May 17, 1949. A. WEIS 2,470,122

GARMENT CLASP

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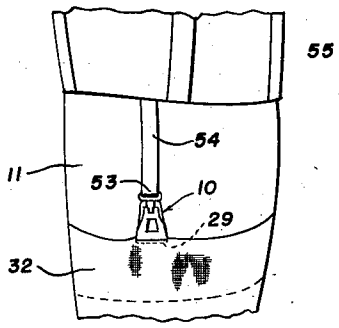


FIG. 1.

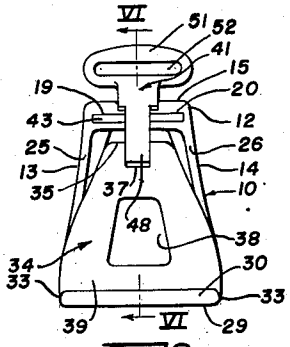


FIG. 2.

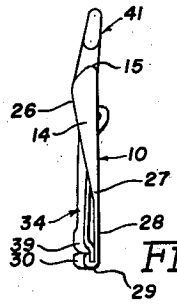


FIG. 3.

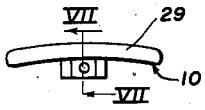


FIG. 4.

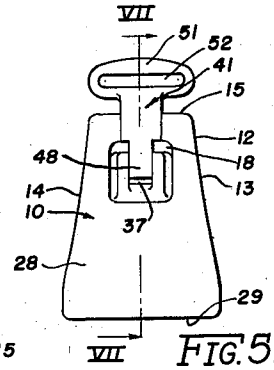


FIG. 5.

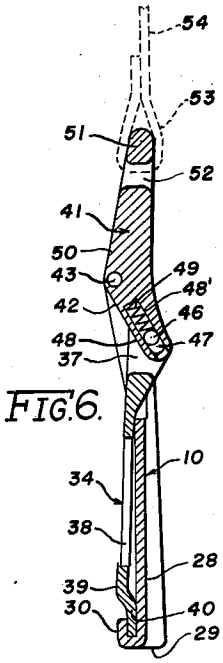


FIG. 6.

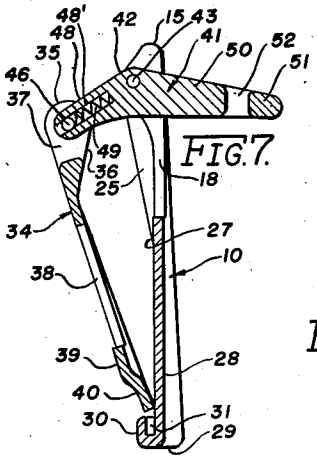


FIG. 7.

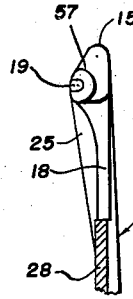


FIG. 9.

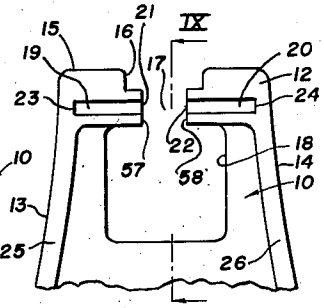


FIG. 8.

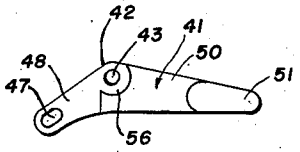


FIG. 10.

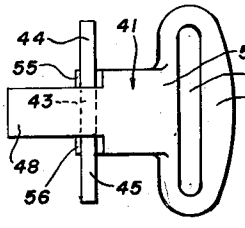


FIG. 11.

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GARMENT CLASP

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10 Claims. (Cl. 24—248)

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This invention relates to garment clasps and more particularly to stocking garter clasps, although certain features thereof may be employed with equal advantage for other purposes.

It contemplates more especially the provision of an improved 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 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 complemental 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 and providing an elongated engaging edge to serve as a

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

A still further object is to provide a pair of complemental 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 by a comparatively large number of threads thereof.

Still a further object is to provide arcuately curved elongated engaging edges on complemental members of a clip for joinder by outwardly bowed strips for effective detachable engagement of a fabric through the medium of improved toggle operated clasping members.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

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.

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

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

Figure 4 is an end view in elevation of a garment clasp shown in Figure 2.

