

Aug. 2, 1938.

E. M. FRENCH

2,125,495

METHOD OF MAKING GARMENT PROTECTORS

Filed April 4, 1936

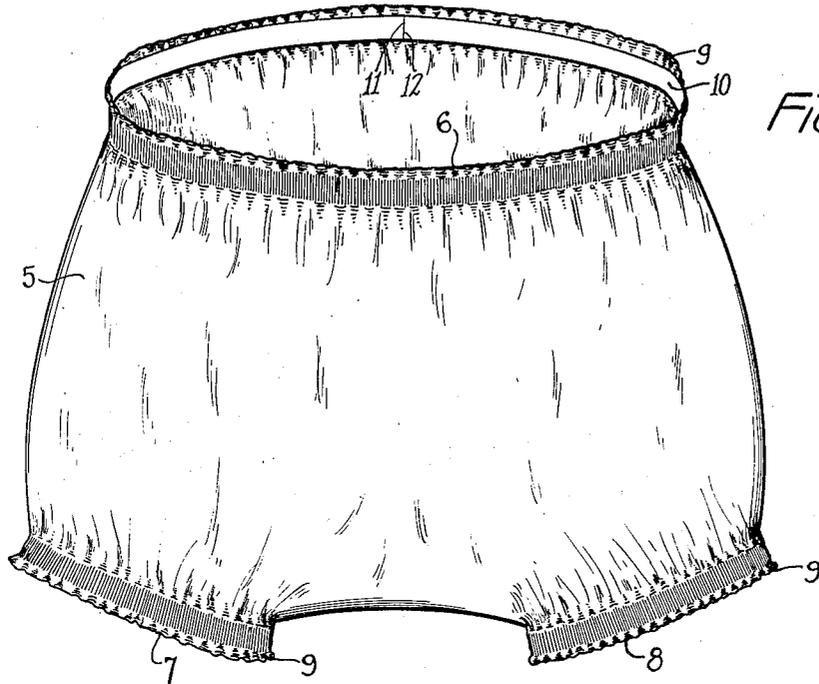


Fig. 1.

Fig. 2.

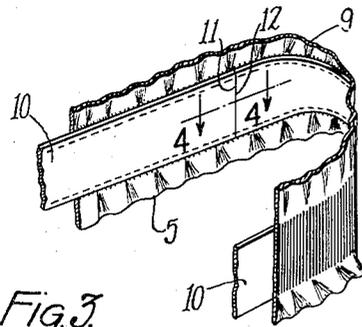
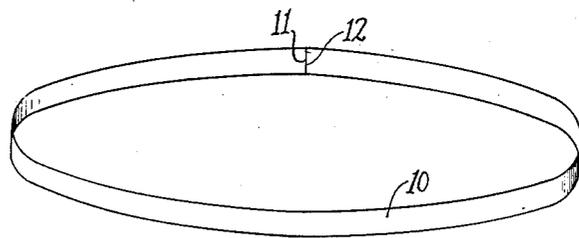


Fig. 3.

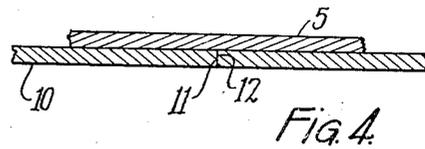


Fig. 4.

INVENTOR.
EDWARD M. FRENCH
BY *Philip C. Rich*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,125,495

METHOD OF MAKING GARMENT PROTECTORS

Edward M. French, Garden City, N. Y., assignor
to Rand Rubber Company, Inc., Brooklyn, N. Y.,
a corporation of New York

Application April 4, 1936, Serial No. 72,687

2 Claims. (Cl. 154—2)

My invention relates to that type of moisture-proof garment-protectors usually made of rubber that are worn by infants as a protective covering for the customary diaper, these protectors having suitable waist and leg openings inherently capable of expanding and then closing or contracting about the infant's body and legs to provide an effective closure and protection and also to prevent any egress of moisture as well as to be comfortable for the wearer.

Heretofore garment-protectors of this type and made of sheet rubber that is gathered or shirred adjacent the waist and leg openings were provided with means for contracting these openings about the body of the infant comprising a strip or band of wide and flat rubber or elastic material that was fastened in any suitable manner around the margins of the openings and inside the garment. The shirring about the openings allowed for the expansion of the material of the garment when the inner bands were stretched when the garment-protector was either being put on or taken off.

Such inner bands as have been commonly used and secured to the garment inside the openings have been made with overlapping ends, which construction occasions a distinct bulge or thickening of the leg or waist openings because of this two-fold thickness of the inner bands at these points.

Such bulges in the inner bands are objectionable in use because of the discomfort to the infant and also because they cause an undue puckering of the shirred portions where the ends of the inner bands are brought together in overlapping relation and then cemented or otherwise secured together and finally attached to the shirred portions.

In the manufacture of these rubber garment-protectors, these flat inner bands of elastic material are important parts of the completed garment in that they serve not only as a cushion for the shirred portions but they also act as washers against the body of the infant so that such inner bands prevent any moisture passing outwardly from the interior of the garment through the leg or waist openings.

According to the ordinary methods as now practiced these inner strips or bands of elastic rubber have been fastened to the garment as taken from a continuous roll on a pressure machine by which the rubber strips have been subjected to variable tension while being applied to the garment, thereby causing corresponding variations in both leg and waist sizes even after

the ends of the band have been secured in overlapped relation to the inner sides of these openings on the shirred portions.

