

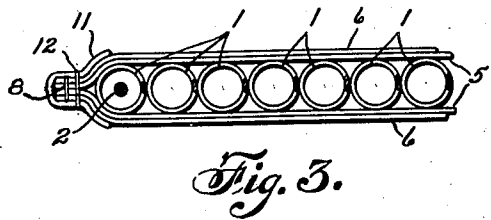
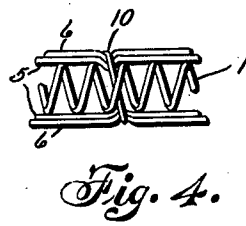
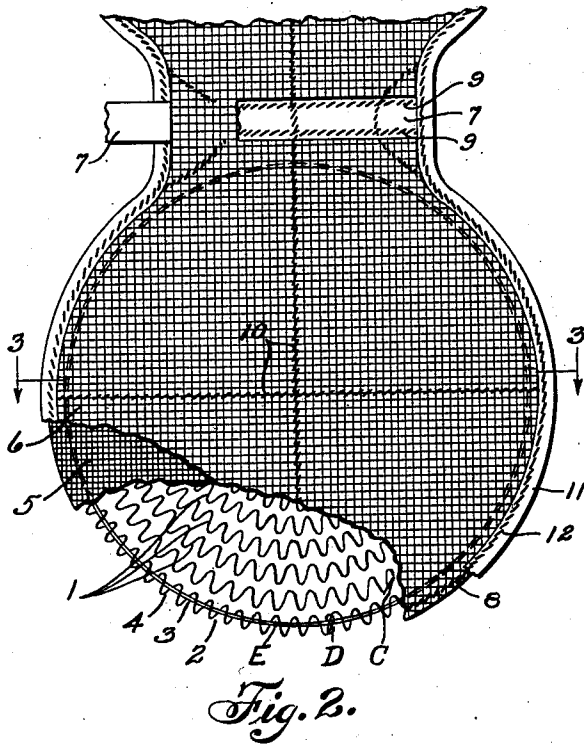
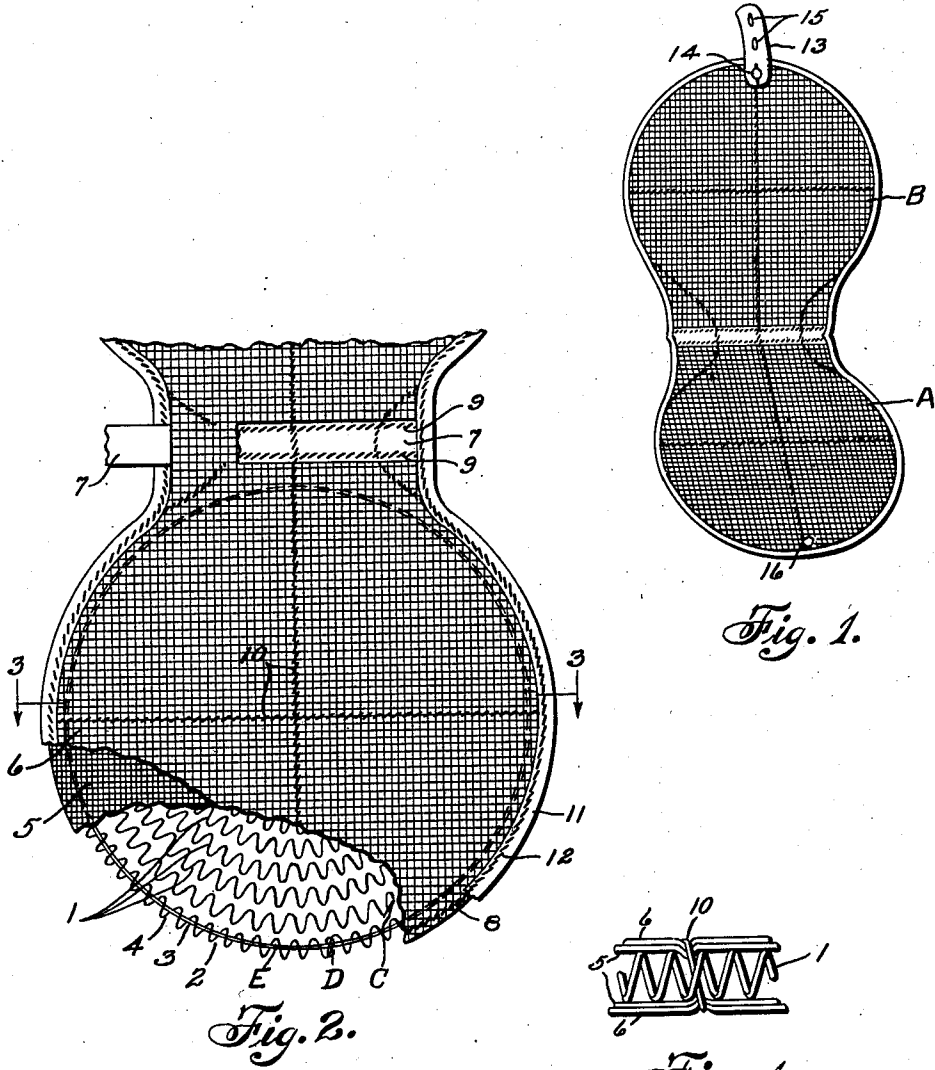
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SEAT CUSHION

