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3,147,496

CUSHIONS

Filed June 27, 1962

2 Sheets-Sheet 1

FIG. 1

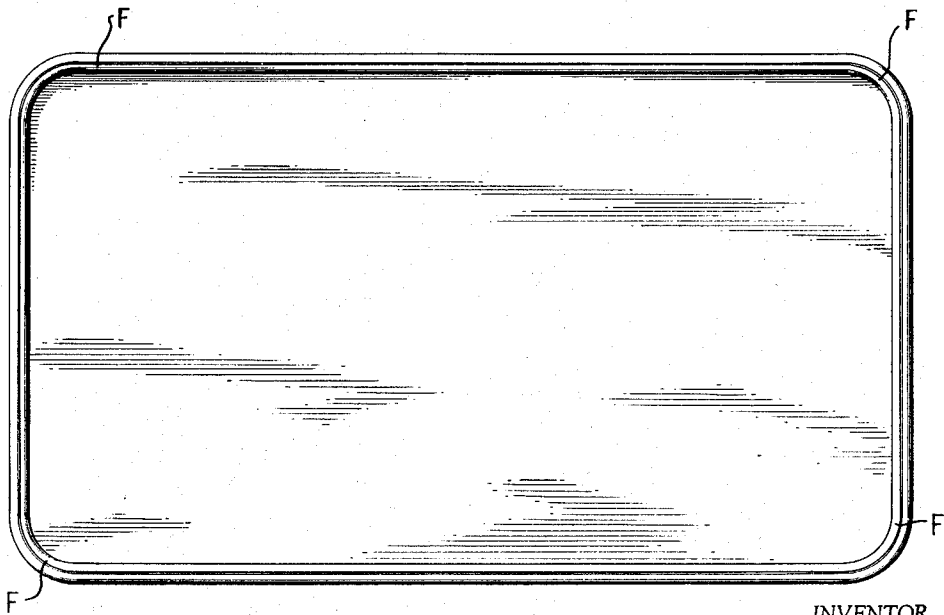
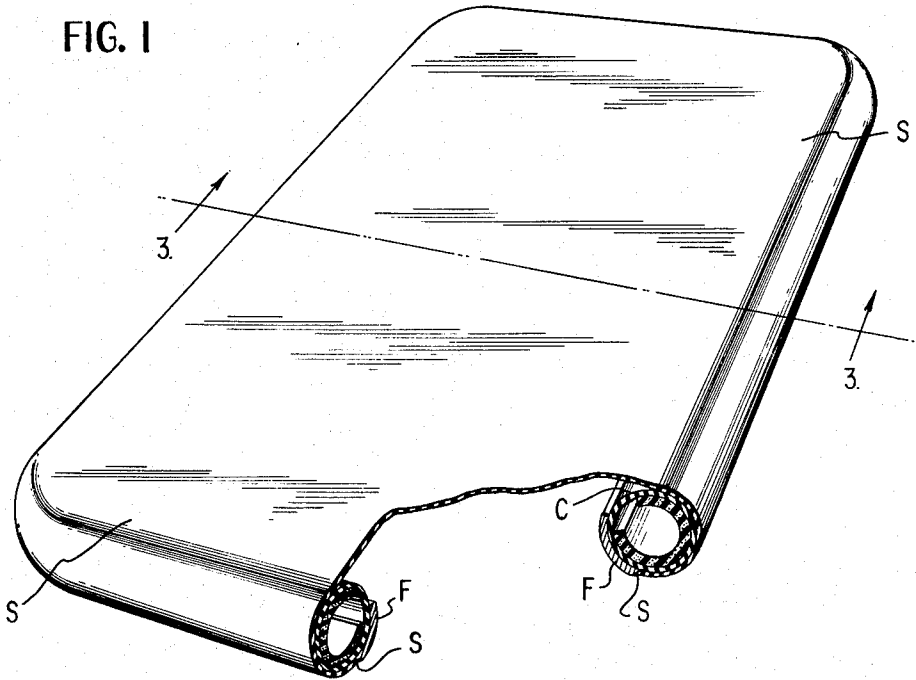


