March 13, 1945. A. A. ADAMS 2,371,276

CUSHION

Filed June 24, 1942 2 Sheets-Sheet 1

Fig. 1

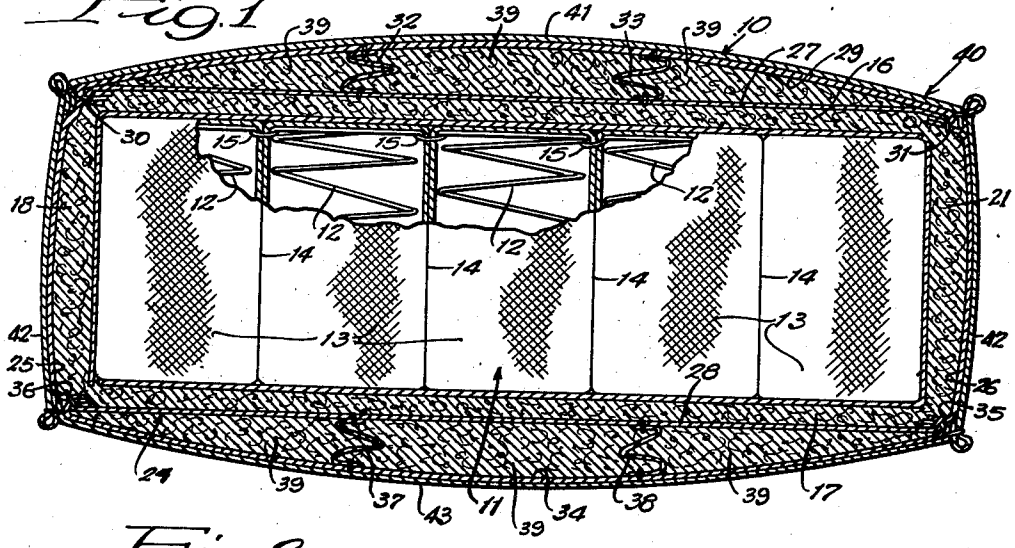
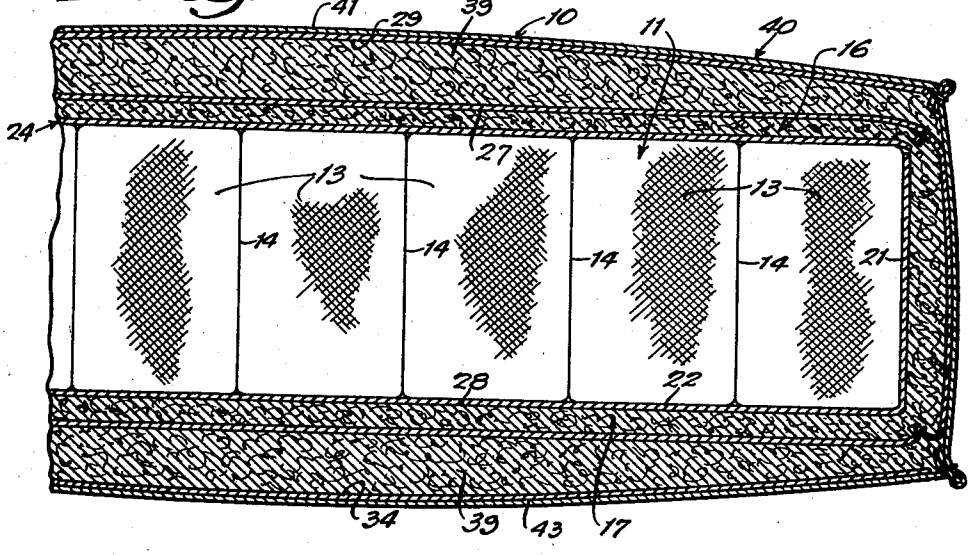


Fig. 2



Inventor:
Arthur A. Adams,
By Dawson, Orms and Booth,
Attorneys.

