

July 14, 1964

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3,140,718

PANTY GIRDLE-WITH REMOVABLE CROTCH-PIECE

Filed Jan. 21, 1964

2 Sheets-Sheet 1

FIG. 1

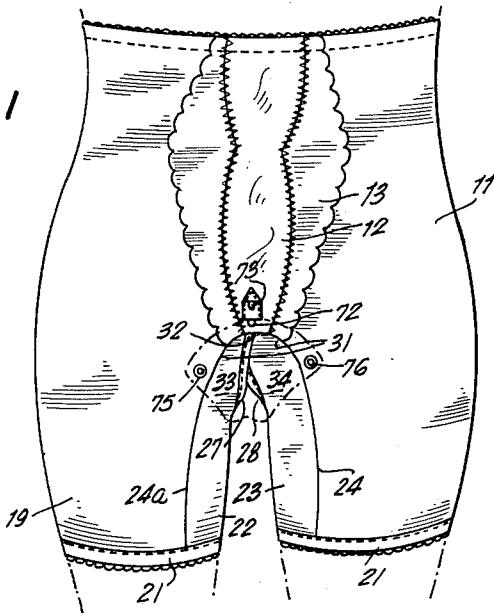


FIG. 2

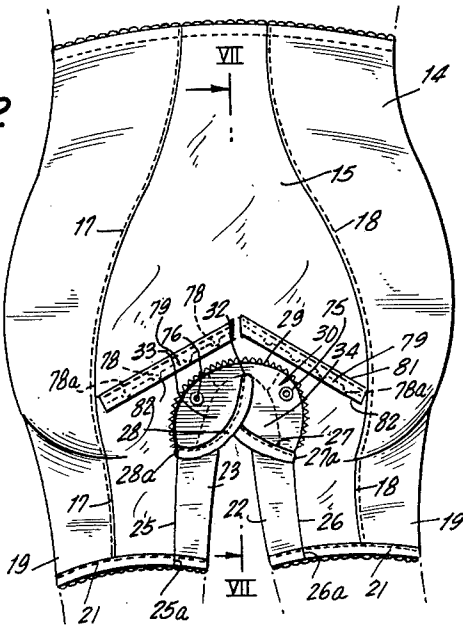


FIG. 5

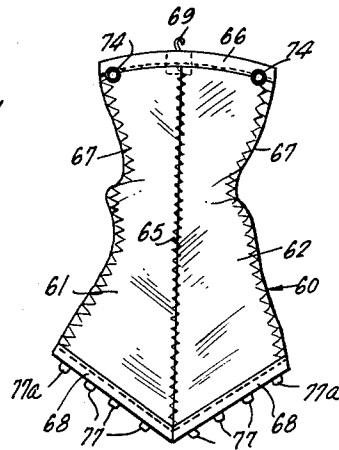


FIG. 6

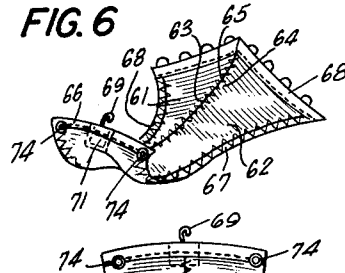
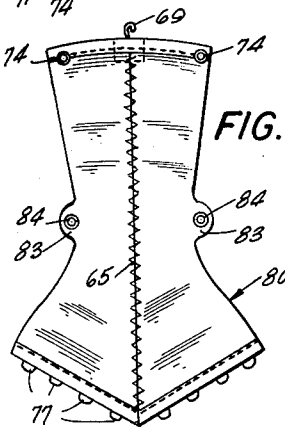


FIG. 9



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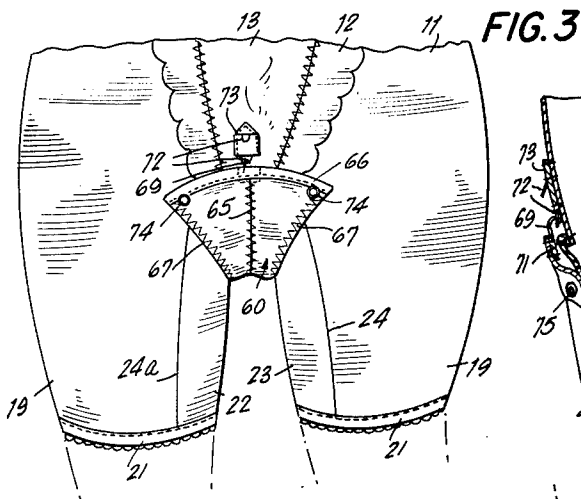


