

B. L. BLAIR.  
MACHINE FOR MAKING CEMENT BLOCKS.  
APPLICATION FILED JULY 23, 1908.

984,531.

Patented Feb. 21, 1911.

3 SHEETS-SHEET 1.

FIG. 1

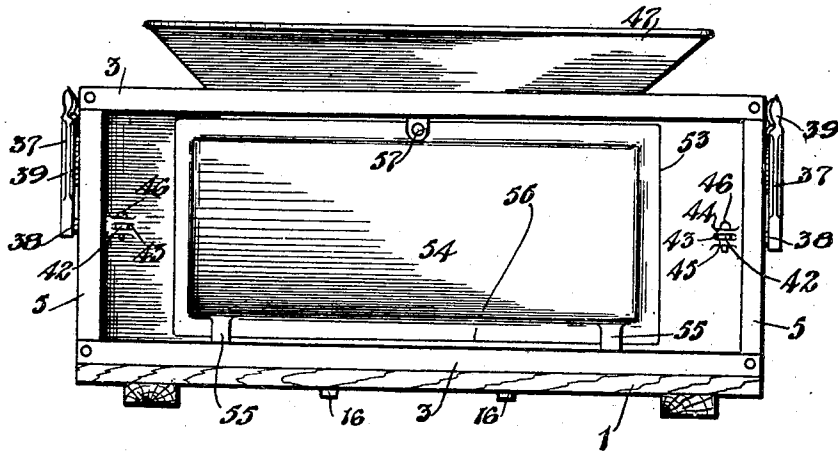
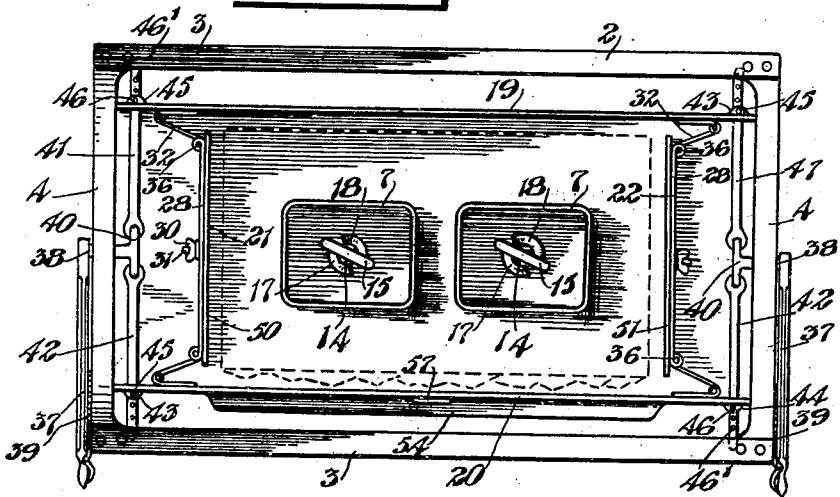


