

(No Model.)

2 Sheets—Sheet 1.

N. SPIRO.

VENTILATED WATER PROOF GARMENT.

No. 386,727.

FIG. 1. Patented July 24, 1888.

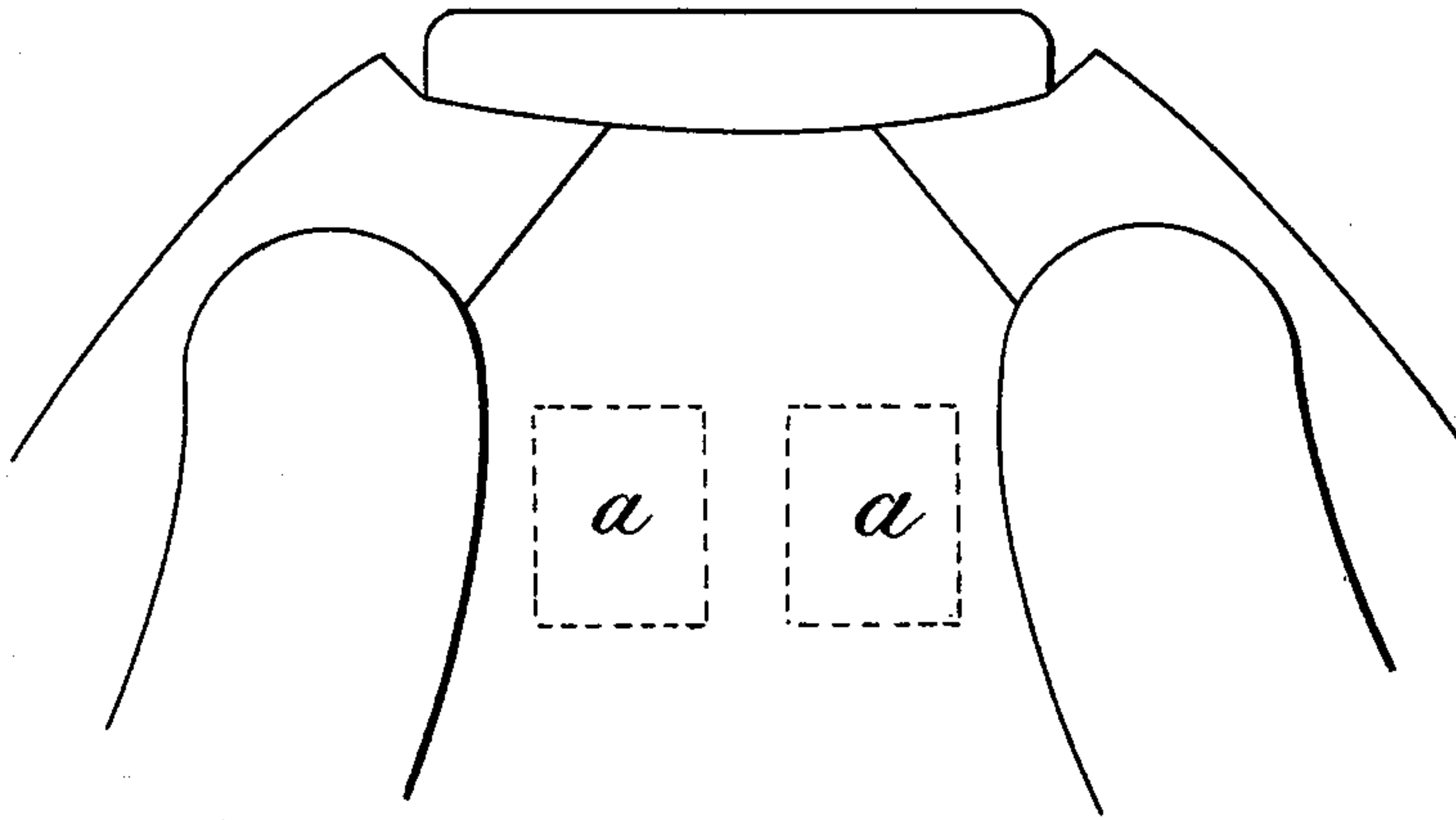
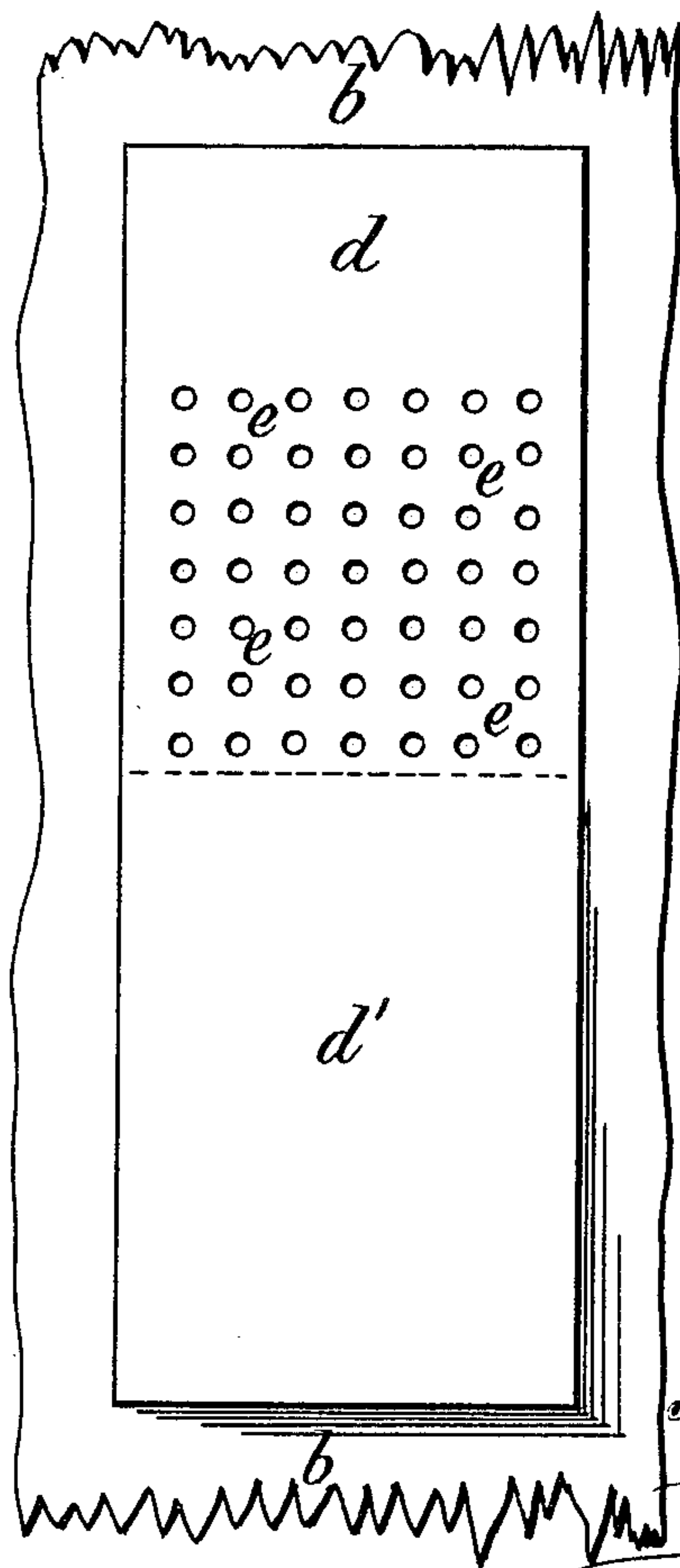