FIG. 3

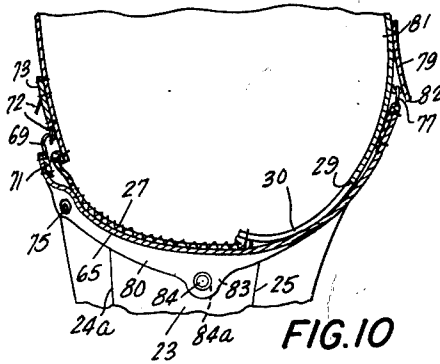


FIG. 10

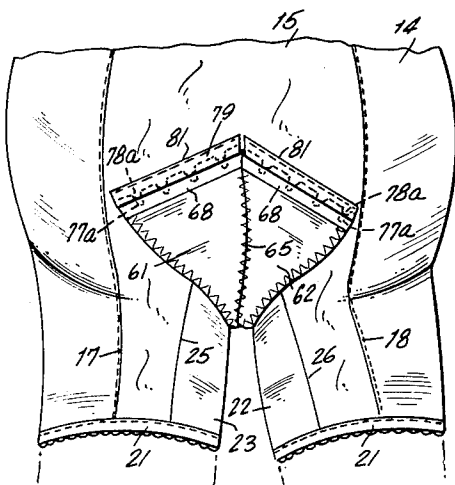


FIG. 4

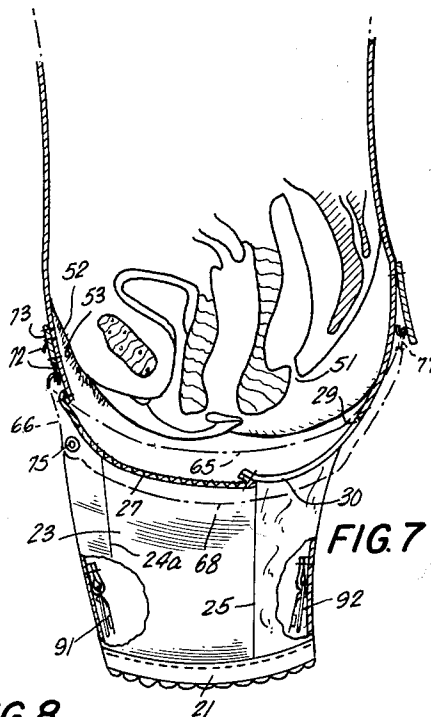


FIG. 7

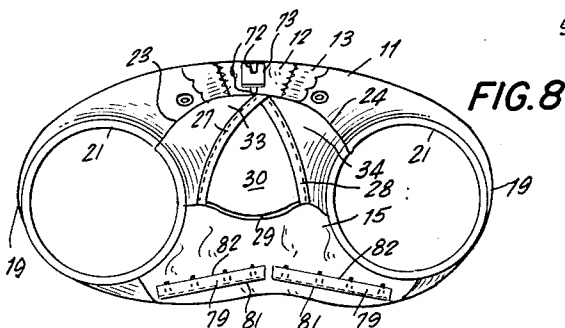


FIG. 8

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PANTY GIRDLE WITH REMOVABLE CROTCH-PIECE

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8 Claims. (Cl. 128—527)

This invention relates generally to women's undergarments and more particularly to panties and panty girdles having a removable and adjustable crotch-piece.

This application is a continuation-in-part of my copending application Serial No. 316,715, filed October 16, 1963.

It is an object of the present invention to provide a woman's undergarment having a crotch-opening and an adjustable covering member for such opening which will be readily attachable and detachable with a minimum of fastenings.

It is a further object of the invention to provide a woman's undergarment which has a thigh-encircling leg portion and which has a crotch opening with a means whereby the crotch opening can be rapidly uncovered without completely removing the garment, and which comfortably covers the mons veneris area of the wearer in standing position, even with the removable crotch-piece removed.

It is another object of the invention to provide a women's undergarment with a rapidly removable crotch-covering member having fastening means which will be sufficiently removed from the pubic area to avoid the possibility of becoming caught or entangled in the pubic hairs of the wearer.

