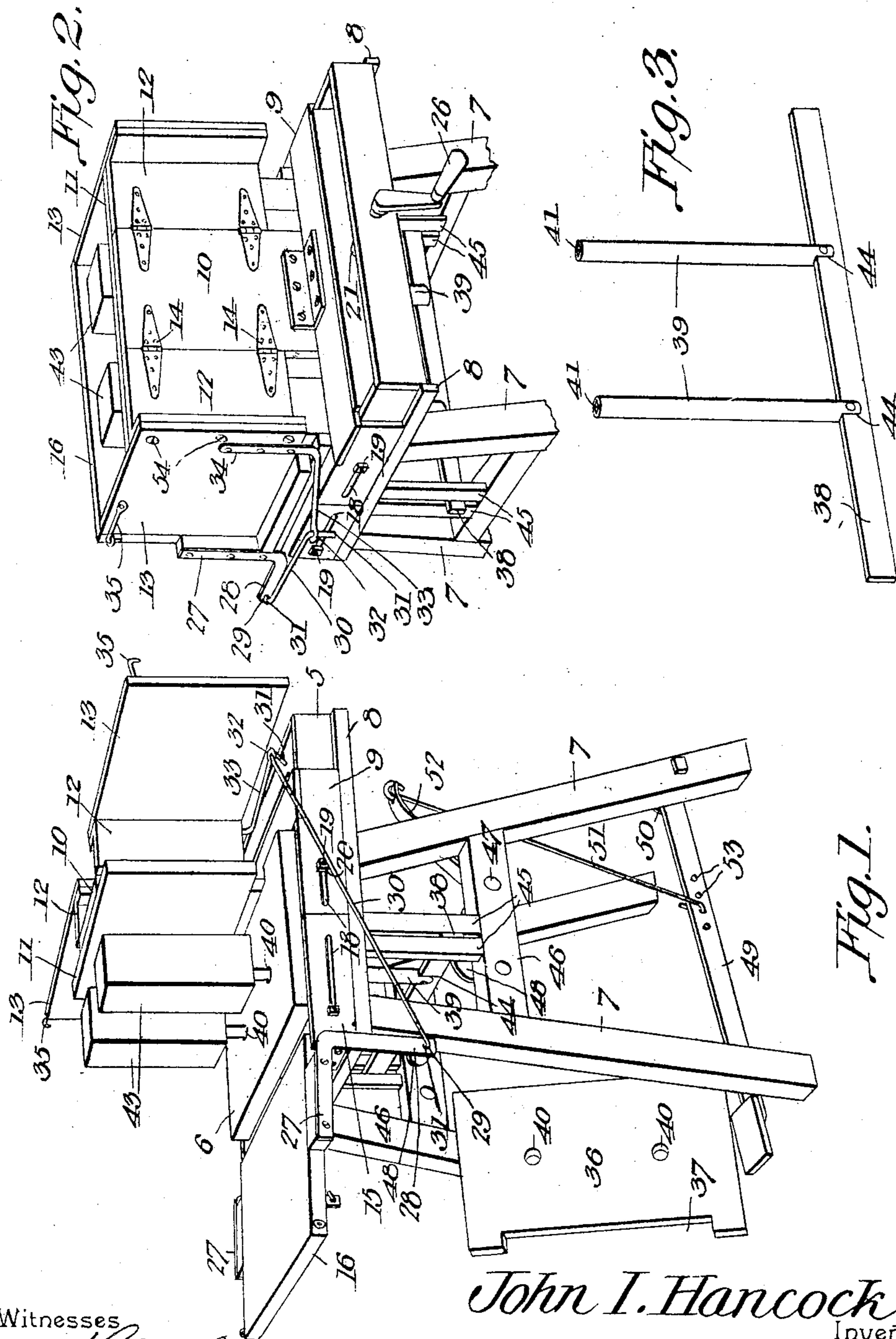


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PATENTED NOV. 7, 1905.

