

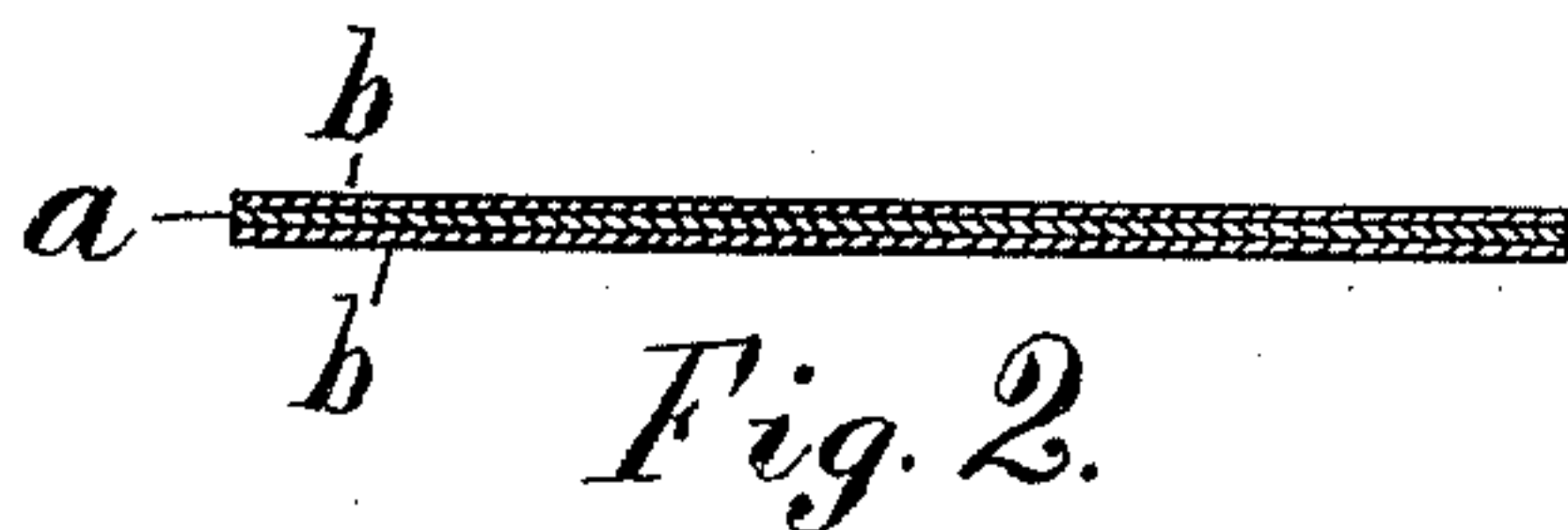
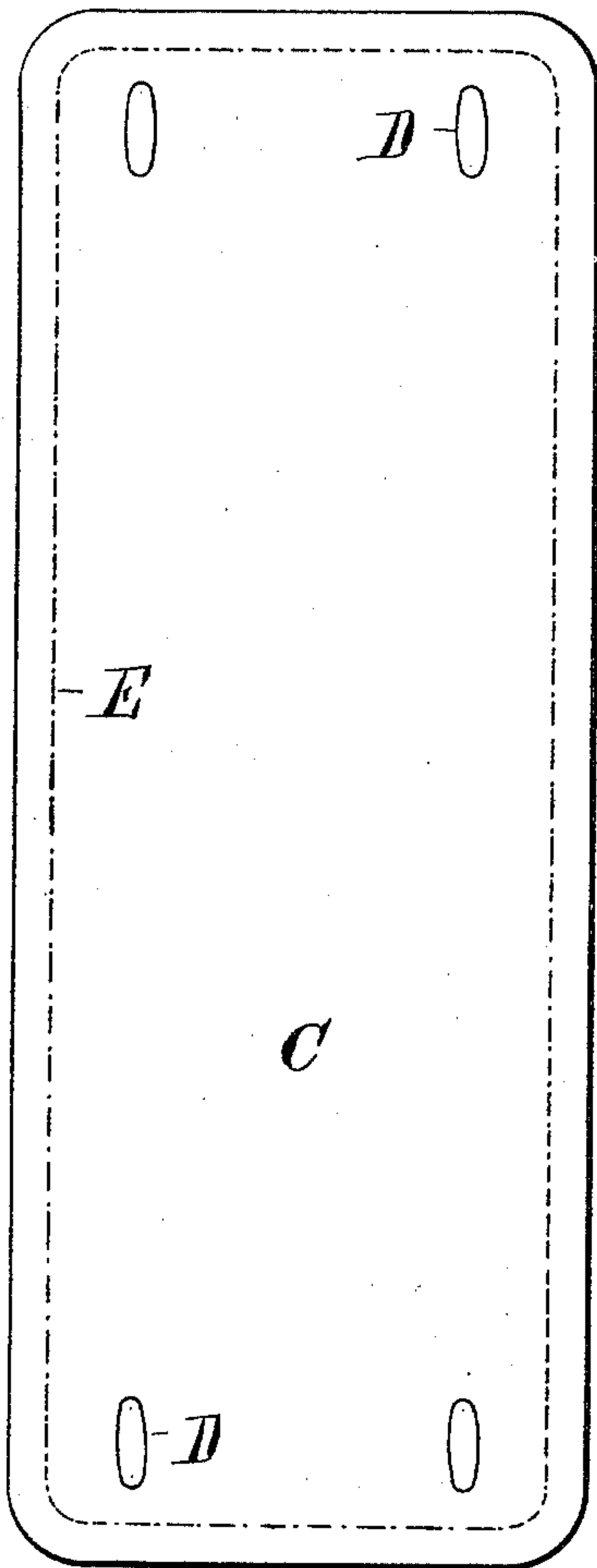
(No Model.)

