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DE FR IT(71) Applicant: **COURTAULDS TEXTILES
(HOLDINGS) LIMITED**
P.O. Box 22, Manchester Road
Walkden,
Worsley,
Manchester M28 5WR (GB)(72) Inventor: **Green, Linda**
c/o Berlei,
Billington Road
Leighton Buzzard,
Bedfordshire LU7 8TH (GB)(74) Representative: **Dealtry, Brian et al**
Eric Potter & Clarkson
St. Mary's Court
St. Mary's Gate
Nottingham NG1 1LE (GB)(54) **Brassiere.**

(57) A brassiere (10) comprising a body portion (11) for encircling the body of a wearer, the body portion (11) including a pair of breasts cups (12) and associated with each breast cup (12) a reinforcing wire

(14) extending along the periphery of the cup (12) from an upper edge (22) of the body defining an arm opening (16) to terminate at the lower region (23) of the cup (12).

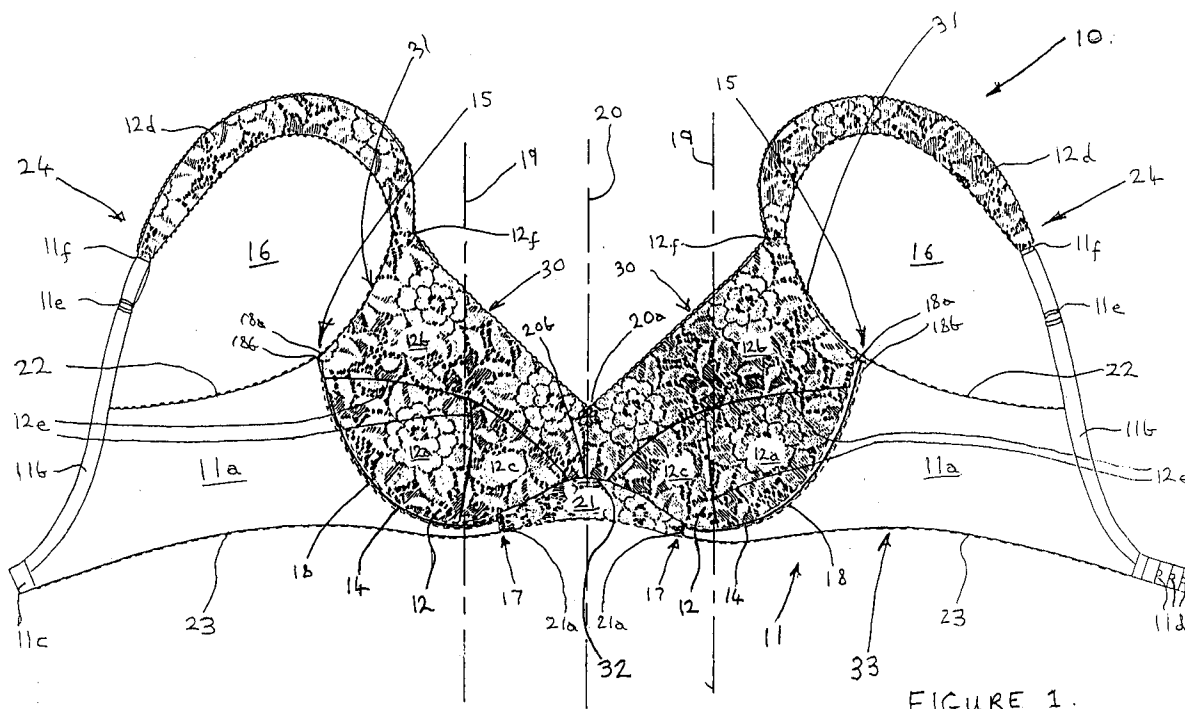


FIGURE 1.

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The present invention relates to a brassiere.

In providing adequate support for breasts it is known to provide reinforcement wires in brassieres which extend around the lower part of the cups and meet in the central region of the brassiere. However, a common problem with such brassieres particularly those intended for large busted people or those having a relatively short torso, is that the portion of the wires located in the central region of the brassiere are forced away from the body of the wearer when for example sitting and so can cause discomfort and be unsightly.

'Soft' brassieres are known which do not have such reinforcement wires and so do not suffer from the above problem. However some 'soft' brassieres, particularly those for ladies having a large girth it is necessary to provide reinforcement bones down the sides of the brassiere to help prevent the brassiere rolling on itself. However, the ends of such bones can dig into the flesh of the wearer and so can be uncomfortable to wear.

