

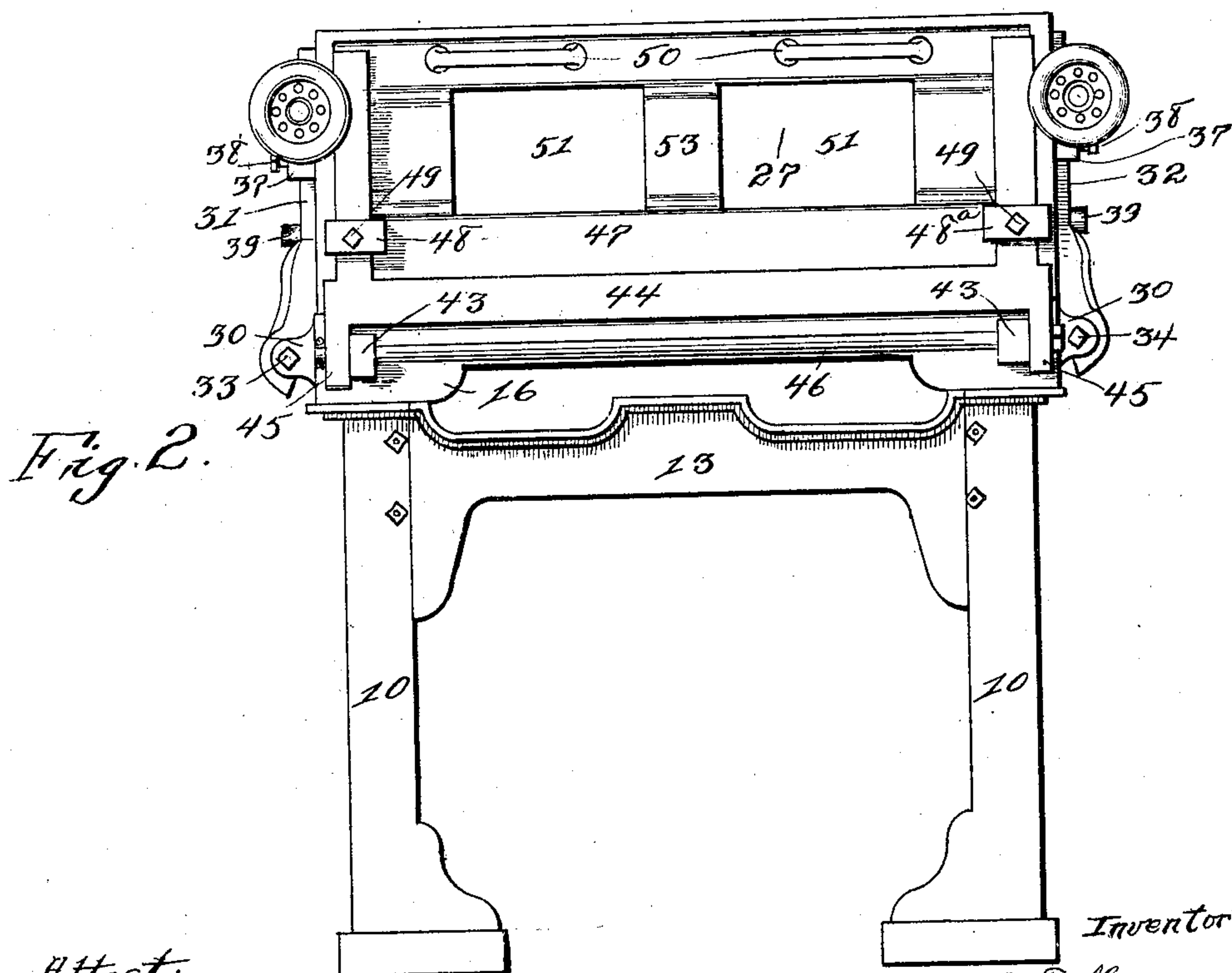
