

(No Model.)

W. H. ROOK, Jr.
CROCK PRESS.

No. 586,291.

Patented July 13, 1897.

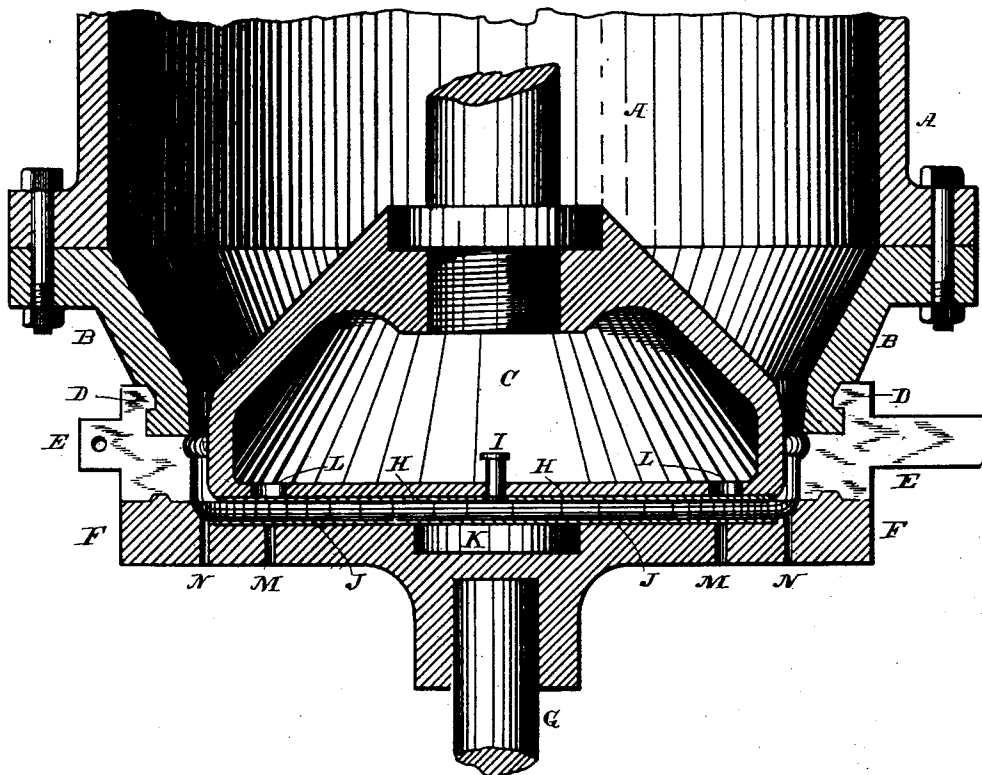


Fig. 1.

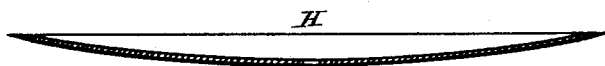


Fig. 2.

Witnesses:

John N. Thomas.
H. F. Fouse

Inventor:

William H. Rook Jr.
by Humphrey Humphrey
Attys:

UNITED STATES PATENT OFFICE.

WILLIAM H. ROOK, JR., OF SUMMIT, OHIO, ASSIGNOR TO TAPLIN, RICE & CO., OF AKRON, OHIO.

CROCK-PRESS.

SPECIFICATION forming part of Letters Patent No. 586,291, dated July 13, 1897.

Application filed December 21, 1896. Serial No. 616,455. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ROOK, JR., a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Crock-Presses, of which the following is a specification.

My invention relates generally to presses wherein the body of the crock is formed by forcing the clay while in a plastic state through an annular orifice; and it has especial relation to that class of crock-presses in which the tube of clay which is to constitute the body of the crock encounters at the point of issuance a plate of clay supported by a suitable platen to form a bottom for the vessel and with which plate of clay it forms a union by pressure.

In operation some difficulty is found in always securing a firm joint between the body and the bottom and also in causing the bottom to separate from the bottom of the mandrel that forms the hollow of the crock-body and from the platen that carries it to the
25 point of union.

The objects of my invention are to secure a more perfect union between the body and the bottom and to provide means for causing a free separation of the crock-bottom from
30 the end of the mandrel and from the platen that carries it.

To the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described, and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which
40 similar letters of reference indicate like parts in both views, Figure 1 is a central vertical section of the lower end or die of a crock-press illustrating my invention, and Fig. 2 a view of the concavo-convex plate hereinafter referred to.

Referring to the drawings, A is the cylinder of a sewer-pipe or crock-forming press, in which the plastic clay is placed to be forced down by a piston, (not shown,) and B is the
50 head, constituting the tapering discharge, the

smaller end being of proper diameter to form the outside of the crock-body, and inside of the latter is suspended the mandrel C to form the interior of said crock-body.

