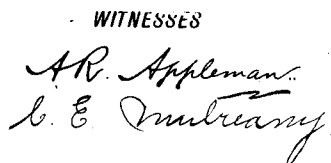


1,034,854.

2 SHEETS—SHEET 1.



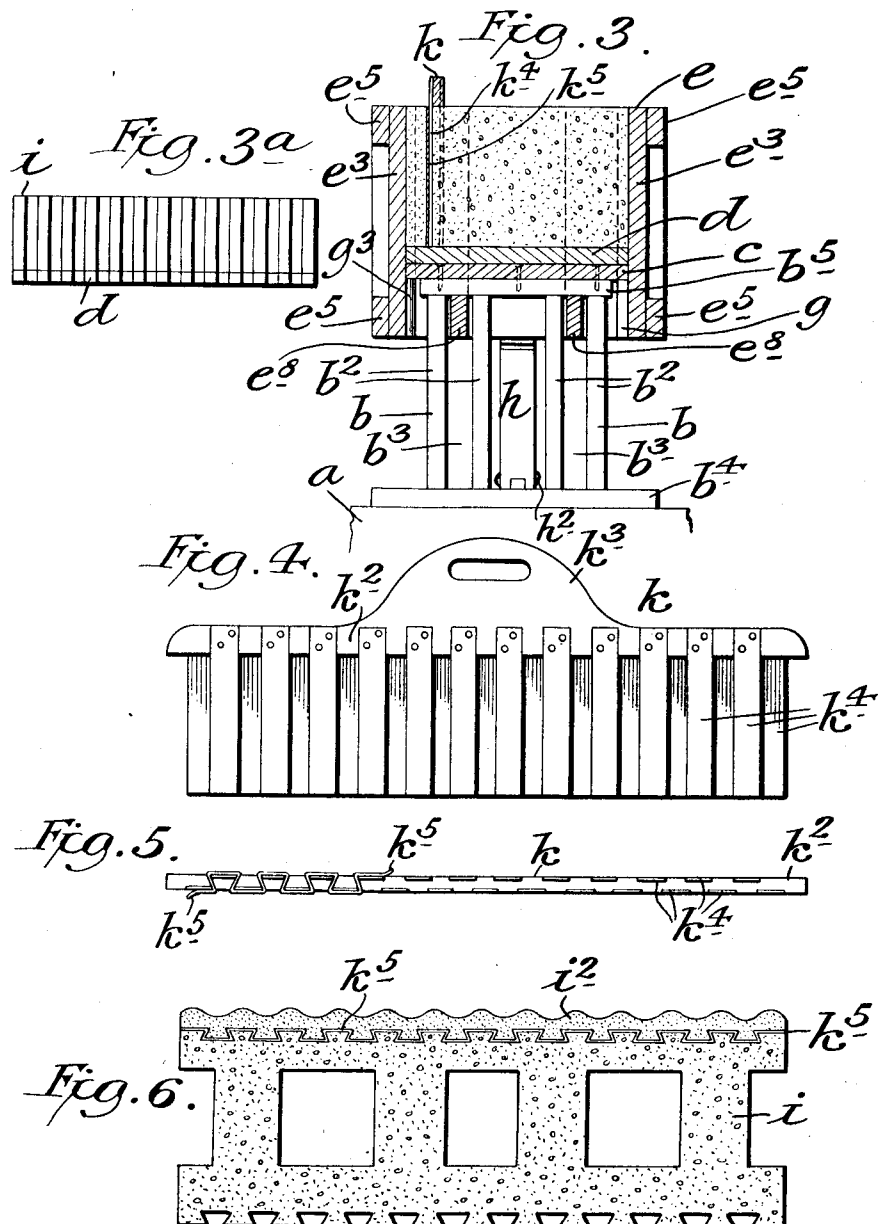
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 CONCRETE BLOCK MACHINE.
 APPLICATION FILED JUNE 27, 1911.

1,034,854.

Patented Aug. 6, 1912.

2 SHEETS—SHEET 2.



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CONCRETE-BLOCK MACHINE.

1,034,854.

Specification of Letters Patent.

Patented Aug. 6, 1912.

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To all whom it may concern:

Be it known that I, MAX WOHL, a citizen of the United States, and residing at Jamaica, Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Concrete-Block Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to concrete building blocks, and the object thereof is to provide a building block of this class one face of which is preferably composed of finer material than the body of the block and while being interlocked therewith is separated therefrom by a waterproof fibrous sheet whereby moisture cannot pass through the face of the block in the body thereof; and the invention also involves a block molding apparatus constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a sectional side view of the block molding apparatus which I employ, the section being on the line 1—1 of Fig. 2; Fig. 2 a plan view of said apparatus with part of the construction broken away; Fig. 3 a cross section on the line 3—3 of Fig. 1; Fig. 3^a a side view of a concrete block made according to my invention and showing the same on a follower plate which forms part of the apparatus and which is also shown in Figs. 1 and 3; Fig. 4 a side view of a device which I employ for connecting the facing of the building block with the body portion thereof; Fig. 5 a bottom view of said device and showing a sheet of waterproof material in connection therewith, and Fig. 6 a plan view of one of my improved building blocks.

