

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN THE MANUFACTURE OF PAPER COLLARS, &c.

Specification forming part of Letters Patent No. 54,404, dated May 1, 1866.

### *To all whom it may concern:*

Be it known that I, GEORGE W. RAY, of the city of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in the Mode of Preparing Paper for Conversion into Articles of Wearing-Apparel; and I do hereby declare the following to be a full and exact description thereof, reference being had thereto, and to the accompanying specimens of collars, to which my invention is applied.

The purpose of my invention is to more closely imitate the linen fabric of which collars, cuffs, and bosoms are made; and it consists in preparing and adapting paper, as hereinafter described, to the manufacture of such articles.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and application to use.

Paper collars and cuffs have become important and extensive articles of manufacture, and many modes of preparing them to imitate the linen collars have been proposed, but as yet no successful result has been attained.

The paper collars in commerce have a plain and smooth surface, very unlike the linen collars they are made to take the place of, except where they are ornamented by color-printing, and these but faintly resemble calico collars.

By my invention I am enabled to imitate, not only the fiber and figure of textile fabrics and laces, but the finish, gloss, or starched face of such fabrics, thus making an exact imitation of the linen collar when prepared, by all the appliances of a laundry, for use. It is accomplished as follows:

I take a suitable paper which possesses a degree of strength, rigidity, and purity, whether backed up by or having combined in it a thin textile fabric to increase its strength or not, and apply any preparation of white lead, known as "Kremnitz white," or its equivalent, or any common enamel in its wet or plastic state, and when dried I emboss on its face or back, or both, where both sides are to be enameled, any suitable design, such as the imitation of the fiber or texture of linen or other fabric, or the figure of marseilles, or the various figured laces used for ladies' collars, and I then finish the enameling process by passing it between calenders or rollers, or by pressing it between

steel plates, to imitate the gloss or surface usually imparted to linen collars and cuffs by starching and ironing. This process is susceptible of many modifications known to the art. By this process it will be perceived that not only is the figured appearance of the linen given to it, but the surface of the finest textile collars and other articles is closely imitated.

When my invention is used to imitate ladies' collars of lace the article may be perforated to imitate the open work or embroidery, and may have its edges scalloped or cut in any other design, and may be ornamented by color printing.

It is obvious to all that my invention is equally applicable to other articles of wearing-apparel without departing from its principle of operation.

I am aware that articles of wearing-apparel made of paper are made with enameled surfaces, also that these have been embossed; but, as it is well known that the process of finishing the enameled surface is by heavy pressure either between rolls or steel plates it will be perceived that a finished enameled surface will not so easily take or receive a fine impression in the process of embossing. By my invention the unfinished surface of the enamel, not having been subjected to the heavy pressure in the process of finishing by rolling or pressing when embossed, is left soft, and is far more susceptible of receiving any impression, even to the finest thread, and the surface can then be rolled or pressed to any desired degree of hardness and finish. The advantage of my invention and process is thus very readily perceived.

I do not claim a finished enameled paper; neither do I claim embossing upon a finished enameled surface; but

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

As a new article of manufacture, paper embossed and enameled, whether before or after its conversion into articles of wearing apparel, all substantially as herein described.

GEO. W. RAY.

Attest:

GIDEON WELLS,  
CHARLES A. BIRNIE.