

June 18, 1935.

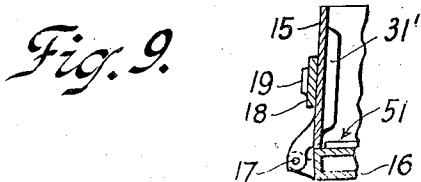
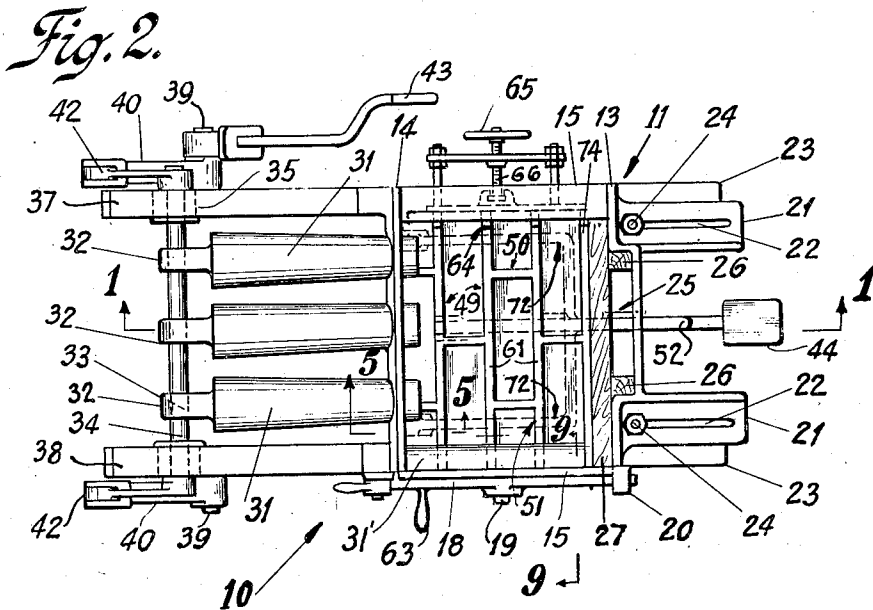
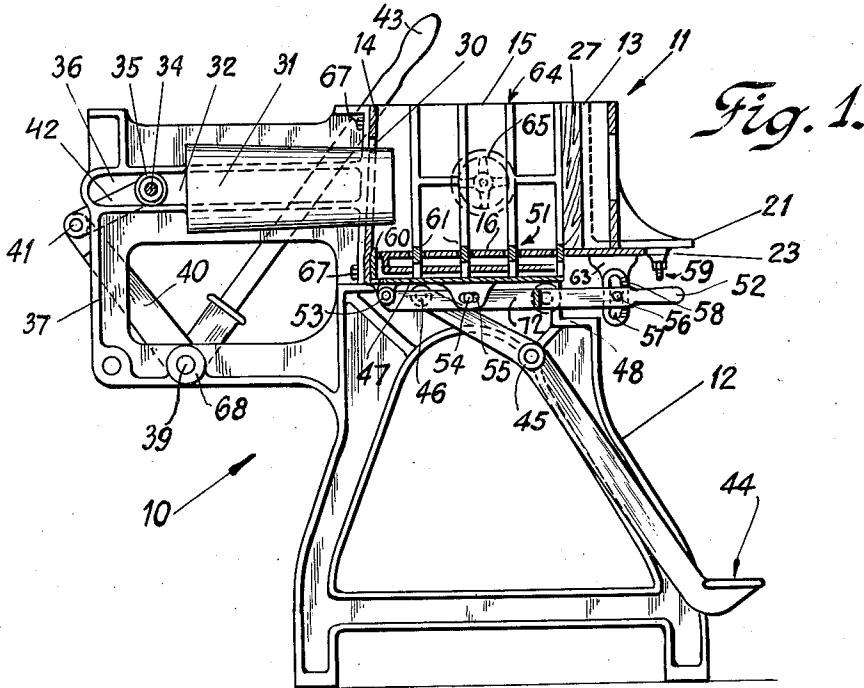
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2,005,200

MOLD FOR BRICK FACED BLOCKS

Filed March 17, 1933

2 Sheets-Sheet 1



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Fig. 4.

