

Sept. 14, 1965

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3,205,893

WOMAN'S PANTY STRUCTURE FOR CROTCH DISCOMFORT RELIEF

Filed May 17, 1963

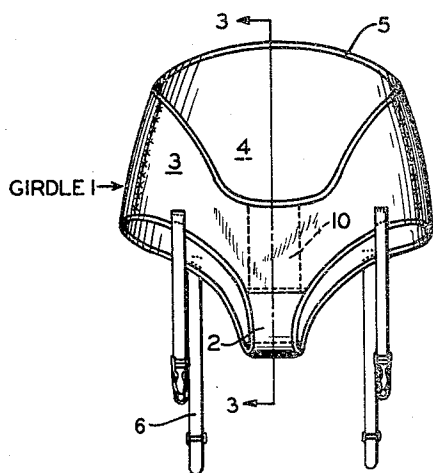


FIG. 1

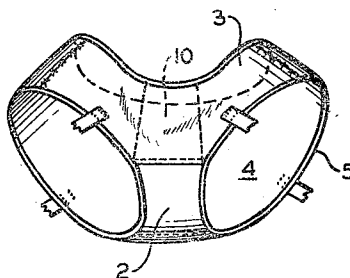


FIG. 2

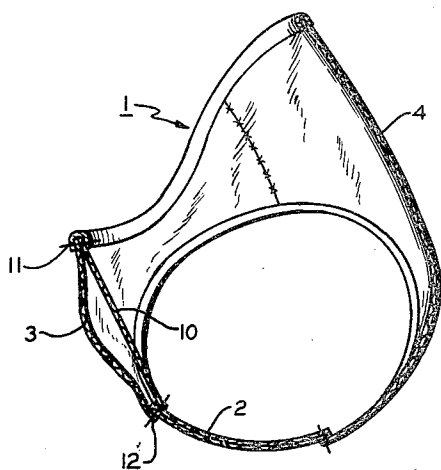


FIG. 3

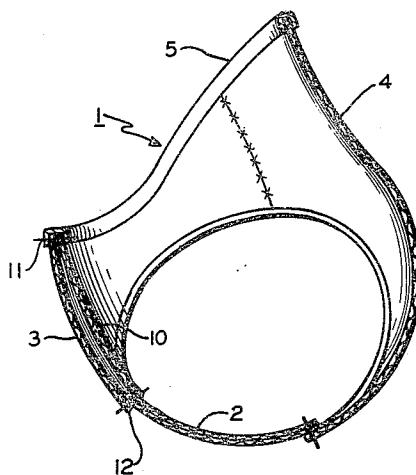


FIG. 4

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## WOMAN'S PANTY STRUCTURE FOR CROTCH DISCOMFORT RELIEF

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Filed May 17, 1963, Ser. No. 282,198

2 Claims. (Cl. 128—528)

This application is a continuation-in-part of my application Serial No. 144,679 filed Oct. 12, 1961, which is now abandoned.

This invention relates to a garment useful as a medical appliance for relieving pain and discomfort in the region of a woman's crotch.

Women commonly suffer discomfort and pain in the region of the crotch from various conditions such as varicose veins in the crotch; protruding or painful hernia due to pressures exerted in the region of the crotch during pregnancy; and a prolapse of the uterus. So far as I know, a satisfactory device for relieving discomfort or pain arising from any of the foregoing and like causes, has not heretofore been found.

The principal object of the present invention is to provide a satisfactory device for relieving such discomfort or pain and, more particularly, to provide such a device in the form of a panty structure which is also useful for conventional purposes.

Other important objects are: to produce a garment which is simple and inexpensive to make; to provide one which is as easy to put on and remove as a conventional girdle; and to provide a comfortable garment which has a resistance to wear and an operational life at least as good as its conventional counterpart.

