

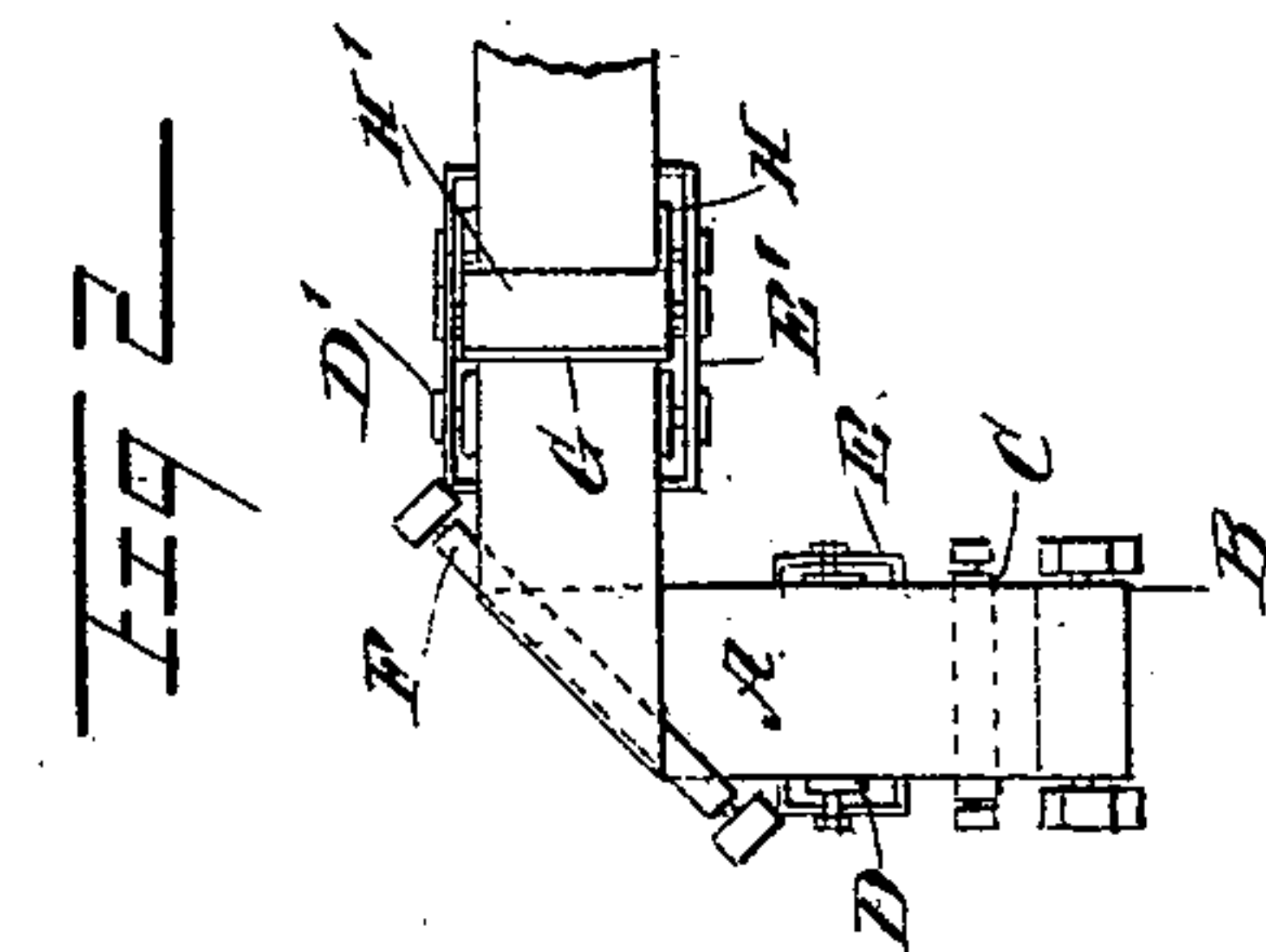