FIG. 2

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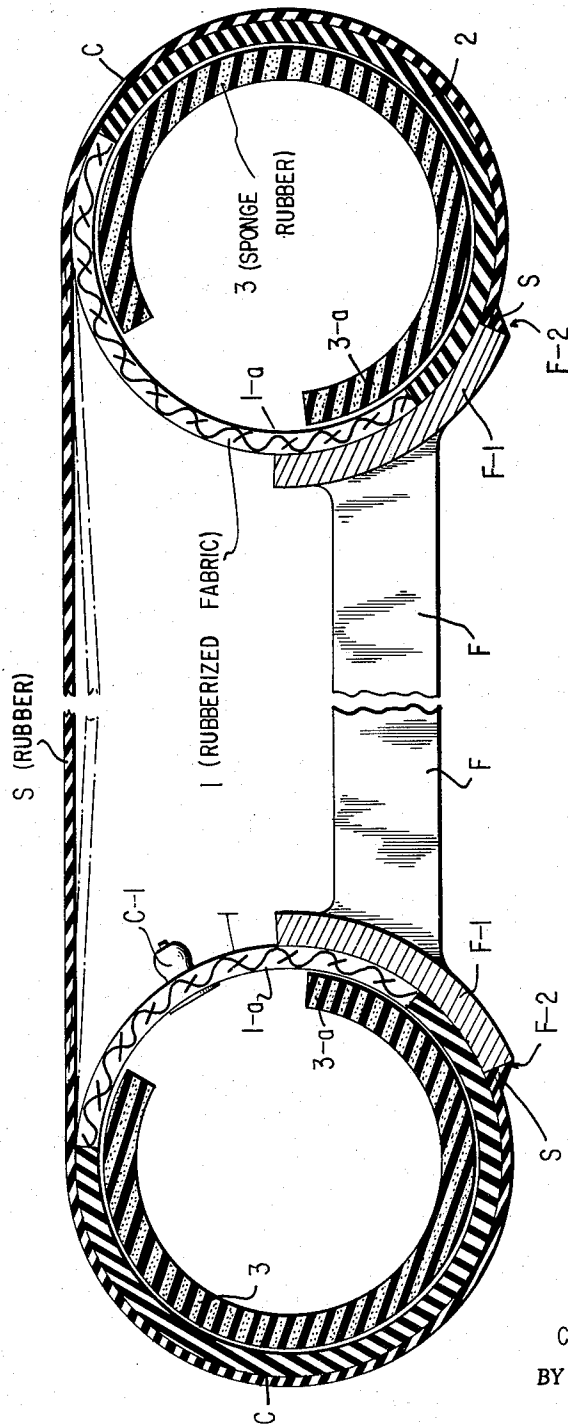


FIG. 3

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3,147,496  
CUSHIONS

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1 Claim. (Cl. 5-348)

My invention consists in a new and useful improvement in cushions and is designed to provide an article adapted to function as a bed mattress, a seat for an automobile or an aeroplane or in any place in which a flexible cushion is desired.

My cushion consists in the combination of a rigid frame carrying a resilient chamber and a flexible sheet attached to the frame about the chamber. The particularly novel and useful feature of my cushion consists in the peculiar character of the chamber supporting the sheet. My improved chamber is a completed cylinder composed of two walls, one of which is of flexible, non-elastic material, and the other of non-retractile material. Inside the chamber there is disposed an incomplete cylinder composed of flexible, elastic material having structural strength, and having one edge attached to the inner surface of the first wall of the chamber.

While I illustrate in the drawings and hereinafter fully describe one specific embodiment of my invention, it is to be distinctly understood that I do not consider my invention to be limited to said embodiment, but refer for its scope to the claim appended hereto.

In the drawings:

FIG. 1 is a perspective of the cushion, partially broken away.

FIG. 2 is a top plan of the frame.

FIG. 3 is an enlarged, vertical section on the line 3-3 of FIG. 1.

As shown in the drawings, my improved cushion has a rigid frame F having a peripheral, concave socket F-1 in which is mounted a chamber C which is circular in cross-section. The chamber C is formed by two concentric, arcuate walls 1 and 2 united at their outer edges to form a completed cylinder, and suitably mounted in the socket F-1. A third wall 3, which is an incomplete cylinder, is disposed inside the chamber C concentric with walls 1 and 2, and has one edge 3-a attached to the inner surface 1-a of the wall 1.

The wall 1 is composed of flexible, non-elastic material, such as rubberized, textile fabric. The wall 2 is composed of non-retractile material, such as a very much blended unvulcanized rubber sheet. The wall 3 is com-

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posed of flexible, elastic material, having structural strength, such as sponge rubber.

The chamber C has a suitable valved inlet C-1 for flow of air into and out of the chamber C.

A suitable flexible sheet S is attached to the lower edge F-2 of the socket F-1 to cover the frame F about the chamber C.

Cushions which are made with my improved chamber C can be used without inflation, because the chamber C, holding its cylindrical shape, contains air at atmospheric pressure which is confined by closing the valved inlet C-1, and this air is enough to support the weight of a normal person on the surface of the sheet S. The chamber C may be inflated by merely blowing in one's breath should it be desired to give more tension to the sheet S, because the material of the wall 2 offers very low tensile resistance on stretching, and the pressure can be obtained by inflating the chamber C to cause tension to the sheet S.

The contours of my improved cushion are softer because they need much less interior pressure to increase their volume, which provides the tension for the sheet S. In other words, it takes very low pressure to tension the sheet S.

The structure reduces risks because it prevents blow-out in the wall 1 which is non-elastic. The structure is such that the cushion is kept in shape without deformation, since the wall 1 does not stretch. The structure lengthens the durability of the cushion because the fatigue of materials of its walls 1 and 2 is the lowest, since they are void of tensile and retractile force.

Having described my invention, what I claim is:

In a cushion, the combination of a rigid, quadrilateral frame having a peripheral concave socket; a hollow chamber, mounted in said socket, formed by two concentric arcuate walls united at their outer edges to form a complete cylinder, said walls being composed of rubberized textile fabric, and non-retractile material, respectively; a valved inlet for flow of air into and out of said chamber; a third wall which is an incomplete cylinder composed of sponge rubber, disposed inside said chamber concentric with said two walls and having one edge attached to the inner surface of said wall of rubberized textile fabric; and a sheet of flexible rubber having its periphery attached to the lower edge of said frame about said chamber.

### References Cited in the file of this patent

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