A corset or like foundation garment features a removable resilient control unit which is capable of providing abdominal control while simultaneously supporting the breasts. The control unit and the garment are especially useful in connection with buxom figures and individuals with heavy bosoms. The support and control functions of the unit are achieved without sacrifice of comfort.

13 Claims, 6 Drawing Figures
3,840,021

CORSLET OR THE LIKE

BACKGROUND OF THE INVENTION

This invention constitutes an improvement on certain structures disclosed in prior U.S. Pat. No. 3,732,870, issued May 15, 1973, to Henry M. Herbener. The above patent and other prior art patents issued to Henry M. Herbener disclose resilient figure control units for foundation garments having the common purpose of applying controlled pressure to the abdomen while the garment is worn. The control units are constructed to allow freedom of movement including abrupt bending at the waist without discomfort and without loss of body control. U.S. Pat. No. 3,732,870, in particular, discloses an abdominal control unit which includes elliptical or oval loops formed of zigzag wire which are highly resilient and comfortable to the wearer and also very effective in supporting and controlling the abdomen.

There is, however, a problem not heretofore dealt with effectively in the prior art which the present invention solves according to its principal objective. This problem is concerned with the support of heavy bosoms or breasts by the same resilient control unit which affords constant control of the abdomen. The unit embodied in the invention is a combination of the highly efficient oval loop structure employed in the abdominal region and a vertical rib of substantial stiffness which is attached to the top of the oval loop structure and extends upwardly and downwardly from such top. The upper portion of this stiff rib holds the top of the garment elevated between the breasts and thus supports the breasts in conjunction with the adjacent breast-confining or cup portions of the corselet. The stiff vertical rib also acts with the highly resilient oval loops to control the abdomen and means are provided to prevent the lower part of the rib from jabbing into the abdomen as when bending at the waist. The lower portion of the vertical rib which extends into the abdominal region also helps to maintain the proper vertical position of the upper part of the rib and such upper part holds the garment top close to the body while supporting the breasts.

This invention relieves the garment shoulder straps of the heavy strain caused by the weight of the breasts and the action of the main rib in conjunction with the oval loops takes over the support function thereby relieving the shoulders of the wearer of considerable discomfort. The invention is also suitable for incorporation into strapless garments and is effective for supporting the tops of such garments.

The high resiliency of the oval control loops also promotes comfort and freedom of movement including bending at the waist. The oval loops also return the vertical rib to the normal elevated breast-support position when the wearer returns to an erect stance after bending at the waist.

Other features and advantages of the invention will become apparent during the course of the following detailed description.

BRIEF DESCRIPTION OF DRAWING FIGURES

FIG. 1 is an elevational view of a foundation garment embodying the invention, a portion of the garment rear side being removed to show the interior of the front wall.

FIG. 2 is an enlarged central vertical section taken through the garment front wall on line 2—2 of FIG. 1.

FIG. 3 is an enlarged horizontal section taken through the garment front wall and the control unit on line 3—3 of FIG. 1.

FIG. 4 is an elevational view of the control unit separated from the garment.

FIG. 5 is a partly diagrammatic elevational view similar to FIG. 1 showing a modification.

FIG. 6 is another similar view showing a further modification of the invention.

DETAILED DESCRIPTION

Referring to the drawings in detail, the numeral 10 designates a corselet having the invention incorporated therein. As depicted in FIGS. 1 to 3 of the drawings, the forward wall of the garment has a pocket structure 11 attached by marginal stitching 12 to its interior face and this pocket structure 11 includes forward and rear walls 13 and 14, the latter having a vertical slit 15 through which the resilient control unit 16, FIG. 4, forming the main subject matter of the invention is introduced into the pocket structure and removed therefrom. Other forms of pocket openings for the control unit 16 could be provided, and it should be understood that the invention is not limited in its use to any particular form of pocket fabrication.

As shown in FIG. 1, the pocket structure 11 is of generally oval formation and preferably tapers somewhat toward the top of the garment so as to be near but safely spaced from the bust cups 17 in a symmetrical manner.

At the bottom of the pocket structure 11, there is a shallow horizontal pocket extension 19 or recess for the reception and seating of an optional horizontal rib 20 on the lower end of the unit 16, which horizontal rib extends equidistantly on opposite sides of the vertical center line of the garment and unit. The pocket extension 19 will maintain the lower end of the unit 16 properly centered at all times.

At its top end, the pocket structure 11 further comprises an elongated vertical and narrow extension 21 for the reception and guidance of the upper portion 22 of a relatively stiff central vertical rib 23 forming a part of the control unit 16. The top of the pocket extension 21 is closed adjacent to the top edge of the garment between the cups 17 and is reinforced in this region by an internal tape 24, FIG. 2, to provide a double thickness construction where the top end of the rib 23 bears on the right 25 of the pocket extension. In addition to resisting upward movement of the rib so as to hold the top edge of the garment elevated between the breasts, the narrow pocket extension 21 also serves to center the top of the unit 16.

