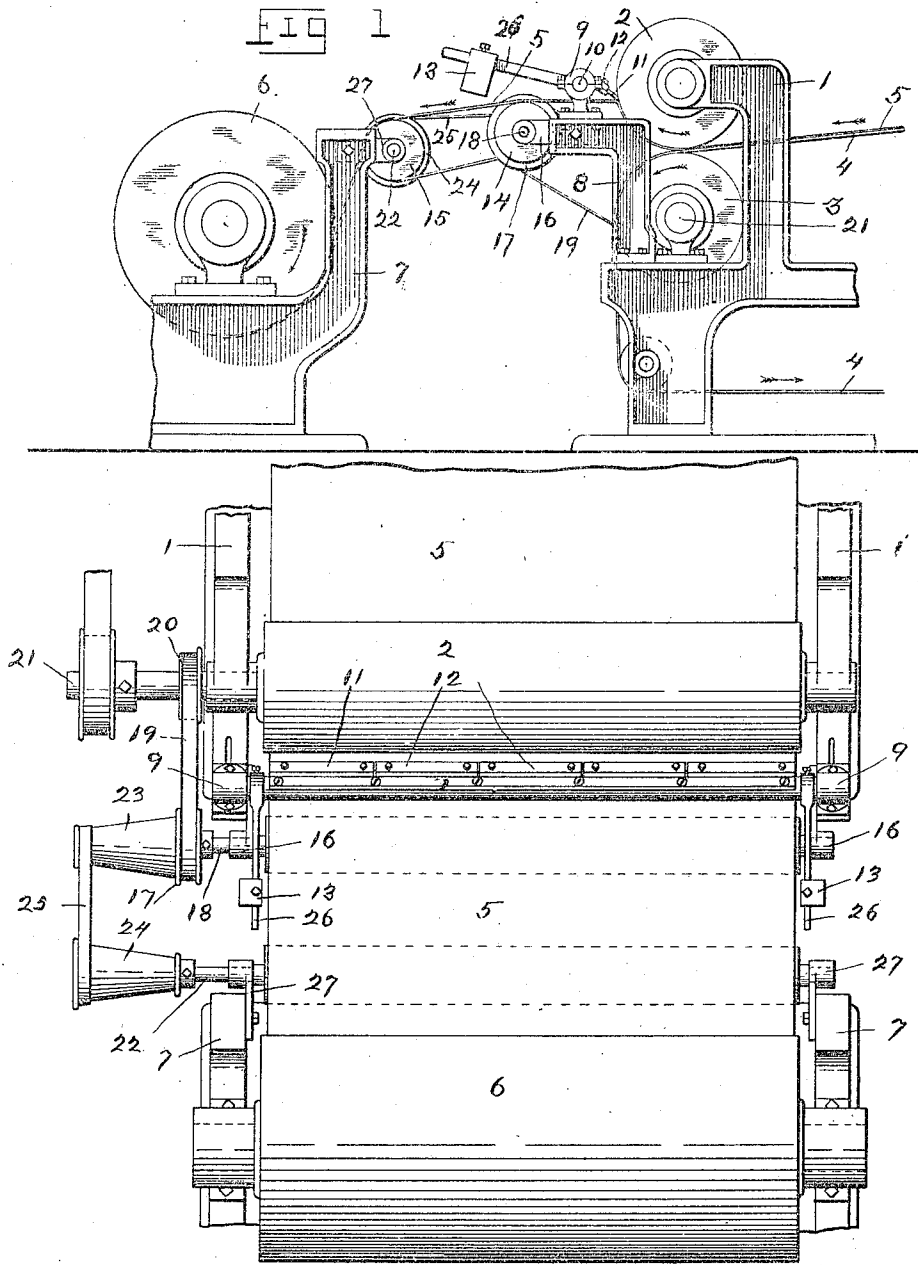


H. C. COUCH & H. J. PIERSON.
ATTACHMENT FOR PAPER MAKING MACHINES.
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ATTACHMENT FOR PAPER-MAKING MACHINES.

1,052,463.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed November 15, 1911. Serial No. 661,193.

To all whom it may concern:

Be it known that we, HARLO C. COUCH and HENRY J. PIERSON, citizens of the United States, residing at Lititz, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Paper-Making Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a device for attachment to paper-making machines to guide and support the damp paper as it leaves the press rolls of the paper machine and before it enters the drying machine; the device being of special advantage as used in the manufacture of tissue, and all other papers which are liable to cling to, rather than part freely from, the press rolls while in a damp state, thus destroying the paper and requiring a longer time in the course of manufacture.