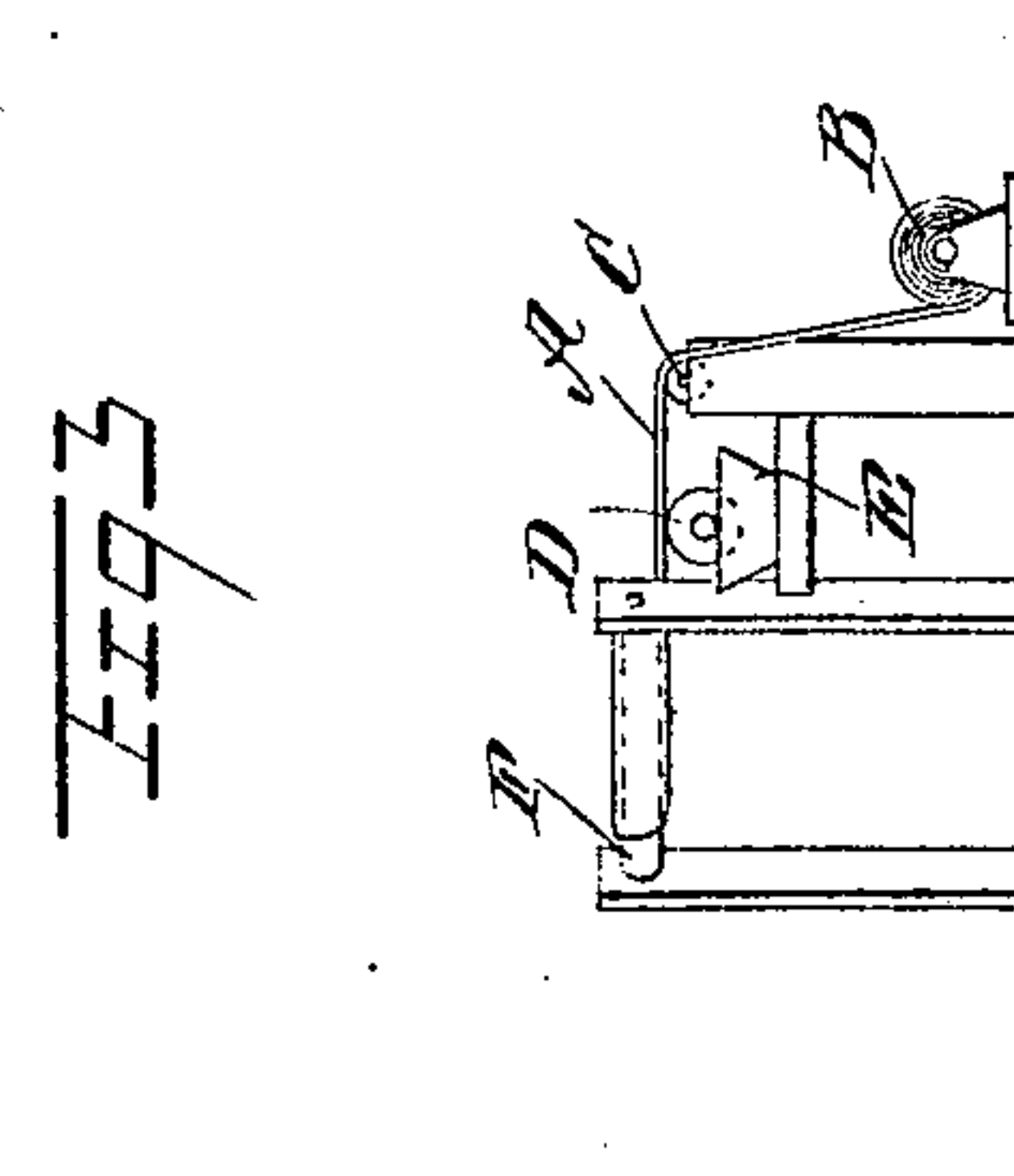