J. I. HANCOCK.
CEMENT BLOCK MACHINE.
APPLICATION FILED SEPT. 3, 1904.

2 SHEETS—SHEET 1.

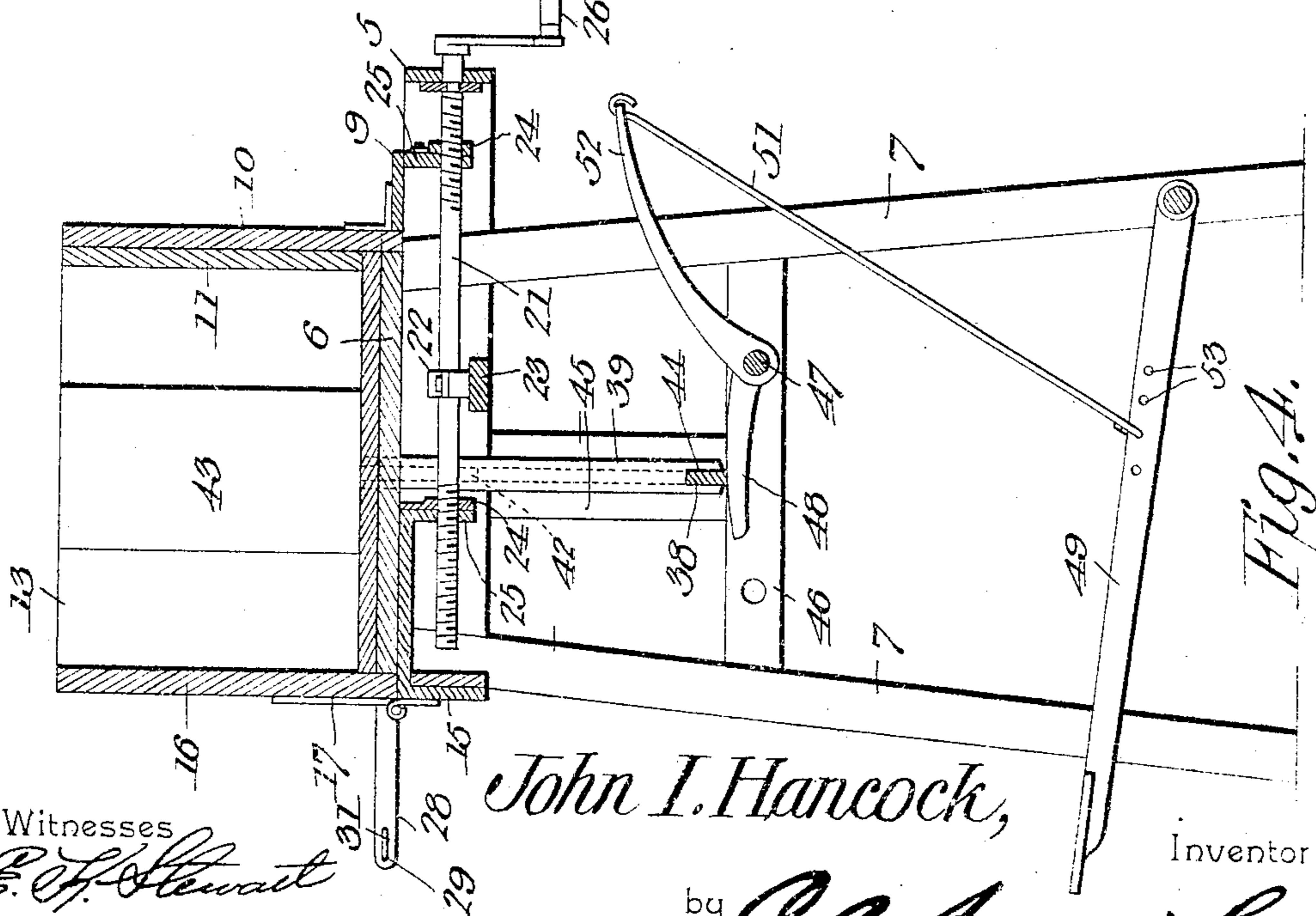
