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FASTENER

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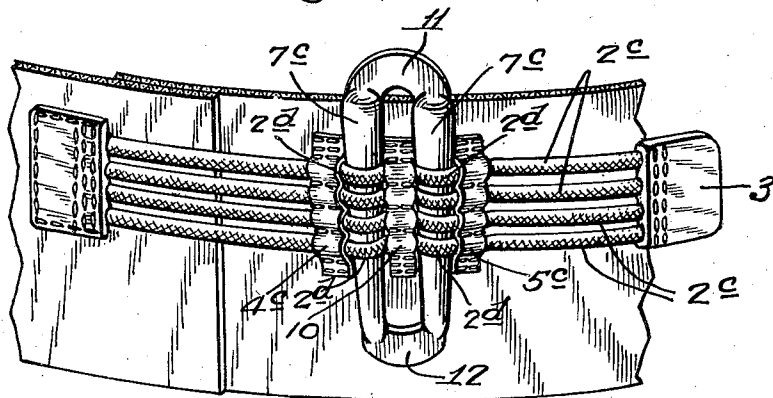
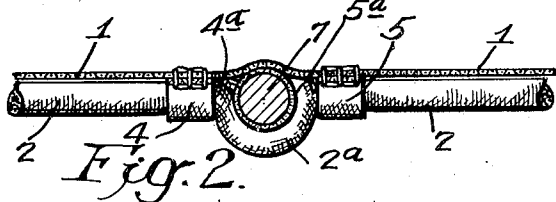
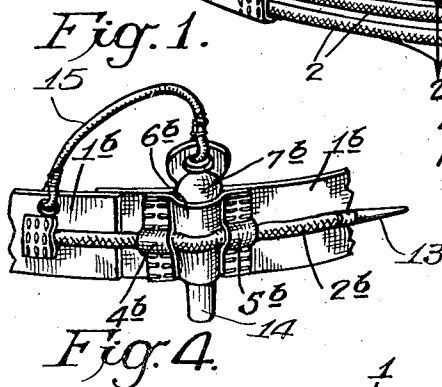
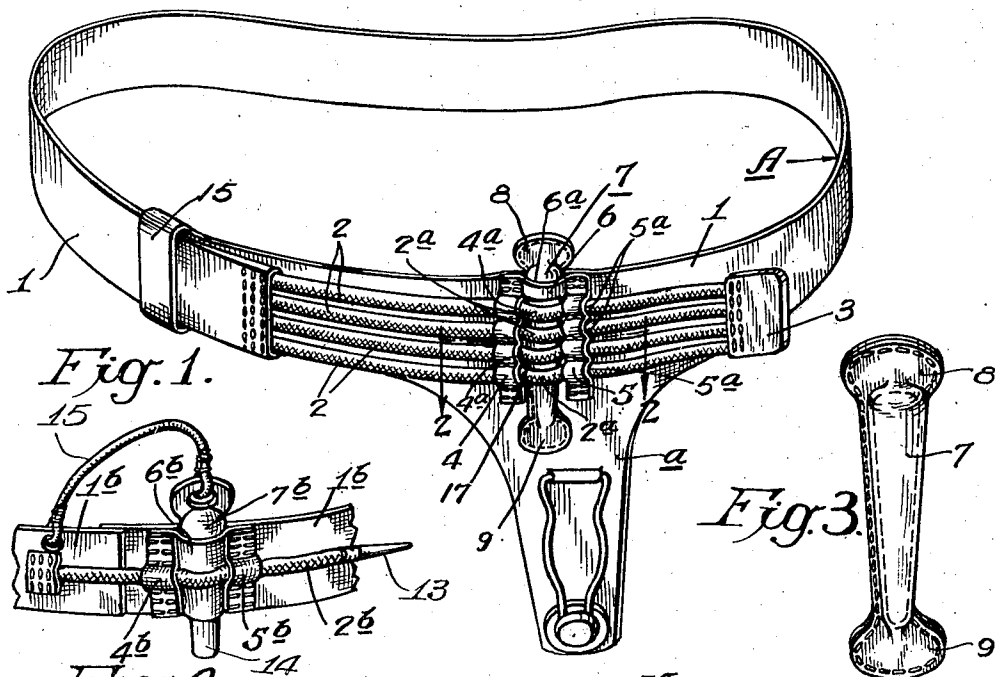


Fig. 5.

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FASTENER

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This invention relates to a novel type of fastener for use in any instances where longitudinal adjustment and rigid securing of a strap or band is desired, whether the band is adapted to encircle an object completely in itself or is adapted to function in cooperation with other structures to which it is applied.

