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T. FISCHER & J. B. TALBOT.
MACHINE FOR MOLDING CEMENT BLOCKS.

APPLICATION FILED APR. 15, 1905.

2 SHEETS—SHEET 1.

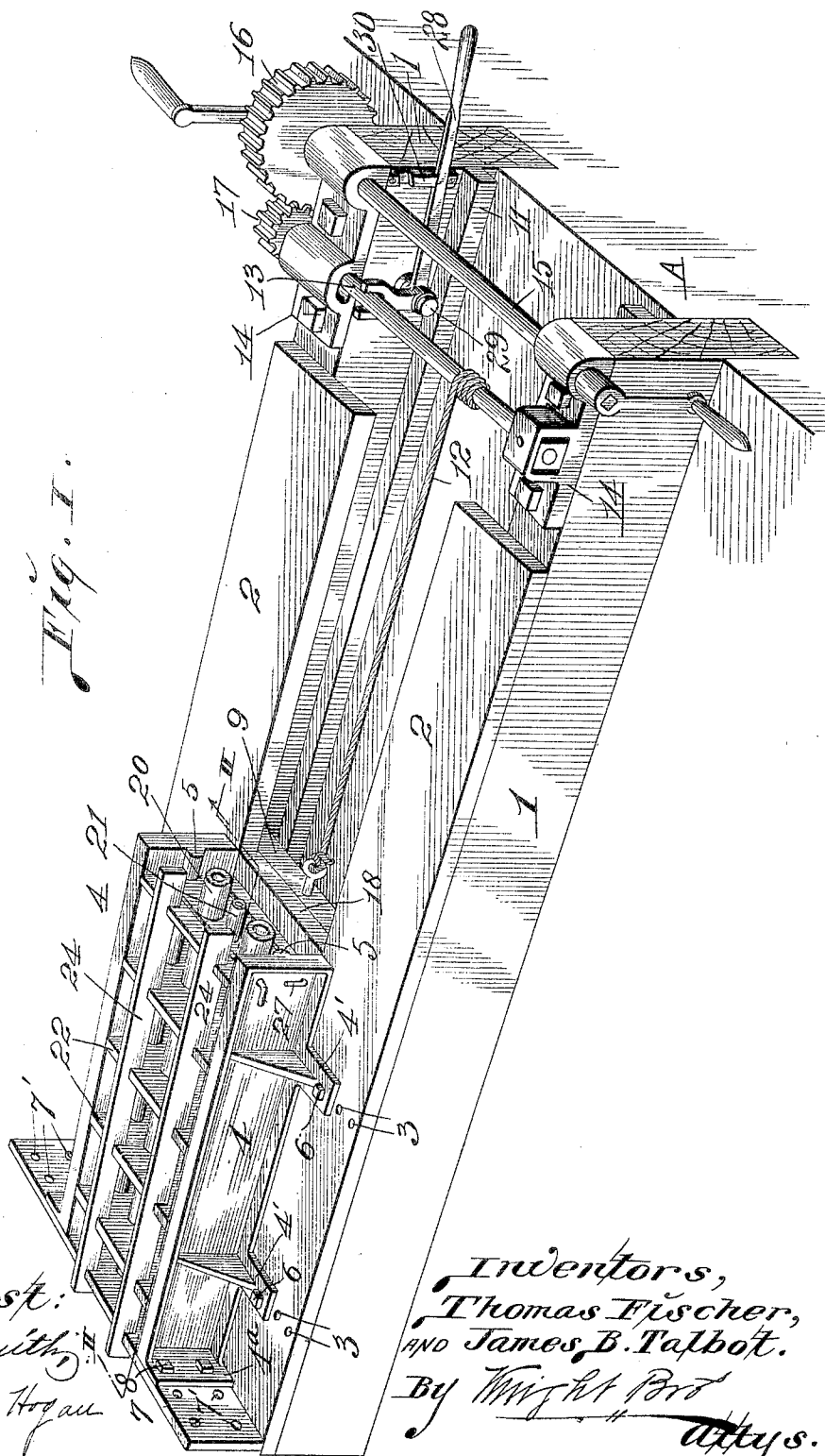


Fig. 1.

