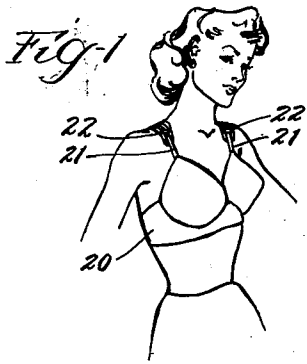
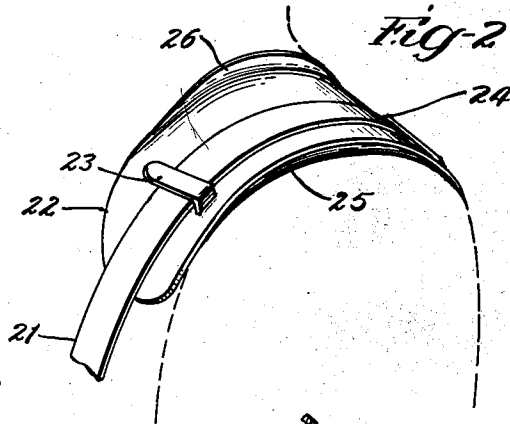
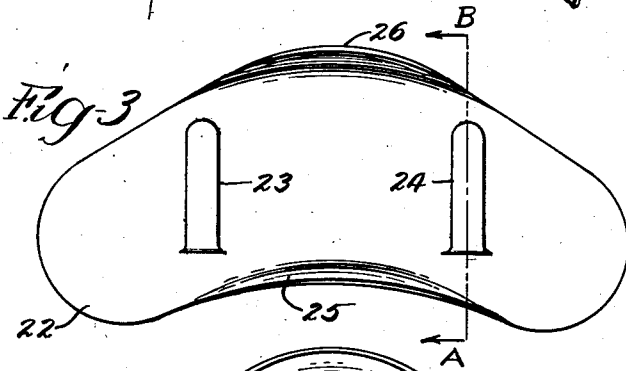
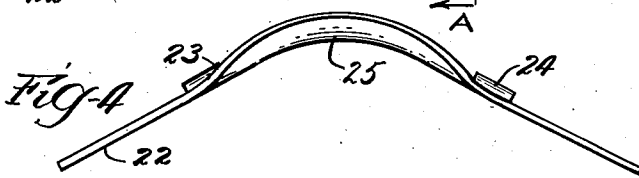
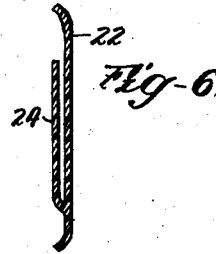
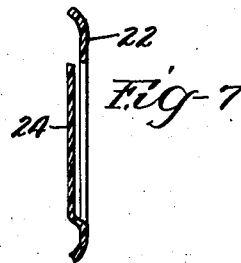
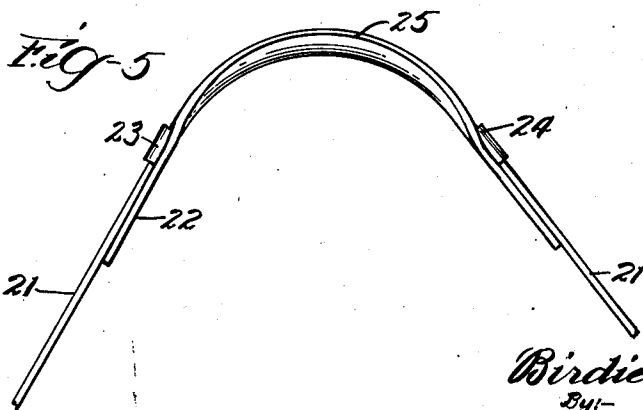
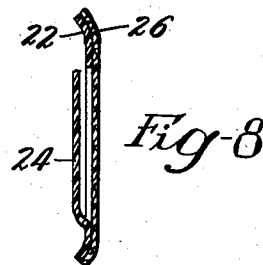


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B. C. SANDERS
SHOULDER STRAP SHIELD

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Inventor
Birdie C. Sanders
By-

Charles K. Woodin
agent.

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SHOULDER STRAP SHIELD

Birdie C. Sanders, Kalamazoo, Mich.

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5 Claims. (Cl. 2—2)

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This invention relates to a shoulder strap shield for protecting the shoulder from creasing or cutting under a supporting strap such as is used for ladies' brassières. Although the invention has broader application, it will be described as applied to brassière straps.

Such straps worn as supports for brassières have been notoriously uncomfortable due to their creasing and cutting tendencies on the shoulders of the wearer. This tendency is increased in proportion to the supporting tension of the straps. Obviously, heavy busted women have more difficulty than light busted women and the greater the uplift on the bosoms the greater difficulty in cutting. However, under almost all conditions the shoulder straps on brassières perform a very necessary and desirable function because the proper and stylish fitting of brassières requires them to be held up securely and effectively to resist all sagging tendencies. This means supporting tension on all shoulder straps.

Many devices have been made heretofore to render shoulder straps of this kind more comfortable. However, such devices have failed to attain popularity and commercial success for a variety of reasons.

