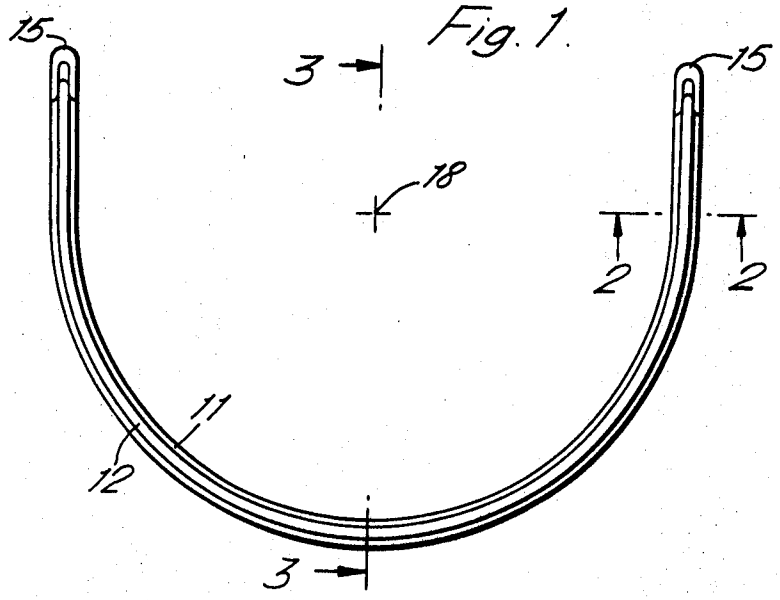
Feb. 9, 1971 R. J. AVIS 3,562,802

WIRE FRAMES FOR BRASSIERES AND THE LIKE

Filed Oct. 7, 1968

Fig. 1.



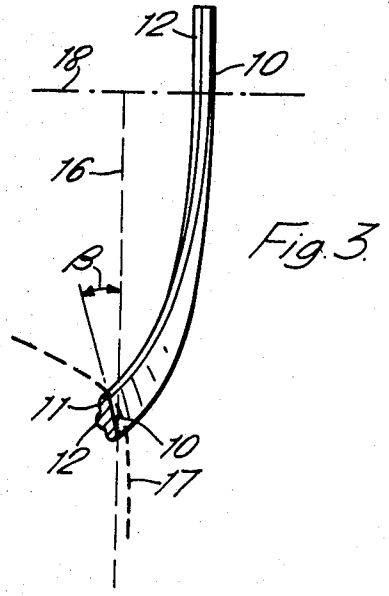


Fig. 3.

Fig. 2.

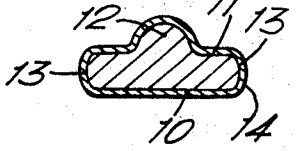
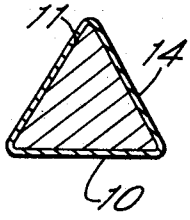


Fig. 5.



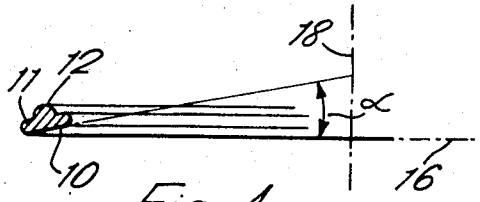


Fig. 4.

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WIRE FRAMES FOR BRASSIERES AND THE LIKE

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U.S. Cl. 128—476 6 Claims

ABSTRACT OF THE DISCLOSURE

The invention relates to a reinforcement frame adapted for use in cups of ladies' brassieres, the frame comprising a single length of resilient wire shaped into substantially U-shaped formation for conforming to the curvature of the lower periphery of the root of a wearer's breast, the wire having a plane surface on one side for presentation towards the body of the wearer and a surface opposed to said one said having a surface portion which projects in a direction away from the plane surface.

This invention relates to improvements in reinforcement frames for the cups of brassieres, bathing suits and the like garments, and in particular to so-called under-cup reinforcement frames. Such frames are used, as is well known, mainly in brassieres to impart rigidity to the garment at the part which, when in use, lies against the chest of the wearer at the root of a breast. Such frames are of generally semi-circular form to conform with the periphery at the root of a breast, and are stitched into the garment.

Such frames should be of narrow width and yet present as large a surface area as possible to the body of the wearer.

