Oct. 8, 1963 J. DE GRAZIA 3,105,974

INFLATED SUPPORT FOR TROUSERS

Filed Feb. 2, 1962

Fig. 1.

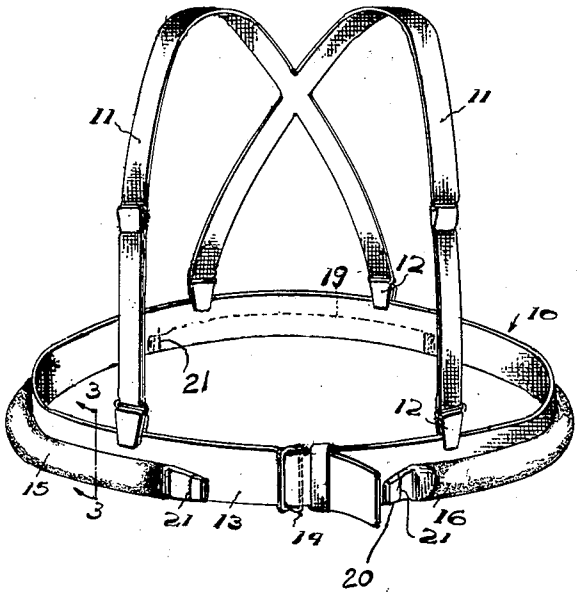


Fig. 3.

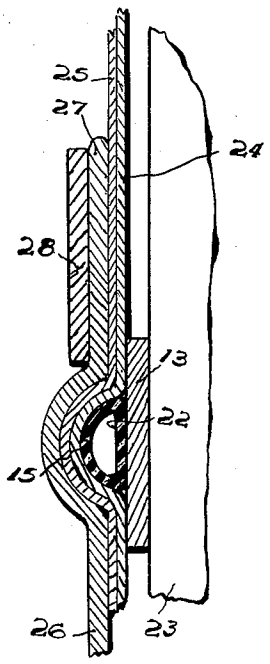
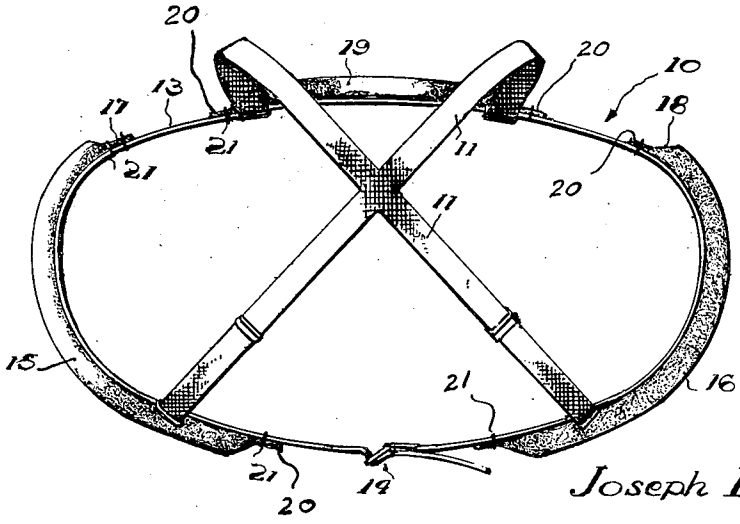


Fig. 2



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INFLATED SUPPORT FOR TROUSERS

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3 Claims. (Cl. 2—310)
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The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The invention relates to garment supports and more specifically to garment supports of the concealed suspender type which are adapted to be worn beneath outer garments so as to be concealed thereby but at the same time supporting another garment from the inside. One type of support of this kind is not directly connected to any garment but provides outwardly projecting means extending generally around the waist line in subjacent relation to the waistband of the nether garment so that the belt for the latter is disposed just above the projecting means whereby it and the nether garment are supported thereon. It is with this last type of support that the invention is concerned.

Supports of this type which have been previously used have the disadvantage that they are either too bulky, too heavy or too rigid whereby they form unsightly bulges around the hips or are uncomfortable to wear.

With the foregoing in view, it is an object of the invention to provide an improved garment support of the class described.

A further object is to provide such an improved garment support which includes at least one section of lightweight tubular material of a normally flexible nature as the supporting means for the waist band of the nether garment.

A further object is to provide a support such as last described wherein the tubular material is D-shaped in cross section with the flat side disposed toward the wearer's body.

A further object is to provide such a support comprising lightweight, flexible tubular material having atmospheric air sealed therein.

Other objects and advantages reside in the particular structure of the invention, the structure of the several elements thereof, combinations and sub-combinations of such elements with each other and/or one or more garments and appurtenances thereto, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing which illustrates a preferred embodiment of the invention and to the following specification wherein the invention is described and claimed.

In the drawing:

FIGURE 1 is a perspective view illustrating a preferred embodiment of the invention apart from any garment;

FIGURE 2 is a top plan view thereof; and

FIGURE 3 is an enlarged vertical section view taken substantially on the plane of the line 3—3 of FIGURE 1 but showing the device in use.

