United States Patent [19]

Ando

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[54] **INFLATABLE CHAIR**

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[52] **U.S. Cl.**.....**297/456**, 297/445, 5/327 R, 5/348 R, 297/DIG. 3

[51] **Int. Cl.**.....**A47c 27/08**, A47c 27/18

[58] **Field of Search** 248/363, 378, 375; 297/454, 297/445, 456; 5/327, 348

[56] **References Cited**

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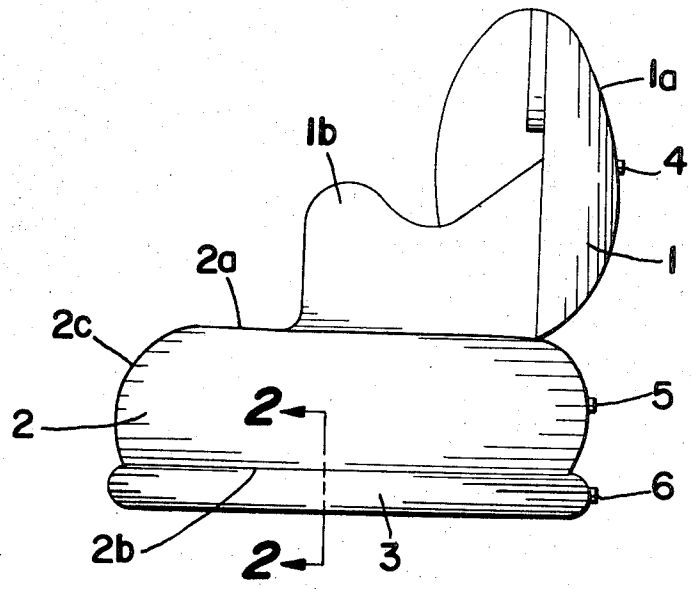
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[57] **ABSTRACT**

An inflatable chair is provided, consisting of a plurality of separately inflatable portions or sections, and which is so constructed as to adhere to the floor by the suction of a portion of the chair against the floor, to thereby provide excellent stability of the chair, irrespective of how the weight of an occupant of the chair is shifted in relation to the chair.

6 Claims, 3 Drawing Figures



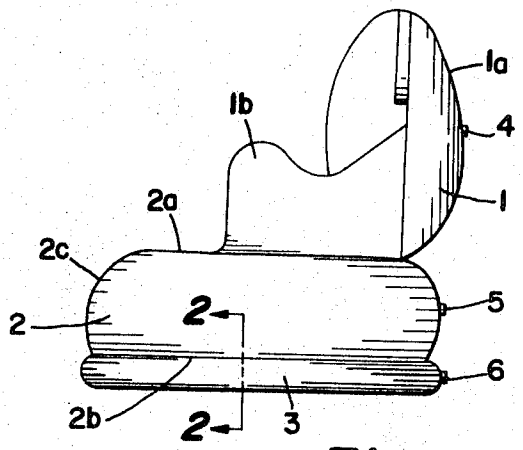


Fig. 1

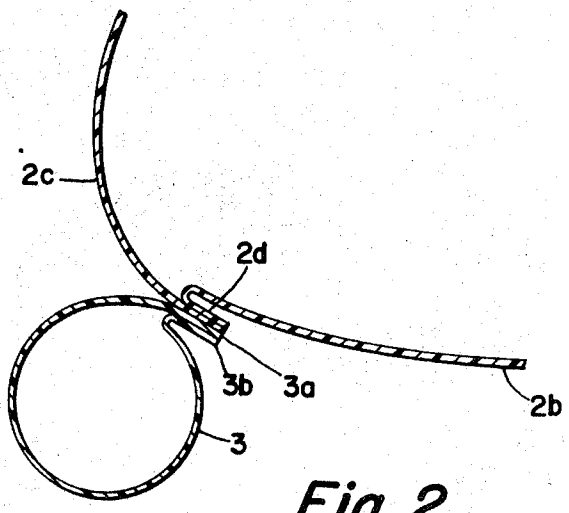


Fig. 2

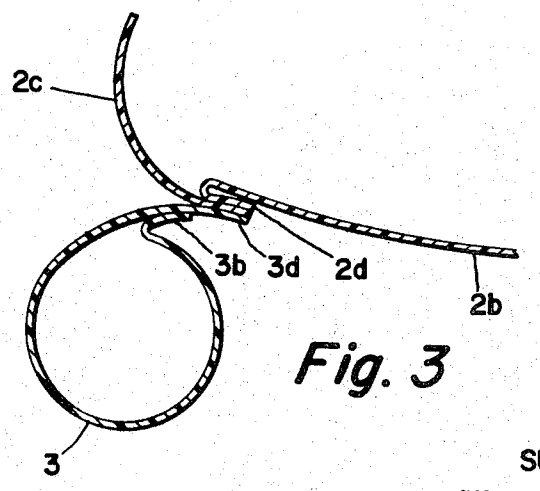


Fig. 3

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INFLATABLE CHAIR

This invention relates generally to an inflatable chair, and more particularly to a chair of this character which is intended primarily for use by children.

