

G. La MONTE & J. H. HALL.

Process of Ornamenting Writing-Paper.

No. 159,515.

Patented Feb. 9, 1875.

Fig. 1.

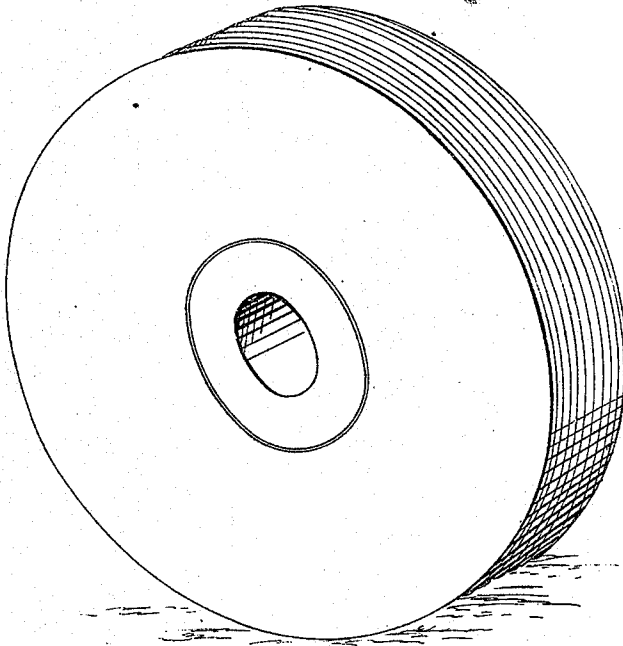
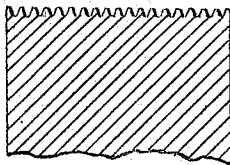


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE LA MONTE AND JOHN H. HALL, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF ORNAMENTING WRITING-PAPER.

Specification forming part of Letters Patent No. **159,515**, dated February 9, 1875; application filed June 17, 1874.

To all whom it may concern:

Be it known that we, GEORGE LA MONTE and JOHN H. HALL, of the city, county, and State of New York, have invented a new and useful Improvement in the Manufacture of Figured or Ornamented Paper; and we do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the section of one of our improved calender-rolls; and Fig. 2 is a section, showing the character of the surface.

The object of our invention is to produce figured or ornamented paper by passing it between calender-rollers, the surface of one of which is engraved or impressed with the pattern it is desired to transfer to the paper.

The nature of our invention consists of a new process of ornamenting writing-paper, in which that portion of the paper which forms the figure or ornament is compressed, in a damp state, between a figured and plain roller, and the remaining portion, constituting the general surface of the paper, is calendered in the ordinary way after the paper has been thoroughly dried, all as hereinafter more fully set forth.

In carrying our invention into practice we employ two pairs of calender-rollers. Upon the surface of one of the rollers of the first pair we produce, by any suitable process, any desired pattern or design in relief which we wish to transfer to the surface of the finished paper. The other roller of this pair has a plain, smooth surface, and both are formed of steel or other metal, and made to run truly in contact, and are provided with suitable means of adjusting their pressure.

The roller represented in the drawing is one intended to produce straight lines across the paper; but any variety of pattern may be equally well adopted. The rollers of the second pair are both plain, and do not differ from ordinary calenders.

The paper intended to be figured is taken just as it comes from the drier, is dampened, and passed between the first pair of rollers. The projecting portions of the figured roller

compress the parts of the paper with which they come into contact, and impress upon the paper the desired pattern or design, the compressed portions receiving, by this process, a condensation which renders them darker and more translucent than the general surface of the paper. They are, in fact, calendered and finished by this operation.

After passing between the first pair of rolls the paper is perfectly dried, and is passed, in a dry state, between the plain calenders, which operation does not affect the figured parts of the paper, but imparts a final and equal finish to the general surface of both sides of the paper, leaving the impressed design upon it.

Fancy-figured writing-papers have heretofore been either water-marked or pressed between plates so prepared as to give the paper a figured ornamental surface.

In water-marking the figure is made by diminishing the amount of stock in the figured portions.

In the plating process, which is done dry, the calendering always precedes the figuring, and paper ornamented in this way would, if passed between the plain calenders, be reduced to plain paper again.

In the ordinary fancy papers there is a very perceptible difference of finish between the two surfaces.

Our process differs in character and result from both of these in being much cheaper and more rapid, and in producing a paper with a superior finish on both sides. The economy of our process results from its rapidity and the saving of handling. We take the paper just as it is made, before it is cut into sheets, and pass it, in a continuous length, between the figuring-rolls, at the rate of a hundred feet or more per minute, producing an article fully equal, if not superior, to the foreign-made fancy papers at a price which will enable the American manufacturer to compete with the foreign papers in the market on advantageous terms.

Having thus described our improved process of making figured paper, what we claim, and desire to secure by Letters Patent, is—

The process of figuring writing-paper by passing it, in a damp state, between a pair of

metallic rollers, one of which is figured in relief with the desired pattern or design intended to be transferred to the paper, and afterward finishing the general surface of the paper, when in a dry state, between smooth calender-rolls, all in the manner substantially as described.

The above specification of our said inven-

tion signed and witnessed at New York this 9th day of June, A. D. 1874.

GEO. LA MONTE.
JOHN H. HALL.

Witnesses:

ROBT. N. WAITE,
EZRA T. REED.