

No. 696,822.

Patented Apr. 1, 1902.

E. A. JONES.  
BEATING ENGINE.

(Application filed July 9, 1901.)

(No Model.)

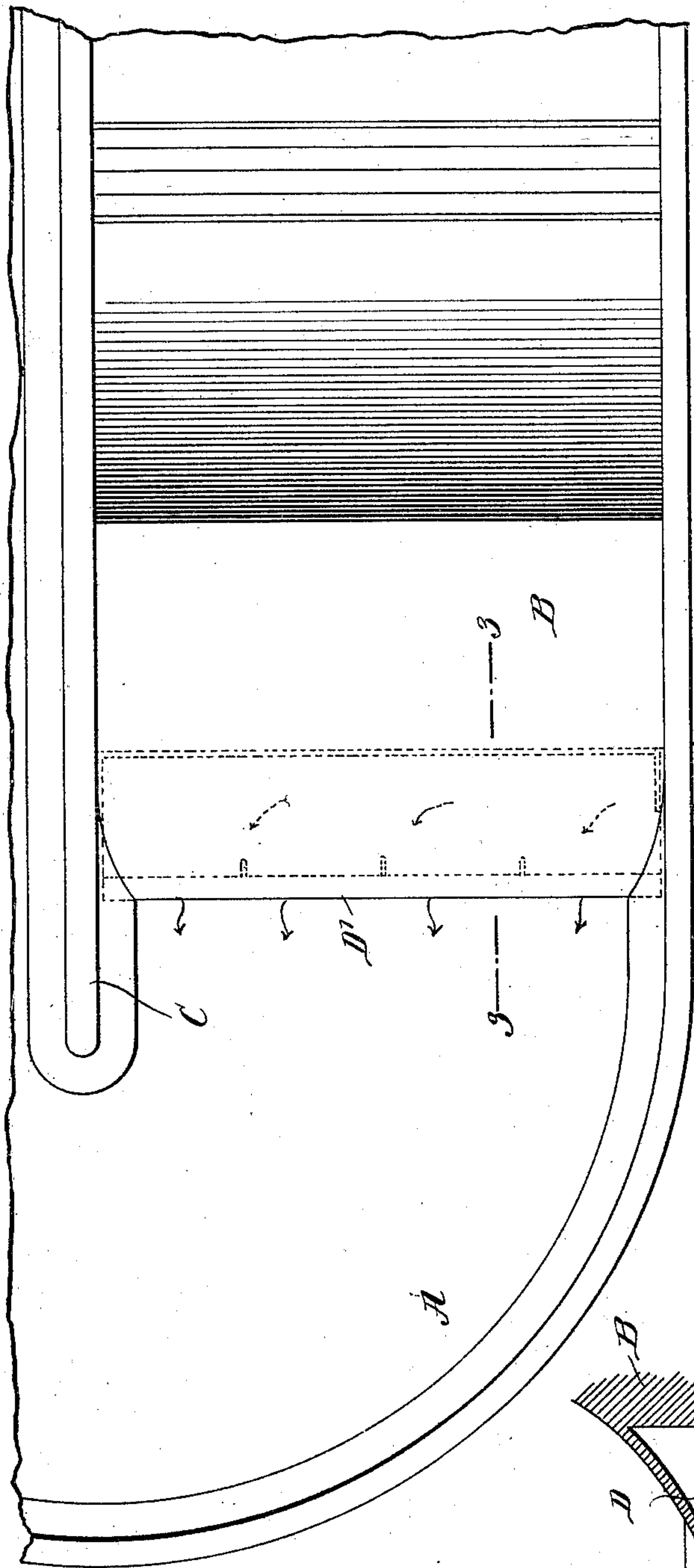
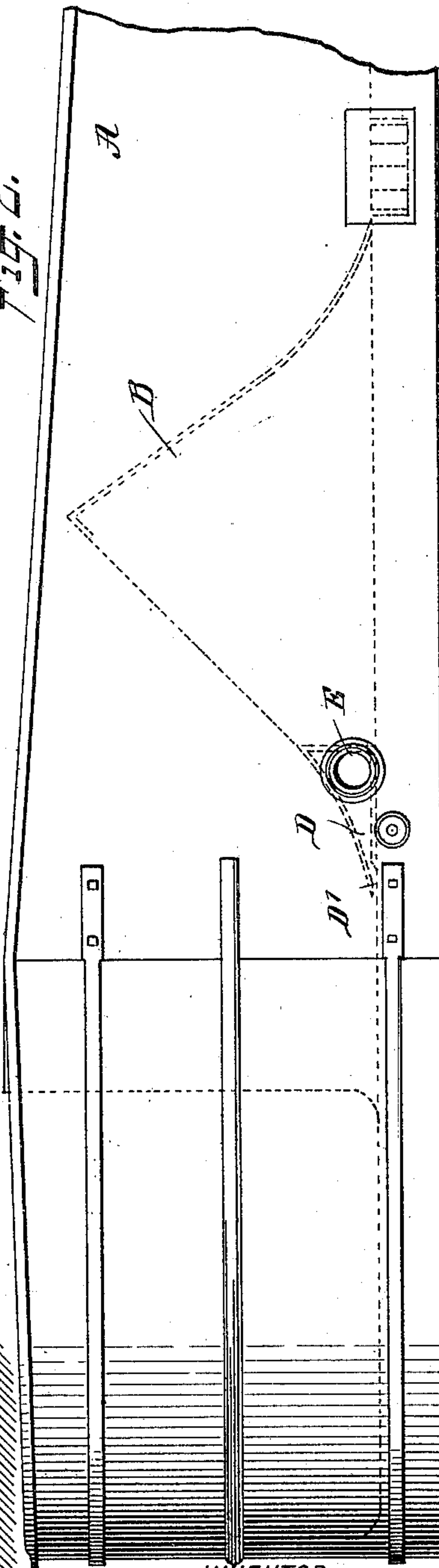


