Nov. 1, 1938. H. E. NICHOLS ET AL 2,134,925

SANITARY PROTECTOR

Filed Aug. 20, 1937

Fig. 1

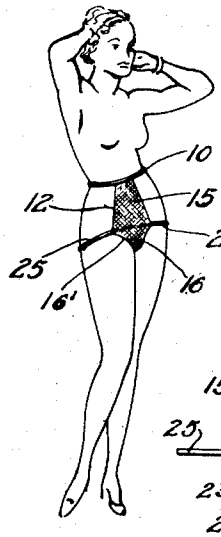


Fig. 2

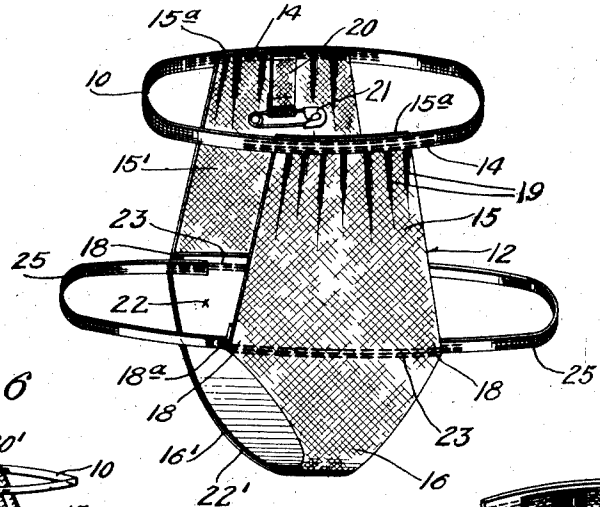


Fig. 6

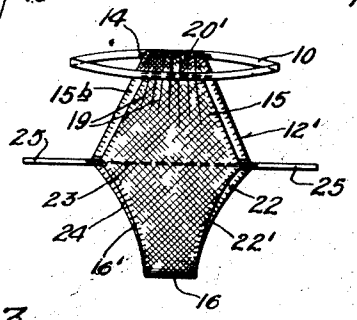


Fig. 7

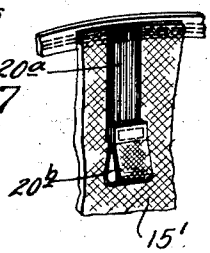


Fig. 4

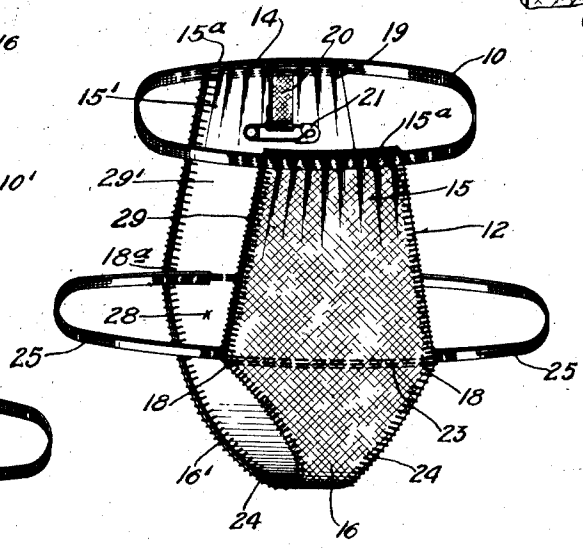


Fig. 3

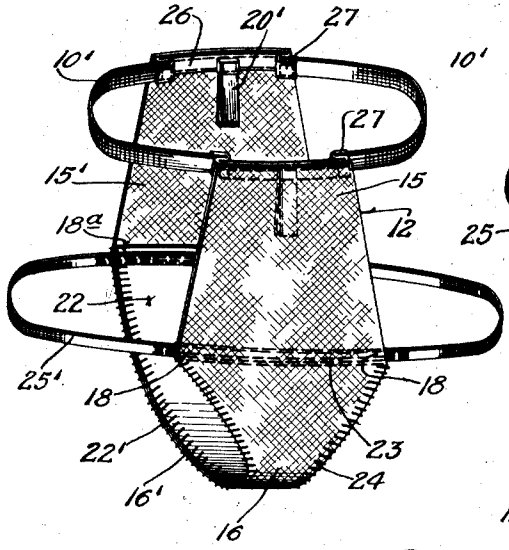
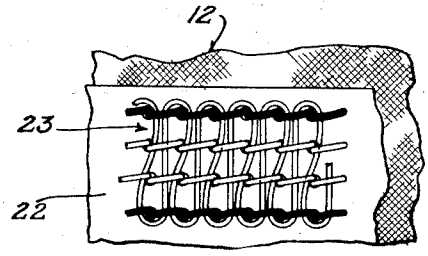