FIG. 2



WITNESSES.  
Donald S. Foxburgh.  
Jas. M. Topley

INVENTOR  
B. L. Blair

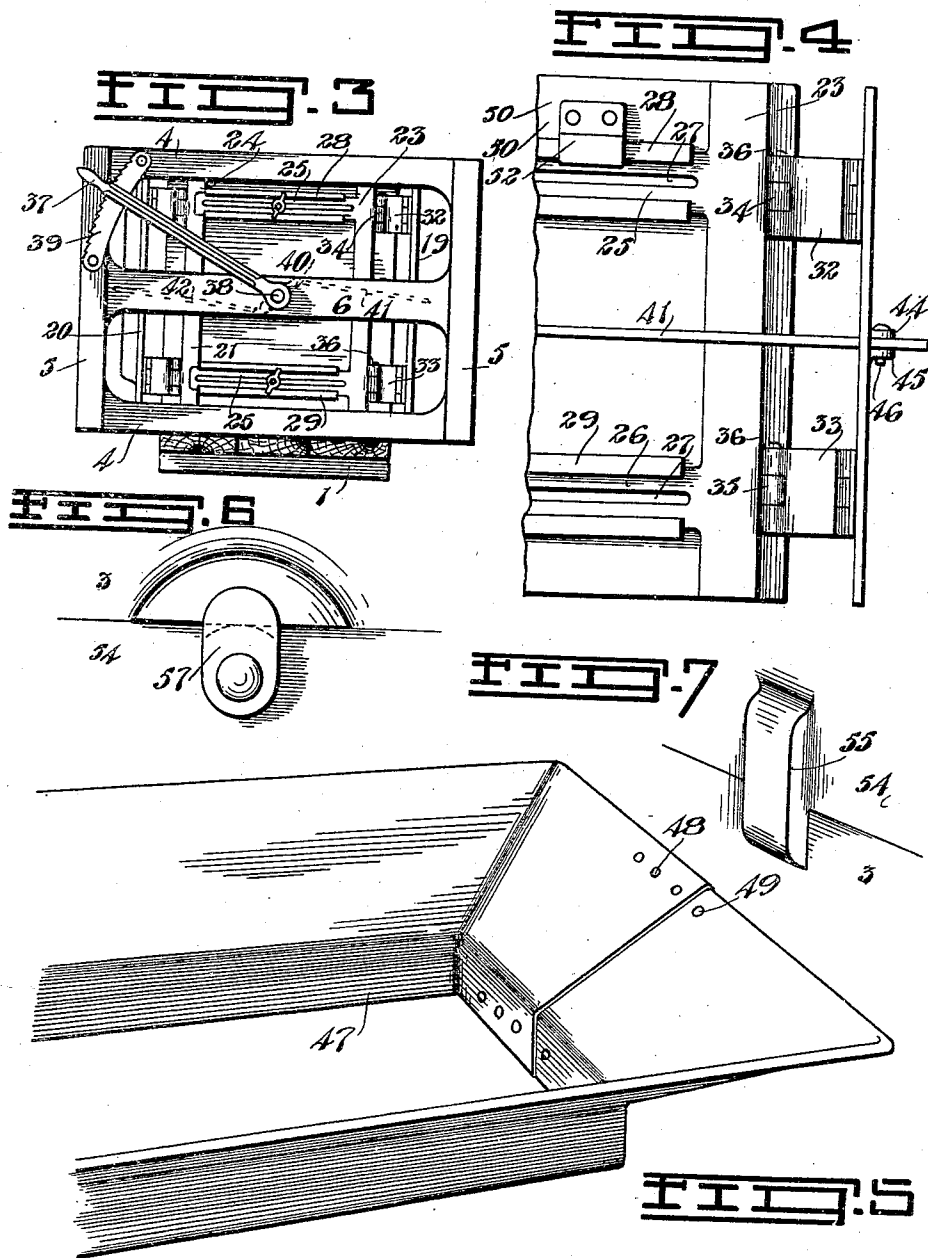
By *Lucas F. L. L. L.*  
His Atty.

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WITNESSES -  
Gerald S. Foxburgh  
Jos. M. Topley

INVENTOR -  
B. L. Blair

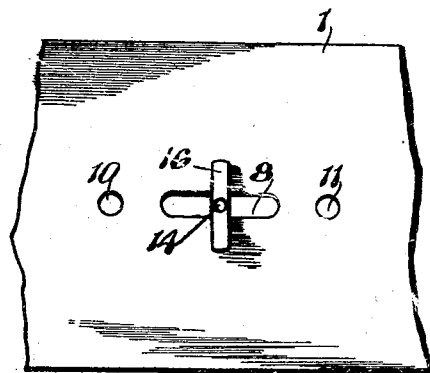
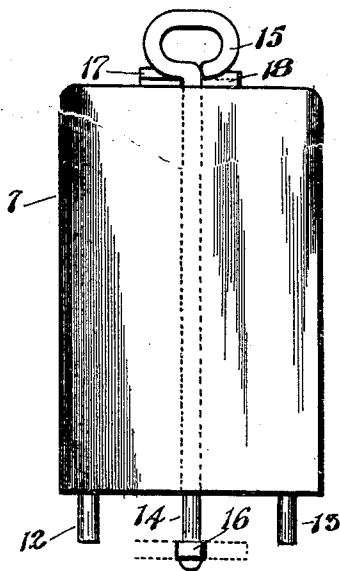
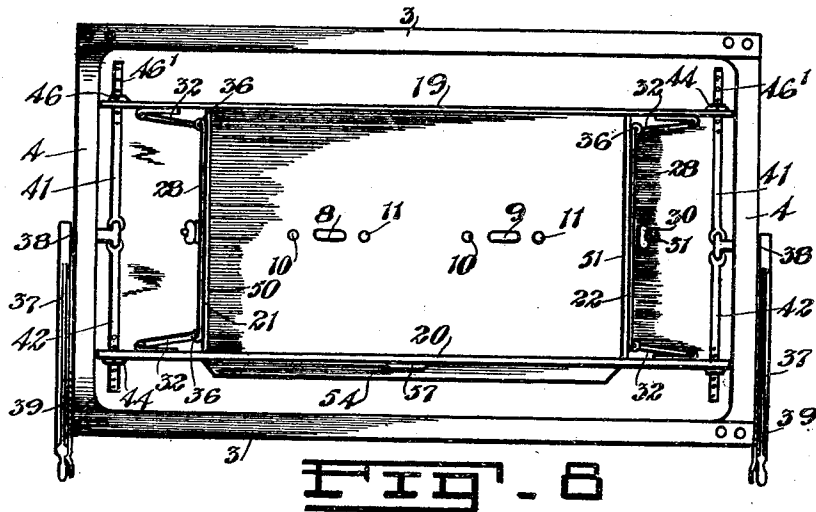
By *Frank J. Foxburgh*  
His Atty.

