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A. WEIS

2,939,196

GARMENT CLASP

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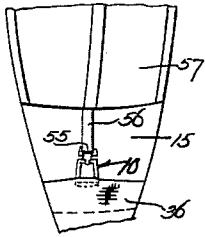


Fig. 1.

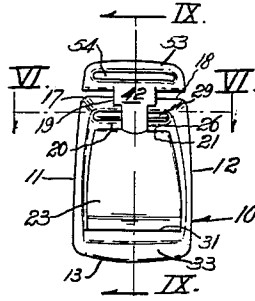


Fig. 2.

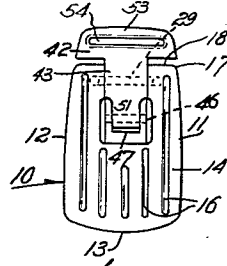


Fig. 3.

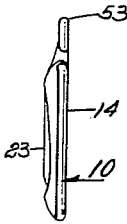


Fig. 4.

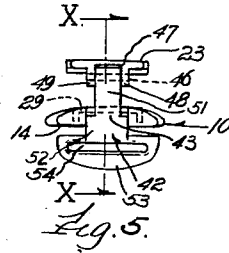


Fig. 5.

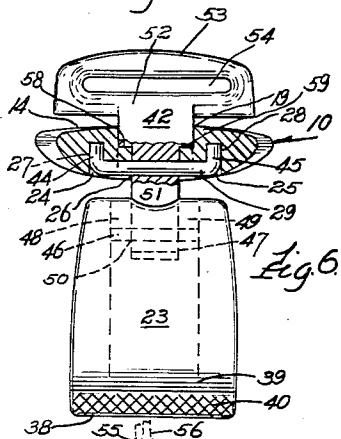


Fig. 6.

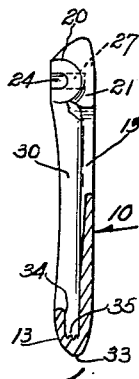


Fig. 8.

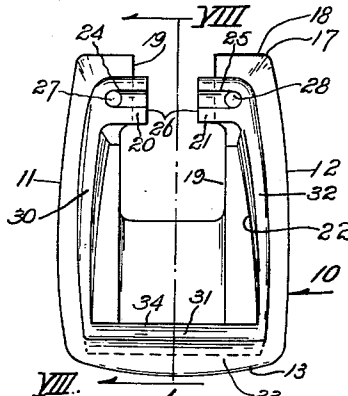


Fig. 7.

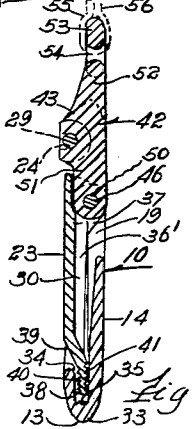


Fig. 9.

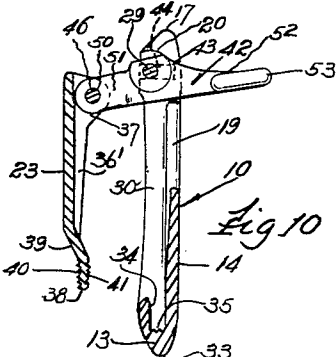


Fig. 10.

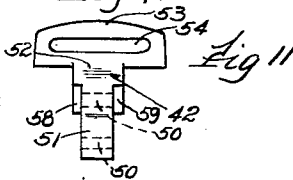


Fig. 11.

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GARMENT CLASP

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3 Claims. (Cl. 24—248)

This invention relates to garment clasps and more particularly to stocking garter clasps of the type illustrated and described in my Letters Patent No. 2,470,122, dated May 17, 1949, although certain features thereof may be employed with equal advantage for other purposes.

It contemplates more especially the provision of an improved, simplified and more effective garment clasp which has extended engaging members to grasp a substantial number of threads in a garment such as stockings in order to avoid "runs" therein.

Numerous types of clasps have heretofore been proposed in connection with garment supports, but these have not proven entirely satisfactory in that they are either possessed of too much bulk or engage only a comparatively few threads of the garment to the end of creating "runs" in delicate fabrics such as silk stockings. Such garment clasps as have heretofore been designed for this purpose are either too expensive in construction or do not permit the fullest use of plastic material in their construction or involve metallic parts that are not sufficiently durable with plastic material elements to constitute an advantageously constructed and effective garment clasp.

