

# UNITED STATES PATENT OFFICE.

GEORGE W. RAY, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO RAY & TAYLOR, OF SAME PLACE.

## IMPROVED WATER-PROOF COLLAR AND CUFF.

Specification forming part of Letters Patent No. **48,239**, dated June 13, 1865.

*To all whom it may concern:*

Be it known that I, GEO. W. RAY, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented an Improvement in Paper Collars and Cuffs; and I do hereby declare that the following is a full and exact description thereof.

The object of this invention is to obtain a paper collar or cuff which shall have its surface covered with an enamel which shall resist the action of moisture, perspiration, and even acid; which shall have a smooth polished surface, thus greatly improving the appearance of the collar, while at the same time it admits of its being sponged when dirty, and thus one collar be made to wear for a great length of time; and which shall be so elastic as to admit of the collar being folded without cracking or breaking the enamel.

I am aware that various enamels have been applied to collars and cuffs heretofore, but none, to my knowledge, combining the requisites above mentioned, and most compositions thus applied to collars and cuffs are, in fact, merely varnishes, incapable of enduring any uncommon degree of heat or perspiration, and cracking or breaking along the edge when folded.

The composition which I apply to paper collars and cuffs for this purpose is a mixture of different ingredients in substantially the following proportions: Gun-cotton, one (1) ounce; sulphuric ether, one-half ( $\frac{1}{2}$ ) pound; alcohol, one-half ( $\frac{1}{2}$ ) pound; gelatine, six (6) ounces.

The gun-cotton is dissolved in the ether and alcohol, and this preparation is flowed over

glass previously treated with nitric acid, and then left until dry. The gelatine is then dissolved in water and poured over this substance, the sheets of paper, thoroughly moistened, are then placed on top of this mass, and the gelatine causes it to adhere closely to the paper, and when dry it can be removed with it, the surface having the same appearance as the glass on which it was laid. The paper is then manufactured into collars and cuffs. This enamel may, by the mixture of coloring-matter with it, be made to give an elegant tint to the surface of any shade desired. It is elastic, water and perspiration proof, and has all the qualities mentioned in the first part of this specification.

I am aware that the substance before mentioned has been applied to other surfaces, but never, to my knowledge, to paper collars or cuffs, and I do not claim the composition named. Neither do I claim the process of enameling paper with this or any other substance, nor do I claim a paper collar or cuff enameled or varnished with any other substance; but

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

A paper collar or cuff when enameled with the composition and by the process herein described.

GEO. W. RAY.

Witnesses:

J. B. GARDINER,  
MILTON BRADLEY.