

No. 865,297.

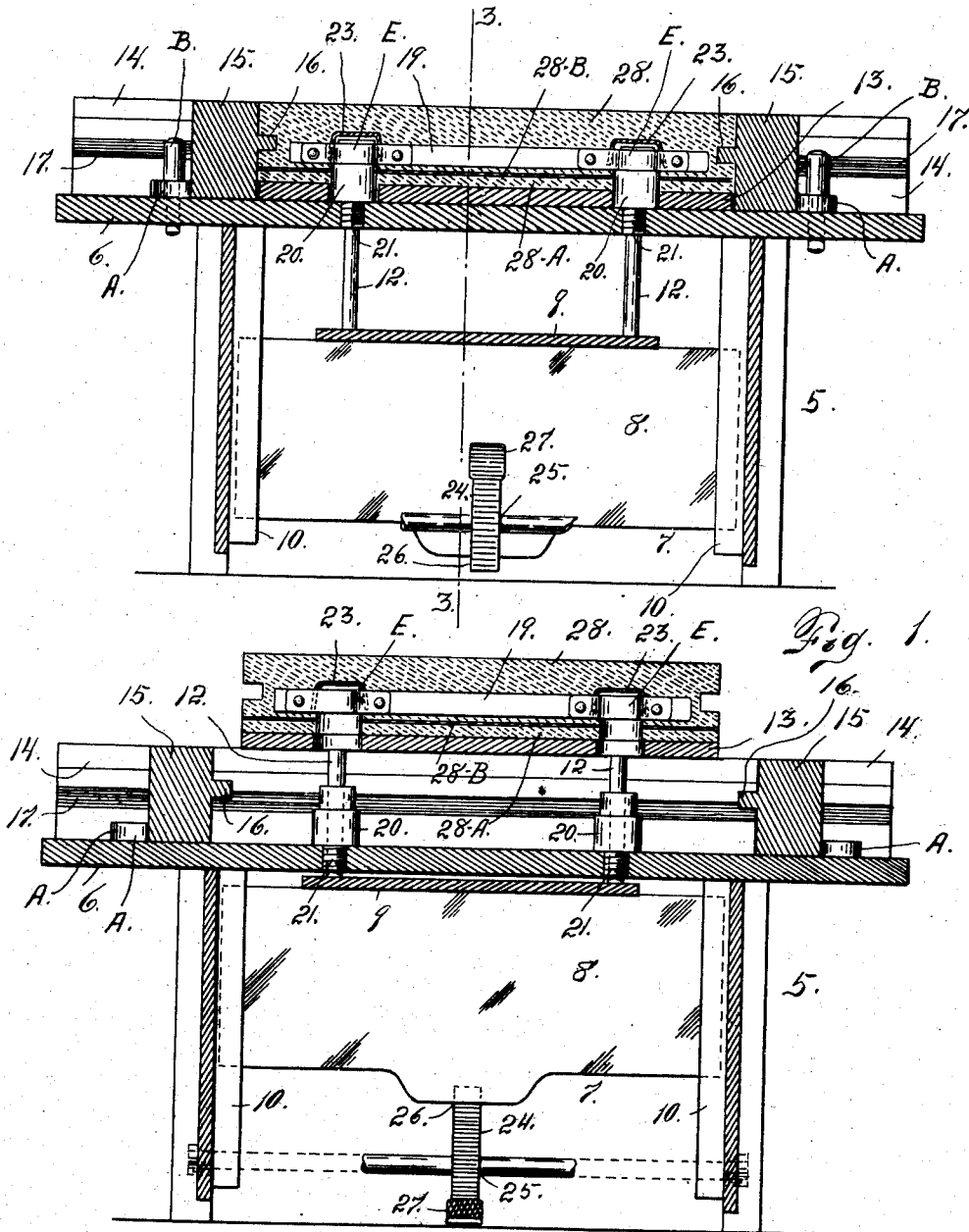
H. B. COPELAND.

PATENTED SEPT. 3, 1907.

MOLD FOR PORTABLE WALL BLOCKS OR SECTIONS.

APPLICATION FILED OCT. 29, 1906.