In devices of this character, it is desirable that there be a minimum clasp body to avoid detection from external view, afford maximum comfort to the wearer, and effectively grasp a comparatively large number of threads in each garment for support without any possible impairment such as "runs" which are common in silk stockings. Plastic material lends itself very well to such devices from an appearance and comfort standpoint, but the inherent weakness of plastic material in small thin bodies such as clasps, constitutes limitations upon the construction thereof and elements assembled in conjunction therewith. To avoid the defects of known garment supporting clasps, a comparatively small, compact, and improved garment clasp has been provided for effectively grasping fabrics without impairment thereto, and which lends itself to moulding or other methods of production from plastic material as to the major elements thereof.

One object of the present invention is to simplify the construction and improve the operation of devices of the character mentioned.

Another object is to provide improved garment clasps having extended complementary members that more effectively engage a comparatively large number of threads in a garment and are capable of durable plastic material construction.

Still another object is to provide a comparatively thin plastic clamping member corresponding with the contour of the human leg or thigh and providing an elongated engaging edge to serve as a complement for a plastic clip mounted in yielding engagement therewith to effect the grasp of a comparatively large number of threads of a garment therebetween.

A further object is to provide a pair of confronting

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elongated arcuate complementary engaging members that are operatively connected by means of improved toggle spring members to effect their detachable engagement with a fabric therebetween.

5 A still further object is to provide a pair of complementary engaging members that have elongated engaging edges formed from suitable plastic material to provide a light, comparatively small and inexpensive clasp with effective toggle spring elements to support a garment

10 by a comparatively large number of threads thereof. Still a further object is to provide arcuately curved elongated engaging edges on complementary members of a clip for joinder by outwardly bowed strips for effective detachable engagement of a fabric through the medium

15 of improved toggle operated clamping members. Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

20 Figure 1 is a front view in elevation of a garment clasp shown and illustrated in connection with a human limb and fabric stocking to show the manner of support thereof.

25 Figure 2 is a front view in elevation of a complete garment clasp embodying features of the present invention.

Figure 3 is a rear view in elevation of the garment clasp shown in Figure 2.

30 Figure 4 is a side edge view in elevation of the garment clasp shown in Figure 2.

35 Figure 5 is a top plan view in elevation of the garment clasp shown in Figure 2 with the clip and toggle members in an inoperative vertical position and the toggle lever in a horizontal position, respectively.

40 Figure 6 is an enlarged top plan view of the clip actuator toggle element in a horizontal position and the back plate member in a vertical position shown assembled in Figure 2.

45 Figure 7 is an enlarged front view in elevation of the back plate member shown in Figures 2 and 3.

50 Figure 8 is an enlarged sectional view of the plate member taken substantially along line VIII—VIII of Figure 7.

55 Figure 9 is an enlarged sectional view taken substantially along line IX—IX of Figure 2.

60 Figure 10 is an enlarged sectional view similar to Figure 9 taken substantially along line X—X of Figure 5 with the clip member shown in a position ready for engaging fabric such as a fabric stocking top therewith.

65 Figure 11 is an enlarged front view in elevation of the clip actuator toggle element shown in Figure 10.

The structure selected for illustration is not intended to serve as a limitation upon the scope or teachings of the invention, but is merely illustrative thereof. There may be considerable variations and adaptations of all or part of the teachings depending upon the dictates of commercial practice. The present embodiment comprises a comparatively thin plate member 10 that has arcuately shaped side edges 11—12, a curved bottom edge 13, and a substantially flat back surface 14 to generally conform with the contacted surface of the human leg or thigh 15. The back 14 of the plate member 10 is, in this instance, provided with vertically extended parallel grooves 16 that present a somewhat interrupted surface that will cling to the skin of the leg or thigh 15.

70 The plate member 10 is, in this instance, vertically elongated to provide a comparatively narrower horizontal upper portion 17 having its side edges 11 and 12 slightly curved and divergent downwardly to present a straight upper edge extremity 18. The upper edge extremity 18 is, in this instance, interrupted by a vertical rectangular

cut-out or slot 19 provided in the upper body of the plate member 10 to extend proximate to and communicating with the top edge 18 thereof. The vertical rectangular cut-out or slot 19 is interrupted by aligned confronting horizontal ears 20—21 (Figure 7) that extend into the rectangular cut-out or slot 19 to provide for the pivotal movement and displacement of a toggle lever therein as will appear more fully hereinafter.

