

Dec. 30, 1952

F. CHATFIELD
MAN'S UNDERGARMENT

2,623,210

Filed March 26, 1948

3 Sheets-Sheet 1

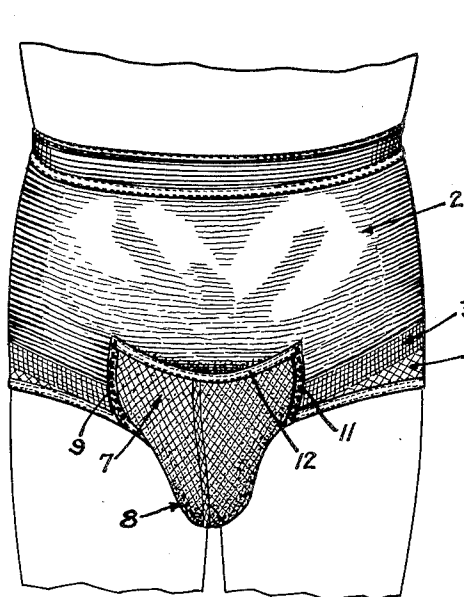


FIG. 1

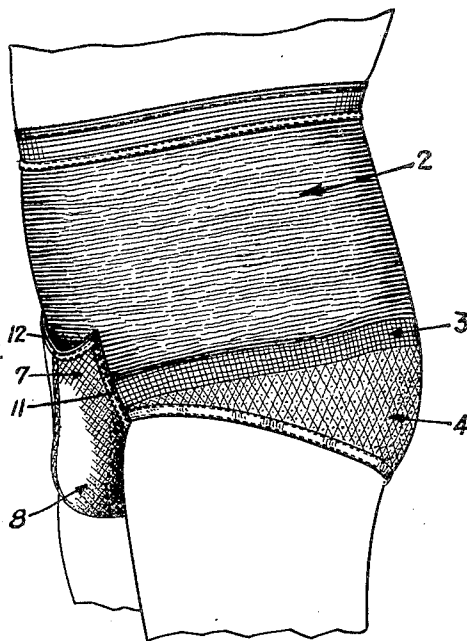


FIG. 2

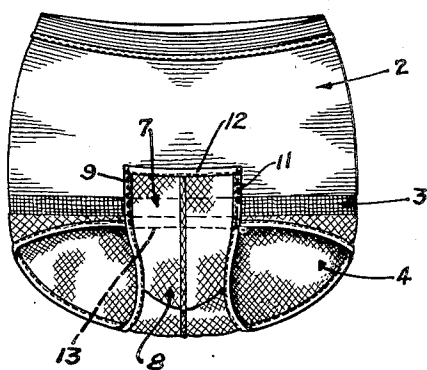


FIG. 3

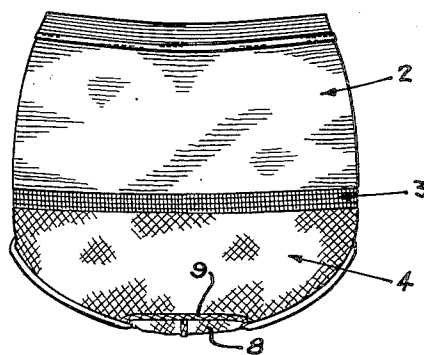


FIG. 4

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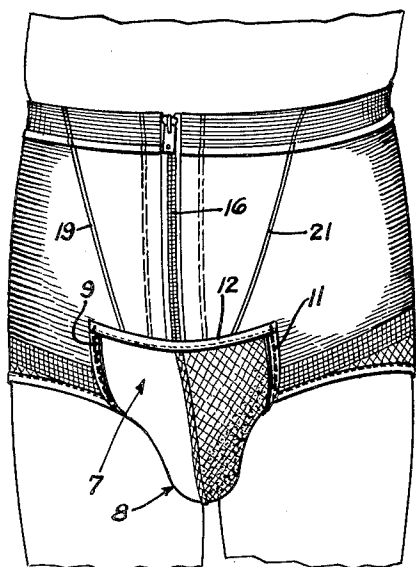