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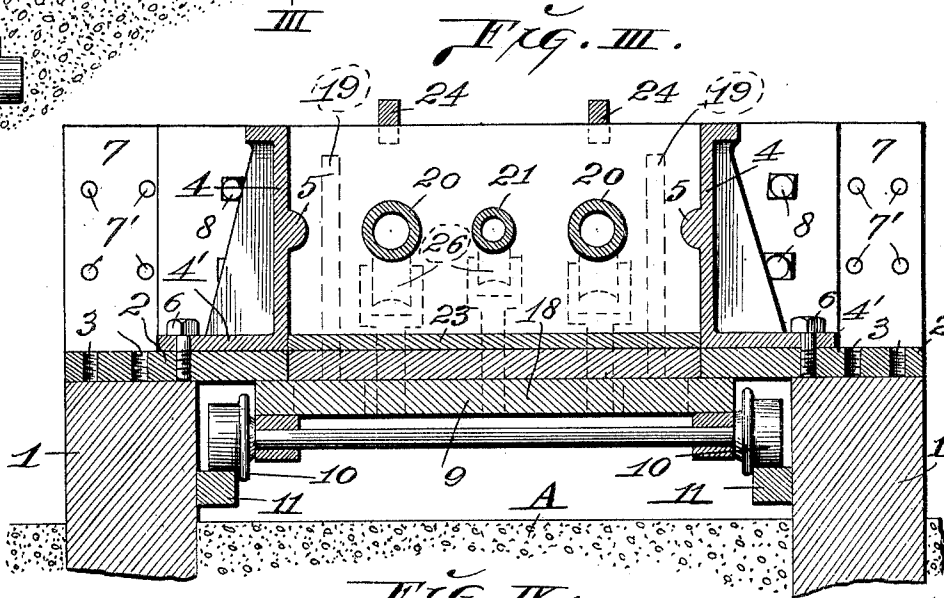
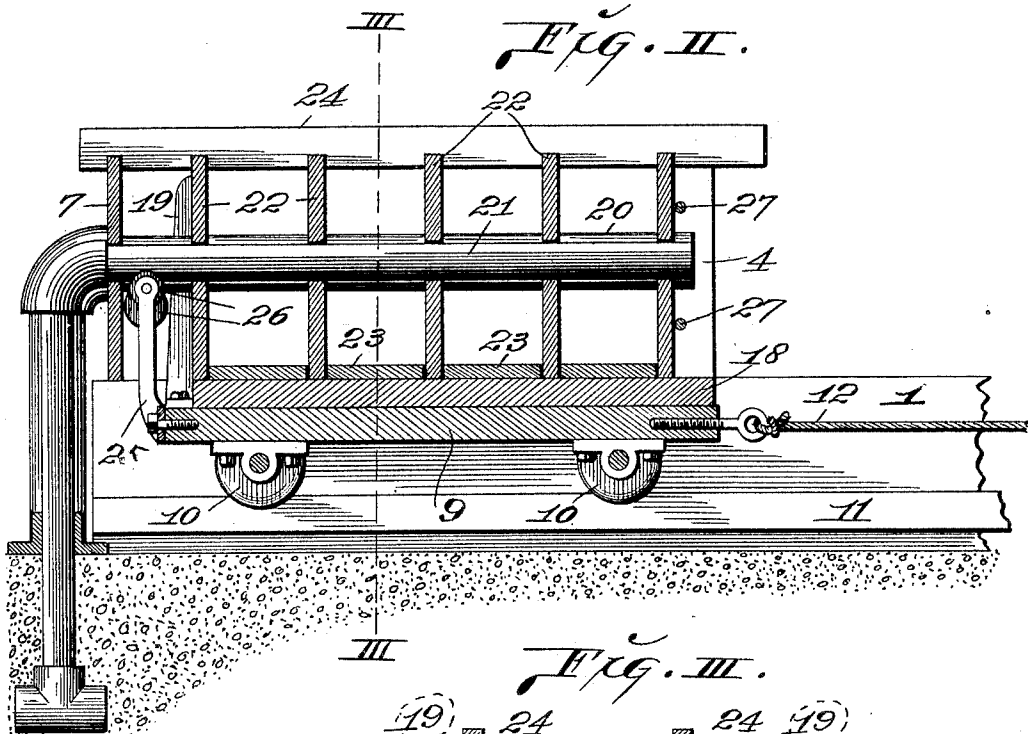
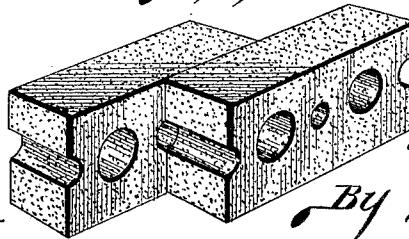


