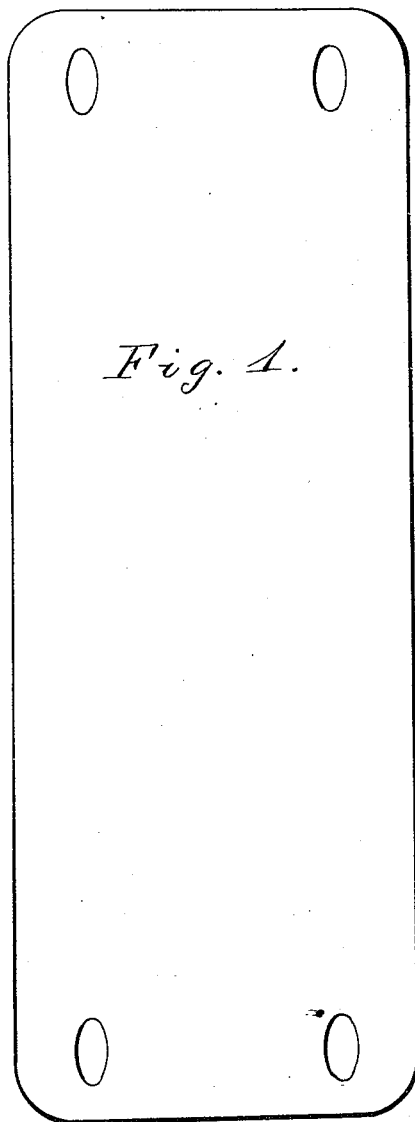


(No Model.)

J. W. HYATT.  
WATER PROOF COLLAR OR CUFF.

No. 419,262.

Patented Jan. 14, 1890.



Attest:  
F. C. Fischer.  
Grand Juror.

Inventor.  
John W. Hyatt  
per Crane & Miller

# UNITED STATES PATENT OFFICE.

JOHN W. HYATT, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE CELLULOID MANUFACTURING COMPANY, OF NEW YORK, N. Y.

## WATER-PROOF COLLAR OR CUFF.

SPECIFICATION forming part of Letters Patent No. 419,262, dated January 14, 1890.

Application filed August 30, 1889. Serial No. 322,473. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. HYATT, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Water-proof Collars and Cuffs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 The object of this invention is to produce an article of wearing-apparel, as a collar or cuff, coated with a pyroxyline varnish, and to secure in the article a high degree of elasticity and water-proof character with the  
15 smallest possible consumption of the pyroxyline.

A linen collar or cuff may be rendered water-proof by coating the same with pyroxyline varnish; but the absorbent character of  
20 such a material as linen necessitates the use of a great deal of the varnish to fill the pores; to envelop all the fibers, and to produce the desired smooth surface; and the same is true with articles made of muslin, paper, or other  
25 porous fabric.

My invention consists in an article of wearing-apparel, as a collar or cuff, composed of parchmentized vegetable fabric having a varnish of pyroxyline or its compounds applied  
30 to its entire exterior, by which construction I secure great elasticity in the product and secure the water-proof surface with the use of very little pyroxyline, as the parchmentizing of the vegetable fabric obliterates its  
35 pores and produces a smooth surface.

To carry out my invention the body of the article may be made with one layer of vegetable parchment, or of two or more layers formed into a single sheet in the process of  
40 parchmentizing, as is already practiced in the manufacture of vulcanized fiber and similar fabrics.

The annexed drawings show a cuff in Figure 1, and in Fig. 2 a section of the same formed  
45 with two layers.

In producing such an article, I take two layers *a b*, of paper or muslin, and brush over one side of each sulphuric acid or other solvent of cellulose, and press the layers together  
50 while their adjacent sides are softened by the solvent. When the solvent has penetrated

the substance sufficiently to convert it into vegetable parchment, I wash out the solvent, dry the sheet smooth and flat, and then cut out the article as a collar or cuff.

When the article is fully shaped, I apply the pyroxyline varnish *c* in a suitable coating to cover the entire surface with a thin layer of the pyroxyline, the quantity required to protect the parchment from moisture being  
55 very small, as the parchment is much harder and less absorbent than muslin and paper.

The button-holes in the article are preferably formed therein before the varnish is applied, and the varnish is placed upon the edges of the article and within the button-holes to wholly protect the surface from moisture. The article thus made possesses a high degree of elasticity and firmness, combined with great resistance to moisture, so that it can be repeatedly cleansed by soap and water without injury; and it can be made at much less expense than the celluloid collars and cuffs, which it closely resembles.

The extended use of celluloid collars and cuffs has demonstrated the superiority of pyroxyline in compounds for resisting wear and moisture, and it is therefore obvious that an article coated with a varnish of pyroxyline or compounds of pyroxyline is especially adapted for the object described.

The use, however, of a varnish made of pyroxyline or pyroxyline compounds for coating articles of wearing-apparel is too expensive when applied to a completely absorbent substance, as the article produced is not equal to the real celluloid collars and cuffs, while it costs too much to be sold at a lower rate, as the article requires, if made of muslin, to be  
85 carefully stitched and finished before the varnish is applied.

I do not claim the mere use of pyroxyline or celluloid varnish for waterproofing any object, as that has long been done; but I am not  
95 aware that any one has heretofore discovered that the use of parchmentized fabric for the body of the article would prevent the absorption of the pyroxyline varnish in a great degree while securing a water-proof coating to  
100 the parchment.

I am aware that articles of wearing-apparel

have been made of plain parchmented fabric, and that such articles have been protected by a coating of vulcanized india-rubber.

I am also aware that a layer of celluloid or zylonite has been united with muslin or similar flexible material to form a compound fabric for the manufacture of collars and cuffs. I wholly disclaim such constructions, as the very object of my invention is to avoid the expense of using a layer of celluloid or zylonite in the preparation of a fabric for making collars and cuffs.

By the use of a non-absorbent body and an exterior varnish formed of pyroxyline or its compounds I am enabled to secure a thoroughly water-proof article at a much less expense than one can be produced from a compound fabric containing a layer of pyroxyline composition.

I also obtain another advantage by forming my exterior coating by a varnish of py-

roxyline, as I thus secure a protection in the button-holes and upon all the edges of the article without folding over a layer of pyroxyline composition at such points, as is required when a compound fabric consisting in part of celluloid or zylonite is used.

Having thus set forth my invention, what I claim herein is—

An article of wearing-apparel, as a cuff or collar, composed of parchmented vegetable fabric having varnish of pyroxyline or its compounds applied to its entire exterior, including the edges, substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN W. HYATT.

Witnesses:

THOS. S. CRANE,  
F. C. FISCHER.