FIG. 5

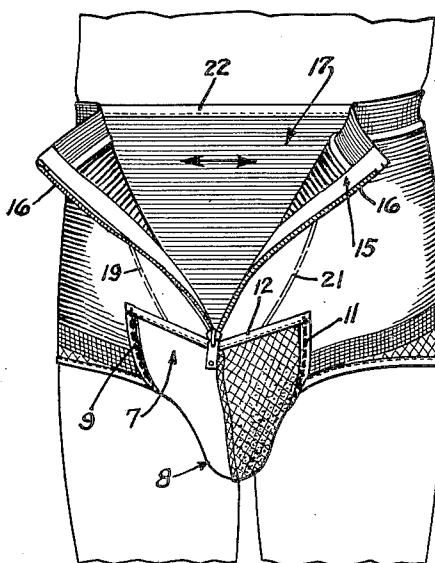


FIG. 6

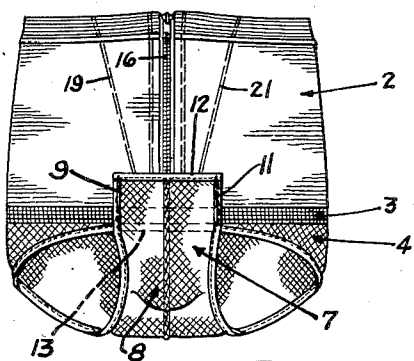


FIG. 7

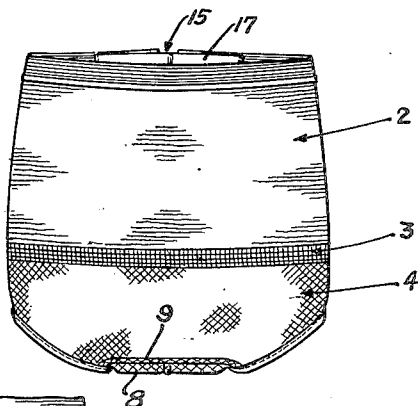


FIG. 8

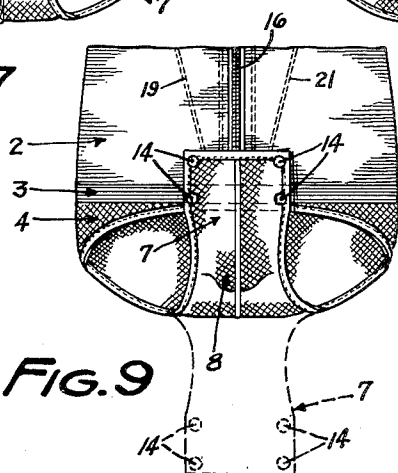


FIG. 9

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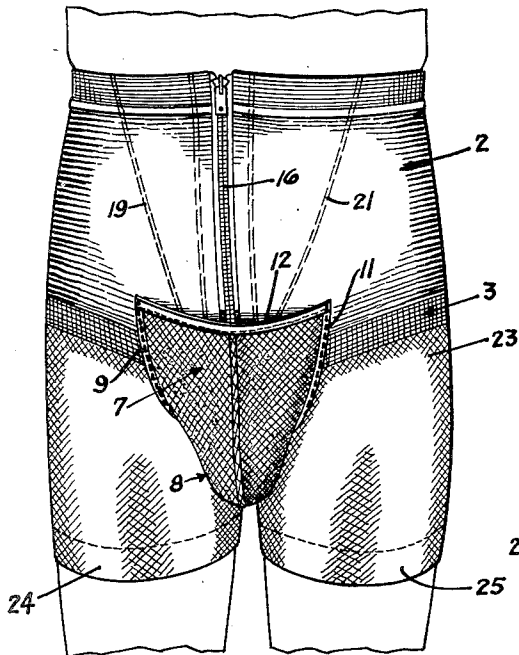