For example, the device may be used in conjunction with wearing apparel such as men's underwear, ladies' garments, stocking garters, wrist bands for gloves, trouser supporting belts, take up for the backs of overcoats, vests and trousers, and so forth. The invention is also adapted for use with articles of luggage, such as suitcases, hatboxes, trunks and the like, or a part of a cinch band for saddles. Thus it will be seen that the device might be used broadly, in conjunction with a wide and varied assortment of structures for fastening, tightening, or loosening purposes. And, further the fastener with all its component parts may be made of textile materials, cords leather, metal, etc., being adapted for substantially all material, depending on the particular requirements involved.

One object of the present invention is to provide a simple and highly efficient fastening means that will afford ready manipulation and adjustment, as may be required in use with various types of articles, and at the same time provide an effective gripping after such manipulation and adjustment has been completed.

Another object of the present invention is to provide a fastening means which will be free of protruding sharp edges or any roughness harmful to outer garments, etc., which might come into contact with the device while in use.

Another feature of the invention is the provision of a fastening means that is flexible and capable of reacting to movements of the wearer without the discomfort to the wearer of any article of clothing to which the device is applicable.

Other objects and features of novelty will be apparent in the following description and the annexed drawing, in which:

Fig. 1 is a perspective view of a device constituting one embodiment of the invention as applied to a man's stocking garter;

Fig. 2 is a transverse sectional view of the device as taken along the line 2-2, Fig. 1;

Fig. 3 is a detached perspective view of one element of the device shown in Figs. 1 and 2;

Fig. 4 is a perspective view of one modified form of the invention; and

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Fig. 5 is a perspective view of a second modified form of the invention.

Referring in detail to Figs. 1 and 2 of the accompanying drawing, A represents a man's garter of the usual type, and illustrates one example of the manner of using the present invention. The garter A comprises a body element in the form of a leg encircling band 1. At one end of the band 1 is attached, as by riveting, sewing, etc., one end of one or more laterally adjacent flexible cord extension elements 2, 2. The cord extension elements 2, 2 are substantially parallel and are joined at their outer or free ends by a finger grip or tab 3, said tab member 3 being adapted to afford a means for gripping the cords 2, 2 collectively, and to prevent said cord extension elements or members 2, 2 from being withdrawn from the fastening means of the present invention as hereinafter described.

At the end of the band 1 opposite that to which the cord extension elements 2, 2 are attached, a leg pad a is suitably secured, as by sewing, riveting, etc. A pair of vertical flexible elements 4 and 5 are suitably secured on the leg pad a in laterally spaced relation to each other to form a channel 17 therebetween. These strap elements 4 and 5 are formed into series of flexible loops 4a and 5a, through which the cords 2, 2 pass. The loops 4a and 5a are adapted to slidably receive the cord members 2, 2.

Extending across the space between, and joining the upper ends of, the loop forming straps 4 and 5, at right angles thereto, is another flexible strap member 6. This strap arranged in the form of a loop 6a to receive and hold a tapered plug or wedge member 7 which is adapted to lie in a channel 17 formed by and between said series of loops 4a and 5a and to slide axially within the loop 6, so that said plug might be pressed downwardly between the pad a and the cord members 2, 2 to effect a wedging or snubbing action between the cords 2, 2 and the retaining loops 4a and 5a and thus lock the cord members 2, 2 to the leg pad a, to prevent accidental sliding of the cords 2, 2 within the loops 4a and 5a.

The wedge or plug member 7 is enlarged at its respective ends 8 and 9 so that it may not be totally removed, either upwardly or downwardly from the loop 6a or from the undulations 2a, 2a of the cord members 2, 2 formed by said cords passing around the outside of the tapered plug 7.

When it is desired to adjust the effective length of the band 1 and to lock the band in its newly adjusted position, the cord members 2, 2 are pulled through the loops 4a and 5a until the band

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1 fits the man's leg snugly, whereupon the plug 7 is forced downwardly between the leg pad *a* of the band 1 and the cord members 2, 2 at right angles to the latter, whereby the tapered form of said wedge member forces the cord members 2, 2 outwardly from the leg pad *a*, between the loops 4*a* and 5*a* attached to the leg pad *a* the said band or strap 1. By the pressure thus engendered the cord members 2, 2 are snubbed and held in locked relation to and by the loops 4*a* and 5*a*.

In Fig. 3 the tapered formation of the wedging member 7 is shown with its respective top and bottom ends of greater width than the largest diameter portion of the main body of the wedge and also greater than the width of the loop 6, thereby preventing the withdrawal of said wedge member 7 from the fastening means when not desired.