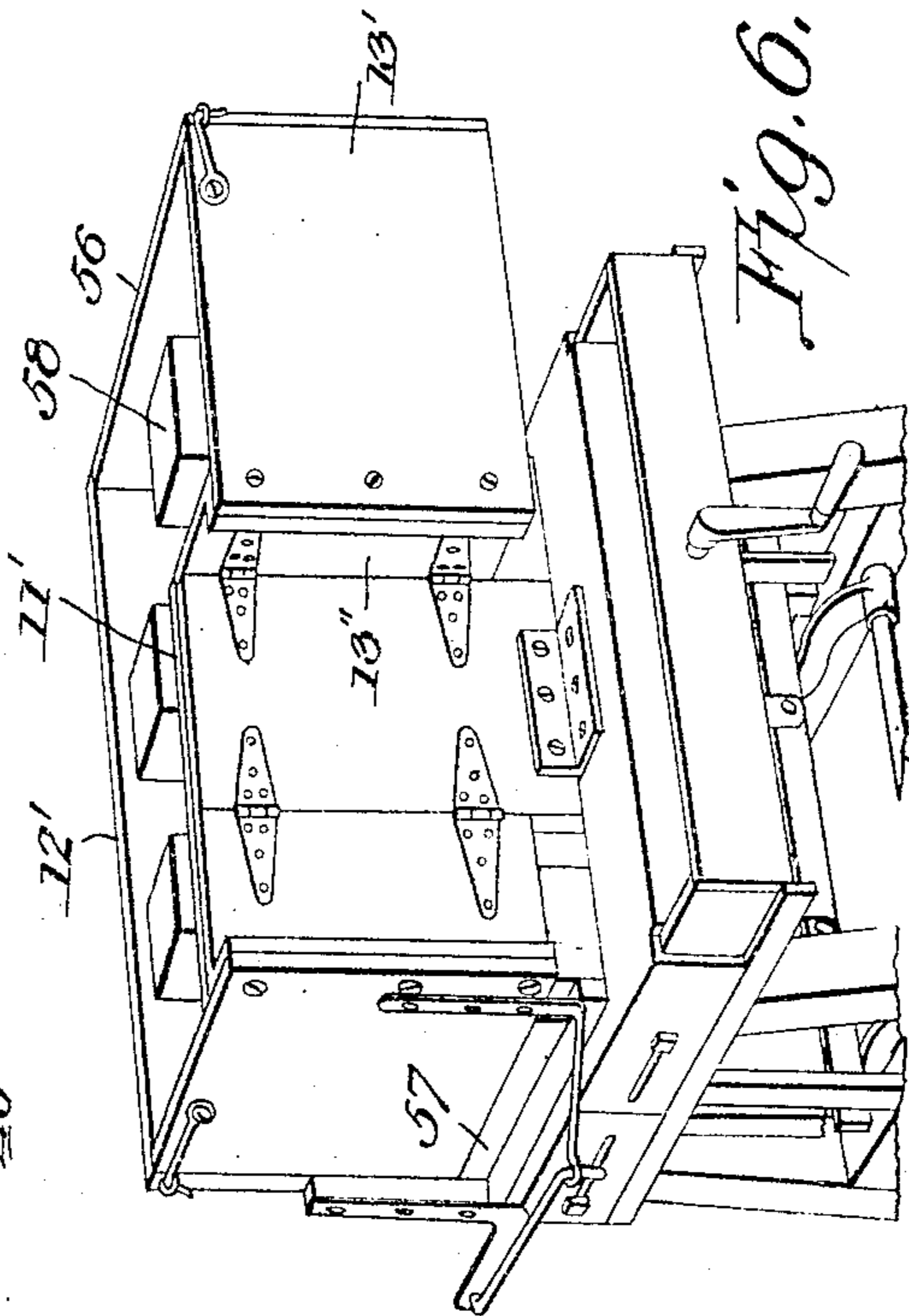
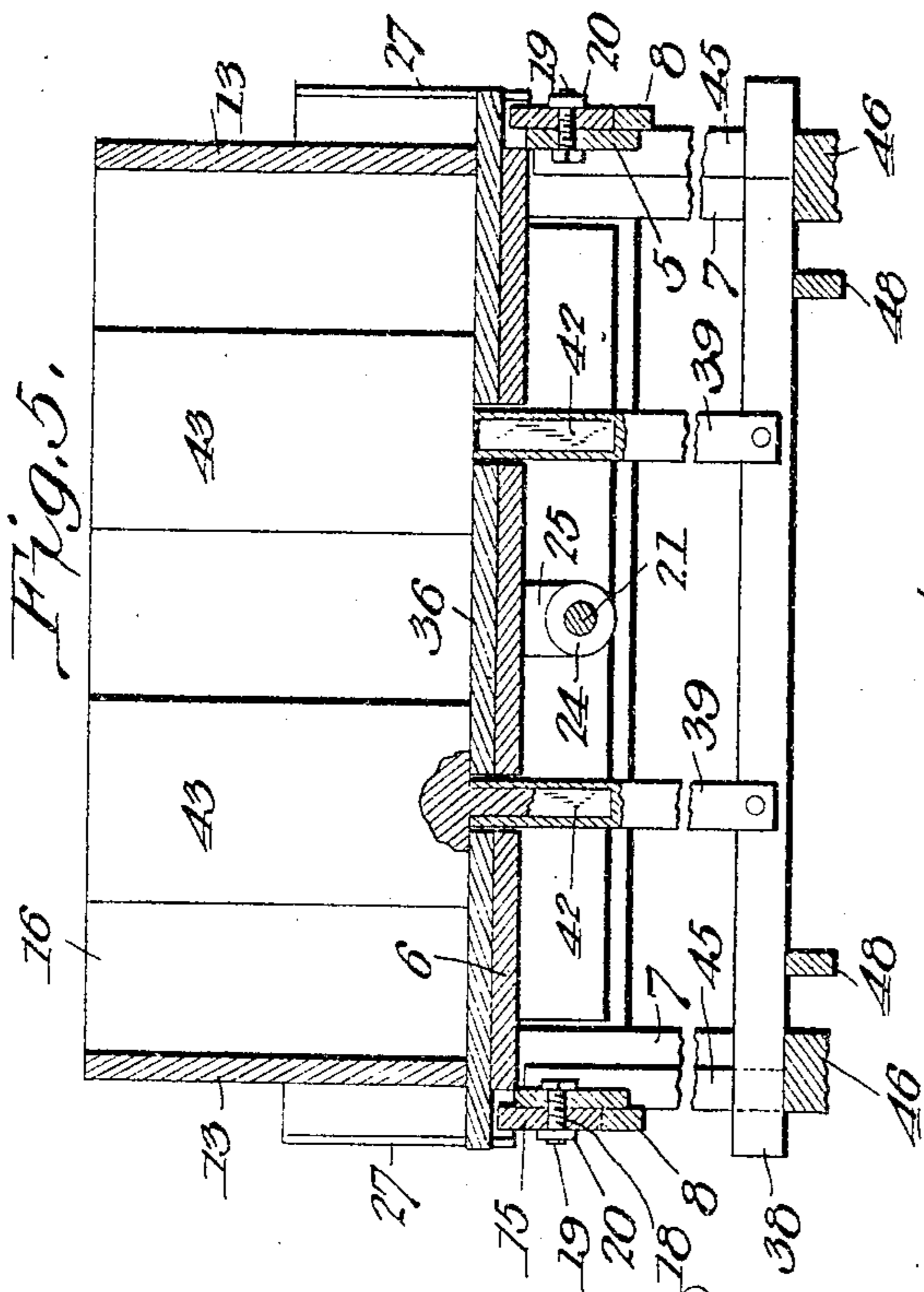


