United States Patent [19]

Rowell

[11] **3,799,175**

[45] **Mar. 26, 1974**

[54] **GARMENT FRAME**

[76] Inventor: **Ross F. Rowell,** 5361 Belmare Ave., Montreal, Quebec, Canada

[22] Filed: **May 9, 1973**

[21] Appl. No.: **358,626**

[52] **U.S. Cl.** **128/476,** 2/257

[51] **Int. Cl.** **A41c 3/00**

[58] **Field of Search** 2/256, 257, 258, 259; 128/465, 476

[56] **References Cited**

UNITED STATES PATENTS

2,830,300	4/1958	Schwartz	2/257
2,938,215	5/1960	Schwartz	2/257
3,129,435	4/1964	Spence	2/257
3,599,643	8/1971	Schwartz	128/465
3,702,614	11/1972	Miller	128/476

FOREIGN PATENTS OR APPLICATIONS

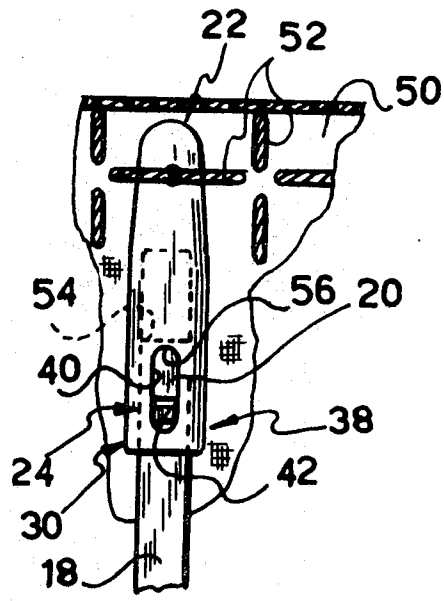
374,555	5/1923	Germany	2/257

Primary Examiner—Alfred R. Guest

[57] **ABSTRACT**

The disclosure herein describes a frame for stiffening and/or shaping ladies' garments, such as brassieres, corsets, and similar articles, which comprises an elongate flexible member, the ends of which are capped with terminals having a first section readily pierceable by a sewing needle and a second section displaying an elongated slot on one side wall thereof. Adjacent each end of the frame member, a small projection extends on one face thereof and is received in the slot thereby securing the terminal on the frame member while allowing relative movement therebetween whereby a certain play by the terminal on the member, due to garment shrinkage, is obtained.

