

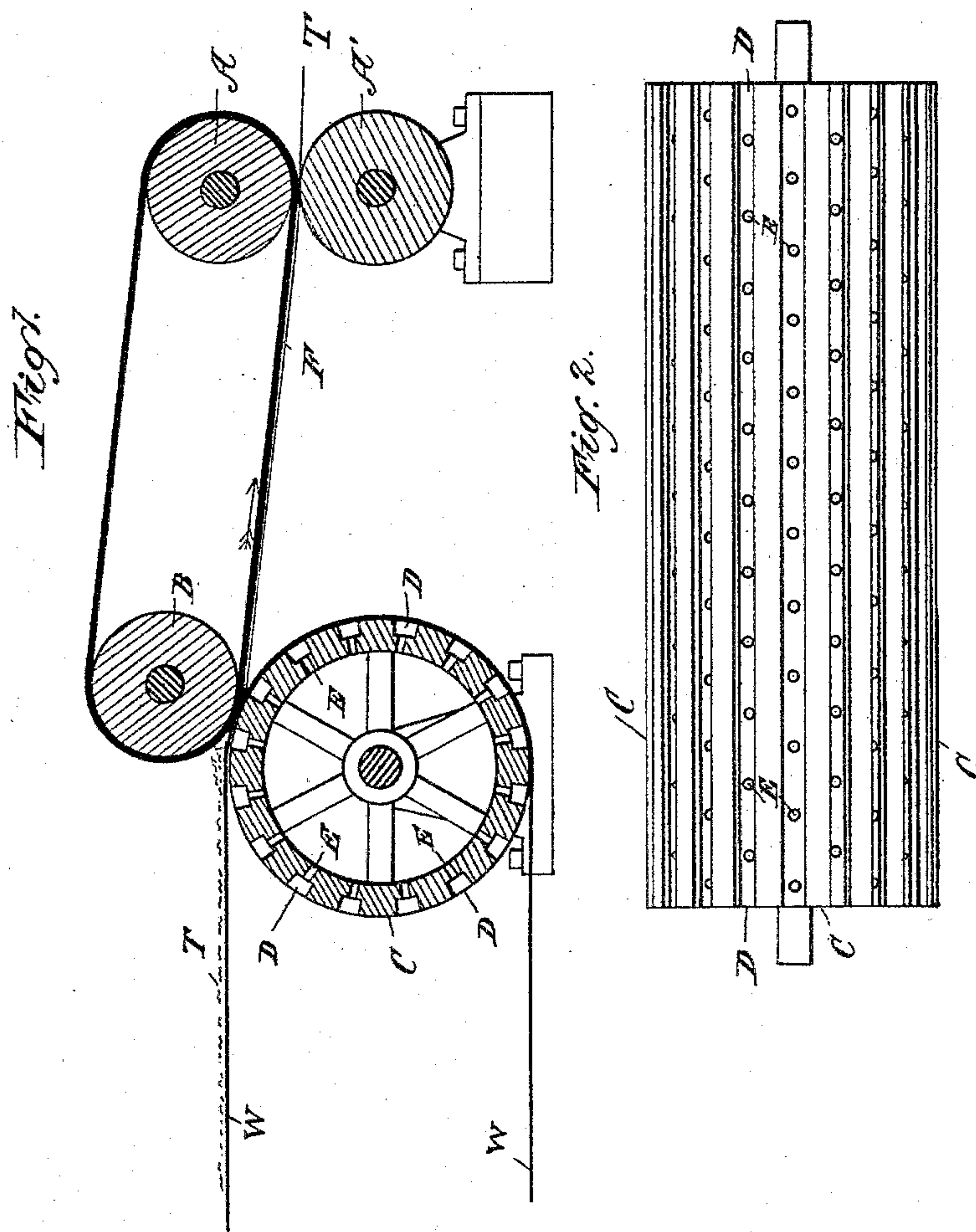
(No Model.)

J. BOYNE.

COUCH ROLL FOR PAPER MAKING MACHINES.

No. 412,359.

Patented Oct. 8, 1889.



WITNESSES:

*R. J. Benjamin*  
*R. J. Van Roskerck*

INVENTOR

*James Boyne*

BY

*Shost & Coe*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

JAMES BOYNE, OF WHIPPANY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO  
GEORGE W. THOMPSON, OF BROOKLYN, NEW YORK.

## COUCH-ROLL FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 412,359, dated October 8, 1889.

Application filed April 2, 1888. Serial No. 269,400. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BOYNE, of Whippany, county of Morris, and State of New Jersey, have invented a new and useful Improvement in Couch-Rolls for Paper-Making Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

In the drawings, Figure 1 shows my improved couch-roll in connection with rollers and felt carrying the web of paper, and Fig. 2 shows the construction of my improved couch-roll.

Similar letters of reference indicate similar parts.

Heretofore couch-rolls have been made with grooves or depressions in their surfaces, running around the roll in planes perpendicular to the axis of the roll, for the purpose of producing a varying friction on the web of paper passing over the wire, so as to pass the web of paper from the wire to the felt. I have found that in making paper, and especially the finer or lighter qualities of tissue-paper, the friction so produced by these grooves so made is not sufficient to always insure the release of the paper web from the wire and its removal to the felt. I have discovered that by making the grooves or depressions in the surface of the couch-roll running longitudinally along the couch-roll, and in planes parallel to the axis of the roll, a greater amount of friction is produced and to such an extent as always to insure the release of the paper from the wire and its

ready passage to the felt, thus effecting a valuable improvement in paper-making. The grooves or depressions of the couch-roll may further be provided with holes or apertures for the easy escape of the water from the forming web of wet paper as it passes from the wire to the felt.

In the drawings, A A' represent the press-rolls; B, the upper couch-roll, and F the felt passing over the rolls A and B.

C represents the lower couch-roll, with the longitudinal grooves or depressions D in its periphery.

E E are the holes or apertures in the grooves.

W is the wire passing over the couch-roll C, and T represents the paper.

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

1. A couch-roll for paper-making machines, provided with longitudinal grooves or depressions in its surface, running in planes parallel to the axis of the roll, substantially as described, and for the purposes set forth.

2. A couch-roll for paper-making machines, provided with longitudinal grooves or depressions in its surface, and having therein holes or apertures, substantially as described, and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 2d day of March, 1888.

JAMES BOYNE.

In presence of—

GUY MINTON,  
H. C. RAYNOLDS.