The object of the invention is to produce a device of this class that shall be durable and efficient, and be readily adaptable to paper-making machines of the usual type, enabling the machines to be run at a greater speed and the use of a cheaper quality of paper stock.

Another object of the invention is to provide a device that shall smooth and stretch the paper while in a damp state, and give any desired amount of crimp or a smooth surface.

Still another object of the invention is to provide means whereby the damp paper is supported while it travels from the discharge rolls of the paper machine to the drier and also be prevented from adhering to the press rolls.

With these and other objects in view, our invention consists in certain construction and combination of parts as will hereinafter be fully described and claimed in the annexed specification and illustrated in the accompanying drawings which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views; but it is fully understood that while we have here described our invention as shown, that we do not confine ourselves to the exact design, as slight changes may be made in the construction and arrangement of the several parts without departing from the spirit of the invention.

In the drawings:—Figure 1, is a partial side elevation of the discharge end of a paper-making machine and the receiving end of a drier, showing our device attached thereto. Fig. 2, is a top plan view of the same.

Referring to the drawings:—The side frames of a paper-making machine are indicated by the numeral 1, and within which are mounted the press rolls 2, and 3, and the roller 3, supporting the pulp conveyer belt 4.

Without the employment of our device the pressed pulp or damp paper 5, is carried directly to the receiving roll 6, of a drying machine 7, and as it does not receive any support or guidance, other than itself, it has a tendency to adhere to the roller 2, which causes it to break. To prevent this, we have secured to the side frames 1, of the paper machine, the supporting brackets 8, to which are secured in an adjustable manner the bearings 9, within which is mounted a rocker-shaft 10, to which is secured a scraper or doctor-blade 11, by the clamps 12, in an adjustable manner. Said doctor-blade 11, bears against the press roll 2, and the pressure is controlled by a counter-weight 13, slidably and adjustably mounted on an arm 26, secured to said shaft 10, and by this device the pulp or damp paper 5, is prevented from adhering to and being carried around by said roll 2.

To guide, support and stretch the paper, taking out all crimp caused by the doctor-blade 11, the rollers 14, and 15, are provided. The roller 14, is rotatably mounted in the bearings 16, secured to the brackets 8, of the paper machine, and the roller 15, is rotatably mounted in bearings 27, secured to the drier; the pulp or damp paper 5, passing over these rolls 14, and 15, to the drier. The roll 14, is driven by a pulley 17, secured upon the projecting end of shaft 18, and a belt 19, from a pulley 20, secured upon the shaft 21, of the roller 3. The projecting end 18, of the roller 14, and the projecting end 22, of the roller 15, are each provided with a cone-pulley 23, and 24, connected by the belt 25, in such a manner that by shifting said belt 25, said rollers 14, and 15, can be made to rotate in various relations to each other, and in this way by causing the roller 15, to rotate at a greater speed than the roller 14, the paper will be stretched as it passes between said rolls. By

adjusting the speed of the rolls 14, and 15, the amount of the crimp left in the paper may be varied from the original amount of crimp made by the blade 11, to a smooth surface.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:—

1. The combination with a paper-making machine provided with a press roll, cooperating with a paper drying machine provided with a paper-receiving roll, and means for parting the damp paper from said press roll, of means for supporting and stretching said damp paper between the press roll of said paper-making machine and the receiving roll of said paper drying machine.

2. The combination with a paper-making machine provided with a press roll, and cooperating with a paper drying machine provided with a paper receiving roll, having means for parting the damp paper from said press roll, comprising a scraper blade mounted adjacent thereto and in contact therewith, of means for supporting and stretching the traveling paper between said rolls.

3. The combination with a paper-making

machine having a paper pressing roller and cooperating with a paper drying machine having a paper receiving roller, of means for preventing the paper from adhering to and following the press roller past the center, means for supporting said paper during its travel comprising a roller mounted upon said paper machine to support and carry said paper and a roller mounted on the end of the drier to support and carry said paper.

4. The combination with the paper press roll of a paper-making machine and the receiving roll of a drying machine, of means for parting the paper from said press roll, means for supporting and stretching said paper between said rolls, comprising a pair of supporting rolls spaced apart and means for driving the second of said rolls at a greater speed than the first roll to pull the paper between said rolls.

In testimony whereof we affix our signatures in presence of two witnesses.

HARLO C. COUCH.
HENRY J. PIERSON.

Witnesses:

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