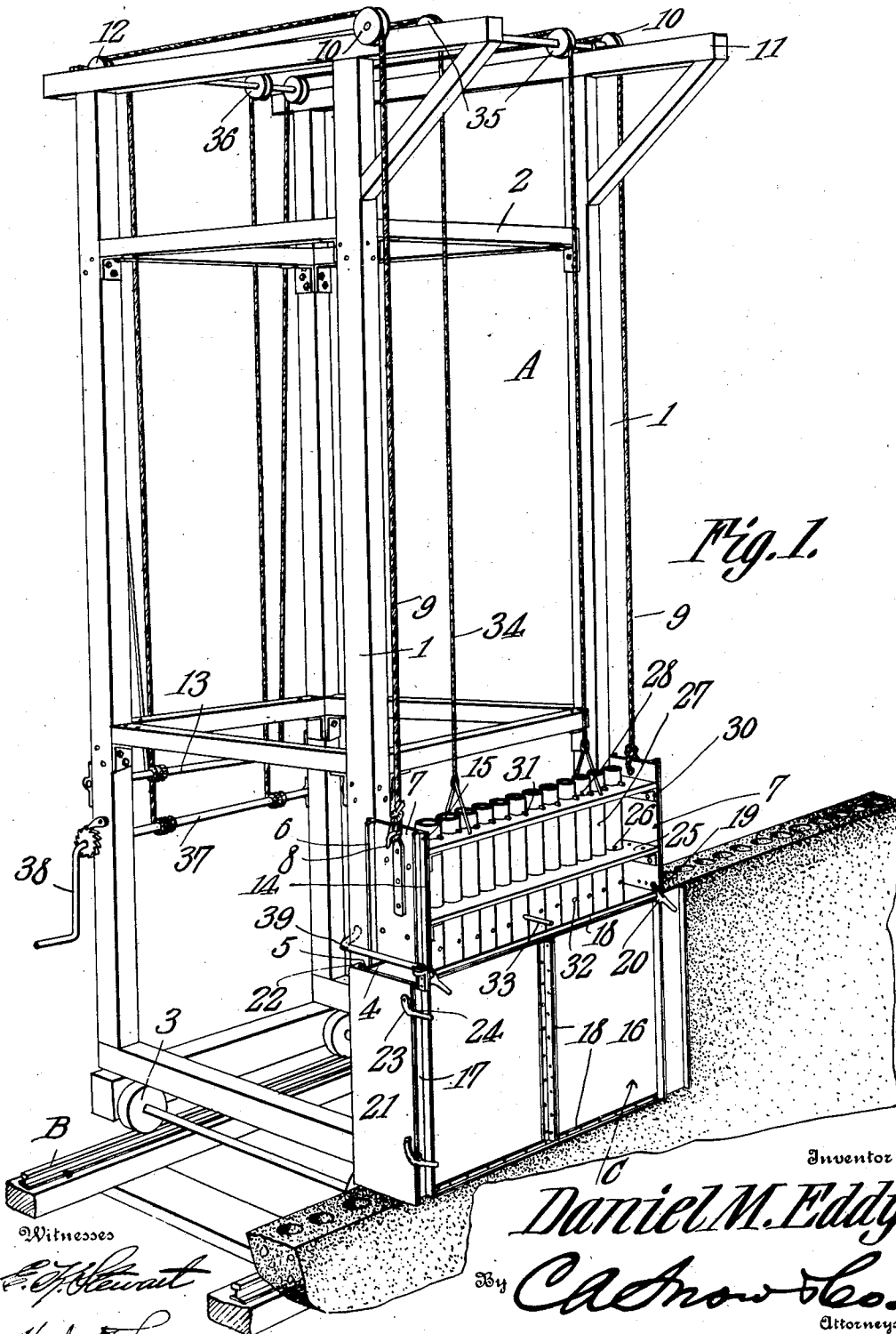


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APPLICATION FILED DEC. 2, 1908.

Patented Oct. 26, 1909.
2 SHEETS—SHEET 1.