Fig. IV.



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UNITED STATES PATENT OFFICE.

THOMAS FISCHER AND JAMES B. TALBOT, OF EDWARDSVILLE, ILLINOIS.

MACHINE FOR MOLDING CEMENT BLOCKS.

No. 804,528.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed April 15, 1905. Serial No. 255,677.

To all whom it may concern:

Be it known that we, THOMAS FISCHER and JAMES B. TALBOT, citizens of the United States, and residents of Edwardsville, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Machines for Molding Cement Blocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to a machine for molding cement blocks such as are commonly used for building purposes, the object of the improvement being to produce a machine of the character named in which cement blocks may be molded in multiple at one operation, thereby greatly facilitating the manufacture of the blocks and decreasing the cost of their production.

Figure I is a perspective view of our machine. Fig. II is a vertical longitudinal section taken on line II II, Fig. I. Fig. III is a vertical transverse section taken on line III III, Fig. II. Fig. IV is a perspective view of two of the cement blocks produced in our machine laid together in the positions in which they are placed in constructing a building.

A designates the foundation on which our machine is mounted, which is preferably of concrete.

1 designates a pair of bed-timbers that are set into the foundation A so that they are held perfectly rigid.

2 designates bed-plates set on the bed-timbers and provided with series of apertures 3, arranged in lines extending transversely of the plates.

4 designates the side walls of our mold, which are mounted upon the bed-plates 2 and are provided upon their inner sides with longitudinal ribs 5. The mold side walls extend longitudinally of the bed-plates and are adjustably secured to said plates by screws 6, that are introduced through ears 4', extending from the mold side walls and which pass through the apertures 3 in the bed-plates and enter into the bed-timbers to secure the mold side walls. By providing a plurality of the apertures 3 the mold side walls may be shifted forwardly and outwardly across the bed-plates to lessen or increase the space between them in making cement blocks of different lengths.

7 designates the rear wall of the mold, that

is mounted in upright position upon the rear ends of the bed-plates 2 and is provided with bolt-holes 7'. These bolt-holes are adapted to receive bolts 8, that are inserted through flanges 4" at the rear ends of the mold side walls, whereby the mold side walls are adjustably connected to the mold rear wall in order that the rear wall may be held to the side walls when said side walls are in any adjusted position.

9 designates a carriage-platform that is reciprocally mounted between the bed-timbers 1 to ride beneath the bed-plates 2. This platform is preferably supported by track-wheels 10, that ride upon runways 11, secured to the inner sides of the bed-timbers 1. The platform may, however, rest directly upon these runways and have sliding bearing thereon. The carriage-platform is reciprocally moved between the bed-timbers by suitable mechanism, the means shown consisting of a cable 12, that is connected to the platform and leads to a winch-shaft 13, journaled in bearing-boxes 14, mounted on the bed-timbers at their forward ends. The shaft 13 is rotated to wind the cable 12 thereon through the medium of the second shaft 15 of the winch, that is geared to the first shaft by spur-wheels 16 and 17.

