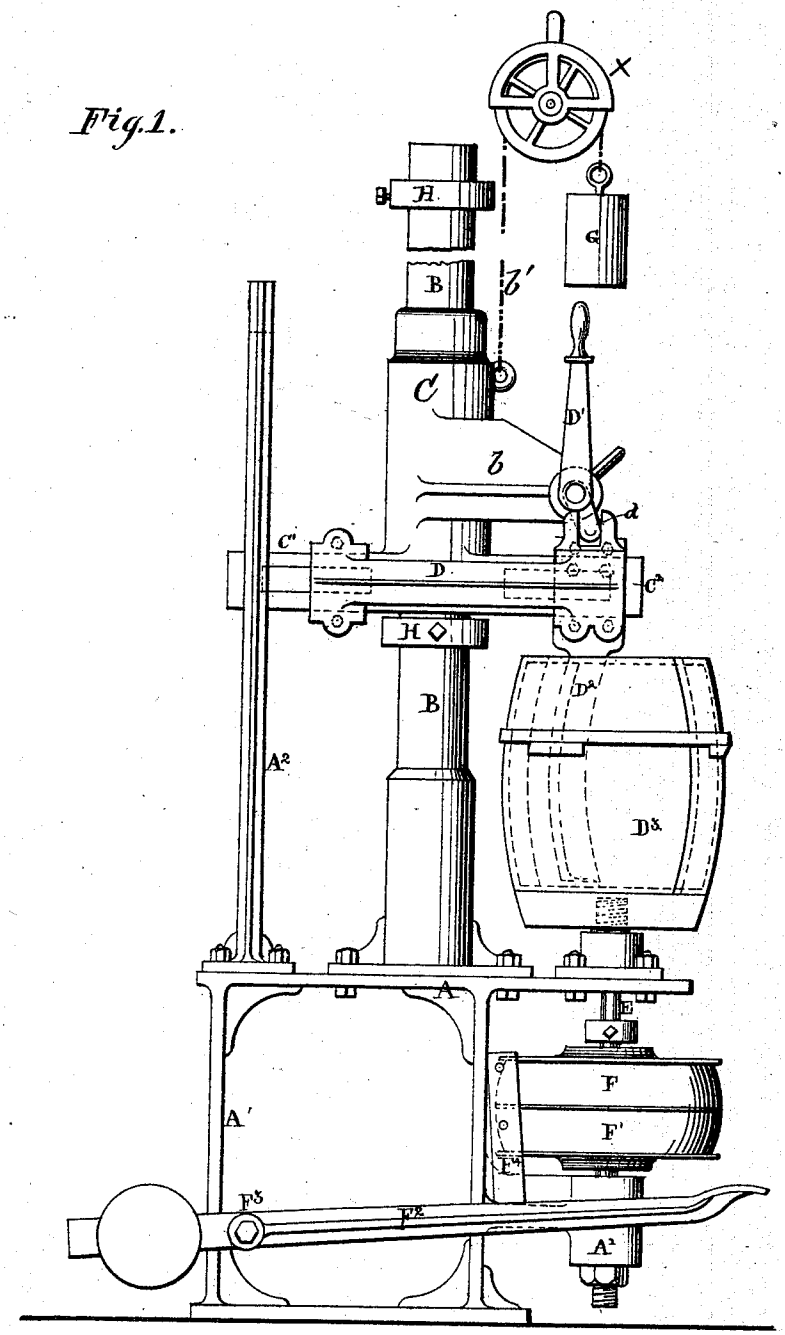
3 Sheets--Sheet 1.

P. WILKES.

Apparatus for Molding Crucibles.

No. 146,220. Patented Jan. 6, 1874.

Fig. 1.



Witnesses,

Joseph Smalley

John Williams

Inventor,

Peter Wilkes.

3 Sheets--Sheet 2.

P. WILKES.

Apparatus for Molding Crucibles.

No. 146,220. Patented Jan. 6, 1874.

Fig. 2.

