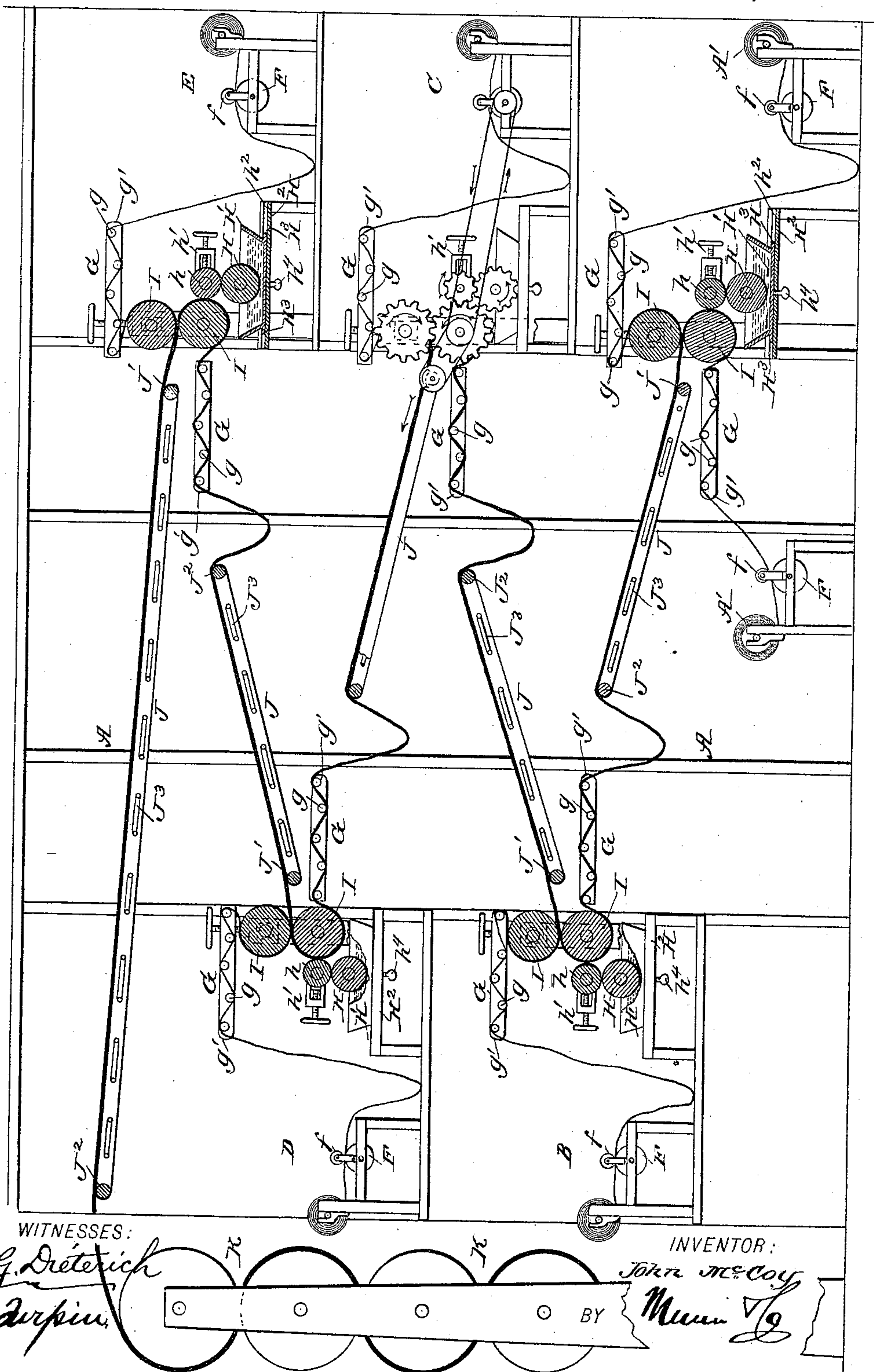


(No Model.)

J. McCOY.  
MACHINE FOR MAKING CARD BOARD.

No. 448,063.

Patented Mar. 10, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN MCCOY, OF YORK, PENNSYLVANIA.

## MACHINE FOR MAKING CARD-BOARD.

SPECIFICATION forming part of Letters Patent No. 448,063, dated March 10, 1891.

Application filed April 5, 1890. Serial No. 346,762. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MCCOY, of York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Machines for Making Card-Board, of which the following is a specification.

My invention is an improved machine for making card or paper board; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawing the figure is an elevation, partly in section, of a machine constructed according to my invention.

As is well known, the making of card or paper boards is ordinarily effected by pasting two or more layers of paper together, and the present invention seeks to provide a convenient, easily-operated, and effective machine for securing such end.