Fig. 4 shows the operation of a modified form of the device, as applied to a single cord member. The single cord member 2*b* is attached to one end of a band 1*b* which passes through laterally spaced flexible loops 4*b* and 5*b* attached to the opposite end of the band 1*b*. This cord member 2*b* has a rigid tip 13 as a part thereof, being thereby readily inserted into and completely withdrawn from the flexible loops 4*b* and 5*b*. The tapered plug 7*b* is contained within a loop 6*b* formed in a strap member of substantially the same width as the band 1*b*. Said tapered plug is elongated at its lower extremity as indicated at 14 to afford space for pulling it downwardly and because of said construction may be readily removable completely from the loop 6*b*. Likewise, said tapered element 7*b* is attached to said band 1*b* as by a tape or cord shown at 15. Thus, by the removability of said cord member 2*b* and said tapered plug member 7*b*, the fastening device may be completely opened to permit ready removal from the body encircled by band 1*b*.

Fig. 5 shows a fastening means of the present invention as applied to a plurality of cord members 2*c*, 2*c* and employment a double wedging means 7*c*, 7*c* cooperating with three series of loops 4*c*, 10, and 5*c*, said wedges 7*c* and 7*c* being joined together at their tops and bottoms by bridge members 11 and 12 to retain said members in parallel relation and to prevent their withdrawal from the loops 2*d*, 2*d* of the cord members 2*c*, 2*c*, between the snubbing loops 4*c*, 10, 5*c*. By this means greater snubbing action is created.

As shown in Fig. 1, the one side of the leg pad *a* is provided with a slide 15, in laterally spaced relation to the loop straps 4 and 5, through which the band 1 passes to prevent sagging of the one side of the leg pad in use.

It is to be understood that the present invention is not limited in its application to a stocking garter but may be applied in any case where longitudinally adjustment and rigid fastening of the adjusted element is desired, without departing from the spirit of the invention.

I claim:

1. A fastening device comprising a body element, a plurality of flexible extension elements secured to one end of said body element and adjustable longitudinally relative to one portion of said body element, a plurality of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops extending transversely across said extension elements, and a tapered element axially operable transversely of said extension elements in-

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intermediate said laterally spaced strap elements and between said body element and said extension elements.

2. A fastening device comprising a body element, a plurality of flexible extension elements secured to one end of said body and adjustable longitudinally relative to one portion of said body element, a plurality of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops arranged to form a channel between said strap elements extending transversely across said extension elements, and a tapered element axially operable transversely of said extension elements within said channel between said body element and said extension elements.

3. A fastening device comprising a body element, a plurality of flexible extension elements secured to one end of said body element and adjustable longitudinally relative to one portion of said body element, a pair of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops extending transversely across said extension elements and adapted to receive and retain said extension elements in slidable relation thereto, and a tapered element axially operable between said laterally spaced strap elements intermediate said body element and said extension elements.

4. A fastening device comprising a body element, a plurality of flexible extension elements secured to one end of said body and adjustable longitudinally relative to one portion of said body element, a plurality of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops arranged to provide a channel between said spaced series of loops extending transversely across said extension elements and adapted to receive and retain said extension elements in slidable relation thereto, and a plurality of tapered elements axially operable transversely of said extension elements within said channel intermediate said body element and said extension elements.

5. A fastening device comprising a body element, a plurality of flexible extension elements secured to one portion of said body and adjustable longitudinally relative to another portion of said body element, a plurality of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops extending transversely across said extension elements, a tapered element axially operable transversely of said extension elements intermediate said laterally spaced series of loops and between said body element and said extension elements, and means on the opposite ends respectively of said tapered element to prevent withdrawal thereof from the said position.

6. A fastening device comprising a body element, a plurality of laterally flexible adjacent extension elements secured to one portion of said body and adjustable longitudinally relative to another said portion of said body element, a plurality of laterally spaced strap elements secured to said body element and forming therewith spaced series of loops extending transversely across said extension elements, means carried by said extension elements for preventing withdrawal thereof from the loops, and a tapered element axially operable transversely of said extension elements intermediate said spaced series of loops and between said body element and said extension elements.

7. A device for connecting a pair of readily

separable strap sections comprising a plurality of flexible extension elements secured at one end to one of said strap sections with a free end adjustable longitudinally with respect to the second of said strap sections, a plurality of laterally spaced series of loops secured to and extended transversely of said second section to receive the free ends of said extension elements, and a tapered element axially operable transversely of said extension elements intermediate said laterally spaced series of loops and between said extension element and the second of said strap sections, said free end of said extension elements being

completely removable from said series of loops to afford complete separation of said strap sections.
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