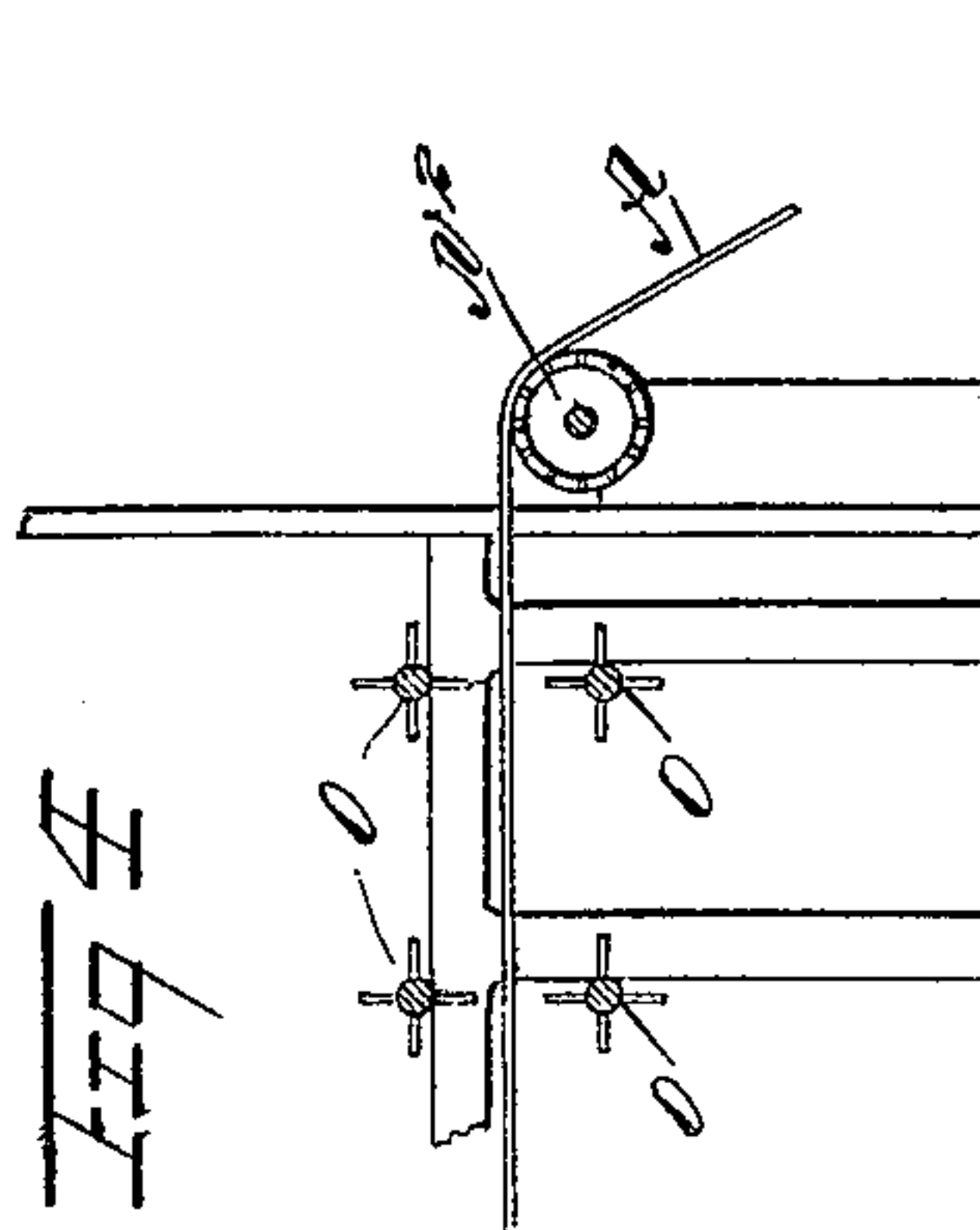
No. 637,364.