The frame-work A may be of any suitable construction, and may be a frame complete in itself, or may form a part of the building in which the machine is erected. In the construction shown I employ the starting-rolls of paper A' A', the first adding-roll B, the second adding-roll C, the third adding-roll D, and the fourth adding-roll E. Manifestly the number of the rolls may be increased or decreased to produce thicker or thinner card-board, as may be desired.

In connection with the two starting-rolls A' A' and with each succeeding roll B C, &c., I provide feed-rolls F f, a tension device G, pasting-rolls H h, and trough H', pressure-rolls I, and a drier J, and as the several parts correspondingly lettered are alike the description of one of each of such parts will suffice for all. The rolls F f are placed in advance of the support for the rolls of paper which they feed, the roll F being driven and the roll f turning loosely and pressing the paper firmly on the roll F, so that the latter will serve to feed it properly. In its passage to the pressure-rolls I the paper passes through the tension device G, which consists of rollers g and a guide-bar g', the latter having end flanges, and the paper being passed over such guide-bar and alternately under and over the rollers g, so as to draw the paper taut

and smooth before it passes to the pressure-rollers I. In its passage to rollers I paste is applied to the inner face of one of the layers of paper, such paste being applied to the paper immediately before the paper layers are pressed together. To this end there is provided the paste-trough H', in which is journaled the roller H, which turns against the roller h, which may be set back or forth by a screw h', and which serves to apply the paste to the paper, the roller h pressing the paste against the paper and the paper against the lower roller I, so that the paste is applied to the paper just before the two layers of paper are pressed together by the rollers I. The trough H' is supported in guides H<sup>2</sup>, having at its ends flanges H<sup>3</sup>, which slide in the grooves h<sup>2</sup> of guides H<sup>2</sup>, a set or clamping screw h<sup>4</sup> being provided to secure the trough in position for use. The drier J receives the paper immediately after it leaves the pressure-rolls I, and serves as a support and in a measure as a carrier for such paper until it nearly reaches the tension device G, preceding the next pressure-rolls I, where the next sheet of paper is added.

It will be noticed that the opposite sides of the paper card-board as it runs through the machine are alternately exposed to the successive driers; or, in other words, the paper passes with one side next to one drier and its opposite side next to the next drier, and so on, thus insuring an even and effective drying of the entire board before it passes to the calendering-rolls K, by which it is smoothed and calendered. After passing from the calender-rolls the card-board may be cut into any desired shape, or may be suitably rolled or otherwise disposed for storage or transportation.

The driers J are in the nature of endless canvas aprons passed over rollers J' J<sup>2</sup>, the former being driven and the latter turning loose, and steam-pipes J<sup>3</sup> or other suitable heating-pipes being disposed within the aprons to effectively heat the same to render them effective in their drying action. This apron-form of driers is especially important, inasmuch as it effects the application of the heat evenly to all parts of the board or card, and as the canvas, after it passes above the



heating-pipes and in contact with the card-board to dry the same, passes below such heating-pipes and is dried thereby there is little or no opportunity for the drier to become so damp as to prevent the proper drying of the card-board. It will be noticed that the operation is continuous from the starting of the first layer of paper until the completed card or paper board passes from the calendering-rolls. When the paper on any of the rolls A A', B C D, or E has nearly run out, such rolls may be fed a little faster to accumulate slack between the same and the adjacent tension device G, when a new paper roll may be applied to such roller, with its end pasted or otherwise suitably joined to that of the paper just wound off without interrupting the continuity of the operation. The last rolls D E may be tinted fancy or other face paper when it is desired to finish both sides of the card-board, or only one of such rolls may be supplied with such fancy paper when only one side of the board is to be finished.

It will be understood that linen, cotton, or other cloth may by my machine be pasted in with the paper when so desired.

Having thus described my invention, what I claim as new is—

1. The improved machine herein described, comprising the paper-supports, the pressure-rolls, the tension devices G, arranged between

the paper-supports and the pressure-rolls, the pasting devices, and the drier, all substantially as set forth.

2. In a machine substantially as described, the combination of the framing, the series of paper-supports, the series of pasting devices, the series of pressing devices, and the series of driers, such driers being located one in rear of each of the pressing devices and arranged substantially as described, whereby the opposite sides of the paper card-board as it runs through the machine are alternately exposed to the successive driers, substantially as set forth.

3. In a machine, substantially as described, the combination of the pressure-rollers I, the pasting-trough, the roller H, turning in said trough, the roller h, turning in contact with roller H, and a screw by which such roller h may be adjusted against one of the pressure-rollers I, all substantially as set forth.

4. The improved card-board-making machine herein described, consisting of the paper supports or rolls, the feeding-rollers F f, the pasting-rolls H h, the tension device G, the pressure-rollers I I, and the driers J, all substantially as described, and for the purpose set forth.

JOHN MCCOY.

Witnesses:

HOWARD L. WILT,  
ROBERT MCCOY.