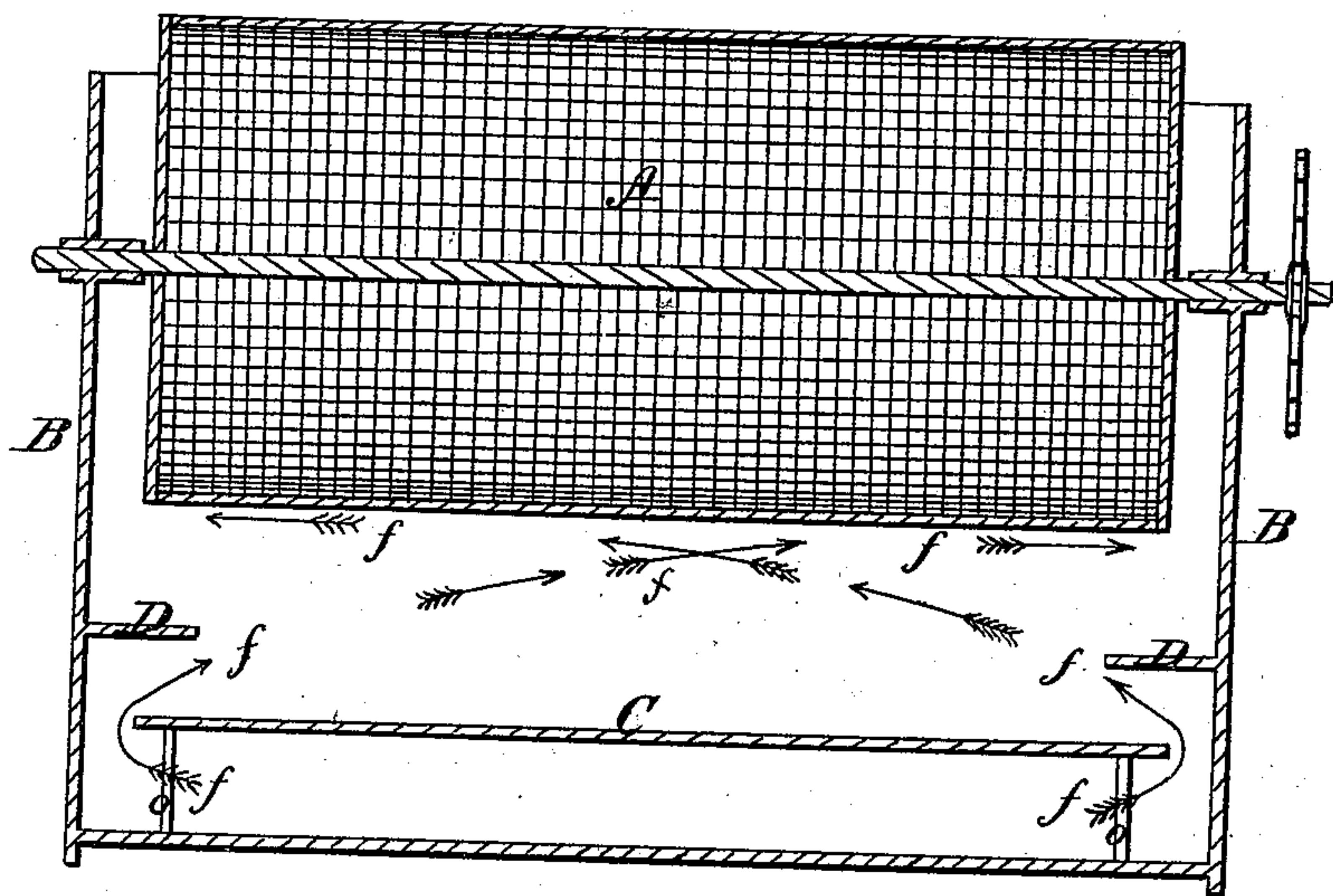


*A. Howland*  
*Paper Mach.*

*N<sup>o</sup> 83,165.*

*Patented Oct. 20, 1868.*

*Fig. 1.*



*Witnesses,*

*D. J. Fuch*  
*Geo. L. Terry*

*Inventor,*

*Amasa Howland*



AMASA HOWLAND, OF SANDY HILL, NEW YORK.

*Letters Patent No. 83,165, dated October 20, 1868.*

**VAT FOR CYLINDER PAPER-MACHINES.**

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

*To all whom it may concern:*

Be it known that I, AMASA HOWLAND, of Sandy Hill, in the county of Washington, and State of New York, have invented a new and improved Vat for a Cylinder Paper-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters marked thereon.

The nature of my invention consists in the manner in which I introduce the pulp or paper-stock into the vat, to be taken upon the gathering-cylinder preparatory to being taken upon the felt and carried upon the driers.

The object of my invention is to increase the strength of the paper laterally, by causing a portion of the fibre to be gathered in such a manner as to lie horizontally across the gathering-cylinder, forming a sort of network with other fibres gathered longitudinally upon the said cylinder.

Figure 1 represents a vertical section of my gathering-cylinder in position, and of the vat in which it revolves.

A represents the cylinder. B B represent the vat in which it revolves. C represents a false bottom, extending nearly across the true bottom of the cylinder, and standing upon supporting-pins *ff*. D D represent shelves attached to the sides of the vat, about three inches above the false bottom C, and projecting inward about six inches beyond either end of the false

bottom, and extending the entire width of that compartment of the vat.

The operation of this improvement is as follows: I introduce the pulpy liquid into the vat underneath the false bottom, filling the space *ff*. It flows thence in currents, indicated by the arrows in the annexed drawing, being deflected by the shelves D D across the vat underneath the gathering-cylinder, causing the fibres of the pulpy mass to be gathered horizontally by means of the horizontal current along the under surface of the cylinder, thereby causing the paper to be constructed by the continued interlacing of the fibres, giving great additional strength and value to the same.

Having thus described my improvement, I will proceed to state what I claim as my invention.

1. I claim the construction of my improved vat, for the purpose and in the manner above set forth and described.

2. I claim the introduction of the pulpy fluid in such a manner as to create currents across the under or lateral surface of the gathering-cylinder, substantially in the manner and for the purpose above described.

AMASA HOWLAND.

Witnesses:

D. J. FINCH,  
GEO. L. TERRY.