J. ORELLE, ainé, & F. PICHON.

Method and Means for Preparing Paper for Beaming Woven Fabrics.

No. 227,381. Patented May 11, 1880.

Fig: 1

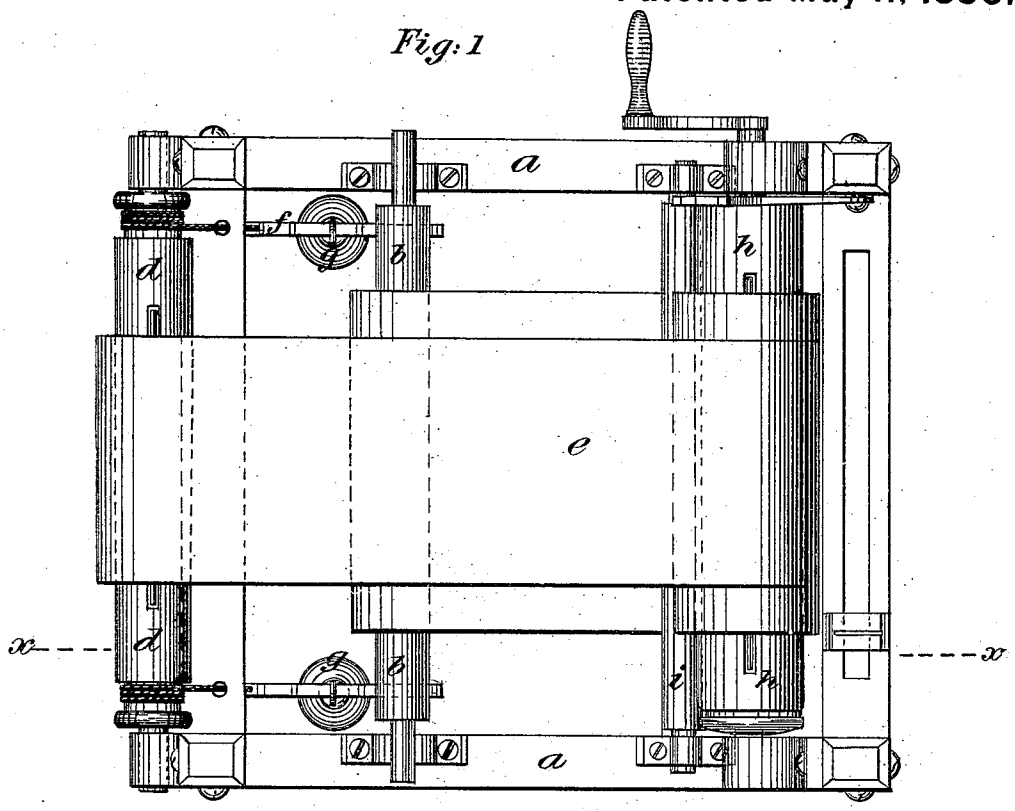
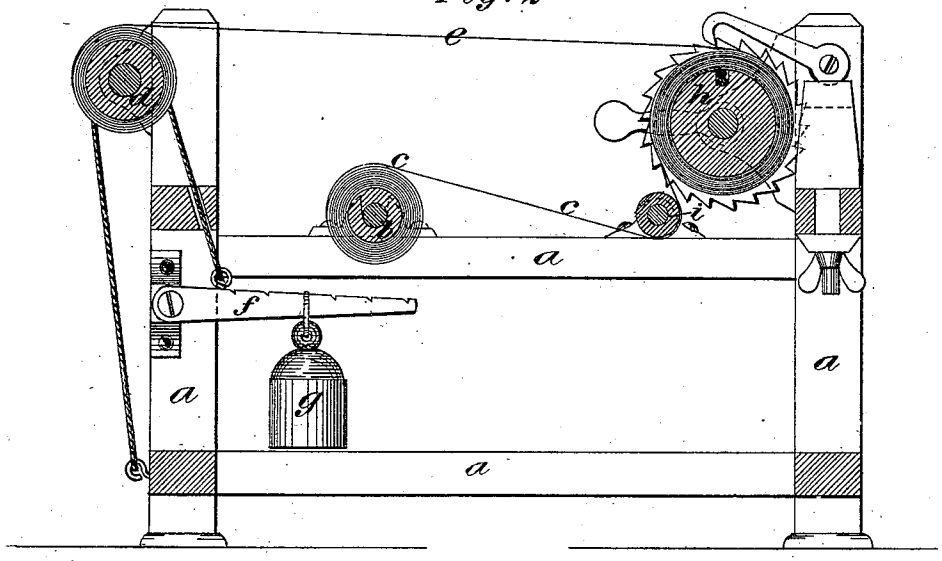


Fig: 2



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UNITED STATES PATENT OFFICE.

