INVENTOR

WERNER JOACHIM EWERWAHN

BY

KARL RATH

ATTORNEY
BANDAGE AND THE LIKE BODY-ENVELOPING MEMBER

Werner Joachim Ewerwahn, Platienenallee 8, Hamburg, Germany

Filed Dec. 22, 1966, Ser. No. 604,047


Int. Cl. A61 F 5/37; A41 c 1/00

U.S. Cl. 128—157

2 Claims

ABSTRACT OF THE DISCLOSURE

In a bandage, girdle, brassiere and the like body-enveloping member, tension or pressure on the body is controlled by means of a temporary fastener comprising substantially rectangular strip composed of sets of elastic warp and weft threads or filaments, the threads or filaments intervening between the opposed edges of a pair of companion parts of said member enveloping the body or part thereof to be protected or modeled. The strip has one edge parallel to one set of threads or filaments affixed to the edge of one of said parts, to cooperate with an array of fastening hooks affixed to the edge of the other part and adapted to interlock with the individual meshes of said strip.

The present invention relates to a novel fastener for wearing apparel of different kinds, including surface garments, such as skirts, pants, etc., foundation- or under-garments, such as girdles, brassieres, corsetry waives, etc., as well as related articles and devices, such as hygienic belts, waist bands, bands and the like, the foregoing and related articles or objects being understood as covered by the term "wearing apparel" as used in the following for the purposes of the present specification and claims.

The invention is more particularly concerned with articles or devices of the foregoing type to be worn in close and stretched relation to the contour or shape of the body or part thereof, such as where the articles closely encircle the body or parts thereof hose-fashion, for the purpose of molding of the figure, in particular of the female figure, as in the case of girdles, brassieres, etc., as well as for other in particular medical and hygienic purposes, as in the case of bandages, body or waist belts or the like. As will become furthermore apparent from the following, the use of the invention extends both to garments or the like objects as set forth in the foregoing, as well as the auxiliary parts employed in conjunction therewith, such as supporting or connecting bands, shouldar straps, garters, etc.

In the use of articles or devices of the foregoing type, it is frequently desirable, if not necessary, to control or adjust the tension or stretching effect of the devices, or to achieve a proper fit or modeling of the body, by the use of adjustable temporary fasteners or closure devices. This object could not be achieved hitherto satisfactorily as well as reliably by the use of conventional fasteners or closure devices, such as zip fasteners, hook-and-eye fasteners, but fasteners and the like devices commonly employed in connection with wearing apparel of the type referred herein. Aside from other difficulties, not only is the adjustment by the known devices, where at all feasible, possible in relatively coarse steps only, but the fastener structures become both bulky as well as expensive if designed for relatively extended and easy use or operation by the wearer.

Accordingly, an important object of the present invention is the provision of an improved adjustable fastener for wearing apparel of the referred to type which is substantially devoid of the foregoing and related disadvantages as well as shortcomings inherent in the conventional fasteners or closure structures referred to hereinabove.

A more specific object of the invention is the provision of an adjustable fastener of the referred to type for use in conjunction with a fabric or the like main member of a garment or the like to be worn in close and stretched relation to the body or portion thereof, such as by at least partly encircling the body, the free ends of said member being fitted with cooperating adjustable fastener elements which are both simple and economical in design as well as construction and adapted to allow of a relatively fine adjustment, in a most simple and reliable manner, within relatively wide limits, or variation of the tension or tightness of the devices in the closed or wearing position.

The invention, both as to the foregoing and ancillary objects, as well as novel objects thereof, will be better understood from the following description of a few practical embodiments, taken in conjunction with the accompanying drawings forming part of this specification and in which:

FIG. 1 illustrates a bandage or the like article, shown in the spread or developed position and fitted with adjustable closure means constructed in accordance with the principles of the invention;

FIG. 2, being similar to FIG. 1, shows a girdle also in the spread position and embodying adjustable fastener means in accordance with the invention;

FIG. 3 is a front view of the girdle of FIG. 2 shown in the closed or wearing position;

FIG. 4 shows a brassiere in the spread position and fitted with rear fastening means in accordance with the invention;

FIGS. 5 and 6, being fragmentary views of FIG. 4, illustrate adjustable shoulder straps for a brassiere constructed in accordance with the invention; and

FIGS. 7—9 are side views of the closure device according to the invention showing detailed and improved features of the invention.