An object of the present invention is to provide a reinforcement frame for the cups of a brassiere, bathing suit or the like garments which fulfills the above mentioned requirement.

According to the present invention there is provided a reinforcement frame for a brassiere or the like comprising a strip member of generally semi-circular shape to conform with the curvature of the lower periphery of the root of a wearer's breast, said strip member having a plane surface having a portion which projects away from the plane surface.

Preferably the other surface has a centrally disposed integral rib-like projecting part. The other surface may be tapered to form a strip member of triangular cross-section.

The strip member is preferably formed of steel and produced by a drawing on rolling process. Such a strip is also preferably provided with a coating of plastics material.

Objects and advantages of the present invention will become aparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and annexed drawing setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of only some of the various ways in which the principle of the invention may be employed.

In said annexed drawings:

FIG. 1 is a front view of a first embodiment of a reinforcement frame,

FIG. 2 is an enlarged cross-section of the frame taken along the line 2—2 indicated on FIG. 1,

FIG. 3 is a section taken along the line 3—3 indicated on FIG. 1 when in the flexed condition which it occupies when sewn into the cup of a brassiere,

FIG. 4 is a section showing the inclination of the strip before it is flexed, and

FIG. 5 is a cross-section of a second embodiment.

FIGS. 1 and 2 show a wire strip shaped into U-shaped formation which has a plane surface **10** and a surface **11** which is provided with an integral centrally disposed rib **12**. The surfaces **10** and **11** are joined by rounded side edges **13**.

Preferably the strip is formed of steel and is coated with a suitable plastics material **14**, such as PVC or nylon. The end parts of the strip may be protected with a smooth metal cap **15** or a coating of plastics material.

Preferably, as shown in FIG. 4, the surface **10** is inclined at an angle α relative to a plane at right angles to the axis **18** of curvature of the strip. The angle α is in the order of 10°.

In use the frame is assembled into the part of the cup of a brassiere or bathing suit which lies next to the chest of the wearer at the root of a breast. In stitching the frame into the cup of the garment, the ends of the frame are moved together, thus flexing the frame and producing a canting of the frame as shown in FIG. 3. The broken line **16** indicated in FIG. 3 represents the plane at right angles to the axis **18** of the frame. It can be seen that the surface **10** of the frame is inclined to the line **16** at an angle β so that it may more properly conform to the contour at the root of a breast, such contour being diagrammatically shown by the broken line **17**. The angle β is greater than the angle α and in the order of 15°. It can thus be seen that a large area of the frame is presented at the periphery of the breast at an angle which ensures that an edge will not dig into the flesh.

A particular advantage of the frame according to the invention is that a good strength to size results. Further, it will be appreciated that the frame must only be inserted in the cup of a brassiere one way, and the rib **12** provides rapid and easy identification, by touch, of the outside.

The frame is advantageously made of steel, although a suitable plastics may be used, and may be formed by drawing or by rolling.

FIG. 5 shows an embodiment in which the surface **11** is tapered to form a frame member having a triangular cross-section. It has been found that by providing one thickened surface, of any suitable form, then the frame member will only "cant" in one direction when the ends of the frame are moved together.

Other modes of applying the principles of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following or the equivalent of such be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A reinforcement frame adapted for use in cups of brassieres comprising a single length of resilient wire shaped into substantially U-shaped formation for conforming to the curvature of the lower periphery of the root of a wearer's breast, said wire having a plane surface on one side for presentation towards the body of the wearer and a surface opposed to said one side having a centrally disposed integral rib-like projection which extends away from the plane surface, said plane surface being inclined to a plane disposed at right angles to the axis of curvature of the lower arcuate centre portion of the U-shaped formation.

2. A reinforcement frame as claimed in claim **1** in which the wire is formed from steel and provided with a coating of plastics material.

3. A reinforcement frame as claimed in claim **1** in which the ends of the frame are each provided with a protection cap pressed thereon.

4. A reinforcement frame as claimed in claim 1 in which the ends of the frame are each provided with a protection cap formed by dipping the ends into a molten plastics material and allowing the plastics material to set.

5. A reinforcement frame as claimed in claim 1 in which when the frame is in an unflexed condition said plane surface is inclined at an angle in the order of 10 degrees, and when it is in a flexed condition in the brassiere is inclined at an angle in the order of 15 degrees.

6. A reinforcement frame as claimed in claim 1 wherein said rib-like projection has a tapering form.

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U.S. Cl. X.R.

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