March 13, 1945. A. A. ADAMS 2,371,276

CUSHION

Filed June 24, 1942 2 Sheets-Sheet 2

Fig. 3

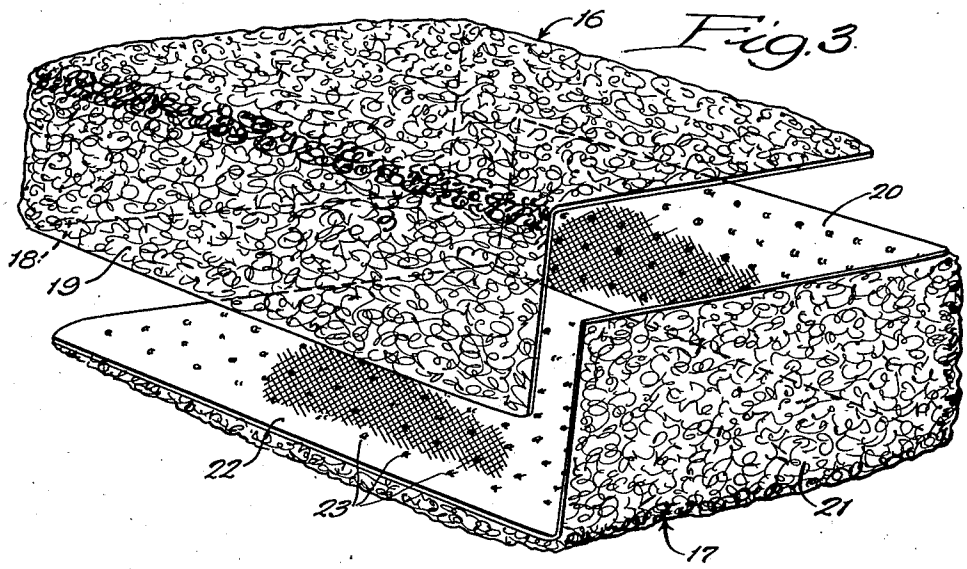
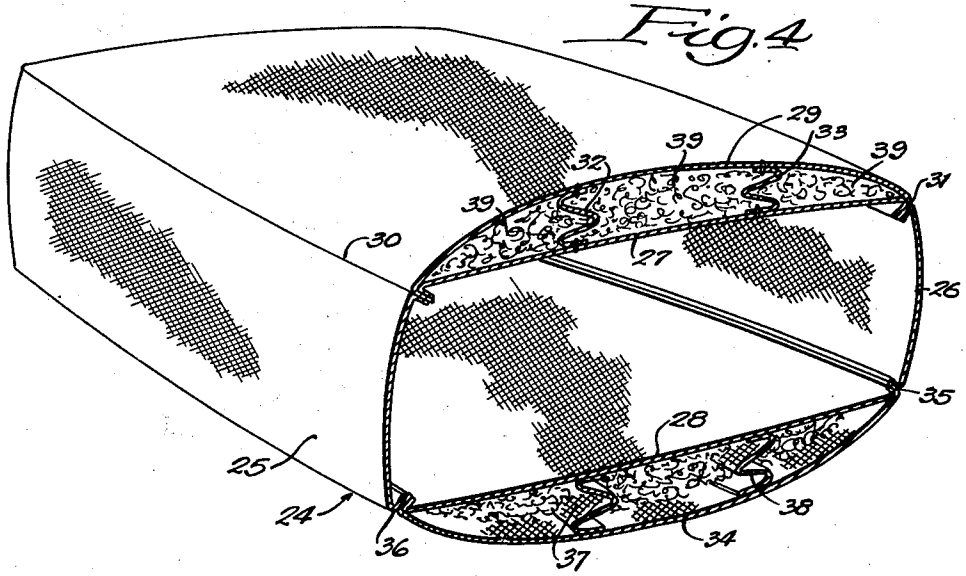


Fig. 4



Inventor:
Arthur A. Adams,
By Dawson, Owen & Booth,
Attorneys.

Patented Mar. 13, 1945 2,371,276

UNITED STATES PATENT OFFICE

2,371,276

CUSHION

Arthur A. Adams, Los Angeles, Calif., assignor to S. Karpen & Bros., Chicago, Ill., a corporation of Illinois

Application June 24, 1942, Serial No. 448,205

6 Claims. (Cl. 5—351)

This invention relates to a cushion, and more particularly to a soft highly-resilient cushion structure having a plurality of layers of resilient material therein.

An object of the invention is to provide a cushion of extreme softness while at the same time maintaining a relatively high degree of resiliency in the cushion. Another object is to provide in a cushion having a spring unit as a core, a plurality of layers of material of different resiliencies and different degrees of compressibility. A further object is to provide in a cushion having a spring unit as a core, a layer of resilient material which is only slightly compressible and a second and outer layer of resilient material which is highly compressible.