FIG. 10

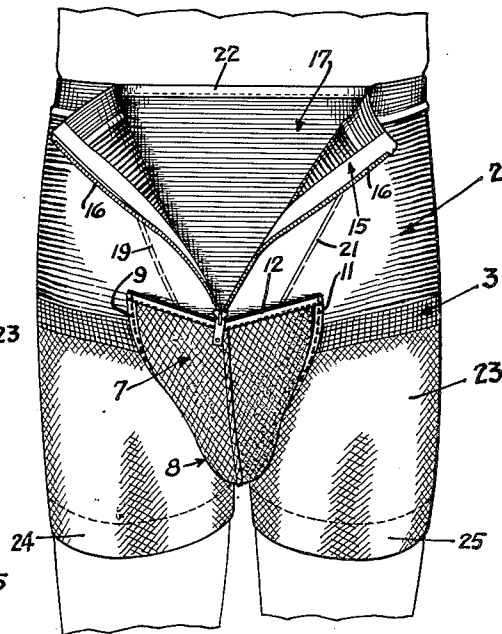


FIG. 11

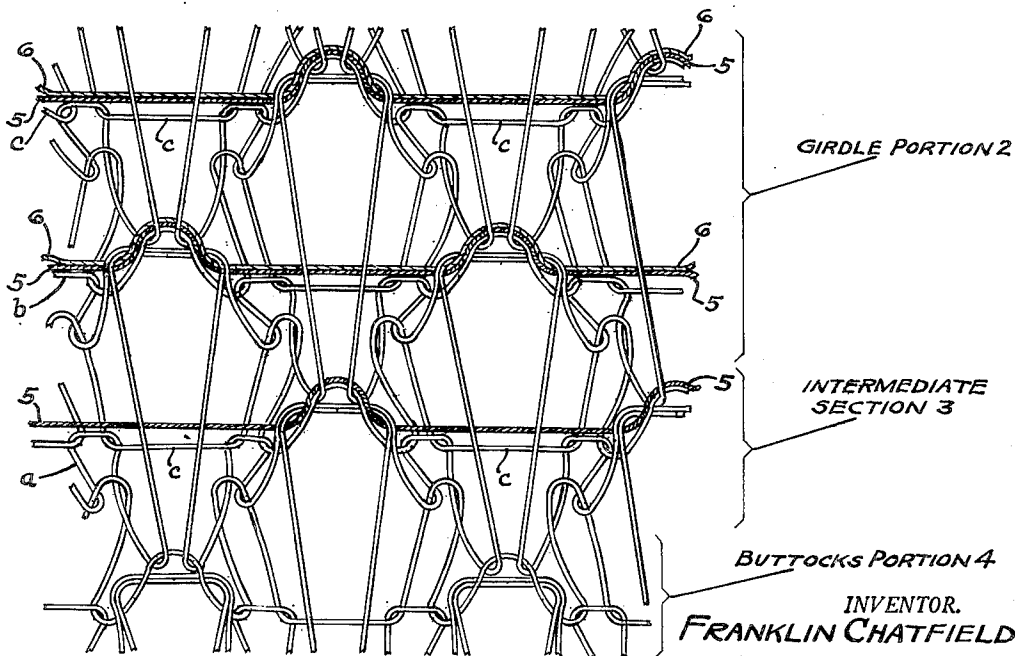


FIG. 12

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2,623,210

MAN'S UNDERGARMENT

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Application March 26, 1948, Serial No. 17,341

6 Claims. (Cl. 2-41)

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This invention relates to new and useful improvements in men's undergarments and more particularly to garments of the general type disclosed in my copending application Ser. No. 17,342, filed March 26, 1948 now Patent No. 2,602,928, dated July 15, 1952.

An object of the present invention is to provide a garment of the girdle type comprising a girdle portion extending from the waistline downwardly to an elevation near the groins, and the fabric constituting said girdle portion having incorporated therein two or more elastic threads to render the girdle portion of the garment more resistant to stretch, whereby it will impart an uplift and compressing action to the lower portion of abdomen, and the elasticity of the body of the garment gradually tapering off from the lower edge of the girdle portion to the bottom portion of the garment, whereby the lowermost portion of the garment will fit the body in a manner to prevent pulling or binding of the garment in the region of the groins.

A further object is to provide a girdle type garment having a body comprising a horizontally stretchable upper or girdle portion, an intermediate portion having relatively less horizontal stretch, and a relatively looser fitting bottom portion which includes a suitable crotch piece, the girdle portion of the garment fitting the wearer's body with sufficient compression to provide a comfortable support for the wearer's body and particularly the abdomen, and the intermediate portion of the body of the garment fitting the wearer's body with relatively less compression, while the lowermost portion of the body of the garment may be knitted with or without elastic threads whereby it may fit the wearer's body without exercising any appreciable restraining pressure thereto.

A further object is to provide a garment of the class described comprising an upper girdle portion having a plurality of rubber threads embodied therein to provide the necessary resistance to horizontal stretch, and the body of the garment being formed with an intermediate section or portion which preferably is integrally knit with the girdle portion, and in which at least one of the elastic threads embodied in the girdle portion has been omitted, whereby said intermediate body section will have relatively less resistance to horizontal stretch than the girdle portion, and the lowermost portion of the garment being integrally knit with said intermediate portion, and preferably without elastic threads, or with a very light elastic thread, whereby little or no restraining or compressive force is applied to the wearer's body by the lower portion of the garment.

