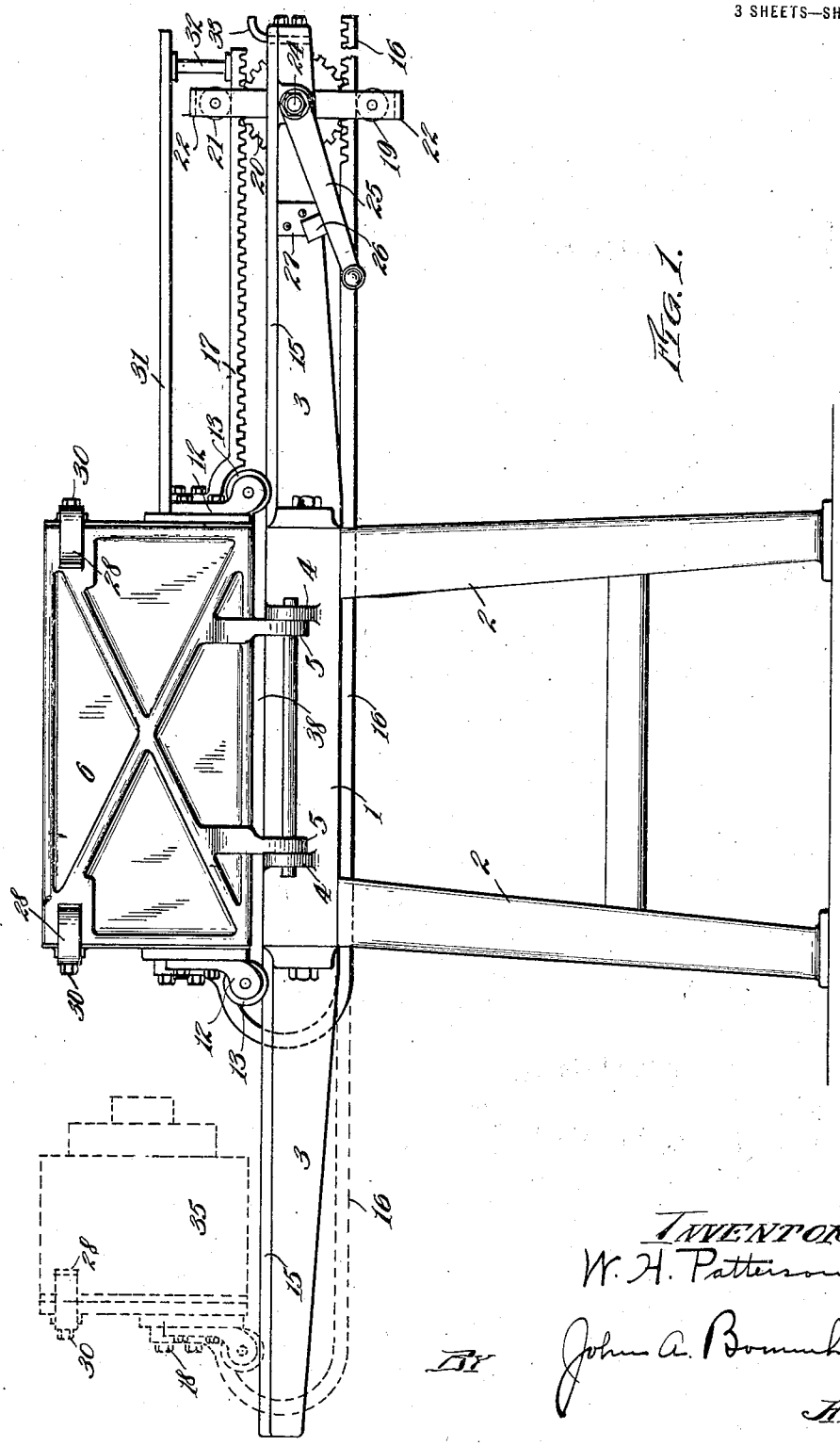


FIG. 1.

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3 SHEETS—SHEET 2.

