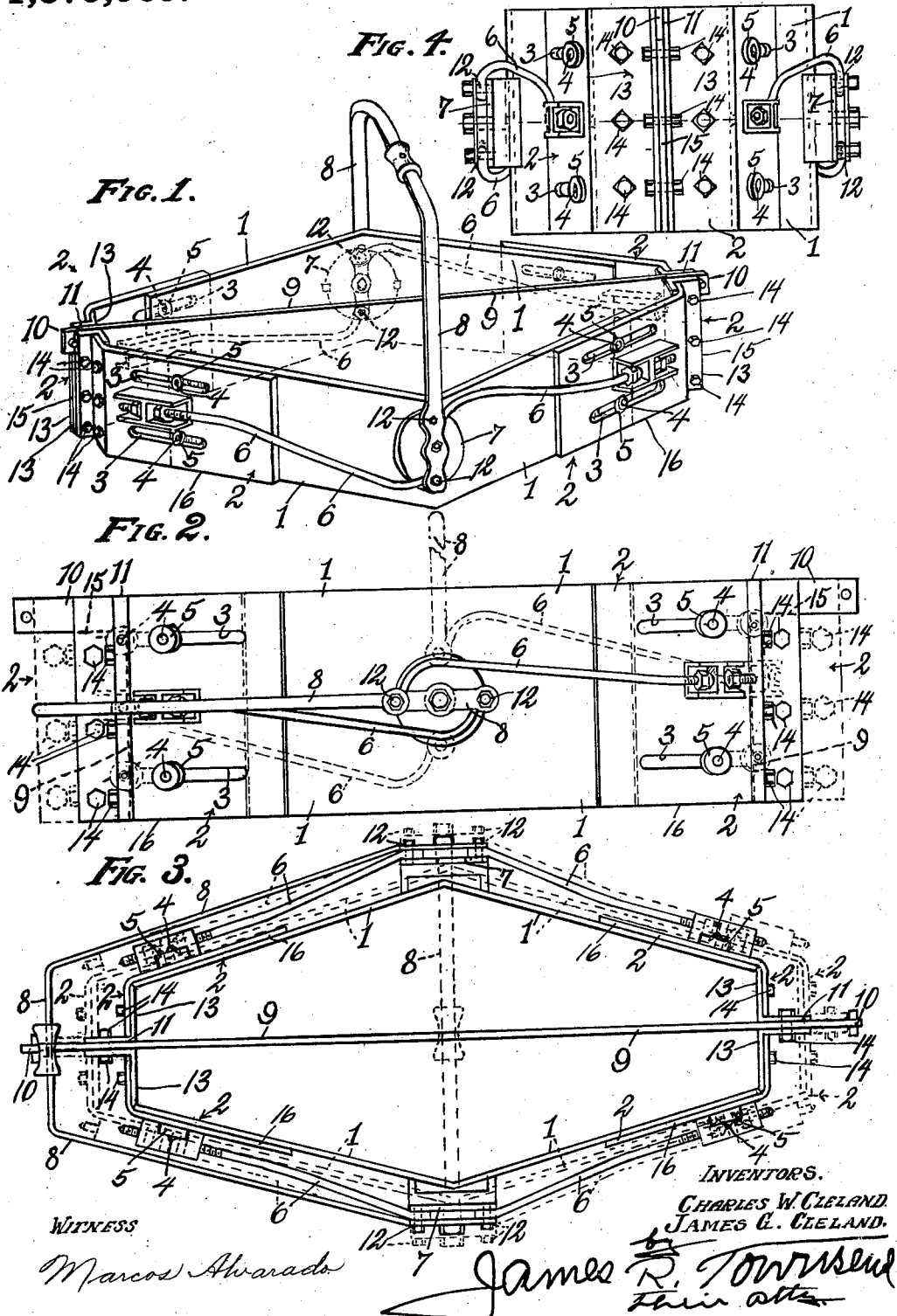


C. W. AND J. G. CLELAND.
CEMENT BLOCK MOLD.
APPLICATION FILED SEPT. 16, 1920.

Patented May 31, 1921.

1,379,965.



UNITED STATES PATENT OFFICE.

CHARLES W. CLELAND AND JAMES G. CLELAND, OF BALDWIN PARK, CALIFORNIA.

CEMENT-BLOCK MOLD.

1,379,965.

Specification of Letters Patent.

Patented May 31, 1921.

Application filed September 16, 1920. Serial No. 410,576.

To all who mit may concern:

Be it known that we, CHARLES W. CLELAND and JAMES G. CLELAND, both citizens of the United States, residing at Baldwin Park, in the county of Los Angeles and State of California, have invented a new and useful Cement-Block Mold, of which the following is a specification.

This invention relates to a mold for making building blocks of cement concrete, and an object of the invention is to provide a mold by means of which the blocks can be readily and easily molded and whereby they will be freely released from the mold when the block is made.

An object is to provide a mold for molding blocks from wet cement concrete and one in which the mold sides may be forced together to mechanically compress the material of the block. The mold can be constructed for either hand or automatic tamping and in the drawing the hand machine will be illustrated.

The invention comprises a mold having relatively adjustable end and side walls which converge toward each other away from the transverse mid-line of the mold, and the end walls are provided with wings that diverge from each other toward said mid-line; and means to alternately force said end walls with their wings toward and from said mid-line.

Said wall forcing means are also preferably constructed and arranged to draw together and to separate the side and end walls and the same is constructed to comprise a handle to lift the mold when it is opened.

