

(No Model.)

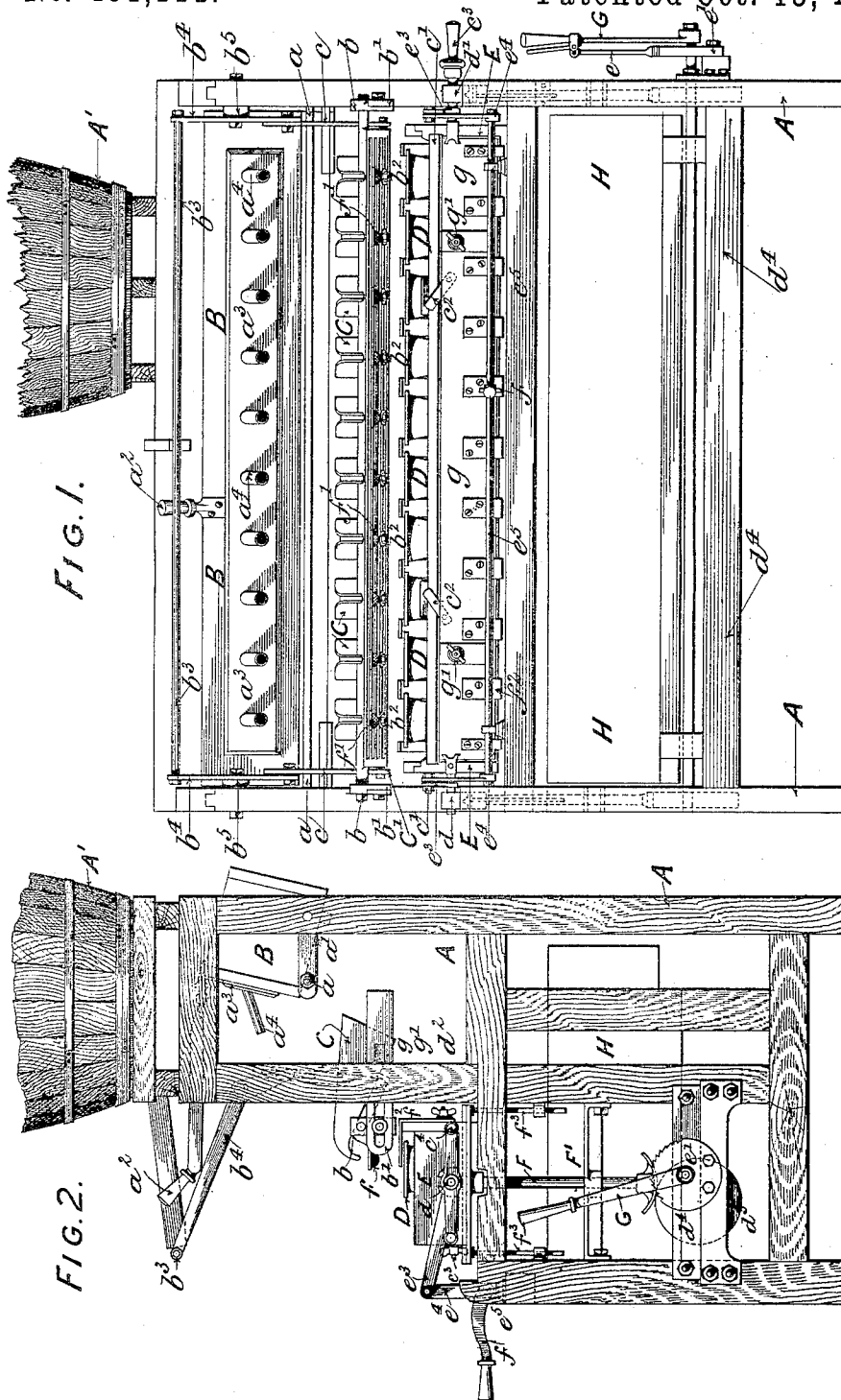
2 Sheets—Sheet 1.

D. CHAPMAN.

APPARATUS FOR FORMING ARTICLES OF POTTERY.

No. 461,111.

Patented Oct. 13, 1891.



WITNESSES.

Benjamin King
George Brooks

INVENTOR.

David Chapman,
per James Stevenson
Attorney.