Like reference numerals denote like parts in the different views of the drawings.

With the foregoing objects in view, the invention involves generally the provision of an adjustable fastener or closure device for the temporary connection of a pair of companion apparel parts along the edges of said parts, said device comprising a relatively coarse-meshed and preferably elastic fabric strip or the like element affixed to the edge or edge zone of one of said parts and forming a first element of the fastener, and a second cooperating fastener element in the form of a preferably also elastic hookband affixed to the edge of the adjoining apparel part and fitted with an array of hook-shaped closure elements adapted to engage the meshes of said first fastener element. There is obtained in this manner a highly flexible fastener which can be closely adjusted in practically step-less fashion and adapted to various body forms.

If the fabric strip forming an element of the fastener is to be used in connection with a garment or the like encircling the body or part thereof of the wearer, such as in the case of a bandage, waist belt or girdle ordinarily having an oblong shape, it may be subdivided into a main part or section and a fastener part separated from the former by a cross-seam at right angle to the longitudinal axis of said main section. The latter, forming the main portion of the garment or other device advantageously consists of a fine-meshed fabric, while the fastener part or strip consists of relatively coarsemeshed fabric or netting, such as a tulle or the like fabric. The remaining free end of the main section of the garment is fitted with an elastic band wherein are mounted an array of hook-shaped elements adapted to variably
engage the meshes of the coarse-meshed fastener element in the applied or wearing position of the device. The fact that the meshes of the coarse-meshed section or fastener element may receive any of the hooks of the cooperating fastener element (hookband), makes its possible to achieve a practically step-less control of the tension of the device in the closed or applied position, while at the same time affording a close adaptation to various body sizes or parts, substantially without folding, overlap or the creation of loose or ineffective areas.

In the use of fasteners according to the invention in connection with corsets, brassieres or the like foundation garments, and the like, one of the edge zones to be connected or joined may be fitted with the hookband element of the fastener and the adjoining edge zone may be fitted with the coarse-meshed fabric part or strip of the fastener, to enable a variable or selective engagement of the hooks of said band with the meshes of said strip, in conformity with the basic concept of the invention, as will become further apparent as the description proceeds.

In other words, the possibility exists in this as well as in the remaining applications or uses of the invention to engage any of the hooks of the fastener with a desired part or portion of the cooperating mesh strip of the fastener, to thereby afford a practically step-less control and distribution of the tension acting on the body, in a manner as will become further apparent as the description proceeds.

With specific reference to brassieres, not only is it possible by the use of the invention to closely control the tightness or tension by the body-encircling part of the brassiere, but furthermore the shoulder straps may be connected through similar fasteners according to the invention, to provide additional adjusting as well as figure modeling facilities. This applies generally to the use of auxiliary parts, such as supporting straps, bands, etc. in connection with any kind of garment or apparel, as will be understood.

Where the fastener is designed with the hooks contacting the body or skin in the closed position, this may be avoided by the provision of suitable protective strips. Finally, the fabric strip or part, forming one of the fastener elements, may be affixed in mutually overlying relation to the edge zone of the apparel part by means of a pair of inner and outer cross-seams and reinforced by intermediate seams for the strengthening of the fastener, as will become further apparent from the description in reference to the drawings.

