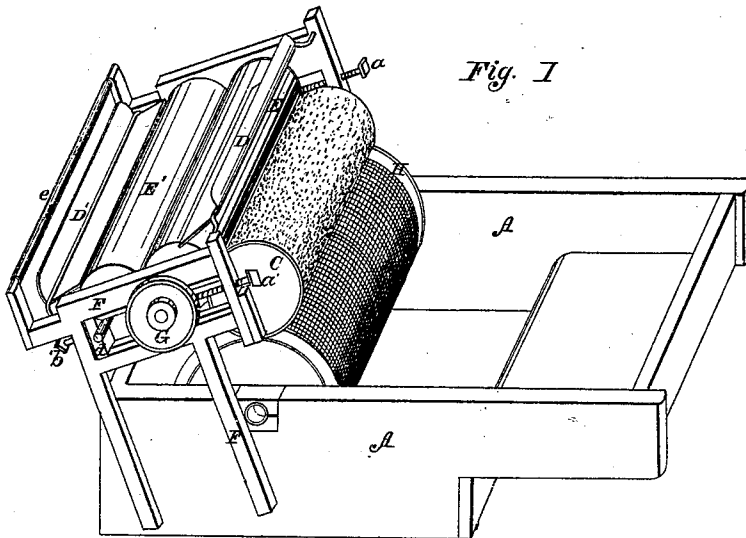
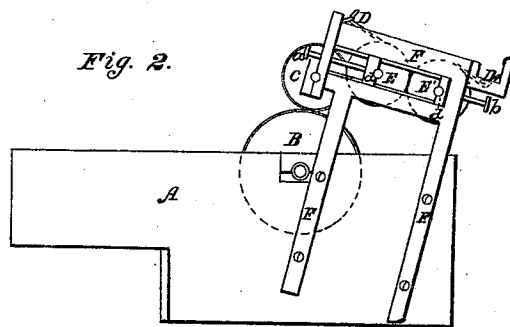


*C. B. Van Valkenburgh.*  
*Paper Mach.*  
*N<sup>o</sup> 90,898. Patented Jun. 1, 1869.*



*Fig. 1*



*Fig. 2.*

*Witnesses,*  
*Alex. S. Rowley*  
*C. A. Van Deusen*

*Inventor,*  
*Charles B. Van Valkenburgh*

# United States Patent Office.

CHARLES B. VAN VALKENBURGH, OF VALATIE, NEW YORK.

Letters Patent No. 90,898, dated June 1, 1869.

## IMPROVED MACHINE FOR MAKING PAPER.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, CHARLES B. VAN VALKENBURGH, of Valatie, in the town of Kinderhook, county of Columbia, and State of New York, have invented a new and improved Machine for Making Paper; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my machine attached to the pulp-vat.

Figure 2 is a side elevation of same, opposite to the side shown in fig. 1.

The object of this invention is to form a continuous sheet of well-pressed pulp-paper of any kind, with only one pair of press-rolls, and without employing press-felts or row-cloth, and with much less expense in both labor and machinery than is now required.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

My machine consists, for the most part, of the forming-cylinder B, the coucher C, and the two press-rolls E E', with their doctors D D'.

To the pulp-vat A, I attach the frame F F F, &c., inclining it backward toward or over the rear end of the vat, so that the water may drip freely from the rolls E E'.

Each of these rolls is provided with a doctor or scraper, D D', to keep them clean.

The coucher C is the only cylinder in the machine that is provided with a dress of any kind.

I dispense with at least thirteen yards of felts, which are used and required in all paper-making machines of the ordinary construction, and also with the row-cloth altogether.

To do this, I of course dispense with all the machinery heretofore employed between the vat A and the first drier, except what is herein described, to wit, the forming-cylinder, the coucher, and the two press-rolls, with their respective doctors.

From the press-roll or cylinder E', the paper is carried over the roll *e*, directly to the first drier, and as there are no felts to make the surface of the paper rough, or to impress it with their inequalities, there is of course no need of the second rolls to make it smooth, but it is delivered to the first drier as well pressed and as smooth as it is with all the intermediate machinery commonly employed.

By the use of the graduating or adjusting-screws *a a'* and *b b'*, the rolls E E' are adjusted closer to or more remote from each other, as required, their journals resting in the blocks *d d'*, which slide in the frame F F, &c.

The pulp, being taken up by the reticulated or wire-cloth cylinder B, is received by the coucher C, which is provided with a jacket of felt, or any equivalent dress, and conveyed to the first press-roll, E, to which it adheres, until it reaches the roll E', on the under side, and is thence brought up between the press-rolls E and E', and carried over *e* immediately to the first drier. The whole machine is operated by applying the power to the pulley G on shaft of press-roll E.

In this manner a continuous sheet of well-pressed paper of any kind is formed from the pulp, without first or second press-roll felts, and without row-cloth.

This machine will not require half the power, nor more than half the labor to operate it required to operate any of the paper-machines now in use. It not only saves the cost of felts and row-cloth, but the time and labor required to replace and to clean them.

Any kind of paper (straw, print, writing, &c.) may be made with this machine as well as with any other now used.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. Making pulp-paper of any kind, by conveying it from the vat A to the first drier without first or second press-felts or row-cloth, substantially in the manner herein set forth.

2. The combination and arrangement of forming-cylinder B, coucher C, and press-rolls E E', substantially in the manner and for the purpose herein described.

3. Sloping or inclining the press-rolls E E' in relation to the pulp-vat A, and to each other, substantially in the manner and for the purpose herein set forth.

4. The construction and arrangement of frame F F F, &c., for the support of the rolls E E' and coucher C, in the manner or substantially in the manner set forth.

CHARLES B. VAN VALKENBURGH.

Witnesses:

ALEX. S. ROWLEY,  
C. A. VAN DEUSEN.