Most, if not all, of the foregoing objects are attained, in accordance with my invention, by constructing a woman's panty structure to comprise a tight-fitting loin-encircling girdle and a centrally-disposed bottom crotch member, which stretches in the front-to-rear direction of its length but does not stretch or wrinkle in the leg-to-leg direction of its width, and by providing that structure with an auxiliary means which is connected to the girdle in a manner causing it to be pulled upwardly by the girdle when the girdle is put on, and which is operative, when pulled upwardly, to exert a corresponding pull on the crotch member and thereby urge it upwardly into firm engagement with the crotch of the wearer. More particularly, the auxiliary means is in the form of a centrally-disposed more or less vertically-arranged elastic strap mounted on the front wall of the girdle in a manner such that, when the panty structure is put on, the front strap is inherently stretched in the upward direction sufficiently to pull said crotch member upwardly into firm engagement with the crotch. As a consequence, so long as the girdle is worn, the strap is operative to hold the crotch member in firm engagement with the crotch. I have found that a panty structure of this character can be easily, simply and inexpensively made to provide (against the crotch) a magnitude of upward pressure, which is usually sufficient to relieve discomfort or pain arising from varicose veins, pregnancy hernias and prolapsed uteri.

The panty structure, as a whole, may be of conventional shape. It may also be of conventional character except that the loin-encircling member is constructed of relatively heavy elastic material in the tight-fitting manner of a conventional girdle while the crotch member should be a non-wrinkling material made of somewhat stiffer heavier material than is normally employed in making the crotch member of a conventional panty structure. Since the only essential addition to the panty structure is the auxiliary strap, it will be apparent that the end product is simple and inexpensive to make and as easy to put on

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and remove as a conventional girdle. I have found it comfortable to wear and effective, when worn, for relief purposes.

A panty structure embodying my invention is illustrated in the accompanying drawing wherein:

FIG. 1 is a front elevational view thereof;

FIG. 2 is a perspective view of the FIG. 1 structure when the latter is tilted rearwardly enough to provide a bottom plan view of the crotch member;

FIG. 3 is a central vertical section taken along line 3—3 of FIG. 1 with the front wall section of the girdle and the auxiliary strap in a relaxed condition; and

FIG. 4 is a section similar to FIG. 3 with the front wall section and the auxiliary strap in the stretched condition which occurs when the garment is in use.

The garment illustrated in the drawing comprises: a panty structure; and an auxiliary strap.

### PANTY STRUCTURE

The panty structure comprises: a girdle in the form of a tight-fitting loin-encircling member 1 presenting top and bottom openings; and a centrally-disposed bottom crotch member 2 dividing the lower opening of the panty structure into a pair of leg-receiving bottom openings. The girdle 1, which has front and back vertically-arranged horizontally-extending wall sections 3 and 4 integrally joined together along their opposite ends, is conventionally shaped (in the manner of abdominal girdles) to conform snugly to the contour of the corresponding encircled portion of the body, when worn.

The front and back wall sections 3 and 4 are conventionally composed of an elastic material which will stretch satisfactorily in the horizontal direction and reluctantly in the vertical direction. The embodiment shown in the drawing is intended for use by pregnant women; hence, the upper part of the front wall section is cut away. For women who are not pregnant, the front wall section need not be, and normally will not be, cut away.

The crotch member 2 comprises an elongate single layer or multiple layer strip of a firm elastic material 2 which presents a hard relatively unyielding closely textured face and which stretches satisfactorily only in the horizontal direction of its length. It may substantially resist or completely prevent either stretching or wrinkling in the horizontal direction of its width, i.e., in a direction proceeding from one leg opening to the other. It extends longitudinally or lengthwise between centrally disposed lower end portions of the front and back sections 3 and 4 and preferably is integrally joined to both. While the crotch member 2 may be in the form of a single extra-heavy layer of material of the character usually employed in making girdles, I prefer the use of two layers, which are sewn together along their margins. With two (or more) layers, it is easier to get the firm nonwrinkling support and other characteristics desired in materials which are conventionally and readily available.

The edges of the panty structure, which define the upper waist opening and the lower leg-receiving openings, preferably are edged with suitable elastic tapes 5. With respect to these tapes, each stretches in a direction and manner corresponding to that of the material forming the edge of which it is attached.

