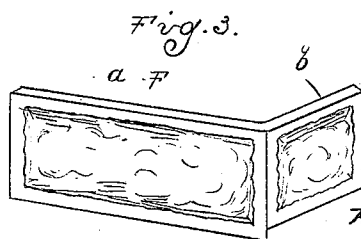
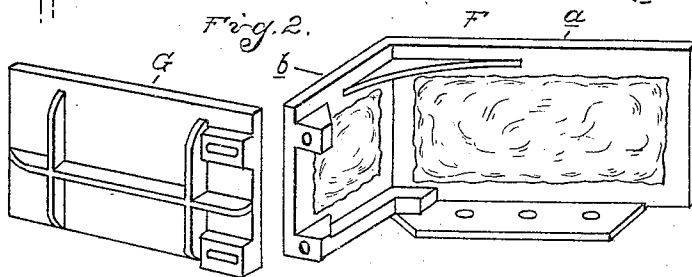
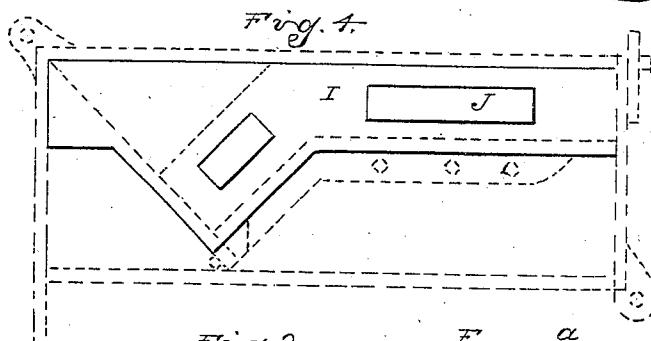
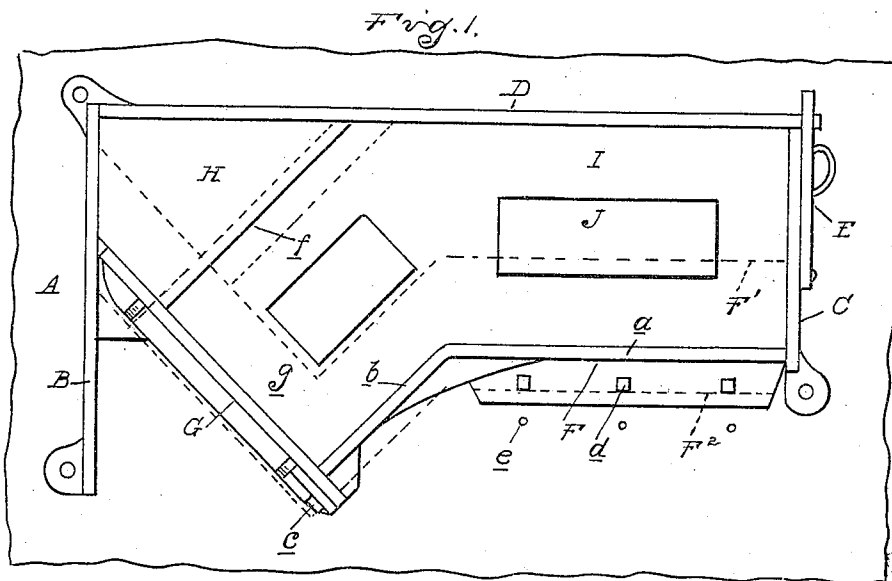


No. 817,661.

PATENTED APR. 10, 1906.

L. P. NORMANDIN.
MACHINE FOR MOLDING BUILDING BLOCKS.
APPLICATION FILED OCT. 17, 1904.



Witnesses
A. L. Hobby.
Geo. H. Brown

Inventor
Levi P. Normandin
By James Whittier
Atty.

UNITED STATES PATENT OFFICE.

LEVI P. NORMANDIN, OF JACKSON, MICHIGAN, ASSIGNOR TO WILLIAM F. COWHAM, OF JACKSON, MICHIGAN.

MACHINE FOR MOLDING BUILDING-BLOCKS.

No. 817,661.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed October 17, 1904. Serial No. 228,873.