A further object is to provide a garment of the class described comprising a tubular seamless body including a girdle portion having considerable resistance to horizontal stretch, and

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the resistance to horizontal stretch gradually becoming less from the bottom of the girdle portion to the bottom of the garment, and the body of the garment being knit as a continuous fabric from the waistline to the lowermost portion of the garment body.

A further object is to provide a garment of the class described comprising an elastic girdle portion which is horizontally stretchable to provide an uplift and compressing pressure to the wearer's hips and abdomen, and the lowermost portion of the body of the garment being provided with suitable leg openings, the inner portions of which are formed by a crotch piece extending forwardly from the rear of the garment and thence upwardly and overlying the lower portion of the front wall of the garment body, said crotch piece being secured to the front portion of the garment along its vertical edges whereby the upper horizontal edge of the crotch piece is unsecured, and the lower edge of the front wall of the garment between the vertical edges of the crotch piece being unsecured to thereby provide a horizontally disposed fly opening, and a suitable zipper being provided at the front of the garment whereby the garment may be opened to facilitate slipping it onto or off the wearer's body.

A further object is to provide a garment of the class described comprising a girdle portion knit of a suitable fabric having adequate horizontal stretch to provide a support for the wearer's body, and the girdle portion of the garment being open down the front and provided with a zipper fastener whereby the front of the garment may be opened to facilitate slipping the garment onto or off of the wearer's body, and an insert of relatively light, readily stretchable material being embodied in the girdle portion of the garment back of the opening provided in the front of the garment body to prevent the zipper from directly contacting the body of the wearer and becoming entangled with body hairs, when the zipper is manipulated to open or close the opening in the garment.

Other objects of the invention reside in the novel knitting of the body of the garment which is knit from the waistline to the bottom thereof without horizontal seams, the resistance to horizontal stretch of the body of the garment being controlled by the incorporation of a plurality of rubber threads in the girdle portion thereof, which may vary in size, and when the girdle portion has been completed, one of said rubber threads may be dropped or eliminated, whereby the intermediate portion of the body of the garment will have relatively less restraining force than the girdle portion, and when the intermediate portion of the garment has been completed, another rubber thread may be dropped to lessen the resistance to horizontal stretch in the lowermost portion of the garment to render said

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lower portion rather loose fitting on the wearer's body; in the provision of a garment of the class described in which the body portion is void of horizontal seams from the waistline to its bottom; in the provision of the readily stretchable insert embodied in the front of the girdle portion of the garment to prevent body hairs from becoming entangled in the zipper when the zipper is actuated, said insert being readily stretchable in a horizontal direction to permit the garment to be readily expanded horizontally in the operation of slipping it onto or off the body; and in the provision of a garment of the class described which is knit in a continuous fabric from the waistline to the bottom of the leg portions, the leg portions being knitted without elastic or rubber threads, or with a relatively light rubber thread, as may be desired, whereby the leg portions may rather freely fit the wearer's legs to thereby prevent pulling or binding of the garment on the wearer's body as a result of body movements.

Other objects of the invention will appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a front view of the garment showing it positioned on a wearer's body;

Figure 2 is a side view of Figure 1;

Figure 3 is a front view of the garment only showing the simple construction thereof;

Figure 4 is a rear view of the garment;

Figure 5 is a front view of a garment of the type shown in Figure 1, but wherein a zipper is provided in the front of the garment;

Figure 6 is a view similar to Figure 5 showing the garment open at the front, and showing the insert provided back of the opening in the front of the garment to prevent the zipper from directly contacting body hairs;

Figure 7 is a front view of the garment shown in Figure 5;

Figure 8 is a rear view of Figure 7;

Figure 9 is a view similar to Figure 7, partially broken away, showing the front portion of the crotch piece detachably secured to the front of the garment by such means as snap buttons;

Figure 10 is a view showing a garment of the type illustrated in Figure 5 but provided with suitable leg portions;

Figure 11 is a view similar to Figure 10 showing the front of the garment open; and

Figure 12 is an enlarged fragmentary diagrammatic view illustrating the preferred form of stitches utilized in the construction of the girdle portion of the garment.