FIG. 2.



Witnesses,
J. A. Rutherford.
Robert Everett.

Inventor:
Naphtali Spiro.
By James E. Norris.
att'y.

N. SPIRO.

VENTILATED WATER PROOF GARMENT.

No. 386,727.

Patented July 24, 1888.

FIG. 3.

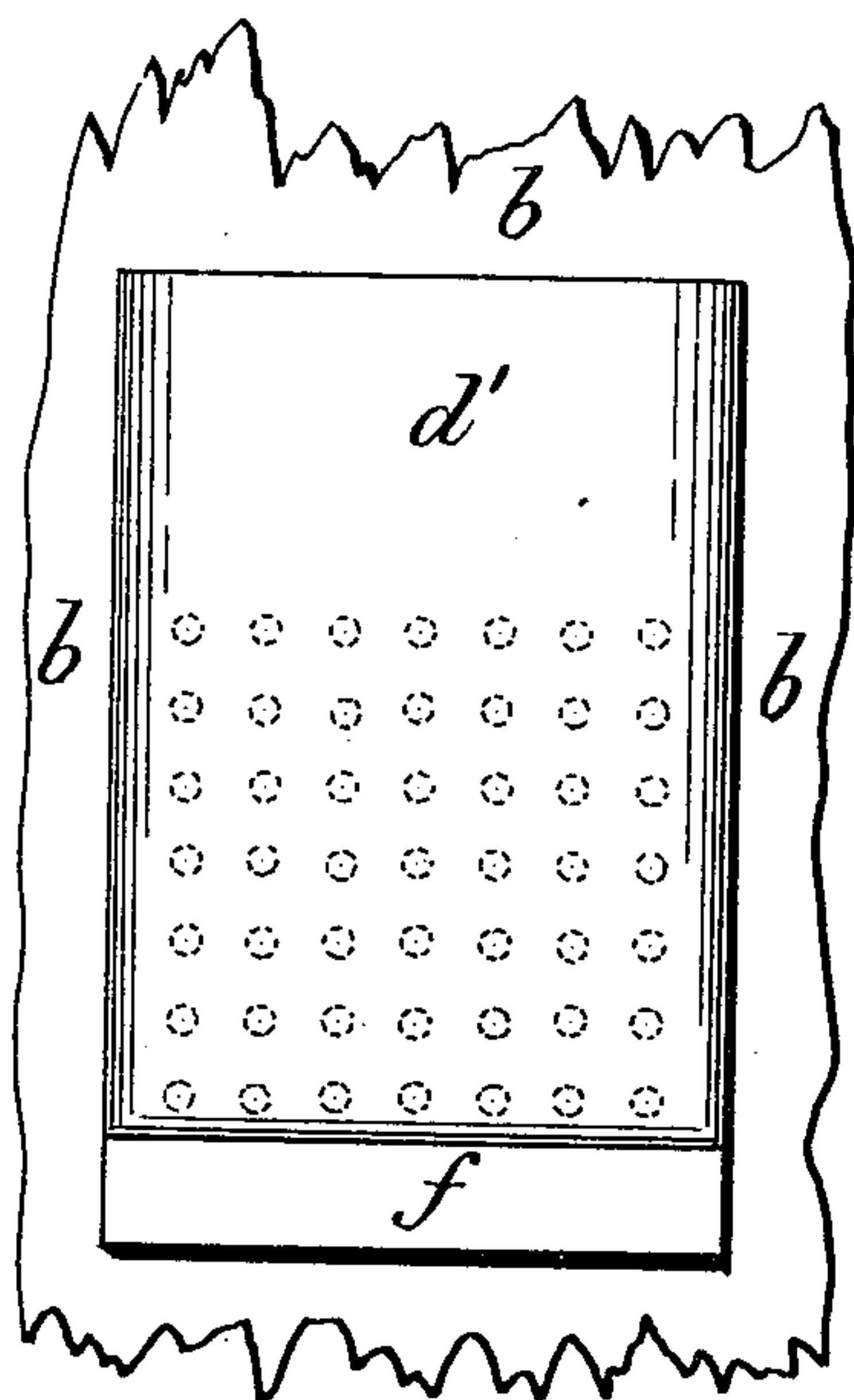


FIG. 5.

