Oct. 20, 1936. H. C. COLVILLE 2,058,135

POST, COLUMN, PIER AND THE LIKE OF PLASTIC MATERIALS AND THEIR MOLDS

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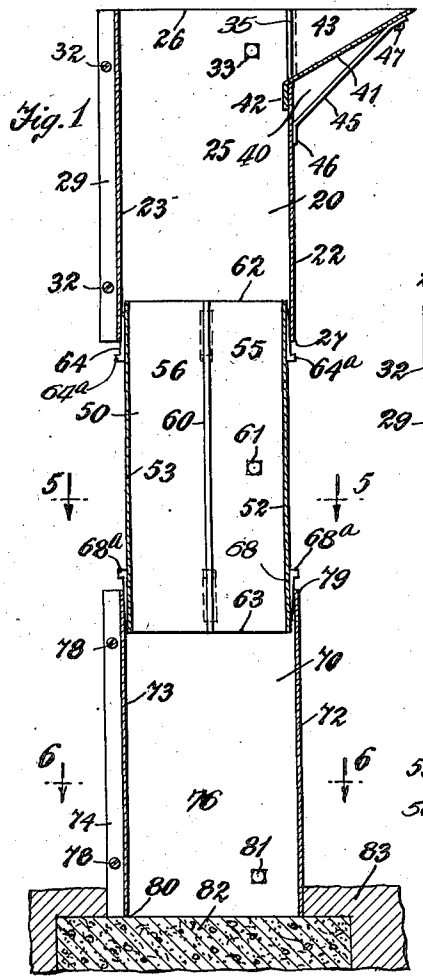


Fig. 1

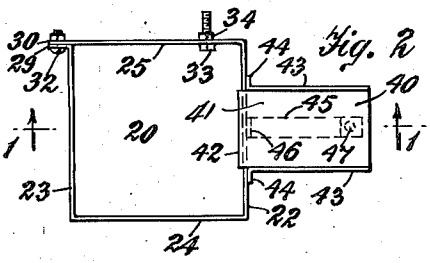


Fig. 2

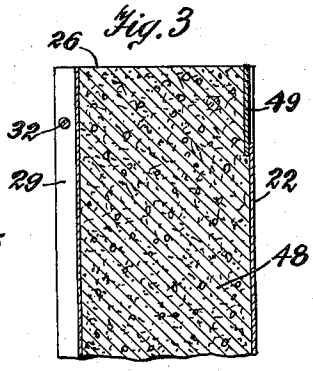


Fig. 3

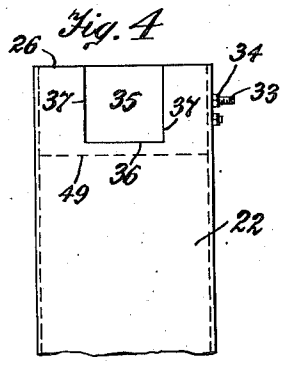


Fig. 4

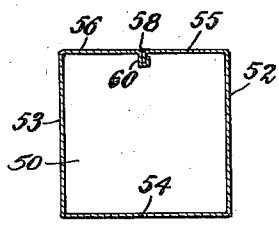


Fig. 5

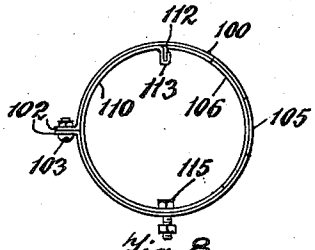


Fig. 8

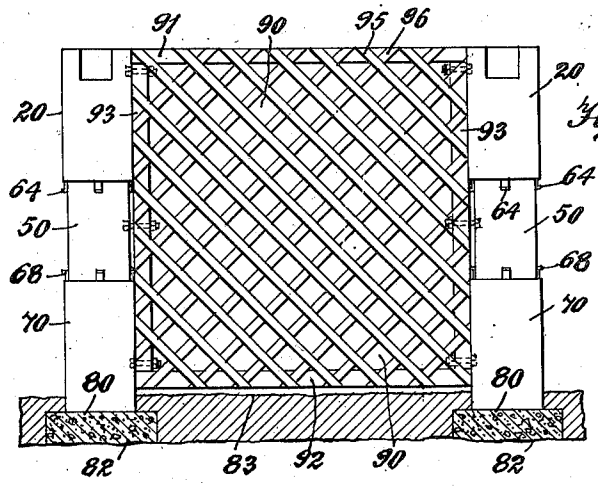


Fig. 7

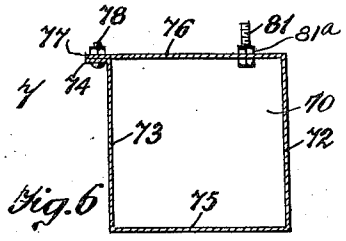


Fig. 6

INVENTOR.
HUGH C. COLVILLE

BY Arthur Bomeville

ATTORNEY.

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POST, COLUMN, PIER AND THE LIKE, OF PLASTIC MATERIALS AND THEIR MOLDS

Hugh C. Colville, Montclair, N. J.

