

(No Model.)

T. LINDSAY.
DRIER FOR PAPER MACHINES.

No. 480,407.

Patented Aug. 9, 1892.

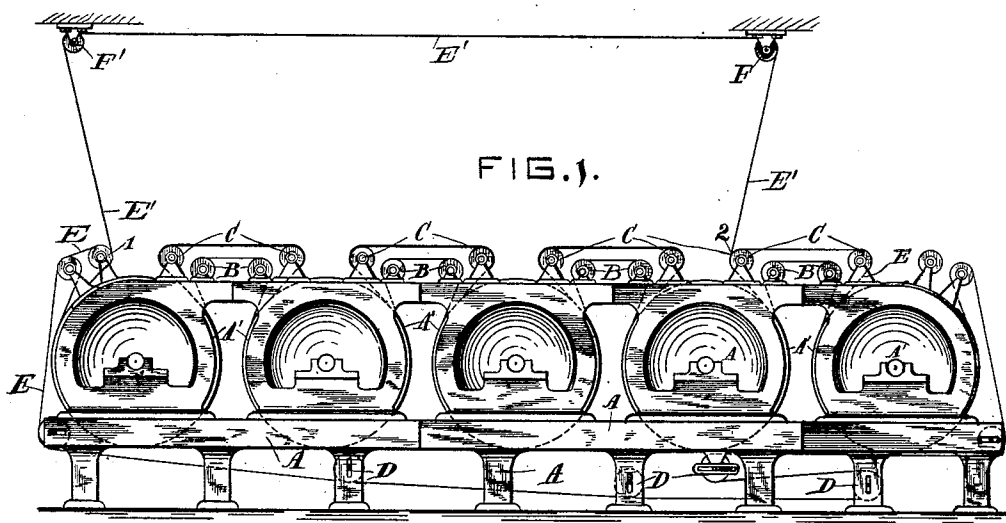
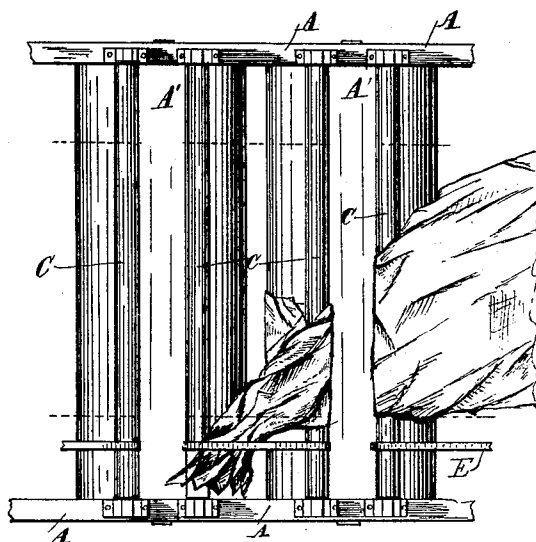


FIG. 2.



Witnesses
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THOMAS LINDSAY, OF BROOKVILLE, INDIANA.

DRIER FOR PAPER-MACHINES.

SPECIFICATION forming part of Letters Patent No. 480,407, dated August 9, 1892.

Application filed February 14, 1891. Serial No. 381,416. (No model.)

To all whom it may concern:

Be it known that I, THOMAS LINDSAY, a citizen of the United States, and a resident of Brookville, in the county of Franklin and State of Indiana, have invented certain new and useful Improvements in Driers for Paper-Machines, of which the following is a specification.

The object of my invention is to provide a convenient means for starting a paper web through the driers after it leaves the press-rolls. Heretofore it has been the practice of the operator to catch the leading end of the paper web, throw it between the felt and the first drying-roll, seize the end of the web as it passes from the roll, carrying it to the next by passing it over the paper-carrying rolls, and so on through the whole series. This has been a very troublesome and dangerous operation, as the drying-rolls are highly heated. By means of my invention all danger to the operator is obviated and the machine may be run at a much higher speed and its effectiveness increased.

In the accompanying drawings, Figure 1 is an elevation of an ordinary drier for paper-machines provided with my improvements. Fig. 2 is a detail plan view of the head end of a drier, showing the leading end of the paper web started around the drying-rolls, the dotted lines showing the width of the paper. In this view the felt and the upper felt-carrying rolls are for clearness shown removed.

Referring to the parts by reference-letters, A represents the frame of the machine, within which the drying-rolls A' are shown mounted upon suitable bearings.

B are the felt-carrying rolls, and C the web-carrying rolls. These rolls are mounted on suitable bearings upon top of the frame A, and the tension-rolls D for the felt are mounted in the lower part of the machine-frame. The parts above referred to are of the ordinary construction and need not, therefore, be specifically described.

E E' are a pair of endless tapes. The tape E passes underneath the felt and around with it between it and the drying-rolls to a point where the felt leaves the drying-rolls to pass over the first of the felt-carrying rolls B. From this point the tape separates from the

felt and passes around and over the ordinary paper-rolls C, following in fact the line of travel that the web of paper follows in the ordinary machine. The other tape E' passes over and around pulleys F and F', mounted in suitable hangers above the machine. From the pulley F it passes down to one of the paper-carrying rolls at 2, from which point it travels with the tape E. The two tapes from this point travel together one above the other parallel with one edge of the paper through the drier until they reach the last paper-carrying roll 1. From this it passes up and over the pulley F'.

I find by experience that it is best to start the grasping tapes together at the second drying-roll, as shown in the drawings, in order that the web may be partially dried by the first roll before it is grasped by the tapes; but they may be made to start together at the first roll or at the press-rolls, if desired.

In the machines, as shown in the drawings, the operator seizes the end of the web as it comes from the paper-pressing rolls, feeds it to the first drying-roll in the ordinary manner, then again seizes it as it passes from the first drying-roll, carries it forward, and feeds it to the bite of the tapes, as shown in Fig. 2, the tapes carrying it through the drier without further trouble.

It is obvious that many mere mechanical modifications may be made in the arrangement of the tapes without departing from the spirit and scope of my invention. It would, for instance, be but an inferior modification of my invention to dispense with either one of the endless carrying tapes E or E'; but in such case it would be necessary to wind the end of the paper web around the remaining one.

It will be seen that the carrying-tapes pass over and partially around the upper paper-carrying rolls and assist in causing them to revolve, thus relieving the partially-dried paper web from strain.

What I claim, and desire to secure by Letters Patent, is—

1. In a drier for paper-machines, the combination of the drying-rolls, the felt-carrying rolls and paper-carrying rolls, an endless carrier for conveying the leading end of the paper web when started through the drier, said

carrier being arranged around the faces of the drying-rolls and web-carrying rolls to follow the travel of said web outside of and parallel to its edge, substantially as hereinbefore set forth.

2. In a drier for paper-making machines, substantially as described, the combination of a pair of tapes arranged one above the other and passing around the drying-rolls and paper-carrying rolls alongside of and parallel to the paper web to grasp the leading end of the paper web upon starting it through the drier and to assist in revolving the paper-carrying rolls and releasing the web from strain.

3. In a drier for paper-machines, the combination, substantially as hereinbefore set forth, of the drying-rolls, the felt-carrying

rolls and paper-carrying rolls, and the web-carrying felt, with the tape E, carried with the felt around the bottom and side of the rolls and over the paper-carrying rolls, and the endless tape E', passing over the pulleys F and F', thence under and around the drying-rolls with the felt and over the paper-rolls with the tape E, said tapes being arranged to travel outside of and parallel to the edge of the paper web for the purpose of carrying the leading end of said web through the driers, substantially as shown and described.

THOMAS LINDSAY.

Witnesses:

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