

July 2, 1935.

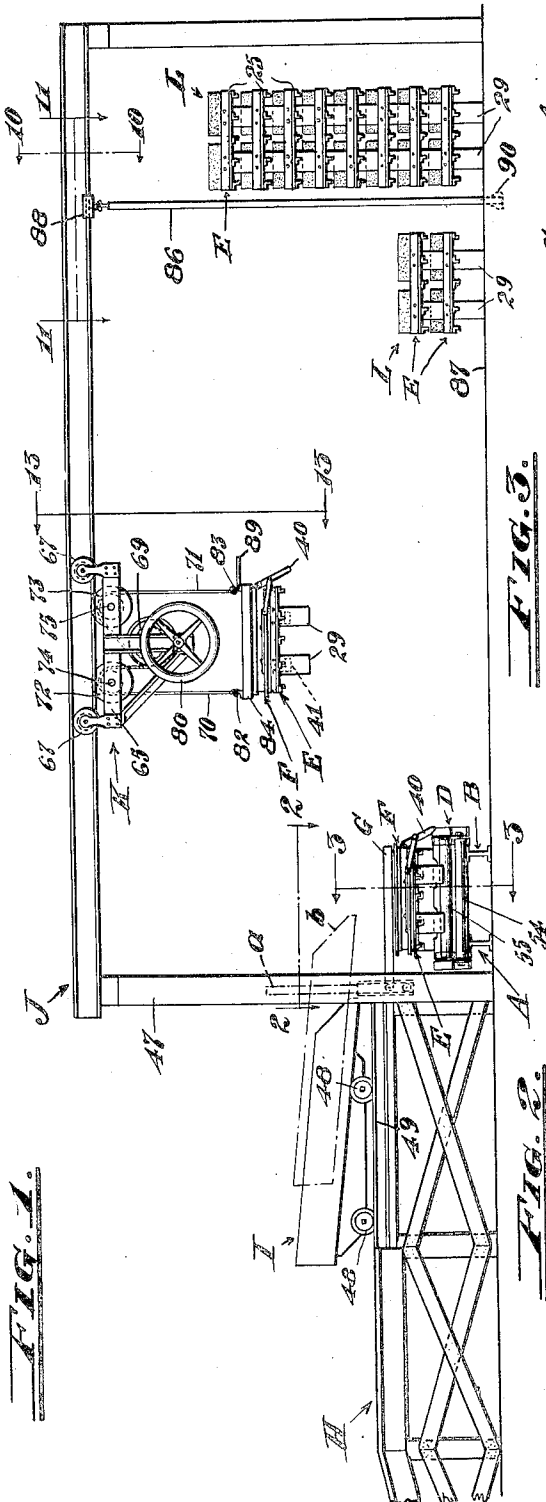
A. G. HOCH

2,006,594

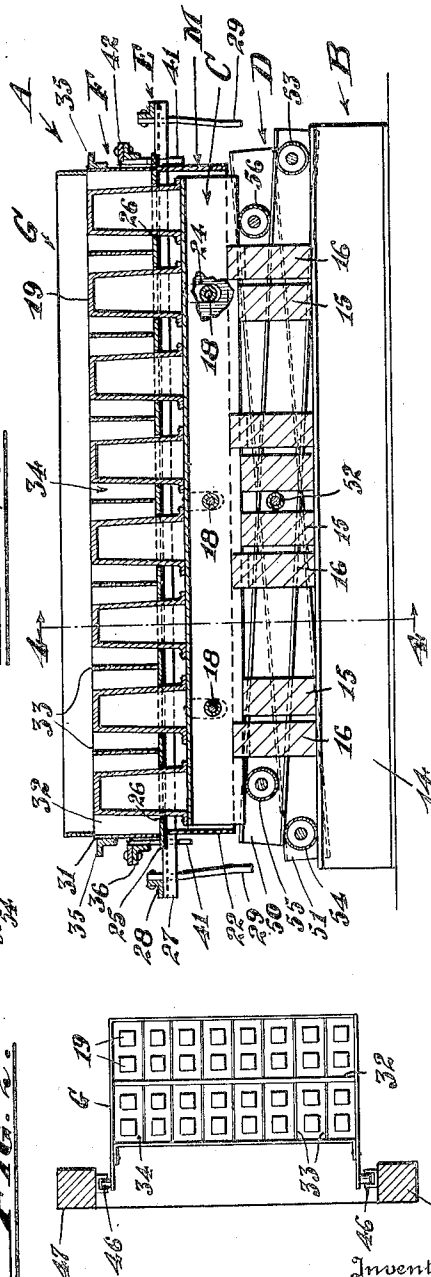
BLOCK FORMING MECHANISM

Filed May 28, 1932

3 Sheets-Sheet 1



**FIG. 2.**



Inventor  
*August G. Hoch.*  
334  
*R. S. [Signature]*  
Attorney

July 2, 1935.