Fig. 5



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SANITARY PROTECTOR

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1 Claim. (Cl. 128—288)

The present invention relates to sanitary protectors, and while primarily intended for catamenial purposes is not intended to be limited entirely to such use.

Heretofore many sanitary protectors have been proposed, but most of these included divers buckle, pin, adjustable belt and hold-up strap arrangements which made the garment costly to manufacture, confusing to apply, and/or uncomfortable upon the body of a user.

It is a primary object of the present invention to provide an extremely simple sanitary protector which may be very economically manufactured and which will not have usual suspension straps, buckles and the like which lead to confusion when stepping into the protector or cause discomfort while wearing it.

Features flowing from the attainment of this objective include the provision of a garment consisting essentially of only two parts, a substantially continuous belt, and a substantially continuous apron section secured to and extending from the front center of the belt to the rear thereof, in which it is not necessary to use supporting buckles, clips, adjustable belt, and/or hold-up straps of any kind.

It is a further important object to provide a sanitary protector which may be made from divers knit, woven and elastic materials.

Most of the sanitary protectors heretofore provided had to be applied or stepped into in only one way.

It is an object of the present invention to provide a protector which does not have to be applied or stepped into in only one particular way.

In accomplishing this, the present invention provides a sanitary protector of balanced construction, having a back and front of substantially like shape and structure, whereby it is equally effective and wearable in two ways; viz, with the normal front toward the front or toward the back of a user.

Although the like front and back just set forth is advantageous for manufacturing economy, it is not perfectly form fitting.

It is therefore a further and important object of the present invention to provide a sanitary protector which is perfectly form fitting and can be easily stepped into or applied to the body of a user, and which is unlikely to slip from the preferred position even though the user exercises or moves about considerably.

To this end the present invention provides a center section on the garment with generally concave sides conforming substantially with the inner contour of a user's legs, whereby shifting of the garment forwardly or rearwardly relative to the user's legs and out of the intended and preferred position is prevented. This feature is further improved by the provision of laterally extending sections fitting into the cavities or hollows between the legs and abdomen and also the legs and the buttocks of a user.

A further feature resulting from the attainment of this objective is the provision of a garment having a back upper section or riser of greater length than the front section to clear or provide ample room for the buttocks, and to allow the belt to fit the small of the back. A complemental feature is the provision of a greater width to the back upper section and/or the back of the center section so that the upper section overlies the buttocks comfortably and so that the back part of the center section better extends to and fits in the natural hollows or curves between the legs and the buttocks.

A further feature is the provision of an apron and a waterproof liner for the apron of like shape, so that when an edging is added to the apron it automatically secures the liner in place in the apron.

A further feature of the present invention, to prevent shifting of the garment, especially laterally of the user's body, is the provision of a pair of hip straps. A complemental feature is the novel shaping and arranging of parts whereby a liner, apron and hip straps may be advantageously secured together.

It is a further important object of the present invention to provide a sanitary protector which will be hygienically satisfactory and yet very comfortable.

Features resulting from the attainment of this object include the provision of a large aerated section in the main apron at the front and/or the back of the garment whereby air may circulate and perspiration under the close fitting parts of the garment be minimized. Also, the provision of softer sections in the main part of the garment overlying the places where slight bulging connections are normally made between pad suspension straps and the ends of a sanitary pad prevents uncomfortable pressure upon the abdomen.

Other objects, features and advantages will appear hereinafter.

In the drawing:

Figure 1 shows a woman wearing the sanitary protector embodying the present invention.

Fig. 2 is a perspective view of the present preferred form of the invention.

Fig. 3 is a perspective view of a slightly modified form of the invention.

