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CONSTRUCTION ELEMENT FOR USE AS A  
PILLAR, STRUT, BRACE OR OTHER  
STIFFENING MEMBER  
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2,765,014

Fig. 1

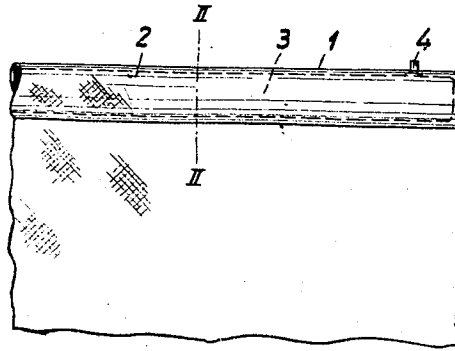
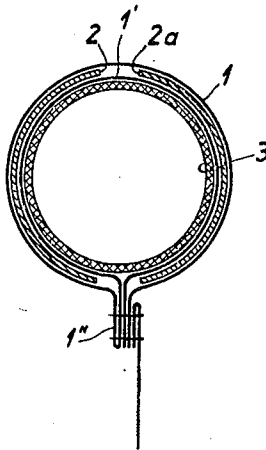


Fig. 2



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2,765,014

**CONSTRUCTION ELEMENT FOR USE AS A PILLAR, STRUT, BRACE OR OTHER STIFFENING MEMBER**

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Claims priority, application Germany September 21, 1953

4 Claims. (Cl. 150—5)

The invention relates to stiffening means of the known kind comprising an inflatable tube surrounded by a cover. Such stiffening means have the disadvantage that their resistance against sharp bending or kinking is low.

It is an object of the invention to provide stiffening means of the kind indicated, which have an increased resistance against sharp bending or kinking.

It is another object of the invention to provide such stiffening means which are easy to manufacture and are yet reliable in use.

These and other objects and advantages of the invention will become apparent to those skilled in the art from the following detailed description of the invention when read in conjunction with the appended drawings, in which:

Fig. 1 is a side view of a portion of a stiffening means of the invention when inflated;

Fig. 2 is a sectional view along the line II—II of Fig. 1.

The invention broadly consists in a stiffening means comprising an inflatable tube surrounded by a cover and comprising reinforcing means of a solid, resilient material, such as plastics or metal.

Referring now to Figs. 1 and 2 of the drawings, the stiffening means comprise an inflatable tube 3 surrounded by an inner cover 1', which in turn is surrounded by an outer cover 1. The tube 3 has a valve 4, through which the tube 3 may be deflated, and may be re-inflated by blowing, for example, air into the tube 3 through the valve 4. Between the outer cover 1 and the inner cover 1' solid, resilient reinforcing sheets 2 and 2a are provided.

The stiffening means may be most easily made by sewing its outer cover 1 and its inner cover 1' directly to an article if made of fabric material, for example to a tent, in connection with which the stiffening means is to be employed. Thereby it is possible to give the stiffening means a shape suitable for its intended use.

The reinforcing sheets 2 and 2a may easily be cut into any suitable shape. The tube 3 when inflated complies automatically to the shape of the covers. As shown, the material of the covers 1 and 1' comprises an excess margin 1'' which is connected to an article with which the stiffening means are to be used. The connection may be effected by sewing, or else by means of buttons and button holes.

The stiffening means may be used in connection with a collapsible chair, a camp bed, a folding boat, a tent, a travelling trunk, wrapping material replacing a box, a life-boat, a folding garage, an emergency bridge and many other articles. It may be used instead of a supporting rod of a garden sunshade, in connection with a parachute and even in connection with a folding glider.

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In the latter case, it is possible for a parachutist after parachuting to cause the glider to be inflated from a source of compressed air, and then to complete his descent by the help of the glider.

The stiffening means of the invention have many advantages. On inflating the tube 3, the reinforcing sheets assume the shape of troughs of substantially semi-circular cross-section and, thus, offer a comparatively high resistance against sharp bending or kinking. By the provision of the reinforcing sheets it is thus possible to obtain a high resistance against sharp bending or kinking in a simple and inexpensive manner. A further advantage is obtained by the fact that when the tube 3 has been deflated, the sheets 2 and 2a, owing to their inherent resiliency, assume a flat shape and thereby adapt themselves to the shape of the deflated tube.

Modifications of the embodiment so far described are possible. For example, the inner cover 1' may be omitted. Instead of providing two reinforcing sheets, only one such sheet or more than two sheets may be provided. Again, instead of providing a reinforcing sheet or sheets, the reinforcing means may consist in impregnating the covers or one of the covers with a resilient material, for example a resilient plastic material, that solidifies after the impregnation.

It should be clearly understood that the embodiment described and illustrated is given by way of example only. Many further modifications, omissions and additions are possible without departing from the spirit of the invention.

I claim:

1. Construction element for use as a pillar, strut, brace or other stiffening member, comprising in combination an inflatable flexible hose or tube; a flexible cover circumferentially enclosing and tightly fitting the hose or tube when the same is inflated; and at least one flat leaf or sheet made of a resistant resilient material and substantially longitudinally coextending with said hose or tube between the same and said cover, said sheet or leaf having a width not exceeding one half of the cross-sectional circumference of said hose or tube and being adapted to be transversely bent to conform to the shape of the hose or tube when the same is inflated.

2. Construction element for use as a pillar, strut, brace or other stiffening member, comprising in combination an inflatable flexible hose or tube; a double-walled flexible cover circumferentially enclosing and tightly fitting said hose or tube when the same is inflated; and at least one flat leaf or sheet made of a resistant resilient material and substantially longitudinally coextending with said hose or tube between the walls of said cover, said sheet or leaf having a width not exceeding one half of the cross-sectional circumference of said hose or tube and being adapted to be transversely bent to conform to the shape of the hose or tube when the same is inflated.

3. Construction element according to claim 1 wherein the reinforcing flat sheet or leaf is formed by at least one longitudinally extending portion of the cover impregnated with a synthetic material which solidifies after impregnation to a resistant resilient strip.

4. Construction element for use as a pillar, strut, brace or other stiffening member, comprising in combination an inflatable hose or tube; a flexible cover circumferentially enclosing and tightly fitting the hose or tube when the same is inflated; and two flat leafs or sheets

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made of a resistant resilient material and substantially longitudinally coextending with said hose or tube on opposite sides thereof between the same and said cover, said sheets or leafs having a particular width approximating but not exceeding one half of the cross-sectional circumference of said hose or tube and forming semi-cylindrical shelves around the hose or tube when the same is inflated.

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