The particular object of the present invention is to provide a shoulder strap shield that effectively supports the strap under tension and prevents uncomfortable cutting of the shoulders by distributing the pressure of the strap on a relatively flat form fitted shield over the surface of the shoulder.

Another object is to provide a light, flat, inconspicuous resilient shoulder shield that automatically is formed to the shoulder by the tension of the strap but resumes a slight off-the-shoulder position as the tension is removed in order to provide ventilation under the shield.

Another object is to provide a sanitary and comfortable shield of good appearance that may be adapted to conform to the various dresses of the wearer—even to bathing suits and the like.

Other objects and benefits will be disclosed in the following descriptions and drawings in which:

Fig. 1 is a perspective view of my shield in position over the shoulder of the wearer showing the curved form as it would appear under normal tension of the shoulder straps to create a structural stiffness of the shield to resist transverse bending and creasing as will later be explained;

Fig. 2 is an enlarged perspective view of the shield as applied on the left shoulder as shown in Fig. 1;

Fig. 3 is an enlarged plan view of my shield before it is applied under the shoulder strap;

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Fig. 4 is a side elevation view of the shield shown in Fig. 3;

Fig. 5 is a side elevation view of my shield as it would appear under the tension of the shoulder strap and as shown in Fig. 2;

Fig. 6 is a cross sectional view of a unitary form of my shield shown in Fig. 3 as it would appear on the section lines A—B and which will later be explained;

Fig. 7 is a similar cross sectional view of an optional form of my shield having pull out holes under the retainer fingers as will later be explained; and

Fig. 8 is an additional optional cross sectional view of the shield shown in Fig. 7 except that a gum fabric has been applied to the contact face of the shield as will later be explained.

Now referring to the drawings and at the outset to Figs. 1 and 2, I designate a conventional fabric brassière structure by the numeral 20 and the supporting straps will be tensioned to support a weight on the shoulders as indicated. Under the straps 21 are inserted my strap shields 22 which are formed to the contour of the shoulder by the tension pressures on the straps 21 as clearly shown in Fig. 2. These resilient shields are formed to the contour of the shoulder because I choose a slightly stiff, thin, resilient shield material that will easily bend laterally under the tension of the straps 21 to follow the contour of the shoulder. However, when the shield is thus curved over the shoulder, the curved structure of the shield, as clearly illustrated in Fig. 2, naturally adds to the transverse bending so that the pressure of the strap is flatly and effectively distributed over the surface of the shield to prevent creasing and cutting of the strap into the shoulder. This condition is clearly illustrated in Fig. 2. It will be clearly understood and appreciated that the curved shield has the inherent ability to straighten out by its natural resilience when the tension on the strap is relieved.

This is the very essence of my invention whereby a thin, light, slightly stiff, resilient shield is automatically first formed to the surface of the shoulder by the initial tension of the strap and when thus formed gains curved form, structural stiffness, resilience, and resistance to transverse bending so that creasing and cutting of the shoulder is avoided by distributing the pressure of the strap under the surface of the shield. Further, when the tension on a strap is reduced below the resilience of the shield under the strap in its curved position, the shield tends to straighten out away from the surface of the shoulder, thus providing ventilating or aerating

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breathing action that effects drying and adds to the comfort of the wearer. This action of the shield materially adds to the convenience of the wearer when the garment is being applied or being removed.

Now referring to Fig. 2, it will be observed that the tension strap 21 is retained in position over the shield 22 by extruding or offset retaining fingers 23 and 24 under which the strap 21 is held. It will be further observed that the shield 22 has slightly upcurved edges 25 and 26 to protect the edges of the shield from contact with the shoulder as shown. Consideration of Fig. 2 will show that the straps 21 are retained from sliding over the shoulder by the fingers 23 and 24 which effectively retain the straps from such sliding movement. However, the strap can be easily removed from the shield 22 by moving the strap upwardly from under the fingers 23 and 24. This enables the wearer to conveniently remove the shield when desired. At the same time a shield can be applied under the strap by reverse movement.

Now referring to Fig. 3, I show a plan view of the shield 22 with the fingers 23 and 24 and the curved edges 25 and 26. The peculiar shape of the shield has been developed to conform to the shoulder shape in a comfortable and inconspicuous manner. In Fig. 4, I show the shield 22 as it is naturally formed before application to the shoulder. It will be observed that it is only in a slightly curved condition in order to make application convenient and easy, but this curve is augmented materially when the tension of the strap 21 is applied, as shown in Fig. 5. The top of the shield 22 is considerably curved and it is now explained and taught that this structure gives an additional sidewise stiffness to resist cutting in of the strap. This naturally results from the curved condition of the shield 22 which is structurally stiffer when thus curved. Again I desire to explain that this is of the very essence of my invention whereby a relatively thin, light, slightly stiff, resilient shield is automatically formed on the surface of the shoulder by the initial tension of the strap and when thus formed gains curved form, structural stiffness and resilience to transverse bending so that creasing and cutting of the shoulder is avoided by distributing the pressure of the straps under the surface of the shield. Further, when the tension on the strap is reduced below the natural resilience of the shield under the strap, the shield tends to straighten out and away from the surface of the shoulder to provide a ventilating action that materially adds to the comfort of the wearer.