Fig. 4 is a perspective view, similar to Figs. 2 and 3, of a further modified form of the invention.

Fig. 5 is a detailed view of the stitching.

Fig. 6 is a direct front view of the sanitary protector made with back riser section longer and larger than the front riser section.

Fig. 7 is a fragmentary view of a modified form of pad strap.

Before describing the present improvements and mode of operation thereof in detail it should be understood that the invention is not limited to the details of construction and arrangement of parts shown in the accompanying drawing, which are merely illustrative of the present preferred embodiments, since the invention is capable of other embodiments, and the phraseology employed is for the purpose of description and not of limitation. Also, it should be understood that the sanitary protector may be made from divers materials such as: knitted silk and knitted rayon; woven cotton, silk and rayon; rubberized fabric, sheet rubber and other water or moistureproof materials.

Referring now in detail to the drawing, the present invention, as shown in Figs. 1 and 2, includes a main belt 10 preferably of a substantially continuous or annular form and of elastic material, intended to be placed about the waist or abdomen of the user.

Now of particular importance, there is provided a long apron 12, preferably of one piece, extending from the front center section of the belt 10 to the rear center section thereof, and connected to the belt at those points as by stitching 14. This apron, according to the present invention, is preferably made with front and rear upper sections 15 and 15', and with a center section 16 fitting into the crotch between a user's legs.

Preferably the center section 16 is provided with flaring or concave sides 16' conforming substantially with the contour of the legs of the user. This latter structure serves very effectively to locate the garment properly upon a user, and to prevent the front or rear sections 15 and 15' from shifting vertically to an improper position. To a lesser degree also it prevents the upper sections of the protector from shifting transversely about the trunk of a user.

As shown in Fig. 2, and in its preferred forms, the apron 12 of the present invention is made of greatest width at the point where the upper sections 15 and 15' blend with the center section 16 to provide transversely extending sections 18 adapted to extend and fit into the normal cavities or hollows between the legs and trunk of the user. These latter sections 18 also help to initially locate the protector and to prevent both vertical and horizontal shifting thereof. Preferably they are provided at both the front and rear of the protector, so that special care need not be exercised relative to making a front and rear section, or matching up parts; also to make the garment satisfactory for two-way use.

Preferably the upper sections 15 and 15' narrow or taper as they extend from the transverse sections 18 and approach the belt 10, to reduce the amount of fabric thereof engaging and warming the body, and to make possible only relatively narrow ends 15a engaging with the belt 10 whereby the full elastic and stretching properties of the latter are retained. Also, the upper sections are preferably gathered slightly as at 19 before being sewed to the belt so that the upper section will permit the belt to stretch the full extent in its normal manner. This also allows for the normal stretch and/or shrinkage between the belt and apron.

Pad supporting straps 20 are secured to the belt 10 at the front and rear center thereof. The pad supporting straps may be of the conventional type with a safety pin 21 at the end thereof, for securing a sanitary pad thereto, or may be plain straps 20', as shown in Fig. 3, for use with any of the now well-known pinless connections. It may also, as shown in Fig. 7, comprise an elastic strap or pendant 20a with a loop 20b of plain or elastic material.

The garment so far described serves very effectively to hold a sanitary pad in place. However, it is rendered much more desirable and efficient through the provision of a liner 22, preferably of rubber or other waterproof material, and shaped substantially like the center section 16 of the apron. In that form shown in Fig. 2 the liner 22 may be effectively secured to the center section 16 of the apron as by stitching 23, preferably of the "Flatlock" type shown in Fig. 5, whereby lateral stretching is possible. It may be further secured in place there by overedge stitching 24 around the concave edge 16', as shown in Fig. 3 and/or Fig. 4. The liner preferably includes coextensive front and back sections and has concave sides 22', conforming substantially with the underlying section 16 of the apron 12, and also has transverse sections 18a.

Complementing the concave sides 16' and the transverse sections 18 for locating and maintaining the protector in place, the present invention provides hip straps 25, preferably of elastic material, although unelastic bias material may for economy be used because of the elasticity of the rubber liner and yielding weave or material in the apron 12. However, the yielding or elastic hip straps have the advantage of pulling the sides 16' upwardly and around the sides of the sanitary pad.