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UNITED STATES PATENT OFFICE.

JOHN I. HANCOCK, OF LESTERSHIRE, NEW YORK.

CEMENT-BLOCK MACHINE.

No. 803,823.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed September 3, 1904. Serial No. 223,260.

To all whom it may concern:

Be it known that I, JOHN I. HANCOCK, a citizen of the United States, residing at Lestershire, in the county of Broome and State of New York, have invented a new and useful Cement-Block Machine, of which the following is a specification.

This invention relates to machines for making artificial-stone building-blocks, and has for its object to provide an inexpensive, durable, and comparatively simple machine of this character by means of which hollow building-blocks may be conveniently and expeditiously manufactured.

A further object of the invention is to provide means for adjusting the front and rear walls of the mold laterally to thereby permit the formation of blocks of different widths.

A further object is to provide improved means for elevating the core members, so as to permit the same to be readily detached preparatory to removing said block from the mold.

A further object is to provide means for automatically releasing the end walls of the mold when the front wall thereof is moved to open position and means for returning said end walls to closed position by the closing movement of said front wall.

A still further object of the invention is to provide a mold capable of being readily altered, so as to permit the formation of return or corner blocks.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification, Figure 1 is a perspective view of a molding-machine constructed in accordance with my invention, showing the front and end walls open and the removable bottom plate resting against the frame of the machine. Fig. 2 is a similar view showing the walls of the mold in closed position. Fig. 3 is a detail perspective view of core-ejector detached. Fig. 4 is a transverse sectional view of Fig. 2. Fig. 5 is a longitudinal sectional view of Fig. 2. Fig. 6 is a perspective view of the machine, showing

the same ready for molding return or corner blocks.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The machine comprises a substantially rectangular frame 5, formed of wood, metal, or other suitable material and to which is secured the bed-plate 6, said bed-plate and frame being fastened in any suitable manner to supporting-legs 7, as shown. Arranged at the rear of the machine and slidably mounted on guides 8, secured to the rectangular frame, is a movable frame or carriage 9, to which is rigidly secured an upright or standard 10. The standard 10 forms a support for the relatively stationary rear wall 11 of the mold and is preferably of less width than said wall, so as to accommodate the angular extension of the end walls 13, the former being hinged, as indicated at 14, to said standard, so as to permit the end walls to be swung rearwardly when it is desired to release the molded block. A movable frame or carriage 15 is also slidably mounted on the guides 8 at the front of the machine and serves to support the movable front wall 16 of the mold, said wall being pivotally secured to the carriage 15, as by hinges 17.

The sliding frames 9 and 15 are each provided with longitudinal slots or openings 18, adapted to receive bolts 19, which pass through the side walls of the stationary frame 5 and are provided with clamping-nuts 20. By having the front and rear walls of the mold secured to the sliding frames, as shown, said walls may be readily adjusted laterally to permit the formation of building-blocks of different widths. The adjustment of the walls 11 and 16 is effected through the medium of a transversely-disposed threaded rod 21, journaled in suitable bearings 22, secured to a cross-beam 23. The rod 21 is provided with right and left hand threads, as shown, and engaging said threaded rod are correspondingly-threaded nuts 24, carried by brackets 25, the latter being fastened in any suitable manner to the sliding frames 11 and 16, respectively. The rod 21 passes through the rear wall of the frame 5 and is provided with a terminal crank or handle 26, by means of which said rod is rotated to reciprocate the sliding frames or carriages, and consequently increase or diminish the width of the mold, as will be readily understood. Secured to the opposite ends of the movable walls 11 are angularly-disposed

brackets 27, the free ends of which extend beyond the general plane of said wall and are provided with terminal openings 29 for the reception of pivoted rods 30.

5 The rods 30 are provided with terminal hooks 31, adapted to engage eyes 32 in the angularly-disposed arms 33 of brackets 34, the latter being secured in any suitable manner to the end walls 13 of the mold, as shown.
 10 By having the front and end walls of the mold connected in this manner when the front wall is moved to open position by releasing the hooks 35 and swinging said door downwardly the rods 30 will exert a rearward thrust on
 15 the brackets 34, and thereby cause the end walls of the mold to assume the open position shown in Fig. 1 of the drawings. The mold is provided with a removable bottom board 36, the rear edge of which is recessed, as indicated by 37, to accommodate the standard
 20 10, while the opposite end thereof preferably extends slightly beyond the bed-plate to permit said board to be readily grasped when it is desired to remove the same.

25 Mounted for vertical movement beneath the bed-plate 6 is a reciprocating core-ejector comprising a transversely-disposed bar 38, carrying a pair of ejecting rods or tubes 39. The upper ends of rods or tubes 39 pass through
 30 alined openings 40 in the bed-plate and removable bottom, respectively, and are provided with squared sockets 41, adapted to receive the correspondingly-squared shanks 42 of the removable core members 43. The lower
 35 ends of the rods or tubes are preferably bifurcated, as indicated at 41, and are riveted or otherwise rigidly secured to the opposite sides of the transverse bar 38, as shown. The bar 38 reciprocates between vertical guides 45, se-
 40 cured to a cross-beam 46, connecting the supporting-legs of the machine, said bar being limited in its downward movement by engagement with said cross-beams.

45 Journaled in the cross-beams 46 is a rock-shaft 47, provided with one or more cam-levers 48, which extend beneath the bar 38 and are operated to raise said bar, and consequently elevate the cores 45 through the medium of a foot-operated lever 49.

50 The lever 49 is pivoted to one of the supporting-legs, as indicated at 50, and is connected by a rod 51 to a rearwardly and upwardly extending arm 52, rigidly secured to the rock-shaft 47. The lever 49 is movably
 55 held in elevated position by the weight of the bar 38 on the cam-lever 48, said lever being preferably provided with one or more openings 53, so that the rod 51 may be adjusted to vary the throw of said cam-levers.

