G. L. Jaeger,

Lining Paper.

No. 111,849. Patented. Feb. 14. 1871.

Fig. 1.

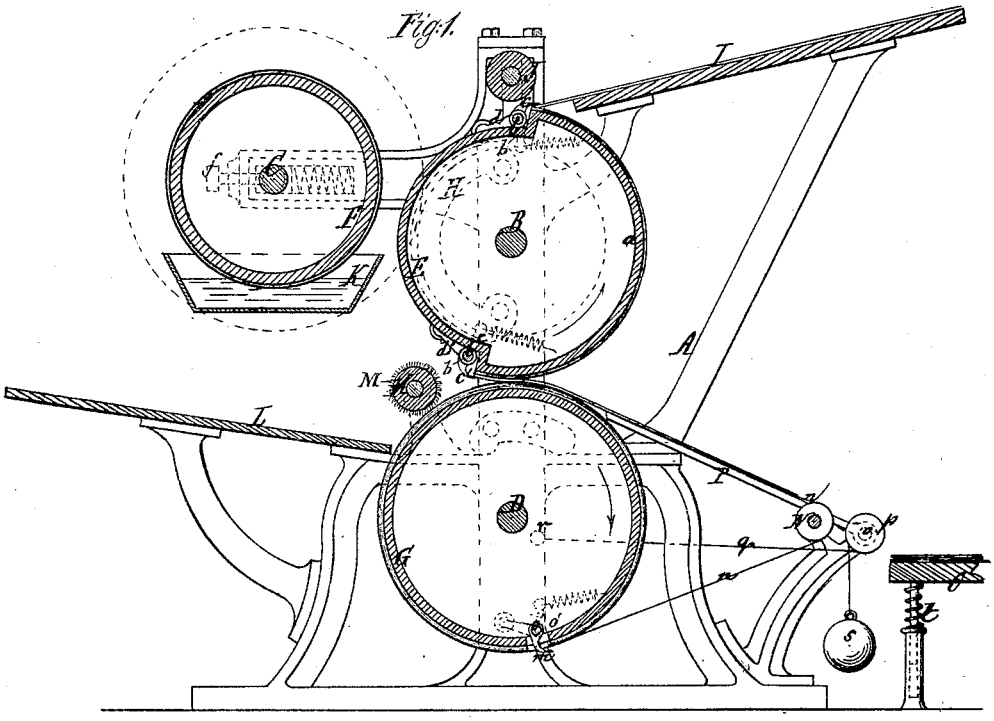

Fig. 2.

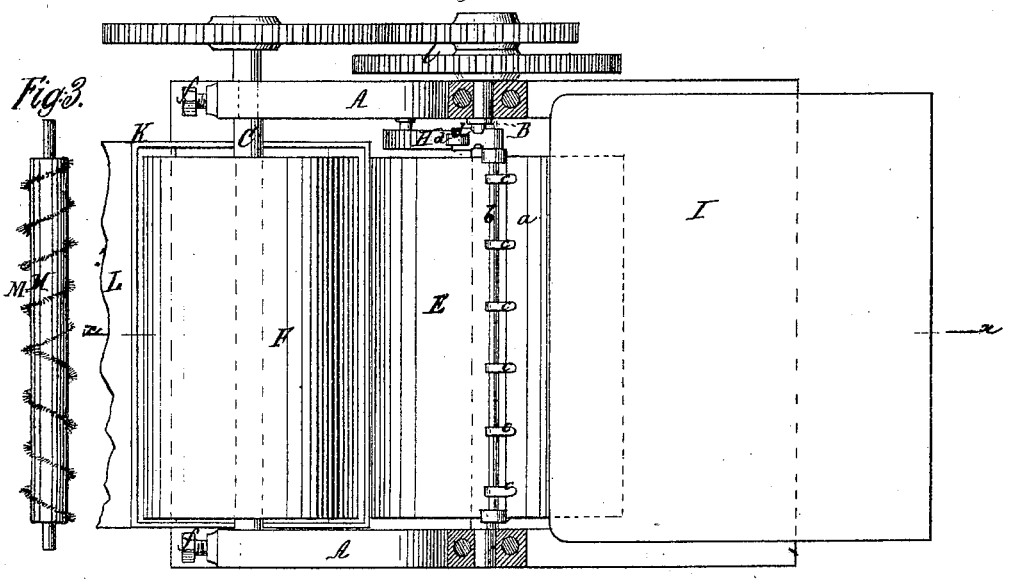

Fig. 3.

Witnesses.

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GUSTAV L. JAEGER, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR LINING PASTEBOARDS.

Specification forming part of Letters Patent No. **111,849,** dated February 14, 1871.

To all whom it may concern:

Be it known that I, GUSTAV L. JAEGER, of the city, county, and State of New York, have invented a new and Improved Machine for Lining Pasteboards and for pasting two sheets of paper together; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same. Fig. 3 is a detached elevation of the spiral brush, which serves to spread the paper on the paper-cylinder.

Similar letters indicate corresponding parts.