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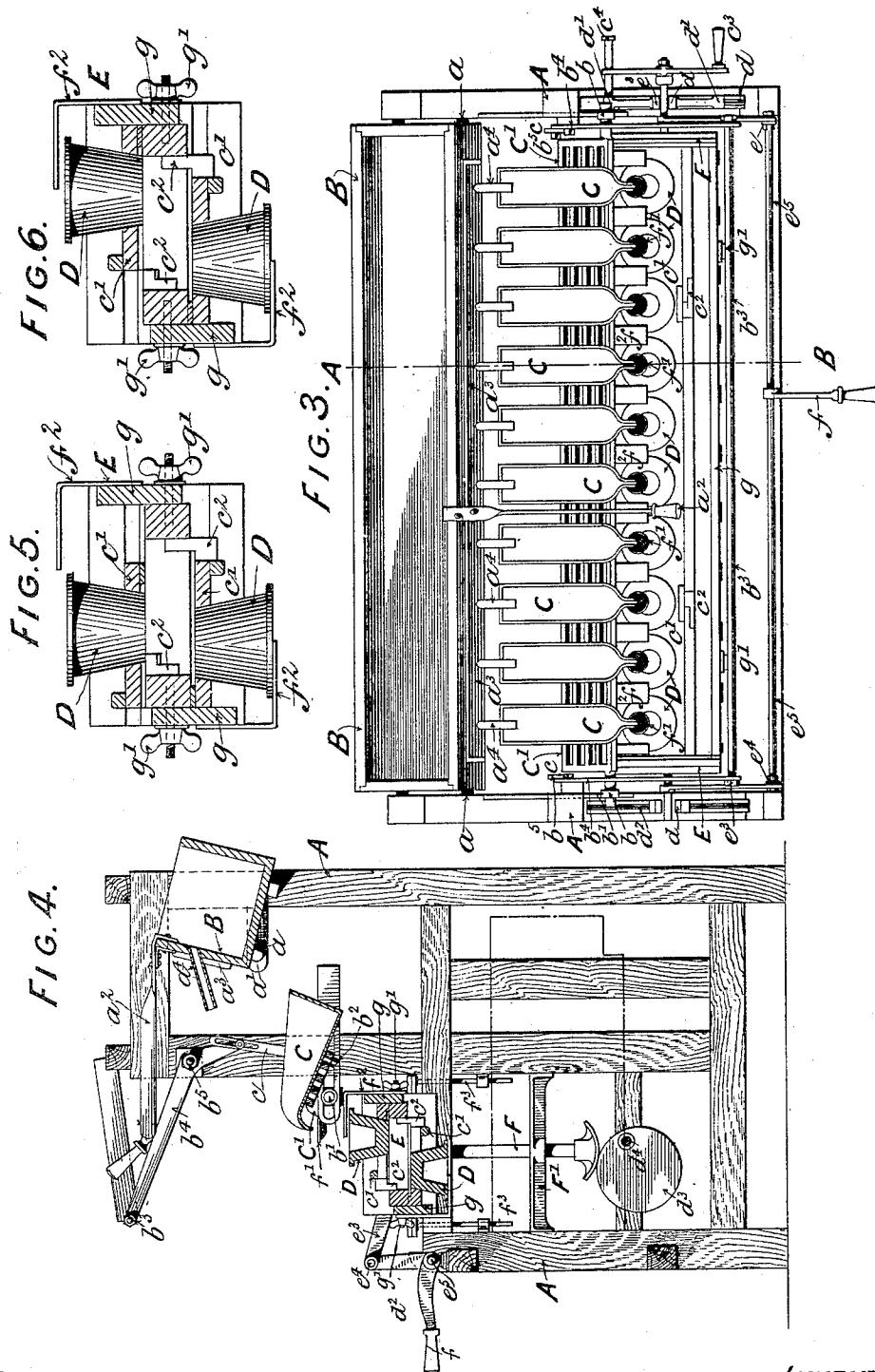
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UNITED STATES PATENT OFFICE.

DAVID CHAPMAN, OF LONGTON, ENGLAND.

APPARATUS FOR FORMING ARTICLES OF POTTERY.

SPECIFICATION forming part of Letters Patent No. 461,111, dated October 13, 1891.

Application filed September 30, 1890. Serial No. 366,683. (No model.)

To all whom it may concern:

Be it known that I, DAVID CHAPMAN, china manufacturer, a subject of the Queen of Great Britain, residing at the Atlas China Works, Longton, Staffordshire, England, have invented certain new and useful Improvements in Apparatus for Forming Articles of Pottery, of which the following is a specification.

My invention relates to the production of apparatus for casting or forming more than one article of pottery, china, or earthenware at the same time, the said apparatus being designed to allow of the performance of such operation in a speedy, efficient, and economical manner.

According to my invention an overhead supply-cistern is pivoted at the top of a supporting-frame and filled with liquid clay or "slip" from a reservoir or tank. The slip is then discharged into troughs or receptacles carried adjustably upon a pivoted grid or grating, from whence it is emptied, in the manner hereinafter described, into a number of molds disposed within a rotatable reversing tray. The apparatus is provided with the necessary handles, levers, and rods to allow of its being operated by the attendant, while certain of the parts are arranged in such a manner that they may be readily adjusted and removed to permit of the casting or forming of the articles irrespective of the size and shape of the molds employed.

In the annexed two sheets of drawings, Figures 1 and 2 represent, respectively, front and end elevations, and Fig. 3 a plan, of my improved casting apparatus. Fig. 4 is a vertical section taken along the line A B, Fig. 3. Figs. 5 and 6 are enlarged sectional views of the reversing tray, showing the mold-boards before they are removed.