A. G. HOCH

2,006,594

BLOCK FORMING MECHANISM

Filed May 28, 1932

3 Sheets-Sheet 2

FIG. 4.

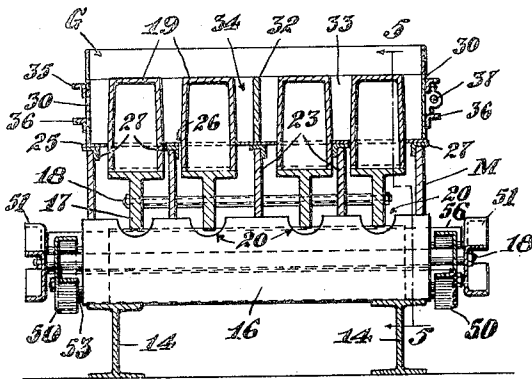


FIG. 5.

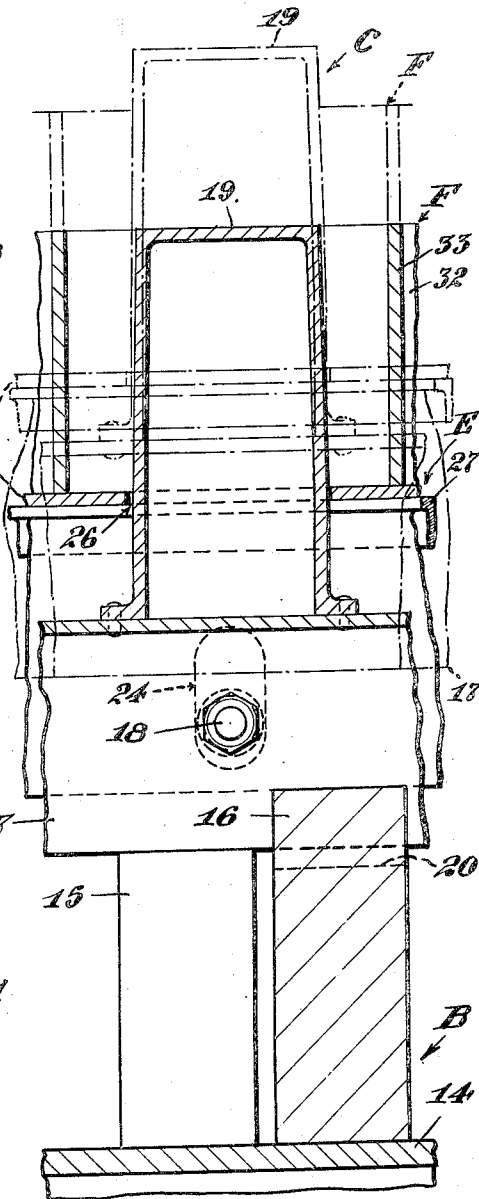


FIG. 6.

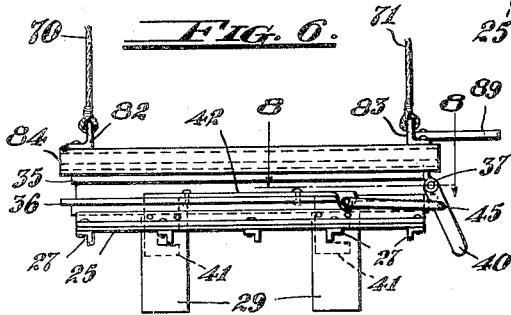


FIG. 7.

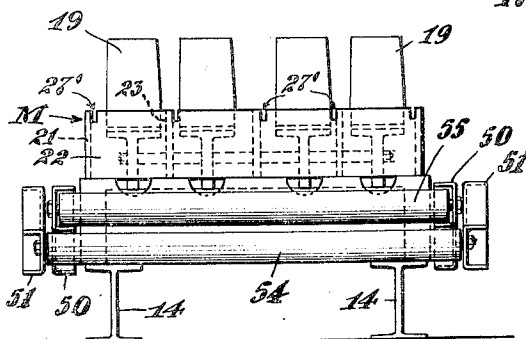


FIG. 8.

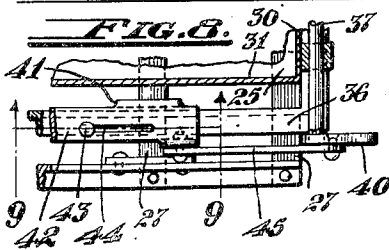
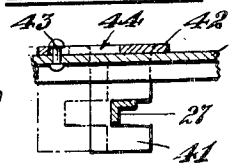


FIG. 9.



Inventor

August G. Hoch.

By

R. S. Bunt

Attorney

July 2, 1935.