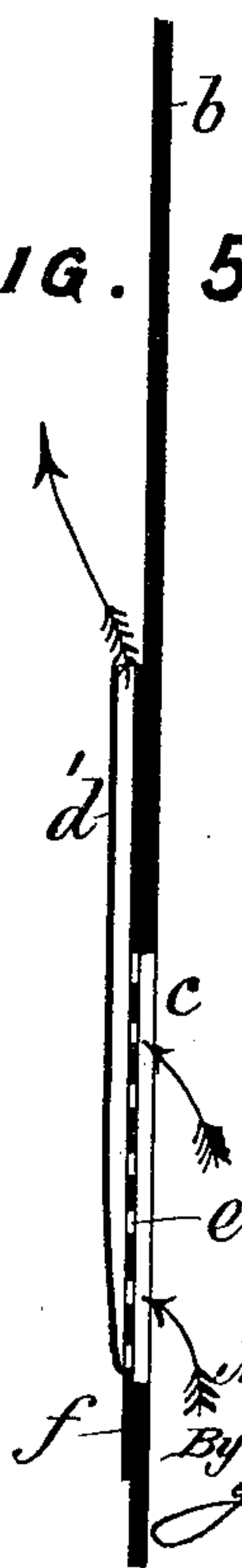
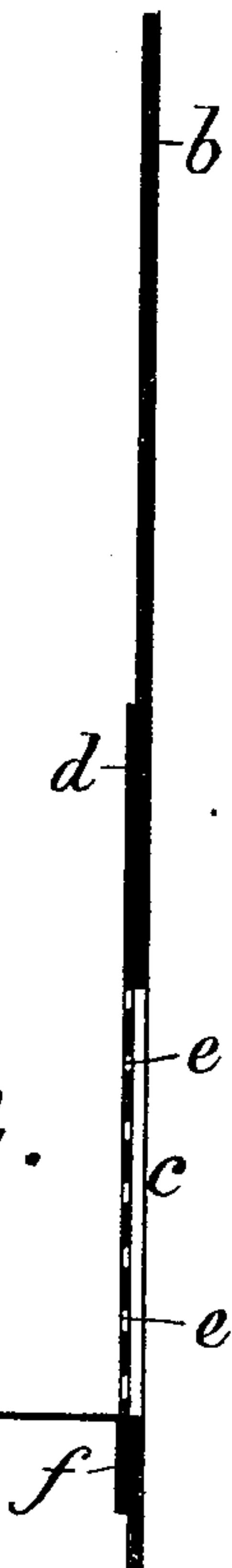


FIG. 4.



Witnesses,

J. A. Rutherford.
Robert Everett.

Inventor,

Naphtali Spiro.

By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

NAPHTALI SPIRO, OF BURDETT ROAD, COUNTY OF MIDDLESEX, ASSIGNOR
OF ONE-HALF TO CHARLES ACKLAND, OF LONDON, ENGLAND.

VENTILATED WATER-PROOF GARMENT.

SPECIFICATION forming part of Letters Patent No. 386,727, dated July 24, 1888.

Application filed May 8, 1888. Serial No. 273,203. (No specimens.) Patented in England March 8, 1888, No. 3,610.

To all whom it may concern:

Be it known that I, NAPHTALI SPIRO, residing at No. 92 Bridge Street, Burdett Road, in the county of Middlesex, England, water-
5 proofer, a subject of the Queen of Great Britain, have invented certain new and useful Improvements in Ventilated Water-Proof Garments, (for which I and Charles Ackland, of
23 and 25 Gresham Street, in the city of London, England, woolen merchant, have obtained a patent in Great Britain, No. 3,610,
10 dated March 8, 1888,) of which the following is a specification.

The object of this invention is to effect improvements in the manufacture of water-proof garments by providing improved means for
15 the ventilation of the same.