To all whom it may concern:

Be it known that I, LEVI P. NORMANDIN, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Machines for Molding Building-Blocks, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to machines for molding blocks from plastic material, such as sand and cement, and is more particularly designed for use in the manufacture of building-blocks.

It is the object of the present invention to provide means for quickly converting the material for a rectangular block into one adapted for the formation of angular blocks. It is a further object to obtain a construction which is adapted to readily form angle-blocks of various widths.

In the drawings, Figure 1 is a plan view of the block-molding machine to which my improvements are applied. Fig. 2 is a perspective view of the angle-plates forming a part of my improved construction. Fig. 3 is a perspective view of one of the side angle-plates looking from the opposite side. Fig. 4 is a plan view of the bottom plate.

The type of molding apparatus to which my improved construction is applicable comprises an articulated mold-frame mounted upon a bed, one of the sides of said frame being preferably rigidly attached to said bed, while the other sides are hinged and detachably locked to each other, so as to permit of opening out to remove the block. The mold is also provided with a detachable bottom plate, which is of rectangular form, and the hinged plates are held in rigid relation to the fixed plate by reason of the fact that they fit closely about this rectangular bottom plate. Thus the plastic material may be placed within the mold upon the bottom plate, and after the molding operation the articulated sides are swung back and the block removed upon the bottom plate, remaining thereon until sufficiently hardened.

It is desirable to form blocks of various widths, according to the thickness of the wall desired, and for this purpose suitable adjustments are provided for relatively shifting the rigid and articulated sides of the mold and by

providing bottom plates of various widths. In the present construction angle-blocks may also be formed of various widths by means of an articulated rectangular mold-frame in connection with the auxiliary devices which will be hereinafter described.

As shown in the drawings, A is the bed, upon which is mounted the mold-frame, comprising the sides B and C, pivotally attached to said bed, and a third side D, hinged to the side B and detachably engaging the side C, to which it is locked by a suitable latch E. These sections of the mold are adapted to cooperate with a stationary side, which is bolted or otherwise rigidly secured to the bed. For an ordinary rectangular block this stationary section extends across the bed between the sides B and C; but when it is desired to form the angle-blocks these sections remove and the angle-plate is substituted therefor, which is also rigidly clamped to the bed.

In the construction shown the mold is adapted to form blocks having angle-sections extending at substantially an angle of forty-five (45) degrees to the main body-section. This angle may, however, be varied as required.

F is an angle-plate having a portion *a*, which is arranged parallel to the side D of the articulated mold-frame and which abuts at one end against the pivotal side C thereof. The member F is also provided with a side *b*, which extends obliquely from the side *a* and is preferably one-half of the length of that of the side *a*. This proportion is for the purpose of combining the adjacent tiers of blocks in building walls by alternately reversing them, so that the side *b* will be superposed upon the side *a* and will extend only one-half the length thereof.

G is a plate which is attached to the end of the portion *b* of the plate F, preferably by bolts *c* engaging slots in the plate, so as to permit of adjusting the plates F and G to fit between the plates C and B of the articulated frame, as shown in Fig. 1. The position of these parts relative to the side D of the mold-frame may be varied, as indicated by the dotted lines F' and F², this adjustment being effected by shifting the clamping-bolts *d* to engage with different apertures *e* in the bed. Thus the width of the molds

may be varied, and in each position of adjustment the plates F and G will exactly fit between the plates B and C.

With the construction as thus far described the sides D and C, in conjunction with the portion *a* of the plate F, will form the mold for the body portion of the block, and the portion *b* of the plate F and plate G will form two of the sides of the angle portion of the block. The remaining side is formed by a triangular filling-block H, which bears against the sides D and B of the outer mold and has a face *f* which is parallel to the face *b*.

The bottom plate I for the mold is formed with a rectangular portion, which fits between the plate F and the plate D and also extends between the sides C and B. Thus the articulated frame will be held by said rectangular bottom plate in rigid relation to the plate F, which is securely bolted to the bed. In addition to the rectangular portion the plate I is provided with an angular portion *g*, which extends beneath the portion of the mold bounded by the portion *b* of the plate F and the plate G. These portions *b* and G preferably rest upon the bottom plate, their lower edges being sufficiently raised above the level of the bed. This avoids the necessity of making the bottom plate exactly fit the angle of the plates F and G.