The body of the novel garment herein disclosed is shown comprising an upper or girdle portion 2, an intermediate portion 3 and a lower portion 4. A feature of the present invention resides in the continuous knitting of the three body portions 2, 3 and 4, which vary in horizontal stretch, as will subsequently be described, and whereby the body of the garment is void of horizontal seams from the waistline to the bottom thereof.

The girdle portion 2 has two or more elastic or rubber threads 5 and 6 knitted into the fabric

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in adjacent courses, as shown in Figure 12, to provide the necessary stretch in the fabric to impart the desired restraining and compressive forces to the wearer's body. The rubber or elastic threads 5 and 6 may be of uniform size and tension, or one may be relatively larger than the other with correspondingly greater tension, depending upon the nature of the fabric in which it is to be used. It is also to be understood that instead of utilizing two elastic threads 5 and 6 in each course in the girdle portion of the garment, it may be found in some instances, that three or four rubber or elastic threads, perhaps somewhat smaller in size, may be utilized to provide the best results.

In other words, the invention is not to be limited to any given number of rubber or elastic threads in each course, but to a plurality of rubber threads whereby the elasticity or stretchability of the fabric may be varied by dropping one or more rubber threads from each course, when it is found necessary or desirable to reduce or lessen the elastic characteristics of the fabric, as when passing from the girdle portion 2 to the intermediate portion 3. In like manner, when the intermediate portion 3 of the garment has been completed the remaining rubber thread or threads in each course may be dropped, or if two or three rubber threads are utilized in each course in the intermediate garment portion 3, one of said threads may be dropped when knitting the lowermost section 4 whereby said lowermost section will have relatively less resistance to horizontal stretch than the girdle or intermediate portions 2 and 3, respectively.

The knitted fabric herein disclosed is so constructed that the rubber or elastic threads embodied therein may readily be manipulated as herein described, whereby the entire body of the garment including the girdle and the intermediate portions, and at least a portion of the lowermost section 4, may be knitted continuously on a single knitting machine to provide a seamless tubular garment body comprising a plurality of knitted vertically disposed portions or sections such as 2, 3 and 4, having varying elastic characteristics in that the upper or girdle portion 2 may offer considerable resistance to horizontal stretch to provide adequate support for the wearer's body, the intermediate portion 3 which has relatively less resistance to horizontal stretch, and the lowermost portion or section 4 which may offer little or no resistance to horizontal stretch.

One form of fabric which has been found especially adaptable for making garments such as herein disclosed, is shown in Figure 12. As here shown, alternate courses consist of inelastic threads *a* and *b* and the intervening courses in each case of elastic threads *c*, and dual rubber or elastic threads 5 and 6, hereinbefore referred to. The specific method employed in the knitting of the fabric shown in Figure 12 is disclosed in detail in Patent No. 2,336,222 granted to David M. Clark on December 7, 1943, and it is therefore deemed unnecessary herein to describe in detail the knitting of the fabric.

There is one outstanding distinction, however, in the fabric shown in Figure 12 of applicant's drawings over the fabric shown in Figure 3 of the Clark patent, above referred to, and that is that in the Clark patented fabric, single elastic threads 13 and 15 are utilized in alternate courses in the girdle portion 1 of the garment, whereas in the fabric constituting the girdle portion of the garment herein disclosed, two or more elastic threads

5 and 6 are knitted into each course. Aside from this distinction, the knitting of the two fabrics is quite similar.

The type of knitting shown in Figure 12 of applicant's drawings is utilized only by way of example and it is to be understood that other types of knitting capable of accomplishing the same results may be utilized.

In the garment herein disclosed, the lower buttocks portion 4 is shown having secured thereto a crotch piece, generally designated by the numeral 7, which may be independently formed in a manner to provide a suspensory 8, as shown in my Patent No. 2,328,953. The crotch piece, when completed, is stitched to the back edge of the buttocks portion 4 of the garment by stitching 9, and extends forwardly therefrom and upwardly and preferably has its front end overlapping the lower portion of the front wall of the garment to which it is secured along its vertical side edges by suitable seams 9 and 11, shown in Figure 7. The upper edge 12 of the crotch piece 7 is free or unsecured, and the lower edge 13 of the front of the garment, indicated in dotted lines in Figure 7, is similarly free and unsecured whereby the overlying portion of the crotch piece cooperates with the lower central portion of the front of the garment to provide a horizontal fly opening.