The control unit 16 further comprises two or more approximately elliptical vertically elongated highly resilient zigzag wire loops 26 similar to those disclosed in U.S. Pat. No. 3,732,870. These highly resilient loops permit unrestricted bending of the wearer at the waist with comfort, and yet have the ability to exert firm control on the abdomen when the wearer is in a normal upright position.

At their tops, the loops 26 which are concentric are firmly secured to the vertical rib 23 by a connector plate 27 which may be riveted or otherwise permanently secured to the rib. The tops of the two loops 26...
are tightly clamped between the stiff rib and the plate or connector 27, but the loops are freely disposed on opposite sides of the rib for expansion and contraction laterally within the pocket structure 11 as the wearer of the garment moves and bends at the waist.

Similarly, the bottoms of the oval loops 26 are firmly secured together and secured to the horizontal rib 20 by a connector element 28 in the form of a U-strap, FIG. 2, which may be riveted to the horizontal rib 20, as shown.

The stiff vertical rib 23 has a lower end portion 29 extending to approximately the vertical centers of the concentric loops 26. Thus, the vertical rib 23 extends approximately equidistantly above and below the attached top ends of the two loops at the transverse center of the unit 16. FIG. 4 shows the unit in a relaxed state with the rib 23 flat and unent and the oval loops 26 lying in a common plane with each other and with the ribs 20 and 23.

In order to stabilize the lower end portion 29 of rib 23 and preclude jabbing of such end into the abdomen, at least a pair of relatively thin and relatively short resistance ribs 30 are attached to a flap extension 31 carried by the pocket wall 14 substantially in the manner in which the corresponding ribs 62 are attached to the pad or flap 58, FIGS. 5 through 9, in the aforementioned U.S. Pat. No. 3,732,870. The arrangement of the pocket flap carrying the resistance ribs 30 is approximately as disclosed in the aforementioned Herbert patent and need not be described in further detail herein. Suffice it to say that the two or more thin ribs 30 are held against movement vertically or laterally on the garment and are positioned to slidably engage the lower end of the stiff rib 23 during bending movements and resist penetration of such lower end rearwardly toward the abdomen. The short flexible ribs 30 do not interfere with body movements and constitute a sort-of flexible armor in the critical region where jabbing might otherwise occur. Additionally, the ribs 30 in limiting the inward movement of the lower end of rib 23 toward the abdomen serve to stabilize the entire stiff rib 23 and therefore assist the latter in its combined functions of abdominal control and upholbing the top of the garment to support the breasts. During bending at the waist by the wearer, the lower end portion 29 of rib 23 will move against the ribs 30 and will slide vertically downwardly on the faces of these ribs in a smooth controlled manner and in all positions of the wearer, the stiff rib 23 acting on the closed top end of pocket extension 21 will support the top edge of the garment and consequently the weight of the breasts.

In addition to the described actions of the rib 23, the resilient loops 26 play a constant role in conjunction with the rib in supporting and controlling the abdomen and in upholbing and supporting the breasts, thus relieving the garment shoulder straps 32 from uncomfortable tension. When the wearer of the garment is more or less erect, the loops 26 as depicted in FIG. 1 will expand vertically and have a relatively narrow horizontal configuration. They will be constantly exerting an upward vertical force on the rib 23 to cause the latter to engage and uphold the bight 25 of pocket extension 21 which is, in effect, the top of the garment at the front wall point between the two breast cups 17. During bending at the waist, the loops 26 will expand horizontally in both directions in the oval pocket 11 and this expansion will be limited only by the margin of the pocket which tapers upwardly somewhat as described. When the wearer returns to an upright position, the oval loops 26 tend to force the upper rib portion 22 back toward the chest.

The fabric pocket structure 11 is unstretchable in the vertical direction so that the energy stored in the loops 26 will be fully effective to force the rib 23 upwardly and thus support the breasts. The bottom horizontal rib 20 bears upon the bottom of the pocket structure and resists downward movement of the unit 16. As stated, the rib 20 could be omitted, in which case the bottoms of the loops 26 would bear directly on the bottom of the main pocket chamber and the unit would operate satisfactorily. However, the provision of the rib 20 is preferred.

FIGS. 5 and 6 show schematically modifications of the invention which may be briefly described as follows.