It is another object of the invention to provide a panty girdle with a permanently attached diagonally overlapping covering for the mons veneris area of the wearer, which diagonal covering can be readily spread apart in seated position of the wearer to expose a crotch-opening.

It is another object of the invention to provide a girdle with a removable crotch member having readily releasable fastening means whereby the crotch member can be retained fastened to the rear portion of the girdle while being detached from the leg portions and the abdominal portion of the girdle.

It is a further object of the invention to provide a woman's undergarment with a removable crotch member which can be readily detached in a matter of seconds for fully exposing the urethra, vaginal and anal orifices of the wearer downwardly, while maintaining the mons veneris area of the wearer comfortably covered while the wearer is in standing position.

It is a further object of the invention to provide a crotch-covering member for a girdle which fits comfortably and elastically in the crotch area of a woman's undergarment, and which is adjustable without binding or causing creases or folds in seated or standing position.

Among the disadvantages of panty girdles and women's undergarments heretofore is the fact that for water-closet purposes, the wearer must completely remove the girdle, and the stockings which are attached to the bottom of the girdle by garters become twisted around the periphery of the leg when this is done, requiring that the stockings be detached and again adjusted when the girdle is again placed into position. It is customary for panty girdles which are provided with peripherally closed lower leg portions to be provided with zippers in the upper side panel of the girdle, in order to facilitate ready removal

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of the garment. However, this does not alleviate the problem of the twisting of the stockings, and still requires much tugging and pulling to properly adjust the girdle and stockings into position after water-closet use. Women frequently complain of broken finger nails caused by the pulling and tugging on girdles, and such pulling and tugging tends to rip the garment with the woman's nails, or to increase the wear and tear.

It is therefore a further object of the invention to provide a girdle which will overcome the above-mentioned difficulties, and with which the stockings as well as the main girdle or panty itself can remain in position without it being necessary for the wearer to remove the stockings or girdle at all for either water-closet purposes or for exchanging sanitary napkins.

A further object of the invention is to provide a separable crotch-covering member for a girdle which can be separately removed for laundering, thus making it possible to launder the girdle proper less frequently so that it will last longer.

Another object of the invention is to provide a crotch-piece for a girdle which is sufficiently adjustable so that the wearer can make it as snug or as loose as desired for her own comfort.

Another object of the invention is to provide a fastening flap on the seat wall portion of a panty girdle which will distribute tension forces from an elastic crotch-piece throughout a large area of the girdle seat.

Another object of the invention is to provide a woman's undergarment with a removable crotch piece which will distribute tension forces over a wide area throughout the girdle fabric, and will avoid local pulling and discomfort at the crotch.

It is another object of the invention to provide a women's undergarment with a maximum crotch opening for easy access and greater sanitation to prevent soiling, while maintaining maximum comfort.

Other objects of the invention are to provide a woman's undergarment of simple construction, which is inexpensive to manufacture, which has a minimum number of parts easy to attach and efficient in use.

To these ends and in accordance with the invention, a woman's undergarment, such as a panty or panty girdle having legs which are peripherally closed at the bottom, is provided with a crotch opening formed by the omission of the uppermost portion of the inside of the thighs. An edge seam extends along the lower boundary of the crotch opening rearwardly into the rear wall portion of the girdle, so that the crotch opening terminates in the rear wall at a location above the anal orifice of the wearer.

According to a further feature of the invention the mons veneris area of the wearer in standing position is adapted to be covered by crossing overlapped edge seams which are joined adjacently to the abdominal portion of the front wall of the girdle and have other ends respectively connected to the inside of the thighs at the lower border seam of the crotch opening.

According to another feature of the invention a separable crotch-piece is provided to completely cover the crotch opening, including the overlapping seams in the front and the rearward extension of the crotch opening.

According to a further feature of the invention a separable crotch-piece is fastened by a single hook at the abdominal portion of the girdle at a location above the

attaching point of the overlapping seam, and at the rear to an inverted V-shaped or crescent-shaped flap or pad containing engaging means or eyelets for rapid removal of the crotch-piece from the rear.

According to a modification of the crotch-piece, lateral flaps may be provided for attaching the crotch-piece additionally to the inside of the thighs below the crotch opening.

According to a further modification, the crotch-piece may be permanently sewed to the seat portion of the girdle and be detachable only from the front portion and thigh portions of the girdle.