It is a general aim of the present invention to provide a brassiere which can overcome or substantially reduce the problems referred to above associated with known brassieres.

According to one aspect of the present invention there is provided a brassiere comprising a body portion for encircling the body of a wearer, the body portion including a pair of breast cups and associated with each breast cup a reinforcing wire extending along the periphery of the cup from adjacent an upper edge of the body defining an arm opening to terminate at the lower region of the cup.

Various aspects of the present invention will now be described in detail, by way of example, with reference to accompanying drawings, in which:-

Figure 1 is a front view of a brassiere according to the present invention; and

Figure 2 is an underside view of Figure 1.

Referring to Figures 1 and 2 there is shown a brassiere 10 comprising a body portion 11 for encircling the body of the wearer.

The body portion 11 of the brassiere 10 includes a pair of suitably shaped breast cups 12 and associated with each breast cup 12 is a reinforcing wire 14. Located either side of the brassiere 10 is a side panel 11a having a side edge 11b and upper and lower edges 22, 23 respectively. Attached to the side edge 11b of the side panel 11a and an upper portion 12f of each breast cup 12 is a shoulder strap 24 forming a loop that together with the upper edge 22 of the body portion 11 defines an arm opening 16.

The breast cups 12 are preferably of a conventional construction made from a single layer of lace material being relatively elastic although any con-

ventional construction or material suitable for making the cups 12 will suffice. The breast cups 12 are bounded by a peripheral edge formed by upper central edges 30, upper edges 31, lower edges 18 and lower central edge 32 which together define a full breast cup. The upper central edges 30 taper inwardly down from the upper portions 12f converging towards a central seam 20a, 20b located about a central line 20 of the brassiere 10. The upper central edges 30 of the cups 12 preferably form a "V" shape of the brassiere 10 although the upper central edges 30 may form any particular shape. Preferably each cup 12 comprises three panels 12a, 12b and 12c joined along seams 12e in order to shape the cup 12 for accommodating the breasts. Any number of panels may be used appropriate to forming the breast cups 12. The shape of the cups 12 determine a particular size of cup 12 and hence the size of the brassiere 10. Accordingly, during manufacture of the brassiere 10 the shape and size of the three panels 12a, 12b and 12c may be chosen in order to conform to and accommodate a particular size of breast of the wearer. A range in sizes of the cups 12 are preferably in the order of size B up to size G. The two cups 12 of the brassiere 10 are stitch seamed together about the centre line 20 between an upper and lower point 20a, 20b.

The lace fabric from which the cups 12 are formed is preferably a knitted fabric knitted from a combination of non-elastomeric and elastomeric yarns. The non-elastomeric yarns may be cotton, polyamide, or polyester. The elastomeric yarn is preferably an elastane yarn such as Lycra (RTM). The yarns forming the lace of cups 12 are selectively combined such that the cups 12 are relatively elastic vertically along central cup line 19 but relatively inelastic horizontally along a line perpendicular to line 19.

It will be appreciated, however, that the fabric for the cups 12 may be formed from non-elastomeric yarns only so as to be relatively inelastic.

Each reinforcing wire 14 is preferably continuously curved along its length and advantageously passes downwardly from the upper edge 31 to a centre line 19 of the associated cup 12 and then curves upwardly from the centre line 19 toward the central region 20 of the body portion 11. The reinforcing wires 14 are preferably made of conventional material such as flat formed spring steel although other suitable material having similar properties would suffice. Each wire 14 conforms curvilinearly to, and extends along, a lower peripheral edge 18 of each cup 12 from the upper edge 31 of the body portion 11 defining the arm opening 16 to terminate at a lower region 17 of each cup 12. The lower peripheral edge 18 is defined by a

