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3,394,414

FOAMED BODY FOR CUSHIONING MATERIAL

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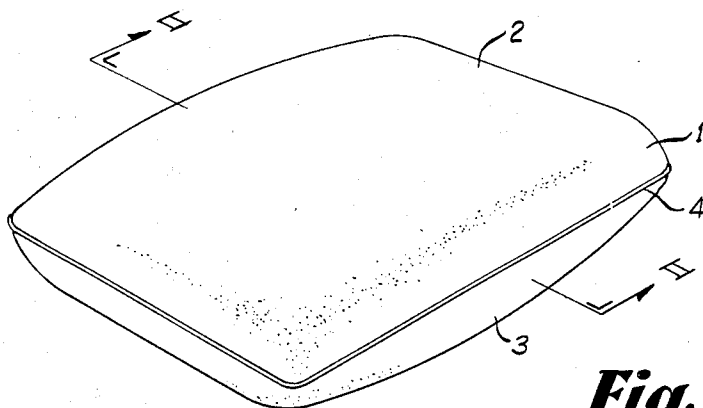


Fig. 1

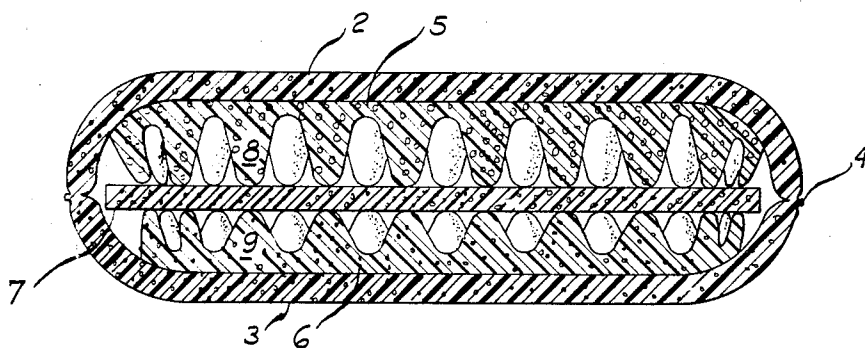


Fig. 2

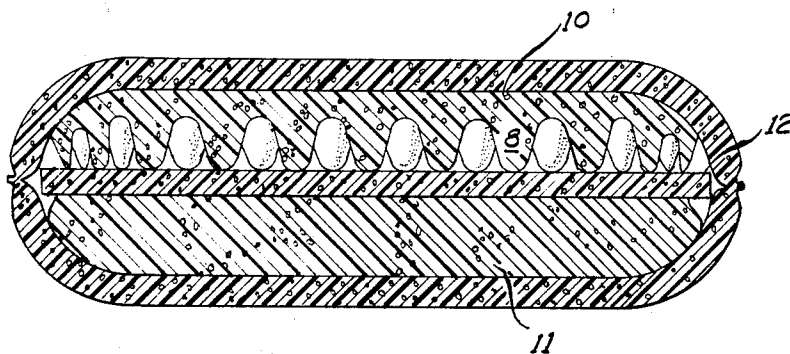


Fig. 3

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FOAMED BODY FOR CUSHIONING MATERIAL
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ABSTRACT OF THE DISCLOSURE

This disclosure relates to new and useful improvements in the method of making urethane foam bodies such as pillows, mattresses and the like, consisting of composite body sections of different densities and structural designs, and it is among the objects thereof to provide such cushions or bodies which are substantially flat and in which opposite sides of the body are of different compression range; that is to say, in which one side of the cushion or bedding may be soft and the opposite side relatively firm.

Another object of the invention is to provide a lightweight cushion of simple construction in which the sectional members of which it is made are assembled in outer casing section by heat sealing.

These and other objects of the invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

FIGURE 1 is a view in perspective of a urethane or other foam type c cushion embodying the principles of this invention;

FIGURE 2 a cross-sectional view taken along the lines 2—2 of FIGURE 1; and,

FIGURE 3 is a similar view of a modified form of inner sectional members.

In the drawing, the numeral 1 generally designates a cushion-shaped foam body consisting of outer casing sections 2 and 3, FIGURE 2, which are joined by heat sealing, as at 4. Within the casing there are inner sections 5 and 6 and a dividing flat section 7. Neither of the inner sections or the central flat section are joined by sealing, as is clearly shown in FIGURE 2.

The intermediate sections 5 and 6 are cored out to form pyramidal shaped projections 8 and 9, which may be of different sizes. As disclosed in my former Patent 3,205,515 dated Sept. 14, 1965, projections and recesses varies the cushioning or displacement and expansion of the foam material on opposite sides of the median or central member 7. It will be noted that the conical projections are staggered. By virtue of the different sized projections, the compression range of opposite sides of the cushion varies, it being obvious that the longer projections offer greater compressibility than the shorter ones, so that a pillow on one side would be softer than on the other. In FIGURE 3 only one of the intermediate members 10 is provided with the pyramidal projections and the other intermediate member 11 is solid as is also the median member 12. Aside from varying compressibility because of the physical nature of the intermediate sections; namely, the large or deep pyramidal members and the relatively shorter ones of FIGURE 2, or by using the pyradimal section with a solid section of FIGURE 3, the degree of compressibility or the compression

range can be varied. Also by utilizing material of different density, thus one of the outer casing sections would be of less density in the sections 5 and 6 of FIGURE 2 or sections 10 and 11 of FIGURE 3 than the other casing section. Likewise, the inner section 5 may have greater porosity than the inner section 6, which would make it softer or more compressible and likewise, as in FIGURE 3, the solid inner section 11 could be made more dense than the material in the inner section 10.

This compression range is effected as follows:

A typical formula for urethane foam in use for cushions and bedding is based upon toluene, diisocyanate and polyether resins derived from propylene oxide. The water reacts with some of the toluene diisocyanate to form carbon dioxide which produces the foam and various densities of foam are produced by varying the water content. Some of this material currently used for bedding compares as follows:

1.3 lbs. per cubic foot by weight has a compression range of 31—35 lbs., and
3.0 lbs. per cubic foot has a compression range of 33—38 lbs.

While the foregoing explanation of the nature of the material is no part of the present invention and is not herein claimed, it illustrates the manner in which the compressibility of cushions and bedding may be varied to the extent that opposite sides of a cushion may have a decided difference in their compressibility which, of course, can still further be varied by changing the physical structures of the inner sections, as hereinbefore described.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. A urethane foam body having oppositely disposed substantially parallel faces are reversible in use, said body having outer sections forming casing walls and inner sections forming the main body portion separated by a medial strip, said inner sections having recesses and projections adjacent the medial strip with the projections and recesses on one of the inner sections being of greater length than the projections and recesses of the inner section on the opposite side of the medial strip and said inner sections being of varying porosity to provide a difference in the compression range at opposite sides of the urethane foam body, said outer sections being sealed around their outer periphery to retain the inner section in place.

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