18 designates the mold-bottom, loosely seated upon the carriage-platform 9 and fitting between the inner edges of the bed-plates 2, so that it may ride upon said platform when the platform is shifted forwardly from a position beneath the mold of the machine. The mold-bottom is loosely mounted upon the carriage-platform in order that it may be lifted therefrom when the cement blocks have been molded above it in the manner to be hereinafter explained.

19 designates posts secured to the carriage-platform at its rear end and extending upwardly therefrom, as seen in full lines, Fig. II, and dotted lines, Fig. III.

20 designates a pair of outer core-rods extending longitudinally between the mold side walls 4, and 21 an intermediate core-rod extending longitudinally between the outer core-rods 20. The inner core-rod is preferably of less diameter than the outer rods. Each of these core-rods passes through the rear mold-wall, and the rods are supported due to their having vertical portions located at the rear of the machine, which are seated in the concrete bed A, as seen in Fig. II.

22 designates division-boards or plates that are adapted to be threaded onto the core-rods

20 and 21, the division-boards being provided with suitable openings to permit of their being applied to the core-rods between the mold side walls 4. These division-boards constitute
 5 the separating members for the various cement blocks to be produced, and they are held apart at the desired distance, according to the cement blocks to be produced, at their lower
 10 edges by spacing-blocks 23, which rest upon the mold-bottom 18. (See Figs. II and III.)

The division-boards are held spaced apart at the desired distances by notched spacing-strips 24, that are fitted to the division-boards and also to the mold rear wall 7. The rearmost division-
 15 board rests against the carriage-platform-carried posts 19, whereby said division-board is upheld after the spacing-strips 24 are withdrawn from the division-boards and the mold rear wall.

20 25 designates bracket-arms fixed to the carriage-platform 9 at its rear end and located immediately beneath the core-rods 20 and 21. These bracket-arms have mounted in their upper free ends antifriction-rollers 26, that
 25 are adapted to ride in engagement with the core-rods when the carriage-platform is drawn forwardly after cement blocks have been produced in the molds and are to be extracted. The utility of the bracket-arms and their rollers
 30 is that of preventing sagging of the core-rods while the cement blocks are being withdrawn therefrom during the forward movement of the carriage-platform.

27 designates retaining-rods which are introduced through the mold side walls adjacent to their forward ends and which serve as
 35 supports for the forward division-board 22 while the cement blocks are being produced in the mold. The retaining-rods are removably seated in the side walls, so that they may
 40 be withdrawn after the blocks have been molded and withdrawn from the core-rods in finished condition.

In the practical use of our machine the operation is as follows: The carriage-platform
 45 9 is first moved into a position between the bed-timbers 1 at the location of the mold side walls and in front of the mold rear wall. The mold-bottom 18 having been placed upon the
 50 carriage-platform, the rearmost division-board 22 is first threaded onto the core-rods 20 and 21, and a spacing-block 23 is placed upon the mold-bottom immediately in front of said division-board. The succeeding division-
 55 board and spacing-blocks are then put in place in the same manner as those just referred to. After all of the division-boards and spacing-blocks have been put in place the retaining-rods 27 are introduced through the
 60 mold side walls in front of the foremost division-board, thereby holding said board in upright position. The spacing-strips 24 are then fitted to the division-boards and the mold rear wall and the machine is in condition
 65 for service. The cement from which the

blocks are to be produced is then introduced into the mold-compartments, and as soon as it has become sufficiently set the spacing-strips 24 and the retaining-rods 27 are withdrawn. The carriage-platform is then recip-
 70 roated forwardly and the cement blocks are removed in finished condition with holes therein and grooves at their ends, which are produced, respectively, by the core-rods and the ribs 5 at the inner faces of the mold side
 75 walls.

In Fig. IV we have shown two of the cement blocks produced in our machine, illustrating the manner in which they are to be laid together. As will be seen, the blocks overlap
 80 each other when laid in order that the larger openings therein produced by the core-rods 20 will register, and the smaller openings produced by the core-rod 21 will register with openings formed by the grooves in abutting
 85 ends of blocks which are produced by the ribs 5 of the mold side walls. By making the building-blocks in this form we provide excellent ventilation in a building-wall constructed of
 90 our blocks.