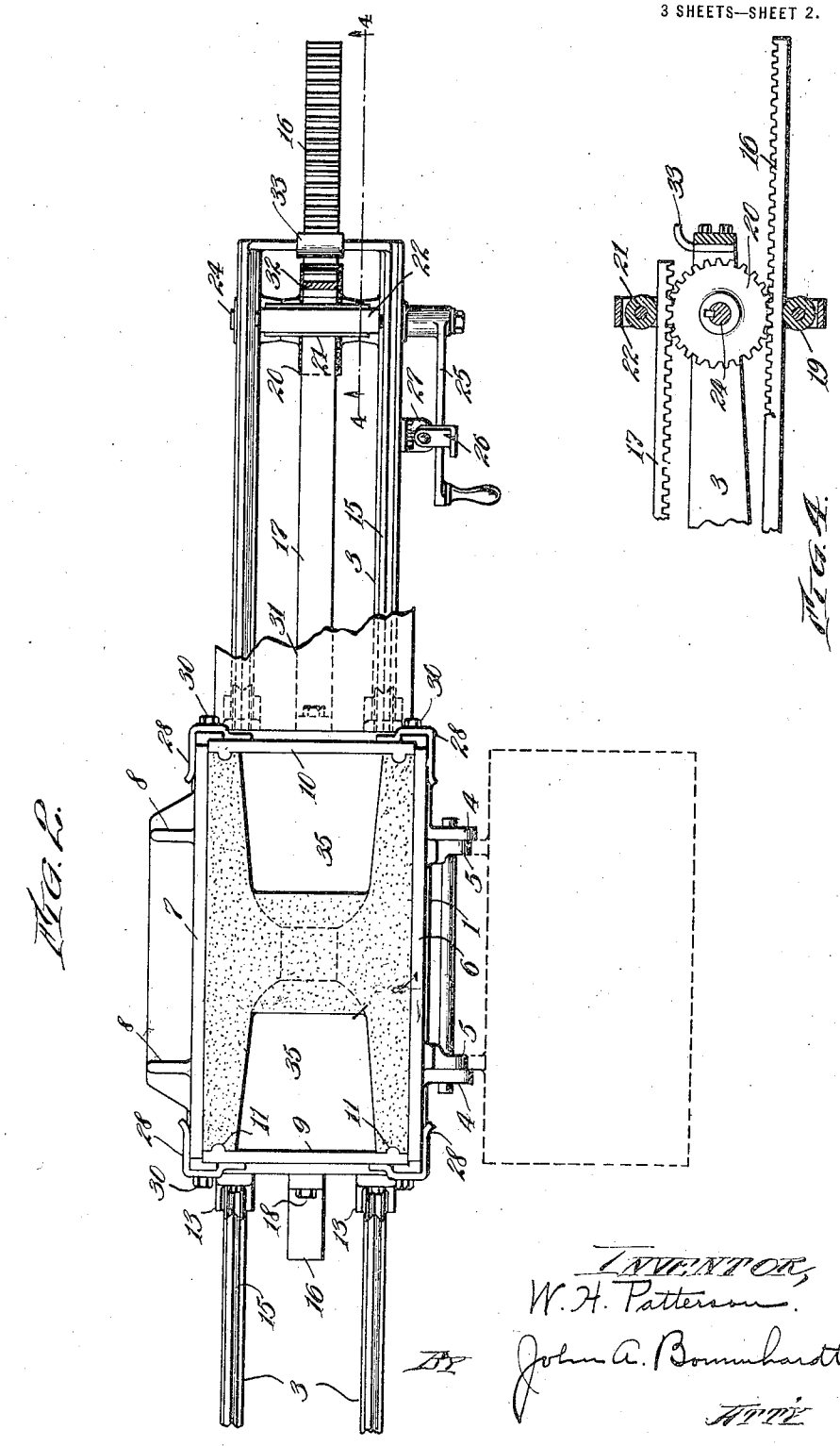


Fig. 2.

Fig. 4.

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3 SHEETS—SHEET 3.