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

No. 436,787.

Patented Sept. 23, 1890.

*Fig. 1.*



Attest:  
L. Lees,  
F. C. Fischer.

Inventor.  
John W. Hyatt,  
per Crane & Miller, attys.

# UNITED STATES PATENT OFFICE.

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

## WATER-PROOF COLLAR OR CUFF.

SPECIFICATION forming part of Letters Patent No. 436,787, dated September 23, 1890.

Application filed January 16, 1890. Serial No. 337,083. (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 or Cuffs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention consists in an article having a muslin body converted externally into vegetable parchment, with paper attached to both its surfaces by a solvent of cellulose, the exterior surfaces of the paper being unconverted  
15 and waterproofed by the application of a suitable varnish and embossed in imitation of starched linen.

The construction will be understood by reference to the annexed drawings, in which—

20 Figure 1 represents a cuff with four button-holes; and Fig. 2, a cross-section of the same, showing the three layers of which it is composed.

25 C is the cuff, D its button-holes, and E a dotted line representing a line of imitation stitching adjacent to the border.

In Fig. 2, *a* is the central layer of muslin, and *b* are the outer layers of paper secured thereto by a solvent of cellulose.

30 In manufacturing the material I prefer to operate upon long strips of fabric, so as to make the operation practically continuous, and am thus enabled to perform the operation wholly by machinery. The web of  
35 muslin is first treated by passing it between two rolls, which apply a solvent or cellulose, as sulphuric acid, to its opposite sides, the solvent being preferably thickened by dissolving some powdered cellulose therein to  
40 prevent it from operating too actively upon the muslin. Webs of paper are immediately pressed by means of rolls upon the opposite sides of the moistened muslin, and the adjacent faces of the paper and muslin are dis-  
45 solved alike by the solvent and converted into vegetable parchment. Such dissolved surfaces are very adhesive, and the three layers are therefore firmly and inseparably united together, while the exterior surfaces of the pa-  
50 per remain unconverted and adapted to ab-

sorb any water-proof varnish. The composite fabric thus formed is then washed to remove the solvent and dried and flattened by suitable pressure. The articles are then cut there-  
55 from, and the button-holes, if any are required, are punched therein, and the whole exterior of the article, including the edges and the button-holes, is then coated with water-proof varnish.

The varnish is preferably ground or mixed 60 with a white earthy pigment, blued or tinted to resemble as closely as possible the color of laundered linen goods, and when dried upon the article protects the vegetable parchment within the same from the absorption of moist- 65 ure.

The paper used for the exterior of the article may be embossed in imitation of fine linen, either before or after its union with the mus-  
70 lin; but it is preferably embossed after the article is varnished by pressure between suitable dies, which smooth and flatten the article, and may not only be engraved to emboss the surface of the paper, but to form the line of  
75 imitation stitching upon the article adjacent to its border.

The parchment body formed by the converted cellulose within the article imparts to it a high degree of stiffness and elasticity, while the water-proof surface protects such  
80 body from softening by the absorption of moisture when the surface is cleansed with soap and water. The article is therefore well adapted for repeated use, as it may be readily  
85 cleansed when soiled without injury to its texture.

By my present construction the woven fabric is confined to the interior of the article, and may therefore be made of coarser quality  
90 than could be used upon the exterior. Such coarse fabric is rendered very tough and elastic by conversion into vegetable parchment and is wholly concealed by the paper which is applied to the exterior. The article is  
95 therefore adapted to form a very cheap substitute for other water-proof goods, and possesses the most valuable quality of such goods in its stiffness, elasticity, resemblance to laun-  
100 dered linen goods, and property of resisting moisture when cleansed by soap and water.



I am aware that it is not new to form a compound sheet of vegetable parchment by cementing two or more layers of vegetable fabric together by a solvent of cellulose; but  
5 in such operations each layer has always hitherto been immersed in a bath of solvent and both its surfaces converted, so that when such layers were united the exterior of the sheet would possess a parchmented character.  
10 Such a composite sheet would not be adapted to absorb a water-proof varnish like the unconverted and porous surface of my composite fabric.

I hereby disclaim any fabric having a parch-  
15 mentized surface, and limit my invention to a composite fabric of the materials described herein and having the exterior surface of the paper unconverted and therefore porous, so as to absorb the water-proof varnish.

20 What is claimed herein is—

1. A collar, cuff, or bosom consisting in a layer of muslin having layers of paper cemented upon its opposite sides by a solvent

of cellulose, the adjacent faces of the muslin and paper being thus converted into vegetable parchment and the exterior surfaces of the paper being unconverted and protected from dirt and moisture by a water-proof varnish. 25

2. A collar, cuff, or bosom consisting in a 30 layer of muslin having layers of paper cemented upon its opposite sides by a solvent of cellulose, and the adjacent faces of the muslin and paper being thus converted into vegetable parchment and the exterior sur- 35 faces of the paper being unconverted and protected from dirt and moisture by pyroxyline varnish.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 40 witnesses.

JOHN W. HYATT.

Witnesses:

FRANK L. MORTON,  
THOS. S. CRANE.