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J. L. SHOUGH & R. W. LEVITT.

MANUFACTURE OF CONCRETE ARTICLES.

APPLICATION FILED AUG. 5, 1904.

Fig. 1.

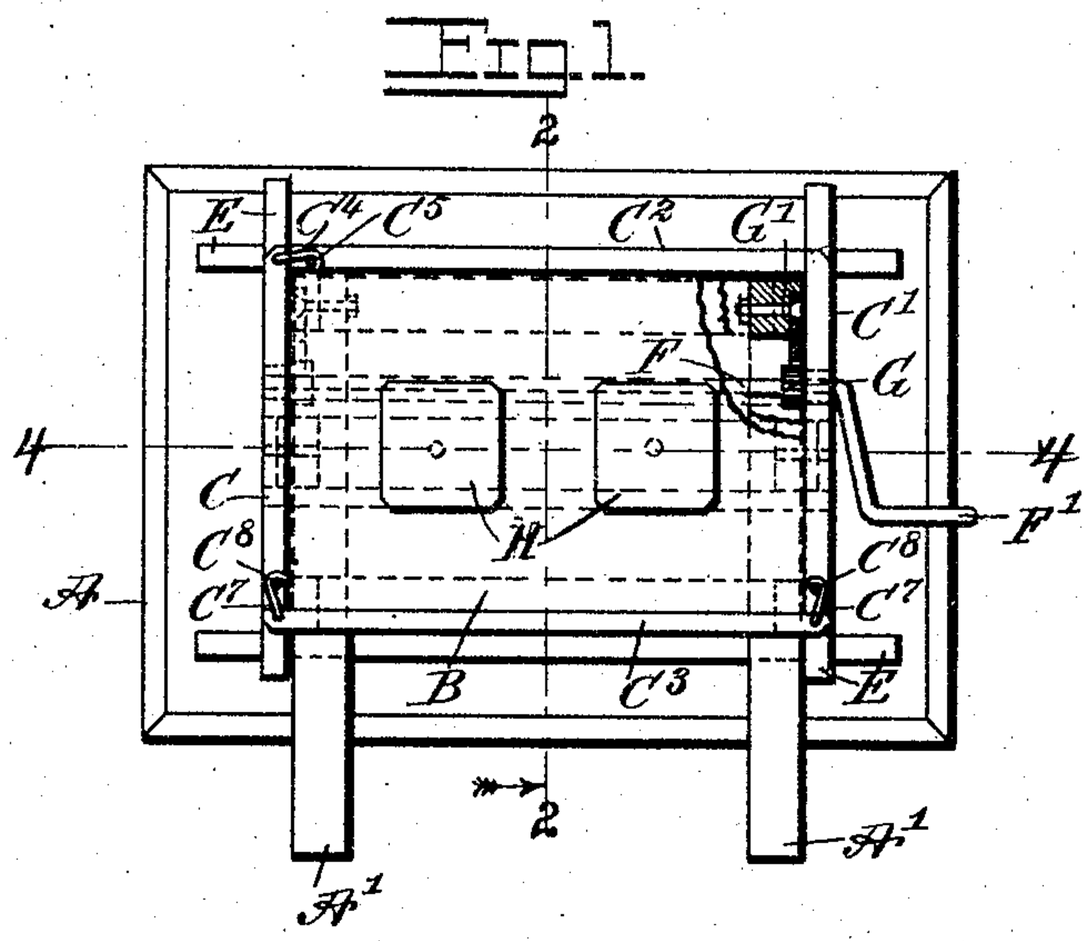


Fig. 2.