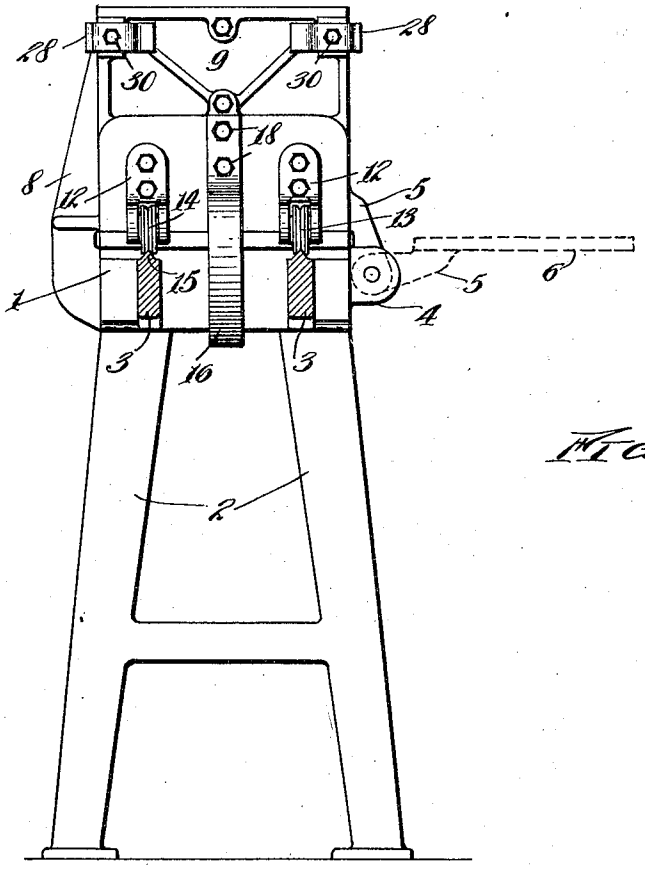


FIG. 3.

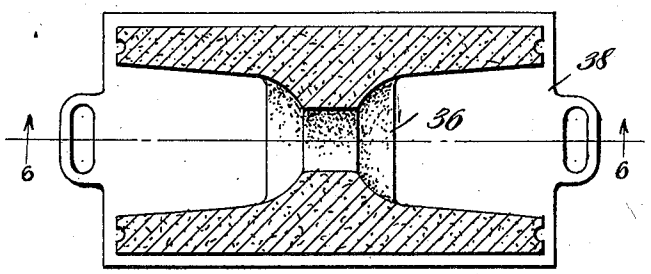


FIG. 5.

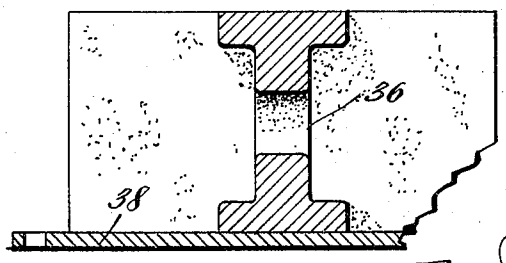


FIG. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM H. PATTERSON, OF CUYAHOGA FALLS, OHIO, ASSIGNOR OF ONE-HALF TO FRED ELLSWORTH, OF CUYAHOGA FALLS, OHIO.

BLOCK-MOLD.

1,335,525. Specification of Letters Patent. Patented Mar. 30, 1920.

Application filed September 20, 1919. Serial No. 325,048.

To all whom it may concern:

Be it known that I, WILLIAM H. PATTERSON, citizen of the United States, residing at Cuyahoga Falls, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Block-Molds, of which the following is a specification.

This invention relates to an improvement in block molding machines used in the manufacture of cement blocks and the like and has for its object to provide an improved mold of a separable type and means which are new and novel for with-drawing the cores used to form the block.

Further objects of the invention reside in the provision of means for with-drawing the cores in opposite directions and at the same relative speed, means also being provided to lock the cores in any predetermined position.

Further objects of the invention are in part obvious and will appear in part in the following description and claims.

Referring particularly to the drawings wherein like reference numerals designate similar parts of reference throughout the various views and wherein Figure 1 is a side elevation of the machine constructed in accordance with the principles hereinbefore set forth and having one of the removable cores shown in a dotted line position; Fig. 2 is a plan view; Fig. 3 is a sectional end elevation; Fig. 4 is a sectional detail on the line 4—4 of Fig. 2; Fig. 5 is a horizontal section through the block, the pallet upon which it is formed being shown therebeneath, and Fig. 6 is a vertical section on the line 6—6 of Fig. 5.

The machine as shown consists of a platform 1 mounted upon legs 2 and having longitudinal guides or tracks 3 bolted thereto, the upper face of the tracks being on a plane with the top of the table 1. The table 1 has integral with its front face lugs or ears 4 to which are pivoted the ears 5 of the side member 6 of the mold, which may drop forwardly due to this hinged construction. The opposite side member 7 is made integral with the table 1 and retains the same position at all times, and if found necessary the side 7 may be reinforced by ribs 8. The end members 9 and 10 of the mold are substantially identical in construction and therefore a description of one will suffice for both.

