UNITED STATES PATENT OFFICE.

JOHN C. PENNINGTON, OF PATERSON, NEW JERSEY.

PREPARING PAPER FOR WRAPPING METALLIC ARTICLES TO PREVENT TARNISHING, &c.

SPECIFICATION forming part of Letters Patent No. 380,515, dated April 3, 1888.

Application filed June 3, 1887. Serial No. 240,144. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN C. PENNINGTON, a citizen of the United States, and a resident of the city of Paterson, county of Passaic, and State of New Jersey, have invented a new and useful Improvement in Preparing Paper for Wrapping Metallic Articles to Prevent Tarnishing, &c., of which the following is a specification.

This invention consists in incorporating with the paper or applying to the surface of the paper a fine powder of metallic zinc in such a manner that it will adhere, so that when silver, copper, brass, or iron articles are wrapped in the paper they will be preserved from rusting or tarnishing by reason of the more electro-positive property of the zinc compared with such metals as silver, copper, brass, or iron, &c., and also by reason of the affinity of the zinc for sulphureted hydrogen, chlorine, or acid gases or vapors, thus combining with said gases or vapors and preventing them from rusting or tarnishing the metallic articles wrapped in such paper.

To carry out this invention I prefer to sift on the sheet of paper-pulp while it is in process of manufacture, and before it is pressed and dried, a powder of metallic zinc (known in commerce as "blue powder") in convenient quantity—say to the extent of one-half the weight of the dried paper. The paper is then run between the press-rolls and over the drying-cylinders, &c., in the ordinary manner. The zinc-powder will adhere to the paper and be partly incorporated with it in greater or less quantity as the sheet of paper-pulp is more or less thick or more or less wet. I prefer this method; but the paper may also be sized with glue, starch, &c., and then be dusted with the zinc-powder, or the zinc-powder may be mixed with the size, starch, &c., and then be applied to the surface of the paper by well-known methods.

A patent, No. 223,814, was granted to me, John C. Pennington, dated January 27, 1880, for a process of impregnating paper with a solution of oxide of zinc in caustic alkali; but the above-described process is more efficient, because, besides the property of absorbing sulphureted hydrogen, chlorine, &c., the electric opposition between the zinc and other more electro-negative metals to be wrapped in the paper also tends to prevent their rusting and tarnishing.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The method of preventing metallic articles from rusting or tarnishing, which consists in wrapping them in or covering them with a paper having in it or upon its surface powdered metallic zinc, substantially as described.

2. As a new article of manufacture, wrapping-paper having incorporated with it or bearing upon its surface powder of metallic zinc, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 2d day of June, 1887.

JOHN C. PENNINGTON.

Witnesses:

JOHN R. BEAM,

LIZZIE HODGKINS.