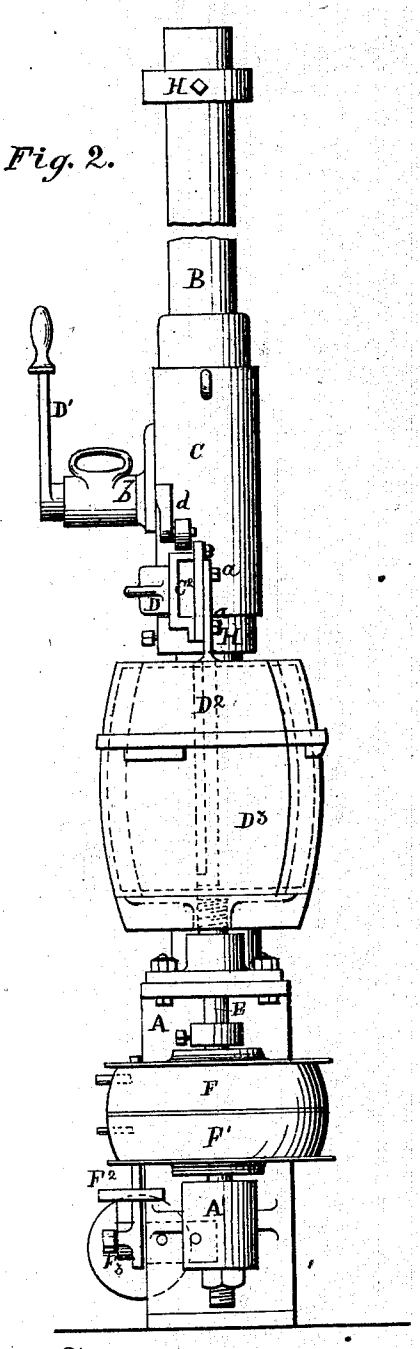
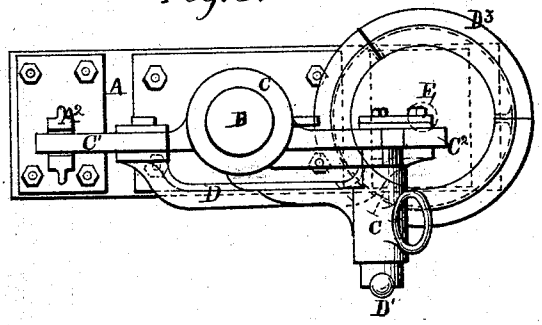


Fig. 3.



Witnesses,

Joseph Smalley

John Williams

Inventor.

Peter Wilkes

3 Sheets--Sheet 3.

P. WILKES.

Apparatus for Molding Crucibles.

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Fig. 1.

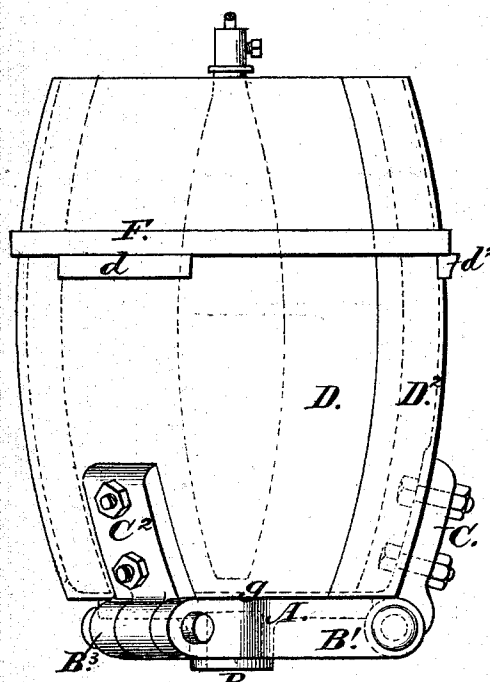


Fig. 5.

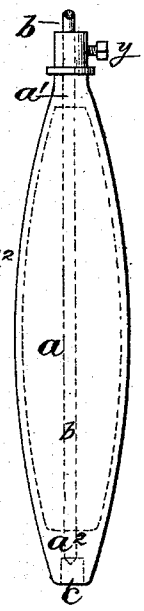


Fig. 2.