Application August 28, 1935, Serial No. 38,182

6 Claims. (Cl. 72—75)

This invention relates to posts, columns, piers and the like of concrete, cement and other plastic materials and the molds to construct them.

The object of the invention is the production of molds for building posts, columns, piers and the like of plastic materials which easily harden in place.

The second object of the invention is the production of molds which are positioned in collapsible relation, and which can be adjustably connected one to the other, to either lengthen or shorten tiers of the molds while being erected in place.

The third object of the invention is the production of molds for posts, columns, piers and the like, which can easily have fastened between them lattice frames and the like.

The fourth object of the invention is the production of posts, columns, piers of concrete and the like with metal jackets.

In the accompanying drawing Fig. 1 represents a vertical section as on the line 1, 1, of Fig. 2 of a vertical tier of molds for a post, column, pier and the like for concrete, cement, and the like. Fig. 2 shows a top view of the upper portion of Fig. 1. Fig. 3 represents a fragmentary upper portion of Fig. 1 filled with concrete; Fig. 4 indicates a right hand view of Fig. 3; Fig. 5 is a section of Fig. 1 on the line 5, 5; Fig. 6 represents a section of Fig. 1 on the line 6, 6; Fig. 7 shows a pair of posts with their tiers of molds, and a lattice connecting them all in position for use, and Fig. 8 indicates a modification of the molds.

The tiers of the molds in this instance of sheet metal are indicated having three members. The top member of the tier is designated in its entirety by the numeral 20, the middle member is shown at 50 and the bottom member is shown at 70. All of the members are made of one piece of material which may be steel, iron and the like.

The top member 20 in this instance is square in cross-section and comprises the front wall 22, the rear wall 23 and the side walls 24 and 25. The top edges of the walls of the member 20 are indicated at 26 and their lower edges are shown at 27. The rear wall 23 has integral therewith the longitudinal outwardly extending flange 29 at right angles thereto. The side wall 25 has a longitudinal extending portion 30, which overlaps the flange 29. Bolts 32 connect the flange 29 and the overlapped portion 30. A bolt 33 having the nut 34 extends from the wall 25, to secure a lattice to be described in place. An opening 35 having the bottom edge 36 and the vertical edges 37 extend downwardly from the top edge 26 of the wall 22. A chute is designated in its entirety by the numeral 40. The said chute comprises the inclined wall 41 with the depending flange 42 at its lower end and the side walls 43 extending up from the inclined wall 41. Each of the side walls has integral therewith the flange 44 at right angles thereto. A strut 45 has integral therewith at its lower end the foot 46 and its upper end is fastened to the wall 41 by the rivet 47. When the tier of molds is to be charged with its concrete 48 or other plastic material, the chute 40 is placed in position by moving the flange 42 through the opening 35 and supporting the upper end of the latter upon the bottom edge 36 of the said opening 35. The flanges 44 and the foot 46 are positioned to bear against the outer face of the front wall 22. A closing plate 49 is provided for the opening 35. The middle member 50 of the tier in this instance is also square in cross-section and comprises the front wall 52, the rear wall 53, the side wall 54, and the side wall having the portions 55 and 56. The portion 55 has integral therewith the inwardly extending longitudinal flange 58 at right angles thereto. The portion 56 has integral therewith the inwardly extending U shaped longitudinal flange 60, which is locked with the flange 58. A bolt 61 with a nut and similar to 33 extends from the wall 55. The top edges of the walls of the member 50 are indicated at 62 and the bottom edges are indicated at 63.

The bottom portion of the member 20 is in adjustable collapsible relation with the top portion of the member 50, by inserting the latter portion into the former. Wedges 64 having the heels 64a are adjustably inserted between the top portion of the member 50 and the lower portion of the member 20 to lengthwise adjustably lock them in position.

The bottom portion of the member 50 is in adjustable collapsible relation with the bottom member 70, by inserting said bottom portion into the top portion of said member 70. Wedges 68 having the heels 68a are adjustably inserted between the bottom portion of the member 50 and the top portion of the member 70 to lengthwise adjustably lock them in position.

The bottom member 70 of the tier is constructed as described for the member 20, but the opening 35 is omitted. The said member 70 is also square in cross-section and comprises the front wall 72, the rear wall 73 with the longitudinal outwardly extended flange 74, the side wall 75 and the side wall 76 with the longitudinal extending portion

77, which latter overlaps the flange 74. Bolts 78 connect the flange 74 and the portion 77. The top edges of the walls of the member 70 are indicated at 79 and their lower edges are indicated at 80. A bolt 81 with the nut 81*a* is provided for the wall 76.

The lower edges 80 of the member 70, see Fig. 1, are supported on a foundation 82, comprising a block of concrete positioned in the ground 83.

