

F. I. BENNETT.  
MACHINE FOR MAKING CONCRETE BLOCKS.  
APPLICATION FILED OCT. 25, 1909.

968,111.

Patented Aug. 23, 1910.

3 SHEETS—SHEET 1.

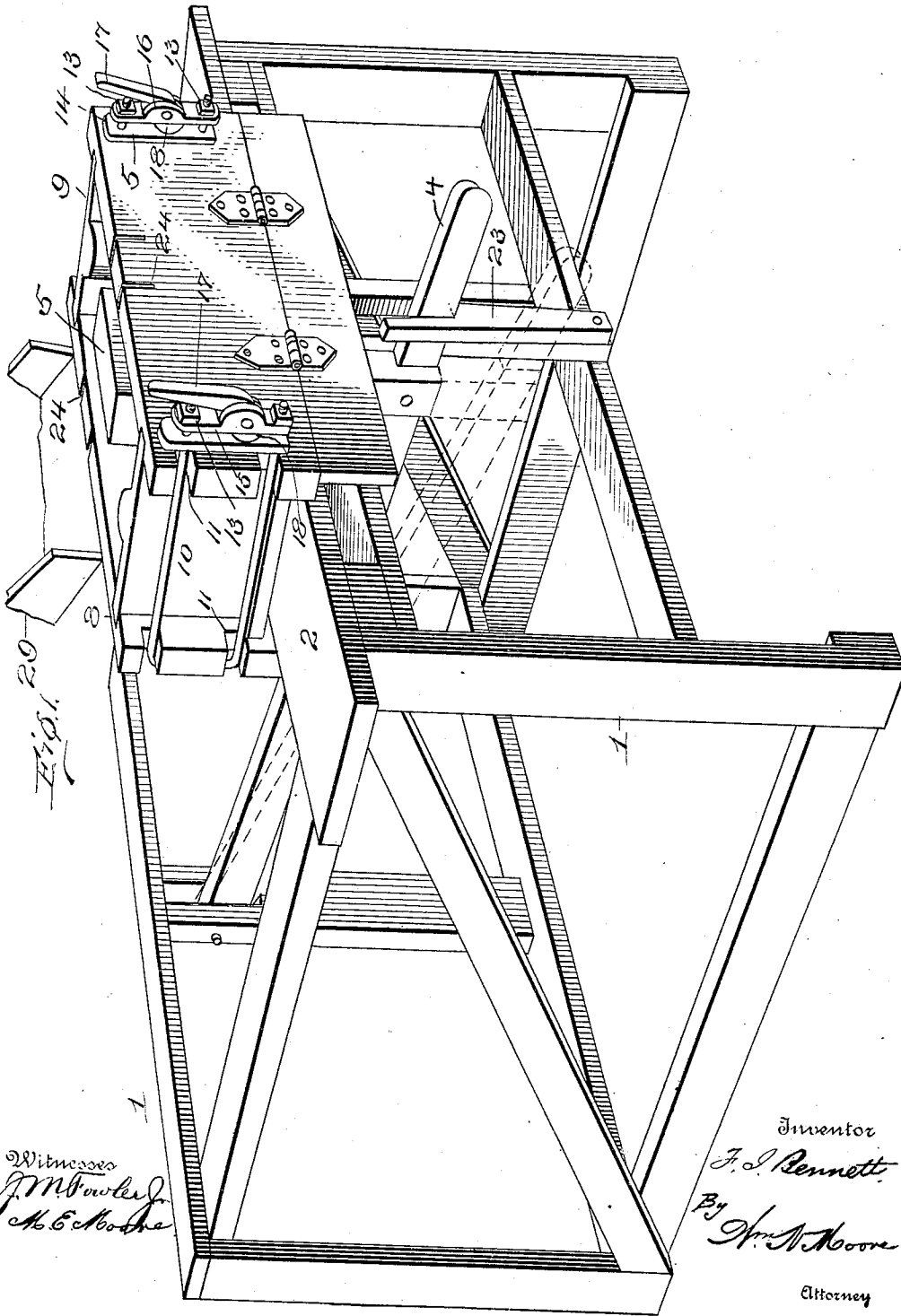


Fig. 20

Witnesses  
*J. M. Bowler*  
*A. E. Moore*

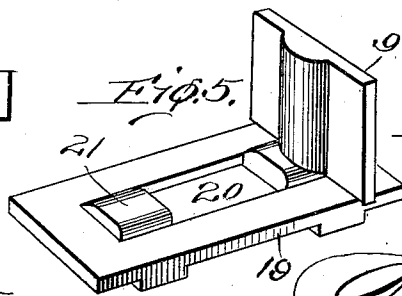