Figure 5 is a rear view in elevation of the garment clasp shown in Figure 2.

Figure 6 is an enlarged sectional view taken substantially along line VI—VI of Figure 2.

Figure 7 is an enlarged sectional view similar to Figure 6 taken substantially along line VII—VII of Figures 4 and 5 with the clip member shown in a position ready for engaging fabric such as a fabric stocking top therewith.

Figure 8 is a fragmentary enlarged front view in elevation of the back plate member shown in Figures 2 and 5.

Figure 9 is a fragmentary sectional view of the plate member taken substantially along line IX—IX of Figure 8.

Figure 10 is a detail edge view of the clip actu-

ator toggle element shown assembled in Figures 2 and 7.

Figure 11 is a 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 is arcuately shaped to generally correspond with the curvature of the human leg or thigh 11 so as to conform for contact therewith. The plate member 10 is, in this instance, vertically elongated to provide a comparatively narrow horizontal upper portion 12 having its side edges 13 and 14 slightly curved and divergent downwardly to present a straight upper edge extremity 15. The upper edge extremity 15 has, in this instance, a horizontal slot 16 provided therein proximate to and communicating with the top edge 15 which is interrupted by a vertical throat 17 (Figure 8) that opens into an enlarged cut-out 18 to provide for the pivotal movement and displacement of a toggle lever therein as will appear more fully hereinafter.

The upper portion 12 of the plate member 10 is thicker than the remaining lower portion, to provide sufficient body for transversely extending upwardly open cylindrical pin receiving slots 19–20 that are axially aligned to communicate at their inner ends 21–22 with the vertical throat 17 and are closed at their outer ends 23–24. The upper thicker portion 12 of the plate member 10 has divergent side edge extending reinforcing ribs 25–26 that project downwardly to merge as at 27 with the lower thinner arcuate portion 28 that is comparatively wider than the upper portion 12.

The lower thinner and wider plate portion 28 terminates in an arcuately curved extensive lower edge 29, which has an upwardly turned flange 30 defining an arcuate trough 31. The lower edge 29 is substantially elongated and, in this instance, extends for a distance that will be commensurate with a comparatively large number of interwoven threads from which garments such as stockings 32 are constructed. The comparatively large number of threads will collectively support the garment when properly held in the trough 31 as will appear more fully hereinafter.

While the extent of the trough 31 may vary within a wide range depending upon the garment to be supported, it may approximate one to one and one-half inches (1" to 1½") to effectively and without impairment grasp delicate hose that are easily subjected to "runs" responsive to the slightest abuse. The external edges of the trough 31 defined by the flange 30 and the curved edge 29 thereof are provided with well rounded curves 33 to avoid piercing engagement with the garment fabric and afford the utmost comfort to the wearer. The flange 30 is transversely curved to conform with the general average curvature of the thigh, and is an integral part of the plate or body member 10. To conform to excessively plump thighs, the transverse curvature of the plate member 10 and especially its lower edge region 28 preferably is curved differently than corresponding plate members 10 designed for the average or normal sized thighs should commercial practice so dictate.

In order to frictionally engage and securely

hold a closely woven fabric such as a stocking 32 in the trough 31, a clip member 34 conforms in the general flaring shape of and arcuate contour with the lower portion 28 of the plate member 10, and terminates upwardly in a comparatively narrow edge 35 having a backwardly enlarged boss 36 formed thereon (Figure 7) with a vertical slot 37 provided therein to communicate with the upper edge 35. An enlarged opening 38 may be provided in the central region of the material requirements thereof. The lower portion 39 of the clip 34 is substantially rectangular to provide a horizontal and backwardly inset arcuate lower edge 40 serving as a complement of the plate member trough 31 for engagement therewith. The clip member 34 with its lower complemental engaging edge 40 is actuated and retained in operative position by a toggle lever 41. The toggle lever 41 has an inverted V-shaped outer surface 42 to provide sufficient body to carry a pin 43 therethrough to provide oppositely extending and projecting extremities 44–45 serve as a pivotal mount for the lever 41 on the plate member 10 and to pivotally connect with the clip 34 as at 46 to serve as toggle lever members 34–41.