Referring to Fig. 7, a pair of posts are indicated with their tiers of molds. The latter comprise for each tier, the top member 20, the middle member 50 and the bottom member 70, connected in place by means of the keys 64 and 68. The bottom edge 80 of each member 70 bears upon a foundation block 82 as already described, and which latter is somewhat below the surface of the ground 83. Between the tiers of the posts is indicated a lattice frame 90. The said frame comprises the top member 91, the bottom member 92 and the vertical members 93. To the front faces of the members of said frame are fastened the slats 95 and 96, which constitute the lattice of the frame. The vertical walls 93 of the lattice frame are positioned between the tiers of the molds and are fastened to the side wall 25, the portion 55 and the wall 76 of the molds by the bolts 33, 61 and 81. Each of the tiers of molds is charged with its concrete by pouring the same therein, by means of the chute 40. When the concrete is up to the level of the bottom edge 36 of the opening 35 of the top member 20, the chute 40 is removed and the closing plate 49 is placed in position to close the opening 35. Next the top member 20 is charged with the concrete up to the top edges of its walls.

Referring to Fig. 8, there is shown a top view of a pair of modified molds. In this modification the top member of the tier which is cylindrical in cross-section is indicated at 100. The said top member which is also made of a plate of sheet metal has extending from its longitudinal edges the flanges 102. The said flanges are clamped to each other by bolts 103, one of which is shown. An opening 105 similar to 35 extends from the top edge of the member 100, and for which is provided a closing plate 106, similar to 49.

The middle member of the tier in this modification is shown at 110, and is also made of a plate of sheet metal. One end of the member 110 has integral therewith the inwardly extending longitudinal flange 112, and its other end has integral therewith the inwardly extending U shaped longitudinal flange 113, which latter is locked with the flange 112. Bolts 115, similar to 33 extend from the walls of the molds to clamp a lattice frame as shown in Fig. 7 in place.

In the modification shown in Fig. 8, the members of the mold are positioned in collapsible relation and are detachably connected together by keys as shown in Fig. 1.

In the drawing the tiers are indicated each with three molds, but it will be understood that each tier may comprise only one or two molds or more than three.

It will also be noted that when three molds comprise a tier, that the cross section of the middle member is smaller than the cross-section of the top member and the cross-section of the bottom member. It will be noted further that the connecting means for the walls of the mold of the middle member are within the same and that the connecting means for the walls of the molds of the top and bottom members are on the outside thereof.

It will be noted further that the tiers of molds with their concrete and the like constitute posts, columns and piers of concrete and the like with metal jackets. It is also to be noted that when the concrete in the tiers has hardened that the wedges connecting the molds are removed. By means of the heels of the wedges the latter can be easily inserted between the molds or detached therefrom.

Various modifications may be made in the invention and the present exemplification is to be taken as illustrative and not limitative thereof.

Having described my invention, I claim:

1. The combination of a tier of molds, the cross-section of one mold greater than the cross-section of the mold next adjacent, each mold consisting of a plate of sheet material shaped to requisite form, the ends of the sheets of material of the larger molds extending outwardly, means to connect said ends, the end of the sheets of material of the smaller molds extending inwardly and locked to each other, the smaller molds having their end portions extending into the end portions of the larger molds, and means to adjustably connect the ends of the smaller molds to the ends of their adjacent larger molds.

2. The combination of a tier of molds comprising a plurality of members, walls for each member, the upper portion of the walls of one member in telescopic relation with the lower portion of the walls of the adjacent member and wedges detachably positioned between adjacent faces of the walls of said portions to longitudinally adjust and connect the molds one to the other.

3. The combination of a tier of molds for a post, column, pier and the like, comprising a plurality of members one over the other, walls for each member, the upper portions of the walls of one member in telescopic relation with the lower portions of the walls of the adjacent member, means to adjustably connect the walls of the members one to the other, the top member of the molds having an opening in one of its walls for its coaction with a detachable chute, a closing plate in the top member to cover the opening therein when said chute is detached, and concrete in said tier adapted to harden in place.

4. The combination of a tier of molds for a post, column, pier and the like, comprising a plurality of members one over the other, walls for each member, the upper portion of the walls of one member in telescopic relation with the lower portion of the walls of the adjacent member, means to longitudinally and detachably connect the walls of the members, one to the other, the top member of the molds having an opening in one of its walls, a chute adapted to be detachably connected to the top member to coact with the opening therein, a closing plate in the top member to cover the opening therein and concrete in said tier adapted to harden in place.

5. The combination of a tier of molds comprising members one over the other, walls for the members in telecopic relation to each other, means to detachably and longitudinally adjustably connect the walls of the member to one another, one of the walls of the top member having an opening, a chute for said opening comprising an inclined wall, a depending flange at the lower end of said inclined wall positioned upon the bottom edge of said opening, side walls extending upwardly from said inclined wall, a flange extending from each of said side walls bearing against the adjacent wall of the top member, a strut having its upper end fastened to said in-

clined wall, and a foot at the lower end of said strut bearing against the adjacent wall of said top member.

6. The combination of a tier of molds, walls for each mold, the upper portion of the walls of one mold in telescopic relation with lower portion of the walls of the next adjacent mold and wedges each having a heel detachably positioned between the portions of the molds adjacent to each other to lengthwise adjustably connect them one to the other, the said heels of the wedges constituting means to easily position said wedges in place and to detach them from the molds.

HUGH C. COLVILLE.