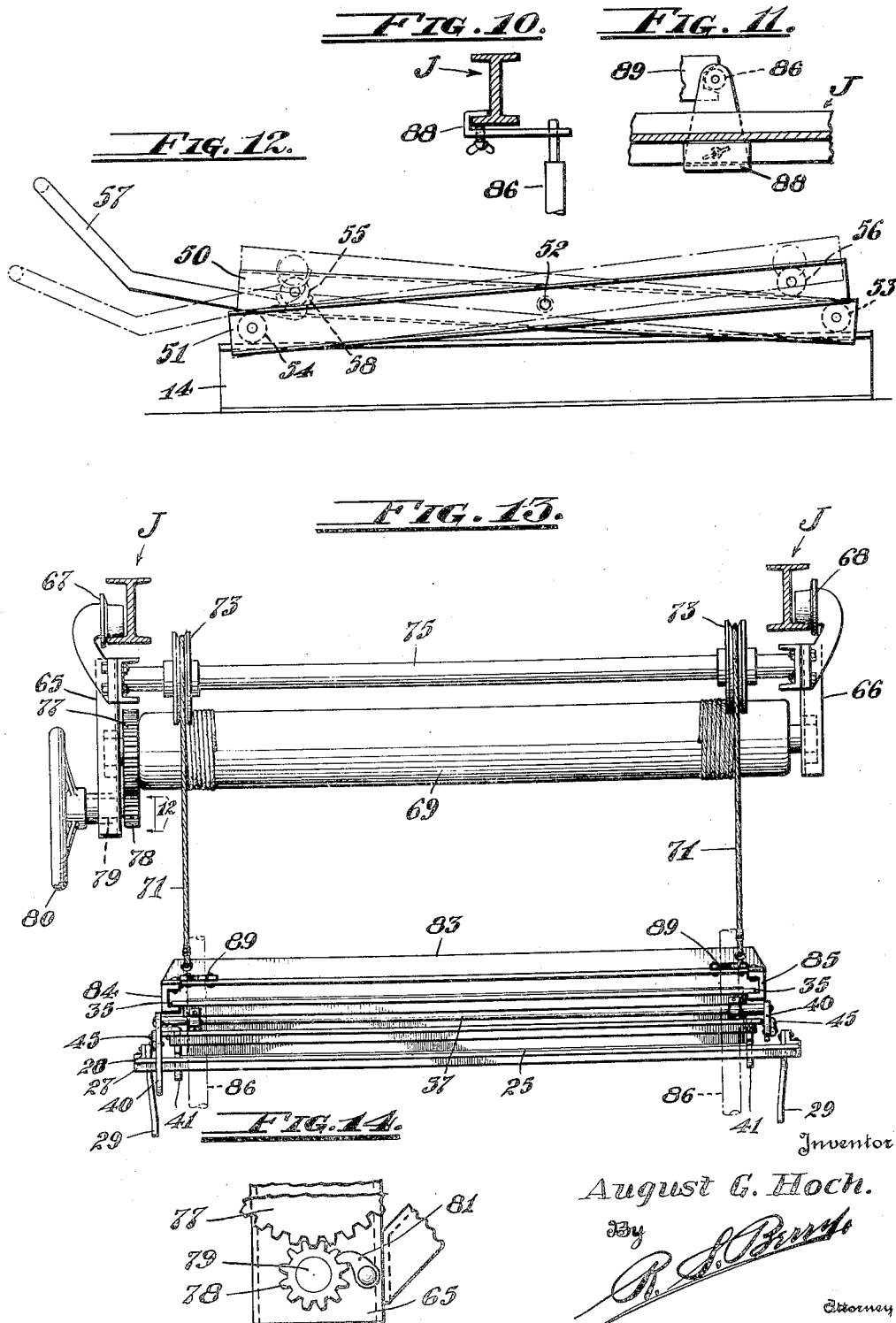
A. G. HOCH

2,006,594

BLOCK FORMING MECHANISM

Filed May 28, 1932

3 Sheets-Sheet 3



## UNITED STATES PATENT OFFICE

2,006,594

## BLOCK FORMING MECHANISM

August G. Hoch, Pacific Palisades, Calif.

Application May 28, 1932, Serial No. 614,095

13 Claims. (Cl. 25—41)

This invention relates to a machine for molding hollow concrete blocks.

An object of the invention is to provide a machine whereby a series of hollow blocks may be formed of a plastic composition in one operation, and whereby a number of series of the molded blocks may be readily stacked in tiers with adjacent blocks spaced apart in horizontal and vertical rows, and whereby the blocks may be thus stacked for setting and hardening of the composition of which they are formed so as to enable rapid production of the blocks by a single machine.

Another object is to provide a composition block molding machine in which the composition may be rapidly formed into blocks while in a wet unstable condition, and whereby the blocks may be made of concrete embodying a coarser aggregate than is ordinarily used in the manufacture of concrete blocks.

Another object is to provide a composition block molding machine including a means for rapidly and thoroughly effecting compacting of the composition in the mold so as to permit substantially immediate removal of the block from the mold and thereby enable rapid reuse thereof.