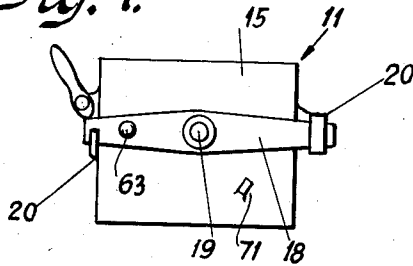


Fig. 6.

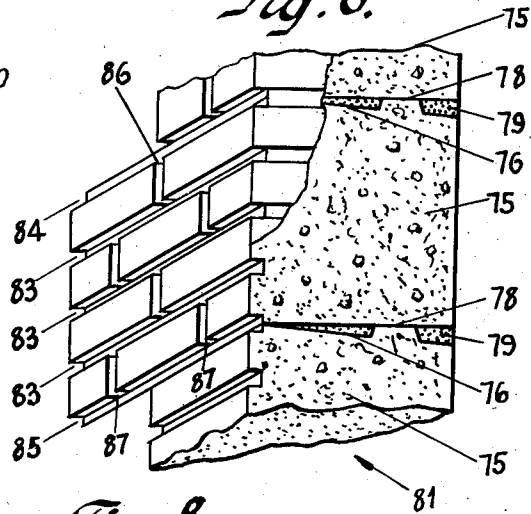


Fig. 7.

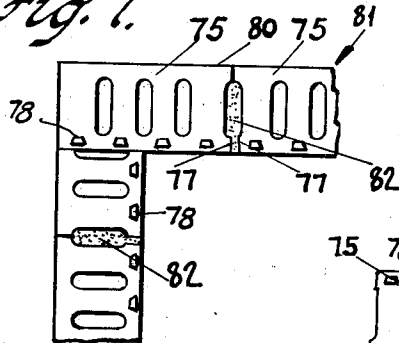


Fig. 8.

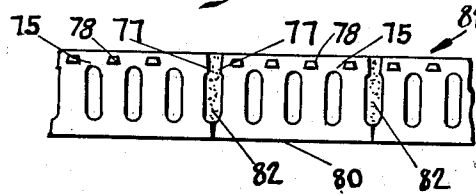


Fig. 3.

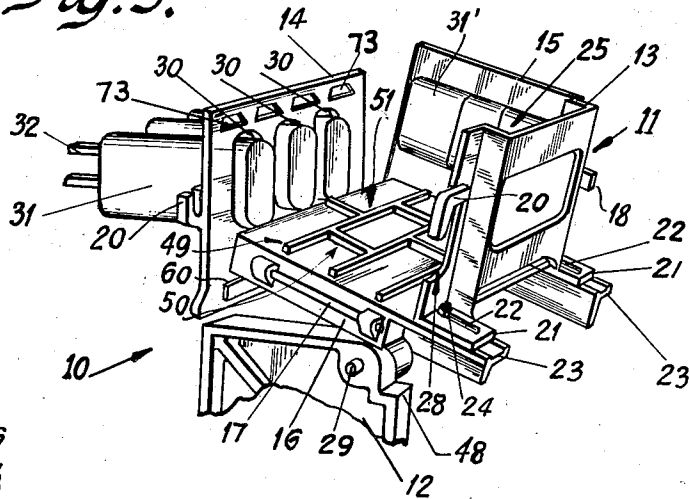
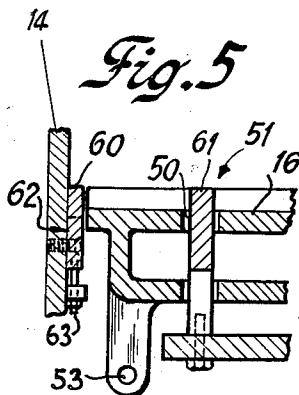


Fig. 5.



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MOLD FOR BRICK-FACED BLOCKS

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4 Claims. (Cl. 25—41)

This invention relates to improvements in molds for brick-faced blocks, and particularly to a mold box having an immovable rear wall, and a front wall and two end walls attached to a pivotally mounted base-plate and designed to swing jointly from an upright to a horizontal position for lifting the molded block from the mold.