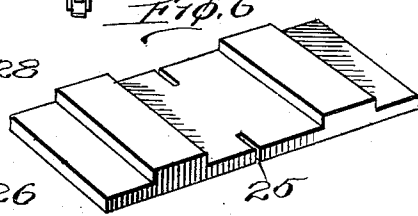
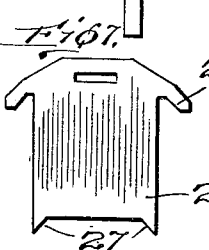
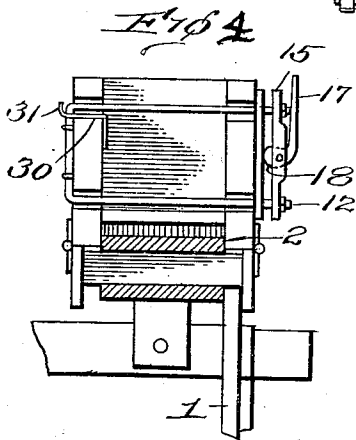
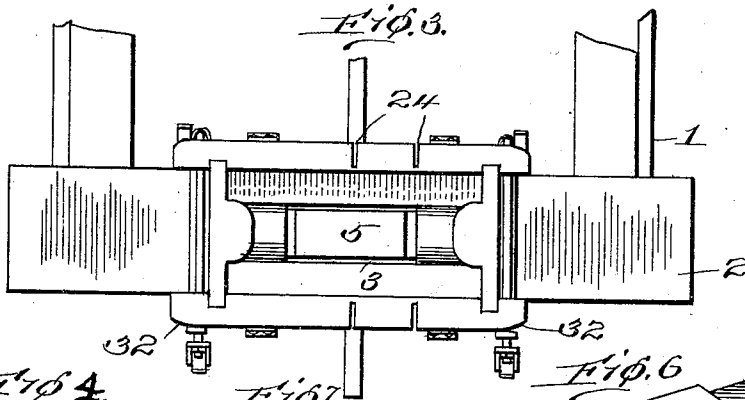
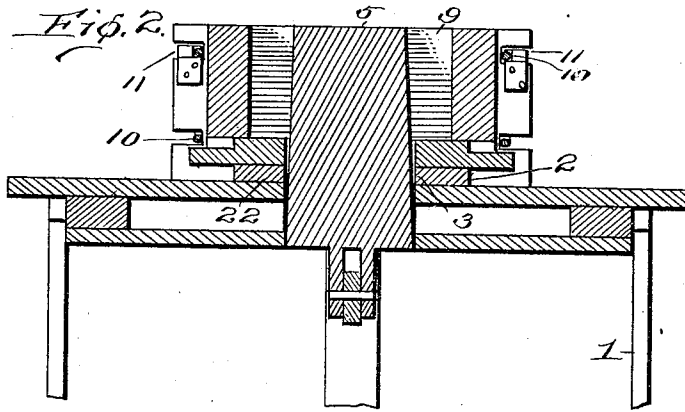
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3 SHEETS—SHEET 2.