About the outside of the smaller end of the head B is a groove in which fits a flange D, that projects from the inside of each half of a severed ring E, that has an internal configuration to form the crock-rim and the outside of the crock-body. Below this ring E is
55 a platen F, mounted on a shaft G in alignment with the axis of the press and adapted to be raised to and lowered from the severed ring E, and by means of an annular tongue and groove to be held firmly from lateral displacement, and in operation is provided with a locking device to retain it firmly against
60 the ring while the body is being united with the bottom, but as these locking devices are located centrally at the front and back of the apparatus and as they are common devices
70 well known to persons skilled in the art it is not feasible to show them nor regarded as essential to a correct understanding of the invention.

On the under face of the mandrel C is a thin metallic plate H, that accurately fits said face and has its edges rounded or otherwise formed so as to present a smooth joint therewith. This plate is concavo-convex and is
80 placed with its concave side toward the mandrel and is held by a sliding bolt I, that permits it, when not forced upward, to maintain its normal shape, with its edges touching the end of the mandrel.

The platen F has a shallow recess in which fits a free metallic plate J, also conforming with the platen, to form a mold for the crock-bottom. To adjust this plate J accurately in place and to retain it when so adjusted, I
85 employ a circular block K, centrally fastened to the plate and adapted to enter a corresponding recess in the platen F.

In the bottom of the mandrel are a series of holes L, and in the platen F two series of
90 holes M N, each series preferably in a circle equidistant from the center of the part through which they pass and each series for a distinct purpose to be stated.

In operation a sheet of plastic clay is placed
100

in the platen F and the platen raised and locked against the severed ring E, which has been already locked in place. The clay-tube in the dies being forced down encounters the sheet of clay in the platen, and the pressure being continued, part of the clay in the sheet escapes through the holes N, being forced out, and its place supplied by clay from the tube in the press, thereby closely commingling the two and practically fastening them at intervals like dowel-pins. The platen is then unlocked by a partial rotation which shears the clay in the holes N from the crock, leaving the bottom smooth at that line and the platen lowered, the plate J adhering to the crock-bottom, their parting being permitted by the entrance of air through the holes M. A follow-board is then placed on the platen and raised against the crock-bottom, which board should be provided with a hole to permit the entrance of the block K unless the plate J be removed just before the last operation. Pressure being again applied in the cylinder A the crock-body issues from the press, the platen carrying the bottom descending with it. As it commences to descend the plate H springs downward with it, resiliency thereby pushing the central part of the crock-bottom with it until suddenly arrested by the bolt I with a shock or jar that causes it to separate from the plastic crock-bottom, air entering between the plate H and the bottom of the mandrel through the holes L to avoid a vacuum between these parts. The pressure is continued until the desired length of crock is obtained, when it is arrested, the severed ring E unlocked and opened, and the crock cut from the mass of clay above at the line of the bottom of the die B. The platen F, with follow-board and crock, is then lowered until the crock is free from the press, when it is lifted

off, and the press is ready to repeat the operation.

In practice I prefer to crown the lower surface of the mandrel C slightly downward, so that the space between the disks H and K is narrower at the center under the bolt I than at the outer edges.

I claim as my invention—

1. In a crock-press of the class designated, the combination with the mandrel of the press, of a concave-convex plate, with the concave face toward the bottom of the mandrel and its edge in contact therewith and a sliding bolt arranged to permit said plate to retain its normal shape until compressed by force from its opposite side substantially as shown and described and for the purpose specified.

2. The combination with the bottom of the mandrel; the concave-convex plate, and the sliding bolt; of the vent-holes in said mandrel-bottom to permit the entrance of air between said parts, substantially as shown and described.

3. In a crock-press of the kind specified, the combination with the outer die and mandrel, and the bottom-carrying platen; and the vent-holes in the mandrel-bottom and platen; of a concave-convex plate with its concave side to said mandrel-bottom and a sliding bolt, arranged to hold its edges normally in contact with said bottom; and a free plate adapted to fit and rest in said platen; all constructed and arranged to coact, substantially in the manner and for the purpose specified.

In testimony that I claim the above I hereunto set my hand.

WILLIAM H. ROOK, JR.

In presence of—

C. P. HUMPHREY,
C. E. HUMPHREY.

It is hereby certified that the residence of the patentee in Letters Patent No. 586,291 granted July 13, 1897, upon the application of William H. Rook, Jr., for an improvement in "Crock-Presses," was erroneously written in the grant and printed at the head of the specification "Summit, Ohio," whereas said name should have been written and printed *Akron, Ohio*, and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 20th day of July, A. D. 1897.

[SEAL.]

WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:

A. P. GREELEY,
Acting Commissioner of Patents.