Other objects, features and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

FIG. 1 is a front elevation view of a panty girdle in position on the wearer, with an improved detachable crotch-piece according to the invention, illustrated with the crotch-piece removed but indicated in phantom lines;

FIG. 2 is a rear elevation view of the girdle of FIG. 1 in position on the wearer, with the crotch-piece removed;

FIG. 3 is a partial front view of a girdle according to FIG. 1, but with the crotch-piece in place;

FIG. 4 is a partial rear view according to FIG. 2, but with the crotch-piece in place;

FIG. 5 is a plan view of the bottom side of the removable crotch-piece of FIGS. 3 and 4, shown in position lying on a flat surface;

FIG. 6 is a perspective view of the improved pre-shaped crotch-piece according to the invention and illustrated in unwrinkled and ungathered position it assumes when mounted in position on a girdle when being worn;

FIG. 7 is a vertical cross section taken along lines VII—VII of FIGS. 1 and 2, with the removable crotch-piece being indicated in phantom lines;

FIG. 8 is a bottom view of the girdle and crotch-piece illustrated in FIGS. 1 and 2 with the crotch-piece removed;

FIG. 9 illustrates a modification of the crotch-piece of FIG. 5, shown in flattened-out position with the bottom side facing upward;

FIG. 10 is a partial vertical cross section of the girdle with the crotch-piece of FIG. 9 in position.

Like reference numerals designate the same or similar parts throughout the several views.

The present invention applies to women's panties as well as panty girdles, but the illustrations show preferred embodiments as applied to a panty girdle having leg portions which are peripherally closed at their lower ends.

As best shown in FIGS. 1, 2, 3 and 4, the illustrated panty girdle is provided with a front wall portion which may comprise a plurality of panels 11, 12, 13, and with a rear wall portion which may likewise comprise a plurality of panels 14, 15. The front wall portion and the rear wall portion are interconnected to each other by seams, such as 17, 18, and two leg portions 19, 19. The leg portions 19 are peripherally closed at their respective bottom ends 21, 21. The bottom ends 21 may be made of an elastic binding, and the seams 17 and 18 extend down to it for distribution of vertical elastic tensile forces. The leg portions 19, 19 are provided with respective inner thigh wall portions 22, 23 which are permanently interconnected to the rest of the leg portion 19, for example by seams 24, 24a at the front and 25, 26 at the back. The seams 24, 24c and 17, 18 preferably terminate at the peripheral bands 21, but the seams 25, 26 form joints at the bands 21 at 25a, 26a for peripherally joining the bands and leg portions at their lower ends.

At the mutual intersection of the front wall portion 11, the rear wall portion 15, and the two thigh wall portions 22, 23 there is formed a crotch opening 30, best seen in the bottom view of FIG. 8. The crotch-opening 30 has hems or edge seams 27, 28, 29 and 31 defining its borders.

The edge seam 29, as best shown in FIG. 7, in position on the wearer, is adapted to come above the anal orifice 51 of the wearer, and thus to extend the crotch opening 30 rearwardly above said orifice 51. The lower ends of the edge seam 29 are interconnected to seams 25 and 26 (FIG. 2). The seam 31 is a seam on the front wall portion 11, and is visible on the back side of the front wall in FIG. 2 as viewed from the rear through opening 30.

At or near the uppermost location 32 of seam 31 there are attached one each of the respective ends of the hems or border edge seams 27, 28, the ends being closely adjacent to each other. The other ends of the seams 27, 28 are connected respectively at 27a, 28a to the inner thigh wall portions 22, 23 at the respective seams 26, 25. As best seen viewed from the rear in FIG. 2, the seam 31 on the front wall portion 11 and the mutually overlapping seams 27, 28 form the boundaries of overlapping spreadable panels 33, 34. As best seen in FIGS. 1 and 7, the panels 33, 34 and the overlapping seams 27, 28 are located so as to cover the mons veneris zone 52 of the wearer without the possibility of any fastenings coming into contact with or possibly catching the pubic hairs 53 in that zone. Because of the above-described construction of the overlapping hems or seams 27, 28 the panels 33, 34 can be readily spread apart to further expose the opening 30, as best shown in FIG. 8. This, of course, is most convenient when the wearer is in seated position.

