March 31, 1964 G. L. STINE 3,127,220

SEAT CUSHION AND SPRING CONSTRUCTION

Filed Aug. 9, 1961

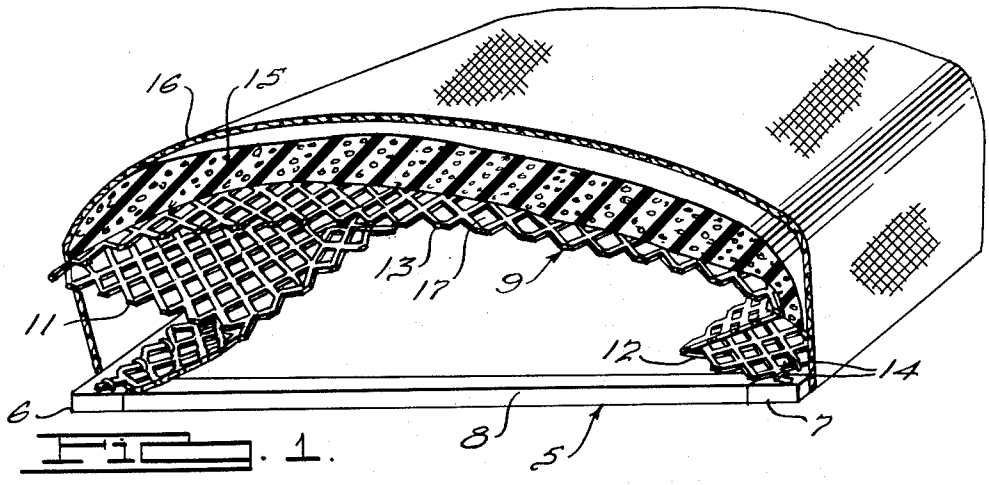


FIG. 1.

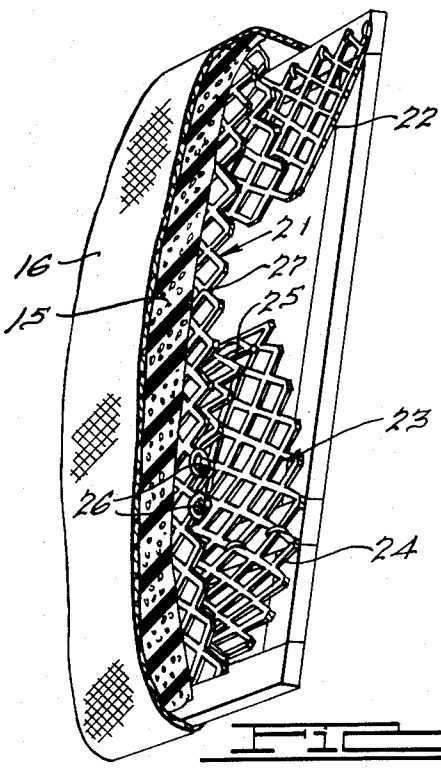


FIG. 2.

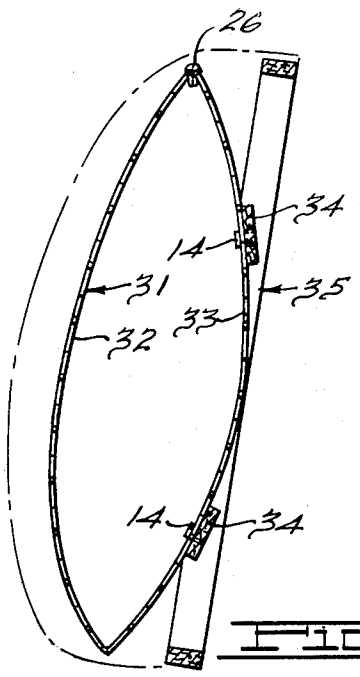


FIG. 3.

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United States Patent Office 3,127,220
Patented Mar. 31, 1964

3,127,220

SEAT CUSHION AND SPRING CONSTRUCTION

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Filed Aug. 9, 1961, Ser. No. 130,336
2 Claims. (Cl. 297—452)

This invention relates to seat cushions and particularly to a seat cushion which is constructed from a single sheet of open mesh material.

It has usually been the practice in the art of seat construction to build a seat cushion from a plurality of spring elements, whether of the coiled or spring strip type, which were secured together on a frame and to each other to form a cushion construction. The present invention embodies the use of a single sheet of material of open mesh construction which may be expanded metal, interrelated wires or strips of material of metal, plastic and the like, which have inherent resiliency for supporting a load. By way of example, a cushion is illustrated as being made from a sheet of expanded metal material, and it is to be understood that the expanded sheet may be of a resin compounded with fabrics in sheet or macerate form or may be of plastic materials having reinforcing wires therein. The open weave permits the breathing of the cushion and prevents it from being air-bound. The sheet is so shaped as to provide softntess at the front and the rear edges as well as at the load bearing area therebetween and between the top and bottom of a back cushion.

