

June 4, 1968

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3,386,446

FOUNDATION GARMENT

Filed Nov. 26, 1965

2 Sheets-Sheet 1

FIG. 1

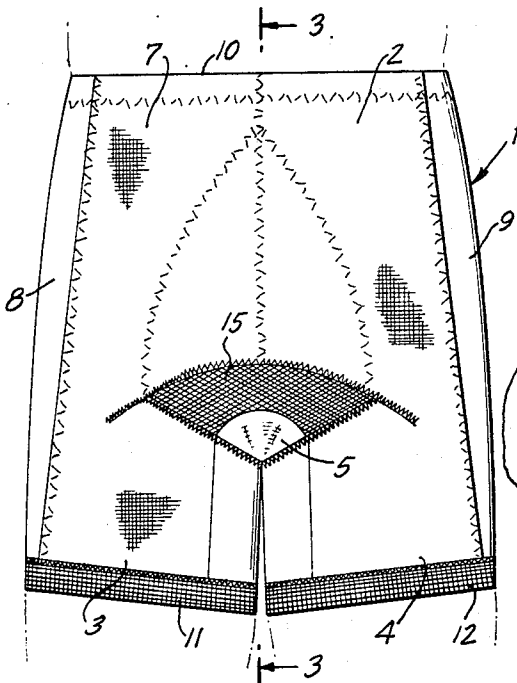


FIG. 2

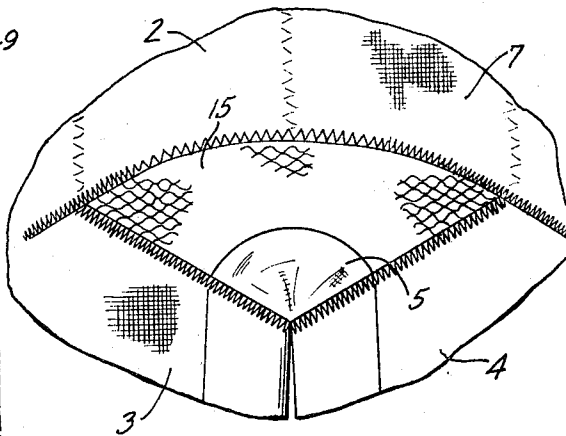


FIG. 3

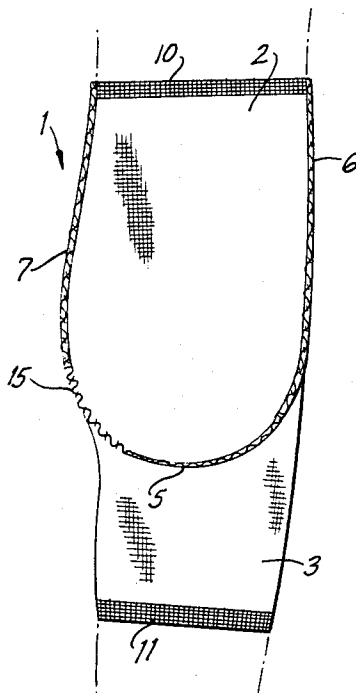
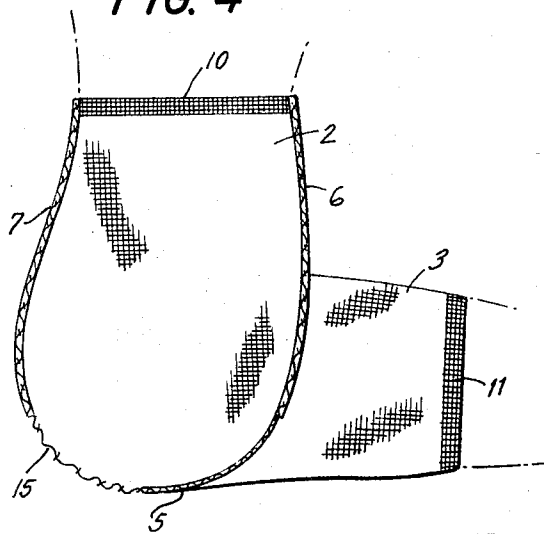