Another object is to provide a hollow block molding machine in which the blocks are so molded and stacked for drying as to insure against distortion of the block, and whereby the finished blocks will be accurate in their dimensions and their exterior surfaces maintained in proper angular relation to each other.

Another object is to provide a hollow block molding machine in which a trowling action will be effected on the interior surfaces of the block as well as on the exterior side and end faces thereof so as to render such surfaces highly resistant to the absorption of moisture.

Another object is to provide a hollow block molding machine embodying a series of cores and a mold associated therewith in which the mold may be readily separated from the cores with the molded blocks retained therein and thereafter transported to a point of discharge of the molded blocks, and in which the mold includes a mold box and a pallet detachably engageable with the side walls of the mold box to serve as a bottom for the mold during the molding operation and also to serve as a support for the molded blocks during setting and drying of the latter; a further object being to provide constructions whereby the mold with its associated pallet may be supported in operative relation to the cores but in-

dependent of the latter yet permit vertical jarring of the mold.

Another object is to provide an effective means for securely yet detachably connecting the pallet to the mold box.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view of the molding machine as seen in side elevation;

Fig. 2 is a detail plan view taken on the line 2—2 of Fig. 1, with parts removed;

Fig. 3 is a view in vertical section as seen on the line 3—3 of Fig. 1, with parts shown in elevation and with parts removed;

Fig. 4 is a view in cross section taken on the line 4—4 of Fig. 3, with parts shown in elevation;

Fig. 5 is a detail in vertical section taken on the line 5—5 of Fig. 4, and depicting in broken lines relative movement of the parts;

Fig. 6 is a view in end elevation illustrating the manner of supporting and conveying the mold box apart from the core structure;

Fig. 7 is a view in end elevation of the core structure showing the mold box as removed therefrom;

Fig. 8 is a detail in horizontal section and plan taken on the line 8—8 of Fig. 6, illustrating the means for effecting detachable connection between the mold box and pallet;

Fig. 9 is a detail in section viewed on the line 9—9 of Fig. 8;

Fig. 10 is a detail in vertical section viewed on the line 10—10 of Fig. 1;

Fig. 11 is a detail in horizontal section viewed on the line 11—11 of Fig. 1, with parts broken away;

Fig. 12 is a view in section and elevation of the mold shaker, as viewed apart from the mold box and core structure;

Fig. 13 is a view in section and elevation taken on the line 13—13 of Fig. 1, showing the mold box conveyor;

Fig. 14 is a detail in elevation, as viewed on the line 12 of Fig. 13.

Referring to the drawings more specifically, A indicates generally the mold structure which comprises a base B, a core structure C normally supported on the base B, a shaker D interposed between the core and the base B, a pallet structure E detachably supported on the base structure B

independent of the core structure C, a portable mold box F adapted to be detachably connected to the pallet E, and a frame G serving as a hopper in association with the mold box.

5 The mold structure A is arranged adjacent one end of a platform H on which is mounted a movable chute I for receiving the materials to be delivered to the mold structure and for directing same thereto.

10 An overhead track J is provided leading from adjacent the forward end of the platform H and extending over the mold structure to a suitable point remote therefrom, and mounted on the track J is a carriage K adapted to be employed for effecting removal of the mold box and its associated pallet from the remainder of the mold structure and to convey the mold box and its associated palette to a point where the pallet with the molded blocks thereon may be detached from the mold box and the latter then returned for reassemblage in the mold structure together with another pallet; the carriage K also serving as a means for enabling stacking of a series of the pallets in tiers, as indicated at L in Fig. 1.

25 The base B is here shown as embodying a pair of spaced horizontally extending I-beams 14 on which are supported a series of transversely extending blocks 15 and 16 arranged with the upper faces of the blocks 15 extending on a corresponding plane and with the upper faces of the blocks 16 extending on a plane spaced above the plane of the upper faces of the blocks 15, which latter serve as a support for the core structure C while the blocks 16 serve as an independent support for the pallet E and the mold box F independent of and apart from the core structure.

30 The core structure embodies a series of parallel T-beams 17 connected together by a series of tie rods 18 to form a unitary structure, and upon each of which of said beams is mounted a series of upwardly tapered cores 19 preferably of rectangular cross section and the upper ends of which are flat and extend on a common plane. The beams 17 normally seat on the upper faces of the blocks 15; the upper margins of the blocks 16 being recessed, as indicated at 20, to provide clearance for the lower edges of the beams 17.

35 Seating on the upper faces of the blocks 16 is a rectangular frame M which includes side rails 21 and end rails 22 and a series of longitudinally extending spaced rails 23. The frame M surrounds the base portion of the core structure with the intermediate rails 23 extending between adjacent rails 17 of the core structure; the lower margins of the rails 23 being cut away, as indicated at 24, to clear the tie rods 18.

40 The pallet E embodies a plate 25 adapted to extend over and seat upon the upper margin of the frame M, and which plate is formed with a series of openings 26 to receive and through which the upper portions of the cores 19 project when the plate 25 is supported on the frame M.