The pin 46 bridges the slot 37 in the upper edge 35 of the clip 34 for mounting in the boss 36 (Figure 7). This pin extends through an elongated slot 47 provided in the extremity of one arm 48 which has a longitudinally extending bore 48 therein (Figure 7) to confine a spring 49 that abuts against the pin 46 to normally retain it at the outer extremity of the slot 47. The pin 46 may ride in the elongated slot 47 against the urge of the spring 49 which yields to compensate for the thickness of the fabric or garment held in the trough 31 by the clip edge 40. Thus a very effective grasp of the material in the trough 31 between the plate flange 30 and clip edge 40 is maintained by the toggle action of the clip 34 and its actuator lever 41 which precludes any accidental release thereof as will presently appear from a more detailed description of its function.

The other arm 50 of the toggle lever actuator 41 (Figure 11) terminates in an enlarged oval extremity 51 having a transverse slot 52 therein to receive the reinforced end or loop 53 of an elastic garter 54 usually attached to and depending from an undergarment 55. It should be noted that the toggle lever 41 has semi-circular grooves 55–56 surrounding the pin projections 44–45 to receive the complemental semi-circular bosses 57–58 formed around the pin grooves 19–20 in the plate member 10 adjacent the vertical throat 17 so that these parts may be interfitted and rotatively assembled when the lever 41 is in its extreme counterclockwise position (viewed from Figure 7) relative to the plate member 10 which is somewhat further displaced than the normally closed position of the members (Figure 6).

In this extreme position which is only possible before the clip 34 is assembled with the lever 41, the semi-circular bosses 57–58 can enter the complemental semi-circular groove 55–56 with the pin projections 44–45 lodged in the slots 19–20 so that clockwise displacement therebetween (viewed from Figure 7) will retain the parts in assembled association against separation. After this assembly is effected between the lever 41 and the plate member 10, the clip 34 can then be assembled with the toggle lever 41 through the medium of the pin 46 that retains the spring 49 within its confining bore 48. After assembly of the clip 34 with the toggle lever 41, the former

will not permit the latter to be displaced in a counterclockwise direction (viewed from Figure 6) for a sufficient distance to permit the semi-circular bosses 57–58 (Figures 8 and 9) to ride out of the complemental arcuate grooves 55–56 (Figures 10 and 11). This arrangement provides a very simple, inexpensive and effective assembly of the primary complemental elements 10, 34, and 41.

The center of turning 43 of the toggle lever 41 is offset outwardly from the pivotal connection 46 of the toggle lever 41 with the clip 34 so that when the latter is closed against the trough 31 with or without the fabric therebetween, the common pivot point 46 between the toggle members 34–41 will be disposed inwardly of the load line extending between the pin 43 and the clip engaging trough 31, thereby precluding their accidental disengagement without first depressing the lever 41 in a clockwise direction (viewed from Figure 7). This opening or disengaging displacement is opposite to the pull exerted on the toggle lever 41 by the garter 54. The pull exerted by the garter 54 will tend to more securely hold the toggle members 41–34 in effective engagement with the plate member trough 31.

The plate member 10 and clip 34 will effect the uniform grasp of a garment such as stockings 32 and support them through the medium of the garter strap 54 that may be a part of an undergarment 55 or a separate garter belt independent of any garment. It will thus be apparent, therefore, that the clip 34 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 to provide a toggle action therewith. In consequence thereof, the clip 34 will be self-locking to hold the fabric 32 in the trough 31 so that it can effectively serve as a support thereof in conjunction with the garter 54.

The self-locking position of the clip 34 is effected by displacing it to its extreme position in contact with the plate member 10 to cause the spring 49 to yield in a vertical direction for tightly embracing the fabric or that part of the garment 32 which is disposed in the trough 31. All the structural elements described above may be advantageously produced from a suitable plastic such as nylon, except for the pins 43 and 46, the spring 49, and the garter 54. 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 body member, of a transversely extending flange formed on said body member, a toggle actuator lever pivotally connected to said body member, a clamping member associated with said body member, said clamping member having a lower engaging edge to cooperate with said transversely extending flange to yieldingly grasp a garment therebetween, a floating pivotal connection between said toggle lever and clamping member, and spring means associated with said floating pivotal connection to establish yielding engagement of said clamping member engaging edge against said body flange responsive to displacing said toggle actuator lever.