In lieu of the spaced rows of stitches 9 and 11 shown in Figure 7, the front upper portion of the crotch piece may be detachably secured to the lower portion of the front of the garment by suitable snap buttons 14, as shown in Figure 9, whereby the front of the crotch piece may be released and dropped downwardly to the position indicated in dotted lines in Figure 9, if desired.

The feature of gradually reducing the resistance to horizontal stretch in the garment from the bottom of the girdle portion 2 to the bottom of the lower portion 4, is important, in that the body supporting characteristics of the garment body may readily be varied to provide the desired restraining and compression forces to support the wearer's body, and particularly the lower portion of the abdomen.

To thus gradually reduce the resistance to horizontal stretch from the top of the girdle portion 2 to the buttocks portion 4, one of the rubber threads 5 or 6, as for example, the thread 6, is dropped from each course, when starting the knitting of the intermediate or narrow body section 3, as hereinbefore described, whereby adjacent courses in said intermediate section will have less resistance to horizontal stretch than the previously knitted girdle portion. When the relatively narrower body portion or section 3 is completed, the remaining rubber thread 5 may be dropped, whereby the lower or buttocks portion 4 of the garment may have little or no resistance to horizontal stretch, except such stretch as may be inherent in a knitted fabric of this type which may be void of elastic threads.

By thus dropping first one, and then another of the rubber threads in the lower portion of the garment body during the operation of knitting the tubular body of the garment, the resistance to horizontal stretch gradually tapers off from maximum to minimum between the girdle portion 2 and buttocks or lowermost portion 4, which results in the provision of a garment which is very comfortable upon the wearer's body, and which provides the necessary and desired restraining and compressive forces against the abdomen and adjacent portions of the wearer's

body, while the lower portion of the garment may snugly or loosely fit the wearer's body without exerting any material restraining or compressive forces thereagainst.

In Figures 5 to 8, inclusive, there is shown a garment which in addition to embodying the features shown and described with reference to Figures 1 and 4, inclusive, embodies an additional feature which has been found very desirable and useful in a garment of this class.

A girdle type garment such as shown in Figures 1 and 2, must fit the wearer's body with sufficient resistance to horizontal stretch to cause the fabric of the garment to impart a restraining and compressive force against that portion of the wearer's body covered by the girdle portion of the garment, and it may therefore be a little difficult at times to slip the garment on or off the wearer's body, particularly if the wearer's body is warm and slightly damp from perspiration.

To overcome this difficulty, the front of the garment may be provided with a suitable opening 15 extending downwardly from its upper front edge as best shown in Figure 6. The opening 15 may be closed by a suitable zipper fastener, generally designated by the numeral 16. The zipper fastener 16 is of well known construction, and it therefore is believed unnecessary herein to describe the same in detail.

An important feature of the construction of the garment shown in Figures 5 to 8, resides in the means provided for preventing the zipper 16 from becoming entangled with body hairs, when the zipper is manipulated to open or close the opening 15. To thus prevent the zipper from directly contacting and becoming entangled in body hairs, a relatively light weight elastic insert 17, stretchable in a horizontal direction, as indicated by the arrow in Figure 6, is secured to the front wall of the garment by rows of stitches 19 and 21, extending downwardly from the waistline to the crotch, as shown in Figures 5, 6 and 7. The insert 17 is provided at its upper edge with an elastic band 22 whereby the upper edge of the insert may always be taut, regardless of whether the insert is under tension, as shown in Figure 6, or is contracted as when the opening 15 is closed, as shown in Figure 5.

The insert 17 is made from a knitted fabric which has considerable stretch in the direction of the arrow shown in Figure 6, but the resistance to such stretch is comparatively light so that when the zipper fastener 16 is in open position, as shown in Figure 6, the garment may readily be expanded at the waistline to permit it to be readily slipped over the hips in the operation of putting the garment on or taking it off. When the garment has been positioned on the wearer's body, the opening 15 is closed by manipulation of the zipper 16, as shown in Figure 5, after which the insert 17 may have little or no utility.

The garment shown in Figures 10 and 11 distinguishes from the garments shown in the previous figures in that the lower buttocks portion 23 of the garment is provided with leg portions 24 and 25 which cover the upper portions of the thighs, as illustrated. If desired, the garment may be provided with full length legs without departing from the scope of the invention.

The novel garment herein disclosed has been found very practical in actual use. Its girdle portion 2 snugly fits the abdominal portion of the wearer's body and has sufficient resistance to horizontal stretch to provide a comfortable com-

pressive support to the wearer's abdomen, which, at the same time, enhances the appearance of the wearer's figure.