60 In manufacturing the building-blocks the bottom board 36 is first placed in position on the bed-plate of the machine, after which the cores 43 are inserted in the rods 39 and the mold closed by swinging the front wall 16 up-
 65 wardly to a vertical position. As the wall 16

is swung upwardly the pivoted rods 30 exert a forward pull on the end walls of the mold, thereby causing them to assume the position shown in Fig. 2 of the drawings and in which
 70 position they may be locked by means of the hook 35. The cement, concrete, or other plaster material is then introduced in the mold and thoroughly tamped in any well-known manner. After the cement has sufficiently
 75 set the cores are elevated by depressing the foot-lever and said cores removed preparatory to releasing the block, which latter is effected by swinging the front wall 11 to open position in the manner before stated. The
 80 block may now be readily detached by grasping the ends of the bottom board 36 and lifting the same from the bed-piece and said block carried on the board 36 to the drying-room until sufficiently hard for use.

85 In adjusting the machine to make blocks of different widths the end walls are detached by removing the screws 54 and others of the desired width substituted.

90 In making building-blocks of angular formation, such as return or corner blocks, the mold is arranged in the manner shown in Fig. 6 of the drawings. When manufacturing corner-blocks, the stationary wall of the mold is detached and a shorter one secured in position, after which one of the end walls 13' is
 95 swung rearwardly to open position, thereby practically forming a continuation of the stationary or rear wall, while the angular extension 13'' of the end wall 1 gives the rear face of the block the angular formation necessary
 100 in blocks of this type. A new rear wall 11' of the desired length is then placed in position and the front wall 12' and end wall 13' connected by an auxiliary end wall 56, a suitable bottom board 57 having first been placed upon
 105 the bed-plate of the machine.

110 If desired, an auxiliary core 58 may be secured in any suitable manner to the board 57, so as to form the angular extension of the building-block with an opening similar to the openings formed by the core members 43.

115 The building-blocks may be molded with an exterior finish in imitation of cut or chiseled rock by inserting a die-forming plate in the mold, said plate having the desired design stamped or otherwise imprinted on its operative face.

Having thus described my invention, what is claimed is—

1. In a machine for forming hollow concrete building-blocks, the combination with a frame, of a mold supported by said frame, a removable bottom board for said mold, a core-ejector passing through openings in said bottom board and provided with terminal sockets, detach-
 125 able core members engaging the sockets in said core-ejector, and means for operating the ejector to thereby elevate said core members.

2. In a machine for forming hollow concrete building-blocks, the combination with a sup-
 130

porting-frame, of a mold, an adjustable frame
slidably mounted on the supporting-frame, a
standard secured to said sliding frame and
forming the rear wall of the mold, end walls
5 pivoted to said standard, a sliding frame to
which the front wall of the mold is connected,
means for securing said sliding frames in ad-
justed position, and a pivotal connection be-
tween the front and end walls of the mold
10 whereby the opening movement of the former
will be imparted to the latter.

3. In a machine for forming hollow concrete
building-blocks, the combination with a frame,
of a mold, guides secured to the frame, a trans-
15 versely-disposed bar mounted for vertical
movement on said guides, tubes secured to the
bars and provided with terminal sockets, core
members disposed within the mold and de-
tachably engaging said terminal sockets, a
20 cam-lever arranged beneath the transverse
bar, and means for operating said cam-lever
to thereby elevate the core members.

4. In a machine for forming hollow concrete
building-blocks the combination with a sup-
25 porting-frame, of a mold, an adjustable frame
slidably mounted on the supporting-frame and
carrying the rear and end walls of the mold,

a sliding frame to which the front wall of the
mold is secured, a threaded rod engaging both
sliding frames for adjusting said frames to 30
vary the distance between the front and rear
walls of the mold, and means for securing said
sliding frames in adjusted position.

5. In a machine for forming hollow concrete
building-blocks, the combination with a sup- 35
porting-frame, of a mold, an adjustable frame
slidably mounted on the supporting-frame and
carrying the rear and end walls of the mold,
a sliding frame to which the front wall of the
mold is secured, a threaded rod engaging both 40
frames for adjusting said frames to vary the
distance between the front and rear walls of
the mold, angular-disposed brackets secured
to said front and end walls, and rods connect-
ing the brackets whereby the opening move- 45
ment of the front of the mold will be impart-
ed to the end walls of the latter.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JOHN I. HANCOCK.

Witnesses:

R. I. BERTINE,
WILL. H. WEEKS.