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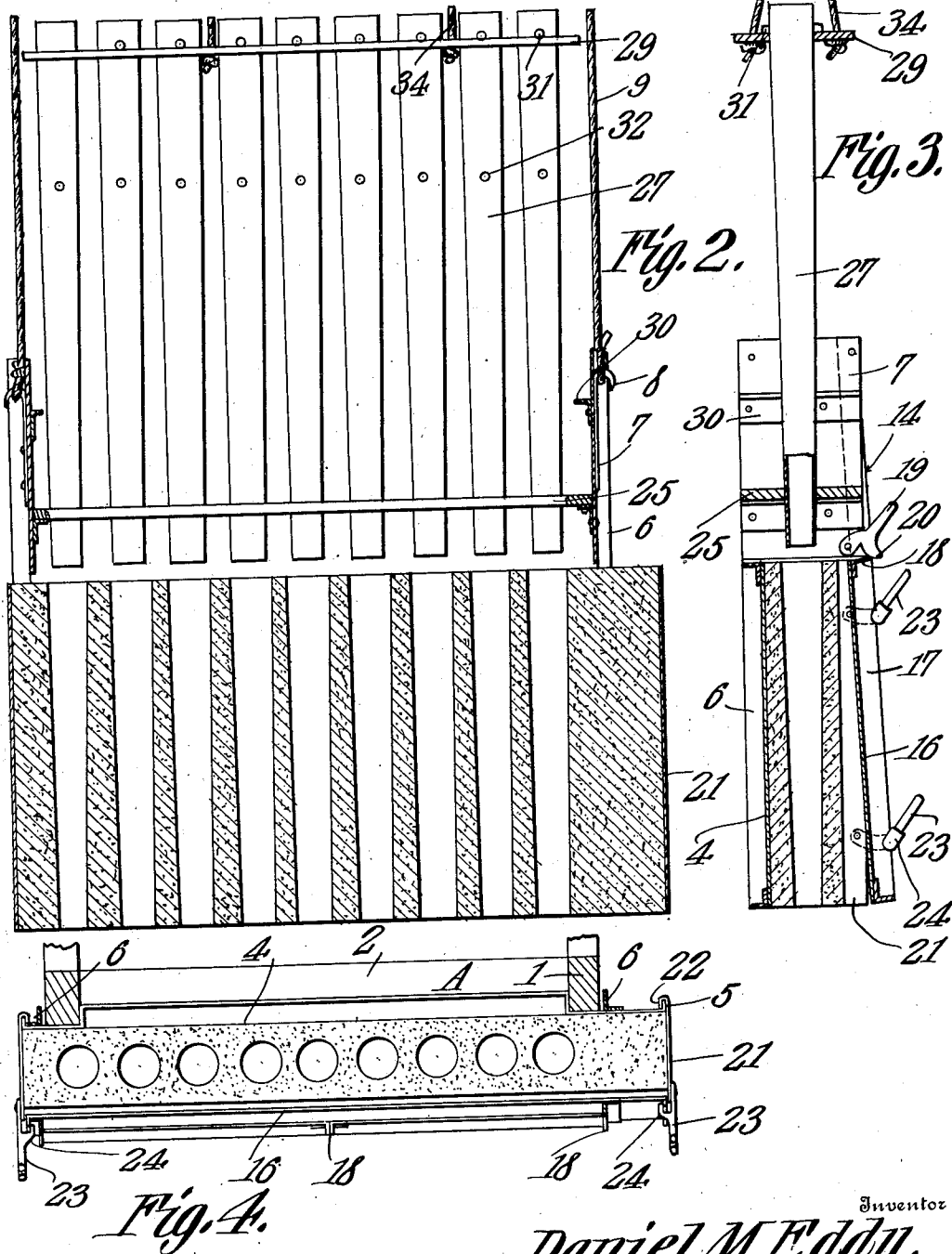


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Witnesses

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BUILDING-MOLD.

937,781.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed December 2, 1908. Serial No. 465,624.

To all whom it may concern:

Be it known that I, DANIEL M. EDDY, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented a new and useful Building-Mold, of which the following is a specification.

This invention relates to molding machines of that type particularly designed for use in the construction of concrete walls.

The object of the invention is to provide a machine designed to be set up to travel along the line of the wall or walls to be constructed, said machine carrying a mold of novel form which can be quickly set up and shifted from place to place.

A further object is to provide a molding machine capable of producing walls of different heights, said walls being provided with continuous openings extending vertically therein.

Another object is to provide a molding machine capable of being easily manipulated and which, after being placed at a predetermined elevation, can be utilized for forming a plurality of tiers or layers of molded wall.

With these and other objects in view, the invention consists of certain novel details of construction and combination of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a perspective view of the machine, the same being shown in use. Fig. 2 is a vertical longitudinal section through the mold and through the molded block therein, the cores being shown in elevation and withdrawn from the mold. Fig. 3 is a central vertical transverse section through the parts shown in Fig. 2, the front panel of the mold being shown loosened and out of contact with the molded block. Fig. 4 is a horizontal section through the mold and the adjoining portion of the tower, the parts being in the positions shown in Fig. 3.