The girdle 1 may be conventionally provided with stocking supporters 6.

### AUXILIARY MEANS

The auxiliary means, for pulling the crotch member 2 upwardly into firm engagement with the crotch as the panty structure is put on by the wearer and for maintaining such engagement during use, comprises a centrally disposed vertically arranged auxiliary strap 10 extending from an upper anchorage point 11, which is fixed on the

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front wall section 3 of the girdle 1, downwardly to a lower anchorage point 12, which is located on (or adjacent to) the front end portion of said crotch member 2. This auxiliary strap is firmly secured to both anchorage points 11 and 12. It is composed of a relatively heavy elastic material and has a relaxed length which is shorter than the relaxed length of the adjacent portion of said panty structure between said anchorage points.

### OPERATION

In putting this garment on, the wearer must conventionally pull and stretch the girdle as she manipulates it toward its operative loin-encircling position where it will have tight-fitting body-conforming engagement with the wearer. As and when the garment is put on, the panty structure is operative to carry said upper anchorage point 11 to and hold it in a comparatively fixed position relative to the body of the wearer. In so doing, the panty structure pulls upwardly on the upper end of the auxiliary strap 10 sufficiently to place and hold it under tension.

As a consequence, the auxiliary strap is stretched beyond its relaxed length up to the relaxed length of the corresponding adjacent portion of the front wall section 3. Preferably, the auxiliary strap 10 is stretched beyond the relaxed length of the corresponding portion of the front wall section 3, in which event such portion is also stretched somewhat.

As a result of the stretching action to which the auxiliary strap 10 is subject, as and when said panty structure is put on, the strap 10 is correspondingly operative to pull said crotch member 2 longitudinally toward (or in the direction of) the upper anchorage point 11 and thereby urge the intermediate portion of said crotch member 2 upwardly into and hold it in firm supporting engagement with the crotch of the wearer. Due to its hard, relatively unyielding, closely-textured, nonwrinkling face and its smooth, firm, flat-faced engagement with the wearer, it provides lasting comfort, which renders its use highly satisfactory to the wearer. A soft-faced material will not provide a satisfactory support and this is due, in part at least, to the fact that it will wrinkle and that wrinkles constitute one source of discomfort.

In carrying out the present invention, panty structures may be composed of various material. However, it may be helpful to note that I have obtained excellent results by using, for the parts hereinafter indicated, materials which, in relaxed squares approximating 2" x 2", will stretch to maximum lengths approximating those hereinafter indicated, viz: (a) for the girdle 1, a 2" square which stretches horizontally an additional 2 or 2½" (100 to 150%) and vertically an additional ¾ to 1" (37½ to 50%); (b) for the crotch member 2, a 2" square which does not stretch horizontally in one direction (proceeding from one leg opening to the other) but does stretch horizontally at right angles thereto an additional 1½ to 2" (75 to 100%); and (c) for the auxiliary strap 10, a 2" square which does not stretch horizontally but does stretch vertically an additional 1½ to 2" (75 to 100%). It will be understood, of course, that these figures are approximations given to illustrate a satisfactory embodiment of the invention and not to limit the invention.

### MISCELLANEOUS

A garment, constructed in accordance with my invention, essentially comprises: a panty structure composed of a loin-encircling girdle and a bottom crotch member; and an elastic auxiliary strap.

The loin-encircling girdle has front and back vertically-arranged horizontally-extending wall sections integrally joined together.

The bottom crotch member extends between centrally disposed lower end portions of said front and back wall sections and has its front and rear ends joined thereto. This crotch member is composed of an elastic material which stretches in the direction of its length, which sub-

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stantially resists both stretching and wrinkling in the horizontal direction of its width, and which presents a firm hard surface on its inner upwardly-exposed face.

The elastic auxiliary strap, which is vertically arranged alongside the centrally disposed portion of the front wall section of the girdle, has its upper end portion connected to an upper portion of the said front wall section and its lower end portion connected to both the lower portion of said front wall section and the front end of said crotch member. The intermediate portion of this auxiliary strap is free of and vertically stretchable relative to, and has a relaxed length shorter than, the corresponding portion of said front wall section.