2. In a garment engaging clasp, the combination with a body member, of a transversely extending flange formed on said body member, a toggle actuator lever pivotally connected to said body member, and a clamping member pivotally connected to said toggle actuator lever, said clamping member having its lower edge in engageable confronting relation with said transversely extending flange, said clamping member and toggle actuator lever having a running pivotal connection, a spring between said toggle lever and pivotal connection to yieldingly urge said clamping member against said transversely extending body member flange to yieldingly grasp a garment therebetween responsive to actuating said toggle lever.

3. In a garment engaging clasp, the combination with an elongated body member, of a transversely extending flange formed on said body member, a clamping member having a transverse edge confronting said flange for engaging cooperation therewith, a toggle actuator lever between said body member and said clamping member, spring means interposed between said clamping member and said toggle member to effect yielding engagement between said body and clamping members to retain a garment therebetween, and substantially semi-circular complemental pivotal connecting means between said toggle lever and said body member to enable connection in one extreme pivotal position and permit separation in an opposite pivotal position.

4. In a garment engaging clasp, the combination with a body member, of a transversely extending flange formed on said body member, a clamping member having a transverse edge confronting said flange for engaging cooperation therewith, a toggle actuator lever pivotally connected to said body member, a pin on said clamping member, there being an elongated slot in said toggle lever to receive said pin, and spring means in said elongated slot between said toggle lever and said pin to maintain said clamping member and said body member in yielding engagement responsive to actuating said toggle lever to retain a garment therebetween.

5. In a garment engaging clasp, the combination with a body member, of a transversely extending flange formed on said body member, a clamping member having a transverse edge confronting said flange for engaging cooperation therewith, a toggle actuator lever having a transverse pin and contiguous surrounding semi-circular grooves, there being pin receiving open slots in said body member and semi-circular bosses contiguous therewith as complements of said toggle lever pin and semi-circular grooves for enabling pivotal connection and disconnection between said body member and toggle lever at different relative angular positions, and a yieldable pivotal connection between said toggle actuator lever and said clamping member to yieldingly engage said clamping member transverse edge

against said body member transverse flange responsive to actuating said toggle lever.

6. In a garment engaging clasp, the combination with a body member, of a transversely extending flange formed on said body member, a clamping member having a transverse edge confronting said flange for engaging cooperation therewith, a toggle actuator lever having a transverse pin and contiguous surrounding semi-circular grooves, there being pin receiving open slots in said body member and contiguous semi-circular bosses as complements of said toggle lever pin and semi-circular grooves for enabling pivotal connection and disconnection between said body member and toggle lever at different relative angular positions, and a yieldable running pivotal connection between said toggle actuator lever and said clamping member to yieldingly engage said clamping member transverse edge with said body member transverse flange, said yieldable pivotal connection comprising a pin on said clamping member, there being an elongated slot in said toggle lever to receive said pin, and a spring in said elongated slot of said toggle lever to abut against said pin to normally urge the latter toward one end of said elongated slot and to permit displacement of said pin along said slot during clamping action of said clamping member toward said body member flange responsive to actuating said toggle lever.

7. A clasp for fabrics and the like comprising relatively movable body and clamping members, and a toggle lever for moving said members into and out of clamping engagement with an interposed fabric therebetween, said toggle lever having a pivotal connection with one member and a yieldable running pivotal connection with the other member to engage said body and clamping members responsive to actuating said toggle lever.

8. A clasp for fabrics and the like comprising relatively movable body and clamping members, and a toggle lever for moving said members into and out of clamping engagement with an interposed fabric therebetween, said toggle lever having a pivotal connection with one member and a yieldable running pivotal connection with the other member, said yieldable running pivotal connection being movable in the longitudinal direction of said body and clamping members to effect their engagement.

9. A clasp for fabrics and the like comprising relatively movable body and clamping members, and a toggle lever for moving said members into and out of clamping engagement with an interposed fabric therebetween, said toggle lever having a pivotal connection with one member and a yieldable running pivotal connection with the other member with its axis in a plane parallel to the plane of said body member to engage said body and clamping members responsive to actuating said toggle lever.

10. A clasp for fabrics and the like comprising relatively movable body and clamping members, and a toggle member for moving said first named members into and out of clamping engagement with an interposed fabric therebetween, said toggle member having a pivotal connection with said body member, said pivotal connection including a complemental pin and open groove on said toggle member and body member for enabling pivotal connection and disconnection between said toggle and body members at different relative angular positions.

ARTHUR WEIS.

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