45 The openings 26 are shaped to conform to the outside of the cores 19 but are formed so that their margins are slightly spaced from the walls of the cores so as to afford a clearance which will permit of relative movement of the cores and the pallet during the molding operation, as will hereinafter be described.

50 The pallet plate 25 is reinforced by a series of longitudinally extending angle irons 27 affixed to the under sides thereof, the outermost of which are arranged to project alongside the inner upper margins of the side rails 21 of the frame M to facilitate positioning of the pallet and the frame

in proper relation to each other on assemblage thereof. The upper edges of the end rails 22 of the frame M are notched at 27' to receive the depending webs of the angle irons 27.

5 A pair of spaced angle irons 28 are mounted on the upper face of each end of the pallet plate 25 and extend transversely thereof to reinforce the pallet laterally.

10 The pallet is of such length that when assembled on the frame M its end portions will project beyond the end rails 22 of the latter, as particularly shown in Fig. 3, and mounted on each end of the pallet is a pair of downwardly projecting legs 29 which are adapted to afford a support for the pallet when the latter is removed from the mold structure, and which legs are of a length exceeding the height of the molded block so that one pallet may be supported on top of another with molded blocks interposed therebetween.

15 The mold box F embodies a rectangular frame composed of side walls 30 and end walls 31 and which frame is divided longitudinally by a central partition 32 and transversely by partitions 33 into a series of rectangular mold spaces 34 such that when the mold box is seated on the pallet E a pair of the cores 19 will project upwardly into each space 34 with their side faces spaced from the partitions 32 and 33 to form the spaces for reception of the materials to be molded.

20 The members of the mold box are of such height that when the mold box is seated on the pallet in the mold structure assembly, the upper margin of the mold box will extend on a plane with the upper ends of the cores 19 when the parts are in their normal position, as shown in Fig. 4.

25 The mold box is reenforced around its upper margin by angle irons 35 projecting outwardly therefrom, and are further reenforced by similar angle irons 36 extending around the outside of the mold box adjacent the lower margin thereof.

30 Means are provided for effecting substantial connection between the mold box and the pallet which embodies a rock shaft 37 mounted to extend lengthwise of the mold box along the outer face of one side member 30 thereof, which rock shaft is equipped at each end thereof with an operating lever 40 whereby the rock shaft may be manipulated to effect engagement and disengagement of catches 41 carried at each end of the mold box and adapted to be engaged with and disengaged from the pallet.

35 A pair of catches 41 is provided on each end of the mold box which catches comprise horizontally opening hooks, as particularly shown in Fig. 9, which are adapted to be slid in and out of engagement with a pair of the angle irons 27 adjacent the ends of the pallet. Each pair of the catches 41 is rigidly mounted on and depends from a slide plate 42 carried on the end angle iron 36 on the mold box and slidably held in place thereon by pins 43 carried on the angle iron and protruding through longitudinally extending slots 44 formed in the plate 42. Link 45 leads from the slide plate 42 and connects with the lever 40 whereby on rocking the latter the slide plate may be moved longitudinally of the angle iron 36 to advance the catches 41 in and out of engagement with the angle irons 27 on the pallet.

40 The hopper frame G substantially conforms to the upper margin of the mold box F and is designed to seat thereon during charging of the mold box; the frame G being pivoted at 46 on 75

standards 47 so that it may be swung from a vertical position, as indicated in dotted lines *a* in Fig. 1, downwardly to the horizontal position over the mold box.

5 The chute I is mounted on rollers 48 supported on rails 49 whereby the chute may be advanced or retracted relative to the mold structure and so that the forward end of the chute may be positioned to project over the mold structure, as indicated by the dotted lines *b* in Fig. 1, and  
10 whereby the chute may be retracted to a position clear of the mold structure, as shown in full lines in Fig. 1.

The shaker D, particularly shown in Fig. 12, embodies two pair of crossed levers 50 and 51 extending along the ends of the blocks 15 and 16 in a general horizontal direction above the beams 14 but to one side thereof; the levers 50 and 51 being inclined in opposite directions to each other  
20 and being pivotally connected together by a tie rod 52 intermediate the ends thereof.

The lower ends of the levers 50 connect with a roller 53 which extends across and is seated upon the beams 14 adjacent one end thereof, and the lower ends of the lever 51 are connected to a roller 54 extending across and seating upon the other end portions of the beams 14. The upper ends of the lever 50 are connected to a roller 55 which seats upon the upper faces of the lower  
30 end portions of the lever 51, and the upper end portions of the lever 51 connect with a roller 56 which seats upon the lower end portions of the lever 50. The rollers 53 and 54 are thus adapted to travel on the beams 14 while the rollers 55  
35 and 56 are adapted to travel upon the portions of the levers extending therebeneath.