An object of this invention is to provide a pivotally mounted mold box operated jointly by foot and hand power and comprising a foot lever designed for effecting a portion of the ninety degree swing from the upright to the horizontal position so as to reduce the force required for manually completing the remainder of the ninety degree swing.

Another object of this invention is to so arrange the linkage connections between the core-actuating lever and the cores for the block, that the handle of the core-actuating lever may be conveniently positioned at a level above the upper elevation of the mold for convenient grasp by the hand, while the brim of the mold may be easily reached for filling and tilting and removing the molded block from the mold box.

Another object of this invention is to provide a removable base-board or pallet in connection with the mold, on which the block is formed and lifted from the mold and on which it remains until it is set, the said pallet board being approximately the same length as the block, the front wall adjacent the pallet having openings therein so as to provide hand holds on the pallet while the molded block is in the mold.

Another object of this invention is to provide a mold for a brick-faced building block having a tapering upper face and a non-tapering lower face and alignment projections for leveling the superposed blocks; the said blocks also having tapering end walls.

Other objects and advantages of my invention will appear from the more detailed description and the drawings in which like reference characters denote like parts.

Figure 1 is a vertical sectional view of the mold, the section being taken as on line 1—1 in Figure 2.

Figure 2 is a plan view of the mold.

Figure 3 is a perspective view of the mold, showing the position of the base-plate and the attached front wall and end walls when in a tilted position.

Figure 4 is an end view of the mold box.

Figure 5 is a fragmentary sectional view of the base-plate, the section being taken as on line 5—5

in Figure 2 and shows the grille-frame in adjusted relation for molding brick-faced blocks.

Figure 6 is a vertical sectional view of a wall embodying my brick-faced building blocks.

Figure 7 is a plan view of a corner of a wall embodying my building blocks and shows wedge-shaped layers of mortar between the vertical faces of adjoining blocks.

Figure 8 is a plan view of a straight portion of the wall.

Figure 9 is a sectional view taken as on line 9—9 in Figure 2.

In the illustrated embodiment of the invention, the several views show a mold 10, consisting of a mold box 11, and a supporting frame 12. The mold box 11, comprises a movable front wall 13, an immovable rear wall 14, two pivoted end walls 15, 15, and a base-plate 16. Each end wall 15, is pivotally connected at its lower edge to the base-plate 16, by means of a pivot 17, and is designed to be secured to the front and rear walls when in operative position by means of locking levers 18. Each end wall being positioned in abutment with the end faces of the front and rear walls when in operative position as shown in Figures 1 and 2. The locking levers 18, are mounted on pivots 19, extending from the outer faces of the end walls 15, and are designed to simultaneously engage ears 20, projecting from the front and rear walls. The front wall 13, is provided with integral angular extensions 21, having slots 22, the wall being fastened to arms 23, extending from the base-plate 16, by means of bolts 24, passing through the slots 22. The front wall 13, may thus be moved inwardly for adjustment relative to the immovable rear wall 14, for the purpose of molding blocks of different widths. The front wall 13, has been formed with a recess 25, adapted to receive two battens 26, 26, fastened to a pallet board 27. The pallet board serves as a base upon which a molded block may be lifted from the mold box 11, and allowed to remain thereon until the block is dried or set. The pallet board is of the same length as a molded block, two openings 28, having been provided in the end portions of the front wall 13, so as to afford convenient hand holds on the pallet board while in the mold box 11. The base-plate 16, is pivotally mounted on the frame 12, by means of pivots 29.

The rear wall 14 is provided with a plurality of apertures 30, adapted to receive and guide cores 31. Each one of the cores 31 is provided with an extension 32, having an aperture 33 in engagement with a shaft 34. Mounted at each end of the shaft 34 is a roller 35, housed in an elongated

aperture or bearing 36, in each of two spaced upright extensions 37, 38, of the supporting frame 12. The extensions 37 and 38 are respectively provided with a bearing 68, having an outwardly extending shaft 39 rotatably mounted therein, each shaft 39 having a lever 40 fastened thereto. The free end of the respective levers 40 is provided with a pivot pin 41, in engagement with one end of a link 42. The other end of the link 42 is in engagement with the shaft 34. An operating lever 43 for actuating the cores 31, is fastened to the shaft 39 in the extension 37, with its handle elevated above the upper level of the mold box 11. By swinging the lever 43 to a substantially horizontal position, the linkage members 40 and 42 cause the cores 31 to move into the mold box 11, and come into abutment with the pallet 27.

