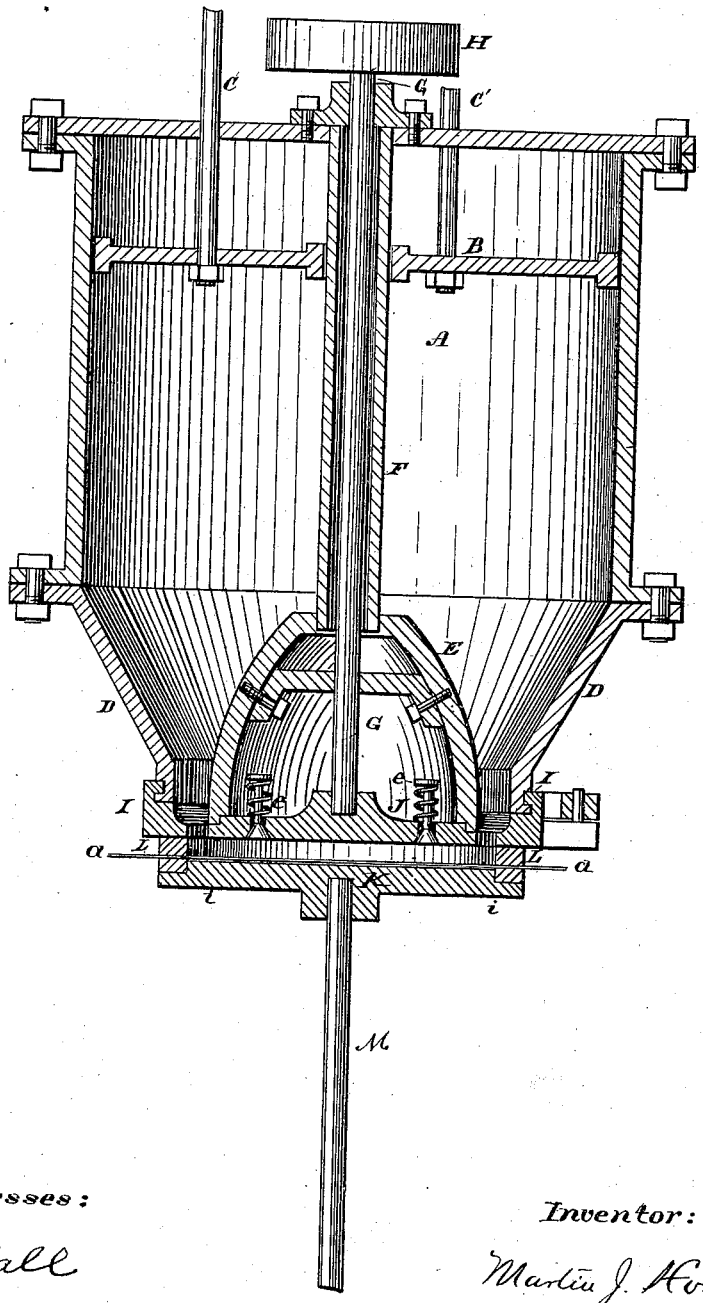
M. J. HOUSEL.

Manufacture of Earthenware Vessels.

No. 197,853. Patented Dec. 4, 1877.



Witnesses:

J. J. Hall

J. V. Welsh

Inventor:

Martin J. Housel

by Humphrey & Stuart

His Attys.

UNITED STATES PATENT OFFICE.

MARTIN J. HOUSEL, OF AKRON, OHIO, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO HILL SEWER PIPE COMPANY, OF SAME PLACE.

IMPROVEMENT IN MANUFACTURE OF EARTHENWARE VESSELS.

Specification forming part of Letters Patent No. **197,853**, dated December 4, 1877; application filed September 12, 1877.