Extending over and seating upon the roller 51 is an operating lever 57 of general U-shaped form the ends of the legs of which are formed with aligned shoes 58 which bear against the under side of the roller 55 in such manner that on downward depression of the outer end portion of the lever 57 the relative end portions of the levers 50 and 51 will be spread apart, as indicated in dotted lines in Fig. 12.  
45

The rollers 55 and 56 are arranged so that their upper peripheral portions may be moved into slidable contact with the lower edges of the beams 17 of the core structure.

50 The carriage K embodies a pair of end frames 65 and 66 which extend beneath the rails of the overhead track J, to depend therefrom, and are fitted with rollers 67 and 68 mounted to traverse the rails. A drum 69 is revolvably carried by the frames 65 and 66 which drum extends horizontally beneath the overhead track transversely thereof, and wound on each end portion of the drum 69 in corresponding directions is a pair of cables 70 and 71 which pass over direction rollers 72  
60 and 73 revolvably mounted on shafts 74 and 75 supported on and connecting the carriage end frames 65 and 66.

The drum 69 is fitted with a gear wheel 77 which meshes with a pinion 78 on a stub shaft 79 journaled in the carriage end member 65 and on which stub shaft is mounted a hand wheel 80 whereby the drum 69 may be manually rotated through the pinion 78 and gear 77.

70 A releasable dog 81 is mounted on the carriage end frame 65 and arranged to be engaged with the teeth of the pinion 78, as shown in Fig. 14, when it is desired to hold the drum 69 against rotation.

75 The lower ends of the cables 70 and 71 are respectively connected to the end portions of a pair

of horizontal bars 82 and 83, which carry on their under sides a pair of channel members 84 and 85 extending parallel with each other with their channels presented inwardly.

The channel members 84 and 85 are spaced 5 apart such distance that they may be advanced longitudinally astride the outwardly projecting webs of the angle irons 35 on the ends of the mold box to effect engagement therewith, as particularly shown in Fig. 13, and also shown in Fig. 1.  
10 The channel members 84 and 85 with their connecting bars 82 and 83 constitute a suspended carrier which when engaged with the mold box will maintain the latter horizontal during conveying thereof and by reason of being supported  
15 at the four corners by the cables 70 and 71 will insure against rocking of the mold box and consequent distortion of the molded blocks while the latter are being conveyed and assembled in the stacks.

Means are provided for limiting movement of the carriage K outwardly on the rails of the track J so as to stop the carriage at a point directly above a stack L, together with means for guiding vertical movement of the carriers and the mold box carried thereon when assembling the pallet in a stack.  
25

This means is here shown as embodying vertical guide rods 86 extending between the rails of the track J and a platform 87 therebeneath and clamps 88 for connecting the upper ends of the guide rods to the rails which clamps serve as stops against which the forward rollers on the carriage may abut; the guide rods 86 being adapted to be disposed in various positions along the length of the rails in such relation to the mold box carrier that when the carriage K is brought to rest against the clamps 88 notched projections 89 on the carrier will abut against the guide rods. The lower ends of the guide rods are engaged in sockets 90.  
40

In the operation of the invention, a pallet E is positioned on the frame M with the upper portions of the cores 19 protruding through the openings 26, as shown in Figs. 3 and 5; the pallet then being supported through the medium of the frame M on the blocks 16 independent of the core structure. The mold box F is then positioned on the pallet E and engaged therewith by means of the catches 41 by manipulation of either of the hand levers 40. The hopper frame F is then lowered into its seated position on the margin of the mold box, whereupon the chute I containing a quantity of composition, such as concrete, is then advanced to a position so that its forward end will project over the mold box, as indicated by the dotted lines *b* in Fig. 1. The operator then scrapes a quantity of the composition from the chute into the mold box sufficient to slightly more than fill the mold box, and distributes the composition so as to fill the spaces 34 surrounding the cores 19. The composition preferably employed consists of a mixture of sand and hydraulic cement and an aggregate, such as crushed rock or gravel, to which is added sufficient water to render the mass quite plastic. The shaker D is then actuated by depressing the lever 57 thereby causing the shaker levers 50 and 51 to separate, as indicated in dotted lines in Fig. 12, thereby elevating the upper ends of the levers 50 and 51.  
55 This upward movement of the upper ends of the levers 50 and 51 draws the opposite ends thereof inwardly, which movement is facilitated by the rollers 53, 54, 55 and 56 rolling on their respective bearing surfaces.  
65  
70  
75

The lever 57 in being supported on the roller 54 is thus provided with a sliding fulcrum to compensate for variation in the length of the end portion of the lever extending between its fulcrum point on the roller 54 and its engagement with the roller 55 due to the relative movement of the upper and lower ends of the levers 50 and 51, respectively.