3 SHEETS—SHEET 1.



Witnesses
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Fig. 2. H. B. Copeland.
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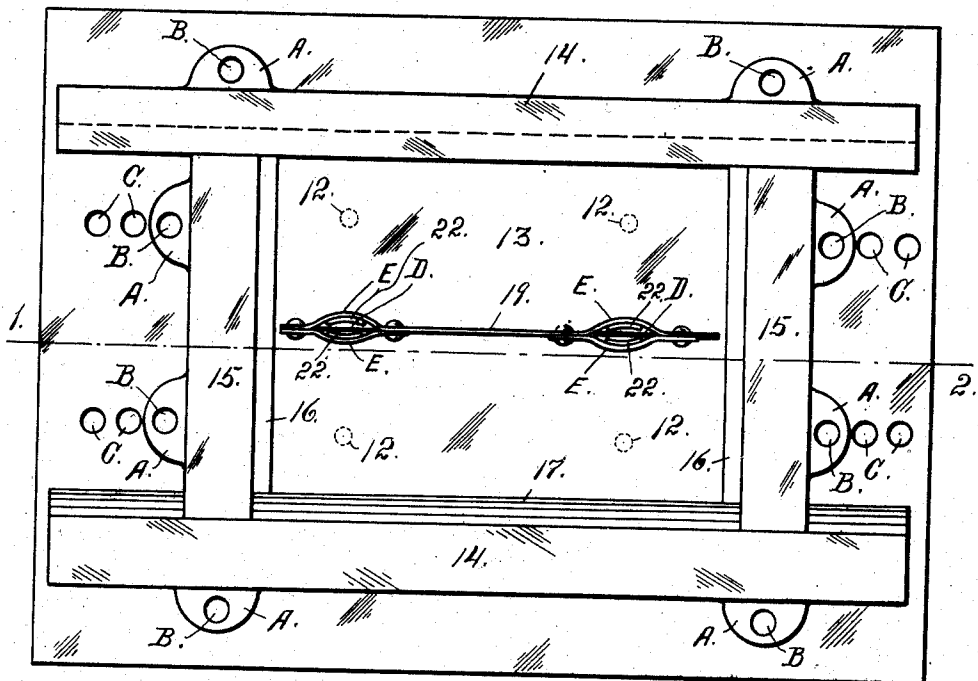
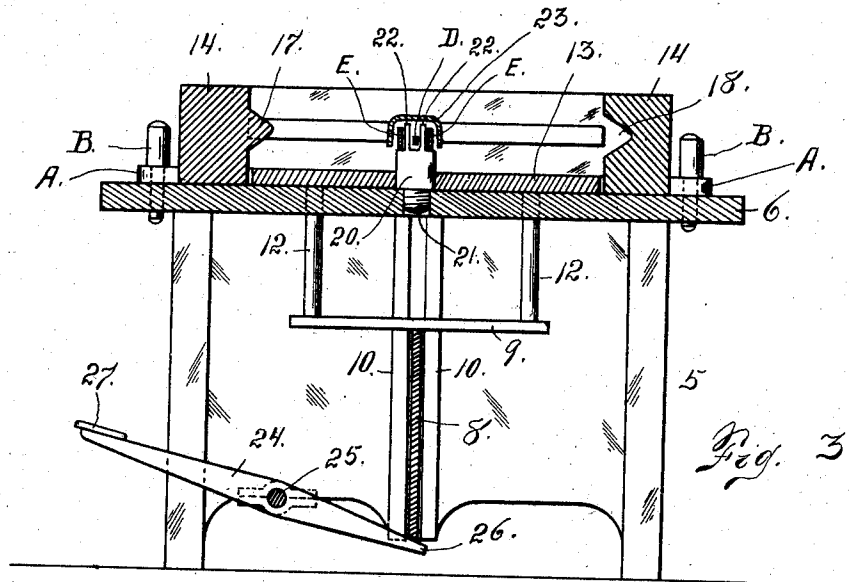
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3 SHEETS—SHEET 2.



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Fig. 4.