Referring specifically to the drawing, wherein like reference characters designate like parts in all views, **10** designates generally the supporter which includes any suitable supporting means such as the suspender straps **11** which include any suitable separable fastener means such as the clips **12** for securing the suspenders to a belt portion **13**. Belt portion **13** may be formed of any suitable flexible material, preferably a material which is impervious to perspiration or material which may be readily and repeatedly laundered without damage. The opposite ends of belt portion **13** are secured together by any suitable buckle means generally designated by **14**.

The garment supporting means comprises one or more

sections of lightweight, normally flexible, tubular material. In the embodiment illustrated, there are relatively long side sections **15** and **16** which extend laterally and rearwardly in opposite directions from frontal points in the region of the buckle **14** to laterally spaced rear ends **17** and **18**. A relatively short back section **19** is disposed along the belt portion **13** in spaced relation to the rear ends **17** and **18**. Both ends of each section **15**, **16** and **19** are flattened as at **20** and are secured to the belt portion **13** by any suitable means such as the stitching **21**. Obviously, the sections could be cemented or otherwise secured to the belt portion **13**. Likewise, it should be understood that the sections **15**, **16** and **19** could be increased or reduced in number or be of lengths different from those shown.

An important feature of the invention is that the support sections **15**, **16** and **19** are each of identical cross section which comprises a tube which is flattened on one side to provide a D-shaped cross section. The flat side **22** (FIG. 3) abuts the outer surface of the belt portion **13** so as to provide a firm engagement therewith without buckling when bent as in use and to facilitate the cementing of the same to the belt portion when adhesive is used as a substitute for the stitching **21** or as a supplement thereto. The sections **15**, **16** and **19** are formed of any suitable plastic material such as one of the elastomers, natural or synthetic or other more inelastic plastics such as nylon, polyethylene or like material. All of these materials are lightweight, non-toxic, non-absorbent to moisture and may be readily cleaned as necessary. Also, they may be provided in any desirable degree of flexibility or semi-rigidity whereby they are readily available at low cost. By flattening or otherwise closing the ends of the sections **15**, **16** and **19**, the atmospheric air contained the same is sealed therein.

In use, as illustrated in FIGURE 3, the belt portion **13** may be worn under all clothes next to the body **23** beneath the undershirt **24**, outer shirt **25** and trousers or other nether garment **26**. This arrangement has the advantage of keeping the free lower edges of both shirts **24**, **25** tucked in. However, if desired, the belt portion may be applied over the undergarment but under the outer shirt **25**. As shown, the suspension means **11** supports the belt portion **13** in subjacent relation to the waistband **27** of the nether garment **26**. Thus, when the usual garment belt **28** is tightened around the waistband **27** it is disposed just above the support sections **15**, **16** and **19** whereby to be supported thereby in a manner well known in the art. The atmospheric air in the support sections **15**, **16** and **19** will be compressed by any flattening force exerted by the garment belt **28** or otherwise. Such slight compression increases if the compressive force is increased and will prevent flattening or collapse of the support sections whereby they are enabled to perform their function. At the same time, their flexibility in adapting themselves to the shape of the body is not impaired. Likewise, because the sections **15**, **16** and **19** are tubular, they are considerably lighter than if they were formed of solid material. Also because the ends of the tubular sections are sealed, they can be formed with thinner walls whereby to accomplish a further reduction in weight without any sacrifice of efficiency.

It is obvious from the foregoing that the invention is compact enough to be concealed in use; is light enough to be worn without discomfort, yet strong enough to perform its function for long periods of use.

Also, while there has been shown and described what is now thought to be a preferred embodiment of the invention, it should be understood that the same is susceptible of other forms and expressions. Consequently, the invention is not limited to the precise structure shown and described hereinabove but only as hereinafter claimed.

I claim:

1. In a concealed support for a nether garment having a waistband, said support including a belt portion adapted to be worn beneath said nether garment, said support including suspension means adapted to support said belt portion in subjacent and parallel relation to said waistband; the improvement comprising normally flexible tubular supporting means, said supporting means comprising a plurality of sections of hollow impervious plastic tubing, means mounting said sections on said belt portion outwardly thereof in longitudinally spaced relation along substantially the entire length of said belt portion, and means sealing each end of each of said sections whereby to trap air therein at atmospheric pressure to prevent collapse of said sections in use.

2. In a concealed support for a nether garment having a waistband, said support including a belt portion adapted to be worn beneath said nether garment, said support including means suspending the same in subjacent and parallel relation to said waistband; the improvement comprising at least two normally flexible tubular supporting sections each having two sealed and flattened ends sealing air in each section at atmospheric pressure to prevent collapse thereof in use, and means mounting said sections and said belt portion longitudinally thereof in spaced and laterally opposed relation.

3. In a concealed support for a nether garment having a waistband, said support including a belt portion adapted to be worn beneath said nether garment, said support including means suspending the same in subjacent and parallel relation to said waistband; the improvement comprising a plurality of normally flexible tubular supporting sections, each section having two sealed and flattened ends sealing air therein at atmospheric pressure, means extending through said flattened ends and said belt for mounting said sections along said belt portion outwardly thereof in longitudinally spaced relation, there being two relatively long side sections and a relatively short back section between said side sections, and said sections in use being adapted to slightly compress said air therein whereby to impart increased rigidity to said sections and prevent collapse thereof.

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