Patented Nov. 21, 1899.

W. H. WALDRON.
PAPER COATING MACHINE.

(Application filed Jan. 27, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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PAPER-COATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 637,364, dated November 21, 1899.

Application filed January 27, 1899. Serial No. 703,579. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WALDRON, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a new and Improved Paper-Coating Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved paper-coating machine preferably arranged as an adjunct to a paper-making machine of any approved construction, but adapted to be used separately from the paper-making machine, if desired, said coating-machine being constructed to properly coat or ground the paper on one or both faces in a very simple and economical manner.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a plan view of one end of the machine. Fig. 3 is end elevation of the same, and Fig. 4 is a sectional side elevation of a modified form of drying device for the paper.

The paper A as it comes from the paper-making machine unwinds from a roll B and passes upward and over a guide-roller C and over a coating-roller D, the lower portion of which extends into the pigment contained in a color-pan E, said coating-roller D being preferably covered at its peripheral surface with a suitable fabric for delivering the pigment to the bottom side of the paper, the latter contacting by its own weight with the top peripheral surface of said roller to insure a proper and uniform delivery of the pigment to the paper. The paper after leaving the coating-roller D passes to and over an angularly-disposed roller F for turning the paper completely over, the paper then passing from this turn-over roller F over a second coating-roller D', similar to the coating-roller D and likewise extending with its lower portion into a color-pan E'.

It will be seen that by the arrangement de-

scribed the paper in its forward travel is first coated on the under side with a pigment delivered by the coating-roller D, and then the other side is coated by the coating-roller D' as the paper is turned over between the two coating-rollers D and D'. It is expressly understood that the paper by its own weight passes in contact with the two coating-rollers D D' to be properly coated for the reason above given.

By reference to the drawings it will be seen that the paper while passing from the roller C over the coating-roller D to the under side of the turn-over roller F extends in a horizontal plane and that that portion of the paper passing from the top of the turn-over roller F over the coating-roller D' and under a guide-roller G likewise extends in a horizontal plane, so that the pigments are uniformly distributed on both sides of the paper. The paper after leaving the guide-roller G passes between two rollers H H' for squeezing out the surplus pigment on the paper, the surplus material passing back into the pan E', which is sufficiently extended under said rollers to receive the surplus pigment. (See Fig. 1.)

After the paper leaves the rollers H H' it passes under a roller I and over a brush J, and then it passes over a roller I' and under a brush J' to insure a proper wiping of the colors or pigments into the pores of the paper. The paper then extends between a series of top and bottom brushes K K' and over a pair of rollers L to finally pass between two drawing-rollers N N', rotated from suitable machinery, for imparting a forward traveling motion to the paper in the direction of the arrow a'. Between the series of brushes K and the drawing-rollers N N' are arranged fans O, driven by suitable means, for drying the coated or ground paper to a desired degree before passing from the drawing-rollers N N' to a lathing-machine P and to a drying-rack Q for hanging the paper up in folds for a final drying.

Instead of using a pair of drawing-rollers N N', as shown in Fig. 1, I may employ a perforated hollow cylinder N², (see Fig. 4,) connected with a suitable exhaust device for drawing the air out of the cylinder and causing the paper to adhere to the peripheral surface thereof by suction. I do not, however,

limit myself to any particular construction of drawing device or fans for drying the paper, as other suitable means may be employed to dry the paper intermediate of the brushes K
5 and the drawing device N.

The device is very simple and durable in construction, takes up comparatively little space, and insures a proper and thorough coating of the paper on both of its faces.

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

1. A paper-coating machine having a plurality of coating-rollers arranged at an angle
15 to each other, and a turning device for the paper arranged between the coating-rollers and serving to turn the paper over after it has passed over one coating-roller to present its other face to the second coating-roller, as
20 set forth.

2. A paper-coating machine, having a plurality of coating-rollers arranged at right angles to each other, and an angularly-arranged

roller over which the paper passes after leaving one coating-roller, whereby the paper will
25 be turned over to present its other face to the second coating-roller, substantially as described.

3. A paper-coating machine, consisting of a drawing device, coating-rollers arranged at
30 an angle to each other and over the upper surfaces of which the paper passes, an angularly-arranged roller between the coating-rollers and over which the paper passes after leaving the first coating-roller and by which
35 the paper is turned over, brushes for engaging opposite sides of the paper after leaving the second coating-roller, and fans between which the paper passes after leaving the brushes, substantially as herein shown and
40 described.

WILLIAM H. WALDRON.

Witnesses:

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F. W. HANAFORD.