

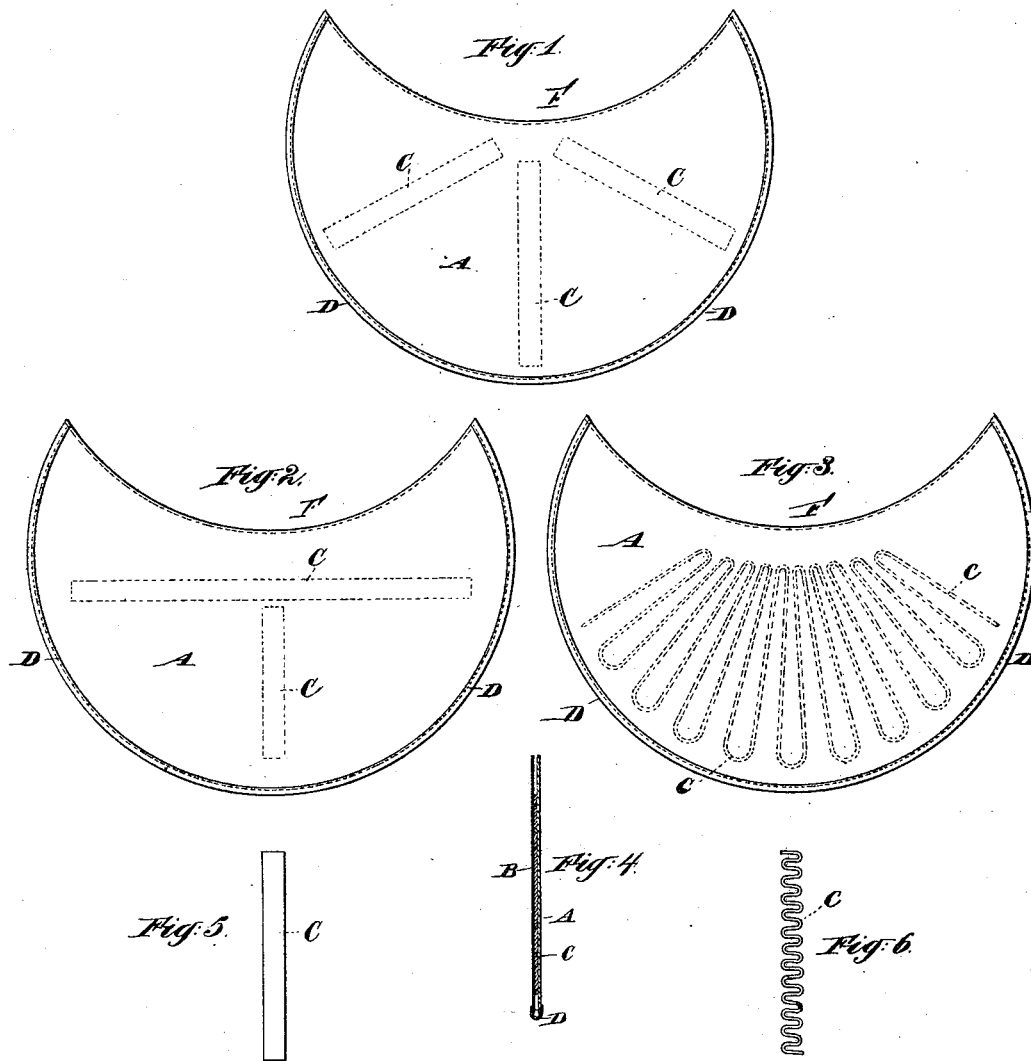
(No Model.)

H. C. FRANK.

ARMPIT SHIELD.

No. 348,390.

Patented Aug. 31, 1886.



Witnesses:

Charles H. Seale
Florence Richmond

Inventor:

Henry C. Frank
by his attorney
Thomas Drew Eaton

UNITED STATES PATENT OFFICE.

HENRY C. FRANK, OF NEW YORK, N. Y.

ARMPIT-SHIELD.

SPECIFICATION forming part of Letters Patent No. 348,390, dated August 31, 1886.

Application filed May 24, 1886. Serial No. 203,091. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. FRANK, of the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Armpit-Shields, of which the following is a specification.

It has long been practiced to prevent the bad effects of perspiration by inserting within the dress a flexible shield, which shall extend down a little from the armpit on the body, and shall also extend out to about an equal distance on the inside of the sleeve. I have devised a novel arrangement of stiffener adapted to hold the otherwise flexible material of the shield in the properly extended condition. It is particularly important to stiffen the inner flap—the portion which lies against the body; but I will describe my invention as applied to both sides. I make the armpit-shield of two thicknesses of material, using oil-silk, thin india-rubber, or other impervious material for the inner layer, and light muslin or other suitable fabric for the outer layer. Between these layers I introduce one or more flat stiffeners arranged to be out of the way, and sufficiently rigid to hold the shield extended.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a face view. Figs. 2 and 3 are corresponding views showing modifications. Fig. 4 is a central section of the form shown in Fig. 1. Fig. 5 is a face view showing the stiffener detached, and Fig. 6 is a similar view of a modified form.

Similar letters of reference indicate corresponding parts in all the figures.

A is an outer layer of twilled or other muslin or any other suitable material. I can use stockinet.

B is an inner layer of gutta-percha tissue or of thin rubber, or of thin fabric saturated with rubber or other suitable material to make a coating which shall be durable and flexible and impervious to moisture. The materials are cut in the form required, each in two pieces, with concave F, and united by stitch-

ing. A binding, D, secures the edge in the ordinary manner.

Within the outer layer, A, and between it and the inner layer, B, I apply flat pieces of stiff material, (marked C.) They are arranged at an angle with each other so as to stiffen the shield in all directions. I can vary the angle and the position of these parts indefinitely. The drawings show two arrangements which I esteem desirable. That shown in Fig. 1 I esteem preferable for general purposes. In each arrangement there is an approximately radial position of these flat pieces, like the ribs of a fan, which tends very efficiently to resist the contraction from the edge inward.

I have in my experiments attached the stiffeners to the muslin by white rubber cement. It is a well-known material supplied by rubber-manufacturers, and adheres well without staining through the shield so as to show seriously on the outside.

I can vary the materials of both layers. I can make the whole of the inner layer or of the outer layer in one piece, properly stretched, molded, or otherwise treated to maintain the proper shape.

I propose to employ for the flat stiffeners C ash or other elastic wood, whalebone, or other elastic animal material, or metal either in the form of thin plates or simply wires bent either into long loops or elongated or flattened spirals. I propose also to try wires bent into short zigzags.

I can employ for the stiffeners narrow strips of well-sized pasteboard, card-board, horse-hair fabric, or analogous woven or felted material having the required properties. The radial or approximately radial position of the stiffeners and their flat forms enable them to resist the crinkling and contraction ordinarily experienced, and greatly promote the durability of the shield and the comfort of the wearer.

I can cement to the impervious material instead of the other. I can stitch, rivet, or otherwise fasten in addition to cementing, or in place of cementing.

I am aware that seams have been made in

similar devices, and that a gore of stiffening material has been used for a similar purpose.

I claim as my invention—

5 An armpit-shield provided with independent flat stiffeners C, standing nearly radial from the center of the concave F, and adapted to serve as herein specified.

In testimony whereof I have hereunto set

my hand, at New York city, New York, this 14th day of May, 1886, in the presence of two subscribing witnesses.

HENRY C. FRANK.

Witnesses:

FLORENCE A. BOYLE,
CHARLES R. SEARLE.