Accordingly, the main objects of the invention are: to provide a support for the pad and trim material of a seat cushion which consists of a single sheet of preformed material which is secured to a frame; to provide a seat constructed from a sheet of material formed to produce a soft front and rear edge when it is secured to spaced rail elements of the frame in position to directly support a pad and the trim material of the resulting cushion; to form a resilient sheet to have a V-shaped supporting end at the front, a curved load bearing area rearwardly thereof and a V-shaped supporting end at the rear with the front and rear supporting ends secured to a frame; to form a cushion for a seat or a back from a single sheet of material having a V shape at one end from which a central load bearing area extends to the opposite end beneath which an oval shape supporting portion is provided which is secured to a support inwardly of the end of the portion, and, in general, to form a seat cushion from a single sheet of material which is simple in construction and economical of manufacture.

Other objects and features of novelty of the invention will be specifically pointed out or will become apparent when referring, for a better understanding of the invention, to the following description taken in conjunction with the accompanying drawing, wherein:

FIGURE 1 is a perspective view with a part in section of a seat cushion having a sheet of spring supporting material on the frame thereof embodying features of the present invention;

FIG. 2 is a view of structure similar to that illustrated in FIG. 1, showing another form which the invention may assume, and

FIG. 3 is a view of structure similar to that illustrated in FIGS. 1 and 2, showing still another form of the invention.

A seat cushion constructed in accordance with the present invention as illustrated in FIG. 1 comprises a frame 5 having a front rail 6, a rear rail 7 and oppositely disposed side rails 8. The sheet 9 of resilient open material may be made of metal, plastic or the like which have resiliency or which may be reinforced by wires or other means to

provide resiliency thereto. The sheet is formed at the front end into a V-shaped supporting end 11 similar to a V-shaped supporting end 12 at the rear end thereof. The load supporting portion 13 of the sheet 9 which is disposed between the supporting ends is preferably arched, as clearly illustrated in the figure. Staples 14 secure the ends of the V-shaped portions 11 and 12 to the front and rear rails 6 and 7 forming a support for a resilient pad 15 and the trim material 16 secured thereover. Softness is provided at the front and rear edges of the resulting cushion by the V-shaped supporting ends 11 and 12 thereof while the arcuate load bearing section 13 maintains the desired shape to the trim material 16 and assumes a proper contour when the seat cushion is occupied. By having the sheet material 9 of open construction with apertures 17 therethrough, the seat is capable of breathing and is prevented from being air-bound which might otherwise occur if the sheet was impervious.

In FIG. 2 a sheet of material 21 is illustrated which is made of the same material as the sheet 9, having a V-shaped supporting portion 22 at one end, which may be the upper end in case the construction is a back cushion. A rear supporting portion 23 is formed by a reversely bent arcuate section 24 from which an arcuate section 25 is bent to extend thereover. The end of the section 25 is secured by hog rings 26 or other means to the load bearing section 27 of the sheet along a line positioned between the supporting portions 22 and 23. The rear portion 23 supports the adjacent area of the load bearing section 27 and provides substantial resistance to deflection at the points where the hog rings 26 join the arcuate portion 25 thereto, which is desired in a seat back construction. Such a construction is also desired in a seat cushion for supporting the concentrated load at the line of hog rings 26 while the V-shaped end 22 provides softness to the opposite forward end thereof. The pad 15 of cotton, rubber or the like is applied over the load bearing area 27 and a trim material 16 is applied over the pad in the usual manner.

In FIG. 3 a further form of the invention is illustrated that wherein a sheet of material 31, which is the same as the sheets 9 and 21 hereinabove referred to, is arched and folded upon itself at the bottom, providing two sections 32 and 33 which are oppositely bowed to form an oval shape to the spring. The top edges are secured together by hog rings 26, by welding, or other means. Staples 14 secure the bowed section 33 to the rail elements 34 of a frame 35, and pad material 15 and trim material 16 are applied to the outer face of the bowed section 32. The bowed section 32, which is the load bearing portion of the spring, has additional softness provided thereto by the ends of the spring which project beyond the rail elements 34. This permits the outer bowed section 32 to readily contour to the load when applied thereto.

In any of the constructions, a seat or back cushion is constructed of a single sheet of material made of metal, plastic or any material or a combination thereof which will provide resiliency thereto, so constructed as to have apertures therethrough to permit the breathing of the resulting cushion. The pervious sheet readily contours to the shape of the load and is so formed as to provide resiliency not only to the end portions but also to the load bearing portions disposed therebetween. As pointed out above, the sheet may be of resilient expanded metal or of a plastic material in combination with a cloth or macerated substance which has inherent resiliency or which has resiliency provided thereto through the introduction of strips of metal in parallel crossed relationship embedded therewithin. In any of the arrangements, a cushion of simple construction is provided made from a single sheet of material which only requires attachment

to the frame by staples or other means to form the sprung cushion.

What is claimed is:

1. In a seat cushion construction, a resilient sheet of pervious material forming a load bearing section which has a reversed end portion of V shape at one end, the opposite end of said sheet being of oval shape and secured to the bottom side of the load bearing section.

2. In a seat cushion, a resilient pervious sheet of material having a load bearing section with a V-shaped support at one end and having an oval shaped support at the other end, the oval shaped support being secured to the load bearing section of the sheet inwardly of the lateral edges thereof.

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