

1

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GIRDLE GARTER FASTENER

George R. Keltie, Woonsocket, R. I., assignor to American Wringer Company, Inc., Woonsocket, R. I., a corporation of Rhode Island

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My invention relates to improved fastening means, and more particularly, to improved means for adjustably fastening or mounting a garter button and loop assembly of the general type ordinarily employed to maintain clothing such as stockings in proper position on the body of the user.

Heretofore, the various so-called "foundation garments" employed were made of suitable elastic or non-elastic fabrics to which such garter assemblies could be fastened by sewing or the like procedures. Recently, however, a new type of garment has come into prominence in this field, and this new garment is integrally formed of dipped latex rubber, which is not ordinarily adapted to have articles attached thereto by sewing. Instead, such integral latex girdles or the like garments are provided with integral depending straps to which suitable garter assemblies may be attached.

Because of the inherent resilience or elastomeric properties of such straps, as well as the undesirability of applying concentrated forces at localized regions of such material, the mounting of suitable garter assemblies has involved considerable difficulty. If sharp edges or severe clamping forces are involved in the attachment of a garter assembly to such straps, there is a tendency for the straps to tear or break. Also, the problem is further complicated by the desirability of providing garter assemblies that are suitably adjustable with respect to their positioning upon such straps, as will be readily appreciated.

My invention consists in an improved adjustably mounted garter fastener for girdles or the like garments, which is particularly suited for use with dipped latex garter straps. The instant garter fastener is composed of a minimum number of uncomplicated elements or parts, which may be readily assembled or disassembled. Also, the instant fastener is readily adapted to be adjustably positioned on the garter strap, in accordance with the desires of the user.

It is, therefore, an important object of my invention to provide an improved fastening means of the type herein described.

It is a further object of my invention to provide an improved fastening means comprising a frame having a pair of apertures with a cross piece therebetween, a rigid loop pivotally connected to said frame, and a looped flexible strap extending through one of said apertures and enveloping said rigid loop, said loop being movable relative to said frame to move the enveloping strap in and out of clamping engagement against said frame.

It is another object of my invention to provide an improved fastening means comprising a frame having a first aperture at one end and a second aperture at the opposite end with a cross piece therebetween, a rigid loop pivotally connected to said opposite frame end and adapted to swingably move in and out of contact with said cross piece, and a looped flexible strap extending through said second aperture enveloping said rigid loop with the free end of said strap extending over said cross piece and through said first aperture, said loop being adapted to

2

swing said enveloping strap in and out of clamping engagement against said cross piece.

Yet another object of my invention is to provide an improved fastening means comprising a frame having a pair of apertures with a cross piece therebetween and an additional narrow slot at one extremity thereof, a resilient clip in said frame slot, a first rigid loop connected to said clip for pivotal movement relative to said frame, a second rigid loop having a narrow slot at one extremity thereof receiving said clip, said second loop being narrowed at its opposite extremity, a garter button for said second loop adapted to force fit the narrowed extremity thereof, a flexible tab having a resilient thickened end portion to anchor the tab in one of said narrow slots and mounting said garter button at the opposite end, and a looped flexible strap extending through one of said apertures and enveloping said first loop, said loop being movable relative to said frame to move the enveloping strap in and out of clamping engagement against said frame.

Other objects, features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description and from the accompanying drawings and the numerals of reference marked thereon, which form a part of this specification.

On the drawings:

Figure 1 is a side elevational view of a garter fastening means embodying the instant invention;

Figure 2 is an edge elevational view of a garter fastening means embodying the instant invention;

Figure 3 is a sectional elevational view of the embodiment shown in Figure 2;

Figure 4 is an edge elevational view of another embodiment of my invention; and

Figure 5 is a sectional elevational view of the embodiment shown in Figure 4.

As shown on the drawings:

As shown in Figure 1, the reference numeral 10 refers generally to a garter fastening device embodying the instant invention, comprising a flexible strap 11, a garter button and loop assembly 12, and an adjustable mounting device, designated at 13, for adjustably mounting the garter button and loop assembly 12 upon the strap 11.

The garter button and loop assembly 12 comprises a garter button 14 and a suitable rigid loop 15, which is sufficiently wide at its upper end 15a to pass the button 14 and which is sufficiently narrowed at its lower end 15b to provide a force fit for the button 14. As is well known, in the employment of a garter device of this type, the button 14 is covered with the cloth-like material to be retained by the garter, and the button 14 thus covered is urged inwardly through the loop top portion 15a and then downwardly into the narrowed loop bottom portion 15b so as to obtain a force fit for clampingly engaging the cloth-like material (not shown). The loop 15 is preferably made of metal or the like rigid material, and the button 14 is preferably made of a slightly resilient material such as slightly hardened rubber or the like.

In my invention, I also provide a narrow slot 16 at the upper extremity above the enlarged top portion 15a of the loop 15, which slot 16 is adapted to receive a resilient clip 17 (Figure 3).