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3 SHEETS—SHEET 3.



WITNESSES.  
S. S. Haysburgh  
Jas. M. Tapley

INVENTOR.  
B. L. Blair  
By *Frank Salustianovich*  
His Atty

# UNITED STATES PATENT OFFICE.

BENJAMIN LEROY BLAIR, OF DRYDEN, ONTARIO, CANADA.

MACHINE FOR MAKING CEMENT BLOCKS.

984,531.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed July 23, 1908. Serial No. 445,031.

*To all whom it may concern:*

Be it known that I, BENJAMIN LEROY BLAIR, of the village of Dryden, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Machines for Making Cement Blocks, of which the following is the specification.

My invention relates to machines for making cement blocks, particularly to that class of machine in which the block is made with the face to the side, and the objects of the invention are, firstly, to provide a simple, inexpensive, and easily operated machine in which it is unnecessary to move the block after it has been molded, secondly, to provide a machine which can be adjusted for use in connection with various sizes of blocks, and to which an ornamental or artistic face can be applied, and lastly, a machine in which the inclosing sides and ends move away from the molded block.

It consists essentially in a pallet or base plate, a rectangular framework resting on the base plate; hinged side and end members resting on the base plate and adapted to slide on edge thereon; means for adjusting the end plates; means for forcing the side members apart and drawing them together; and removable cores, the parts being arranged and constructed as hereinafter more particularly described.

Figure 1 is a side elevation of my complete machine showing the hopper in position. Fig. 2 is a plan view as in Fig. 1, the hopper being removed, and the side and end members being shown in the open position. Fig. 3 is an end view as in Fig. 2. Fig. 4 is an enlarged detailed side elevation of the end and side members showing the manner in which they are connected, and the manner in which the adjustment of such plates is rendered possible. Fig. 5 is an enlarged detailed perspective view of a portion of the hopper. Fig. 6 is an enlarged detailed side elevation of the button employed to hold the ornamental face in position. Fig. 7 is an enlarged detailed perspective view of the hooks supplied on the lower edge of the ornamental plate for attaching purposes. Fig. 8 is a plan view of the machine shown in the closed position and with the core boxes removed. Fig. 9 is an enlarged side elevation of one of the core boxes and its attachments. Fig. 10 is an enlarged detailed inverted plan view of

a portion of the body of the pallet; showing the manner in which the core boxes are fastened to it.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents the pallet which in actual use is placed horizontally. On the pallet rests the rectangular frame 2 which is formed from longitudinal and transverse channel bar shaped members 3 and 4 interconnected the one with the other by vertical channel-shaped members 5 at the corners.

6 are transverse bars inserted intermediate between the upper and lower members 4, such bars being fastened at their ends firmly to the vertical members 5.

7 are the core boxes of the usual form employed, such boxes being removably secured to the pallet, one to either side of the center. The manner in which they are fastened is as now described;—

The pallet is supplied with two longitudinal slots 8 and 9 in the portion of it on which the core boxes rest, and directly to the ends of the slots are two circular openings 10 and 11, formed also in the pallet.

12 and 13 are pins passing downwardly from the lower face of the core boxes, such pins being spaced apart a distance which will allow them to enter the openings 10 and 11.

14 are rods with their upper ends provided with handles 15, and their lower ends formed in T's, the bars 16 forming the T's being adapted to pass into and through the slots. On the upper face of the core boxes are two wedge-shaped bars 17 and 18, against which the handles engage when they are turned.

In placing the core boxes in position the pins are received by the openings 10 and 11 and consequently prevent the core boxes from being turned. The handles are placed in a position which will allow the T-shaped ends to pass into and through the slots. As soon as this is accomplished they are turned and tightened on the wedge-shaped bars and the T-shaped ends prevent the cores from being removed.