Now referring to Fig. 6, I show a cross sectional view of a preferred form of my shield which I form of molded plastic material. The fingers 23 and 24 are molded integrally with the shield and space under the strap is provided by molding a slight recess thereunder. This may easily be done in plastic material as is well known in the art. However, the fingers 23 and 24 may be formed separately or attached to the body of the shield 22 by welding, brazing or any other attachment means as is well known in the art. With the shield thus constructed as shown in Fig. 6, the bottom of the shield 22 is continuous and forms a flat bearing surface over the shoulder of the wearer.

In Fig. 7 I show another form of plastic shield molded with holes under the fingers 23 and 24 to more easily form the fingers but is objectionable because of the holes in the bearing surface of

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the shield 22 under the fingers. However, this objection is not serious and in some cases I may prefer to form my shield in this manner.

Now referring to Fig. 8 I show the same form of shield shown in Fig. 7 except that on the bearing surface of the shield 22 I have applied a fabric 26 somewhat like the fabric applied to corn plasters and the like. This fabric is of the same shape as the shield 22 and is attached thereto by a conventional gluing method applied in corn plasters. The surface 26 being fabric is somewhat more agreeable to the wearer and more comfortable. Further, this fabric can be removed and replaced when desired to give the wearer a clean new surface.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the forms hereinbefore described being merely preferred embodiments thereof.

I claim:

1. A shield for a shoulder strap comprising an elongated element having a pair of spaced ends and formed of a relatively thin and somewhat stiff resilient material, said shield having a pair of spaced longitudinally extending side edges, one of said side edges intermediate the ends thereof being bowed inwardly and away from said element, the other of said side edges being bowed outwardly and upwardly from said element, said bowed edges preventing the cutting tendency of said shield on the shoulder when worn thereon beneath said strap, and a shoulder strap retaining member having opposed ends and disposed adjacent each end of said element, said members extending transversely of said element and having one of their respective ends secured to said element, the other end of said member being free and superposed over said element in spaced relationship with respect thereto whereby said shoulder strap may be slidably received and retained between said element and said members.

2. A shield for a shoulder strap comprising an elongated element having a pair of spaced ends and formed of a relatively thin and somewhat stiff resilient material, said shield having a pair of spaced longitudinally extending side edges, one of said side edges intermediate the ends thereof being bowed inwardly and away from said element, the other of said side edges being bowed outwardly and upwardly from said element, said bowed edges preventing the cutting tendency of said shield on the shoulder when worn thereon beneath said strap, said element having an aperture formed therein adjacent each end thereof, and a shoulder strap retaining member having opposed ends and extending transversely of said element, one end of each of said members being secured to said element adjacent said one of said apertures, the other end of each of said members being free and extending across its respective adjacent aperture in spaced relationship with respect thereto, whereby said shoulder strap may be slidably received and retained between said element and said members.

3. A shield for a shoulder strap comprising an elongated element having a pair of spaced ends and formed of a relatively thin and somewhat stiff resilient material, and shoulder strap retaining members spaced lengthwise of said ele-

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ment, said members extending transversely of said element and each being of somewhat stiff resilient material and of a length at least equal to the width of a shoulder strap to be used therewith and having one of its respective ends secured to said element and the other end thereof free and adapted to be spaced therefrom to receive the shoulder strap slidably therebetween for retaining the shoulder strap on the element, said members being attached to said element adjacent the same longitudinal edge thereof and extending in the same direction therefrom toward the opposite longitudinal edge and transversely relative to said longitudinal edges.

4. A shield for a shoulder strap comprising an elongated element having a pair of spaced ends and formed of a relatively thin and somewhat stiff resilient material, and a shoulder strap retaining member adjacent each end of said element, each of said members being of somewhat stiff resilient material and of a length at least equal to the width of a shoulder strap to be used therewith and extending transversely of said element and having one end thereof secured to said element and the opposite end thereof free and superposed over said element in spaced relation thereto whereby said shoulder strap may be received and retained slidably between said members and said element, said members being attached to said element adjacent the same longitudinal edge thereof and extending in the same direction therefrom toward the opposite longitudinal edge and transversely relative to said longitudinal edges.

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5. A shoulder protector for use with a shoulder strap comprising an elongated element formed of a relatively thin and somewhat stiff material, said element having longitudinal side edges arranged to extend over the shoulder and longitudinally curved substantially to conform to the contour of the shoulder, one of said longitudinal edges on a side of the element adapted to be disposed toward the wearer's neck being curved convexly away from the longitudinal center line of said element and the opposite edge being curved concavely toward said longitudinal center line of said element, and shoulder strap retaining members, spaced longitudinally of said element and extending transversely thereof, in position to receive and retain a shoulder strap thereunder, each of said retaining members being joined to the elongated element at the end thereof adjacent the last-mentioned longitudinal edge.

BIRDIE C. SANDERS.

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