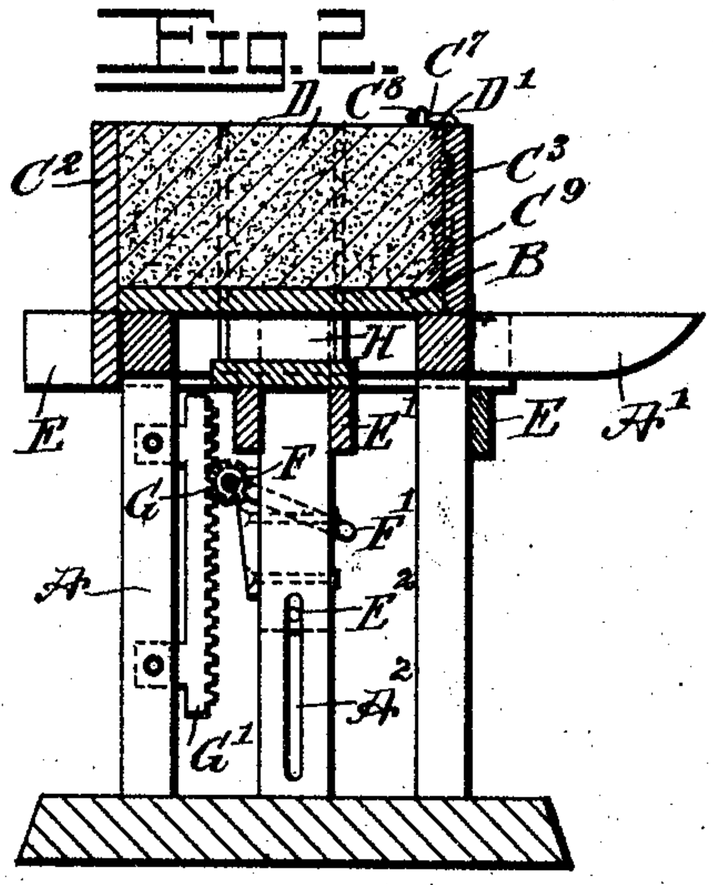


Fig. 3.

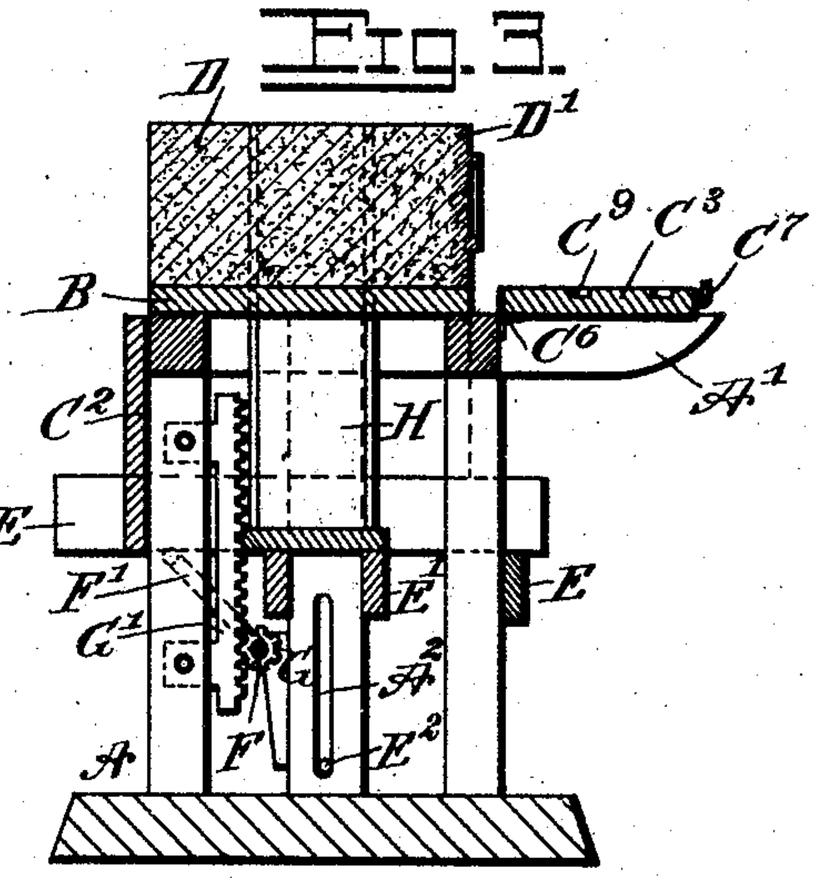
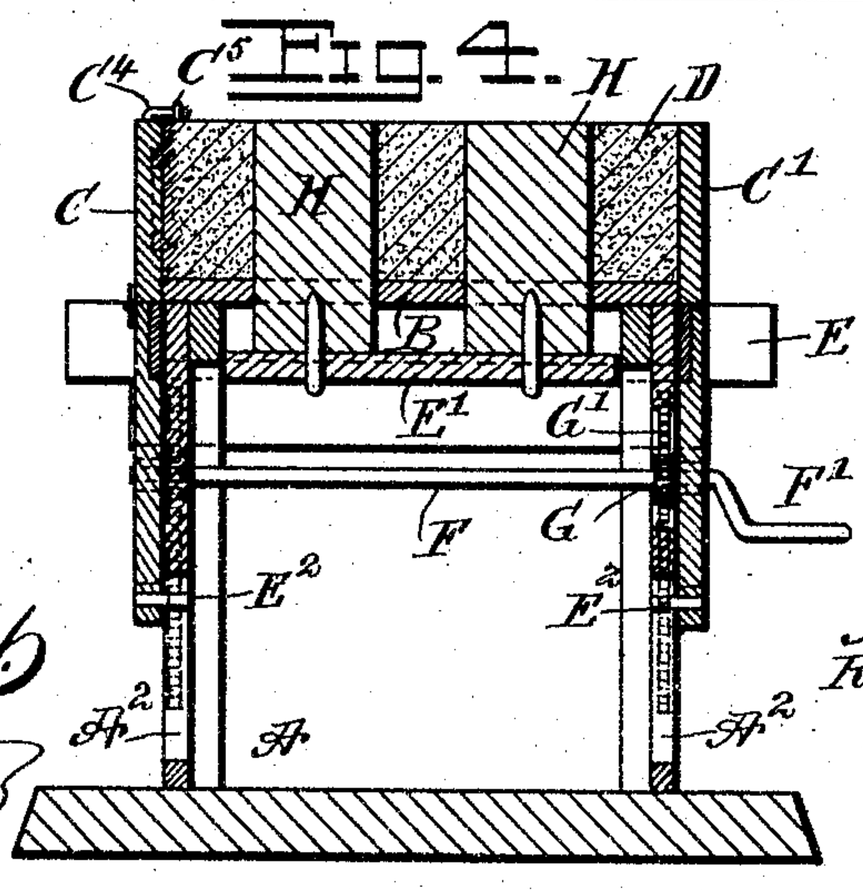


Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB L. SHOUGH AND ROBERT W. LEVITT, OF SOMERSET, OHIO.

MANUFACTURE OF CONCRETE ARTICLES.

SPECIFICATION forming part of Letters Patent No. 780,823, dated January 24, 1905.

Application filed August 5, 1904. Serial No. 219,648.

To all whom it may concern:

Be it known that we, JACOB L. SHOUGH and ROBERT W. LEVITT, citizens of the United States, and residents of Somerset, in the county of Perry and State of Ohio, have invented new and useful Improvements in the Manufacture of Concrete Articles, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in machines for molding concrete articles—such as building-blocks, caps, sills, and the like—whereby the articles are pressed accurately to the desired shape and provided with an ornamental face.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view, partly in section, of the improved molding-machine. Fig. 2 is a cross-section of the same on the line 2 2 of Fig. 1. Fig. 3 is a similar view of the same, showing parts in a different position; and Fig. 4 is a longitudinal sectional elevation of the improvement on the line 4 4 of Fig. 1.

On the top of a suitably-constructed stand A is removably supported a false bottom B for the mold, having ends C C′, a rear side C^2, and a front C^3, which when closed form a box-like structure open at the top for receiving the concrete or other plastic material for forming the body D and its facing D′ of the article to be manufactured, as hereinafter more fully described.

The mold ends C C′ and the rear mold side C^2 are held on a mold-support E, mounted to slide up and down on suitable guideways arranged on the stand A, and in the said support E is journaled a longitudinally-extending shaft F, carrying at one end a crank-arm F′ under the control of the operator for imparting a rotary motion to the said shaft F. On the latter are secured pinions G, in mesh with racks G′, fixed on the stand A, so that when the shaft F is rotated, and with it the pinions G, then the said pinions in rolling off on the racks G′ cause an up or down sliding of the support E, the mold ends C C′, and the rear mold side C^2 to bring the said mold parts either into an uppermost position, as shown in Figs. 2 and 4, for receiving the material or to bring the said parts into a lowermost position, as illustrated in Fig. 3, to allow of carrying off the false bottom B with the finished article resting thereon.

