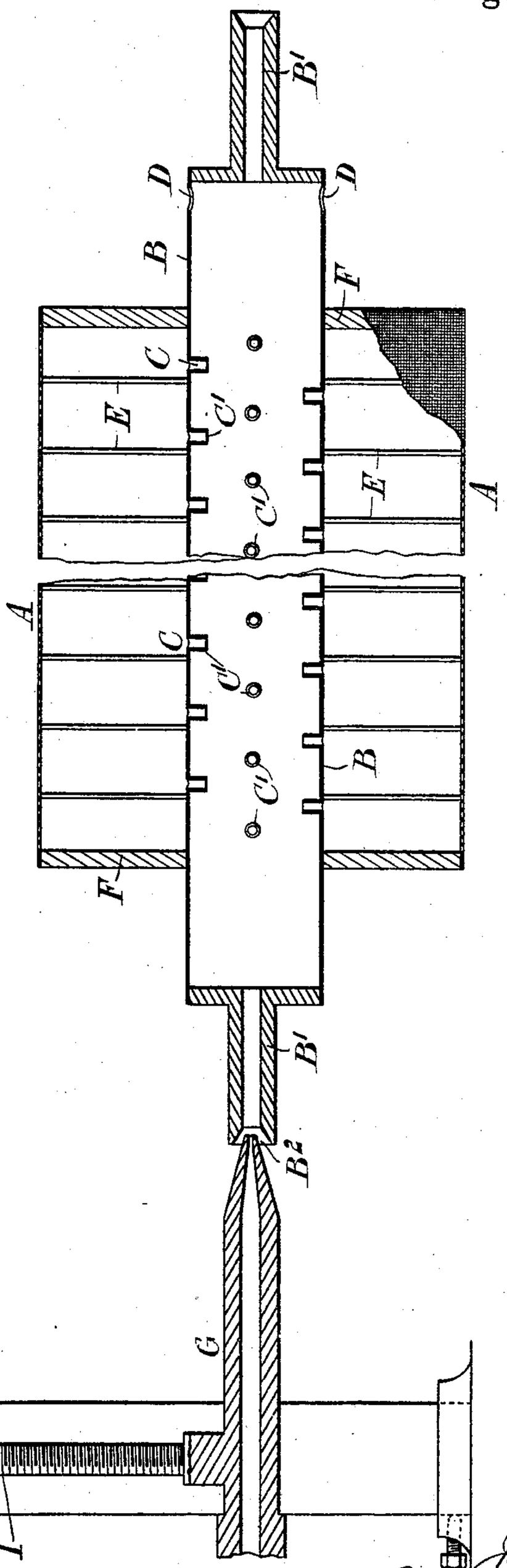
(No Model.)

J. LISTER.

DANDY ROLL FOR PAPER MAKING MACHINES.

No. 589,131. Patented Aug. 31, 1897.



Witnesses:-
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UNITED STATES PATENT OFFICE.

JOHN LISTER, OF LESLIE, SCOTLAND, ASSIGNOR TO THE NEW PAPER-MAKERS' ENGINEERING AND DANDY-ROLL PATENTS COMPANY, LIMITED, OF LONDON, ENGLAND.

DANDY-ROLL FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 589,131, dated August 31, 1897.

Application filed November 21, 1895. Serial No. 569,700. (No model.)

To all whom it may concern:

Be it known that I, JOHN LISTER, a subject of the Queen of England, residing at Leslie, county of Fife, Scotland, have invented a certain new and useful Improvement in Dandy-Rolls for Paper-Making Machines, of which the following is a specification.

This invention relates to an arrangement whereby a small supply of steam is led into and through the hollow spindle of the dandy-roll, the spindle being perforated in its periphery, so that a fine spray of steam is thrown upon the inner surface of the dandy-cover, preventing the accumulation of froth, which in the case of small-wove dandy-rolls especially is the source of much loss and annoyance.

The accompanying drawing is a vertical section through a portion of a dandy-roll, showing the application of this invention.

A represents the dandy-roll, and B the hollow spindle, shown perforated at C and preferably having tubular extensions C′, projecting inwardly to prevent the escape through the holes C of the condensation which will be formed in the tube B. The water can escape from the tube B through the openings D at the end or may be drawn off in any other convenient manner.

E are any convenient supporting-arms, perforated or other disks, or the like, which carry the dandy-cover A, and F are the ends of the roll, closing in the space between the cover A and the hollow spindle B, this space being filled with the steam-supply through the spindle B and holes C.

G is any convenient steam-nozzle or source of steam-supply adapted to inject the steam into the hollow spindle B. In the drawing the end of spindle B is shown reduced at B′ and countersunk at B^2, so as to facilitate the entry of the steam. With this arrangement air, as well as steam, can be driven into the spindle B, but this is not material so long as the required result is obtained. It will be understood that the steam may be introduced into the roller in any other convenient manner and that an air or steam tight joint between the nozzle and the spindle may be made by means of a stuffing-box or other device, if desired. The device shown, however, is cheap and simple, and as I find it gives satisfactory results in practice I have described it. The nozzle G is shown carried in any convenient frame or standard H and by the screwed rod I and nut or hand-wheel J is adapted to be raised or lowered in accordance with the position of the dandy-roll. It is also capable of lateral adjustment.

Steam may be supplied at one or both ends of the spindle. In the drawing only one nozzle G is shown, but the other end of the spindle is adapted to accommodate a second nozzle, or it may be closed.

By the heating of the roll I find that the accumulation of froth or bubbles upon the dandy-roll is prevented, and I have described the employment of steam for this purpose as being suitable and efficient. I wish it to be understood, however, that other means of heating the roll may be employed—for example, the introduction of heated air.

I claim—

1. The combination with the hollow dandy-roll closed at each end, of a hollow perforated spindle extending longitudinally through the roll and through the ends thereof, and projecting beyond said ends, and being provided in one projecting portion with water-escape openings, and a steam or hot-air admission pipe adapted to project steam or hot air into the other projecting portion of the spindle, whereby the fluid is caused to pass radially through the perforations in the spindle and be sprayed upon the inner surface of the roll.

2. The combination with a dandy-roll, of a hollow spindle supporting the same and having a series of perforations in its periphery, and inwardly-projecting tubular extensions alining with said perforations.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

JOHN LISTER.

Witnesses:
HORACE MUSGRAVE HEWISON,
ANDREW ROY.