8 Claims, 8 Drawing Figures



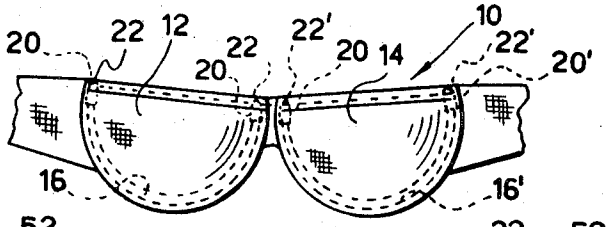


FIG.1

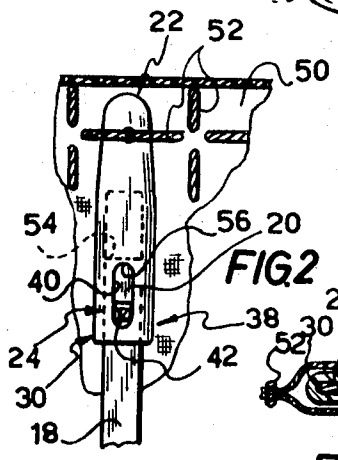


FIG.2

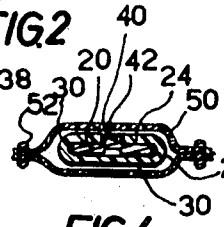


FIG.4

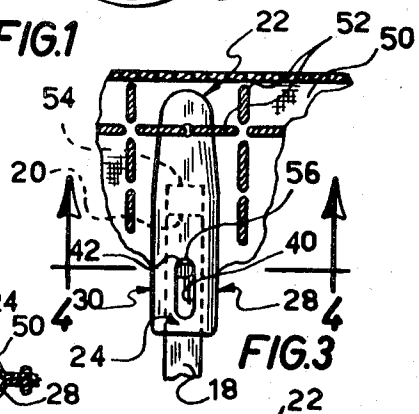


FIG.3

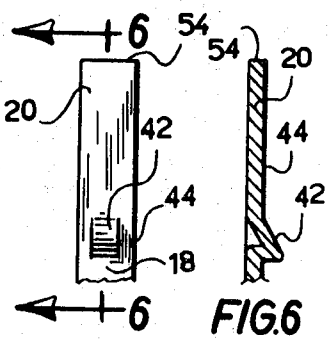


FIG.5

FIG.6

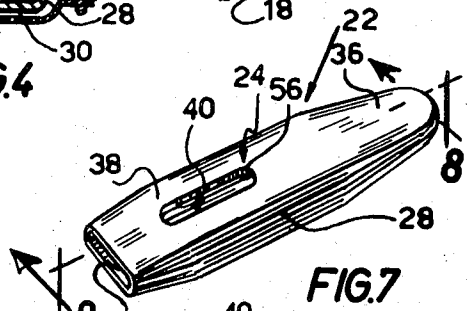


FIG.7

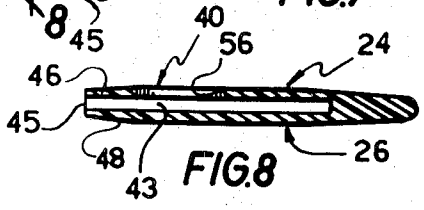


FIG.8

GARMENT FRAME

This invention relates to a frame for stiffening and/or shaping ladies' garments such as brassieres, corsets and similar articles; more particularly, the present invention pertains to an improved terminal for capping the ends of the frame.

As is well known, such frames are used as stiffeners in corsets and girdles, for example, or as supports in brassieres. They usually consist of a relatively elongate flexible member formed of wire, flat steel or the like, and have their ends capped with terminals made of soft material through which a sewing needle can pass without breakage.

A major problem with respect to these types of frames is that, after a few washings, some garments shrink causing the capped ends of the frame to protrude the garment material causing discomfort to the wearer and resulting in early riddance of the garment. One obvious way of overcoming this problem is to shorten the length of the frame member so that, after shrinkage, the ends of the frame are still within the stitchings of the garment. However, it has been found that such construction only results in having the ends of the frame protruding laterally outside the lines of stitchings.

Broadly, it is an object of the present invention to provide frames having their ends capped with terminals which may be pierced rapidly by a sewing needle and which are adpated to follow the shrinkage of the garment material. This is achieved by producing a terminal which is capable of moving relative to the end of the frame member on which it is mounted; therefor, an elongated slot is provided on one side wall of the terminal to slidably receive therein a small projection extending on one face of the frame member.

The present invention therefore relates to a frame for use in ladies' garments which comprises, in its broadest aspect, an elongated flexible member having opposite ends, at least one end of which displays on one face thereof a small projection, and a terminal embracing the said one end of the flexible member; the terminal is formed of opposite resilient side walls that include a first section readily pierceable by a sewing needle and a second section displaying an elongated slot on one side wall thereof slidably receiving the projection therein; the terminal is also formed of a pocket extending within the second section and having an opening of a width sufficient to receive therein the end of the flexible member but smaller than the cross-section of the flexible member in the area of the projection whereby the projection is received in the slot by forcing the projection between the resilient sidewalls of the terminals unitl it reaches the slot where it is confined to provide relative movement between the terminal and the flexible member.

Having thus generally described the nature of the invention, particular reference will now be made to the accompanying drawing wherein there is shown by way of illustration, a typical frame for use in a strapless brassiere, and in which:

FIG. 1 is a front elevational view of such brassiere in which is embodied a frame made in accordance with the present invention;

FIG. 2 is an enlarged front elevational view showing the anchoring of the terminal to the garment material and showing one relative position of the terminal on the flexible member;

FIG. 3 is a front elevational view similar to that shown in FIG. 2 illustrating another positional relationship between the terminal and the frame member;

FIG. 4 is a cross-sectional view taken along lines 4—4 of FIG. 3;

FIG. 5 is a front view of one end of the frame member;

FIG. 6 is a cross-sectional view taken along lines 6—6 of FIG. 5;

FIG. 7 is an enlarged top perspective view of the terminal made in accordance with the present invention; and

FIG. 8 is a cross-sectional view taken along lines 8—8 of FIG. 7.

With reference to FIG. 1, there is shown by way of example a strapless brassiere 10 including two breast pockets 12 and 14 in which are embedded for support frames 16 formed in a desired U-shaped outline. It will be appreciated that frames 16 could also be incorporated with different outlines into other garment structures such as those of corsets, girdles and the like, for stiffening and/or shaping purposes.

Each frame 16 comprises an elongate flexible member 18, preferably flat and metallic, having opposite ends 20. While the general cross-section of the flexible member 18 shown is flat, it is also contemplated that other cross-sectional forms could be used, for example, oval or round. It will also be appreciated that the flexible member could also be made of plastic or of other material provided that the materials selected have the requisite characteristics, known to the man skilled in the art, of flexibility and resiliency in the transverse direction and of support in the other direction.

