

J. Akrell,
Crucible Mold.

N^o 9,351.

Patented Oct. 26, 1852.

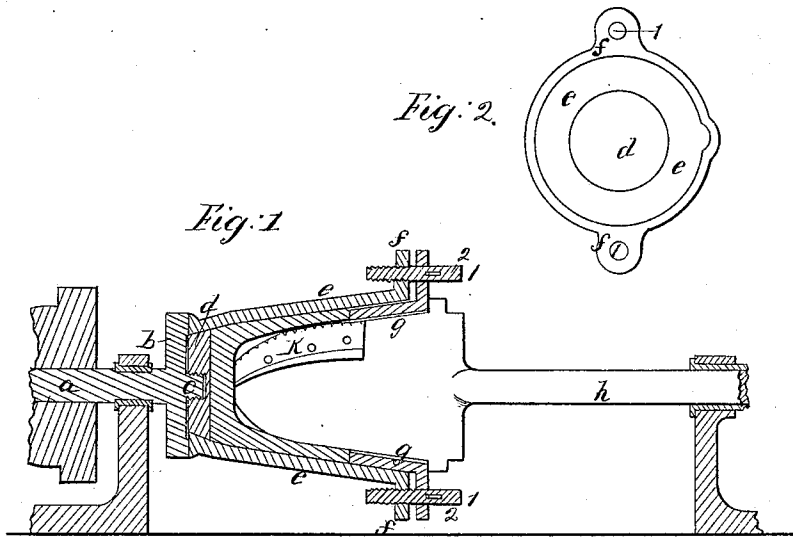


Fig. 3.

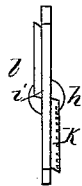
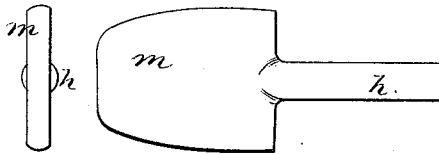


Fig. 4.



Witnesses,
Samuel W. Sessell,
Charles Tinsellant

Inventor,
John Akrell

UNITED STATES PATENT OFFICE.

JOHN AKRILL, OF WILLIAMSBURG, NEW YORK.

MODE OF FORMING CRUCIBLES AND OTHER ARTICLES OF EARTHENWARE.

Specification of Letters Patent No. 9,351, dated October 26, 1852.

To all whom it may concern:

Be it known that I, JOHN AKRILL, of Williamsburg, Kings county, State of New York, manufacturer of clay goods, have invented, made, and applied to use certain new and useful Improvements in Machinery for Making Crucibles of Clay, Plumbago, or Similar Material; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a section of the mold and former; Fig. 2, is an end elevation of the mold; Fig. 3, is an elevation of the end of the former, or cutter and Fig. 4, is a similar view of the polisher to polish the interior of the crucible.

The like marks of reference denote the same parts.

a, represents one end of a mandrel, supported in any usual manner to which a rotary motion is to be given by proper power; *b*, is a face chuck and *c*, is the screw nose of the mandrel; *d* is a circular and tapering plug of the size of the bottom of the crucible, which fits into the conical shaped chamber *e*. It will be now seen that the screw *e*, taking the plug *d*, draws the plug *d*, and chamber *e*, tight up against the chuck *b*. The chamber *e*, determines the exterior shape of the crucible, and has a curvature in one side see Fig. 2, which allows the material of which the crucible is made to project so that after the crucible is otherwise finished a chase or groove may be cut in the inside of the edge to form a pouring lip.

f, are two flanches or ears on opposite sides of the mold *e*, having screw pins 1 and wedges 2, in them which receive and retain the cylinder *g*, by corresponding ears to the ears *f*. This cylinder *g*, forms the top of the crucible, and by screwing the pins 1, in or out a shorter or longer crucible will be formed. These parts so far as described are old, and form no part of my claim, but with this apparatus a rammer or plug was used which after a certain quantity of clay was put into the mold was brought down by power, pressing up the clay around its sides, this required great power, and the clay required to be very plastic.

In my improved plan the mold *e*, is filled with clay of a hard though somewhat plastic consistence and a knife *i*, Figs. 1, and 3, is

brought up so that the rotary motion given to the mold *e*, causes the knife to cut away or remove the clay from the mold to form the inside of the crucible. This knife *i*, is here represented as on the mandrel *h*, of the poppet head of a lathe, and the knife is formed as two cutters *k* and *l*, on opposite sides of the part *i*, and one knife may have serrated edges as shown. The small projections on each side of the stock *i*, of the cutters, taking the outer end of the cylinder *g*, determine the depth to which the cutter is to be made to operate, and these lugs may be made adjustable so as to cut any required depth.

After the surplus material is removed the interior of the crucible is to be polished by a burnisher *m*, Fig. 4, of the shape of the interior of the crucible the edges being rounded so as to compress the material into the mold and smooth and polish the inner surface. This burnisher may be sustained on the mandrel of the poppet head the same as the cutter *i*.

The crucible is to be removed, after the mold *e*, has been removed from the chuck *b*, by shoving up the bottom *d*, after the cylinder *g* is also removed as now practised.

I am aware as before stated that the mold *e*, has been used, and I am also aware that pottery ware has been turned in a lathe, but I am not aware of a tool formed as herein shown of the shape of the interior of the crucibles having been made and used to remove the surplus clay while in a partially plastic state, the mold *e*, forming the outside of the crucible, and supporting the clay.

I do not limit myself to rotating the mold as the cutter and burnisher may be rotated, neither do I limit myself to any particular character of earthy and plastic material of which the crucible is to be formed.

What I desire to secure by Letters Patent is—

The cutters *k* and *l*, on the stock *i*, in combination with the mold *e*, to either or both of which a rotary motion is given, so as to remove the surplus material and shape the crucible as described and shown.

In witness whereof I have hereunto set my signature this twenty fifth day of June one thousand eight hundred and fifty two.

JOHN AKRILL.

Witnesses:

LEMUEL W. TERRELL,
CHARLES TENCELTENT.