This invention relates to a machine for lining pasteboards with paper, or for uniting two sheets of paper, said machine being composed of a pasteboard-cylinder, provided with gripers capable of taking hold of the pasteboards and carrying them past a pasting-roller, and then bringing them in contact with sheets of paper carried on a paper-cylinder, and held thereon by gripers, in combination with a fly which serves to carry off the lined pasteboard.

A spiral roller-brush spreads the sheets of paper on the paper-cylinder, so that the same will lie flat and show no wrinkles after having been pasted to the pasteboard.

In the drawing, the letter A designates a frame, by preference made of cast-iron, which forms the bearings for shafts B C D, on which are mounted, respectively, the pasteboard-cylinder E, the pasting-roller F, and the paper-cylinder G.

The pasteboard-cylinder is constructed with a raised segment, *a*, which is covered with india-rubber, felt, or other similar material, like the paper-cylinder of a printing-press.

Close to the shoulders, which form the connection between the raised segment of the pasteboard-cylinder and its low section, are situated two shafts, *b b'*, which extend across the cylinder, and carry each a series of gripers, *c c'*, intended to clamp the pasteboard and retain the same securely on the surface of the cylinder.

The shafts *b b'* extend beyond the cylinder, and on their ends are mounted arms *d d'*, which act against a stationary cam, H, secured to the frame A, and as the cylinder revolves in the direction of the arrow marked thereon in Fig. 1 the arm *d* of the shaft *b* strides the cam H, and the gripers close down upon the end of the pasteboard fed to the cylinder E over the table I. The pasteboard is thus drawn in, and it is held down upon the surface of the raised segment *a* of the cylinder by a roller, J, which bears down by its inherent gravity and prevents the pasteboard from springing out away from the surface of the cylinder, so that the outer edge of the board will be clamped by the gripers *c'*.

The pasteboard, being thus held down upon the surface of the cylinder E, is carried past the pasting-roller F, which is covered with felt or other absorbent material, and geared, together with the cylinder E, so that its superficial velocity is considerably less than that of said cylinder.

The shaft C of the pasting-rollers has its bearings in boxes which slide in slots in the frame A, so that the position of the pasting-roller, in regard to the pasteboard-cylinder, can be adjusted by set-screws *f* with the greatest accuracy.

The pasting-roller dips in troughs K containing paste, and, as the same revolves, it takes up some of the paste and rubs the same against the pasteboard carried on the pasteboard-cylinder, the surplus paste being scraped off by reason of the difference in the circumferential velocity of the pasting-roller and the pasteboard-cylinder.

The paper-cylinder G is geared, together with the pasteboard-cylinder E, by cog-wheels *l*, (see Fig. 2,) so that the circumferential velocity of the two is exactly alike, and said paper-cylinder is furnished with one set of gripers, *m*, which take hold of the sheet of paper fed to said cylinder over the table L and carry the same through between the two cylinders, bringing it in contact with the surface of the pasteboard which has been previously covered with paste.

Before the paper is brought in contact with the pasteboard, however, it is exposed to the action of a spiral cylinder-brush, M, a detached view of which is shown in Fig. 3. By this spiral brush the paper is stretched laterally on the paper-cylinder, so that all wrinkles are removed, and that the pasteboard, after having been lined, presents a smooth surface.

After the paper has been brought in contact with the pasteboard, both the sheet of paper and the pasteboard are released by their gripers, and the lined pasteboard is deposited on a fly, P, a series of tapes, *n*, being provided, which prevent the paper from adhering to the paper-cylinder. These tapes are stretched over the paper-cylinder and over sectional rollers N, and they run down between the arms of the fly, which is constructed similar to a fly of a cylinder printing-press. Said fly has its fulcrum on a shaft, *o*, mounted in the frame A, and carrying a pulley, *p*, round which is wound a cord, *q*, one end of which is secured to an eccentric-pin, *r*, secured in the head of the paper-cylinder, while from its other end is suspended a weight, *s*.

As the paper-cylinder revolves in the direction of the arrow marked thereon in Fig. 1, the pulley *p* is caused to revolve, and the pasteboard previously deposited on the fly P is turned down upon the table O. This table is supported by springs *t*, which yield as the weight of the pasteboard on the table increases, so that the surface presented to the fly remains as near as practicable at a uniform level, and that the fly, on being turned down, will receive no injury.

If desired, the fly can be made to deposit the pasteboard on an endless apron, serving to carry the same to the drying apparatus.

It must be remarked that the paper might be fed over the cylinder E and the pasteboard over the cylinder G, and the cylinder E might be so arranged that its raised segment could be adjusted to sheets of different sizes.

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

1. The pasteboard-cylinder provided with gripers *c c'*, in combination with the pasting-roller F and with the paper-cylinder G, all constructed and operating substantially in the manner herein shown and described.

2. The spiral cylinder-brush P, in combination with the paper-cylinder G and the pasteboard-cylinder E, substantially in the manner set forth.

3. The combination of the yielding table O with the fly P, the paper-cylinder G, and the pasteboard-cylinder E, substantially as described.

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Witnesses:
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