It will also be noted that by knitting the garment as an integral piece of fabric the length thereof, no horizontal seams are provided at the junctures between the various sections 2, 3 and 4 of the garment body, thereby resulting in the provision of a girdle type garment which will fit the wearer's body its full length without discomfort and with the assurance that the abdominal portion of the wearer's body will be adequately supported in all body movements.

The garment herein disclosed is shown provided with a crotch piece which overlies the lower front portion of the body of the garment and cooperates therewith to provide a horizontal fly opening. Obviously, the crotch piece may be otherwise secured to the front of the garment to provide for other types of fly openings, as may be desired.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that I do not limit myself to the specific embodiments herein.

I claim as my invention:

1. In a man's knitted fabric undergarment, a continuous, seamless, tubular body comprising an upper girdle portion of relatively great width, an intermediate portion of relatively narrow width, and a buttocks portion, the fabric constituting said girdle portion comprising non-elastic threads having a plurality of rubber threads embodied in each of successive adjacent courses thereof to provide resistance to horizontal stretch and whereby the girdle portion will impart a compressive action to the wearer's body, including the lower portion of the abdomen, said intermediate portion being continuously formed with said upper section and composed of non-elastic threads with rubber threads embodied in each of successive adjacent courses thereof but having relatively less rubber threads embodied in each of said successive adjacent courses thereof than in each of the courses in said girdle portion, whereby said intermediate portion will provide relatively less resistance to horizontal stretch than the girdle portion, and said buttocks portion being continuously formed with said intermediate portion and composed of non-elastic threads and having relatively less rubber threads embodied in each of said successive adjacent courses thereof than in each of the courses in said intermediate portion whereby relatively little resistance to horizontal stretch is provided by said buttocks portion, and a crotch piece secured in overlapping relation to the lower front portion of the girdle portion.

2. In a man's undergarment, a continuous seamless tubular knitted fabric body comprising an upper girdle portion of relatively great width, an intermediate portion of relatively narrow width, and a buttocks portion, the fabric constituting said girdle portion having a plurality of elastic threads embodied in each of successive adjacent courses thereof to provide resistance to horizontal stretch and whereby the girdle portion will impart a compressive action to the wearer's body, including the lower portion of the abdomen, said intermediate portion being continuously formed with said girdle portion and having elastic threads embodied in each of successive adjacent courses but having relatively less elastic threads per course than said upper section

whereby said intermediate portion will provide relatively less resistance to horizontal stretch than the girdle portion, and said buttocks portion being continuously formed with said intermediate portion and having relatively less rubber threads per course than said intermediate portion.

3. In a knitted fabric seamless undergarment of the class described, a body comprising an upper girdle portion, an intermediate portion, and a buttocks portion, the fabric constituting said girdle portion having a plurality of elastic threads embodied in each successive course thereof, said intermediate portion having less elastic threads per course than the courses of said girdle portion, and a buttocks portion having less elastic threads per course than in the courses of the intermediate portion of the garment.

4. The garment of claim 3 further characterized by a crotch piece secured in overlapping relation to the lower portion of the girdle portion.

5. In an undergarment of the class described, a fabric body comprising an upper girdle portion, an intermediate portion, and a buttocks portion, the fabric constituting said girdle portion having a plurality of elastic threads embodied in successive adjacent courses thereof to render the girdle portion elastic in at least a horizontal direction, said intermediate portion forming a continuation of said girdle portion, and certain of said elastic threads being dropped in successive adjacent courses of said intermediate portion, and others of said elastic threads being dropped from successive adjacent courses of said buttocks portion, whereby said intermediate and buttocks portion will have relatively less resistance to horizontal stretch than the girdle portion.

6. In a garment of the class described, a tubular fabric body comprising a relatively wide girdle portion, a relatively narrower intermediate portion, and a buttocks portion, the fabric constituting the girdle portion having dual elastic threads inserted into successive adjacent courses thereof to provide horizontal stretch in the girdle portion of the garment, and whereby the girdle portion will impart a compressive action to the wearer's body, said intermediate portion having but one elastic thread in successive adjacent courses whereby said intermediate body portion will impart relatively less compressive action to the wearer's body than said girdle portion, and said buttocks portion having less resistance to horizontal stretch than the intermediate portion.

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