As the girdle is manipulated into its operative position on the wearer, its front and rear wall sections, which are stretched into tight-fitting body-conforming engagement, cooperate with each other to raise said crotch member and stretch it lengthwise and thereby ultimately hold it in flat-faced upwardly-pressing engagement with the crotch of the wearer.

As the front wall section of the girdle is manipulated into its operative position, it vertically stretches the auxiliary strap sufficiently to render the stretched length of the intermediate portion of that strap equal to the vertical length of the corresponding portion of said front wall section. In the operative position of the girdle, this auxiliary strap beneficially exerts an upward pull on the front end of the crotch member, which appears to supplement the stretching and upwardly pressing action of the wall sections of the girdle on the crotch member sufficiently to assure a firm, flat-faced wrinkle-free engagement.

It will be appreciated that my garment is simple and inexpensive to make and as easy to put on and remove as a conventional girdle. In use, it is not only comfortable but effective for the relief of discomfort and pain. As must be obvious, it has a resistance to wear and an operational life as good as its conventional counterpart.

Having described my invention, I claim:

1. A garment useful as a medical appliance for relieving discomfort or pain in the region of a woman's crotch, comprising:

(A) a panty structure composed of a loin-encircling girdle and a bottom crotch member cooperatively forming a pair of leg-receiving bottom openings, which are separated by said crotch member

(1) said girdle being adapted to be stretched as it is put on and to have tight-fitting body-conforming engagement in its operative position on the wearer and having front and back vertically-arranged horizontally-extending wall sections integrally joined together,

(2) said bottom crotch member

(a) extending between centrally-disposed lower-end portions of said front and back wall sections and joined to both, and

(b) being composed of a firm hard-faced elastic material which stretches in the horizontal direction of its length, which substantially resists both stretching and wrinkling in the horizontal direction of its width; and

(B) a centrally-disposed vertically-arranged vertically-stretchable auxiliary strap

(1) extending from an upper anchorage point on the upper portion of the front wall section of the girdle downwardly alongside the front wall section to a lower anchorage point on the lower portion of the front wall section and being anchored to both anchorage points with its intermediate portion free of and vertically-stretchable relative to the corresponding portion of the front wall section,

(2) having a relaxed length which is shorter than the relaxed length of the adjacent portion of said panty structure between said anchorage points, and

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(3) being operative, as and when said panty structure is put on by the wearer, to pull said crotch member longitudinally in the direction of the upper anchorage point and thereby urge the intermediate portion of said crotch member upwardly into and hold it in firm flat-faced engagement with the crotch of the wearer.

2. A garment useful as a medical appliance for relieving discomfort or pain in the region of a woman's crotch, comprising:

(A) an integral panty structure composed of a horizontally-elastic loin-encircling girdle and a lengthwise-stretchable bottom crotch member interconnecting the lower ends of the front and rear walls of the girdle,

(1) said crotch member being composed of a material

(a) which substantially resists both stretching and wrinkling in the horizontal direction of its width, and

(b) which presents a firm hard surface on its inner upwardly-exposed face, and

(2) said girdle, in its operative position on a wearer, exerting an upward pull on each end of the crotch member to maintain that member in a longitudinally-stretched crotch-engaging condition; and

(B) a vertically-arranged vertically-stretchable auxiliary strap

(1) centrally disposed alongside the front wall section of said girdle

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(a) with its upper end portion connected to an upper portion of said front wall section,

(b) with its lower end portion connected to both the lower portion of said front wall section and the front end of said crotch member, and

(c) with its intermediate portion free of, vertically stretchable relative to, and having a relaxed length shorter than, the corresponding portion of said front wall section,

(2) said strap, in its operative position on a wearer,

(a) exerting an elastic upward pull on the front end of the crotch member, and

(b) cooperating with said girdle to maintain said crotch member in a longitudinally-stretched condition with its inner face pressed firmly inward into full flat-faced wrinkle-free engagement with the crotch of the wearer.

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