A foot lever 44 has been pivotally mounted on the supporting frame 12 on a pivot 45. A roller 46 has been mounted at the upper end of the foot lever, the said roller contacting with the underside of the base-plate 16, at a point adjacent its free end 47. It is thus possible, by pressing against the foot lever 44 to lift and tilt the base-plate 16, to an acute angle about the pivots 29, as best shown in Figure 3, when the baseplate and attached front wall and end walls may by grasping handles 63 on the locking levers 18, be easily hand-swung forwardly from an upright to a horizontal position, in which the forward end face of the base-plate 16 rests on brackets 48, extending sidewise from the supporting frame 12.

The base-plate 16 has been provided with a plurality of parallel slots 49, positioned in parallel relation with the front and rear walls, and with a plurality of staggered slots 50, positioned in right-angular relation with the slots 49. A grille-frame 51, of approximately the same dimensions as the slots 49, and 50, is designed to fit into the slots and to be moved in and out therein and may be adjusted above the base-plate working surface by means of a lever 52, pivoted at 53, and connected to the grille-frame 51, by means of pins 54. The pins 54 may be fixed to the lever and in engagement with slots 55 in the grille 51. The free end of the lever 52 may be secured in adjusted relation with the base-plate 16, by means of a bolt 56, housed in an aperture 57, in an extension 63 of one of the arms 23, extending from the base-plate 16, and the height or upper level to which the grille-bars 61 of the grille-frame 51, may be raised into the mold box 11, may be regulated by means of a graduated scale 58, or by means of a fixed stop 59, shown in Figure 1. A rectangular bar 60, extending the full length of the mold box and of one-half the thickness of one of the grille-bars 61, of the grille-frame 51, has been screwed to the rear wall 14, at its lower edge, as best shown in Figure 5. The bar 60 has been provided with lateral slots 62 at each end so that it may be raised to the adjusted level of the grille-bars or lowered below the level of the working surface of the base-plate 16. A bolt 63 serves for the vertical adjustment of the bar 60.

As shown in Figure 3, each end wall 15 has been provided with an inwardly facing core 31¹, built up of three sections of the same contour as the cores 31, and of a size equal to one-half the thickness of a core 31. The cores 31¹, being detachably secured to the end walls 15, so that by removing the end section and by adjusting the position of the front wall in relation to the rear wall 14, it is possible to mold blocks of different widths in the same mold box 11.

As best shown in Figure 2, a grille-frame 64 may be provided in the end wall 15, and a hand-wheel 65, and a threaded screw 66, serve for moving the grille-frame 64 into and out of the mold box 11. It is to be noted that when the right hand end wall is provided with a grille-frame 64 facing the interior of the mold box in place of the core 31¹, that the mold will then be adapted to produce right hand corner blocks; similarly by providing a grille-frame in the left hand end wall facing the interior of the mold box in place of the core 31¹, that the mold will then be adapted to produce left hand corner blocks. Pier blocks may thus be molded having brick faces on three sides. It is also to be noted that when the grille-frame 51, and the bar 50, are positioned flush with the working surface of the base-plate 16, that the mold is then adapted to produce molded blocks having a plain finish outer face without any grooves. The mold is also adapted to produce blocks without cores and blocks of varied heights; the rear wall 14, being removable and designed to be fastened to the upright extensions 37, 38, of the supporting frame 12, by bolts 67, shown in Figure 1.