The crotch-piece 60, illustrated in FIG. 6 in perspective view in the shape which it takes in position on the wearer, is preferably made of two panels 61, 62 whose inner longitudinal edges 63, 64 are cut so as to be curved away from each other, and are sewn together with a longitudinal elastic seam 65 which takes the position illustrated by the phantom line 65 of FIG. 7 when the crotch-piece 60 is in attached position. The panels 61, 62 are arranged so that their weaves run at a diagonal to the center longitudinal seam 65 and are made out of stretchable elastic woven material, such as nylon, for stretching in the proper direction. The front border 66, the rear borders 68, 68 and the lateral borders 67, 67 of the crotch-piece 60 are each edged with elastic material or binding similar to that along the seam 65, the latter elastic material being more stiff elastically, i.e. being less stretchable per unit of force applied, than the material of panels 61, 62. The borders 66, 67, 68, together with longitudinal seam 65, together pre-shape the position which the crotch-piece 60 will take in fastened position, while being sufficiently stretchable for comfort and for body movement.

The crotch-piece 60 is attached to the garment by means of rapidly detachable hooks or fasteners, or both. At the front end 66 of the crotch-piece, a hook fastener 69 is centrally attached by means of a pad 71 and is adapted to engage one or more engaging means or eyelets 72 arranged on the front wall portion of the girdle attached by a cloth fastening pad 73 at a location closely above the location 32 where the upper ends of overlapping seams 27, 28 are attached to the front wall portion 11. At or near the corners where the front border 66 intersects the lateral border 67, of the crotch-piece there are attached snap fasteners 74, 74 (FIGS. 5, 6) which are adapted to engage snap fastener engaging means 75, 76 on the front wall portion 11 of the girdle. These same fasteners 75, 76 may be seen on the rear side of panel 11 as viewed through the opening 30 in FIG. 2. Along the rear border 68, 68 of the crotch-piece there is arranged a group of fasteners, for example eyelets 77 arranged to attach to a group of engaging means 78, such as hooks, sewed to the inner surface of a flap 79. In the illustrated embodiment, as best shown in FIGS. 2 and 8, the flaps 79 slope outwardly and downwardly and are attached by a seam 81 attaching only the upper longitudinal edge of the flap 79 to the rear wall 15, leaving the lower longitudinal edge 82 of the flap 79 unfastened

for ready access to the engaging means 78 located on the surface of flap 79 which faces the rear wall 15. The group of fastening means 77 and the corresponding engaging means 78 are arranged to slope downwardly from the center, either in a straight line as illustrated, or in a curved crescent shape, so that the outermost fastening means 77a and corresponding engaging means 78a are located lower down on the rear wall panel when the crotch piece is in attached position, as compared to the inner fastening means 77 and engaging means 78 of the group. This arrangement causes a distribution over a wide area of rear wall 14, 15 any tension forces existing along lines of force passing through the respective fastening means 77, 77a and engaging means 78, 78a. This structure minimizes the non-uniform pulling, tugging or binding which could otherwise cause discomfort to the wearer. The flap 79 serves to cover the fastening means 77, 78 rearwardly so they will not form a projection which might show through a dress or other outer garment worn over the girdle.

The embodiment of the crotch-piece 80 shown in FIGS. 9 and 10 is somewhat similar to that shown in FIGS. 5 and 6, except that side wings or flaps 83 projecting laterally from the lateral sides of the crotch-piece are provided. Fastening means 84 are attached to the side flaps 83 and adapted to attach to engaging means 84a located on the inner surface of the thigh wall. The side flap 83 and the fastening means 84, 84a serve to better hold the crotch-piece 80 in shape and prevent the lateral sides from possibly riding up or becoming dislocated.

Conventional garters or garter fastening means are attached inside the front and back walls of each of the leg portions 19. This is possible and convenient, since the stockings do not have to be unhooked and rehooked each time the wearer uses the water-closet, and thus the stockings can be attached at 91 and 92 for all-day wearing, and remain covered by the lower peripheral portion 21 of the leg portion of the garment.

One of the outstanding advantages of the crotch-pieces 60 or 80 is that they can be removed in a matter of seconds, especially in emergencies, merely by unhooking the front fastening means 69, 72 and the snap fasteners 74/75 and 74/76. In the case of the embodiment 80 of FIG. 9, additional fastening means or snap fasteners 84/84a are unfastened at the inner side of each thigh. The rear fastening means 77/78 can ordinarily remain attached, with the crotch-piece 60 or 80 moved backward away from the opening 30. In fact, it is also possible to replace the rear fastening means 77/78 by suitable stitching permanently attaching the rear border 68 of the crotch-piece to the seat panel 15. However, such permanent attachment would not make it possible to separately launder the crotch-piece, and is therefore less preferable to the completely removable crotch-piece.

