

*P. Scanlan,
Paper Machine.*

No. 109552.

Patented Nov. 22. 1870.

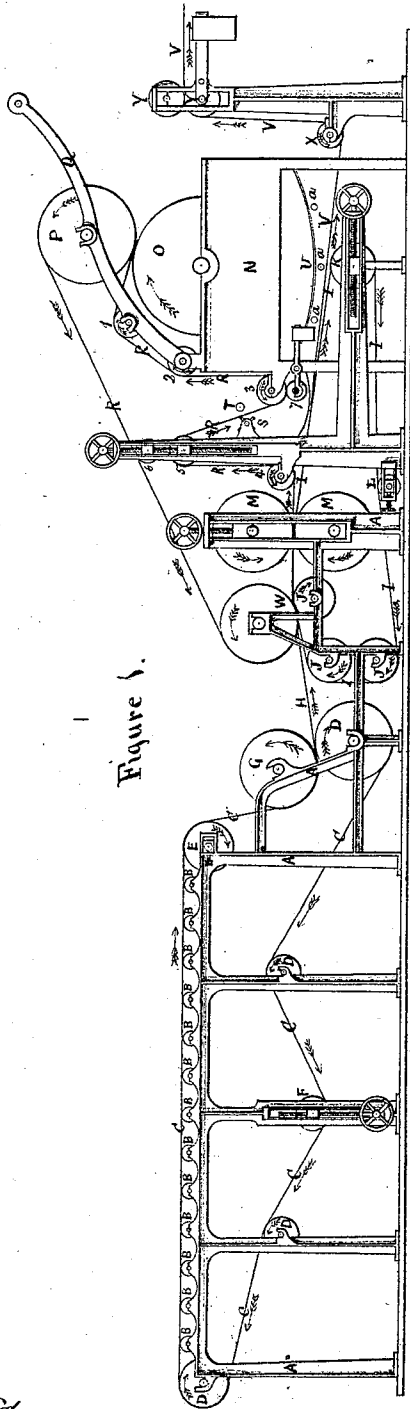


Figure 1.

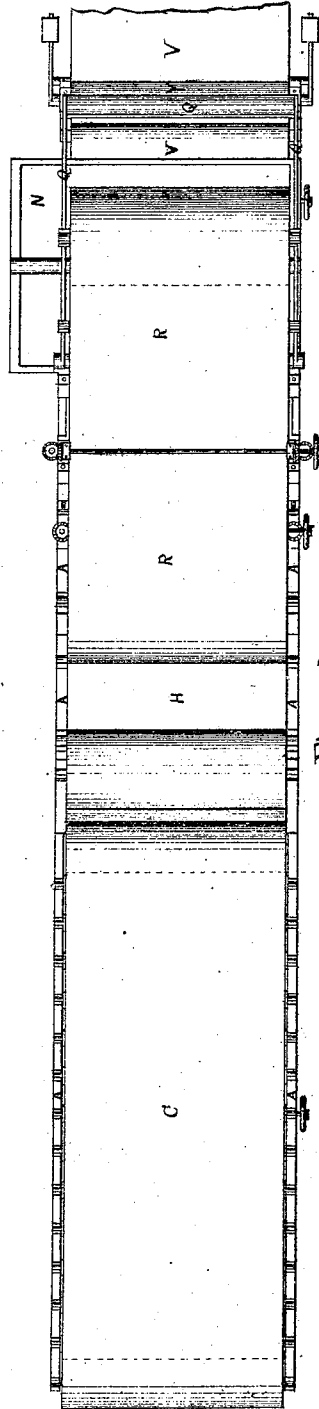


Figure 2.

*W. Lightford
J. Burford*

*Inventor
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UNITED STATES PATENT OFFICE.

PATRICK SCANLAN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN PAPER-MACHINES.

Specification forming part of Letters Patent No. **109,552**, dated November 22, 1870.

To all whom it may concern:

Be it known that I, PATRICK SCANLAN, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and valuable Improvement in Machines for Making Paper; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side elevation of the principal parts of my improvement. Fig. 2 is a top view.

The letters and figures of reference apply to the same parts in each view.

The nature and object of my invention is to accomplish the manufacture of heavy paper or card-board with two qualities or colors of stock combined. This is effected by the combination of a cylinder and a Fourdrinier machine in such a manner that a superior stock or pulp can be worked on either machine and the inferior on the other, and the two sheets produced united to make one heavy sheet, with surfaces of different qualities or colors.

A A represent the frame-work of a Fourdrinier machine as in common use, some of the details being omitted to prevent confusion. B B are the rollers beneath the wire apron C. D D are the apron-rollers; E, the guide-roller; F, the tightening-roller; G, the coucher. The line H represents the sheet of paper made on the Fourdrinier machine.

I is the first-felt; J J, first-felt rollers; K, tightening-roller; L, guide-roller. M M are the first-press rollers; N, the pulp-vat of the cylinder-machine; O, the making-cylinder; P, the coucher; Q, the coucher-frame; R, the making-felt of the cylinder-machine. 1 2 3 4 are the making-felt rollers; 5 6, the tightening-rollers; 7, squeeze-roller. S is the felt-washer; T, the shower-water pipe. U is a drip-water guard, kept warm by the steam-pipes *a a*. W is the junction felt-roller. V is

the combined sheet of the two machines after the junction at W and J. X is a guide-roller for the sheet; Y Y, the second-press rollers.

The direction of the various motions is represented by the arrows.

The advantages gained by this combination are, first, the reduction of the wear and tear of the wire-cloth apron of the Fourdrinier machine, as less vacuum is required in the suction-boxes, there being a thinner body of pulp required to make the required weight of finished paper after combining with that made on the cylinder-machine; second, it avoids the liability to crush the paper, as both sheets are couched before uniting.

By this means paper one-third heavier than has been hitherto done can be made without destroying the wire apron of the Fourdrinier machine. The paper will be more solid and elastic, and have the two top surfaces in the middle of the sheet, thereby producing a heavy paper with two smooth even faces, and should there occur any defect in either sheet the other will cover the fault and prevent any stoppage or waste of time and material.

The arrangement of this combination, it will be seen, is such that, in case of necessity, either machine can be worked independent of the other.

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

1. The combination of the Fourdrinier and cylinder machine, for the purpose set forth.
2. The combination of the making-felt of the cylinder-machine with the first-felt of the Fourdrinier machine and the first-press rollers M M, to prevent the crushing of the paper, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

PATRICK SCANLAN.

Witnesses:

J. G. LIGHTFORD,
J. T. BURFORD.