

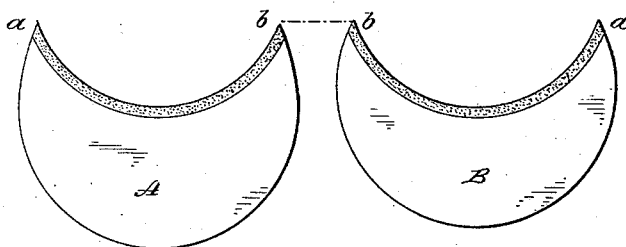
(Model.)

S. RAUH.  
DRESS SHIELD.

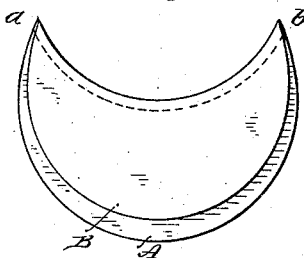
No. 304,752.

Patented Sept. 9, 1884.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
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By his Attorney

# UNITED STATES PATENT OFFICE.

SAMUEL RAUH, OF NEW YORK, N. Y.

## DRESS-SHIELD.

SPECIFICATION forming part of Letters Patent No. 304,752, dated September 9, 1884.

Application filed July 11, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, SAMUEL RAUH, residing in the city, county, and State of New York, formerly a subject of the King of Bavaria, but having made declaration of my intention to become a citizen of the United States, have invented a new and useful Improvement in Dress-Shields for the Armpits of Dresses, and in the manufacture of the same, of which the following is a specification.

Shields or protectors for the sleeves and parts of the dress under the armpits have been heretofore made and used to some extent of a variety of materials and of different forms of construction. The materials heretofore used have been india-rubber, india-rubber cloth, gutta-percha, oiled silk, and some kinds of soft absorbent leather and cloth, and the forms have with some slight variations been adapted to extend over and downward on each side of the seam of the dress where the sleeve and body of the dress are sewed together, so as to protect all those parts of the sleeve and dress which are in contact with or under the armpits from the perspiration which is natural to the armpits, so that the dress may not be stained or injured, which the water-proof substances above referred to and the absorbents—such as leather or cloth—used in connection with the water-proof materials to a certain extent will effect. It is found, however, that dress-shields made of materials heretofore used and those above referred to are subject to serious defects and objections. They are not reliable as complete water-proofs when sewing the parts together or seams are used, for wherever there are holes made by the needle there the perspiration will force its way through to a greater or less degree, and the shield becomes useless. Seams secured by glue or other similar adhesive substances—such as heretofore used—become dissolved by the heat and moisture of the armpit, and by the constant friction which they are subjected to.

The object of my invention is to produce a water-proof and absorbent dress-shield which is free from the defects above referred to.

My invention and discovery consist in the use and application of paper made water-proof, and also having the desired absorbent quality, and which will also possess all the requisite

flexibility and at the same time the necessary toughness and strength.

The shield is usually composed of two pieces, A B, Fig. 1, of a crescent shape, and which, being united at their upper edges, *aa*, (as shown in the drawings, Fig. 2,) constitute a proper form and pattern for the purpose required; but I do not regard any precise form as essential. The parts *aa* should not be united by sewing, because the holes made by the needle admit of a passage of the moisture and perspiration from the armpits, and thus destroy or greatly injure the purpose of the shield. Glue or cement having strong adhesiveness, and not soluble by the moisture and warmth to which the shields are exposed, should be used to unite the parts when the shield is composed of more than one piece. For the preparation and construction of my improved dress-shields I make use of a peculiar Japanese paper. The paper I refer to is well known in Japan, and is called sometimes "water-proof cloth," owing to its extremely flexible, soft, smooth, and durable qualities. This paper is made water-proof and otherwise durable and suitable for my purpose of making dress-shields by the application of an oil called by the Japanese "ye-no-abura;" also by the application of a very strong paste, which is made from fern-starch and mixed with the juice of unripe persimmons, and when so mixed is called "shibu." The two substances ye-no-abura and shibu are used for rendering the paper water-proof. The oil ye-no-abura is mixed with the Japanese lacquer called "uru-shi," which produces a most beautiful smooth surface, and the waterproofed paper is perfectly flexible, as much so as the finest silk and velvet. The Japanese also use a paste or varnish which is made from the tubers or roots of a plant called by the Japanese "kon-niako" or "koniaku." These tubers or roots are reduced to powder, and, being mixed with water, thereby form a paste which is applied so as to cover the surface of the paper. The water-proof paper should receive successive coverings of the paste or varnish made from the kon-niako or koniaku, so as to form a complete skin or covering over the paper. This varnish or lacquer is used not only for giving smoothness, flexibility, and toughness to the dress-shields, but, being of an absorb-

ent nature, it absorbs the perspiration to a great degree, while the water-proof paper inclosed within this skin or covering prevents any perspiration from passing through the shield to the dress. This varnish admits of receiving several coloring substances, such as red or pink, drab or stone color, black, and some other colors, which, being mixed with the varnish, give to the dress-shields the color in the varnish. When the koniaku is used, as above described, the mixture called "urushi" may be dispensed with.

In order to manufacture the dress-shields from this water-proof paper, they must first be made into the shape or pattern required for the dress-shields from the paper, and the paper afterward treated by the substances above mentioned. Much of the Japanese paper used for making water-proof articles is of an extremely fibrous nature, which renders this paper peculiarly adapted to the purpose of dress-shields. The dress-shields, after being treated with the covering varnish or lacquer, as above described, must not be subjected for drying and hardening to a stove or fire heat. The drying must take place very gradually, sometimes requiring several days, and should take place in the open air, or from the gentle warmth of the sun, so as to dry and harden uniformly, and have no cracks or roughness.

The paste called "shibu" may be used for uniting the edges of the parts of the dress-shields, and it so perfectly unites the parts that after the paste has hardened and become dried the parts are inseparable, and the place of the parts so fastened together can scarcely be distinguished from the rest of the paper.

Dress-shields composed of the materials as herein last set forth are very flexible; they preserve the dress under the armpits from injury and stain from perspiration; they are very light, neat, clean, and wholesome, and possess hygienic properties which prevent injury to the skin, and consequently to the health of the wearer, which is often the result of the perspiration under the armpits becoming absorbed into the skin and the circulation.

What I claim as my invention, and desire to secure by Letters Patent, is—

A dress-shield composed of paper as a foundation, made water-proof as described, and covered with coatings of koniaku or urushi varnish, whereby the article is made absorbent on its surfaces and rendered smooth, flexible, and tough besides, constructed in the manner and for the purposes substantially as set forth.

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