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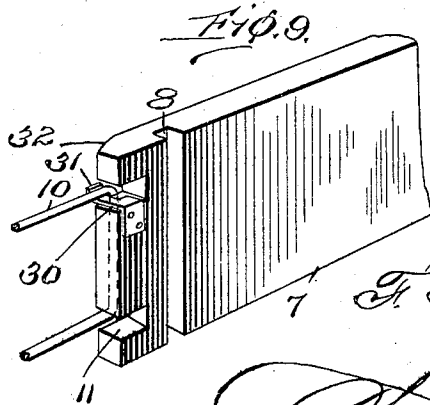
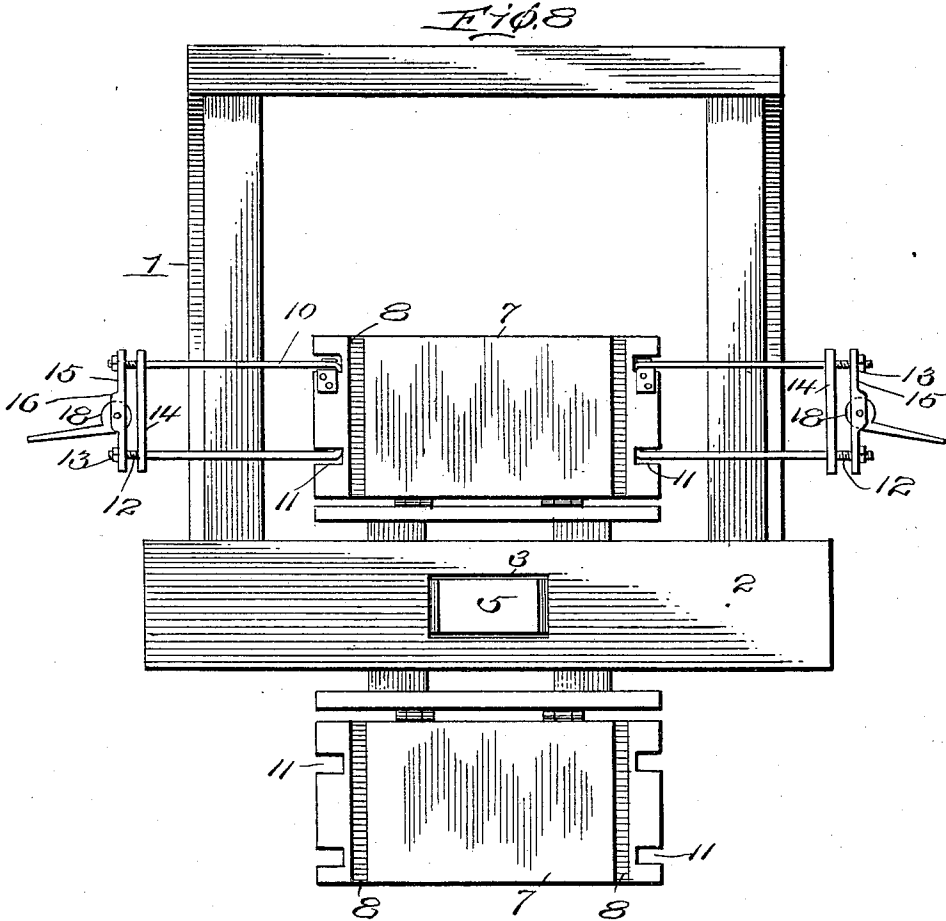
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3 SHEETS—SHEET 3.



F. I. Bennett.

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# UNITED STATES PATENT OFFICE.

FRANK I. BENNETT, OF POINT PLEASANT, NEW JERSEY.

MACHINE FOR MAKING CONCRETE BLOCKS.

968,111.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed October 25, 1909. Serial No. 524,388.

To all whom it may concern:

Be it known that I, FRANK I. BENNETT, a citizen of the United States, residing at Point Pleasant, in the county of Ocean and State of New Jersey, have invented certain new and useful Improvements in Machines for Making Concrete Blocks, of which the following is a specification.

My invention relates to improvements in machines for making concrete blocks, and the leading object of my invention is the provision of a machine of this character which will be of simple and inexpensive construction, and which can be operated with great rapidity.

A further object of the invention is the provision of a simple and inexpensive machine which can be readily adjusted to form blocks of varying sizes.

Another object of the invention is the provision of a compact machine which can be quickly and easily adapted to form blocks of different configurations.

Another object of the invention is the provision of a device which can be instantly adjusted to form hollow or solid blocks as desired.

With these and other objects of a like character as hereinafter disclosed in view, my invention consists in a molding machine for making concrete blocks of simple and inexpensive construction and embodying certain novel features of construction and combination and arrangement of parts for service substantially as described and as illustrated in the accompanying drawings which illustrate one of the physical embodiments of my device constructed in accordance with the best method I have so far devised for the application of the principles as hereinafter set forth.

Figure 1 represents a perspective view of my complete machine. Fig. 2 represents a fragmentary vertical sectional view of the device in closed position. Fig. 3 represents a top plan view of the molding sections in position. Fig. 4 represents a side elevation of the same. Fig. 5 represents a perspective view of the bottom or floor of the mold with one of the ends of the mold in position thereon. Fig. 6 represents a perspective view of the upper side of an auxiliary floor adapted to be substituted for the main floor when certain forms of block are desired. Fig. 7 represents a plan view of a partition for use in making blocks of reduced size.