Another object of the invention is to provide a cushion having a plurality of layers of curled hair, the outer layer being formed of loosely curled hair of high compressibility and the inner layer being formed of tightly curled hair which is only slightly compressible. Yet another object is to provide in a cushion, a spring unit and a resilient pad extending about the same, the assembly being disposed within a casing which contains compartments of a soft and highly-compressible material.

Other features and advantages of the invention will appear from the following specification and drawings, in which—

Fig. 1 is a transverse sectional view of a cushion embodying the invention, the spring unit in the central portion of the cushion being shown in elevation and having its casing partly broken away to show the spring therein; Fig. 2 is a detail fragmentary longitudinal sectional view of the cushion; Fig. 3 is a perspective view of the resilient pads used in the cushion; and Fig. 4 is a perspective view of the casing for the cushion showing a highly-compressible material disposed within the compartments in the casing.

In the embodiment of the invention described herein, the cushion 10 includes a spring unit 11 which forms the core of the cushion. The spring unit 11 may include a plurality of helical springs 12 disposed in side-by-side relation, with the upper and lower ends of the helicals being in the same planes to provide flat upper and lower surfaces for the unit. Preferably, each of the helical springs is enclosed within a fabric casing 13 of muslin or the like. The casings 13 may be secured to each other at the seams 14. Preferably, the casings and the helical springs are tied together by threads or strings 15 to form a unitary spring body. The spring unit is preferably rectangular, with substantially flat upper, lower and side surfaces.

About the spring unit 11 is a pair of pads 16 and 17, which are preferably formed of a resilient and only slightly-compressible material, such, for example, as tightly curled hair. The pads 16 and 17 extend across the top and bottom surfaces of the spring unit 11 and cover the same. Preferably, the pad 16 is provided with depending portions 18 and 19 which cover two of the sides of the spring unit. Similarly, the pad 17 may be provided with upwardly-extending portions 20 and 21 which cover the other two sides of the spring unit.

As seen particularly in Fig. 3, the pads 16 and 17 may be in the form of interlaced, stitched or garnetted pads in which a suitable resilient and slightly-compressible material is secured to a fabric backing 22 by means of stitches 23. The resilient and slightly-compressible material may comprise tightly curled horse or cattle hair, or a mixture of either or both of these with hog hair, moss, cotton, sisal, tula fiber, and may, in fact, consist of a rubberized pad. At any rate, the pad should possess substantial resiliency for the cushioning effect and at the same time should be only slightly compressible so that when pressure is exerted on the surface of the cushion, the spring core in the cushion will not be felt through the padding by the user of the cushion.

The pads 16 and 17 extending about the spring unit 11 may, in turn, be enclosed by a casing 24 (Fig. 4). The casing 24 may include side walls 25 and 26, a top wall 27, and a bottom wall 28. End walls of fabric may, if desired, be provided and may extend between the side walls 25 and 26 and top and bottom walls 27 and 28. The fabric may be of any suitable material, preferably of a light material.

A second casing 29 may extend across and overlie the top wall 27 of the casing 24, the casing 29 preferably being spaced above the top wall 27 but being joined thereto at the edges 30 and 31. Flexible fabric partitions 32 and 33 may be arranged at spaced intervals between the fabric sheets 24 and 29, the fabric partitions preferably extending vertically between two sheets and longitudinally throughout the length of the cushion. A casing sheet 34, similar to the casing sheet 29, may be disposed below the bottom wall 28 of the casing and secured to the casing at the seams 35 and 36. Spaced flexible fabric partitions 37 and 38 may be disposed between the bottom wall and casing sheet 34.

The flexible fabric partitions 32 and 33 provide

compartments between the top wall 27 of the casing 24 and the casing sheet 29. These compartments may be filled with a resilient highly-compressible material indicated at 39. The material placed within the compartments formed by the flexible partitions should be very highly-compressible so as to provide a softness for the cushion. At the same time, the material should be resilient. Preferably, the material is loosely curled hair, such as horse or cattle hair, but other similar materials, such as kapok, silk floss, or milkweed floss, may be used.

An outer cover or casing 40 may extend about and enclose the entire assembly. The outer cover or casing 40 may include a top wall 41, side walls 42 and a bottom wall 43, the walls being joined by seams at the corners of the cushion.