19 and 20 are two side members which are of a length sufficient to pass within the framework, such members being held, as later described, on their edges on the pallet. The height of the members is somewhat

more than that which would be necessary for the height of block desired.

21 and 22 are end members placed at right angles to the plates 19 and 20 and of the same height as such plates. The members 21 and 22 are rendered adjustable in the following manner:—Each member is formed from two portions 23 and 24, the portion 23 having two extending arms 25 and 26 which pass in the plane of the body portion and are provided with elongated slots 27. The portion 24 is also provided with two extending members 28 and 29, such members passing in the plane of the body portion and being spaced apart from center to center a distance which is equal to the distance which the members 25 and 26 are apart. The edges of the members 28 and 29 are turned backwardly and form a guideway to receive the edges of the members 25 and 26. 30 are thumb screws carried by bolts 31, such bolts passing into and through the slots 27 and having an enlarged head thereon which rests against the inner face of the members 28 and 29. By means of these thumb screws it is possible to adjust the length of the members 21 and 22, as when the thumb screws are released the parts forming them can be either pulled apart or closed together, as will readily be understood.

32 and 33 are upper and lower sets of hinges, there being four hinges in each set. Those 32 have their one wing fastened securely to the members 19 and 20 toward the ends and toward the upper edge. The hinges 33 have each one of their wings fastened to the members 19 and 20 directly beneath the hinges 32 and toward the upper edges of the members.

Each of the portions 23 and 24 have two projecting and rolled back pieces 34 and 35 and to these parts are attached the free wings of the hinges 32 and 33 by pins 36. Consequently the end members 21 and 22 are doubly hinged to the side members 19 and 20, the pins 36 forming one hinged joint, and the joint between the wings of the hinges forming the other.

37 are levers centered on shafts 38 which are carried in bearings formed in the cross bars 6, the shafts entering the bar centrally of its length.

39 are quadrants securely fastened to the framework and over which the levers 37 operate. The levers are supplied with the ordinary hand latches and detents, the detents operating on the quadrants.

40 is a crossbar formed on the end of each shaft within the framework, and 41 and 42 are links connected through a set of eyes with such crossbars. The ends of the links pass through openings 43 formed centrally and toward the ends of the side members 19 and 20. To the sides of the openings 43 are

lugs 44 and 45 which are provided with openings to receive pins 46, such pins being adapted to pass through openings 46' provided at intervals toward the ends of the links.

According to this construction it will be seen that if the levers are thrown together in either one direction or the other there will be similar motion given to the cross-bars and according to the motion the links will be forced apart or drawn together. The motion of the links is transferred directly to the members 19 and 20, and on account of their interconnection with the end members a motion is also produced in the end members 21 and 22. In order to understand the motion better, if the lever, as shown in Fig. 3, be thrown downwardly, the side and end members 19 and 20, 21 and 22, respectively, will close together or assume the position indicated by the dotted line in Fig. 2.

47 is a hopper which is used in placing the cement in the machine, and it rests when in position on the framework. The hopper is rendered adjustable in width by being formed from two similar portions which are held together by bolts 48 passing through openings 49 provided in both the portions.

In order that the ends of the block may present an even surface it is necessary to insert plates 50 and 51 in the end members 21 and 22. These plates are suspended from the end members by lugs or hooks 52 which pass outwardly from the plate and hook over the portions 28.

In order that an ornamental face may be given the cement block made by the machine the member 20 has the central portion cut away at 53 to allow for the insertion of a plate 54, the latter plate being shaped or pressed in order to mold the necessary ornamental face. This plate when attached to the side member is placed in the opening from the interior of the machine and the sliding hooks 55 pass over the lower edge 56 of the opening. A button 57 pivoted on the ornamental plate is designed to engage with the upper edge of the opening in the side member and hold the ornamental plate in position.

What I claim as my invention is:

A cement block making machine comprising a supporting pallet, a rectangular framework supported thereon, vertically disposed side members within the framework, vertically disposed end members, hinges connecting said end members with the side members, means for moving said side members toward and away from each other and each end member comprising an upright having a pair of arms extending at right angles therefrom and each arm having a slot therein, and a second upright also having a pair of arms extending at right angles thereto

and each of said arms having a channel  
therein adapted to receive the arms of the  
other upright, a thumb nut adapted to hold  
the arms stationary, and a plate having lugs  
5 thereon adapted to engage with the right  
angular extending arms to hold the plate in  
position.

Signed at Dryden, in the Province of On-  
tario, this 3rd day of June 1908.

B. LEROY BLAIR.

Witnesses:

C. B. GORDON,  
MAX SCHELLENBERG.