boundary at which each breast cup 12 attaches to its respective side panel 11a. The lower peripheral edge 18 is formed by two superimposed layers of fabric having two parallel stitch seams 18a, 18b located one either side the wires 14 and thereby joins a side panel 11a to an associated breast cup 12. The wire 14 in this respect is sandwiched between the two superimposed layers of fabric one layer being formed by the side panel 11a and the other being formed by a strip of relatively inelastic fabric 18c located on an underside of the brassiere 10. The layers of fabric together form a tube (shown by the alphanumeric reference 18c) for receiving the wires 14 bounded by the parallel seamed edges 18a, 18b and a pair of end seams 15 and 21a. The end seams 15 hold the wires 14 within the tube 18c whilst the seams 21a serve to segregate the wires 14 and hold them in association with their respective cup 12. Each of the two seams 21a are formed about a medial point of the brassiere 10 between the central line of the brassiere 10 and the respective central cup line 19. The seams 15 and 21a together serve to prevent excessive movement of the wires 14 from longitudinally sliding within each tube 18c. The end seam 15 may be inboard of the peripheral edge 31 or formed with edge 31 and the ends of each wire 14 housed within the tube 18c may be provided with a clearance fit from each seam 15 and 21a to allow for possible shrinkage of the fabric forming the brassiere 10. The reinforcing wires 14 are segregated by the seams 21a from one another about the medial region of the brassiere 10 such that they offer comfort by being spaced apart about this region. In this respect as the wearer moves around, particularly whilst moving into a seated position, the wires 14 move independently and do not project excessively forwardly at the medial region of the brassiere 10. Accordingly the length of each wire 14 is chosen to be long enough to extend from adjacent end seam 15 to at least centre line 19 and preferably extends beyond line 19 by a short distance to remain within the lower region of the cup (ie. it does not extend upwardly to join the upper edge 30 of the cup) and thereby enables the independence of movement referred to above to be achieved.

Since each wire 14 extends along the lower portion of the cup at the centre line 19 it helps to support each breast. In addition, since each reinforcing wire 14 passes downwardly from the upper edge 31 to a centre line 19 of the associated cup 12 it helps prevent the associated side panel 11a from rolling upon itself.

Located between an inner edge 21a of each side panel 11a is a lower central support panel 21 being curvilinear in shape and having an upper edge joined by a seam to the lower central edge

32. The upper portion of the lower central support panel 21 has a peak whose central point meets the lower position of the central seam 20b. The fabric of the lower central support panel 21 is made from a relatively non-stretchable material rendering it firm and preventing separation but offering a degree of relative movement of the brassiere about this region.

Each side panel 11a is made of a single layer of fabric formed from an elastomeric yarn such as Lycra (RTM). Each side panel 11a is bound by peripheral edges formed by the lower edges 18 of the cups 12, upper and lower edges 22, 23 of side panel 11a and the side edges 11b formed by the straps 24 being stitched to the edges 11b. The fabric of each side panel 11a is made such that the fabric will stretch more in one direction than the other. Accordingly, each panel is arranged so as to stretch more horizontally than vertically to provide easier adjustment when fitting the brassiere 10 around the body of the wearer. Located about the peripheral outer ends of the side panels 11a is a fastener preferably comprising a hook 11c and a plurality of eyes 11d although any suitable fastener will suffice. As the brassiere 10 is placed around the body of the wearer each side panel 11a and a lower elasticated edge 23 of the side panel 11a is flexed to allow the fastener to be adjusted and engaged. The length of the side panels 11a in conjunction with the adjustment of the fastener determines the girth size of the brassiere 10. The chest sizes preferably range in the order of about 30 to 48 inches (0.7m to 1.3m).

The shoulder straps 24 of the garment shown in the drawings comprise two portions of elongate fabric 11b, 12d. A first lower portion 11b includes a relatively narrow elasticated strap being attached at one end to the edge 11b of the side panel 11a and at the opposite end through the loop of a clasp 11f. The end of the strap 11b passes through the clasp 11f and terminates about a sliding buckle 11e offering adjustment to the strap 24. Attached to the other end of the clasp 11f is a second relatively broad inelastic upper portion 12d whose opposite end terminates about a seam situated at the upper portion 12f of breast cup 12. The second portion 12d of the shoulder strap 24 is formed of two superimposed layers of fabric having an inelastic property offering support and having sufficient breadth to thereby offer comfort such that the straps equally distribute the load and do not dig into or chafe the skin of the wearer.

It will be appreciated that different conventional constructions of straps 24 may be adopted as desired.

The peripheral edges of the brassiere are preferably bounded by an elasticated edging 35 attached to the peripheral edges of the brassiere 10

by zig-zag stitching 35a to accommodate longitudinal flexing of the elasticated edging 35.