The members 9 and 10 are each provided equidistant from the center line of the mold with two vertical beads 11 which provide a groove in the block to allow a bond to be had for the mortar when the same are set in a building. The end members have secured to their outside lowermost portion two brackets 12 and 13 which support between their lower ends rollers 14 which have formed therewith a triangular groove 4^a. These rollers are mounted upon triangular ribs 15 formed on the upper face of the tracks 3 thereby to allow the end members 9 and 10 to move freely outwardly or away from the mold at the proper time. This outside movement may be obtained by means of racks 16 and 17 secured to the outside of the ends 9 and 10 by means of bolts 18. The rack 16 projects downwardly and under the mold table and is extended over to the right hand side of the machine where it passes between an anti-friction roller 19 and a gear pinion 20. The rack 17 is likewise secured to the end member 10 and projects at right angles thereto, the teeth of the rack 17 meshing with the gear 20 and confined thereupon by means of an anti-friction roller 21 which is supported together with the roller 19 between a pair of brackets 22 secured to the member 3. The pinion 20 is fixed on a shaft 24 which has bearing in the members 3 and is adapted to be rotated by means of a crank 25 suitably secured to that portion of the shaft 24 which extends beyond the member 3. This shaft may be locked in position by means of a swinging latch 26 which is pivoted upon a bracket 27 secured to the member 3 and provides a means for keeping the ends 9 and 10 in a set position during the tamping of the cement when forming the block. The front 6 of the mold is held in a positive relation to the ends 9 and 10 and is prevented from spreading during the tamping operation by means of angular clips 28 carried by the end members 9 and 10, and these clips may be bolted to the end plates as shown at 30.

To prevent the racks and pinion from becoming clogged with cement and the like I provide a guard plate 31 which has one end supported upon the top of the bracket 12

and its opposite end supported upon the end of the rack 17 as shown at 32. And to support the rack 17 at times when the ends are in the outward position I provide a bearing strap 33 which is bolted to the end member 3. The end plates 9 and 10 have bolted to their inner faces cores 35 which may be of any size or shape to provide the desired recess in the block such as indicated at 36 in Figs. 5 and 6.

In operation we will assume that the ends 9 and 10 are in the outward position as shown in dotted lines in Fig. 1 and that the front plate 6 is swung outwardly as shown in dotted lines in Fig. 2. The first operation then is to swing the plate 6 upwardly until it assumes a vertical position, and this may be determined by the lower edge of the plate resting upon a pallet 38 which has been previously laid upon the top face of the table 1 and in correct position to the center thereof. The gear 20 is rotated by means of the crank arm 25 in a direction to move the racks 16 and 17 and therewith the ends 9 and 10 to the closed position as indicated in the figures.

The ends 9 and 10 having been moved to their proper position the clips 28 are engaged with the front and rear plates 6 and 7 and consequently retain the same in the proper position with the ends 9 and 10. The cement is put into the mold and tamped, and when it is set the latch 26 is swung from engagement from the crank arm 25 and said arm is rotated in a direction to pull the ends 9 and 10 and with them the cores 35 outwardly away from the block without danger of breaking the block because of the direct straight line movement of the cores due to the means provided for supporting them during their outward movement as hereinbefore described. The front plate 6 is then allowed to drop down and the block can be lifted on the pallet and removed for a further operation.

The important feature of the invention is in the direct line movement of the ends 9 and 10 whereby the cores are withdrawn from the mold without breaking or in any way disturbing the block.

I claim:

1. In a molding machine, the combination with a mold having opposite end plates slidable in and out to close and open the mold, a rack bar attached to each end plate, one of said bars extending under the mold to a position parallel and opposite to the other bar, and a pinion located between and engaging both of said rack bars, to operate both simultaneously.

2. In a molding machine, the combination with a table having a top and mold thereon, the table having opposite end extensions and the mold having opposite end plates movable along said extensions to open or close the mold, a rack bar attached to each end plate, one of said bars being curved downwardly under the table and under the extension at the opposite end thereof, and a crank shaft mounted on said extension and provided with a pinion engaging both of said rack bars.

3. In a molding machine, the combination of a table, a mold thereon having opposite end plates movable in and out to close and open the mold, and means at one end of the table to operate both of said end plates, said means including a bar extending under the table and fixed to the opposite end plate.

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

WILLIAM H. PATTERSON.

Witnesses:

FRED ELLSWORTH,

ROBERT L. BRUCK.