Referring to FIG. 5, two sections 33 of zigzag wire or other resilient materials are attached to the bottoms of breast cups 34 on the garment and connected at the center of the garment to a connector 35 which has its upper end closed and its lower end open for the detachable reception of a rib 36 similar to the described rib 23. The connector 35 is similar to any of the sheet metal connectors 71, 82, 159, etc. in U.S. Pat. No. 3,732,870. It serves to interconnect the wire elements 33 in the manner disclosed in said patent. Additionally, the top of rib 36 is socketed into the connector 35 in a conventional manner. The main rib 36 is attached at 37 to oval loops 38 substantially in the identical manner shown and described in connection with the unit 16. The described horizontal rib 20 at the bottom of the control unit may be provided on the structure shown in FIG. 5. The mode of operation of the modified unit on the corselet is substantially the same as described above for the previous embodiment.

In FIG. 6, a further modified control unit 39 comprises a main vertical rib 40 connected to oval loops 41, in turn attached to the bottom horizontal rib 42. The breast-supporting portion of the unit comprises a single continuous zigzag wire frame 43 which engages removably into the open top of a connector 44 which is secured permanently to the main vertical rib 40. The connector 44 may be a small plate welded or riveted at its lower end to the main rib 40, with its upper end unattached to serve as a clip whereby the center of the wire element 43 may be forced between the main rib and the connector 44.

In both constructions depicted in FIGS. 5 and 6, the principal difference over the original embodiment in FIGS. 1 to 4 is that the supporting force at the top of the garment transmitted by the oval loops through the stiff vertical rib is transmitted to the breasts through the elements 33 or 43 which are connected to the main vertical rib in each case.

It is to be understood that the forms of the invention hereinafter shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or scope of the subjoined claims.

I claim:

1. A control unit for foundation garments comprising at least one vertically elongated oval abdominal control loop which is highly resilient and adapted to exert controlling tension against the abdomen, and a stiff verti-
cally extending rib attached intermediate its ends to the
top only of the control loop and extending substantially
above and below the top of the control loop and dis-
posed at the transverse center of the control loop, the
lower end of said rib terminating within and near the
center of the control loop when the latter is in a relaxed
state, the control loop and rib then lying substantially
in one plane.

2. A control unit according to claim 1, and a rela-
tively short horizontally extending rib attached to the
bottom of said control loop substantially at right angles
to said vertically extending rib, said horizontally ex-
tending rib projecting substantially equidistantly from
a vertical center line through said loop and vertically
extending rib.

3. A control unit according to claim 2, and a pair of
said oval control loops concentrically arranged, and a
connector element attaching the bottoms of said loops
to said horizontally extending rib at approximately the
center of the latter.

4. A control unit according to claim 1, and a pair of
said oval control loops arranged one within the other,
and a connector element serving to secure the tops of
said loops locally to said vertically extending rib inter-
mediate the ends of the rib.

5. A control unit according to claim 1, and a bust-
supporting resilient frame element connected with said
vertically extending rib near the top of the latter, said
frame element extending on opposite sides of the verti-
cally extending rib.

6. A control unit according to claim 5, and a connec-
tor carried by said frame element and being detachably
secured to the upper end of the vertically extending rib.

7. A control unit according to claim 5, and a connec-
tor carried by the vertically extending rib near its top
and adapted for detachable supporting engagement
with said frame element near the longitudinal center of
the latter.

8. In a corset or the like having a front wall portion,
a flexible pocket structure on the interior of said front
wall portion and having an opening for the introduction
and removal of a resilient control unit, and a resilient
control unit adapted for mounting in said pocket struc-
ture, said unit comprising a resilient vertically elon-
gated oval loop assembly adapted to bear against the
bottom of the pocket structure and capable of expand-
ing horizontally inside of the pocket structure, and a
stiff vertical rib attached intermediate its ends to the
top of said oval loop assembly and having its lower end
extending near the center of the oval loop assembly
and its top end extending above the oval loop assembly
and terminating at the top of the pocket structure and adja-
cent to the top edge of the corset between breast cup
portions thereof, the top of the pocket structure being
closed to resist the upward thrust of said rib in response
to tension forces exerted by the oval loop assembly.

9. The structure of claim 8, and said oval loop assem-
bly comprising a plurality of concentrically arranged
oval loops each having their tops secured fixedly to said
rib.

10. The structure of claim 9, and a relatively short
horizontal rib attached to the bottoms of said loops,
said pocket structure having a bottom recess to receive,
support and center said horizontal rib, the pocket
structure also having a narrow vertical pocket exten-
sion at its top receiving and centering the upper end
portion of said rib above said loops.

11. The structure of claim 8, and said pocket struc-
ture having a main oval portion which tapers toward
the top of the corset, said oval loop portion adapted
to expand horizontally within said main oval portion of
the pocket structure.

12. The structure of claim 12, and said armor means
comprising a pair of relatively thin resilient ribs carried
by the interior of said pocket structure.

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