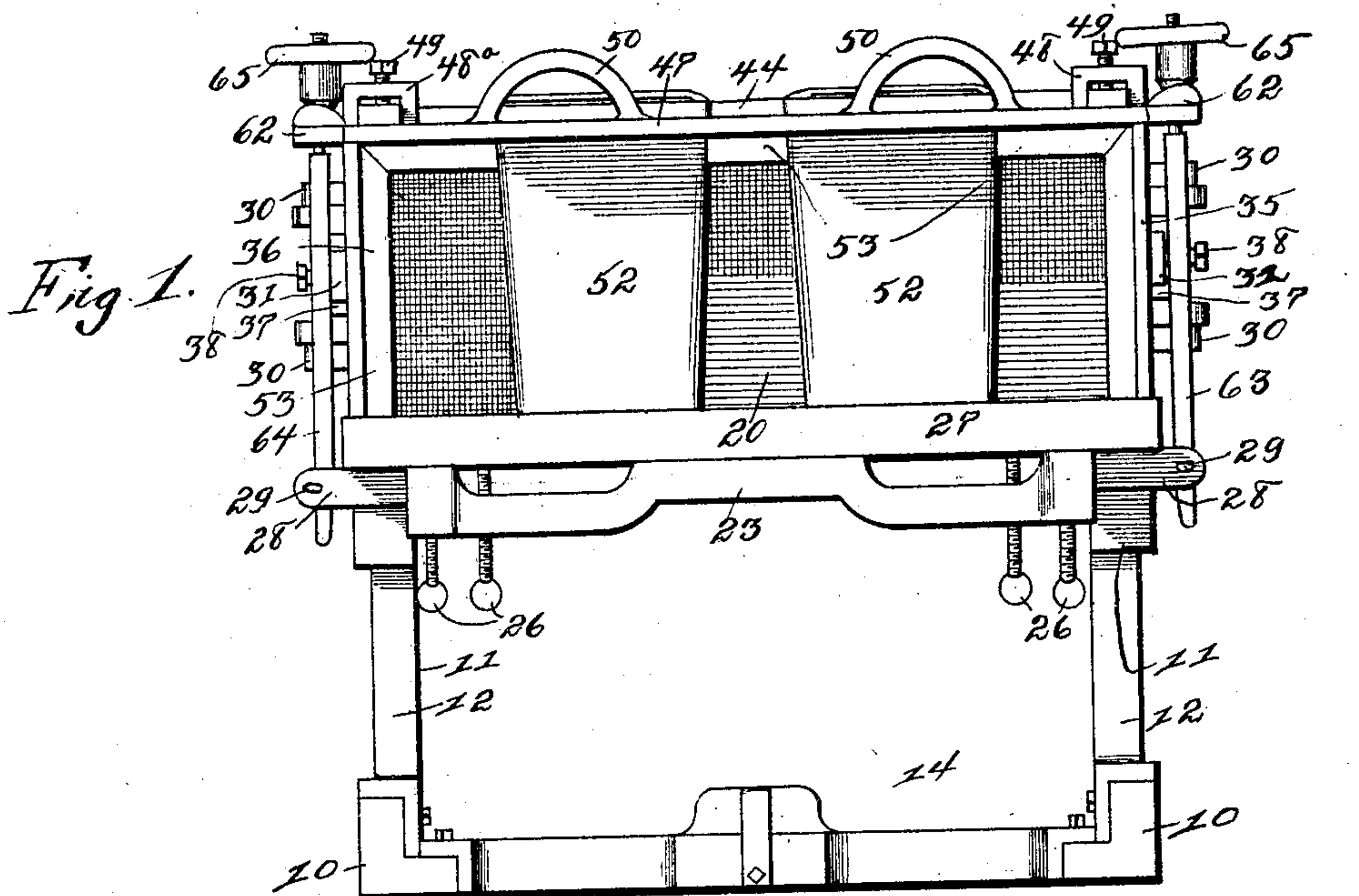
No. 887,933.