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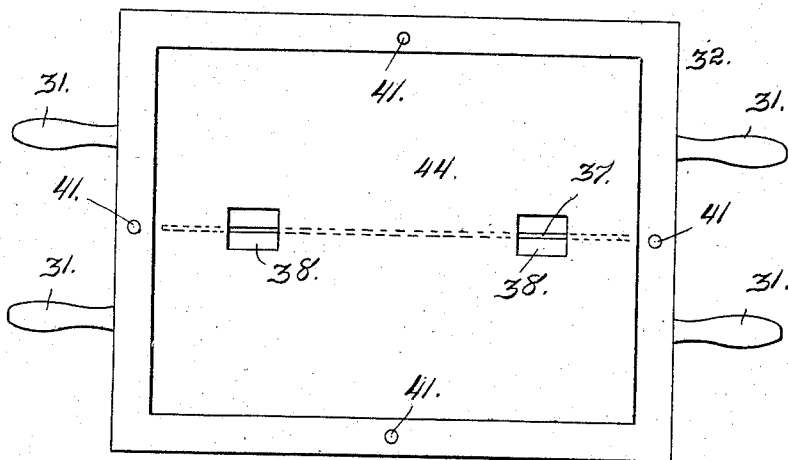
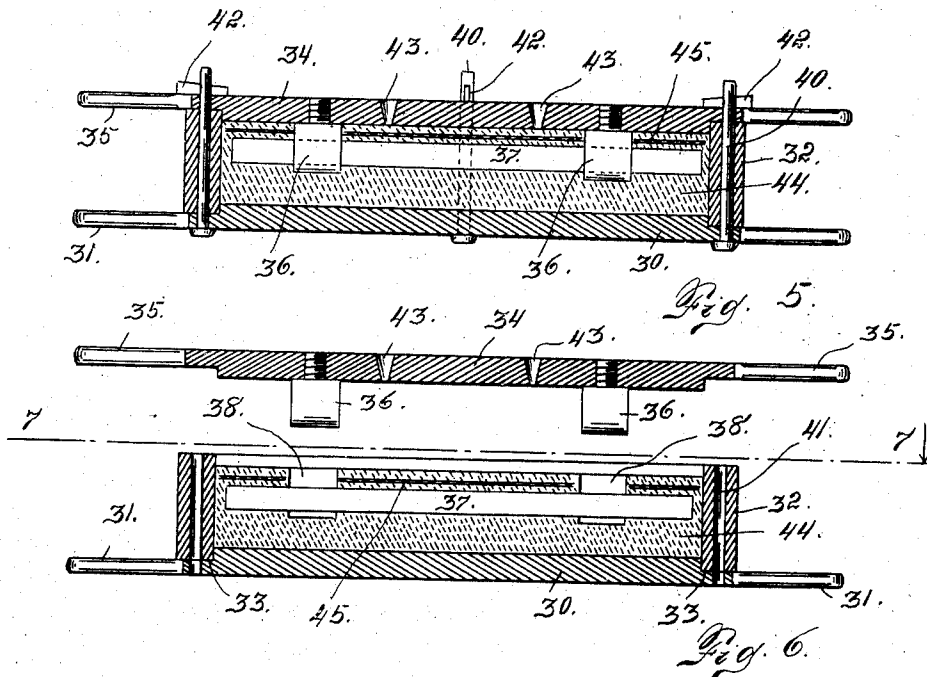


Fig. 7.

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UNITED STATES PATENT OFFICE.

HUGH BLACK COPELAND, OF DENVER, COLORADO.

MOLD FOR PORTABLE WALL BLOCKS OR SECTIONS.

No. 865,297.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed October 29, 1906. Serial No. 341,072.

To all whom it may concern:

Be it known that I, HUGH BLACK COPELAND, a citizen of the United States, residing at the city and county of Denver and State of Colorado, have invented certain
5 new and useful Improvements in Molds for Portable Wall Blocks or Sections; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to
10 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in molds for portable wall sections or blocks or for use wherever
15 it is desired to mold artificial stone or cement blocks or sections of any kind.