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SEAT CUSHION.

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To all whom it may concern:

Be it known that I, ERSKINE P. HARLEY, a citizen of the United States of America, residing at Oklahoma City, in the county of Oklahoma and State of Oklahoma, have invented certain new and useful Improvements in Seat Cushions, of which the following is a specification.

My invention relates to cushions and has for one of its objects a cushion to be superimposed upon a seat, chair or other support and upon which the body of a person may rest and which will maintain a predetermined air space between the body and the seat or other support. The air space permits a circulation of air between the body and the seat or support.

Another object of my invention is to produce a device which is flexible and which will readily conform to the shape of the body and at the same time maintain the air space between the body and seat or support above referred to.

Another object of my invention is to provide a structure which is porous and thereby allow air from without the cushion to replace that within the cushion through such portions of the cushion as not closed by the body of the person seated thereon, and at the same time allow the air circulating within the cushion to contact with the clothing of the person seated upon the cushion.

Another object of my invention is to produce a structure which will permit the body of the person seated thereon to move relative to the seat or other support without relative movement of the body and seat or relative movement of the seat and support thereby eliminating wear upon the clothing or upon the support, which may be very objectionable if the support is covered with fabric subject to wear and at the same time such movement is much less annoying to a person.

Further objects will be disclosed hereinafter.

My invention resides in the new and novel construction, arrangement and combination of the parts hereinafter fully described and shown in the drawings.

In the drawings:—

Fig. 1 shows a device embodying my invention comprising a seat and back portion flexibly hinged together.

Fig. 2 is a partially completed structural

view in detail to show the construction of the cushion shown in Fig. 1.

Fig. 3 is a sectional view part way across the cushion on the line 3—3 of Fig. 2.

Fig. 4 is a detail view along the central line of stitching to show the relation of the stitching, covers and coils.

While in Fig. 1 I show a combination cushion that is a seat A and back B flexibly hinged together, I may make them separate for use as a seat or a back cover as described.

In my preferred construction I employ in each section A and B a member 1 comprising a spirally wound coil spring usually made of a small steel wire with the coils of the spring substantially vertically disposed with respect to the plane of the section A or B and spaced apart to form a supporting structure which will permit free circulation of air throughout the member 1, to give the proper strength to support the body and in which the convolutions are free to move relative to each other in order to conform readily to the body and give flexibility and cushioning effect to the structure.

The convolutions of member 1 reside substantially in a common flat plane except when forced out of such plane by pressure from without. The forming of the convoluted member 1 usually starts at the center and the coil spring is wound upon itself about a common axis which forms the center of the sections A or B until the proper number of convolutions is secured to give the diameter required. It will be noted that the outer convolution of member 1 ends at C and that the various convolutions appear in Fig. 2 as spaced apart, but with the construction described it will be apparent that the various convolutions may also engage with the adjacent convolutions and also interlap, all conditions, however, providing a construction meeting the requirements of my invention. While there appears from Fig. 2 that there is a space to the right of the end C of the outer convolution 1, this is not the case however in practice, as the interlapping of the various adjacent convolutions will eliminate the same.