FIG. 4



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FIG. 5

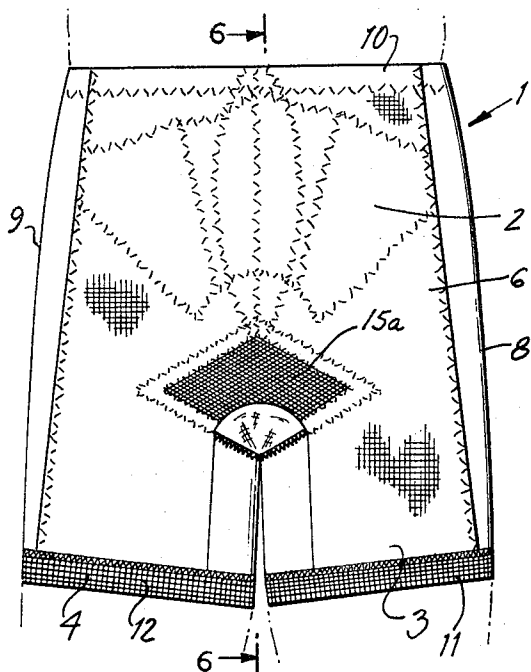


FIG. 6

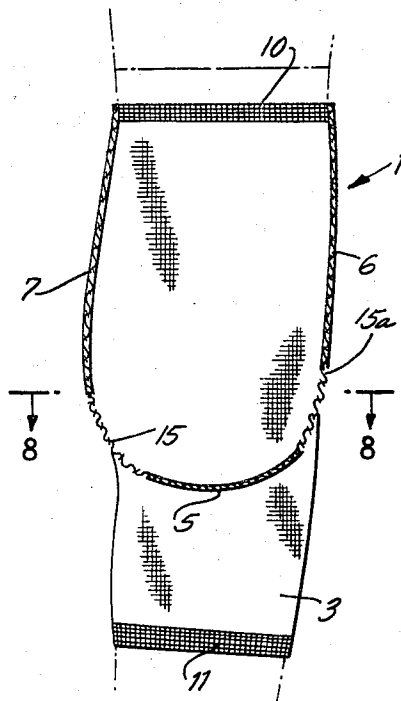


FIG. 8

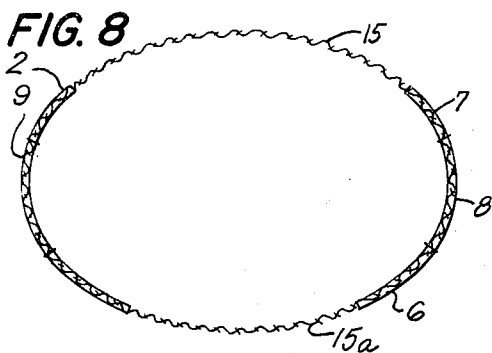


FIG. 9

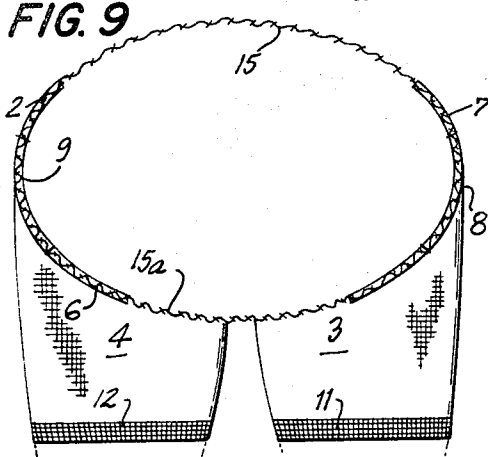
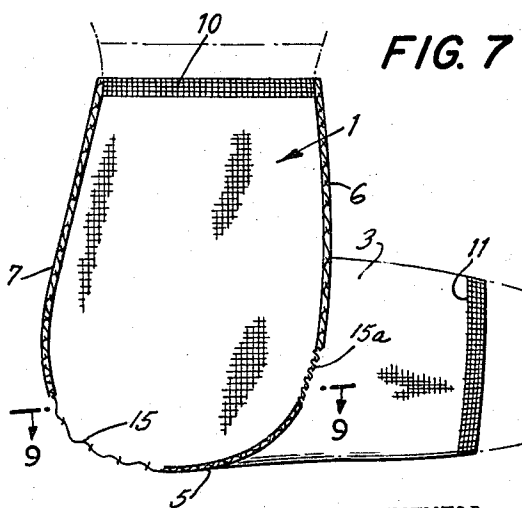


FIG. 7



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Filed Nov. 26, 1965, Ser. No. 510,011

7 Claims. (Cl. 128—528)

ABSTRACT OF THE DISCLOSURE

A pantie girdle having front and rear panels of an elastic fabric with limited expansion and an insert of an elastic fabric having a greater degree of expansion and located at least in one of said panels adjacent to and above the crotch, and said insert having a greater dimension horizontally than vertically. In the illustrated embodiment such an insert is provided in both the front and rear panels.

