April 2, 1957 H. A. VOGEL 2,787,317

ZIGZAG SPRING SOFT EDGE CONSTRUCTION FOR SEATS

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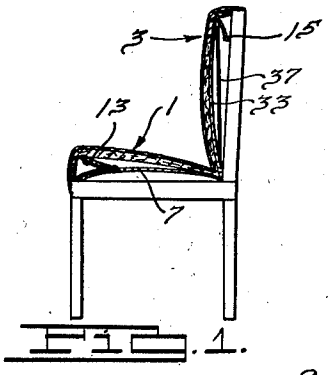

Fig. 1.

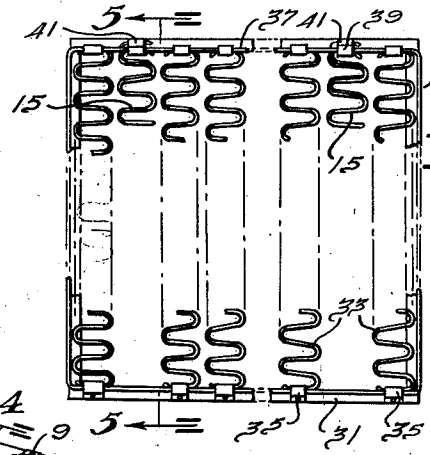

Fig. 3.

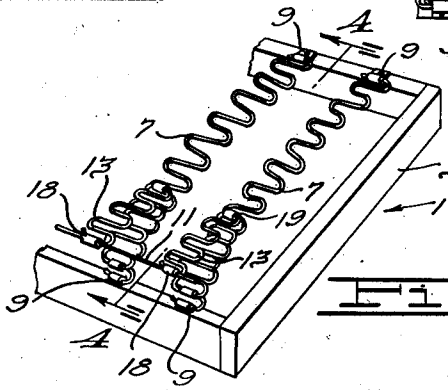

Fig. 2.

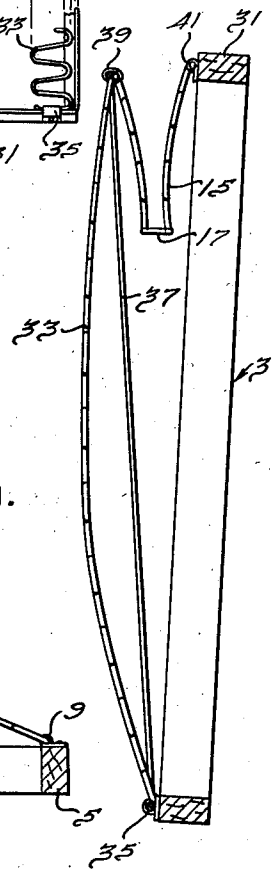

Fig. 5.

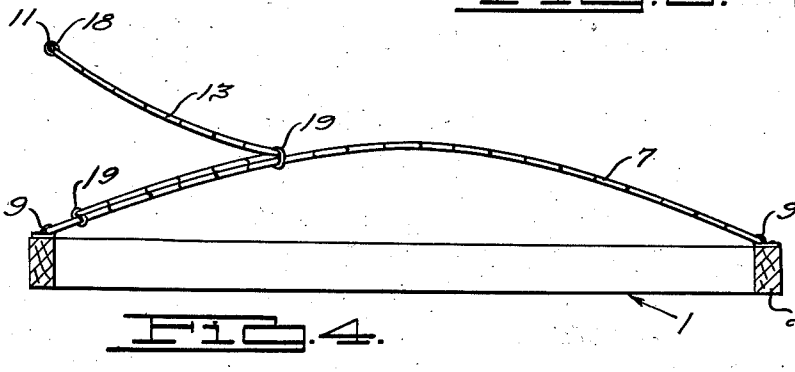

Fig. 4.

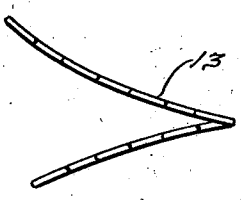

Fig. 6.

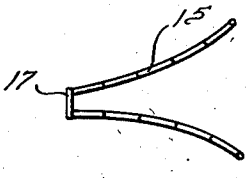

Fig. 7.