In order to prevent each section from buckling and to cause it to maintain its shape and the back to stand up, I employ means 2 to stiffen the periphery of each section to a sufficient degree to give stability to each section, but not to be unyielding to

the extent of inconveniencing the person seated. The means 2, which I will call a rim, comprises a ring 3 of wire of considerably heavier gauge than that used in forming the member 1 enclosed within a single turn 4 of the coil spring of which the member 1 is composed. The adjacent ends of the member 4 are then fastened together as shown at D by hooking the ends together or by other means. The ends of the ring 3 are also fastened together as shown at E as by butting the ends and welding as by an electric arc, or by overlapping the ends and twisting them together or they may be united in any other suitable manner to produce a closed ring as by a sleeve connector.

If the article is to comprise a seat and back section, two combinations of the convoluted member 1 and rim 2 are prepared and assembled as shown in Fig. 2 and these are covered on both faces with one or more layers of fabric cut to the shape desired. My preference is to use two superimposed layers 5 and 6 and continuous for the two sections. That portion of the covers between the sections binds the sections together in a hinged relation, permitting them to be folded forward or back and upon each other and also permits freedom of movement relative to each other in any direction when the article is in use.

In order to strengthen that portion between the sections, I apply to the outer face of the front and back covering 6 and along that portion where the sections will bend back and forth, a strip of heavy webbing 7 (bent back on Fig. 2 to show member 6 below). I then stitch all around the edge of the coverings 5 and 6 close to the rim 2 and also run the stitching across the webbing 7 as indicated by the stitching 8. I also stitch the longitudinal edges of the web members 7 to the adjacent members 5 and 6, but this stitching 9 is preferably done before the covers are placed in position on the convoluted member 1.

After securing the members 1 to 7, inclusive, in position I sew through the whole structure as indicated at 10—10 thereby maintaining the coverings 5 and 6 from separating and allowing the convolution of the member 1 from becoming displaced but without in any way affecting the flexibility of the structure. The stitches 10 pass entirely through the layers 5 and 6 of the covering on each side and between the turns of the coil and spring forming the member 1 as shown in Fig. 4, thereby loosely securing the member 1 and covers 5 and 6 together along the stitching 10—10. After the above described construction is completed I bind the edges of the members 5 and 6 with a heavy tape 11 held in place by the stitching 12. This prevents the edges of the covers 5 and 6 from fraying and adds

to the appearance of the completed device. In my preferred construction I find best results by making the inner cover 5 of a fabric coarsely woven from a paper yarn and making the outer covering 6 of a coarsely woven cotton fabric although coverings may be used of other materials; these, however, are durable and help absorb moisture from the body and assist in cooling.

If the sections are made separate for use as a seat or back only and which are convenient for use on stools and as porch seats, a similar construction will be carried out as described above and will be apparent to one skilled in the art, and where the sections are separate they will usually be shaped round although my method of construction lends itself readily to other shapes.

In order to keep the back section in place when in use, I detachably secure to one of the sections a tab 13 by means of a button 14 or the tab can be permanently secured in place. The tab is provided with one or more button holes 15 for securing the cushion to the seat or support. The tab 13 is also convenient in maintaining the sections in a completely folded relation for convenience in carrying, as the tab can be brought around and over the edge of the two folded sections and secured to the button 16 by one of the button holes 15.

It will be apparent to one skilled in the art that modifications can be made from the above described construction embodying my invention, as for instance the member 4 can be a construction of the member 1 thereby forming the outer convolution and the ring 3 slipped therein and its ends welded or otherwise secured together, therefore, I do not wish to be limited other than by my claims.

I claim:—

1. An article of manufacture comprising a convoluted coil spring member having its convolutions positioned in a common plane, an enclosure for said member held distended by said element and transversely disposed means cooperating with oppositely disposed parts of the enclosure for maintaining the enclosure in engagement with the convoluted member.