To all whom it may concern:

Be it known that I, MARTIN J. HOUSEL, of Akron, in the county of Summit, and State of Ohio, have invented an Improvement in the Manufacture of Earthenware Vessels, of which the following is a specification:

My invention relates to the art of making crocks and other earthenware vessels with straight sides, by forcing the material of which they are made from a press, through an annular orifice in a continuous tube to form the body, which is cut off into suitable sections for crocks; and its object is to attach a bottom to each section of tube just prior to its issue from the press, so as to form, when cut off, a complete crock.

I accomplish this by using a press not differing materially from ordinary sewer-pipe presses, and by placing upon the mandrel which forms the bore of the pipe a disk concentric with, and forming the base of, the mandrel, which disk is arranged to be rotated rapidly, and a lower circular plate with a raised edge, supported by a rod, by which it may be raised against and caused to close the annular orifice at its point of discharge, upon which plate is placed a portion of clay, which is, by the revolving disk, spread into a suitable layer to form a crock-bottom, and unites at its edges with the descending tube of clay.

My invention will be readily understood by reference to the accompanying drawing, which represents, in vertical central section, a press with my improvements, and of which, as all parts are circular, it has been deemed unnecessary to give other views.

A is the clay-cylinder, within which is the piston B, moved by the piston-rods C C′.

D is the lower cylinder-head, upon the lower part of which is a ring, I, severed in half, and hinged, so as to be opened at will, and which forms the outside of the annular orifice of discharge.

E is the mandrel, over which the clay is pressed, suspended by a shaft, F.

This shaft F is hollow, and within it is a smaller shaft, G, suitably journaled, to the upper end of which is attached a pulley, H, and to its lower end a disk, J, which forms the base of the mandrel E. The base of the shaft F is sufficiently large to permit air to pass downward, around the shaft G, to the interior of the mandrel E.

Below the point of discharge, and concentric with it, is a circular plate, K, with a raised rim, L, which fits in a suitable seat in the plate, but is free to be revolved upon it. A fine wire, *d*, is stretched between the sides of the rim L, close to the face of the plate K. The plate K is attached to a rod, M, by which it may be raised to and lowered from the press.

In operation, the cylinder being charged with clay, the disk J is rapidly revolved by means of the pulley H. The plate K, bearing a mass of clay sufficient to form a crock-bottom, is then raised to and locked against the ring I, completely closing the orifice of discharge of the cylinder, and at the same time the disk J spreads the clay evenly over the plate inside of the rim L. The clay is then forced down over the mandrel until its descending edge encounters the layer of clay on the plate K, with which, by the united effects of pressure and the revolving disk J, it firmly unites. A number of small orifices, *i*, in the plate K indicate, by the issue of clay through them, when the union between the body and bottom of the crock is complete.

The rim L is then revolved sufficiently to cause the wire *a* to sever the clay from the plate K, which is then lowered, a flat board placed thereon for the crock to rest upon, and it is again raised against the crock-bottom, to form a support therefor as the crock descends from the press.

Downward-opening air-valves *e* are placed in the disk J, to permit it readily to separate from the inside of the crock-bottom.

Pressure is again applied to the clay, and the crock run out to the desired length.

The rim I, which is rapidly enlarged within, above the point of discharge, as shown, to form a rim for the crock, is then opened, and the tube of clay cut off at the base of the head D, thus leaving a complete crock, which is then removed, and the process repeated.

I claim as my invention—

1. In a press for making the bodies of earthenware vessels, by forcing the material through an annular orifice, a loose disk upon

the bottom of the mandrel which forms the bore of the vessel, adapted to be rotated, in combination with an independent plate, adapted to be raised against the point of discharge of the press, substantially as and for the purpose hereinbefore set forth.

2. In combination with the cylinder A, head B, and mandrel E, the disk J, shaft G, and plate K, all arranged and operating substantially as and for the purpose hereinbefore set forth.

3. In combination with the mandrel E and plate J, the downward-opening valve *e*, for the purpose specified.

4. In combination with the plate K, the ring L and wire *a*, arranged and operating, substantially as and for the purpose hereinbefore set forth.

MARTIN J. HOUSEL.

Witnesses:
C. P. HUMPHREY,
J. A. RUTHERFORD.