In carrying out my invention I provide for the ventilation of the water-proof garments
20 by stripping certain parts thereof from the outer fabric. The outer texture of those parts which are prepared for the passage of air are left without water-proofing or have the water-proofing removed. The outside of the coat
25 retains its original surface and the ventilator is concealed from view. Those portions of the outer texture which are so prepared, as aforesaid, are covered on the inside with pockets or inner covers open to the inside at the top.
30 These inside covers are waterproofed to prevent the entrance of water, and the lower edge of the pocket is provided with an extra thickness of waterproofing material, so as to prevent the possibility of any water gaining access to the inside. Any number of ventilating-pockets may be formed in or upon the garment, so as to ventilate the same effectually. The pockets are preferably placed where perspiration is most likely to accumulate. Air
40 enters from the outside and passes upward through the pockets to the inside of the garment, thereby keeping the same cool and comfortable. The lining of the pocket is made in one piece.

45 In order that my said invention may be particularly described and ascertained, reference is hereby made to the accompanying drawings, in which similar letters of reference indicate corresponding parts.

Figure 1 is a view of the outer and upper 50 portion of a ventilated water-proof coat made according to my invention. Fig. 2 is an inside view of a portion of a garment, illustrating the manner of forming the ventilated water-proof lining or pocket. Fig. 3 is a similar view 55 showing the completed pocket. Fig. 4 is an enlarged vertical section of Fig. 2. Fig. 5 is a similar section of Fig. 3.

The pockets or covered passages for the admission of air may be formed and arranged in 60 any convenient portion of the garment—such as those shown at *a a* in Fig. 1, which represents the upper part of the back of a coat. The passages are not visible outside the garment, being carefully made, so as to be entirely concealed from view. 65

b is the ordinary waterproofed material of which the coat is made.

In forming a ventilator the waterproofing material is first removed from the inside, 70 whereby it is thinned away, as shown in section at *c* in Figs. 4 and 5. This operation leaves a sufficiently porous space for the entry of air through the outer fabric. A single piece of material is then prepared, as shown 75 at *d d'*. This material is pierced with air-holes *e e*.

That part of the material marked *d* which surrounds the perforations *e e* is cemented to the fabric, as shown in Figs. 2, 4, and 5. The 80 lower half, *d'*, of the same piece of material is then raised and the edges of the two sides are cemented with a suitable solution to the fabric, leaving the upper edge quite open for the passage of the incoming air, as shown in Figs. 3 85 and 5. At the lower part of the pocket the fabric is thickened with an extra thickness of water-proofing, as shown at *f*, in order to throw outward any water which may gain access to the pocket and to prevent such water obtaining access to the inside of the garment. I provide any requisite number of such ventilators, as hereinbefore described, in various parts of the garment, for keeping the inside of the same cool and free from perspiration. 95

I am aware that the inside fabric of a water-proof garment has been perforated for the passage of air; also, that a portion of a gar-

ment has been waterproofed and another portion made porous, and, also, that a water-proof garment has been made from two fabrics or thicknesses of material provided with an air passage or space between the two fabrics and air-inlets passing from said space through the two fabrics, respectively, at points distant from each other; but these I do not claim, and my invention differs therefrom in comprising an open-top water-proof pocket or lining the outer surface of which is perforated and in direct contact with a porous or non-waterproofed portion of the outer water-proof fabric.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A ventilated water-proof garment composed of waterproofed material, *b*, having a non-waterproofed or porous portion, *c*, and an inner open-top pocket or lining of waterproofed material, *d d'*, secured to the inner side

of the material, *b*, over its porous portion *c*, the outer part, *d*, of the lining being provided with perforations *e* in direct contact with the porous portion *c* of the outer material, *b*, and the inner part, *d'*, of the lining or pocket being unperforated, substantially as shown and described.

2. A ventilated water-proof garment composed of waterproofed material, *b*, having a porous portion, *c*, and the open-top waterproofed pocket or lining *d d'*, having perforations *e* in direct contact with the porous portion *c*, and provided at the lower end of the pocket with an extra thickness of water-proofing, *f*, substantially as shown and described.

Dated April 13, 1888.

NAPHTALI SPIRO.

Witnesses:

GEORGE C. DOWNING,
8 *Quality Court, London, W. C.*

WALTER J. SKERTEN,
17 *Gracechurch Street, London, E. C.*