In the practice of my invention, I provide a table or other suitable support *a*, on which is secured transversely thereof and at two different points, longitudinally thereof, two pairs of supports *b*, each pair of said supports consisting of two upright members *b*², between which are spaces *b*³, and said supports are formed on base plates *b*⁴. Each transverse pair of supports *b* is provided with a crosshead *b*⁵, which is secured thereto

in any desired manner, and placed on the crossheads *b*⁵ is a plate *c*, on which is placed the follower plate *d*. I also provide a box *e* composed of end members *e*² and side members *e*³, and the end members *e*² are reinforced at the top and bottom by cross bars *e*⁴, and the side members *e*³ are reinforced at the top and bottom by longitudinal bars *e*⁵, and the top bars *e*⁵ are extended at their ends as shown at *e*⁶, and provided with cross bars *e*⁷ which form handles by which the box *e* may be manipulated as hereinafter described. The bottom of the box *e* is also provided with equally spaced longitudinal bars *e*⁸, which are secured to the ends of said box and which pass between the said upright members *b*² of the pairs of upright supports *b* which are secured to the table *a*, and placed between the bars *e*⁸ and secured thereto are upright cores or core boxes *f*, said cores or core boxes being equally spaced longitudinally of the box *e*, and supplemental cores or core boxes are also secured to the bars *e*⁸ in the same manner as the cross or core boxes *f*, and on the inner side of the end members *e*² of the box *e*, and the supplemental cores or core boxes *f*² may also be secured to the end members *e*² of the box *e* if desired, and said supplemental cores or core boxes *f*² are approximately one-half of the transverse dimensions of the cores or core boxes *f*, but in the form of construction shown the central core or core box *f* is of less transverse dimensions than the cores or core boxes *f* on the opposite sides thereof, but this construction is not essential and all of said cores or core boxes *f* may be of the same transverse dimensions if desired.

The cores or core boxes *f* and the supplemental cores or core boxes *f*² pass through corresponding apertures *e*² in the plate *c*, and the follower plate *d* which is removable is provided with corresponding apertures through which said cores or core boxes and said supplemental cores or core boxes also pass.

The box *e* is provided on the inner surface of the back side member *e*³ thereof with vertical ribs *g* which are secured thereto or connected therewith in any desired manner, and said ribs are preferably under-cut on their opposite sides, and the follower plate *d* is provided in the corresponding side edge thereof with corresponding recesses through which the ribs *g* pass, and the ribs

g also pass through corresponding recesses in the corresponding side edge of the plate c and said ribs g form corresponding spaces g^2 , the ribs g and spaces g^2 being of the tongue and groove type.

The inner face of the front side of the box e is provided with vertically arranged ribs g^3 and corresponding spaces g^4 , said ribs and spaces in horizontal section being of the ogee form, and it will be understood that the front side of the follower plate d and the front side edge of the plate c are similarly formed.

I also provide arms h which are pivotally connected at h^2 with plates h^3 secured to the table a and the free ends of said arms are provided with heads h^4 having recesses h^5 , and said arms are designed to hold the box e in its elevated position as shown in Fig. 1, or may be turned outwardly to permit said box to drop into the position shown in dotted lines in Fig. 1, when desired, or in the operation of the device as hereinafter described.

In the use of this device, the box e is dropped down over the supports b , and the cross heads b^4 secured thereto, and the plate c secured to said crossheads, and the follower plate d is placed in the box e and rests on the plate c , and when the device is not in use the box e rests on the base plates b^4 of the supports b .

I also provide a device for separating the front face of the block from the body thereof and for inserting a water-proof sheet between said parts, and by means of which said parts may be interlocked in the formation of the block, and for the purposes of this description this device will be called the interlocker, and is shown at k in Figs. 4 and 5, and consists of a crosshead portion k^2 having a central raised handle member k^3 and to the opposite sides of which are secured parallel rows of alternately arranged and projecting tongues k^4 said tongues being of the same depth as the mold box and adapted to rest thereon, and in connection with this device, I employ a sheet k^5 of oiled paper, tar paper or other waterproof fibrous material which is woven back and forth between the tongues k^4 , and the width of which is the same as the length of said tongues and preferably the same as the depth of the block to be produced. The end portions e^2 of the mold box are provided adjacent to the front side thereof with vertically arranged cleats k^6 adapted to receive the end tongues k^4 of the interlocker k and to hold said interlocker in proper position during the process of filling the mold box with the material from which the block is to be made.