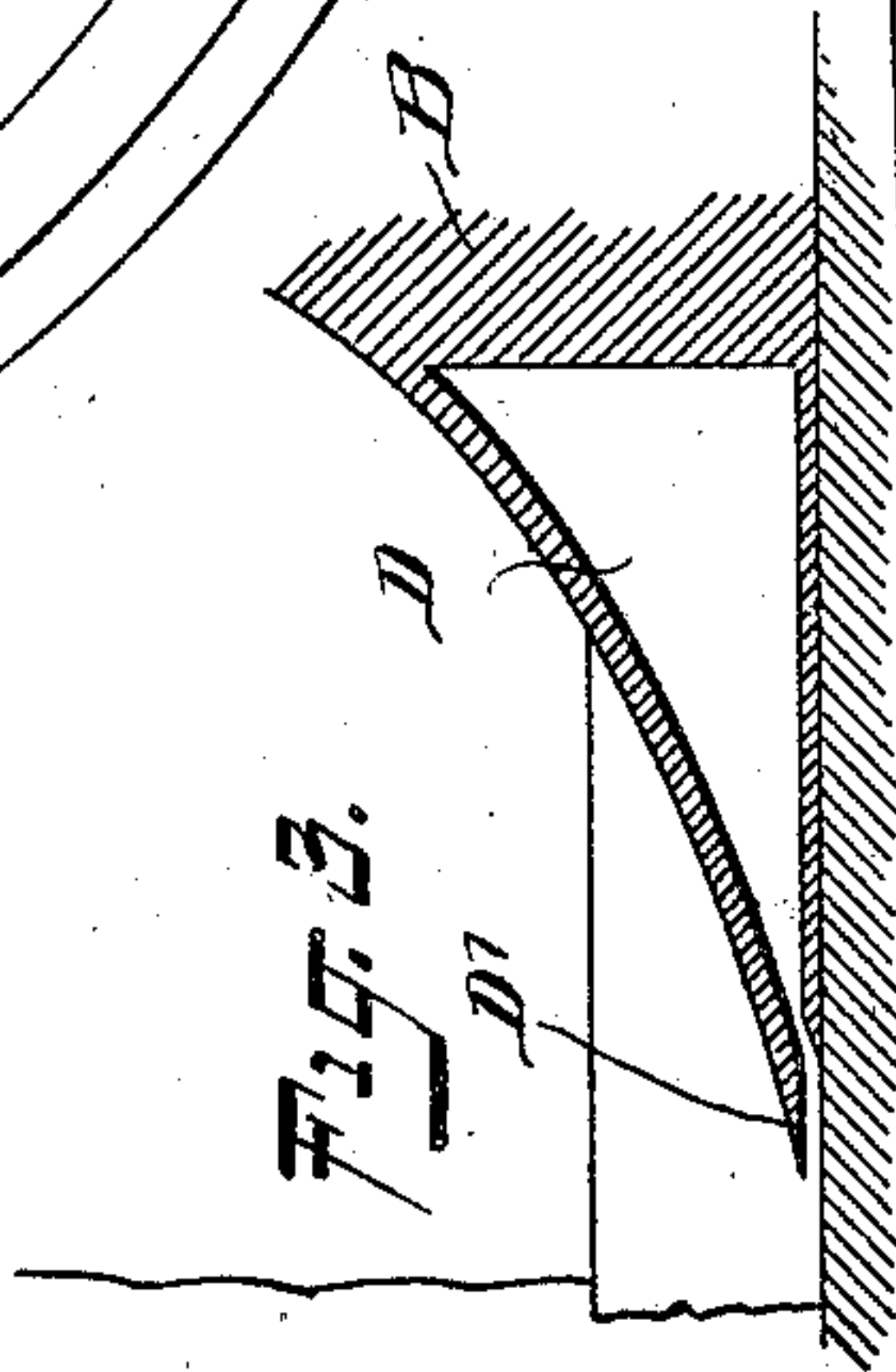
Fig. 2.