PATENTED MAY 19, 1908.

B. A. FULLER & M. BATEMAN.  
CONCRETE BLOCK MOLD.

APPLICATION FILED JULY 19, 1906.

2 SHEETS—SHEET 1.



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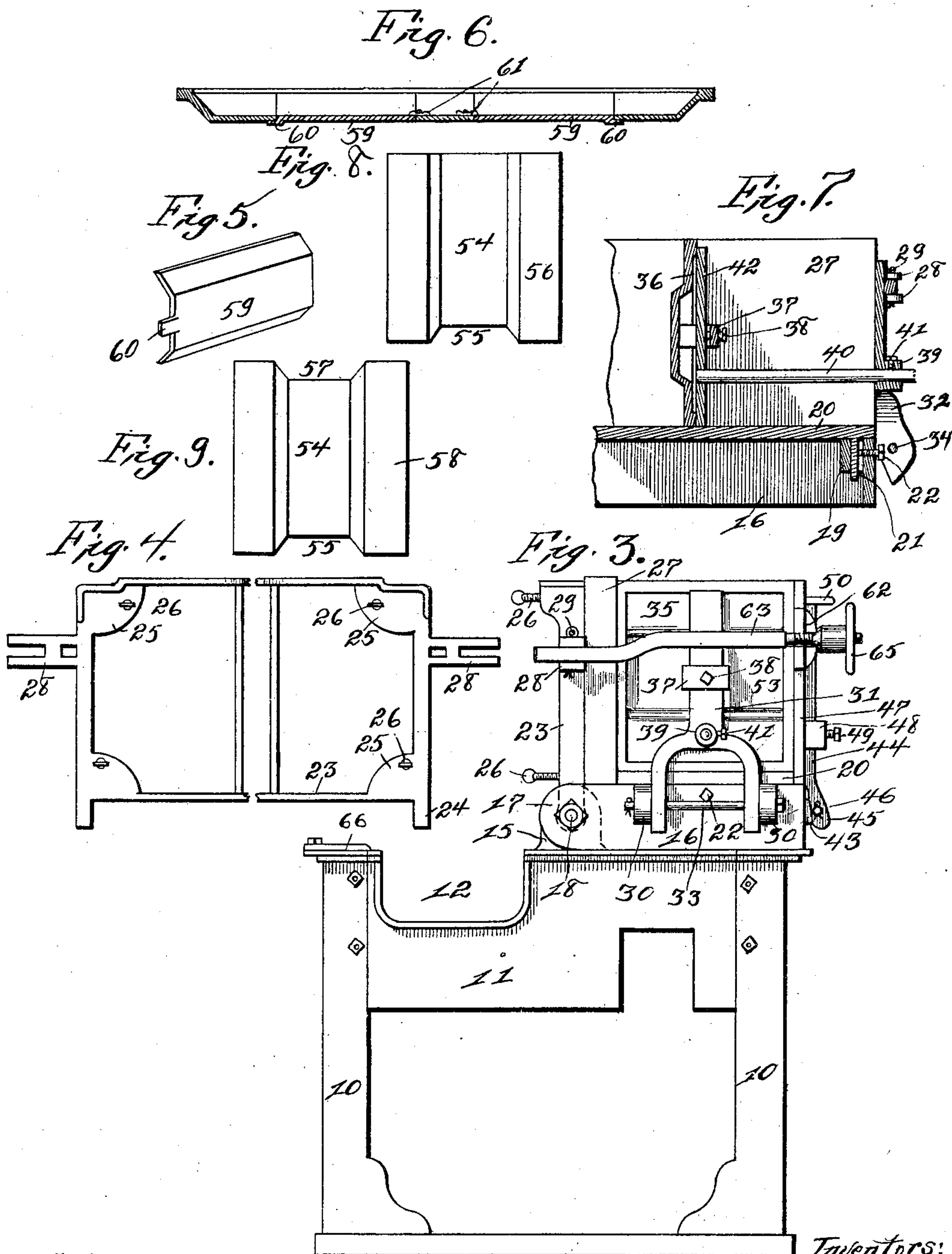
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

BERNARD A. FULLER AND MILES BATEMAN, OF CENTERVILLE, IOWA, ASSIGNORS TO  
HERCULES MANUFACTURING COMPANY, OF CENTERVILLE, IOWA.

## CONCRETE-BLOCK MOLD.

No. 887,933.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed July 19, 1906. Serial No. 326,924.