When it is desired to use this apparatus, the interlocker k with the waterproof sheet k^5 interwoven between the tongues k^4 thereof is inserted into the mold box as shown in

Figs. 1, 2 and 3, and said box is raised into the position shown in full lines in Fig. 1, and the arms h are turned into the position also shown in said figure so as to support said box in its elevated position. The interlocker k divides the mold box into a large back portion and a small front portion and with the said box in its elevated position the concrete i from which the body of the block is to be formed, said concrete being in a plastic or semi-liquid state, is poured into the back portion of the box in the usual manner until said back portion of the box is full, and at the same time the finer concrete or cement i^2 from which the face of the block is to be formed is poured into the front portion of said box, and during both of these operations the concrete back of the interlocker and the concrete in front of the interlocker are tamped firmly by means of suitable tamping devices into the spaces formed by the tongues k^4 of the interlocker and when both parts of the mold box are full the interlocker is withdrawn, leaving the waterproof sheet k^5 in position, and after this, that part of the concrete in the front of the mold box including the face i^2 is again thoroughly tamped or packed and additional material may be put in to fill up and when the block has been formed in this manner, the face thereof will be interlocked by means of a tongue and groove connection with the body of the block and at the same time, said face will be separated from the body of the block by the waterproof sheet k^5 . After the box has been filled in this manner a straight edge or similar device is passed over the top thereof to make the top surface of the block smooth and after the concrete or concrete and cement have had time to set the arms h are turned outwardly and the box e lowered into the position shown in dotted lines in Fig. 1, in which position of the box e the follower plate d will be flush with the top of the box and may be turned transversely thereof while resting thereon, and in this operation the block of concrete is also turned with the follower plate and may be removed on said plate to any suitable or predetermined point and allowed to dry or to be kiln dried in the usual manner. It will be understood that any desired number of follower plates d may be employed, and after the first block i^2 has been completed the parts of the device are again moved to the position shown in full lines in Fig. 1 and another block cast or molded, and this operation may be repeated as often as desired.

Although, I have shown and described the back side or face of the block as provided with ribs and grooves of the tongue and groove class and the front face thereof with ribs and grooves of the ogee type the mold box being formed so as to produce this re-

sult, it will be understood that this construction is not essential and the front and back faces of my improved building block may be given any desired shape or configuration, it being understood that the tongue and groove construction on the back face of said block is intended to enable said block to hold cement in the operation of building a wall, while the rib and groove construction on the front face of said block is intended as ornamentation.

It will be understood that various changes in the apparatus herein shown and described, as well as changes in the form of the block produced thereby may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages, the chief feature of my invention being a building block having one face portion separated from the body of the block by waterproof material so as to prevent the body of the block from being saturated with moisture under any conditions, said face portion being preferably composed of finer material than the body of the block whereby a finer finish may be produced, another feature being the formation of a concrete building block with a facing of different material interlocked in connection therewith, together with the apparatus for molding or forming such block or blocks.

The brick or block described herein and shown in Fig. 6 of the drawing is not claimed in this application but is made the subject of a divisional application filed Nov. 15, 1911, Serial No. 660,369.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a machine for molding concrete blocks one face portion of which is formed separately from and interlocked in connection with the body of the block, a mold box and a hand-operated interlocking device adapted to be inserted therein, said device consisting of a cross head of approximately

the length of the box having projecting tongues alternately secured to the opposite sides thereof and adapted to receive a sheet of fibrous material to be interwoven therebetween.

2. In a machine for molding concrete blocks, one face portion of which is formed separately from and interlocked in connection with the body of the block, a mold box and a hand-operated interlocking device adapted to be inserted therein, said device consisting of a cross head portion of approximately the length of the mold box and provided with projecting tongues alternately secured to the opposite sides thereof and adapted to receive a sheet of fibrous material interwoven therebetween, said interlocking device being adapted to be removed from the box in the operation of molding the block in which operation of removal the fibrous sheet is left in the block.

3. In a machine for molding concrete blocks one face portion of which is formed separately from and interlocked in connection with the body of the block, a mold box and a hand-operated interlocking device adapted to be inserted therein, said device being of approximately the length of the box and comprising a cross head portion having projecting tongues alternately secured to the opposite sides thereof and involving the use of a sheet of fibrous material interwoven therebetween so as to form a tongue and groove construction, said cross head portion and the tongues thereof being adapted to be removed from the box in the operation of molding a block in which operation of removal the fibrous sheet is left in the block.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 26th day of June 1911.

MAX WOHL.

Witnesses:

C. E. MULREANY,
FRANK G. AT LEE.