Claims

1. A brassiere comprising a body portion for encircling the body of a wearer, the body portion including a pair of breast cups and associated with each breast cup a reinforcing wire extending along the periphery of the cup from an upper edge of the body defining an arm opening to terminate at the lower region of the cup. 5 10
2. A brassiere according to claim 1 wherein each wire is continuously curved along its length. 15
3. A brassiere according to claim 1 or 2 wherein each wire passes downwardly from said upper edge to a centre line of the associated cup and then curves upwardly from said centre line toward the central region of the body portion. 20
4. A brassiere according to any of claims 1 to 3 wherein the sizes of said cups are in the range of size B up to size G. 25
5. A brassiere substantially as herein described with reference to and as illustrated in the accompanying drawings. 30

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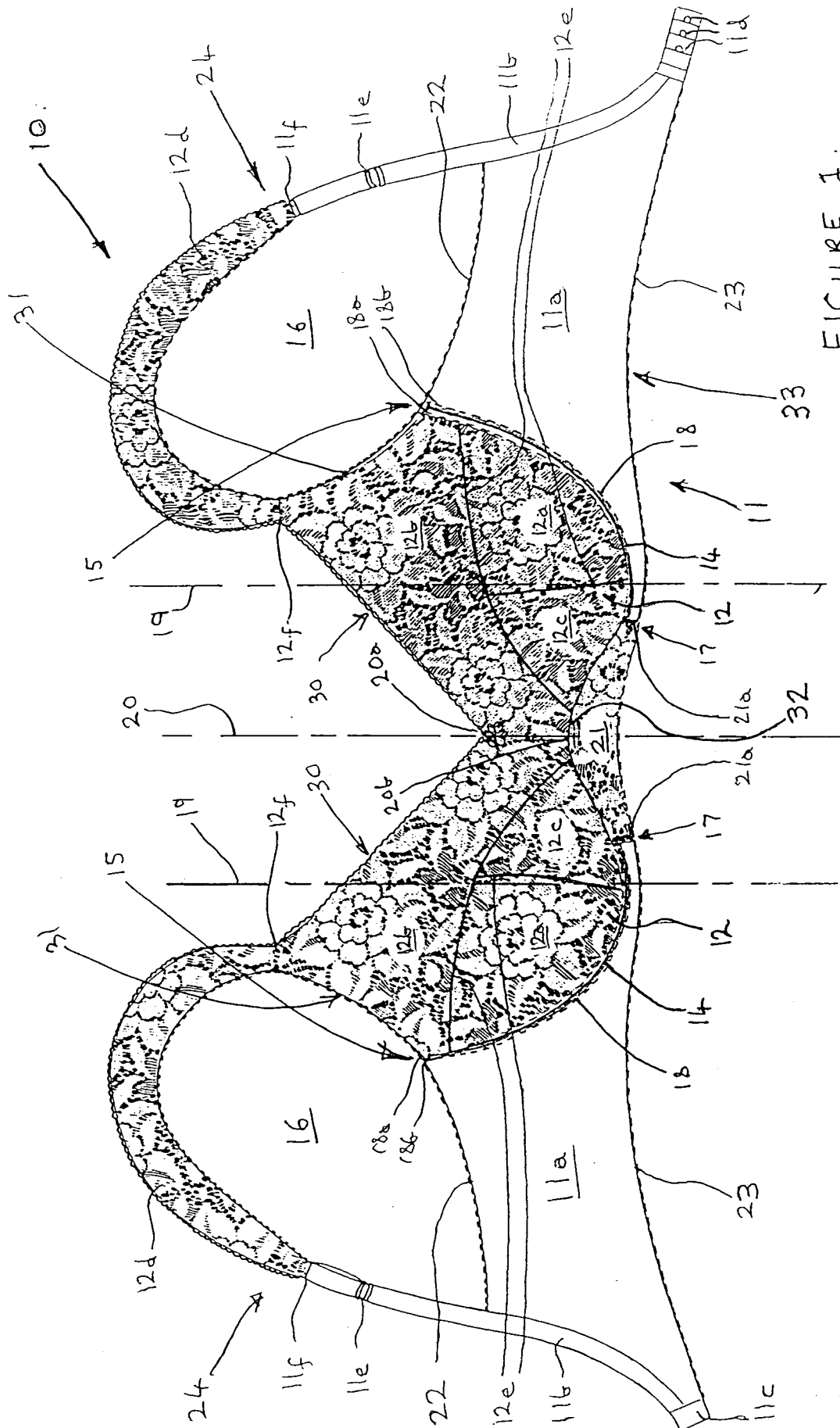


FIGURE 1.