As best shown in Figure 2, the lever 52, has been provided with a bifurcated rear portion having arms 72, 72, spaced apart substantially the full length of the grille-frame 51. As best shown in Figure 1, the arms 72, are each provided with a pin 54, which engages with respective slots 55, in downward extensions from the mid-portion of the grille-frame 51. The grille-frame is thus supported at spaced points in balanced relation, so that irrespective of the level of the grille bars 61, in the slots 49, 50, of the base-plate 16, the working surfaces of the grille bars remain in constant parallel relation with the working surface of the base-plate 16. It is to be noted that the horizontal face-bar 74, of the grille-frame 51, is of one-half the width of an intermediate bar 61, the same width as the bar 60. The face-bar 74, serves to form a groove in the front face of the molded block at its lower edge, the depth of the said face groove being the same as the depth of the intermediate grooves but of one-half the width of an intermediate groove and the same width as the upper face groove formed by the bar 60.

As shown in Figure 1, the rear wall 14, of the mold 10, slopes outwardly to form a block having a tapering upper face. As shown in Figure 3, the rear wall 14, has been provided with a plurality of spaced recesses 73, adjacent its upper edge. The recesses 73, serve to mold substantially rectangular projections extending upwardly from the tapering upper face of the molded block.

As shown in Figures 6, 7 and 8, I have provided in conjunction with my mold 10, an improved form of building block 75, having a tapering upper face 76, tapering from the front face and tapering end faces 77. At the upper and tapering face of the block I have provided a plurality of alignment projections 78, which face upwardly and terminate at the same level as the highest point in the tapering upper face. The projections 78, serve as means for aligning the superposed block on the tapering upper face of the lower block when laid up in a wall, as best shown in Figure 6. When the blocks 75, are laid up in superposed relation, the front horizontal edges of the blocks abut and the rear edges are spaced apart and form tapering wedge-like layers of mortar 79 between the horizontal face of the blocks. The tapering end faces 77, best shown

in Figures 7 and 8 cause the vertical front edges of the blocks to abut at the front face 80 of the wall 81, and the rear edges to be spaced apart and form tapering wedge-like layers of mortar 82, between the vertical faces of the blocks. The reason for abutting the front edges of the blocks is to protect the mortar joints and prevent the disintegrating action of rain and frost on the mortar joints which are weaker than the blocks which they unite. The abutting front face edges also assist in the alignment of the blocks.

In molding blocks having grooves simulating brick-work, I have found it necessary to provide an odd number of parallel horizontal grooves 83, intermediate the upper and lower faces of the block and to provide a narrow groove 84, of one-half the width of one of the intermediate grooves 83, at the upper face of the block and a narrow groove 85, of one-half the width of one of the intermediate grooves 83, at the lower face of the block. Furthermore, in order to make it possible to build up a symmetrical wall 81, with identically molded brick-faced blocks 75 of one design, I have found it necessary to arrange the highest and lowest vertical grooves 86, 87, in staggered relation with each other, as shown in Figure 6, and it is to be noted that the bars 61, of the grille-frame 51, and the bar 60, on the rear wall 14, of the mold 10, have been designed for this purpose as previously mentioned.

From the foregoing it will be seen, that when a plurality of blocks 75 of identical brick-face design are laid up in a wall as indicated, that the outer face of the wall will have the appearance of brick-work, and that the uppermost groove of any block in the wall will together with the lowermost groove of the superposed block form a composite groove of the same width as any of the grooves located intermediate the upper and lower faces of the block and that the wall will have a symmetrical brick-face appearance.

As shown in Figure 9, the end wall 15 of the mold 10 tapers into the mold box 11 and serves to form a tapering end wall in the molded block. Both end walls 15, 15, may thus be tapered to form blocks having two tapering end walls.

The operation is as follows:

With the mold box 11, in the upright molding position shown in Figure 1, the operator swings the lever 43 to a horizontal position and causes the cores 31 to move into the mold box in abutment with the pallet 27. The rectangular bar 60 is adjusted to the level of the bars 61 of the grille-frame 51. In this adjusted position, the bar 60 forms a groove 70 in the front face of the molded block, the depth of the groove 70 being the same as the depth of the grooves 69 formed by the grille-bars 61, but of one-half the width of a groove 69. The top of the mold box 11, is open and freshly mixed concrete is shoveled therein and tamped until the mold box is filled even with its brim, thus molding a hollow block for building walls having the appearance of brick-work.