As is best seen in Figure 3, the resilient clip 17 extends substantially the length of the narrow slot 16 in the loop 15, and the clip 17 has a pair of arms 17a and 17b which extend outwardly therefrom. The arm 17b extends through the slot 16, and the arms 17a and 17b are bent toward each other, so as to effectively retain the clip 17 in the slot 16, for pivotal mounting of the loop 15.

As is also seen in Figure 3, the button 14 consists of a knob or projection suitably shaped for the force fit in the narrowed loop end 15b and integrally mounted upon a suitably resilient or elastomeric tab 18 which is rein-

forced near the base 18a thereof which supports the button 14. The resilient strip 18 is backed or supported by a substantially coextensive fabric strip 19, which is secured to the strip 18 by suitable adhesive means. The adhered strips 18 and 19 extend upwardly from the button 14 substantially the full length of the loop 15 to substantially completely encircle or envelop the resilient clip 17, and the upper extremity of the combined strips 18 and 19 passes over the front of the resilient clip 17 and through the narrow slot 16. The extremity 20 at the top of the combined strips 18 and 19 is slightly enlarged, so as to anchor the strip in the slot 16. Actually, the slot 16 is sufficiently wide to permit the passage of the enlarged portion 20, if the resilient clip 17 is not also positioned in the slot 16. On the other hand, the enlarged portion 20 is preferably enlarged by a thickening of the resilient strip 18, so that the enlarged portion 20 may be forced through the slot 16 even if the resilient clip is also positioned in the slot 16.

It will be noted that the structure thus far disclosed in detail in connection with Figure 3 is the same as the structure of the embodiment shown in Figure 5, and the same reference numerals are accordingly employed in Figure 5.

Referring again to Figure 3, it will be seen that a frame 21 is also connected for pivotal movement with respect to the clip 17, having the lower extremity 21a of the frame 21 enclosed within the clip 17 (wrapped by the arm 17a of the clip 17). The frame 21 is substantially rectangular in shape having a pair of apertures 22 and 23 with a cross piece 24 therebetween. Actually, the cross piece 24 is positioned slightly forward of the plane of the frame 21, in order to obtain better clamping action with the strap 11, as will be described hereinafter. Also, the top aperture 22 is an elongated substantially strap-sized (i. e., approximately the size of the strap cross section) slot.

The third element pivotally mounted within the clip 17 in the instant structure is a rigid loop 25, which is positioned just in front of the plane of the garter loop 15 and the frame 21. The loop 25, like the garter loop 15 and frame 21 is suitably made of metal or the like rigid material, capable of applying clamping forces as herein-after explained. The loop 25 has a lower end 25a, retained by the bent over clip arms 17a and 17b, which is approximately the width of the narrow slot 16 and the lower end 21a of the frame 21. The loop 25 extends upwardly from the pivotal clip mounting to approximately the height of the cross piece 24, and the top cross bar portion 25b of the clip 25 is substantially of the same width as that of the cross piece 24 and is adapted to be pivotally or swingably moved to be closely adjacent, but below, the cross piece 24 (which extends slightly forward of the frame 21 so that it may be in substantially the plane of the loop 25 in this position).

As shown in Figure 3, the looped flexible strap 11 is doubled or looped at the portion 11a, and this looped portion 11a passes through the lower aperture 23 in the frame 21 and envelops or loops the cross bar 25b of the rigid loop 25. As hereinbefore explained, the rigid loop 25 is adapted to be moved swingably or pivotally (about the clip 17), so as to swing in and out of close engagement with the cross piece 24 and the frame 21 mounting the cross piece 24. As shown in Figure 3, the rigid loop 25 has been swung outwardly a short distance so as to be moved out of close engagement with the cross piece 24. As will be appreciated, if the cross bar 25b is moved slightly to the left (Figure 3), the looped strap 11a will be clamped between the rounded cross bar 25b and the substantially flat bottom face 24a of the cross piece 24, as the rigid loop 25 and the cross piece are urged into uniplanar relationship. In this manner, the strap 11 is clamped along substantial surface portions thereof, so as to avoid load concentration at localized points or lines, and the garter assembly is thus locked into position on

the strap 11. If it is desired to adjust the position of the garter assembly on the strap 11, the rigid loop 25 is swung outwardly (as indicated by the arrow in Figure 3), the clamping engagement upon the strap loop 11a is thus released, and the strap 11 may be slid longitudinally over the cross bar 25b to obtain the desired new position, and the loop 25 may then be swung back into locked or closed position. By thus moving the loop 25 relative to the frame 21, it is possible to move the enveloping loop 11a of the strap 11 in and out of clamping engagement against the frame 21 (or the cross piece 24).

As an additional feature of the invention, as shown in Figure 3, the instant flexible strap 11 passes first through the lower aperture 23, then around the cross bar 25b, next back through the aperture 23, around (or over) the back of the cross piece 24 and finally through the upper strap-sized aperture 22 in the frame 21. As will be appreciated, when a suitable load is applied to the instant assembly the fixed or secured end of the strap 11, designated at 11b, will tend to pull upwardly and to align itself substantially with the plane of the frame 21 and to rest closely against the back of the frame 21. In so doing, the fixed end 11b will effectively clamp the free end 11c of the strap against the back of the cross piece 24, so as to effect additional clamping of the strap 11 in the assembly. Also, I may pass the fixed end 11b of the strap 11 through the top aperture 22 with the free end 11c, for example, as shown in Figure 4, so as to obtain a still more extensive clamping effect, whereby the fixed end 11b effectively clamps the free end 11c against the entire back face of the cross piece 24. As shown in Figure 4, however, the cross piece is designated by the reference numeral 26, since the frame 27 is different from the frame 21 of Figure 3.