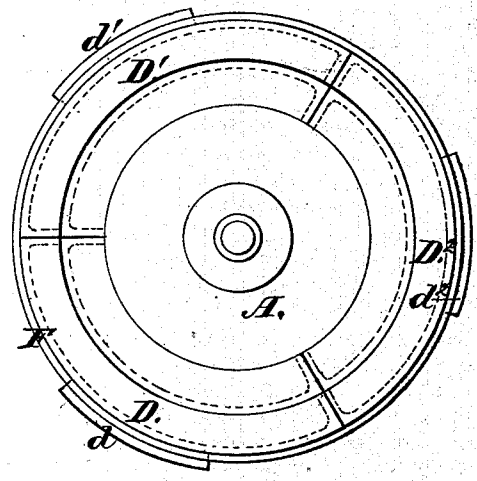


Fig. 3.

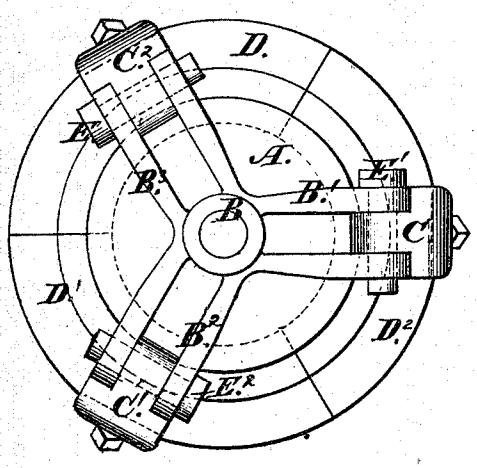
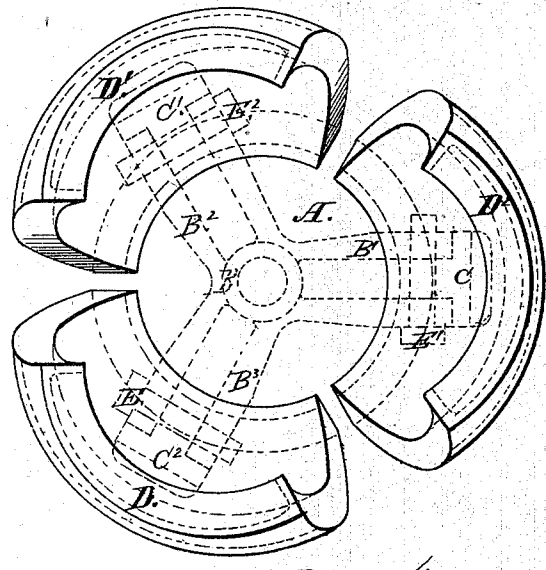


Fig. 4.



Witnesses.
Joseph Schnalley.
John Williams.

Inventor.
Peter Wilkes.

UNITED STATES PATENT OFFICE.

PETER WILKES, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN APPARATUS FOR MOLDING CRUCIBLES.

Specification forming part of Letters Patent No. **146,220**, dated January 6, 1874; application filed May 3, 1873.

To all whom it may concern:

Be it known that I, PETER WILKES, of the city of Trenton, county of Mercer, State of New Jersey, have invented certain new and useful Improvement in Power Jiggers for the Formation of Crucibles or other vessels, of which the following is a specification:

My invention relates to machinery for the manufacture of crucibles and other like vessels; and consists in the construction and arrangement of the parts of the machine, as hereinafter more fully set forth.

To enable those skilled to fully understand the construction and operation of my improvements, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1, Sheet 1, is a side elevation of a machine embracing my improvements; Fig. 2, Sheet 2, a front elevation; Fig. 3, Sheet 2, a plan view; Fig. 1, Sheet 3, an elevation of the mold; Fig. 2, Sheet 3, a top view of mold; Fig. 3, Sheet 3, a bottom view of mold; Fig. 4, Sheet 3, a plan view of the mold partially opened; and Fig. 5, Sheet 3, an elevation of the revolving former or profile.