To remove the molded block from the mold, the operator presses against the foot lever 44, and tilts the base-plate 16 and the attached front wall 13 and end walls 15 to a position best shown in Figure 3, when the operator takes hold of the handles 63, on the locking levers 18, and disengages the levers 18, and swings the levers 18 to stops 71 on the end walls 15, and then swings the mold box 11, and the molded block forwardly, jointly by foot and by hand power un-

til it assumes a position in right-angular relation with the normal upright position of the mold, in which position the forward end face of the base-plate rests on the brackets 48, the front wall 13 being then in a horizontal position and the molded block resting on the pallet 27. The operator then grasps both ends of the pallet board 27, through the openings 28 in the front wall 13 and lifts the pallet and the molded block from the mold box and places both in a position until the molded block is dried or set.

Having thus described my invention, I claim:

1. In a mold for plastic material, a mold box with end walls pivotally supported at their lower edge from a base-plate, a front wall secured to said base-plate, a supporting frame beneath said mold box, a sloping rear wall integral with said supporting frame, means for supporting said front wall from said base-plate in a plurality of adjusted positions relative to said rear wall, said base-plate and attached front and end walls being pivotally supported and adapted to swing jointly through an angle of ninety degrees upon said frame, a core-actuating lever fulcrumed in the frame and located on one side of the mold with its handle elevated above the upper level of the mold for moving a plurality of cores into and out of said mold box, a foot lever pivotally mounted on said frame and extending upwardly in contact with the rear portion of the lower face of said base plate for lifting and tilting said base-plate and attached front and end walls a portion of said swing to an inclined position on said frame to permit said mold box to be easily hand-swung the remainder of said ninety degree swing, a removable pallet, the front wall of said mold box being provided with end openings forming hand holds for removing said pallet and molded block from said mold.

2. In a mold for molding blocks the combination with a base-plate pivotally mounted on a supporting frame, an immovable rear wall integral with said supporting frame, a front wall and two end walls supported by said base-plate and adapted to swing jointly on said pivot ninety degrees and away from said immovable rear wall, a core-actuating lever fulcrumed in the frame, and linked with a plurality of cores for moving said cores into and out of said mold, a foot lever pivotally mounted on said supporting frame for lifting and tilting said base-plate and attached front and end walls a portion of said swing to an inclined position on said frame to permit said mold box to be easily hand-swung the remainder of said ninety degree swing with the molded block resting on a pallet in said mold box, the front wall of said mold being provided with end openings forming hand holds for removing said pallet and molded block from said mold.

3. In a mold for molding brick-faced blocks the combination with a base-plate pivotally mounted on a supporting frame, an immovable rear plate adjoining said base-plate and fastened to said supporting frame, a front plate and two end plates supported by said base-plate and adapted to swing jointly on said base-plate pivot ninety degrees and away from said rear wall, means for supporting said front wall from said base-plate in a plurality of adjusted positions relative to said rear wall, one or more of said mold plates being provided with grille-frames having bars to form grooves simulating a brick wall in one or more faces of the molded block, the rear plate having a rectangular bar of

- one-half the thickness of one of the grille-bars fastened thereto at the upper level of the grille-bars, a pallet in said mold, and foot-operated means for lifting and swinging said base-plate and front plate and end plates jointly through an acute angle to permit said mold box to be easily hand-swung to a total of substantially ninety degrees with the molded block resting on one of its non-grooved sides on said pallet.
4. In a mold for molding blocks the combination with a base-plate pivotally mounted on a supporting frame, an immovable rear wall integral with said supporting frame, a front wall and two end walls supported by said base-plate and adapted to swing jointly on said pivot ninety degrees and away from said immovable rear wall, a core-actuating lever fulcrumed in the frame and linked with a plurality of cores for moving said cores into and out of said mold, a foot lever pivotally mounted on said supporting frame for lifting and tilting said base-plate and attached front and end walls a portion of said swing to an inclined position on said frame to permit said mold box to be easily hand-swung the remainder of said ninety degree swing with the molded block resting on a pallet in said mold box, the front wall of said mold being provided with end openings forming hand holds for removing said pallet and molded block from said mold, said rear wall having recess means adjacent its upper edge and facing said front wall, said recess means serving to form alignment projections for leveling the molded blocks when assembled in superposed relation.

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