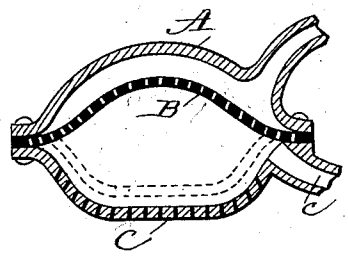
(No Model.)

H. CARMICHAEL.

APPARATUS FOR MAKING VESSELS OUT OF PULP.

No. 342,176. Patented May 18, 1886.



Attest:
Walter Donaldson
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N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

HENRY CARMICHAEL, OF BRUNSWICK, MAINE.

APPARATUS FOR MAKING VESSELS OUT OF PULP.

SPECIFICATION forming part of Letters Patent No. 342,176, dated May 18, 1886.

Application filed November 3, 1885. Serial No. 181,763. (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 Apparatus for Making Vessels out of Pulp; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to presses for manufacturing pails, bowls, and like vessels from pulp.

Heretofore such articles have been made in presses consisting of a closed vessel, one portion of which was formed in the shape of the article to be made, and was provided with a flexible diaphragm placed within the vessel. This was pressed upon the pulp by force of compressed air or of liquid under pressure, and by this pressure of the diaphragm against the pulp the pulp was forced against the mold and compressed thereon. In such presses as heretofore made no provision was made for removing the moisture other than by the perforations in the former and by the pressure. All moisture remaining after this pressure was applied could be removed only by removing the article from the former or press and drying it after removal.

My invention has for its object the removal of all the moisture from the article formed while it is in the press, whereby a more solid and better article is produced.

My invention consists, therefore, of a perforated diaphragm, combined with a perforated former, in a press of the class above described.

In the accompanying drawing, the figure represents a central vertical section through a simple form of such a press made with my improvement.

In the drawing, C represents the bottom of the press. It is made with its interior surface conforming to the shape of the vessel required. In this case it is adapted to form a basin. A pipe, *c*, leads to suitable mechanism for supplying the pulp. The lower part, C, is formed with a flange, to which is bolted a like flange of the upper part, A, of the closed chamber. Between the flanges is bolted the edge of a flexible diaphragm, B, which may be raised, as shown in full lines, or pressed down upon the pulp so as to force or compress it against the forming-surface C, as shown in dotted lines. In the upper part of the case is a pipe, *a*, for introducing the compressed air. It presses on the diaphragm after the pulp has been introduced and forces it down upon the former, giving it shape and density. It will be understood that the former C is perforated throughout with fine holes for the escape of the water from the pulp. In like manner I perforate the diaphragm B throughout the whole of that part which comes in contact with the pulp. The holes are fine enough to prevent the pulp from oozing through to the upper surface, but allow the air to pass. The compressed air forces the diaphragm down upon the pulp, as is well known. When the pulp is effectually compressed, the air, being still forced into the upper chamber, passes through the perforations in the diaphragm and through the compressed pulp, and escapes through the perforated bottom, carrying with it the moisture, and thus drying the article while in the press.

I claim—

The improved press or former for making articles from pulp, consisting of a compressing-chamber having a perforated former, pulp and air pipes, and a perforated diaphragm, all substantially as and for the purpose set forth.

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

HENRY CARMICHAEL.

Witnesses:

J. P. WINCHELL,

N. T. PALMER.