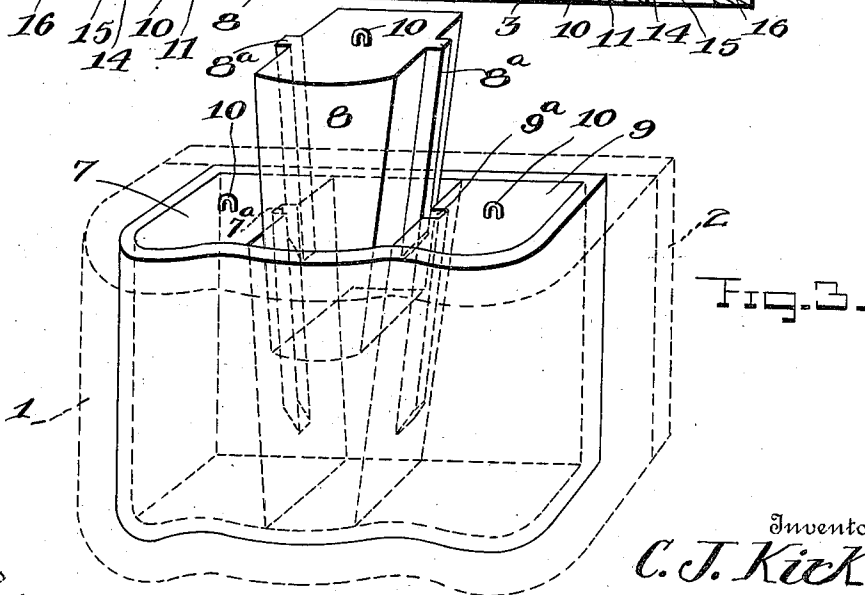
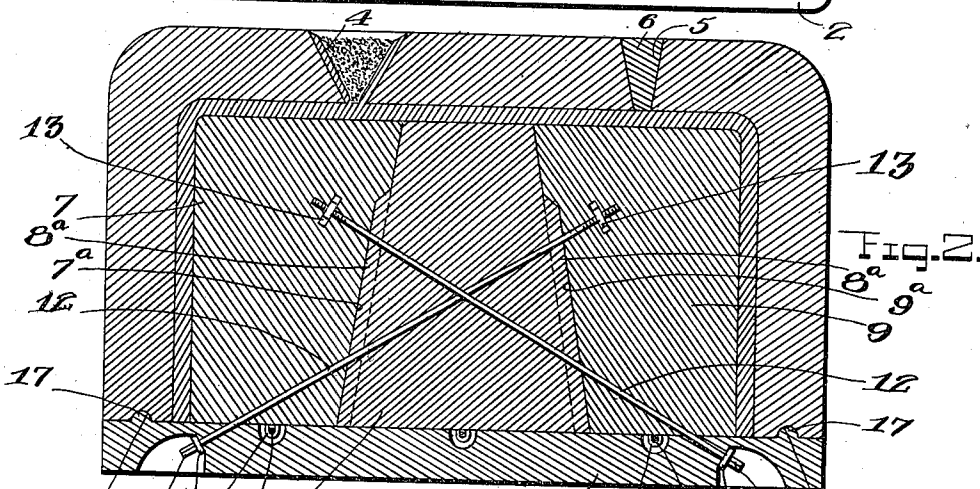
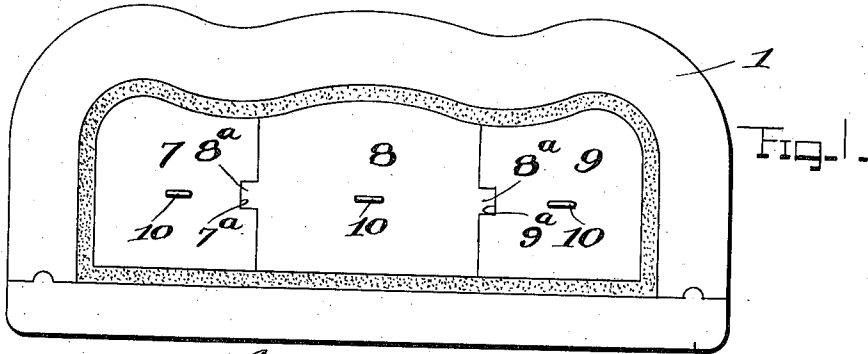


C. J. KIRK.
MOLD FOR FORMING PLASTIC ARTICLES.
APPLICATION FILED NOV. 16, 1909.

978,035.

Patented Dec. 6, 1910.



Witnesses

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MOLD FOR FORMING PLASTIC ARTICLES.

978,035.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, CHARLES J. KIRK, a citizen of the United States, residing at New Castle, in the county of Lawrence and State of Pennsylvania, have invented new and useful Improvements in Molds for Forming Plastic Articles, of which the following is a specification.

This invention relates to improvements in molds for forming plastic articles, and more particularly to a mold for forming a tank of plastic material.

The object of this invention is to provide a mold by which the front, back, sides, and bottom of a tank may be cast from plastic material in one piece by one operation.

The invention relates particularly to a means for casting one-piece earthenware tanks to be used as flushing tanks for water-closets. Tanks of this type upon the market at the present time are as a rule square in side elevation and of considerable less width in cross section, so that the same may be affixed to the walls above the water-closet and take up but little space. It has been the practice to make these tanks in two parts, that is form the bottom, front, and side walls in one piece and the back in another piece then join the two parts together, burn, apply the glaze and burn again. Where the parts of the tank are made separately, unless each separate part is of exactly the same consistency when they are joined cracking around the line of jointure is liable and generally does occur during the burning.