WITNESSES:

William P. Goebes.  
Geo. J. Hoster.

Fig. 3.



INVENTOR

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BY

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ATTORNEYS



# UNITED STATES PATENT-OFFICE.

EDWARD A. JONES, OF PITTSFIELD, MASSACHUSETTS.

## BEATING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 696,822, dated April 1, 1902.

Application filed July 9, 1901. Serial No. 67,587. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD A. JONES, a citizen of the United States, and a resident of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and Improved Beating-Engine, of which the following is a full, clear, and exact description.

The invention relates to paper-making machinery; and its object is to provide certain new and useful improvements in beating-engines for insuring a proper circulation of the pulp or stock when the vat is being emptied and to assist the pulp or stock to the discharge-pipe without the use of manually-actuated rakes now generally employed for pushing the stock to the discharge-pipe.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same, and Fig. 3 is an enlarged sectional side elevation of the same on the line 3 3 in Fig. 1.

In a vat A, of usual construction, is mounted to rotate a beating-drum, (not shown,) and at the rear end of said beating-drum is arranged a backfall B, extending from one side of the vat to a mid-feather C. The improvement is applied to the vat A and may be located at any point along the bottom of the vat or on the backfall, and it consists of a device for sending a stream or jet of fluid—such as water, for instance—into the pulp or stock in the direction in which the pulp or stock is flowing to insure a proper circulation of the pulp or stock, especially when the latter is low—that is, when one-half or two-thirds of the stock has been discharged from the vat by way of the discharge-pipe located in the bottom of the vat at the lower end thereof. The device referred to is shown located under the rear wall of the backfall B, and it consists, essentially, of a pressure-chamber D, connected at the side or bottom of the vat by a pipe E with a suitable supply of water or other fluid. The chamber D is

formed with a jet-opening D' for discharging water under pressure into or under the pulp or stock at the bottom of the vat and in the direction in which the pulp or stock is flowing owing to the action of the beating-drum. The area of the jet-opening D' is somewhat less than the area of the supply-pipe E, so that water under considerable pressure passes through the jet-opening to produce the desired effect on the pulp or stock—that is, insures a proper circulation thereof, and throws the pulp around to the discharge-pipe.

I do not limit myself to the particular construction of the jet device described nor the particular location thereof under the backfall, as the same may be varied without deviating from the spirit of my invention.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A beating-engine having a device in a vat for forcing a stream of water into or under the pulp in the direction in which the pulp is flowing, said device having a discharge-slot extending from one side of the vat to the mid-feather thereof, as set forth.

2. A beating-engine having a device in a vat for forcing a stream of water into or under the pulp in the direction in which the pulp is flowing, said device comprising a pressure-chamber extending from one side of the vat to the mid-feather at the bottom of the vat, said pressure-chamber having a discharge-opening and a connection with the fluid-pressure supply, as set forth.

3. A beating-engine having a device in a vat for forcing a stream of water into or under the pulp in the direction in which the pulp is flowing, said device comprising a pressure-chamber arranged under the rear wall of the backfall and extending from one side of the vat to the mid-feather, said pressure-chamber having a discharge-opening and a connection with a fluid-pressure supply, as set forth.

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

EDWARD A. JONES.

Witnesses:

ELLA E. SECOR,  
W. E. BARDWELL.