Referring to the figures by characters of reference, A designates a portable tower preferably consisting of corner posts 1 connected at their upper and lower ends and at intermediate points by horizontal beams 2 constituting platform supports. This tower is mounted at its lower end upon wheels 3 designed to travel upon a track B

preferably made up of sections which can be conveniently placed together in any desired relation, so as to permit the tower to travel along lines parallel with the walls being built. The mold C used in connection with the tower consists of a back panel 4 preferably formed of sheet metal and having flanges 5 extending at right angles from the ends thereof and in the direction of the tower. Secured to this back panel and near the flanges 5 are reinforcing strips 6 preferably formed of angle iron, and to which are rigidly connected the fixed end plates 7 of the mold. These end plates extend at right angles to the back panel 4 and project forwardly therefrom, said end plates being located entirely above the back panel, as clearly indicated in the drawings. Any suitable means, such as hooks 8, are secured to the end plates 7 for engagement with hoisting cables 9. These cables extend upwardly over sheaves 10 carried by the top portion of the tower, there being arms or brackets 11 upon the outer side of the top portion of the tower on which these sheaves are journaled, so as to be in substantial vertical alinement with the hooks 8. Additional sheaves 12 are mounted upon the top of the tower adjacent the inner side thereof and the cables 9 extend thereover and downwardly to a shaft 13 journaled on the lower portion of the tower and designed to be rotated in any suitable manner, so as to wind the cables simultaneously thereon, and thus elevate the plates 7 and the parts connected to them.

Hangers 14, preferably formed of angle iron, are pivotally connected at their upper ends to the upper portions of the end plates 7 adjacent the front edges of said plates, as indicated at 15. The hangers 14 are of the same length as the reinforcing strips 6 and secured to the lower portions of these hangers is a front panel 16 of the mold, said panel being of the same proportions and size as the rear panel 4 and provided at its ends with outwardly extending flanges 17. Reinforcing strips 18 are preferably arranged along the top and bottom edges of the panel and also along the center thereof, and, if preferred, a similar arrangement of reinforcing devices may be provided on the back panel 4. Locking levers 19 are pivotally connected to the lower portions of the end plates 7 and are provided with cam extensions 20 designed to swing downwardly into

engagement with the upper reinforcing strips 18 of the top panel, and thus hold said panel as well as the hangers 14 against swinging movement relative to the end plates 7 and the back panel 4.

The mold is designed to be closed at its ends by means of removable end panels 21, each of which is provided at its back edge with an intumed flange 22 designed to hook into engagement with one of the flanges 5 of the back panel 4. The front edges of the end panels are designed to rest against the end flanges 17 of the front panel 16 and suitable means may be provided for fastening these front edge portions of the end panels to the flanges 17. In the drawings, the levers 23 have been shown pivotally mounted upon the end panels 21 and each having a hook or clip 24 designed, when the lever is swung in one direction, to embrace the meeting edges of the panel and flange for the purpose of binding the two together, and thus preventing accidental displacement.

The end plates 7 are connected adjacent their lower ends by means of a guide plate 25 arranged perpendicular to the said end plates and to the strips 6, said guide plate having a series of alining openings 26 therein for the reception of the cores 27 of the mold. These cores are preferably tubular and slightly tapered toward their lower ends and they are designed to slide within the openings 26. The upper portions of the cores are mounted within openings 28 formed within a head 29 which normally rests at its ends on brackets 30 extending inwardly from the end plates 7. Supporting pins 31 extend transversely through the cores and rest on the head, thus preventing downward movement of the cores relative to the head, but permitting them to rotate therein. Openings 32 are formed within the cores close to the guide 25 and these openings are designed to receive pins 33 whereby the cores can be conveniently rotated for the purpose of loosening them prior to the withdrawal thereof from the mold. Cables 34 are connected to the end portions of the head 29 and extend upwardly over sheaves 35 carried by the brackets 11. These cables also extend rearwardly over additional sheaves 36 upon the tower and thence downwardly to the shaft 37 designed to be rotated in any preferred manner, as by means of a crank 38, so as to simultaneously wind the cables, and thus withdraw the cores from the mold.

As indicated in the drawings, the panels 4 and 16 extend some distance beyond one of the end plates 7, so that they will lap the molded portion of the wall while an additional section is being formed.

If desired, means may be employed for preventing the mold from shifting laterally with relation to the tower, said means in the present instance being shown as formed of

a hooked arm 39 pivotally connected to one of the hangers 14 and designed to swing into engagement with one of the corner posts 1.