Substantially continuous or annular hip straps 25' of elastic material, as shown in Fig. 3, may be provided. However, for economy and for added wearing comfort, two individual hip straps 25 are provided, one for each side of the protector. The strap 25' or straps 25 may be tacked or secured to the apron 12 and/or the liner 22 by the same line of stitching 23 as secures the liner 22 and apron 12 together. Preferably, however, they are tacked or secured thereto by a short length of zigzag stitching. By superposing the straps upon the liner 22 there is less danger of tearing the latter from the apron 12. Also, to increase the efficiency of the transverse sections as by normally pulling them into the hollows between the legs and trunk of the user, the strap 25' or straps 25 are secured to and extend from the points or outer end of the transverse sections 18'.

By allowing the upper sections 15 and 15' to remain uncovered ventilation, aeration and minimum perspiring at the sections overlying the abdomen and the pit of the back is assured, thereby rendering the protector more satisfactory hygienically. Also, it makes the protector more comfortable and softer at the soft parts of the abdomen and allows any bulges which may occur or result from connecting a pad thereto to be transmitted somewhat to the apron and not be pressed uncomfortably against the body.

Thus, the present invention provides a novel

and advantageous protector which may be manufactured very economically since no buckles, adjustable belt, special hold-up straps or the like need be provided, and because in some forms thereof no special fitting or assembling of parts is necessary as the front and back sections of both the apron and the liner correspond in shape. However, and for better, safer and more comfortable form fitting, the back section is made slightly longer and/or larger, as shown in Fig. 6.

That form shown in Fig. 3 is substantially like the form shown in Fig. 2 and just described in detail, retaining practically all the advantages of the same. The main point of difference is the provision of a plain or nonelastic strip **26** at the upper ends **15***a* of the upper sections **15** and **15'**, and the provision of a two-part belt **10'** of elastic material. The strip provides a more substantial support for the straps **20** and **20'**, and it may be provided with return folds **27** to enclose the ends of the belts **10'**. Overedge stitching **24**, as shown in Figs. 3 and 4, may be provided to further secure the liner **22** to the apron **12** and to impart a more finished appearance to the garment.

Fig. 4 discloses a further slightly modified form, closest to that form shown in Fig. 2, and differing therefrom primarily in the provision of a liner **28** with coextensive upper sections **29** and **29'** so that it is of the same general size and shape as the apron **12**, with the upper ends thereof connected to the belt and to the apron as by the stitching **14**. This liner may be in the form of a separate strip of rubber or like material, secured to the apron as by stitching **14**; or, may be in the nature of a waterproof facing or treatment, such as a rubberized material, for rendering the garment waterproof. With any of the forms edge stitching **24** is provided, and preferably around the entire edge to impart a neat and finished appearance to the garment.

Fig. 6 discloses the present preferred form of the sanitary protector, generally very similar to the forms shown in Figs. 1 through 4, and differing therefrom primarily in the provision of a modified apron **12'** with a back riser or back upper section **15***b* of greater length than the front riser or front upper section **15**, and also preferably of greater width than the latter. The greater length makes possible a greater back curvature or allowance for the buttocks so that the belt will normally lie in the small of the back, rather than uncomfortably and unsafely pulled down upon the buttocks. The greater width also makes possible a more comfortable placing of the garment over the buttocks rather than an uncomfortable confinement therebetween. This modified back riser or back upper section **15***b* may also be included in the protectors shown in Figs. 1 through 4. These features provide a highly efficient and satisfactory form fitting protector.

Other variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

Having thus described the invention what is claimed as new is:—

In a sanitary protector the combination of a narrow crotch section; relatively wide back and front fabric sections spaced laterally and each having edges which change direction between waist and crotch; a moisture-impervious liner having ends attached to the front and back sections substantially at the point of said direction change; hip straps attached substantially at said point to draw said front and back sections to conform to the figure; permeable areas in said front and back sections adjacent the waist-line of the protector; an elastic band at the waist-line for retaining the garment; said front and back sections being attached in gathered condition to said band to accommodate fullness of the figure; and said permeable areas terminating substantially at said waist-band and said point of direction change.

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