Referring more particularly to FIG. 1, the body belt, bandage or the like shown comprises a main part or section 1 of relatively fine-mesh fabric or the like material to one short end of which is affixed, by means of a connecting seam 3 or the like, a narrow strip or section 2 of relatively coarse-mesh elastic fabric, such as a tulle or the like fabric or netting composed of warp and weft elastic threads of any suitable material, said strip constituting one of the component elements of the fastener or closure device according to the invention. The fabric 1 may consist of any desired material, such as known under the trade name "Lycra" largely used in the fabrication of corsetry and the like garments or devices, while the fastener strip 2 may consist of a similar or different fabric or netting composed of elastic threads or filaments and having a relatively coarse-mesh, said strip being secured to the main part 1 of the bandage or garment in any suitable manner, such as by means of a zigzag seam 3 as shown by the drawing. Lycra and the flexible fabrics are especially suited for the purpose of the present invention due to their high elasticity and low elastic fatigue, or lack of loss of elasticity even after prolonged periods of wear and despite frequent cleaning or washing.

Besides, the material can be easily sewn or otherwise worked. As will be understood, however, any equivalent material consisting of natural or synthetic fibres and having the requisite strength and elasticity may be used for the construction of the improved adjustable fastener of the invention.

The cooperating element of the fastener or closure device consists of a hookband or strip 4 affixed in any suitable manner to the remaining short edge of the main bandage or part 1 and being fitted with an array of fastening hooks 5 adapted to engage the meshes of the cooperating fastener element or strip 2, in the manner more clearly shown in FIG. 3. Strip 4, which may be fabricated advantageously and fitted with fastening hooks 5 by conventional methods used in the manufacture of zipper fasteners in the conventional manner of working or by stitching in any other suitable manner.

While FIG. 1 shows a bandage, body belt or the like device to be applied to encircle an arm, leg, etc. of the body, FIG. 2, being otherwise similar to FIG. 1, illustrates the case of a hip girdle having a properly curved shape in the spread position, to conform to the figure, as shown in FIG. 3.

In use, the bandage or the like is applied with the fine-meshed main section 1 encircling the body part concerned and the hookband 4 pulled over the strip 2 to the extent desired, to stretch or tighten the bandage, whereupon the cooperating mesh strip 2, by engaging the hooks 5 of the strip 2, to effect locking or closure of the fastener, in the manner more clearly shown by FIG. 3.

As appears furthermore from the latter, the tightness or tension of the bandage, or its effect on the respective body portion, may be controlled closely, or adjusted to adapt the same to the body form, in extremely fine steps or increments. Besides, the effect on the body may be varied between one point and another by engaging the hooks 4 in different laterally displaced meshes of the strip 2, to adapt the bandage, girdle or the like device to the body or figure in any manner desired. This may be of importance, for instance, in the case of a girdle as shown in FIG. 1, in bandaging wounds resulting from operations, or where it is desired, such as in the case of a girdle, FIG. 2, to variably mold or affect different body portions, such as in order to produce a desired molding of certain body parts, while repressing other parts by different stretching of the adjoining areas or strips of the member 2 by the hooks 4, in a manner as will be readily understood.

FIG. 4 illustrates the invention as applied to a brassiere shown in spread position and comprising a pair of main sections or front panels 6 supporting a pair of breast cups 8 to which are attached, in the manner of FIG. 7, said main panels 6 terminating in known manner in a pair of rear panels the ends of which are fitted with a fastener or closure device according to the invention. Again, the latter comprises a coarse-meshed fabric strip 2, preferably cut along lines parallel to one of the component threads thereof, and affixed to the edge of one of the rear panels of the brassiere in any suitable manner, such as by means of a zigzag seam 3 as shown, for cooperation with the hookband 4 affixed to the edge of the remaining rear panel, as shown by the drawing. As a consequence, the tension of the brassiere, in the wearing position with the main and rear panels encircling the body, may be controlled closely within relatively wide limits and in fine steps or increments, to suit a large number of persons, as well as figure molding or other purposes as may be desired.

In a similar manner, supporting bands, straps, or the like auxiliary parts or detachable portions of any kind may be connected to or mounted upon a main garment or part, as illustrated in connection with the adjustable attachment of the shoulder bands of a brassiere by FIGS. 5 and 6. More particularly, where the straps 7 are connected to the upper central parts of the breast cups 8, as in FIG. 5, the ends of the straps may be fitted with the fabric elements 2 of the fastener, while the fastening hooks 5 (two being sufficient for the purpose at hand)
are mounted in a central insert 4' attached to the panels 6 above the cups 8.