In the use of the machine whenever the angle-blocks are to be molded the plates F and G are substituted for the rear plate used for the rectangular blocks, after which the operation of molding the blocks is substantially the same as the normal operation in which rectangular blocks are produced. This operation consists first in placing the bottom plate I adjacent to the plate F and then closing the hinged sides B, C, and D of the outer mold and finally placing the detachable block H in the angle of said outer mold, as shown in Fig. 1. The operator then fills in the plastic material, and when the mold is filled the latch E is lifted, the sides D, B, and C swung outward, and the molded block removed by sliding the bottom plate I outward on the bed away from the plates F and G. Where the outer surface of the block is to be patterned, this effect may be produced by suitably fashioning the molding-surface of the plate F, as illustrated in Fig. 3. If desired, hollow blocks may be formed by the use of suitable cores, such as is shown at J in Fig. 1.

It has been stated that blocks of various widths may be formed with this apparatus by suitably adjusting plates F and G in relation to the plate D of the outer mold. For each of these adjustments the mold-faces *a* and *b* of the plate F remain the same; but when the plate F is adjusted away from the side D to produce a block of greater width this will correspondingly increase the length

of the inner sides of the block respectively bounded by the side D of the mold and the filling-block H. It is therefore necessary to provide filling-blocks H of various sizes to correspond with different adjustments; but as these blocks are quickly placed in position and are not bolted or clamped in any way little time is consumed in making the change. The plate G is of sufficient length to form the end of the mold in the widest adjustment, and for the angular blocks the overlapping of the filling-block H will shorten the molding-face of the plate G to the required length. Thus by this apparatus I am enabled to form various sizes of angle-blocks with the same mold-plates, with the exception of the one variable side formed by the block H.

What I claim as my invention is—

1. In a mold, the combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, and a completing side rigidly attached to said bed and having a portion extending over said bottom plate, for the purpose described.

2. In a mold, the combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, and a complementary side for said frame having a portion extending over said bottom plate between the parallel articulated sides and adapted to be rigidly attached to said bed in different positions of adjustment in relation to the third side, substantially as described.

3. The combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, and a complementary side formed by an angled plate having a portion extending over said bottom plate and adapted to be rigidly attached to said bed in different positions of adjustment.

4. The combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, and a complementary side formed by an angled plate connecting the parallel articulated sides and having a portion extending over said bottom plate, for the purpose described.

5. The combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, and a complementary side for said frame formed of a plate having one oblique and one right angle, having a portion extending over said bottom plate and rigidly attached to said bed, for the purpose described.

6. The combination with a bed, of a rectangular mold-frame partially formed of articulated sides, a bottom plate adjacent to said sides, a complementary side for said frame having a portion extending over said bottom plate and rigidly attached to said

bed, and a filling-block resting upon said bottom plate adjacent to said frame, substantially as described.

7. The combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate adjacent to said sides, a complementary side having a portion extending over said bottom plate and adapted to be rigidly attached to said bed in different positions of adjustment, and a filling-block within said frame, for the purpose described.

8. The combination with a bed, of a rectangular mold-frame comprising articulated sides, a bottom plate having a portion extending therebetween, a complementary side extending over said bottom plate and formed in three sections, forming an oblique and a right angle, and adapted to be rigidly attached to said bed in different positions of adjustment, and a filling-block extending between one of said articulated sides and one of said sections, for the purpose described.

9. The combination with a bed and an articulated rectangular mold-frame mounted thereon, of an angle-plate rigidly secured to said bed, a bottom plate fitting against said

plate F and within the rectangular sides of said mold-frame, the plate G secured to the plate F extending over the bottom plate, and the block J substantially as and for the purpose described.

10. The combination with a bed, an articulated rectangular mold-frame mounted thereon, of a plate rigidly secured to said bed having a portion perpendicular to the sides of said rectangular frame and two oppositely-angling portions having their lower edges slightly raised from the bed, a bottom plate fitting between the rectangular sides of said articulated frame and the perpendicular side of said rigid plate and extending beneath said angling sides and a triangular filling-block fitting the corner of the said rectangular frame and having a mold side perpendicular and parallel respectively with the two angling sides of said rigid plate.

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

LEVI P. NORMANDIN.

Witnesses:

JAS. P. BARRY,
H. C. SMITH.