A is the frame, and A' the reservoir for supplying the cistern B. To the front of the supply-cistern B, pivoted at a in the carriers a' and fitted with the operating-handle a^2 , is secured a detachable board or face-plate a^3 , in which are inserted short lengths of piping a^4 to serve as outlets for discharging the slip from the cistern B into each of the troughs C. These troughs are each secured to a grating or grid C', pivoted at the ends in bear-

ings b , movable in slotted brackets b' , bolted to the frame A, and are adjusted horizontally in any direction on the grating or grid C', so as to come directly under the discharge-outlets a^4 of the cistern B, by means of nuts or equivalents b^2 . The rear of the grating C' is raised, in order to empty the slip from all the troughs simultaneously, by lowering the horizontal rod b^3 , extending throughout the length of the frame A and connected at each end to the rear of the grating C' by a lever b^4 , pivoted at b^5 , and a rod c . Immediately below the lips or spouts of the troughs C are arranged the molds D, disposed within the mold-board c' in the reversing tray E. This reversing tray is adapted to receive two mold-boards c' and two sets of molds D. Each of the mold-boards c' is carried in grooves or between guides formed in the ends of the reversing tray. The mold-boards are retained in place by spring-catches c^2 , which are depressed when the boards c' are to be removed, as shown in Figs. 5 and 6. The reversing tray E is pivoted at its ends in bearings d , supported on the guides d^2 , secured to and forming the tops of vertical rods F, and is rotated by the handle c^3 , a loose pin c^4 being inserted in an eye in one end of the handle c^3 , this pin when engaging with either one of the sockets d' serving to retain the tray horizontal.

In order to prevent splashing and consequent waste of the slip when the molds are filling, the reversing tray is adapted to be lowered and raised, as desired. For this purpose the lower ends of the rods F are carried on the cams or eccentrics d^3 , keyed to the shaft d^4 , to which motion is imparted by a lever G, the lever being fitted with a sliding catch e , engaging by the pressure of a spring with a fixed ratchet e' , so as to retain the reversing tray E at the desired height. The horizontal guides d^2 , carrying the bearings d of the reversing tray E, are fitted with depending guide-rods f^3 , the rods F working in guides F', thus insuring true vertical movement. The bearings or pivots of the reversing tray are connected by the rods e^3 with the levers e^4 , secured at each end of the horizontal shaft e^5 . On depressing the handle or lever f of the rod or shaft e^5 the reversing tray is withdrawn from beneath the spouts

of the troughs C. All the troughs can thus be filled with an equal amount of slip in order that the molds may be charged simultaneously with the requisite quantity. During the time the troughs are filling and after the reversing tray is removed from under the outlets of the troughs the superfluous slip in any of the troughs drains into the lower cistern H without fear of it falling into those molds which have been previously filled. A sieve or strainer f' , supported by a suitable holder, is adapted to the mouth of each trough C for the purpose of straining the slip before it passes into the molds. The molds are retained in position, when the tray is reversed, by brackets f^2 , secured to the sides g of the tray, the sides g , which are formed with vertical slots or openings, being adjusted in height by means of thumb-nuts or equivalents g' to allow of the reversing tray accommodating larger or smaller molds.

The operation of working is as follows: When the troughs have been sufficiently filled with slip from the supply-cistern, the reversing tray is raised to a sufficient height to allow of the molds being filled when the rear of grating carrying the troughs containing the slip is raised. After a sufficient time has elapsed for the slip to become set the locking-pin is loosened, whereupon the tray is rotated for the first half of its revolution and again locked. The superfluous slip is then allowed to drain from the molds into the lower cistern, supported at the bottom of the frame, from whence it may be afterward drawn off and returned to the reservoir employed for supplying the overhead cistern. During the time the lower molds are draining a fresh set of molds is inserted in the opposite side of the reversing tray, the operations of filling, reversing, and draining are repeated, and the

mold-boards carrying the molds removed, after which the articles are treated and subsequently finished in the ordinary manner.

Although I have shown the apparatus fitted with ten filling-spouts, troughs, and molds, it will be obvious from the foregoing description that to suit the casting of larger or smaller articles the number and position of the molds can be readily changed by substituting fresh mold-boards, the several other parts of the apparatus being adjusted to correspond.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine or apparatus for forming articles of pottery and the like, the combination, with a pivoted supply-cistern B and detachable spout-board a^3 , with pipes a^4 , of a series of troughs C, mounted and adjustable upon a pivoted grid or grating C' , carried in movable bearings b by the slotted brackets b' , and means for actuating said cistern and troughs, substantially as set forth and shown.

2. In a machine for casting or forming articles of pottery and the like, the combination, with a reversing tray E, sides g and brackets f^2 , molds D and mold-boards c' , sliding bearings d , guides d^2 , rods e^3 , levers e^4 , and shaft e^5 , of vertical rods F, guide-rods f^3 , eccentrics d^3 , mounted on the shaft d^4 , lever G, ratchet e' , and spring-catch e , substantially as herein set forth and shown, and for the purposes specified.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 27th day of August, 1890.

DAVID CHAPMAN.

Witnesses:

GEORGE BROOKES,
JAMES STEVENSON.