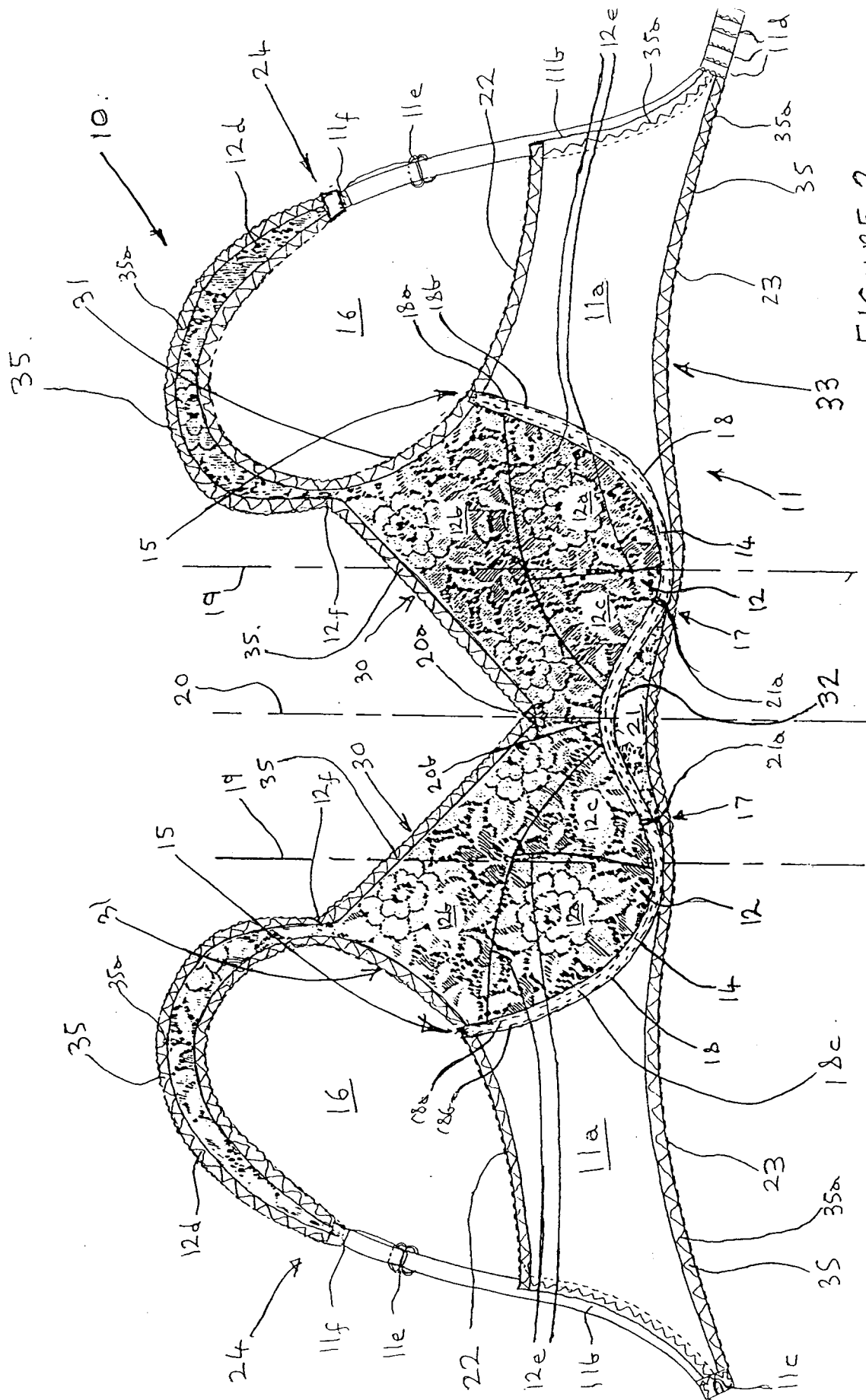


FIGURE 2.



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EUROPEAN SEARCH REPORT

Application Number
EP 94 30 6154

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP-A-0 210 496 (INTERNATIONAL PLAYTEX INC) * figures 1,2 *	1-5	A41C3/00

X	DE-U-86 06 135 (NATURANA DÖLKER GMBH) * the whole document *	1-5	

X	DE-U-89 11 251 (JULIUS BOOS JR. GMBH AND CO. KG.) * figures 1,2 *	1-5	

X	US-A-3 726 286 (F. C. WOLFSON) * figure 2 *	1-5	

			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A41C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24 January 1995	Examiner Fairbanks, S
CATEGORY OF CITED DOCUMENTS			
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