The invention is more especially intended for molding the portable wall sections set forth in a simultaneously pending application entitled Improvements in
20 portable walls. The invention will now be described in detail reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a vertical section taken longitudinally through the mold with a cement block
25 in place. This section may be indicated on the line 1—2 Fig. 4. Fig. 2 is a similar section, the molded slab or section being elevated for purposes of removal. Fig. 3 is a cross section taken on the line 3—3 Fig. 1. Fig. 4 is a top plan view of the mold showing in place
30 the bar or anchoring device which is to be embedded in the slab or section. Fig. 5 is a vertical section taken through my improved mold illustrating a modified form of construction. Fig. 6 is a similar view showing the die plate lifted above the body of the mold, leaving
35 the molded slab in place. Fig. 7 is a top plan view of the mold with the top plate removed.

The same reference characters indicate the same parts in all the views.

Referring first more especially to Figs. 1 to 4 inclusive,
40 let the numeral 5 designate a suitable supporting framework composed of upright members and a top or table member 6. Located below the table member is a reciprocable lifting member 7 consisting of a central longitudinally disposed plate 8 and a top plate 9. The
45 opposite ends of the plate 8 engage vertical ways 10 with which the ends of the frame work are provided. The top or platform member 9 is provided with a number of vertically disposed lifting pins 12 adapted to pass through openings formed in the table member 6
50 upon the top of which rests the vertically movable bed plate 13. The body of the mold is composed of side members 14 and end members 15. As shown in the drawing the end members are provided with interiorly projecting tongues 16; one of the side members 14 is
55 provided with a V-shaped tongue 17 while the other

is provided with an oppositely located counterpart groove 18. The configuration of the interior surface of these mold members may of course be regulated at will or as circumstances may require. The side and end members are provided with apertured ears A through 60 which pins B are passed, the said pins also passing through openings C formed in the table member. There may be a series of the openings C in line with each ear of each side and end member, so that these members may be adjusted to harmonize with the 65 various sizes of slabs or sections which it may be necessary or desirable to mold.

My improved mold is especially constructed for molding slabs or blocks in which are embedded anchoring bars of various constructions. One form of these bars 70 is indicated in the drawing and designated 19. With bars of this character, it is necessary that the table member of the mold should be provided or equipped with upwardly projecting core members for supporting the anchoring bar above the bottom of the mold, where- 75 by the said anchoring bar is suitably embedded within the section or slab. It will be understood that any suitable construction of core or anchor bar supporting device may be employed. This construction must of course be modified according to the structure or 80 special formation of the anchoring bar employed.

In connection with the form of anchoring bar 19, I employ two cores 20, each of which is provided with a threaded stem 21 screwed into a threaded opening 85 formed in the table member. Above the table member the core is shown to be of cylindrical shape, this cylindrical portion passing through an opening formed in the bed plate 13. The upper extremity of each core 20, as shown in the drawing is provided with two upwardly projecting lugs 22, which straddle the central member D of the bar 19 and pass between said central bar and the outwardly bent parts E—E of this bar. As the bar 19 is provided with two enlargements of the construction just described, the cores 20 are dupli- 95 cates or identical with each other. Before placing the cement or plastic material in the mold, a protecting casing 23 is placed over the top of each core, the same being large enough to pass down around the enlargements of the anchor bar, thus preventing the plastic material from entering the bar enlargements. It will 100 be understood that the bar 19 is of such depth that its enlarged portions would form receptacles into which the plastic material would flow without the aforesaid or some similar protection.

After the slab is molded it is evident that it may be 105 removed from the mold in any suitable manner. A foot lever 24 is shown in the drawing for operating the reciprocable lifting device 7. This lever is fulcrumed at 25 and has one extremity 26 engaging the part 8 of the lifting member; while the opposite extremity 27 110

is fashioned to receive the foot of the user. There may of course be any desired number of the lifting pins 12. Four, however, are shown in the drawing, the same being indicated by dotted lines in Fig. 4.

- 5 From the foregoing description the use and operation of my improved device as thus far described will be readily understood.