The invention is applicable to the molding of two blocks at once and to this end is provided with a longitudinal partition which is adapted to remain with the walls during the handling of the mold.

An object is to reduce the time and labor required for producing blocks of the character known as the Hechler system of building blocks in which the top and bottom of the blocks are flat. The longest side is the face. The sides opposite said face converge from the middle toward said longest side, and the ends are at right angles to the longest side.

In carrying out the invention a resilient bail is pivoted to the two sides and operates connecting rods to move the ends to-

ward and from each other. The resiliency of the bail allowing the side walls to which it is pivoted to separate from or to approach each other as the ends are moved from or toward said mid-line.

Strength, simplicity, ease and rapidity of operation are other features aimed at in connection with this invention.

Other objects, advantages and features of invention may appear from the accompanying drawings, the subjoined detail description and the appended claims.

The accompanying drawing illustrates the invention.

Figure 1 is a perspective view of the mold open.

Fig. 2 is a side elevation of said mold closed, an open position is indicated by broken lines.

Fig. 3 is a plan showing in solid and broken lines the closed and open positions.

Fig. 4 is an end elevation of the mold shown in the other views.

The side walls 1 converge toward the ends, and the ends are formed of U-shaped pieces 2 adapted to be moved toward and from the central part of the mold. The side walls of the end pieces are provided with slots 3 and are secured to the ends of the main walls by stud bolts and nuts 4, 5.

The end pieces diverge from each other toward the middle of the mold and connecting rods 6 are connected to an operating piece 7 which is connected to a bail 8, by means of which said operating pieces are turned to operate the connecting rods to slide the end pieces as occasion may require.

When the bail is down as shown in Fig. 1 the end pieces are drawn tightly upon the end walls to hold the mold in contracted position ready to receive the concrete to be molded. When the bail is turned up, as in Figs. 2 and 4, the connecting rods are operated to force the end pieces away from each other, and the diverging walls of the end pieces acting upon the stops formed by the nuts 5 will force the side walls away from the mid-plane of the mold.

The mold is provided with a central partition 9 having end fingers 10 to rest upon the top edges of the end pieces which are provided with notches at 11 to cause said fingers to be held centrally between the side walls. The rod operating pieces may be variously constructed and are shown with

pivots 12 upon which the connecting rods are pivoted. The bail is arranged to turn the operating pieces to mold-contacting position when the bail is down and to expanded position when the bail is up, so that when it is desired to remove the mold from the block, all that is necessary is to simply raise the bail and then lift the mold by the bail.

A reverse operation closes the mold in the ordinary course of operation.

The parts are so arranged that when the bail is thrown over to the left in Fig. 1, the connecting rods will pass dead center so that the strain tends to hold the mold from opening.

The invention may be embodied in a machine of any desired dimensions; the principle being expansion and contraction of the mold by operating two diverging members, as the end members, with respect to other two diverging members, as the side members.

It is understood that the bail is connected through the operating pieces and the connecting rods to expand and contract the mold both as to length and width, by reason of the diverging and converging end and side walls that operate in pairs of walls that slide upon each other in the operation of contracting the mold as the bail is lowered to horizontal position and that have endwise relative movement to expand the mold as the bail is raised.

It is understood that each of the U shaped end pieces may be a single piece or may be built up of end walls and divergent wings formed of angle irons 13 fixed to each other by suitable means as by rivets or bolts 14; there being a space plate 15 between the angle irons terminating below the top of the mold to form the notches 11 between the angle irons; and the diverging wing 16 being also suitably fixed to the angle irons.

We claim:

1. A concrete mold comprising side walls converging toward the ends of the mold; end walls cooperating therewith and having wings diverging from the ends of the mold; and means operable to move the walls toward and from each other to open and close the mold.

2. A concrete mold comprising side walls converging toward the ends of the mold; end walls cooperating therewith and having wings diverging from the ends of the mold; and means comprising a handle and operable to move the walls toward and from each

other to expand and contract the mold and adapted for use in lifting the mold when expanded.

3. A mold comprising side and end walls, a bail pivotally connected to the side walls; said bail movable out of mold lifting position, and means whereby said bail moves the side and end walls when actuated to mold lifting position.

4. A mold comprising side and end walls, a resilient bail movable out of mold lifting position, and means whereby said bail moves the side and end walls outwardly when actuated to mold lifting position.

5. A mold comprising side and end walls, a resilient bail pivotally connected to the side walls, and rods pivotally connecting said bail with the end walls, said bail and rods adapted when actuated to move the side and end walls toward or away from the center of the mold.

6. A mold comprising side and end walls, a sliding connection between the side and end walls, a resilient bail pivotally connected to the side walls, pairs of rods pivotally connecting said bail with the end walls, said bail and rods adapted when actuated, to move the side and end walls toward or away from the center of the mold.

7. A mold comprising side and end walls, a sliding connection between the side and end walls, a plate separating the mold into compartments, a resilient bail pivotally connected to the side walls, pairs of rods pivotally connecting said bail with the end walls, said bail and rods adapted when actuated to move the side and end walls toward or away from the center of the mold.

8. A mold comprising side and end walls, a sliding connection between the side and end walls, a plate separating the mold into compartments, extensions on said plate that extend through notches in the end walls, a resilient bail pivotally connected to the side walls, pairs of rods pivotally connecting said bail with the end walls, said bail and rods adapted when actuated to move the side and end walls toward or away from the center of the mold.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 26th day of August, 1920.

CHARLES W. CLELAND.
JAMES G. CLELAND.

Witness:

JAMES R. TOWNSEND.