In my U.S. design patent applications, Ser. Nos. 140,310; 141,081 and 141,257, I have disclosed various designs of inflatable chairs, intended primarily for use by children.

The present invention is concerned more particularly with the mechanical construction of such chairs.

A primary object of the invention is to provide a chair of the character described, which is so constructed as to adhere to the floor by the suction of a portion of the chair against the floor, thereby providing greater stability of the chair, irrespective of how the weight of an occupant of the chair is shifted in relation to the chair.

Another object of the invention is to provide a chair of the character described, which consists of a plurality of separately inflatable and independent portions or sections.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

FIG. 1 is a side elevational view of a chair embodying the invention, and showing the base or floor-engaging portion or section of the chair in cross-section;

FIG. 2 is a fragmentary cross-sectional view of the chair on an enlarged scale, taken on the line 2—2 of FIG. 1, and showing the manner in which the seat portion or section of the chair is attached to the base or floor-engaging portion of the chair, and

FIG. 3 is a view similar to FIG. 2, but showing a modification of the invention.

Referring more particularly to FIGS. 1 and 2 of the drawing, the chair consists of three separate and independent parts or sections 1, 2 and 3.

The section 1 is an inflatable bag formed of a thin plastic material, and comprises a back or back-rest portion 1a and laterally-spaced arm or arm-rest portions 1*b*, the back portion 1*a* being provided with a valve 4 through which air under pressure may be introduced to inflate the entire section 1.

The section 2 is an inflatable bag formed of a thin plastic material, and provides the seat of the chair. It consists of an upper circular portion 2*a*, a lower circular portion 2*b*, and an annular side wall portion 2*c*. The portion 2*a* is heat-sealed at its peripheral edge to the upper edge of the portion 2*c*, and the portion 2*b* is provided at its periphery with a rebent flange 2*d* which is heat-sealed to the inner surface of the lower part of the portion 2*c*.

The section 1 is heat-sealed, at its lower edge, to the portion 2*c* of the section 2, and the portion 2*c* is provided at its rear portion with a valve 5, through which air under pressure may be introduced to inflate the section 2.

The section 3 is an inflatable air bag formed of a thin plastic material, and provides the floor-engaging portion of the chair. It is provided at its rear portion with a valve 6, through which air under pressure may be introduced to inflate the section 3. In its inflated condition, the section 3 is in the form of a hollow torus, of somewhat larger external diameter than the section 2. It is formed of a strip or sheet of plastic having overlapping flanges 3*a* and 3*b* which are heat-sealed to the outer surface of the lower part of the portion 2*c* of the section 2, in the area at which the flange 2*d* of the section 2 is heat-sealed to the portion 2*c* of the section 2.

Due to the fact that the chair is constructed of three separate and independent bags, which are separately inflatable, and the fact that the section 3 has a relatively small air volume, so that its change in shape, when inflated, is small, the chair, as a whole, has excellent stability.

When the chair is occupied, and weight is thus exerted on the seat section 2, a suction-cup effect takes place between the inflated section 3 and the floor, so that even when the weight of the occupant is exerted against the back-rest portion 1a of the section 1, the chair will not tip over.

Since the sections 2 and 3 are separate, any shift in weight will shift only the air in the seat section 2 and leave the section 3 unaffected. Thus, the shifts in weight will act only to cause the section 3 to grip the floor more tightly and to improve the stability of the chair.

In the modification shown in FIG. 3, the rebent flange 2d of the portion 2b of the section 2 is heat-sealed to the under surface of the lower part of the portion 2c.

However, the flange 3a of the section 3 overlaps and extends beyond the flange 3b and this extension is heat-sealed to the outer surface of the lower part of the section 2c of the section 2, in the area at which the flange 2d of the section 2 is heat-sealed to the portion 2c of the section 2, while the flange 3b is heat-sealed to that portion of the flange 3a which overlaps the flange 3b.

It is to be understood that the forms of my invention herewith shown and described, are to be taken as preferred examples of the same, and that various changes may be made in the shape, size and arrangement of parts thereof, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a chair of the character described, said chair comprising a plurality of inflatable sections, independent of each other and separately inflatable, one of said sections constituting the back and arms of the chair, another section of circular conformation constituting the seat of the chair, and another section constituting a floor-engaging member which, when inflated, is in the form of a hollow torus, having an external diameter greater than the diameter of said seat section when inflated.

2. A chair, as defined in claim 1, in which said sections are made of a plastic material, and the sections are heat-sealed to each other.

3. A chair, as defined in claim 2, wherein said seat section comprises a pair of vertically-spaced disc-like portions and an annular portion interconnecting said disc-like portions, and heat-sealed to the latter.

4. A chair, as defined in claim 1, wherein said floor-engaging section consists of a strip of plastic material coiled to form a hollow torus, and having at least one flange-like portion which is heat-sealed to said seat section.

5. A chair, as defined in claim 1, wherein said floor-engaging section consists of a strip of plastic material coiled to form a hollow torus and having flange-like portions which are heat-sealed to said seat section.

6. A chair, as defined in claim 1, wherein each section is provided with a valve or inlet through which air under pressure may be introduced to inflate the sections.

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