In using the machine herein described, the track B is first arranged along lines parallel with the lines of the walls to be constructed, said track being located at a predetermined distance from the wall lines, so that when the mold is properly connected to the tower A, it will be in correct position above the foundation of the wall. The cables 9 are paid out, so as to lower the panel 4 on to the foundation and the end panels 21 are hooked into engagement with the flanges 5, after which the front panel 16 is swung into closed position and locked by means of the levers 23. The cores 27 are then lowered into the mold box thus produced, and the concrete is poured into the box and around the cores in the usual manner.

It is of course to be understood that the mold is first connected to the tower by means of the hook 39, so as to prevent lateral displacement of the mold during the filling operation. After the concrete has properly set, the cores 27 are separately rotated by placing the pins 33 in openings 32. The cores are thus loosened from the concrete and by winding the cables 34, the head 29 can be elevated and thus withdraw the cores from the mold. The end panels 21 are then disengaged from the front and rear panels and removed, after which the front panel is swung outwardly from contact with the molded block. While the parts are in this position, the tower A can be drawn along track B and the advancing outer post 1 thereof will push against the adjoining strip 6 and cause the panel 4 and the rest of the mold to travel with the tower, and said mold will thus be withdrawn from the block previously formed thereby. The mold is moved into position with the extended ends of panels 4 and 16 lapping the block previously molded, and the panel 16 is then swung into closed position and secured in place by means of the levers 19. Only one end panel 21 is utilized after the first block in a tier or layer has been formed, this panel being placed at that end of the mold farthest removed from the block previously formed. After the mold has again been set up in this manner, the cores are inserted therein, and the foregoing operation will then be repeated. After blocks have been molded in this way throughout the length of all the walls, the mold can be bodily elevated, so as to permit a second tier or layer of blocks to be molded in the same manner, as heretofore described. It is of course to be understood that any desired number of layers or tiers of blocks can be formed without necessitating the elevation of the tracks and tower, this number only being limited to the height of the tower. When the upper

tiers are being molded it is designed to extend the lower ends of the cores short distances into the openings formed in the next adjoining tier thereunder, so that after the wall has been completed, continuous air spaces will be formed therein and extend from top to bottom of the wall.

Obviously by providing a machine such as herein described, the labor of constructing a concrete wall is greatly reduced, and the cost of construction correspondingly diminished.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. In a machine of the class described, a mold comprising a back panel, a front panel mounted to swing relative thereto, end panels, separate means for detachably connecting the end panels to the front and rear panels, a core, a relatively fixed guide for the core and mounted on the mold, means for rotating the core in the guide, and means for shifting the core longitudinally in said guide.

2. In a machine of the class described, a mold comprising end members, a core guide interposed therebetween, a panel fixed relative to the said members, a panel mounted to swing relative to said panel, panels detachably connected to the first mentioned panel, said detachable panels having interengaging portions, and a core slidably and revolubly mounted within the guide and movable relative to the mold.

3. In a machine of the class described, a mold comprising end members, a core guide interposed therebetween and fixedly secured thereto, a panel fixed relative to said members, relatively movable panels cooperating therewith, means for holding said panels against independent movement, cores revolubly and slidably mounted within the guide,

and means for simultaneously shifting the cores relative to the panels.

4. In a machine of the class described, a mold comprising end members, a panel fixed relative thereto, relatively movable panels, said members being disposed above all the panels, a core guide carried by and fixed to said members, independently removable revoluble cores mounted therein, and means for simultaneously shifting the cores in the direction of their lengths.

5. In a machine of the class described, a mold comprising connected panels, end members fixed relative to one of the panels and extending above said panels, a fixed core guide between and carried by said members, a series of revoluble cores removably and slidably mounted within the guide, a head constituting a support for the cores, and movable between the members and means for shifting the head to simultaneously move the cores in the direction of their lengths.

6. In a machine of the class described a portable structure, a track therefor, a mold comprising end members, a core guide interposed therebetween, a panel fixedly connected to said members, adjustable flexible means secured to the end members for supporting the mold at one side and parallel with the path of movement of the portable structure, a panel mounted to swing relative to the fixed panel; panels detachably connected to said fixed panel, said detachable panels having interengaging portions, a core revolubly mounted within the guide and movable relative to the mold and means carried by the structure for shifting the core longitudinally within the mold.

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

DANIEL M. EDDY.

Witnesses:

JAS. M. WALKER,
J. ROSS COLHOUN.