When the cushion is used and pressure is placed upon the upper surface, the material 39 provides a soft highly-compressible surface which gives the cushion the desired softness. The same material 39 also provides a certain amount of resiliency in the cushion. The pads 16 and 17 are only slightly compressible and are also resilient, while the spring core 11 is highly-resistant to compression but possesses great resiliency. The pressure on the surface of the cushion will not cause the helical springs of the spring unit 11 to be felt through the layers of resilient material because the slightly-compressible pads 16 and 17 are interposed between the soft outer layer and the spring unit.

Although the invention has been described in connection with a specific embodiment, it will be understood that changes and modifications may be readily made without departing from the spirit and scope of the invention.

I claim:

1. A cushion comprising a spring unit having substantially flat upper and lower surfaces, a pad of resilient slightly-compressible tightly curled fibers extending across the upper surface of said spring unit, a pad of resilient slightly-compressible material extending across the lower surface of said spring unit, said pads being provided with end portions adapted to extend over the ends and sides of the spring unit, a fabric casing enclosing said pads, a sheet of fabric extending across the top wall of said casing and secured thereto, a sheet of fabric extending across the bottom wall of said casing and secured thereto, said sheets of fabric being spaced at the central portions thereof from the adjacent casing walls, flexible fabric partitions extending between the sheets of fabric and the adjacent casing walls to provide a plurality of compartments, a resilient highly-compressible body of loosely curled fibers disposed within said compartments, and a fabric casing enclosing the entire assembly.

2. A cushion comprising a spring unit having substantially flat upper and lower surfaces, a pad of tightly curled hair having a fabric backing extending across the upper surface of said unit, a pad of tightly curled hair having a fabric backing extending across the lower surface of said unit, said pads having turned end and side portions extending over the sides and ends of said spring unit, a fabric casing enclosing said pads, a sheet of fabric extending across the top wall of said casing and secured thereto, a sheet of fabric extending across the bottom wall of said casing and secured thereto, said sheets of fabric being spaced at the central portions thereof from the adjacent casing walls, a plurality of flexible fabric partitions extending between the casing walls and the adjacent sheets of fabric to provide compartments, said compartments being filled with loosely curled hair, and a fabric casing enclosing the entire assembly.

3. A cushion comprising a spring unit, a layer of resilient slightly-compressible material extending over said unit, a casing extending about said layer, a sheet of fabric over said casing having its edges secured to said casing and extending in smooth convex outline from edge to edge and being spaced from said casing inside its edges, the spacing increasing toward the center of the sheet, means extending between said sheet and said casing for dividing the space therebetween into compartments without breaking said outline, and resilient highly-compressible material disposed within said compartments.

4. A cushion comprising a spring unit, a layer of resilient slightly-compressible material extending over said unit, a casing extending about said layer, a sheet of fabric over said casing and secured thereto, the body of said sheet being spaced above the casing, flexible fabric partitions extending between said sheet and said casing, the fabric of said partitions being wider than the spacing between the sheet and casing at the points where the partitions are disposed so that the partitions form irregular flexible walls which are capable of conforming with the spacing between said casing and sheet, and a highly-compressible material disposed in said spacing and adjacent said partitions.

5. A cushion comprising a spring unit, a layer of resilient slightly-compressible material extending over said unit, a fabric casing extending about said layer, a sheet of fabric over said casing having its edges secured to said casing and extending in smooth convex outline from edge to edge and being spaced from said casing inside its edges, the spacing increasing toward the center of the sheet, flexible fabric partitions attached at their upper edges to said sheet and extending longitudinally of the cushion in spaced parallel order, the fabric of said partitions being wider than the spacing between the sheet and casing at the points where the partitions are disposed, said partitions being folded and free of tension at their points of attachment to said sheet, and a highly-compressible material disposed in the space between said sheet and said casing and adjacent said partitions.

6. In a cushion of the type employing a slightly-compressible inner structure and a resilient highly-compressible outer structure, a substantially flat fabric casing over said inner structure, a sheet of fabric over said casing having its edges secured to said casing and extending in smooth convex outline from edge to edge and being spaced from said casing inside its edges, the spacing increasing toward the center of the sheet, spaced fabric partitions extending between said sheet and said casing, the fabric of said partitions being wider than the spacing between the sheet and casing at the points where the partitions are disposed so that the partitions form irregular flexible walls which are capable of conforming with the spacing between said casing and sheet in the use of the cushion without distortion of the convex surface of the sheet, and a highly-compressible material disposed in the space between said sheet and said casing and between said partitions.

ARTHUR A. ADAMS.