Upward movement of the outer ends of the levers 50 and 51 operates to initially elevate the core structure a short distance relative to the mold consisting of the pallet and mold box, until the rollers 55 and 56 are brought into contact with the lower edge of the side members of the frame M, whereupon this frame together with the pallet and the mold box are elevated in unison with the core structure. The cores 19 will then have their upper end portions protruding above the plane of the mold box, as indicated by the broken lines c in Fig. 5. On thus elevating the core and mold a short distance the lever 57 is released thereby allowing the mold and core to suddenly fall back to their normal position which causes the mold to impact on the blocks 16 thereby arresting downward movement of the mold and jarring the contents of the mold box. This action is immediately followed by a slight continued downward movement of the core structure until the latter impacts and comes to rest on the blocks 15. This operation of the shaker is repeated a sufficient number of times to cause compacting of the composition in the molding spaces 34.

A wet mix of the composition is enabled by reason of excess water therein being caused to rise to the top of the mold box because of its displacement by the heavier constituent of the composition being compacted by the action of the vertical jars imparted to the molds.

It will be observed that during this operation the cores will be moved vertically up and down relative to the mold, thereby effecting a troweling action on the surfaces of the composition contacted thereby.

On thus effecting compacting of the composition, the hopper frame G is swung upwardly on its pivots 46 clear of the mold, the chute I being moved backwardly in the meantime to receive another charge of the composition.

The operator then levels off the composition in the mold box by means of a float to a level with the margin of the mold box and with the upper ends of the cores; the mold box and the shaker then being stationary.

The carriage K is then moved to a position adjacent the mold structure and the drum 69 is operated to lower the channel members 84 and 85 to a position opposite the end angle irons 35 on the mold box, whereupon the carriage K is again shifted to cause the channel members 84 and 85 to slide over the end angle irons, as before stated. When this is done the drum 69 is operated to wind the cables 70 and 71 thereon so as to lift the mold box with the attached pallet clear of the core structure, and, on the mold box and pallet being elevated to a desired level, the dog 81 is engaged with the pinion 78 to hold the drum 69 against rotation thus suspending the mold box and pallet, together with the molded blocks carried thereon, from the carriage K.

The molded blocks are thus lifted upwardly with the pallet clear of the cores, which latter remain in their normal position on the base B,

whereupon another pallet may be positioned on the supporting frame M.

The carriage K is then advanced on the track J with the mold box and pallet suspended therebeneath to a desired position within the length of the track J, which movement is determined by the clamps 88, whereupon the dog 81 is released from the pinion 78 on turning of the hand wheel 80 sufficiently to permit freeing of the dog. The drum 69 is then operated to lower the mold box and pallet onto a suitable support, which may be a previously deposited pallet.

In lowering the mold box and pallet, the operator holds same with the notches of the projections 89 engaging and bearing against the vertical guide rods 86, as shown in Fig. 11, thus preventing swinging of the mold box on the cable suspension and also insuring the mold box and pallet coming to rest in vertical alignment with a pallet therebeneath thus enabling the assembly of a number of the pallets in a stack in vertical alignment with each other so as to distribute the strains of the load equally and thereby obviate distortion of the assembled or stacked pallets.

The mold box is then detached from the pallet by manipulation of the lever 40 and its associated parts, whereupon the drum 69 is operated to lift the mold box clear of the pallet and of the molded blocks supported on the latter; the mold box being lifted vertically from the pallet and the molded blocks so that the inner faces of the mold box constituting the walls of the mold spaces 34 will impart a troweling action to the side faces of the molded blocks, which are then left supported on the pallet and allowed to stand thereon until dry.

The carriage K is then moved back to a position over the mold structure, and the mold box lowered to a position on a pallet previously positioned on the supporting frame M, whereupon the mold box is attached to the pallet and the carriage K shifted to withdraw the channel members 84 and 85 out of engagement with the mold box; the carriage being moved to a point sufficiently remote from the mold structure to permit reoperation of the latter, whereupon the operations before described are repeated. It will now be seen that a series of the molded blocks may be formed in one operation, and this series readily conveyed to a suitable point, and a number of such series of blocks stacked in a tier, as indicated at L in Fig. 1, with each series of blocks supported on a pallet which in turn is supported on a pallet therebeneath.

A number of such stacks may thus be arranged within the length of the overhead track J, which may be extended any desired distance from the mold structure.

If desired, a pair of the mold boxes may be employed so that while one mold box with its attached pallet carrying a charge of molded blocks is being conveyed to the stacking point and the conveyed mold box being returned, another mold box may be assembled in the mold structure and another molding operation being effected, as shown in Fig. 1. In this event, the mold box conveyed on the carriage is removed therefrom so as to receive the channel members 84 and 85 for engagement with the mold box then assembled in the mold structure.

It has been found in practice that by the use of this invention the molding composition may be used quite wet so that it will readily flow into the form and also permit of the use of a coarser

aggregate than is ordinarily used in the manufacture of molded blocks, thus effecting an economy in the cost of the materials used, which with the facility of operation effecting an economy in labor, enables production of the finished blocks at a very low cost.

I claim:

1. In a block molding machine, a fixed base, a core structure supported on said base and adapted to be reciprocated vertically relative thereto, a mold structure supported on said base independent of said core and adapted to be raised and lowered with said core structure, and means for raising said core structure adapted to permit said core structure to gravitate downwardly and impact on said base.