Assuming that it is desired to mold a slab or portable wall section 28, the mold members will be arranged as shown in Fig. 3 of the drawing preparatory to the commencement of the operation. That is to say the bed plate 13 rests upon the table member 6, the side and end mold members are adjusted by means of the pins B to correspond with the desired size of the slab or block to be manufactured. The core members 20 will then project upwardly through the bed plate 13. The anchoring bar 19 is then placed in position resting upon the core members 20, after which the caps 23 will be placed above the core members and resting upon the anchor bars. Before the anchor bars are placed in the mold, it is preferred to place a relatively thin layer of cement 28A in the bottom of the mold or on top of the bed plate 13. After this is done a sheet of wire mesh material 28B is placed upon this layer of cement or plastic material in the bottom of the mold. After the preparations heretofore described have been made, the cement or other plastic material is placed in the mold. After it has become sufficiently set or hardened to permit removal, the side and end members of the mold are moved outwardly sufficiently to release their interior surfaces from the slab or portable wall section. Then by placing the foot upon the lever 24, and pressing downward thereon, the reciprocable lifting device will be elevated, forcing the pins 12 upwardly through the table member 6, and against the bed plate 13, whereby the latter together with the molded slab is lifted to a position above the plane of the top of the mold, (see Fig. 2). The slab together with the bed plate may then be removed and allowed to dry. Another bed plate is then put in position and the operation may be repeated. It will be observed that as the cement slab or portable wall section is lifted out of the mold, the anchor bars 19 together with their caps are also carried with the slab, the same being removed from the cores. These cores it will be understood will leave an opening in one face of the slab. This is on the rear side. The object of these openings in the slab is to permit the insertion of fastening bolts (not shown) whereby they may be connected with the enlarged members of the anchor bars, as shown in my application for improvements in portable walls to which reference has heretofore been made.

The construction shown in Figs. 5, 6 and 7 is adapted for use as a hand mold. This construction consists of a bed plate 30 provided with handles 31 on opposite ends; a rectangular wall 32 surrounding the bed plate 30 whose outer portion is cut away as shown at 33 to receive the wall of the mold and form a tight joint around the mold chamber. The mold is also provided with a top plate 34 provided with handles 35 and depending cores 36 threaded into the top plate and projecting downwardly into the chamber of the mold when the device is in use. These cores are adapted

to support an anchor bar 37 during the molding operation. They also leave openings 38 in the slab 44, after the top plate has been removed. Through these openings may be inserted suitable fastening devices (not shown), adapted to be connected with the anchor bar 37, and employed for fastening the slab to the support as explained in my co-pending application entitled improvements in portable walls. When the mold or flask is complete and ready for use, the top and bottom plates are connected by pins 40 passed through both plates and also through the wall member 32 of the mold which is provided with openings 41 for the purpose. The upper extremity of the pins 40 are provided with openings in which may be inserted wedge-shaped keys 42 for locking the parts securely in place. The top plate is also provided with openings 43 through which the molten or mobile material may be introduced when it is desired to mold the slab or section 44. Before placing the top plate 34 in position, a wire mesh sheet 45 may be applied to the cores 36 and supported thereon a short distance from the under surface of the plate. The anchor bar is then pressed into slots formed in the cores, the bar being held tightly in place. The top plate is then put in position, the pins 40 inserted and the keys 42 put in place. The mold or flask is then ready for use. This form of construction is more especially intended for molding a glass slab or section or for use with any material which is in a molten or comparatively mobile state when it is introduced to the flask or mold.

After the mold operation is complete, and the contents of the mold has become sufficiently cooled, the pins 40 are removed, and the top plate lifted from the body of the structure, being then in the position shown in Fig. 7. The body of the mold may then be removed. While this body part is shown integral in the drawing, it may be hinged or formed in sections as desired as shown in the other forms of construction. After the body of the mold is removed, the slab may be set aside on the bottom plate 30 and allowed to thoroughly cool. Another bottom plate may then be put in place and the molding operation continued.

It is evident that instead of using the bottom plate as a support for the slab after it is removed from the mold, a separate plate may be employed for this purpose as shown in the other form of construction. In this event there need be only one bottom plate for the mold.

Having thus described my invention, what I claim is:

1. The combination with a mold of the class described, of vertical hollow cores mounted thereon and projecting into the chamber of the mold, said cores arranged to support an anchoring bar and metal caps for the purpose set forth.
2. A mold for portable wall blocks having hollow bifurcated cores mounted therein adapted to maintain an anchoring bar, said cores being fitted with metal caps substantially as described.

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

HUGH BLACK COPELAND.

Witnesses:

DENA NELSON,
A. J. O'BRIEN.