Referring to Figure 5, it will be seen that the modified frame 27 has a pair of apertures 28 and 29, both of which are substantially strap-sized apertures, and the cross piece 26 is positioned therebetween. A second cross piece 30 is positioned below the lower aperture 29 and cooperates with the bottom end 27a of the frame 27 to define an additional narrow slot 31, which functions in substantially the same manner that the narrow slot 16 of the garter loop 15 functions, in that the narrow slot 31 is approximately the size of combined strips 18 and 19 and is suitably narrow to effectively prevent the normal slipping of the enlarged end 20 of the combined strips 18 and 19 from passing therethrough.

The strap-sized apertures 28 and 29 are elongated parallel slots, each of which is approximately the same size as the aperture 22 in the frame 21, and each of which is strap-sized or substantially so, in the sense that each of these apertures 28 and 29 will suitably pass the strap 11 (whether looped or not), but the strap 11 must drag to some extent in passing through the apertures 28 and 29. Also, the apertures 28 and 29 are such size that, in cooperation with the cross piece 26, they define a trap or passageway wherein the strap 11 must make two relatively sharp turns in passing through the apertures 28 and 29 and over the back of the cross piece 26. The manner in which the fixed end 11b of the strap 11 effectively clamps the free end 11c against the back of the cross piece 26 has been explained hereinbefore. Also, the movement of the loop 25 in and out of locking engagement with respect to the cross piece 26 is substantially that movement hereinbefore described in connection with the loop 25 and the cross piece 24 of the frame 21. In the frame 27 additional clamping may also be obtained by cooperation between the loop 25 and the second or lower cross piece 30, as those skilled in the art will appreciate.

It will thus be seen that the unusual advantages of the instant invention include clamping action over an extensive area of the resilient elastomeric strap 11 so as to avoid force concentrations at localized points or lines of the strap 11. Also, the instant device is easily assem-

5

bled and disassembled, the key to assembly and disassembly being the resilient clip 17. For example, in assembly the clip 17 may be suitably positioned with the arms 17a and 17b extending upwardly, the frame 21 and loop 15 may then be slipped into the clip 17, the pivot end 25a of the loop 25 is then placed on top of the portions of the frame 21 and loop 15 within the clip 17, and the arms 17a and 17b are bent over the pivot end of the loop 25, so as to urge together the adjacent portions of the loop 25, frame 21 and loop 15 to fix their positions, although permitting relative pivotal movement in response to manual pull. The combined strips 18 and 19 may be easily added after the assembly, merely by forcing the resilient enlarged anchoring end 20 through the required narrow slots, such as the slot 16 (or the slot 31). The looping of the resilient strap 11 about the cross bar 25b of the rigid loop 25 is, of course, a simple step in the completion of the assembly.

It will, of course, be appreciated that various modifications in the details of construction may be made without departing from the principles of the instant invention.

I claim as my invention:

1. Fastening means comprising a rigid frame having a pair of apertures with a cross piece therebetween and a first narrow slot at one extremity thereof, a resilient clip in said first slot, a first rigid loop pivotally connected to said clip for pivotal movement relative to said frame, a second rigid loop for engaging a stocking having means defining a second narrow slot at one extremity thereof receiving said clip, said second loop being narrowed at its opposite extremity, a garter button for said second loop adapted to force fit the narrowed extremity opposite said second slot, a flexible tab passing through the second slot having a resilient thickened end portion that is anchored by said clip in said second narrow slot and mounting said garter button at the opposite end, and a looped

6

flexible strap extending through one of said apertures over said cross piece and through the other aperture and enveloping said first loop, said first loop being swingably movable about said clip and relative to said frame to move the enveloping strap in and out of clamping engagement against said frame.

2. Fastening means comprising a rigid frame having a pair of apertures with a cross piece therebetween and a first narrow slot at one extremity thereof, a resilient clip in said first slot, a first rigid loop pivotally connected to said clip for pivotal movement relative to said frame, a second rigid loop for engaging a stocking having means defining a second narrow slot at one extremity thereof receiving said clip, said second loop being narrowed at its opposite extremity, a garter button for said second loop adapted to force fit the narrowed extremity opposite said second slot, a flexible tab passing through said second slot over said clip and through said first slot and having a resilient thickened end portion that is anchored by said clip in said second narrow slot and mounting said garter button at the opposite end, and a looped flexible strap extending through one of said apertures over said cross piece and through the other aperture and enveloping said first loop, said first loop being swingably movable about said clip and relative to said frame to move the enveloping strap in and out of clamping engagement against said frame.

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