Each frame 16 also includes a pair of terminals 22 embracingly mounted at each end 20 of frame member 18. The materials used for terminal 22 is preferably formed of a soft, resilient plastic, such as polyethylene or like material, which can be easily pierced by a sewing needle without breaking. One example of the type of terminal material to be used with the present invention may be found described in U. S. Pat. No. 2,938,215, issued May 31, 1970 to M. Schwartz. It is expected that the requisite characteristics of stiffness, strength, heat resistance and flexibility will be known to the person versed in this art when making terminals 22.

Referring more particularly to FIGS. 2,3,7 and 8, terminal 22 includes side walls 24 and 26 and edge walls 28 and 30. For ease of description, the terminal will be described as having two sections 36 and 38: section 36 is the top portion which is readily pierceable by a sewing needle while section 38 is the lower section which displays on side wall 24 an elongate slot 40 extending in the longitudinal direction of the terminal. The width of slot 40 is somewhat greater than that of a boss or projection 42 extending on face 44 of frame member 18. Section 38 of terminal 22 includes therewithin a pocket 43 having an opening 45 at one end thereof. Side walls 24 and 26 adjacent this opening 45 are made resilient enough to move outwardly when end 20 with projection 42 is inserted therebetween to anchor the terminal on the frame member. Preferably, as shown in FIG. 7, end walls 46 and 48 of sides 24 and 26 are tapered to enable easy insertion of the projection 42 therebetween.

Referring to FIGS. 2 and 3, there are shown the two extreme positions of the terminal 22 relative to frame member 18. When the frame 16 is assembled to the garment material 50, projection 42 is located in slot 40 as shown in FIG. 2; there, the stitching process is carried out resulting in section 38 being anchored to the garment material while frame 16 is confined between the lines of stitching 52. The distance between the projection 42 and the edge 54 of end 20 is preferably slightly greater than the length of slot 40 so that edge 54 extends beyond end 56 of slot 40, as illustrated in FIG. 2. This particular construction ensures sufficient embracing by terminal 22 on end 20 and avoids easy removal of the terminal by simple transverse flexing.

FIG. 3 illustrates the relative position of the projection 42 to the slot 40 after the garment material have shrunk as a result of washing, for example. It can easily been seen that the provision of a slot on terminals provides relative movement between the frame and the garment material thereby overcoming the disadvantages mentioned above.

Although the invention has been described above in relation to one specific form of the invention, it will be evident to the man skilled in the art that it may be refined in various ways. For example, a frame member could be used with only one terminal mounted at one end thereof. It is therefore wished to have it understood that this invention is not limited in interpretation except by the terms of the following claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A frame for use in ladies' garments such a brassieres, corsets, girdles and similar articles, comprising, in combination: an elongate flexible member having opposite ends, at least one of said ends displaying on one face thereof a small projection; and a terminal embracing by mounted on said one end of said flexible member, said terminal being formed of resilient side walls and including a first section readily pierceable by a sewing needle and a second section displaying an elongated slot on one side wall thereof slidably receiving said projection therein; said second section including a pocket having at one end thereof an opening of a width sufficient to receive therethrough the end of said member but smaller than the cross-section of said flexible member in the area of said projection whereby the projection is insertable in said slot by forcing said projection between said resilient side walls of the terminal until said projection reaches said slot where said projection is confined to provide relative movement between said terminal and said member.

2. A frame for use in ladies' garments, such as brassieres, corsets, girdles and the similar articles comprising, in combination: an elongate flat flexible member, having opposite ends, each of said ends displaying on one face thereof a small projection; and a terminal embracingly mounted on each said end of said flexible member, each said terminal being formed of resilient side walls and including a first section readily pierceable by a sewing needle and a second section displaying an elongated slot on one side wall thereof slidably receiving said projection therein; said second section including a pocket having at one end thereof an opening of a width sufficient to slidably receive therethrough the end of said member but smaller than the cross-section of said member in the area of said projection whereby the projection is insertable in the slot of the terminal by forcing said projection between the resilient side walls of the terminal until the projection reaches the slot where the projection is confined to thereby providing relative movement between the terminal and the member.

3. A frame as defined in claim 1 wherein the material of said terminal is a soft flexible plastic and wherein the side walls thereof adjacent the opening of the pocket are tapered to the open end for easy insertion of the projection therebetween.

4. A frame as defined in claim 1 wherein said member is metallic and rectangular in cross-section.

5. A frame as defined in claim 1 wherein the distance from the projection to the extremity of said member is substantially greater than the length of said elongated slot.

6. A frame as defined in claim 2 wherein the material of said terminal is a soft flexible plastic and wherein the side walls thereof adjacent the opening of the pocket are tapered to the open end for easy insertion of the projection therebetween.

7. A frame as defined in claim 2 wherein said member is metallic and rectangular in cross-section.

8. A frame as defined in claim 2 wherein the distance from the projection to the extremity of said member is substantially greater than the length of said elongated slot.

* * * * *