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ZIGZAG SPRING SOFT EDGE CONSTRUCTION FOR SEATS

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Application July 20, 1949, Serial No. 105,720

1 Claim. (Cl. 155—179)

This invention relates to spring constructions embodying a plurality of prearched, sinuous or zigzag spring strips of the type disclosed and claimed in Kaden Reissue Patent No. 21,263.

It is one object of the invention to decrease the cost and increase the ease of manufacture of spring constructions of the type referred to that have soft edges. This is accomplished by providing separate resilient sinuous spacer elements between the border wire and the frame and by utilizing simply a continuously curved sinuous spring strip to provide the resilient surface.

Another object is to improve the cushioning characteristics of the soft edge. This is accomplished by means of the separate resilient spacer elements, and in one form of the invention by pivotally connecting the ends of a V-shaped sinuous insert to the spring edge and to the frame, a construction not permissible with prior designs wherein the resilient spacer was formed integrally with the surface providing strips.

Other features and objects of the invention will be apparent upon consideration of the accompanying drawings, in which:

Figure 1 is a side elevation, partly in section, of a chair embodying the invention;

Fig. 2 is a perspective view of the seat spring construction of the chair of Fig. 1;

Fig. 3 is a plan view of the back construction used in the chair of Fig. 1;

Fig. 4 is a cross section taken on the line 4—4 of Fig. 2;

Fig. 5 is a cross section taken on line 5—5 of Fig. 3; and

Figs. 6 and 7 are detail views in side elevation of the inserts used in the seat and back cushions respectively.

The chair illustrated in Fig. 1 embodies in its seat cushion **1** and back cushion **3** two modifications of the present invention.

The seat construction **1**, as shown in Figs. 2 and 4, without upholstery and padding, comprises a suitable frame **5** which may be formed of wooden bars screwed together to define a rectangle. A plurality of parallel sinuous spring strips **7**, prearched in accordance with Kaden Reissue Patent No. 21,263, are pivotally connected at their ends to opposite sides of the frame **5** by means of suitable clips **9** and form a resilient surface.

The front edge of the seat cushion **1** is defined by the conventional border wire **11**. This is made soft by connecting it to the frame **5** through the medium of resilient spacers. The spacers are preferably formed of sinuous spring strips that are rebent into substantially V shape, as shown by the spacers **13** and **15**, respectively, of Figs. 6 and 7. The strip **15** includes a spacer loop **17**, and thus is also somewhat U shaped, whereas the spacer **13** is a sharply apexed V. The spacers **13** are employed in the seat construction **1**, and the upper ends of each are pivotally connected to the wire **11** by clips **18**, while the lower leg of each is preferably held in engagement with a strip **7** by clips **19**, so that the border wire **11** may benefit from the resiliency of both the spacer **13** and the strip **7**.

The back cushion **3** is generally similar to the seat **1** and comprises a frame **31** and a plurality of arched sinuous spring strips **33**. In this cushion a somewhat different contour is desired than in the seat hence, while one end of each of the strips is pivotally secured by means of clips **35** to the frame **31**, the other end of each strip is secured to the border wire **37**. The border wire is resiliently spaced from the frame **31** by spacers **15** which are pivotally connected thereto and to the ends of the strips **33** by clips **39**, the other ends of the spacers being pivotally secured to the frame **31** by means of clips **41**.

It will be recognized that the use of separate spacer elements **13** and **15** not only eliminates the expensive necessity of bending the ends of the strips underneath to provide a soft edge, but changes the contour of the resilient surface and also the spring characteristics in a manner which is desirable in certain applications.

It will be apparent that modifications from the illustrated form of the invention may be made without departing from the spirit thereof.

What is claimed is:

In combination with a spring unit comprising a plurality of sinuous spring strips formed of oppositely disposed loops joined by straight portions arched across a frame above one end of which a border wire is disposed, of a V-shaped element constructed from a sinuous spring strip and having arms of substantially equal length comprising a plurality of loops arched from the apex outwardly away from each other so that one arm follows the arch of the spring strips to reinforce a substantial length thereof and the other arm arches upwardly therefrom in position to support the border wire.

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