The main object of my invention is to obviate and overcome these defects both in the making of the garment-protector and in the resulting article, thereby providing a new and improved garment-protector in which the overlapping ends of the inner bands are entirely obviated along with the uncomfortable thickening or bulged portions as well as to ensure accuracy in the sizes of the openings which always remain the same in my improved garment-protectors, which factor is of distinct advantage in use.

My invention, therefore, provides improved methods of making these garment-protectors which embody an improved closure means for contracting the openings about the body of the infant without causing any discomfort or any unsightly bulged portions around the contour of the openings, while at the same time affording a more complete and effective protection as against the egress of moisture because of the predetermined accuracy of the sizes of the respective openings.

These and other objects of my improvements will be hereinafter fully set forth and particularly pointed out in the appended claims.

A preferred embodiment of my invention is shown in the accompanying drawing which also shows my improved methods, in which—

Fig. 1 is a front elevation of the improved garment showing a preferred form of the inner band as secured around the waist opening.

Fig. 2 is a perspective view of the continuous inner band before it is secured in position as shown in Fig. 1;

Fig. 3 is an enlarged perspective detail view of the waist portion; and

Fig. 4 is an enlarged section taken on the line 4—4 of Fig. 3.

Similar numerals refer to similar parts throughout the several figures.

Referring to the drawing and more particularly to Fig. 1 the body 5 of my improved garment-protector is preferably formed of sheet rubber material or any water-proof fabric cut from a single sheet, and preferably united by side-seams (not shown) between the waist opening 6 and the two leg openings 7 and 8 with the shirring 9 formed in the body 5 adjacent the waist and leg openings 6, 7 and 8.

This shirring 9 allows of a ready distension of the garment about the openings when about to

be placed around the body and legs of the wearer.

The waist opening 6 and leg openings 7 and 8 are provided with inner elastic bands 10 of rubber (only one being shown around the waist opening 6) in the form of a continuous looped band as shown in Fig. 2 in which the abutting edges 11 and 12 of the band 10 of a predetermined length are cemented or otherwise secured together without overlapping as a continuous loop while the rubber is in its uncured condition. Or I may cut these rubber bands 10 from a cylindrical piece of sheet rubber so as to form the continuous band or loop 10 of a predetermined size without the necessity of cementing the abutting edges 11 and 12.

The next step in my method is to take the inner band 10 and stretch same as a whole under substantially uniform tension greater than that of the body 5, should the same be slightly stretched, and then secure same around the inner side of the waist opening 6, for example, either by cement or by pressing or crimping same when the body 5 is unstretched or stretched adjacent the waist and leg openings which causes the edges of the body 5 around the waist and leg openings to gather or shirr with transverse corrugations as shown in Figs. 1 and 3, when the inner band 10, which has been stretched under tension during the securing thereof to the body 5, is thereafter released and assumes its normal form. Instead of crimping the margins of the body 5 opposite the band 10 as shown more particularly in Fig. 3, I may fasten the inner bands 10, when stretched as a whole, to the body 5 by stitching, but the crimping method is to be preferred. Fig. 4 shows the relationship of the body 5 and the abutting edges 11 and 12 of the continuous band 10 in the garment.

My invention, therefore, embodies a new and simplified method of making these garment-protectors by first forming the inner bands 10 as continuous loops of predetermined sizes and then affixing same, while stretched under tension greater than that of the body material, to the margins of the body 5 inside the waist opening 6 and leg openings 7 and 8 while the rubber bands 10 are stretched to accord with the size of the openings when the material forming same is unstretched. When the crimping, cementing or stitching of the bands 10 to the body 5 has

been completed, the contractile force of the released bands 10 produces the necessary shirring 9 as shown in Figs. 1 and 3.

My improved garment-protector, therefore, embodies means for gathering up in the form of shirring 9 around the waist opening 6 and leg openings 7 and 8 through the continuous looped bands 10 of predetermined sizes, and thereby also does away with the objectionable and uncomfortable bulging portions at those points in the waist and leg openings where the ends of the band strips commonly used have been united in overlapped relationship that have occasioned undue puckering of the shirring 9 at such bulged portions of the overlapped band ends. Hence my improved garment-protectors embody continuous inner bands of uniform thickness throughout their entire periphery and also ensure accuracy in both leg and waist sizes.

My invention is not to be limited to the particular construction shown as many changes may be made without departing from the principles of the invention and without sacrificing its advantages.

I claim as my invention:

1. A method of making a garment-protector of elastic material having an expandible opening, which comprises securing a previously formed continuous looped band of elastic material of uniform thickness throughout its periphery while stretched as a whole under tension greater than that of the material forming said expandible opening about the inner face of the garment adjacent said opening, and then releasing the tension of said wholly stretched band to produce shirring in the garment material adjacent the band.

2. A method of making a garment-protector of elastic material having an expandible opening, which comprises securing a previously formed continuous looped band of elastic material with its ends in abutting relation of uniform thickness throughout its periphery while stretched as a whole under tension greater than that of the material forming said expandible opening about the inner face of the garment adjacent said opening, and then releasing the tension of said wholly stretched band to produce shirring in the garment material adjacent the band.

EDWARD M. FRENCH.