The peripheral edges defining the outline of the plate member 10 and the confronting ears 20—21 are thicker than the remaining interior portion of the plate member 10 to provide sufficient body for and define a substantially rectangular recessed surface or cavity 22 that is complementary to and receives a correspondingly shaped clip or clamping member 23 similar in shape to but smaller than the exterior contour and outline of the plate member 10. The confronting ears 20—21 have transversely extending upwardly open cylindrical pin receiving slots 24—25 that are axially aligned to communicate at their inner ends with the vertical throat 26 of the cut-out or slot 19, and the slots 19 are closed at their outer ends to terminate in downwardly extending bores or apertures 27—28 defining a pair of right angled-shaped openings 24—27 and 25—28 to receive therebetween a substantially U-shaped pivot pin 29 (Figure 6) to be hereinafter described. The upper recess or cavity 22 of the plate member 10 is outlined by upraised peripheral reinforcing ribs 20'—30—31—32—21' that merge with the lower thinner arcuate edge portions 11—12—13 that is comparatively larger than the upraised ribs 20'—30—31—32—21' wherein the slots 24—25 are provided and terminate in the confronting portions or ears 20—21.

The lower thinner and wider bottom plate portion 13 terminates in an arcuately curved extensive lower edge 33 which has an upwardly turned flange 34 defining a straight horizontal trough 35. The lower stocking engaging trough 35 is roughened at its bottom and is substantially elongated to extend for a distance commensurate with a comparatively large number of interwoven threads from which garments such as stockings 36 are constructed, thereby effectively grasping the fabric as will appear more fully hereinafter. The comparatively large number of threads will collectively support the garment when properly held in the trough 35 as will appear more fully hereinafter. It should be observed that the bottom surface of the trough 35 is serrated or roughened to effectively hold the stocking against any possible slippage when the clip member 23 is in engagement therewith to preclude any accidental disengagement of the gripped fabric therefrom when the clip 23 is in operative engagement therewith.

While the extent of the trough 35 may vary within a wide range depending upon the garment to be supported, it may approximate three-quarter inch to one and one-half inches ( $\frac{3}{4}$ " to  $1\frac{1}{2}$ "") to effectively and without impairment grasp delicate hose that are easily subjected to "runs" responsive to the slightest abuse. The clip member 23 has a comparatively wide reinforcing vertical median rib 36' formed integral with its back surface to extend upwardly for termination in a pair of spaced horizontally apertured ears or bosses 37, and the recess or cavity 22 in the plate member 10 is provided with a complementary depression which accommodates the ears 37 and the reinforcing rib 36' when the clip member 23 is in operative engagement with the plate member 10.

In order to frictionally engage and securely hold a closely woven fabric such as a stocking 36 in the trough 35, a clip member 23 conforms in the general flaring shape of and arcuate contour with the plate member 10; however, the straight horizontal serrated or roughened plate member trough 35 is complementary to the lower and inwardly offset straight engaging bottom edge region 38' on the clip member 23 for integral joinder therewith through an angular portion 39. The lower portion 38'

of the clip 23 is substantially rectangular to provide a horizontal and backwardly inset lower engaging edge which is roughened or serrated on the vertical confronting surfaces 40—41 serving as a complement of the plate member trough 35 for engagement therewith.

The clip member 23 with its lower complementary engaging edge 38' is actuated and retained in operative position by a toggle lever 42. The toggle lever 42 has a comparatively thick intermediate body portion 43 to provide sufficient body to carry the substantially U-shaped pin 29 therethrough to provide right angularly extending and projecting extremities 44—45 serving as a pivotal mount for the lever 42 on the plate member 10 and to pivotally connect with the clip 23 as at 46 to serve as toggle lever members 23—42. The U-shaped pivot pin in the grooves 24—27 and 25—28 of the confronting 29 with its right angular extremities 44—45 are received in the grooves 24—27 and 25—28 of the confronting ears 20—21 that are retained against spreading by the right angled pin extremities 44—45 in the groove end apertures 27—28.