*To all whom it may concern:*

Be it known that we, BERNARD A. FULLER and MILES BATEMAN, each a citizen of the United States of America, and resident of Centerville, Appanoose county, Iowa, have invented a new and useful Concrete-Block Mold, of which the following is a specification.

The object of this invention is to provide improved means for molding concrete blocks.

10 A further object of this invention is to provide improved means for supporting pallets of various thicknesses.

15 A further object of this invention is to provide improved means for interchangeably mounting mold plates.

A further object of this invention is to provide improved means for interchangeably making solid or hollow blocks.

20 A further object of this invention is to provide improved means for adjusting one or both end plates of the mold to make fractional blocks.

25 A further object of this invention is to provide improved means for detachably connecting the various mold members during the operation of molding.

30 Our invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in our claims and illustrated by the accompanying drawing, in which—

35 Figure 1 is a plan of the complete machine in position for molding and adjusted for making hollow blocks. Fig. 2 is a front elevation of the same machine, the cores removed. Fig. 3 is an end elevation of the same machine in the same position. Fig. 4 is an elevation of a pallet-carrying frame employed therein. Fig. 5 is a perspective of a plate employed at times to fill a core-opening in a mold plate, and Fig. 6 is a longitudinal section of a mold plate and two of the filling plates in position therein. Fig. 7 is a detail section illustrating the adjustment of the machine for making fractional blocks. Figs. 8 and 9 are end elevations of concrete blocks made in this mold.

45 In the construction of the machine or mold as shown, the numeral 10 designates legs connected in pairs by end bars 11, each end bar formed with a large notch 12 in its upper margin and near one end, the pairs of legs connected by front bar 13 and rear bar 14 at right angles to the end bars. Ears 15, one 55 of which is shown in Fig. 3, are formed on

and rise from the central portions of the end bars 11. A rectangular face frame 16 is formed with ears 17 extending rearward in line with its end portions and parallel with the ears 15. A hinge-pin or rod 18 is mounted through and pivotally connects the ears 15, 17, thus hinging the face-frame to the end bars. Sockets 19, one of which is shown in Fig. 7, are formed on the inner faces of the ends of the face-frame 16 and a face-plate 20 65 is provided with lugs 21 adapted to be inserted in said sockets and secured therein removably and replaceably by set screws 22 mounted in the frame and engaging the lugs. The face-plate 20 may be of any desired 70 face, or configuration, and various forms of such plate, of the same general size, may be employed interchangeably on the frame 16. A pallet frame 23 is formed with ears 24 extending in alinement with its ends and pivoted on the hinge-pin or rod 18. The pallet-frame 23 is formed with webs 25 in its corner portions and set-screws 26 are screwed through said webs and engage the rear face of a pallet 27. The pallet 27 may be of any 80 desired general thickness and material, such as a two-inch plank or a thin metal plate, and the set-screws are employed to adjust said pallet to the end-plates of the mold hereinafter described irrespective of the thickness of the pallet. The pallet-frame 23 also is formed with ears 28 arranged in pairs on and projecting longitudinally from each end thereof and said ears are apertured to receive split keys 29 or other pivot pins. 90

Ears 30 are formed in pairs, and spaced apart materially in the pairs, and project outwardly from the ends of the face-frame, and yoke-bars 31, 32 are pivoted to said ears by means of hinge-pins or rods 33, 34. Extremities of the arms of the yoke-bars 31, 32 extend beyond the hinge-pins 33, 34 and are adapted to engage the ends of the face-frame at times and limit oscillation of said bars. End-plates 35, 36 are formed with 100 sockets 37 projecting outwardly from their central portions and said sockets are adapted to receive the upper portions of the yoke-bars 31, 32 and be secured thereto by set screws 38 in the sockets. Each yoke-bar 31, 32 is formed with a boss 39 below its center and apertured for the reception of a bar 40 adjustable longitudinally therein and secured by set screws 41 in the bosses. The bar 40 carries an arm 42 at right angles to its 110