The present invention relates to foundation garments and more particularly to a construction in such garments which automatically controls its vertical and horizontal expansion so that it will conform to differences in the height and changes in the dimensions of the body of the wearer during movement from one position to another.

Conventional foundation garments are in the form of girdles which extend around and support the abdomen and buttocks of the wearer in a desired contour. The garments are manufactured of an elastic material which yields to some degree as the person wearing the garment moves from one position to another. However, if the material yields too freely, it will fail to support the abdomen and buttocks in the desired contour. As the resistance of the material to deformation is increased, the garment becomes increasingly uncomfortable to wear. In both cases, the material of the garment does not yield sufficiently to compensate for changes in the dimensions of the body as it is moved from one position to another, such as from a standing to a sitting position, and produces a relative movement between the garment and body. As a result, the garment gradually creeps on the body requiring readjustment from time to time, as well as producing a feeling of discomfort.

One of the objects of the present invention is to provide an improved construction in a foundation garment which adapts it to expand and contract with and more nearly conform to changes in the dimensions of the body of the wearer during movement from one position to another.

Another object is to provide an improved foundation garment with an adjustable rise so that the same garment can be used to support the abdomen and buttocks of short, medium and tall persons to produce a desired contour without creeping on the body of the wearer.

Still another object is to provide a foundation garment of the type indicated which is of relatively simple and compact construction, economical to manufacture and one which can be worn with greater comfort than conventional garments.

These and other objects will become more apparent from the following description and drawings in which like reference characters denote like parts through the several views. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not a definition of the limits or scope of the invention, reference being had for this purpose to the appended claims.

In the drawings:

FIGURE 1 is an elevational view of the rear of an elastic foundation garment incorporating the novel features of the present invention and showing the insert of

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a freely expansible material at the lower portion of the back panel;

FIGURE 2 is an enlarged view of the insert to show the coarse cross mesh of its elastic fabric to adapt it for greater expansion than the remainder of the garment;

FIGURE 3 is a longitudinal sectional view taken on line 3—3 of FIGURE 1 and showing the contracted condition of the material of the insert in a vertical direction when the wearer is standing;

FIGURE 4 is a view similar to FIGURE 3 showing the vertical expansion of the material of the insert when the person is in a sitting position;

FIGURE 5 is a front elevational view of a garment of modified construction having an insert like that shown in FIGURE 1 at the front as well as in the rear of the garment;

FIGURE 6 is a view similar to FIGURE 3 showing the condition of the garment when the wearer is in a standing position with the front insert expanded and the rear insert contracted vertically;

FIGURE 7 is a view similar to FIGURE 4 showing the condition of the garment when the wearer is in a sitting position with the front insert contracted and the rear insert expanded vertically;

FIGURE 8 is a transverse sectional view taken on line 8—8 of FIGURE 5 and showing the horizontal expansion on the front and rear inserts when the wearer is in a standing position; and

FIGURE 9 is a view similar to FIGURE 8 showing the further horizontal expansion of the inserts when the wearer is in a sitting position.

The improvements of the present invention may be applied to any foundation garment and for purposes of illustration are shown applied to a pantie girdle type garment 1. This garment 1 comprises a girdle 2 which encircles the abdomen and buttocks of the wearer, depending leg portions 3 and 4 for covering the thighs adjacent the crotch and a crotch piece 5 which connects the girdle and legs to form a one-piece garment. The girdle 2 of the garment 1 has a front panel 6 and a rear panel 7 of a fabric woven of elastic warp and woof threads, and known in the trade as "power net." This fabric has a two-way stretch and is relatively resistant to deformation to support the torso of the wearer in a desired contour. The front and rear panels 6 and 7 are connected by side panels 8 and 9 of a fabric woven from warp and woof threads, one of which is non-elastic and the other elastic, to provide a one-way stretch vertically. The crotch piece 5 is knit from elastic thread of fine denier. A waist band 10 is provided at the upper edge of the garment and leg bands 11 and 12 are provided at the lower ends of the leg portions 3 and 4 of the garment. As thus far described the garment is of conventional construction.