Fig. 8 represents a top plan view of the complete machine opened, all loose parts being removed, and Fig. 9 represents an enlarged fragmentary view of one of the sides of the mold.

In the drawings, in which similar characters of reference denote corresponding parts in the several views: the numeral 1 designates the frame of the machine, and suitably secured to the upper face of the frame is the plank forming the table portion 2, said table having the opening 3 formed therein in which moves the core or plunger 5, as will be most clearly understood by reference to Fig. 2. Secured to the frame at the sides of the table 2 are the members 6, while hingedly secured to the said members are the sides 7 of the mold. As will be seen by reference to Sheet 3 of the drawings, the sides of the mold are adapted to swing outward away from the table, and have formed in their inner faces near each end the vertical groove 8 to engage the ends 9 of the device. To retain the sides in raised position and clamp them upon the end pieces I employ the U-bars 10, said bars being located at each end of the device and being received in the slots 11 in the ends of the sides. The base of the U engages the rear side and is pivotally secured thereto, while the parallel portions of the bar extend forward through the slots in the front side and terminate in screw threaded ends 12 on which are secured the nuts 13. Located on the bars intermediate the nuts and the side are the clamping plate 14 and the locking plate 15, said latter plate having an aperture therein flanked by the ears 16, while pivotally secured between said ears is the lever 17 having the inwardly extending cam head 18.

In operating the device, the sides are swung upward into a vertical position and the ends are placed in position in the grooves 8. The bars 10 are then swung on their points of pivotency until they are engaged in the slots 11, when the nuts 13 are tightened to force the locking plate into engagement with the clamping plate which it forces against the side of the mold box. The nuts having been properly adjusted, the lever 17 is swung upward, forcing the cam head 18 against the clamping plate and firmly locking it and thus the bars in position, as will be clearly understood by reference to Fig. 4.

While it will be understood that the mold box above described may rest directly upon

the table 2, I preferably place on the table portion the bottom or floor of the box 19, two forms of floor being shown in the drawings adapted for use in forming different styles of blocks. In the form shown in Fig. 5 the bottom 19 has a central opening 20 formed therein, while at the ends of said slot are the core or bead portions 21, said portions 21 serving to form corresponding recesses in the blocks, the recesses thus affording air spaces in the structure built up of the blocks. As will be also observed, the end strips may also bear like cores which form recesses in the ends of the block, said recesses also providing air spaces between the blocks and affording a firmer grasp for the hands when handling the blocks. It will be seen that on the under side of the bottom section illustrated in Fig. 5 I have secured the strips 22, said strips resting on the table 2 and holding the bottom therefrom to permit of the ready insertion of the hands under the bottom to raise and move it as desired.

To provide a hollow block which can be quickly removed from the mold, I slidably mount in the openings 3 and 20 the plunger 5, while pivoted to the rear of the frame and projecting from the front of the frame is the lever 4 to which the lower end of the plunger or core is secured, the elevation and depression of the free end of the lever serving to force the core up into the mold box and to withdraw it therefrom as will be understood by reference to Fig. 1 where the core is shown in raised position while the position it assumes upon the depression of the lever is indicated by dotted lines. To lock the core in raised position, I employ the latch member 23 which is secured to the frame and is adapted to be swung to engage the free end of the lever and lock it and thus the core in elevated position.

The construction of mold just described with the core it will be understood is intended only for the manufacture of hollow blocks, and when it is desired to manufacture blocks of a solid type, I open the device as shown in Fig. 8, and depress the lever 4, moving the core or plunger into a position where its upper end is flush with the table 2, and I then place upon the table the bottom 19 as shown in Fig. 6, said bottom being provided with the strips 22 on its under side, and being free from openings. After this bottom is placed in position the sides and ends are placed in position in the same manner as in the other case, and it will be understood that I may employ either the beaded or plain end pieces as desired. To provide for the manufacture of blocks of less than regular size without the necessity of having a different machine or mold box, I form in the upper edges of the sides the triangular slots 24, said slots being located

on the exterior of the sides in order that the inner face of the mold may be smooth and unbroken. Formed in the bottom are also slots 25, and in making the smaller blocks I insert between the sides the partition 26, shown in Fig. 7, said partition being preferably of metal having prongs 27 on its bottom to be engaged in the slots 25 for securing the lower end of the partition in position and having the lugs or wings 28 near its top adapted to be engaged in the slots 24 for securing the top thereof, the sides of the partition making a tight engagement with the sides of the mold.