2. An article of manufacture comprising a flexible convoluted coil spring member, an enclosure for said member held distended by the member and stitching extending through the oppositely disposed sides of the enclosure and through the convoluted member to maintain the parts in a fixed relation without affecting the flexibility of the structure.

3. An article of manufacture comprising an enclosing member, a convoluted member within the enclosing member to hold the sides of the enclosing member distended to allow free circulation of the air there-through, transversely disposed means to pre-

vent further distention of the enclosing member and means circumscribing the convoluted member to give stability to the structure.

5 4. An article of manufacture comprising an enclosing member, means for holding the enclosing member distended and allow free circulation of air therethrough, means circumscribing the holding means for giving stability to the structure, the circumscribing means comprising a ring surrounded by a coil spring and means interlocking with the enclosing member at substantially trans-
15 versely opposite points to prevent further distention of the enclosing member.

5. An article of manufacture comprising similarly constructed yielding seat and back portions, comprising an enclosing member, a separate resilient convoluted member for
20 each portion and spaced apart to allow the portions freedom of movement relative to each other and to hold the enclosing member distended, means to give stability to each portion comprising means circumscrib-
25 ing each resilient convoluted element to give stability thereto and stitching extending through the oppositely disposed sides of the enclosure and through the convoluted member without affecting the flexibility of the structure.

6. An article of manufacture comprising similarly constructed seat and back portions consisting of an enclosing member continuous
35 between the two portions, separate means for holding distended the parts of the enclosing member which form the seat and back portions to allow free circulation of air throughout the portions, means to give sta-
40 bility to each portion but allow freedom of movement of the portions relative to each other and stitches extending through the oppositely disposed sides of the enclosing member and the said means for holding the enclosing member distended and interlock-
45 ing the parts together to prevent further distention of the enclosing member.

7. An article of manufacture comprising a convoluted coil spring member having its convolutions disposed in a common plane,
50 an enclosure for said member having portions disposed on opposite sides of said member and means interlocking the oppositely disposed portions of said enclosure with said member to yieldingly bind the parts
55 together.

8. An article of manufacture comprising a flexible convoluted coil spring member, an enclosure for said member held distended
60 by the member and stitches interlocking the oppositely disposed sides of the enclosure to

maintain the sides of the enclosure in a fixed relation to the said member without affecting the flexibility of the enclosure.

9. An article of manufacture comprising 65 an enclosing member, a convoluted member within the enclosing member to hold the enclosing member distended, stitching extending through the oppositely disposed sides of the enclosure and through the convoluted
70 member to maintain the parts in a fixed relation without affecting the flexibility of the structure.

10. An article of manufacture comprising similarly constructed yielding seat and back
75 portions, comprising an enclosing member, a resilient convoluted member for each portion and spaced apart to allow the portions freedom of movement relative to each other and to hold the enclosing member distend-
80 ed, means to give stability to each portion comprising means circumscribing the resilient convoluted element to give stability thereto, stitching extending through the oppositely disposed sides of the enclosure and
85 through the convoluted member to maintain the parts in a fixed relation without affecting the flexibility of the structure and a fabric strip sewed to the structure lengthwise of the line of flexure to reinforce same.

11. An article of manufacture comprising similarly constructed yielding seat and back
90 portions, comprising an enclosure of a plurality of members, a resilient convoluted member for the seat portions and another resilient convoluted member for the back
95 portion and spaced apart to allow the portions freedom of movement relative to each other and to hold the enclosing member distended, means to give stability to each por-
100 tion comprising means circumscribing the resilient convoluted element to give stability thereto, stitching extending through the oppositely disposed sides of the enclosure and through the convoluted member to main-
105 tain the parts in a fixed relation without affecting the flexibility of the structure and a fabric strip sewed to the structure lengthwise of the line of flexure to reinforce same, and means to maintain the parts in a folded
110 relation.

12. An article of manufacture comprising an enclosure of a plurality of fabric mem-
115 bers, means for holding the enclosure distended and allow free circulation of the air therein and separate and independent means comprising a ring encircled by a spirally wound member and having its ends united circumscribing the holding means for giving
120 stability to the structure.

In testimony whereof I affix my signature.
ERSKINE P. HARLEY.