inner end and said arm is adapted to engage in the socket 37 at times and hold the end plate at a distance from the yoke-bar (Fig. 7) in the making of fractional blocks. Ears 43 are formed on and project forward from the front of the face-frame 16 and a yoke-frame 44 is formed with ears 45 arranged parallel with the ears 43 and pivoted thereto by a hinge-pin or rod 46. A core-plate 47 is provided and is formed with sockets 48, 48<sup>a</sup> adapted to receive arms of the yoke-frame 44 and be secured thereto by set-screws 49 in said sockets engaging said arms. The core-plate 47 is formed with handles 50, 50, projecting forward from its upper portion, and also is formed with core-openings 51, 51 adapted to admit cores 52, 52 removably and replaceably. The end plates and core plate may be of any desired face or configuration and different plates of the same general size may be used interchangeably therewith. It is believed to be preferable to make the end plates and core plate with inwardly projecting central portions or ribs 53 that will produce grooves 54 in the ends and grooves 55 in the bottom of a block 56, as shown in Fig. 8, in order that a wall built of such blocks may have vertical and horizontal air spaces and mortar locks; but the pallet 27 also may be provided with such rib on its face to produce a groove 57 in a block such as 58 as shown in Fig. 9, thus materially increasing the horizontal air spaces in a wall. A filling plate 59 formed with a lip 60 (Fig. 5) may be mounted in each of the core openings 51 and be secured therein by turn-buttons 61 on the core-plate 47 (Fig. 6) when it is desired to dispense with the cores 52 and mold solid blocks in the machine. Ears 62 are arranged in pairs and project longitudinally from the upper portions of the ends of the core-plate 47 and locking bars 63, 64 are fulcrumed on the split keys 29, or other pivots employed in lieu thereof, and engage at times in said pairs of ears. The rear end portions of the locking bars 63, 64 extend rearward of the fulcrums and engage the pallet frame at times to limit oscillation of said bars. The forward end portions of the locking bars 63, 64 are threaded with a rapid thread and hand-nuts, in this instance wheel-nuts 65, are mounted thereon and are formed with conical inner ends fitting cups in the ears 62. It is the function of the locking bars 63, 64 to cross the end plates of the mold in engagement with the yoke bars 31, 32 and connect the pallet frame 23 and core-plate 47, thus binding the pallet 27 and core-plate rigidly together and hold the mold in stable condition during the operation of molding.

In practical use the parts are assembled as shown in Figs. 2 and 3; concrete is tamped into the mold to a plane above the lower margins of the core openings 51 and is screeded flush therewith; the cores 52 are inserted

through said openings and bedded slightly; concrete is tamped in the mold on each side of and above the cores until the mold is full; the concrete is screeded flush with the top of the mold; the handles 50 are grasped and the mold turned manually to the rear on the axis of the rod 18 until it rests on the bar 14 and legs connected thereby, the deposit of the mold being cushioned by impact with a spring on said rear bar; the cores are withdrawn through the core plate; the wheel-nuts 65 are loosened from the ears 62 and the locking bars 63, 64 are moved laterally from said ears; the end plates are moved away from the ends of the block; the core plate 47 is moved forward until the ears 45 of the yoke-frame 44 contact with the face-frame and then the core-plate, yoke-frame, face-frame, face-plate and end plates are moved forward away from the block. The pallet 27 is then lifted from the pallet frame 23 and carries the block to a place of deposit on said pallet for curing. The parts are then reassembled with another pallet in the recumbent position on the rear of the supporting frame; the mold is repositioned as shown in Figs. 2 and 3 and the operation of molding is repeated.

Fractional blocks are made, either with or without cores according to length of block, and character required, by the same operation, the end plates or either of them being adjusted as shown in Fig. 7.

We claim as our invention—

1. A concrete-block mold, comprising a suitable support, a face-frame hinged on said support, a face-plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face-frame, a pallet loosely mounted on said pallet frame, yoke-bars hinged on the face-frame at right angles to the pallet-frame, end-plates on said yoke-bars, a yoke-frame hinged on the face-frame parallel with the pallet frame, a plate mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

2. A concrete-block mold, comprising a suitable support, a face-frame hinged on said support, a face-plate on said face-frame, a pallet frame hinged to said support and articulating on the same axis as the face-frame, a pallet loosely mounted on said pallet frame, yoke-bars hinged on the face-frame, end plates on said yoke-bars, a yoke-frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke-frame and formed with core-openings, locking-bars connecting the pallet-frame and core-plate, and handles on said core-plate.

3. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate detachably mounted on said face frame, a pallet frame hinged on said support and articulating on the same axis as



the face frame, a pallet loosely mounted on said pallet frame, yoke-bars hinged on the face frame, end-plates detachably and adjustably mounted on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate detachably mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

4. A concrete-block mold, comprising a suitable support, a spring on said support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame and adapted to be turned into contact with said spring at times, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

5. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, said face frame formed with sockets, a face plate, said face plate formed with lugs adapted to be secured in the sockets of the face frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged to the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a pallet mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

6. A concrete-block mold, comprising a suitable support, a face frame hinged to said support, a face plate on said frame, a pallet frame hinged to said support, and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates formed with sockets adapted to receive said yoke bars, means for connecting said sockets and yoke bars, a yoke frame hinged to the face frame parallel with the pallet frame, a plate mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

7. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, said yoke frame formed with arms, a plate formed with sockets adapted to receive the arms of the yoke frame, means for connecting the arms of the yoke frame and said sockets, and

locking bars connecting the pallet frame and latter plate.

8. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame and formed with arms, a plate formed with sockets adapted to embrace said arms, set-screws in said sockets adapted to engage said arms, said plate formed with core openings, and locking bars connecting the pallet frame and latter plate.

9. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame and formed with arms, a plate formed with sockets adapted to embrace said arms, set-screws in said sockets adapted to engage said arms, said plate formed with core openings, the latter plate formed with pairs of ears at its ends, locking bars pivoted to the ends of the pallet frame, and adapted to enter between said ears, and nuts on said locking bars adapted to engage said ears and lock said bars thereto.

10. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, adjusting screws mounted in said pallet frame, a pallet loosely mounted on said adjusting screws, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke frame and locking bars connecting the pallet frame and latter plate.

11. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate on said yoke frame, said plate formed with horizontally projecting pairs of ears on its ends, the pallet frame formed with ears horizontally



projecting from its ends, locking bars fulcrumed to the ears of the pallet frame and adapted to cross the yoke bars and engage between the ears on the latter plate, one end of each locking bar formed with a rapid thread, and nuts on said threaded portions adapted to engage the ears of the latter plate.

12. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on said yoke frame and formed with core openings, filling plates adapted to be mounted in the core openings of the latter plate, and locking bars connecting the pallet frame and latter plate.

13. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame and formed with horizontal apertures, rods mounted in said apertures of the yoke bars and connected to said bars adjustably, arms on said rods, end plates formed with sockets adapted to engage said arms, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

14. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end portions of said yoke bars extending beyond the pivots thereof and adapted to engage the ends of

the face frame at times and limit oscillation of said yoke bars, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

15. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet loosely mounted on said pallet frame, yoke bars hinged on the face frame at right angles to the pallet frame, end plates on said yoke bars, a yoke frame hinged on the face frame parallel with the pallet frame, a plate mounted on the yoke frame, locking bars fulcrumed on the pallet frame and extending across outside the yoke bars and adapted to engage the plate on the yoke frame, nuts on said locking bars adapted to engage the plate on the yoke frame and drawing said plate and pallet frame toward the ends of the end plates, the rear ends of the locking bars extending beyond their pivots and adapted to engage the pallet frame at times and limit oscillation of said bars.

16. A concrete-block mold, comprising a suitable support, a face frame hinged on said support, a face plate on said frame, a pallet frame hinged to said support and articulating on the same axis as the face frame, a pallet adjustably mounted on said pallet frame, yoke bars hinged to the face frame at right angles to the pallet frame, end plates adjustably mounted on said yoke bars, a yoke frame hinged to the face frame parallel with the pallet frame, a plate adjustably mounted on the yoke frame, and locking bars connecting the pallet frame and latter plate.

Signed by us at Centerville, Iowa, this 7th day of April, 1906.

BERNARD A. FULLER.  
MILES BATEMAN.

Witnesses:

M. D. ORANGE,  
J. J. THOMPSON.