A straight pin 46 bridges the slot 47 defining spaced furcations 48—49 in the bosses 37 formed integral with the rearward upper wall portion of the clip 23 (Figures 3 and 5) for mounting thereon (Figure 10). This pin 46 extends through an aperture 50 provided in the extremity of an arm 51 which fits between the clip furcations 48—49 (Figure 5) to pivotally connect the toggle lever 42 to the clip member 23 which will rest in the plate member recess or cavity 22 with the clip engaging edge 38 within the flange 34 to abut against the roughened groove edge 35 (Figures 9 and 10) so that the stocking fabric 36 is clutched and held firm by the roughened or serrated surfaces 35—40—41. The plastic clip member 23 is somewhat flexible and yields slightly to compensate for the thickness of the fabric or garment held in the trough 35 by the clip edge 38. Thus a very effective grasp of the material in the trough 35 between the plate flange 34 and clip edge 38 is maintained by the toggle action of the clip 23 and its actuator lever 42 which precludes any accidental release thereof as will presently appear from a more detailed description of its function.

The other arm 52 of the toggle lever actuator 42 (Figure 10) terminates in an enlarged semi-oval extremity 53 having a transverse slot 54 therein to receive the reinforced end or loop 55 of an elastic garter 56 usually attached to and depending from an undergarment 57. It should be noted that the toggle lever 42 has semi-cylindrical and laterally extending hubs 58—59 surrounding the projecting U-shaped pin 29 to receive the complementary semi-cylindrical ears or bosses 20—21 formed around the pin grooves 24—25 in the plate member 10 adjacent the vertical throat 21 so that these parts may be interfitted and rotatively assembled when the lever 42 is in its extreme counterclockwise position (viewed from Figure 10) relative to the plate member 10 which is somewhat further displaced than the normally open position of the members (Figure 10). The laterally extending toggle lever hubs 58—59 engage behind the semi-cylindrical ears or bosses 20—21 when the toggle lever is displaced to a position in the plane of the plate 10 and the clip 23 is in clamping position within and against the trough 35, thereby precluding the accidental removal of the U-shaped pivot pin 29 from its operative assembled position irrespective of the tension on the tape 56.

In this extreme position which is only possible before the clip 23 is assembled with the lever 42, the semi-circular bosses 20—21 can enter the complementary semi-circular groove 24—25 with the U-shaped projection pin 29 lodged in the slots 24—27 and 25—28 so that counterclockwise displacement therebetween (viewed from Figure 10) will retain the parts in assembled association against separation. After this assembly is effected be-

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tween the lever 42 and the plate member 10, the clip 23 can then be assembled with the toggle lever 42 through the medium of the pin 46. After assembly of the clip 23 with the toggle lever 42, the former will not permit the latter to be displaced in a counterclockwise direction (viewed from Figure 10) for a sufficient distance to permit the semicircular ears or bosses 20—21 (Figures 8 and 9) to ride out of the complementary arcuate grooves 24—25 (Figures 10 and 11). This arrangement provides a very simple, inexpensive and effective assembly of the primary complementary elements 10, 23, and 42.

The center of turning 29 of the toggle lever 42 is offset outwardly from the pivotal connection 46 of the toggle lever 42 with the clip 23 so that when the latter is closed against the trough 35 with or without the fabric therebetween, the common pivot point 46 between the toggle members 23—42 will be disposed inwardly of the load line extending between the pin 29 and the clip engaging trough 35, thereby precluding their accidental disengagement without first depressing the lever 42 in a clockwise direction (viewed from Figure 10). This opening or disengaging displacement is opposite to the pull exerted on the toggle lever 42 by the garter 56. The pull exerted by the garter 56 will tend to more securely hold the toggle members 23—42 in effective engagement with the plate member trough 35.

The plate member 10 and clip 23 will effect the uniform grasp of a garment such as stockings 36 and support them through the medium of the garter strap 56 that may be a part of an under-garment 57 or a separate garter belt independent of any garment. It will thus be apparent, therefore, that the clip 23 which may be molded or otherwise shaped from metal, plastic or other suitable material to conform with and assume a position adjacent to the plate member 10 provide a toggle action therewith. In consequence thereof, the clip 23 will be self-locking to hold the fabric 36 in the trough 35 so that it can effectively serve as a support thereof in conjunction with the garter 56.