2. In a block molding machine, a fixed base structure, a core structure mounted on said base structure for vertical movement relative thereto, a mold supported on said base structure independent of said core structure, means for reciprocating said core structure together with said mold vertically adapted to cause said core structure to impact at the termination of its downward movement on said base structure, and means whereby said core structure will be caused to have a length of travel exceeding that of the mold.

3. In a machine for molding composition blocks, a fixed base structure, a core structure supported on said base structure for vertical reciprocal movement relative thereto, a mold supported on said base structure for vertical reciprocal movement relative thereto independent of said core structure, and means for reciprocating said core structure adapted to initially elevate the core structure relative to the mold and thereafter elevate said core structure and mold collectively and whereby said mold will be caused to come to rest at the terminus of its downstroke in advance of the core structure.

4. In a composition block molding machine, a fixed support, a core seating on said support, a mold structure seating on said support independent of said core, means associated with said support for effecting vertical reciprocal movement of said core structure and mold relative to said support, and means for affording relative movement of said core structure and mold on vertical reciprocation thereof relatively to the support.

5. In a machine for molding composition blocks, a fixed base member, a core structure supported on said base member, means for effecting vertical reciprocation of said core structure relative to said base member, a mold supported on said base member, and means for effecting vertical reciprocation of said mold by said core structure reciprocating means collectively with said core structure adapted to permit movement of the core structure independent of the mold preceding and subsequent to movement of the latter.

6. In a composition block molding machine, a base, a series of bumpers embodied in said base, a core structure seating on said bumpers, a second series of bumpers, a mold seating on said second series of bumpers on a plane above the plane of the first named bumpers, and means for elevating said core structure and mold operable on release thereof to permit said structures to fall and impact on their respective bumpers.

7. In a composition block molding machine, a fixed support, a core structure carried on said support including a series of upwardly extending

cores, a pallet having openings therein to receive said cores, means for supporting said pallet on said support independent of said core structure, a mold box formed with a series of mold chambers, means for detachably connecting said mold box to said pallet with said cores projecting upwardly into said chambers, said mold box being open at its top to receive materials to be molded, and means for elevating said mold box and pallet clear of said core structure.

8. In a composition block molding machine, a fixed support, a core structure carried on said support including a series of upwardly extending cores, a pallet having openings therein to receive said cores, means for supporting said pallet on said support independent of said core structure, a mold box formed with a series of mold chambers, means for detachably connecting said mold box to said pallet with said cores projecting upwardly into said chambers, said mold box being open at its top to receive materials to be molded, means for elevating said mold box and pallet clear of said core structure, and means for conveying the elevated mold box in a suspended position to a point remote from said core structure.

9. In a concrete molding machine, a fixed base structure, a core structure supported on said base structure embodying a series of upwardly extending cores, a pallet formed with openings to receive said cores, means for supporting said pallet independent of said cores, a mold box, means for detachably connecting said mold box to said pallet, and means for reciprocating said cores relative to said base structure and to said pallet.

10. In a concrete molding machine, a fixed base structure, a core structure supported on said base structure embodying a series of upwardly extending cores, a pallet formed with openings to receive said cores, means for supporting said pallet independent of said cores, a mold box, means for detachably connecting said mold box to said pallet, means for reciprocating said cores relative to said pallet, and means cooperating with said last named means for jarring said mold box and pallet.

11. In a composition block molding machine, a core structure including a series of upwardly extending cores, a fixed base structure on which said core structure is carried, a portable pallet having openings to receive said cores, means for carrying said pallet on said base structure independent of said core structure, and a mold box detachably connectable to said pallet and adapted to be positioned thereon and removed therefrom perpendicular thereto.

12. In a machine for molding composition blocks, a core structure including a series of upwardly extending cores, a fixed base supporting said core structure, a mold box movable vertically relative to said core structure, a pallet interposed between said mold box and core structure having openings therein through which said cores extend into said mold box, means for detachably connecting said mold box and pallet together, means for supporting said connected mold box and pallet on said base, end flanges protruding from said mold box, channel members adapted to longitudinally receive said flanges, and means for elevating said channel members to withdraw said mold box and pallet vertically from said core structure.

13. In a machine for molding composition blocks, a core structure including a series of up-



wardly extending cores, a fixed base supporting said core structure, a mold box movable vertically relative to said core structure, a pallet interposed between said mold box and core structure having openings therein through which said cores extend into said mold box, means for detachably connecting said mold box and pallet together, means for supporting said connected mold box and pallet on said base, end flanges protruding from said mold box, channel members adapted to longitudinally receive said flanges, means for elevating said channel members to withdraw said mold box and pallet vertically from said core structure, and legs projecting downwardly from said pallet adapted to afford a support therefor when said pallet is removed from said core structure.

AUGUST G. HOCH.