For the purpose of permitting free rotation of the winch-shaft 13 to allow the carriage 9 to be readily shifted into position beneath the mold-box after it has been drawn forwardly we mount the winch-shaft at one end in a
 95 swivel-box, as seen in Fig. I, and its opposite end is freely positioned in the box 14, in which it operates, so that said shaft may be shifted laterally to carry the spur-wheel 17 thereon into and out of mesh with the spur-wheel 16
 100 on the crank-shaft 15. This shaft is moved through the medium of a bell-crank lever 28, that is pivoted at 29 to one of the bed-timbers 1 and has an arm that engages the shaft 13. The bell-crank lever is held in either position
 105 to which it is rocked by a detent 30.

While we have shown only a limited number of compartments in the mold-box, it is evident that this number may be diminished or increased to any desired degree without departing from our improvement. It is also evident that instead of using the winch construction for reciprocating the carriage 9, as shown, any other carriage-reciprocating mechanism may be utilized to be operated either manually, by horse-power, or by a suitable engine.
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We claim as our invention—

1. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a partitioned mold-box surmounting said bed members, and core-rods extending through said mold-box and supported in fixed positions independent of said carriage, substantially as set forth.
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2. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, and a mold-box surmounting said bed members and consisting of a rear wall and
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side walls adjustably secured to said rear wall, substantially as set forth.

3. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a pair of adjustable mold-box side walls surmounting said bed members, a rear mold-box wall to which said side walls are adjustably secured, and removable division-boards surmounting said carriage and arranged transversely between said side walls, substantially as set forth.

4. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a mold-box consisting of a pair of adjustable side walls surmounting said bed members, and a rear wall fitted to said side walls, and having an open forward end, removable division-boards surmounting said carriage and arranged transversely between said side walls, and rigidly-supported core-rods extending longitudinally between said side walls and onto which said division-boards are threaded, substantially as set forth.

5. In a cement-block-molding machine, the combination of a pair of bed members, a mold-box surmounting said bed members and consisting of a rear wall and side walls and having an open forward end, a carriage shiftably mounted between said bed members, a series of division-boards surmounting said carriage and arranged transversely between said side walls, posts carried by said carriage at its rear end, and retaining-rods removably inserted in said side walls adjacent to the open forward end of the mold-box and in front of the foremost division-board, substantially as set forth.

6. In a cement-block-molding machine, the combination of a pair of bed members, a carriage shiftably mounted between said bed members, a mold-box rear wall surmounting said bed members, mold-box side walls sur-

mounting said bed members and provided with ribs at their inner faces, and division-boards extending transversely between said side walls; said mold-box being open at the forward end for the introduction of the division-boards, substantially as set forth.

7. In a cement-block-molding machine, the combination of a pair of bed members, a carriage shiftably mounted between said bed members, a mold-box rear wall surmounting said bed members, mold-box side walls surmounting said bed members and provided with ribs at their inner faces, division-boards extending transversely between said side walls, and rigidly-supported core-rods extending longitudinally between said side walls and receiving said division-boards, substantially as set forth.

8. In a cement-block-molding machine, the combination of a pair of bed members, bed-plates surmounting said bed members, a mold-box consisting of side walls adjustably mounted on said bed-plates, and a rear wall surmounting said bed-plates and to which said side walls are adjustably connected; the said mold-box having an open front end, division-boards extending transversely between said side walls, and a carriage shiftably mounted between said bed members, substantially as set forth.

9. In a cement-block-molding machine, the combination of a pair of bed members, a mold-box surmounting said bed members, core-rods extending through said mold-box, a carriage shiftably mounted between said bed members beneath said mold-box, and arms carried by said carriage arranged to ride beneath said core-rods, substantially as set forth.

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In presence of—

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G. G. JOYNELS.