Similar letters represent the same parts in Figs. 1, 2, and 3, Sheets 1 and 2; and similar letters likewise represent like parts in Figs. 1, 2, 3, 4, and 5, on Sheet 3.

In Sheets 1 and 2, A represents the base of the frame, to which is firmly bolted an upright column, B, adapted to receive the cylindrical sleeve C, said sleeve having cast therewith, at or near its lower extremity, ways or guides C^1 C^2, which sustain and regulate the movements of the cross-head D, to which is attached, in any convenient manner, the "former" or profile D^2, which is capable of vertical adjustment, with reference to the cross-head, by means of stops and set-screws *a a* and horizontal or backward and forward movement, through the medium of the crank-lever D^1 and pin *d*, the former having its bearing in a bracket, *b*, projecting from the sleeve C. The sleeve C is counterbalanced by the weight G, which is connected by a cord, *b'*, traveling over a pulley, *x*, (having a universal movement,) and secured to the sleeve C, so that the profile D^2, sleeve C, and cross-head D may be adjusted vertically with reference to the crucible-former D^3. Behind the column B is firmly erected, upon the base-plate A, a vertical bifurcated bar, A^2, which receives the rear arm C^1 of the sleeve, permitting it to move up and down freely, and, at the same time, preventing the sleeve from rotating upon the column. One leg of the bifurcated bar is somewhat shorter than the other, to permit the escape of the arm *c'* when raised to the proper height, so that the sleeve may be turned round upon the column when it is desired to move the profile out of the way of the former to take away the finished vessel. Collars H H are arranged upon the column B (adjustably) to regulate the distance the sleeve C shall move up and down, which determines the thickness of the bottom of the vessel being formed, and also prevents the escape of the arm *c'* from the bifurcated bar A^2. F^2 is a foot-lever, pivoted to the base of the frame at F^3, and weighted at its rear end, and provided at its forward end with a suitable belt-shifting arm, F^4. F and F^1 are a tight and loose pulley arranged upon the driving-shaft E, which has its lower bearing in a bracket, A^1, its upper end passing through a suitable bearing in the plate A, and terminating in a screw adapted to receive (and reference is now made to letters on Sheet 3 of the drawing) the hub B of the face-plate A of the mold. B^1 B^2 B^3 are jaws, cast on the face-plate or head A, adapted to receive the lugs C C^1 C^2, cast with or secured to the sections D D^1 D^2 of the mold. These lugs and jaws are secured together by means of pintle-pins E E^1 E^2, thus forming hinges which enable the sections of the mold to be swung or dropped down. They are held in the proper position for use, as seen at Fig. 1, Sheet 3, by a ring or collar, F, which is sustained by lugs *d* d^1 d^2. A loose plate or disk, *g*, is arranged on the bottom of the former, so that when the vessel is finished, the profile lifted and turned out of the way, and the sections of the former dropped or swung down, it may be lifted upon the said plate *g* and carried to the drying-room. *a* a^1 a^2, Fig. 5, is the body of the former, and *b* is a spindle or shaft which is adjustably secured to the cross-head D, and run-

ning down into a steel step or bearing, *c*, at or near the bottom of the former, the latter being secured to the shaft *b* by means of a screw, *y*, so that it may be taken off and a new one substituted.

The clay or other material being first placed within the former, the operation is obvious.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the revolving profile with the cross-head D, crank lever and pin D^1 *d*, sleeve C, bifurcated bar A^2, and weighted balance G with the column B, either with or without the collars H, substantially as and for the purpose set forth.

2. In combination with the revolving profile D^2, adapted to vertical adjustment, the sectional former D^3, so constructed and operating that its sides or sections may be swung below the base or bottom plate thereof, substantially as and for the purpose set forth.

3. The former D^3, composed of sections secured to the base by hinge-joints, and adapted to be swung down below the base, as and for the purpose specified.

PETER WILKES.

Witnesses:
JOSEPH SMALLEY,
JOHN WILLIAMS.