

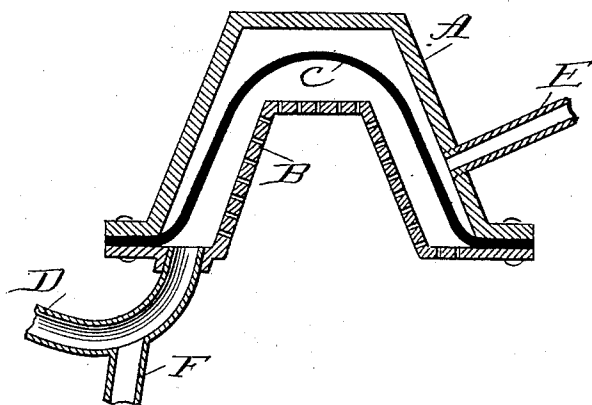
(No Model.)

H. CARMICHAEL.

PROCESS OF MAKING HOLLOW WARE FROM PAPER PULP.

No. 342,178.

Patented May 18, 1886.



Attest
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UNITED STATES PATENT OFFICE.

HENRY CARMICHAEL, OF BRUNSWICK, MAINE.

PROCESS OF MAKING HOLLOW WARE FROM PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 342,178, dated May 18, 1886.

Application filed November 9, 1885. Serial No. 182,358. (No model.)

To all whom it may concern:

Be it known that I, HENRY CARMICHAEL, of Brunswick, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Processes of Making Hollow Ware from Paper-Pulp; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the manufacture of hollow ware from paper-pulp. Heretofore such articles have been formed in presses consisting of a former, a flexible diaphragm, and an inclosing-shell, the pulp being admitted between the former and diaphragm, the pressure being applied between the outside shell and the diaphragm, whereby the watery pulp was pressed against the former and molded into the required form, the pressure upon the diaphragm expelling a certain proportion of the water through perforations in the former. Experience, however, shows that the highest pressure attainable in this way only deprives the molded article of a portion of its water, and the article will not bear handling without warping or risk of injury before drying thoroughly.

The object of my invention is to dry the molded articles before removing them from the press; and to this end my invention consists in forcing air, either hot or cold, between the diaphragm and the former, after the article has been molded, whereby all the moisture remaining in the pulp is taken up by the air and carried off with it through the strainer or former.

In the drawing, the figure represents a section of a press embodying my invention.

In the drawing, B represents the perforated former, which conforms to the shape of the vessel required to be made. In the present case it is adapted to form a pail. An outer shell, A, of metal or other suitable material,

covers the former, and between the parts A and B is a rubber diaphragm, the edges of which are held between the said parts. The watery pulp is introduced through the pulp-tube D, beneath the diaphragm. After a sufficient quantity is introduced the supply of pulp is shut off, and air or water introduced through a pipe, E, under pressure above the diaphragm, the pressure being applied to the pulp to mold it into the required shape. The pressure applied to the rubber diaphragm by the water or air introduced through the pipe E relieves the molded article of a certain proportion of the water contained in the pulp, but not entirely, so I provide a pipe, F, connected to the hot or cold air supply, this pipe being connected at any suitable point, but preferably joined, as shown, to the pulp-tube, so that the hot or cold air may be forced in between the diaphragm C and the former, passing through the pulp and the strainer, carrying off all the moisture left in the article after the diaphragm-pressure. The article is thus thoroughly dried while in the press, and can be removed and handled without liability to injury.

I claim as my invention—

The hereinbefore described process of forming hollow ware from paper-pulp, consisting in subjecting the pulp from which the article is to be formed to pressure between the flexible diaphragm and perforated former, and then forcing hot or cold air through the molded article while in the press, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY CARMICHAEL.

Witnesses:

J. P. WINCHELL,
O. J. RIPLEY.