From the foregoing description taken in connection with the drawings the construction and operation of my device will be readily understood and its advantages be fully appreciated, and it will be seen that I provide a simple and inexpensive device of the greatest efficiency which can be operated with great rapidity.

To aid in the rapid operation of the device I secure thereabove the trough 29, said trough being so positioned with reference to the mold box as to deposit any material in the trough in the box, and by this means a great saving of time is insured, inasmuch as it is merely necessary for the material to be shoveled or otherwise thrown into the large trough instead of taking the time to pack the material into the mold, which service is for the most part performed by the trough.

It will be understood that in operating the device at a rapid rate the U-bars when swung out of locking engagement with the front side of the mold will be thrown forcibly toward the rear, and to prevent them from being thrown too far and thus occasioning delay in the readjustment of the box, I secure to the lower side of the slots 11 of the rear side the plate 30, said plate being provided with the hooked or angular end 31 which projects upward and engages the bar, limiting its rearward movement, as will be seen by reference to Fig. 8.

To facilitate the closing of the mold, the edges of the front side are beveled as at 32, said bevel permitting the locking plate to slip over the edge without catching as would otherwise be liable to occur.

It has been found by actual experiment that by the employment of my improved construction more blocks can be made than with any other known form of manually operated single mold machine in a like time and that I provide a mold which can be adapted to make blocks of various sizes and shapes in less time and more simply and by the employment of less parts than any other known machine.

I claim:

1. In a molding machine, the combination with a frame, of a mold base supported thereon, sides for the mold hingedly secured

to the frame on each side of the base and adapted to be swung into a vertical position, said sides having a pair of longitudinally disposed slots formed in each end thereof, 5 U-bars pivotally secured to one of the sides intermediate said slots, said bars being adapted to be moved into position to be received in the slots in the ends of the sides, and plates engaged on the ends of the bars 10 and adapted to be moved into contact with the adjacent side for locking the sides in elevated position and adjustable means engaging the plates for securing them against the sides.

2. In a device of the character described, 15 the combination with a base portion, of side members hingedly secured thereto, said sides having slots formed in each end thereof, end pieces mounted on the base and arranged interior to the slots, U-bars having 20 their bases engaging the outer face of one of the sides and pivotally secured thereto, the arms of the bars passing through the slots in the sides and projecting beyond the 25 outer face of the opposite side to the one engaged by the base of the U, a locking plate having perforations therein through which said ends pass, a clamping plate also mounted on the ends, nuts on the ends of 30 the bars for adjustably securing the locking plate in adjusted position on the ends, and a cam member carried by the locking plate and bearing against the clamping plate for forcing it into tight engagement with the 35 adjacent side of the device for securing said side in position.

3. In a device of the character described, the combination with the frame of a collapsible mold box carried thereby, said box 40 comprising a removable base portion bearing means for supporting the same above the

frame, side pieces pivotally secured to the frame and having grooves formed therein to receive the end pieces, end pieces, means 45 for securing the side pieces in clamping engagement with the ends, said means being pivotally secured to one of the sides and being received in slots formed in the other, the means having a pair of arms affording 50 connection between the sides and plates carried by the free end of the clamping means for uniting the same and engaging the unattached side, said side being beveled to permit of the more rapid securing thereof by 55 providing an incline up which the plates ride, there being means on the ends of the clamping means for adjustably securing said plates in engagement with the sides.

4. In a mold, the combination with pivotally secured sides each having a pair of slots 60 formed in their ends, of a clamping member for the sides having a portion adapted to engage and be pivotally secured to one side, a pair of arms projecting from said portion and adapted to be swung to engage in the 65 slots in the side to which the clamp is pivoted and also in the slots in the opposite side, said opposite side having a beveled end, a clamping plate joining the free ends of the clamp and adjustably secured thereon 70 and adapted to slide over said beveled end, and means carried by the first named side and secured in certain of the slots therein and projecting therefrom for limiting the outward movement of the clamp upon its 75 pivotal support.

In testimony whereof I affix my signature, in presence of two witnesses.

FRANK I. BENNETT.

Witnesses:

WM. F. CRAMER, Jr.,  
THOS. A. JOHNSON.