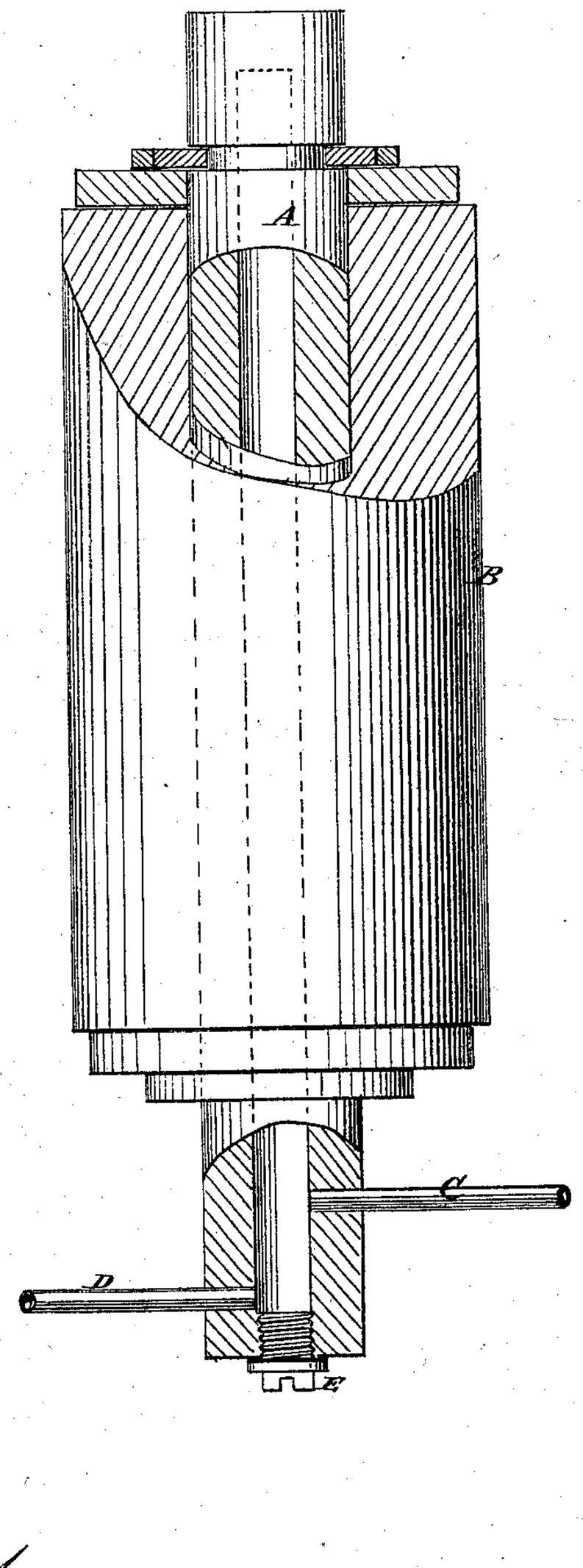
J. O'NEIL.

Processes for Making Calendering Rollers from Paper Pulp.

No. 150,779. Patented May 12, 1874.



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UNITED STATES PATENT OFFICE.

JOHN O'NEIL, OF WEST NEW BRIGHTON, NEW YORK.

IMPROVEMENT IN THE PROCESSES OF MAKING CALENDERING-ROLLERS FROM PAPER-PULP.

Specification forming part of Letters Patent No. **150,779**, dated May 12, 1874; application filed January 5, 1874.

To all whom it may concern:

Be it known that I, JOHN O'NEIL, of West New Brighton, Richmond county, New York, have invented a new and Improved Paper or Cotton Roll for Calenders, of which the following is a specification:

This invention relates to a novel method of manufacturing calendering-rolls of paper-pulp and other stock, whereby the operation of forming the roller is expedited, and a more perfect article is produced. The invention consists in the combined application of heat and pressure to the mass or paper-stock of which the roller is being made, in order to expel every particle of moisture from the same, and to lessen the time occupied in manufacturing the rollers.

The ordinary method of making calendering-rollers of paper-pulp is to apply pressure to the mass of pulp while the same is in a plastic or wet state, for the purpose of molding it into shape, and for partially expelling the water or liquid in the pulp. This method of manufacture is defective, for the reason that it is impossible to expel all the water or moisture from the stock by pressure alone, the water remaining in the stock oozing out to the surface of the roller, which causes the formation of irregular surfaces or lumps.

My invention entirely avoids the defects stated, as the heat which is applied to the stock simultaneously with the pressing or molding operation tends to drive out every degree of moisture from the stock of which the roller is made.

The drawing is partly a side elevation and partly a section of a paper-roller with a hollow shaft and steam-pipes attached, showing the manner of heating the paper while the pressure is being applied to compress it on the shaft.

A is the metal shaft. B is the paper or cotton which is compressed upon it by a hydraulic or other powerful press. C is the steam-pipe; D, the escape-pipe for condensed steam; and E a plug for closing the bore of the shaft to prevent the escape of steam.

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

The method of making calendering-rollers of paper-pulp or other stock, by molding the mass around a heated core and simultaneously applying external pressure to the same, substantially as herein described, and for the purpose specified.

JOHN O'NEIL.

Witnesses:

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