In accordance with the present invention the garment is constructed to support the abdomen and buttocks of the wearer so as to produce a desired contour while at the same time permit an expansion and contraction of the garment to compensate for different dimensions of the body as it is moved to different positions, provide more comfort for the wearer and at the same time reduce any tendency of the garment to creep on the body during movement from one position to another. The improvement comprises inserts of a material which will expand more freely than the remainder of the garment so located as to normally support the torso in a desired contour and of a shape and size to permit the required expansion.

In the embodiment of the invention illustrated in FIGURES 1 to 4 an insert 15 is located at the lower portion of the rear panel 7 and between it and the crotch piece 5. More specifically the insert 15 is located at the seat of the garment under the lower inwardly curved portion of the buttocks where a minimum support is required to

maintain the desired contour. The insert 15 may be made of any suitable material having the required elasticity to compensate for changes in the dimension of the body as it is moved from one position to another. Preferably, the insert is made of a coarse, cross-mesh material having a two-way stretch and known in the trade as "fish-net." For example, such fish-net material has an elastic deformation in the range of 200% to 250% with a relatively small applied force while the power-net material of the front and back panels 6 and 7 has an elastic deformation in the range of 100% to 120% and requiring a much greater applied force. Thus, the ratio of difference in deformation of the insert 15 with respect to the front and back panels 6 and 7 is in the range of approximately 1.5 to 2.5.

The insert 15 may have any suitable shape to adapt it to perform its intended function of expanding vertically between the bottom and the top of the garment when a person wearing the garment changes from a standing to a sitting position by an amount corresponding to the increase in the dimension of the body. In the illustrated embodiment the insert is of generally lenticular shape having a long axis extending horizontally and generally parallel with the parallel threads of the fish-net material and a short axis extending vertically. In one construction which has been found to operate quite satisfactory the garment is 16 inches long, 25 inches around the waist, 30 inches around the widest part corresponding to the hips of the wearer and 15 inches around each of the legs 3 and 4. The insert 15 below the lower end of the rear panel 7 and crotch piece 5 in an unexpanded condition has a short vertical axis of 2 inches and a long horizontal axis of 7.5 inches. It is to be understood, however, that the garment can have other dimensions around the waist and hips for larger and small persons, and that the inserts may have other shapes, such as a diamond shape, oval shape or even a rectangular shape so long as the horizontal length is greater than the vertical height.

When such a garment is being worn the relatively resistant front and rear panels 6 and 7 of power-net material cover the abdomen and buttocks of the wearer to support them in a desired contour. While the person is standing the material of the insert 15 is contracted vertically, but due to its location at the seat of the garment it does not affect the support produced by the rear panel 7. However, when the person wearing the garment changes from a standing to a sitting position the material of the insert 15 expands as much as 250% of its original length to compensate for the increase in the dimension of the person. Thus, the garment expands and contracts with the body of the wearer without any relative movement to prevent creeping while at the same time providing the required support with greater comfort to the wearer.

FIGURES 5 to 9 disclose a modified construction in a foundation garment such as that shown in FIGURES 1 to 4 in which an insert 15a is provided at the front of the garment between the lower end of the front panel 6 and the crotch piece 5 as well as the insert 15 in the seat. The insert 15a is made of the same fish-net material as the insert 15, is located below the outward and upward curvature of the abdomen so as not to reduce the support required and may have the same shape as the insert 15. In the illustrated embodiment, the insert 15a is more of a diamond shape having a long horizontal axis and short vertical axis in its unexpanded condition of slightly smaller dimensions than the insert 15.

The modified construction of FIGURES 5 to 9 has the added advantage of permitting the garment to expand and contract in the front as well as the back and the two inserts 15 and 15a cooperate with each other in adjusting the garment to variations in the dimensions of the body as it is moved from one position to another. In addition, the garment with inserts 15 and 15a in the back and front, respectively, provides an adjustable rise, the distance from the top of the garment at the front to the top of the gar-