By the application of this invention, the amount of labor in producing the completed article is greatly reduced, it does not require a skilled workman to operate this device and as all of the walls are cast in one piece at the same time, the consistency is the same through the entire article and cracking will not occur during the burning.

While the preferred form is illustrated in the accompanying sheets of drawing, it is to be understood that minor detail changes may be made without departing from the scope of the invention.

Figure 1 is a top plan view of a molded tank before the same has been removed from the mold and shows the cores in place. Fig. 2 is a longitudinal central sectional view taken through the mold in the position occupied when casting. Fig. 3 is a

perspective view of a completed tank, showing in dotted lines the mold surrounding the exterior thereof and in full lines the three parts of the core used for forming the inner surface of the tank with the center portion partly removed.

In accordance with this invention, the tank is cast within a porous mold conforming with the general outline of the exterior of the tank with a porous core suspended therein conforming to the general outline of the interior of the tank. The outer mold conforming to the bottom, front and side walls of the tank is formed by a single member 1, to which is removably secured a portion 2 forming the outer surface of the back of the tank. A three-piece core is attached to a top block 3 resting upon and secured to the top of the mold member allowing a sufficient distance between the core and the inner sides of the mold to form the walls of the tank. The mold is then inverted as shown in Fig. 2 and the plastic material in the form of a slip is poured in through the orifice 4 provided therefor and allowed to set until the moisture in the slip is absorbed from both sides by the porous walls of the mold and core, and the walls of the tank become solid. An air vent 5 is provided in proximity to the filling orifice, which allows all of the air to escape from the mold during the filling and which is then closed by a plug 6 to prevent the slip from shrinking in that part of the mold.

The core is preferably made in three pieces 7, 8 and 9 as shown in Figs. 2 and 3 with the center core 8 in the form of a key stone, that is to say, having the end portions sloping downward toward each other, so that when the center core is withdrawn the bottom of the tank will be left intact and the side members 7 and 9 of the core may be removed separately. As it is necessary that these cores be positioned exactly in line within the tank, the center core 8 is provided with the projection 8^a on each side and the end cores 7 and 9 are provided with recesses 7^a and 9^a to receive the said projections. Each core is provided with a metallic staple 10 on the upper surface thereof, which acts as an engaging means for removing the cores and also allows the bolt 11 to be inserted through the top block and staple of each core to secure the core in its exact position. It is also necessary that the

entire core be suspended in exactly the same position during each process, in order that the walls of the tank be uniform throughout, and it is therefore necessary that the
 5 cores be rigidly secured to the removable top block. Furthermore it is necessary that the members forming the core be joined together in a compact body, so that their outer
 10 edges at the joints make a perfect connection, otherwise the slip will work in between the sides or bottoms of the members and cement them together, which would prevent the removal of the center core, or
 15 would leave a projecting ridge upon the inner side of the tank. To this end the core is secured to the top block 3 by two
 20 metal rods 12 extending from opposite ends of the top block through the adjacent core member, the middle core member and the
 25 further core member, as shown in Fig. 2. The inner ends of these rods are screw threaded and a nut 13 is rigidly fixed within
 30 the core adapted to receive the screw threaded portions of the rod. The opposite
 35 end 14 of the rod is provided with a shoulder in engagement with the top block, and also a square tool engaging extremity 15. Around the outer edges of the top block a
 40 series of studs 16 are formed which are received in corresponding recessed portions
 45 17 about the top of the tank mold, to insure the same positioning of the top block with each operation and as the three-part core is
 50 rigidly secured to the top block in the same position during each operation, the spaces
 55 formed between the core and the walls of the mold will always be the same.

What I claim is:—

1. A means for casting one-piece tanks
 40 from plastic material comprising a mold having members conforming to the exterior of the tank provided with a filling orifice in the bottom member, a top block, a separable
 45 core comprising a plurality of core members having angular adjacent faces detachably secured to the top block, and means
 50 passing through the core members to rigidly secure the core to the top block.

2. In a tank mold, members conforming
 50 to the exterior of the tank, a separable core conforming to the interior of the tank comprising core members having their adjacent
 55 sides sloping toward the bottom forming member, a top block, a rod passing through and engaging the top block and each of the

core members to position and secure the core to the top block.

3. In a tank mold, members conforming to the exterior of the tank, a top block, a separable core conforming to the interior of the
 60 tank, a projection on the top of each core member, a corresponding recess upon the top block to receive each projection, rods passing through and engaging the top block
 65 and each core member, cooperating with the projections and recesses to position and secure the core to the top block, and means for positioning the top block in the same relation during each operation.

4. In a mold for casting one-piece vitreous tanks from a slip, porous members conforming to the exterior of the tank, a porous
 70 top block, a porous three-part core conforming to the interior of the tank whereby the water is absorbed from the slip leaving a
 75 homogeneous plastic body in the mold, and means for drawing the three parts of the core together in a compact body.

5. In a mold for casting integral one-piece vitreous tanks from a slip, porous
 80 members conforming to the exterior of the tank, a porous separable core conforming to the interior of the tank whereby the water is absorbed from the slip leaving a homogeneous plastic body in the mold, and means
 85 for positioning the core, and means upon each core member to engage and to secure proper alinement with the adjacent core member and means for drawing the separable members of the core together in a
 90 compact body.

6. In a mold for casting integral one-piece vitreous tanks from a slip, porous top, bottom and side members conforming to the exterior of the tank, a porous separable core
 95 conforming to the interior of the tank whereby the water is absorbed from the slip leaving a homogeneous plastic body in the mold, said separable core comprising members having their adjacent sides sloping toward the bottom forming member, projections
 100 on the side of the core member, and recesses on the sides of the adjacent core members adapted to receive the said projections to position and aline each of the core
 105 members.

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Witnesses:

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