Alternatively, the fabric strips 2 of the fastener may be affixed to the tops of the cups and the hookbands 4 connected to the ends of the strips 7, as shown in FIG. 6. The latter construction has the advantage of enabling the strips to be connected to either the mid point of the strip 2 centrally with the cups 8, or laterally to one of the ends of the strips, to provide a further possibility for the adjustment of the straps.

Finally, it is possible in the case of brassieres being closed in the front rather than in the rear as shown in FIG. 4, to utilize a closure device according to the invention for effecting a close or step-less variation of the spacing distance between the breast cups. Such a control, among other uses, is especially useful or desirable where adjustment is desired of the decolleté, particularly in the case of low decolleté garments or attire.

FIGS. 7–9 are side views of the closure device or fastener according to the invention. Where the fabric strip 2 of the fastener is secured to the edge of part 1 of the garment through a seam or the like connection 3 with said strip extending in a direction outwardly from said part, and where the hookband 4 overlies the strip 2 in the closed position, FIG. 7, contact of the hooks 5 with the body or skin may be avoided, according to an improved feature of the invention, by the provision of a protective strip 9 underlying the strip 2 and extending from the seam 3. On the other hand, where the strip 2 overlies the hookband 4, as in FIG. 8, the same effect is achieved by a protective strip 9 extending from the band 4 and underlying the hooks 5.

Finally, in place of a closure strip 2 extending from the edge of the main apparel part 1, as shown by the preceding illustrations, the strip 2 may be affixed in overlying relation to the edge zone of the part 1 by the provision of a pair of inner and outer seams or the like connections 3 and 3', respectively. Additional seams intermediate the seams 3 and 3' may be provided in this case, to strengthen or reinforce the strip 2 forming part of the closure device.

In the foregoing the invention has been described in reference to a few illustrative devices. It will be evident, however, that variations and modifications, as well as the substitution of equivalent parts or elements to those shown herein for illustration may be made without departing from the broader scope and spirit of the invention. The specifications and drawings are accordingly to be regarded in an illustrative rather than in a restrictive sense.

I claim:

1. A bandage or the like body-enveloping member comprising in combination:

(1) a pair of adjoining companion parts of said member,
(2) a temporary fastener to connect said parts so as to envelop the body by said member including:
(a) a relatively coarse-meshed substantially rectangular fabric strip intervening between the opposed edges of said parts in the closed position,
(b) said strip being composed of sets of elastic warp and weft elements and having one edge thereof parallel to one set of elements affixed through a zigzag seam to the edge of one of said parts,
(c) a flexible supporting strip affixed to the edge of the other of said parts, and
(d) a plurality of fastening hooks mounted upon said supporting strip and adapted to interlock with the meshes of said fabric strip.

2. A bandage or the like body-enveloping member comprising in combination:

(1) first and second adjoining companion parts of said member,
(2) a temporary fastener to connect said parts so as to envelop the body by said member including:
(a) a relatively coarse-meshed substantially rectangular fabric strip overlying the edge zone of said first part,
(b) said strip being composed of sets of elastic warp and weft elements and having one edge thereof parallel to one set of elements affixed to the edge of said first part and having its opposite edge connected to said part,
(c) a flexible supporting strip affixed to the edge of said second part, and
(d) a plurality of fastening hooks mounted upon said supporting strip and adapted to interlock with the meshes of said fabric strip.

References Cited

UNITED STATES PATENTS
1,609,248 11/1926 Harkins 128—579 X
2,351,566 6/1944 Welsh 128—559
2,817,089 12/1957 Oelbaum 128—510 X
2,820,456 1/1958 Peerless 128—171
3,031,730 5/1962 Morin 24—204

FOREIGN PATENTS
932,786 7/1963 Great Britain.

BERNARD A. GELAK, Primary Examiner

U.S. Cl. X.R.
2—265; 24—204; 128—171, 578