ment at the rear as measured through the crotch, so that the same garment may be used for short, medium and tall persons. In this garment the rear insert 15 is the same as described with respect to FIGURE 1 and the front insert 15a in an unexpanded condition has a vertical height of 2 inches and horizontal length of 6 inches. When the garment illustrated in FIGURE 5 was worn by a particular model in a standing position the rear insert 15 was expanded horizontally to 10.25 inches and vertically to 3 inches; and the front insert 15a expanded horizontally to 7 inches and vertically to 2.75 inches. When the model changed her position from a standing to a sitting position, the rear insert 15 further expanded horizontally to 11 inches and vertically to 4.5 inches; and at the same time the front insert 15a retained substantially the same horizontal dimension of 7 inches but contracted vertically to 1.75 inches. The garment on this particular model had a rise of 28 inches, but it was demonstrated that the rise could be increased to 31.5 inches. Actually, the rise of the garment can be adjusted between 26 and 31.5 inches, as illustrated in dash lines in FIGURE 6, so that the same garment may be worn with comfort without creep by short as well as tall persons and the elastic inserts 15 and 15a provide this adjustable rise.

It will now be observed that the present invention provides an improved construction in a foundation garment which adapts it to expand and contract with and more nearly conform to changes in the dimensions of the body when moving from one position to another. It will also be observed that the present invention provides an improved foundation garment with an adjustable rise so that the same garment can be used to firmly support the abdomen and buttocks of short as well as tall persons to produce a desired contour without creeping on the wearer. It will still further be observed that the present invention provides an improved foundation garment which is of relatively simple and compact construction to adapt it for economical manufacture and one which can be worn with comfort.

While two embodiments of the invention are herein illustrated and described, it will be understood that further changes may be made in the construction and arrangement of the elements without departing from the spirit or scope of the invention. Therefore, without limitation in this respect, the invention is defined by the following claims.

I claim:

1. A foundation garment in the form of a girdle extending around the abdomen and buttocks of the wearer, said garment having front and rear panels of an elastic fabric with limited expansion to support the abdomen and buttocks while flexing to permit limited expansion, an insert of an elastic fabric having a greater degree of expansion than the fabric forming the panels and located in at least one of the front and rear panels, said insert being adjacent to and above the crotch of the wearer and remote from the top and bottom edges of the garment, and said insert having a greater dimension horizontally than vertically in its unexpanded condition so that it contracts to a minimum dimension when the person wearing the garment is standing and expands to a maximum dimension when the person is in a sitting position.

2. A foundation garment in the form of a pantie grille extending around the abdomen and buttocks of the wearer and having depending legs forming a crotch therebetween, said garment having front and rear panels connected by side panels and composed of an elastic fabric with limited expansion to support the abdomen and buttocks while flexing to permit limited expansion, an insert of an elastic fabric having a greater degree of expansion than the fabric forming the panels and located in the rear panel adjacent to and above the crotch, and said insert having a greater dimension horizontally than vertically in its unexpanded condition so that it expands to a maximum vertical height when a person wearing the garment is

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standing and contracts to a minimum vertical height when the person is in a sitting position.

3. A foundation garment in the form of a pantie girdle extending around the abdomen and buttocks of the wearer and having depending legs forming a crotch therebetween, said garment having front and rear panels connected by side panels and composed of an elastic fabric with limited expansion to support the abdomen and buttocks while flexing to permit limited expansion, an insert of an elastic fabric having a greater degree of expansion than the fabric forming the panels and located in the front panel adjacent to and above the crotch, and said insert having a greater dimension horizontally than vertically in its unexpanded condition so that it expands to a maximum vertical height when a person wearing the garment is standing and contracts to a minimum vertical height when the person is in a sitting position.

4. A foundation garment in the form of a pantie girdle extending around the abdomen and buttocks of the wearer and having depending legs forming a crotch therebetween said garment having front and rear panels connected by side panels and composed of an elastic fabric with limited expansion and with a crotch piece connected between the front and rear panels and legs, inserts located in each of the rear and front panels adjacent to and above the crotch piece, and each of said inserts having a greater degree of expansion than the fabric forming the adjacent

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panel so that the rear insert contracts and the front insert expands vertically when a person wearing the garment is standing and the rear insert expands and the front insert contracts when the person is in a sitting position to compensate for corresponding changes in the dimensions of the body.

5. A foundation garment in accordance with claim 4 in which each of the inserts has a greater dimension horizontally than vertically when in an unexpanded position.

6. A foundation garment in accordance with claim 5 in which the inserts are of a generally diamond shape.

7. A foundation garment in accordance with claim 4 in which the elastic fabric of the inserts has a ratio of expansion with respect to the expansion of the fabric of the front and rear panels in a range of 1.5 to 2.5.

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