It will be obvious to those skilled in the art, upon studying this disclosure, that devices and garments according to my invention can be modified in various respects and hence may be embodied in various garments other than as particularly illustrated and described herein, without departing from the essential features of my invention and within the scope of the claims annexed hereto.

I claim:

1. A panty girdle having interconnected front and rear wall portions and thigh-encircling leg portions, said leg portions having inner thigh wall portions, means forming a downwardly and rearwardly unobstructed crotch opening between said wall portions, said thigh wall portions each having an upper panel with a hem defining the forward upper limit of each thigh wall portion, and said hems defining forward and lateral boundaries of said crotch opening, said panels extending forwardly and having respective overlapping upper ends both connected at their terminals to said front wall portion, the lower ends

of each of said hems terminating at a respective inner thigh wall portion, said overlapping upper ends being located so as to cover the forward part of the crotch opening and the mons veneris area of the wearer in standing position of the latter and being spreadable in seated position of the wearer, said means forming the crotch opening including a rearward hem in said rear wall portion forming the rear boundary of said crotch opening located so as to end said crotch opening rearwardly above the anal orifice of the wearer.

2. A woman's undergarment having interconnected front and rear wall portions and thigh-encircling leg portions, said leg portions having inner thigh wall portions, means forming a downwardly and rearwardly unobstructed crotch opening between said wall portions, said thigh wall portions each having a panel with a hem defining the upper forward limit of each thigh wall portion, and said hems defining a forward and lateral boundary of said crotch opening, said panels extending forwardly and having respective overlapping upper ends adjacently joined at their terminals at a joining location to said front wall portion, the lower ends of each of said hems terminating at a respective thigh wall portion, said overlapping upper ends being located so as to cover the forward part of the crotch opening and the mons veneris area of the wearer in standing position of the latter and being spreadable relative to each other in seated position of the wearer to form a front continuation of said crotch opening, said means forming the crotch opening including another hem in said rear wall portion and forming the rear boundary of said crotch opening so as to end said crotch opening rearwardly above the anal orifice of the wearer, a separate crotch-piece of such size and shape so as to cover said crotch opening including said forward and lateral and rear boundaries thereof, and fastening means located on said crotch-piece and on said front and rear wall portions for attaching said crotch-piece, the fastening means on said front wall portion being readily disconnectable for detaching the front portion of said crotch-piece.

3. A woman's undergarment according to claim 2, said crotch piece comprising two joined panels of elastic material having curved mutually joined edges, elastic means forming a center seam along the mutual joint of said panels, and elastic means forming a border at least along the lateral edges of said panels, said elastic means forming said center seam and said elastic means forming said border each being less stretchable per unit of force applied than said panels.

4. A woman's undergarment according to claim 2, said crotch-piece defining front and rear ends and lateral sides, said fastening means comprising a fastener at the center of said front end of the crotch-piece and respective fasteners at the corner intersections of said front end and lateral sides thereof, and engaging means on said front wall portion of the girdle located above said joining location of said overlapping seam ends.

5. A woman's undergarment according to claim 4, said engaging means on said front wall portion comprising a plurality of vertically arranged elements for engaging said fastener at the center of said front end of the crotch-piece.

6. A woman's undergarment according to claim 2, said crotch-piece defining front and rear ends and lateral sides, said fastening means including a plurality of fasteners arranged in a group along said rear end of said crotch-piece, and engaging means mounted on the outside of said rear wall portion for engaging said group of fasteners, the outer terminal fasteners of said group in attached and wearing position of said crotch-piece being disposed laterally of the vertical centerline of the garment and lower than the inner fasteners of said group.

7. A woman's undergarment according to claim 6, said crotch-piece having side flaps projecting laterally from said lateral sides, said fastening means further including fas-

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teners on said side flaps and fastener engaging means on said inner thigh wall portions.

8. A woman's undergarment according to claim 1, further including a detachable separate crotch-piece for overlappingly covering said crotch opening including said forward, lateral and rear boundaries thereof, said crotch-piece comprising two joined panels of elastic material having inwardly curving joined complementary edges, elastic means forming a longitudinal center seam along joining said panels along said complementary edges, and elastic means forming a border along the lateral edges of said

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panels, said elastic means forming said center seams and said elastic means forming said border each being less stretchable per unit of force applied than said panels.

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