The mold end C is preferably hinged on the support E, while the mold end C′ and the rear mold side C^2 are rigidly secured on the said support. The mold end C is hinged to the support at its lower end, and the top is adapted to be connected by a hook C^4 with a pin C^5, secured on the rear mold side C^2, as plainly indicated in Figs. 1 and 4. The front C^3 of the mold is connected at its lower end by hinges C^6 with the stand A, and the said front C^3 when swung downward into a horizontal position rests on projecting brackets A′, forming part of the stand A. (See Fig. 3.) The front C^3 when swung up into a vertical position to complete the mold is secured in position to the mold ends C C′ by hooks C^7, held on the top of the front C^3 and engaging pins C^8 on the top of the mold ends C and C′. The inner face of the front C^3 is formed with a predetermined design C^9 in relief or intaglio, according to the ornamentation to be given to the front face of the article to be molded. For corner articles it is desirable to provide the inner face of the end C with a similar design C^9; but for ordinary articles such design is omitted and the inner face of the end C is left perfectly smooth.

The mold-support E is provided with a longitudinally-extending rest E′ for supporting one or more cores H, adapted to pass through corresponding apertures in the false bottom B, it being understood that such cores are only used in connection with an apertured false bottom B whenever it is desired to make cored articles; but for solid articles the cores H are dispensed with and the false bottom B is without core-apertures.

In order to guide the mold-support E in its

up-and-down movement, it is preferably provided with pins E^2, engaging elongated guideways A^2, formed on the stand A, as plainly shown in Figs. 2, 3, and 4.

The operation is as follows: When the mold-support E is in an uppermost position and the front C^3 is swung into a horizontal position, then a layer of concrete is placed on the inner face of the side C^3, and this layer of concrete is preferably colored, and then the front C^3 is swung into an uppermost position and locked to the ends C and C′ by the hooks C^7 and pins C^8. The concrete material in plastic condition for forming the body D of the article is now placed into the mold and tamped therein, so that the body D is homogeneously united with the plastic layer for forming the face D′ of the article. When this has been done, the front C^3 is swung downward back into an open position and the support E is lowered, to carry the upper edges of the ends C C′ and the rear side C^2 below the false bottom B to allow the operator to conveniently carry off the false bottom B, and with it the article resting thereon.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A molding-machine for forming concrete articles, comprising a stand, a removable false bottom on the stand, a mold-front hinged on the stand, and a vertically-movable mold-support carrying the mold ends and the rear side.

2. A molding-machine for forming concrete articles, comprising a mold-support mounted to move up and down and carrying the mold ends and the rear side of the mold, a separate mold-front independent of the said mold ends and rear side, and a false bottom for the mold, independent of the said mold-support, mold-front, the mold ends and rear side of the mold.

3. A molding-machine for forming concrete articles, comprising a mold-support mounted to move up and down and carrying the mold ends and the rear side of the mold, a separate mold-front independent of the said mold ends and rear side, a false bottom for the mold, independent of the said mold-support, mold-front, the mold ends and rear side of the mold, and a core moving with the said mold-support.

4. A molding-machine for forming concrete articles, comprising a mold-support mounted to move up and down and carrying the mold ends and the rear side of the mold, a separate mold-front independent of the said mold ends and rear side, a false bottom for the mold, independent of the said mold-support, mold-front, the mold ends and rear side of the mold, a core moving with the said mold-support, a fixed rack, a gear-wheel journaled on the said mold-support and in mesh with the fixed rack, and manually-controlled means for turning the said gear-wheel.

5. A molding-machine for forming concrete articles, comprising a stand, a mold-support mounted to move up and down, one of the mold-walls being hinged on the stand, and the remaining mold-walls being carried by the mold-support, and means for raising and lowering the mold-support.

6. A molding-machine for forming concrete articles, comprising a stand, a removable false bottom on the stand, a mold front wall hinged on the stand and adapted to be swung downward into a horizontal position, a support for said front wall when in the horizontal position, a mold-support mounted to move up and down and carrying the remaining mold-walls, fixed racks on the said stand, a shaft mounted to turn in the mold-support and provided with pinions in mesh with the racks on the said stand, and means for guiding the mold-support in its up-and-down movement.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JACOB L. SHOUGH.
ROBERT W. LEVITT.

Witnesses:
J. H. YARNELL,
CHAS. W. COOKSON.