JUILIEN ORELLE, AINÉ, AND FRANÇOIS PICHON, OF LYONS, FRANCE.

METHOD AND MEANS OF PREPARING PAPER FOR BEAMING WOVEN FABRICS.

SPECIFICATION forming part of Letters Patent No. 227,381, dated May 11, 1880.

Application filed December 10, 1879. Patented in France October 13, 1879.

To all whom it may concern:

Be it known that we, JUILIEN ORELLE, Aîné, and FRANÇOIS PICHON, of Lyons, France, have invented Improvements in Preparing or Smoothing and Straightening Paper in the Roll to be used in Beaming Woven Fabrics; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheet of drawings, making a part of the same, in which—

Figure 1 is a top view, and Fig. 2 a vertical section on line *x x*, Fig. 1, of our improved apparatus.

Hitherto it has not been possible to employ paper in the continuous web or roll for winding up with fabrics, in consequence of the irregular way in which it rolls up, which is due to its unequal thickness and to the undulations or wrinkles produced by unequal tension longitudinally and transversely.

The impossibility of rolling it up regularly is more especially apparent in the case of a fabric whose tension at all points is uniform, as the paper runs to the one side or the other, and ultimately escapes from beneath the fabric, notwithstanding every effort made to keep it in place.

Our invention has for its object to subject the paper to a preliminary preparation, having for its object to smooth, straighten, and make it roll evenly, whereby it is rendered suitable for being wound up with fabrics on rollers; and the invention consists in winding the paper upon a roller together with a fabric to which a powerful tension is applied. This may be done by means of an apparatus such as that represented in the accompanying drawings.

In the drawings, *a* represents the frame of the machine; *b*, the roller upon which is wound the paper *c* to be smoothed or straightened and made even; *d*, the beam upon which is wound a fabric, *e*, of sufficient strength to sustain a powerful tension applied by means of levers and weights *f g*.

It is essential that the fabric should be kept in great tension, in order that it may be able to control and fashion, so to speak, the paper, which is wound up with it upon a roller, *h*, the paper first passing beneath a roller, *i*, placed in close proximity to roller *h*, in order that it may pass smoothly onto said roller *h*. Thus both the fabric and paper are wound together and kept in the highest possible tension, and when the whole has been wound on the paper is trimmed at each end of the roll. The paper, before being thus straightened and trimmed, should exceed the width required by about four inches.

Paper smoothed or straightened in the manner described winds up easily and smoothly with the cloth.

The arrangement of the apparatus to be employed for straightening and trimming the paper may be varied without departing from the invention.

It will be seen that the tension is applied to the fabric *e* in direction opposite to that in which the paper is wound, so that the fabric will exert actual pressure upon the paper coil.

By exposing the paper to the treatment above described it is made practically smooth and even and freed of all wrinkles, so that it may be safely used in winding it in with cloth in beaming, to assist in keeping the same properly spread and to reduce the strain upon the fabric in beaming.

After having been pressed, the paper is taken off the machine and used in beaming cloth, as stated, the fabric *e* remaining in the machine.

I claim—

1. The method of preparing, straightening, or smoothing paper in the roll to render it suitable for being wound up with fabrics on rollers by winding it before it is used to assist in beaming the cloth upon a roll together with a fabric which is under severe tension in opposite direction, and then separating it from said fabric, substantially as herein shown and described.

2. The combination of the cloth-carrying beam *d*, tension apparatus *f g*, fabric *e*, and roll *h* with the roller *i* and roller *b*, the said machine, including the fabric *e*, serving to press paper, substantially as herein shown and described.

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