The self-locking position of the clip 23 is effected by displacing it to its extreme position in contact with the plate member 10 to cause the plastic material to flex somewhat for tightly embracing the fabric or that part of the garment 36 which is disposed in the trough 35. All the structural elements described above may be advantageously produced from a suitable plastic such as nylon, except for the pins 29 and 46, and the garter 56. This is conducive to a very attractive construction which is light in weight and smooth to the touch, highly sanitary, free from discoloration, readily washable, and inexpensive in construction and assembly.

It will thus be apparent that a very simple, effective and improved supporting garter clasp has been provided which can be used in connection with the most delicate fabrics for effecting the grasp thereof without impairment thereto.

While I have illustrated and described a preferred embodiment of this invention, it must be understood that the invention is capable of considerable variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

I claim:

1. In a garment engaging clasp, the combination with a substantially flat body member, of a transversely extending flange formed along the bottom of said body member, said body member having an elongated vertical opening communicating with the top edge thereof, spaced semi-cylindrical confronting ears having horizontal pin grooves therein formed on both sides of said elongated vertical opening, there being right angle bores at the ends of said grooves remote from the vertical opening, a clip member having an engaging edge commensurate with and confronting said transverse extending body member flange, said clip member being associated with said body

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member to yieldingly cooperate with said transversely extending body member flange, spaced ears on said clip member, a toggle lever having a shank pivotally connected between said spaced ears of said clip member, a substantially U-shaped pin extending transversely through said toggle lever above and parallel to the pivotal connection thereof between said clip member ears, said U-shaped pin being complementary to the horizontal pin grooves in said semi-cylindrical confronting ears of said body member for insert therein and the ends of the V-shaped pin extending into the right angle bores to maintain said body member ears in rigid spaced relation with said toggle lever shank positioned in the elongated vertical opening of said body member, and laterally extending hubs on said toggle lever complementary to said pin and body member ears to provide spaced parallel pivotal connections of said toggle lever with said body and clip members and to preclude their accidental disassembly when said clip member is in operative engagement with said body member flange.

2. In a garment engaging clasp, the combination with a substantially flat body member, of a transversely extending flange formed along the bottom of said body member, said body member having an elongated vertical opening communicating with the top edge thereof, spaced semi-cylindrical confronting ears, having horizontal pin grooves therein formed on both sides of said elongated vertical opening, a clip member having an engaging edge commensurate with and confronting said transverse extending body member flange, said clip member being associated with said body member to yieldingly cooperate with said transversely extending body member flange, spaced ears on said clip member, a toggle lever having a shank pivotally connected between said spaced ears of said clip member, a substantially U-shaped pin extending transversely through said toggle lever above and parallel to the pivotal connection thereof between said clip member ears, said U-shaped pin being complementary to the horizontal pin grooves in said semi-cylindrical confronting ears of said body member for engageable mounting therein to maintain said body member bosses in rigid spaced relation with said toggle lever shank positioned in the elongated vertical opening of said body member, laterally extending hubs in said toggle lever complementary to said pin and body member bosses to provide spaced parallel pivotal connections of said toggle lever with said body and clip members and to preclude their accidental disassembly when said clip member is in operative engagement with said body member flange, and roughened surfaces on the confronting engaging edge and flange of said clip and body members.

3. In a garment engaging clasp, the combination with a substantially flat body member, of a transversely extending flange formed along the bottom of said body member, said body member having an elongated vertical opening communicating with the top edge thereof, spaced semi-cylindrical confronting ears, having horizontal pin grooves therein formed on both sides of said elongated vertical opening, a clip member having an engaging edge commensurate with and confronting said transverse extending body member flange, said clip member being associated with said body member to yieldingly cooperate with said transversely extending body member flange, spaced ears on said clip member, a toggle lever having a shank pivotally connected between said spaced ears of said clip member, an elongated pin extending transversely through said toggle lever above and parallel to the pivotal connection thereof between said clip member ears, said elongated pin being complementary to the horizontal pin grooves in said semi-cylindrical confronting ears of said body member for engageable mounting therein to maintain said body member ears in rigid spaced relation with said toggle lever shank positioned in the elongated vertical opening of said body member, laterally extending hubs on said toggle lever complementary to said pin and body

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member ears to provide spaced parallel pivotal connections of said toggle lever with said body and clip members and to preclude their accidental disassembly when said clip member is in operative engagement with said body member flange, and roughened surfaces on the confronting engaging edge and flange of said clip and body members.

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