

E. FAVARY.
CUSHIONING DEVICE.

APPLICATION FILED MAR. 13, 1909. RENEWED JUNE 20, 1910.

Patented Jan. 10, 1911.

2 SHEETS—SHEET 1.

981,404.

Fig. 1.

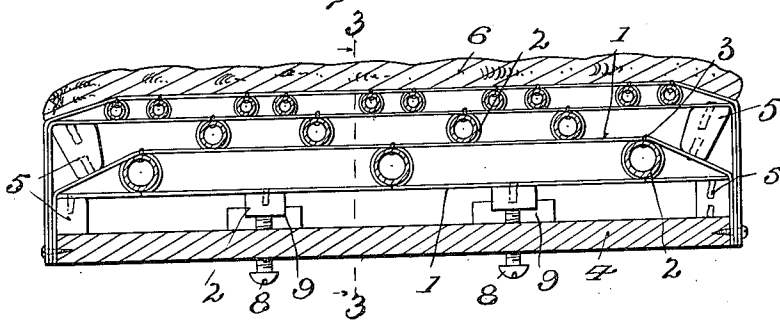


Fig. 2.

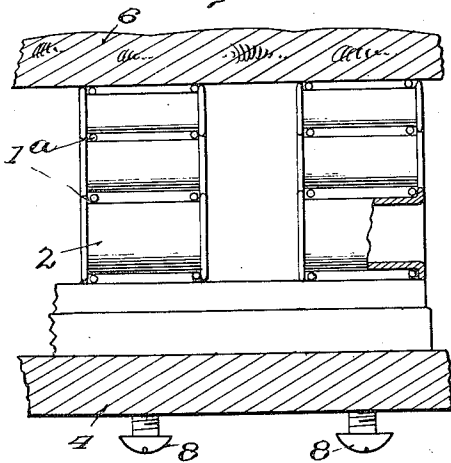


Fig. 3.

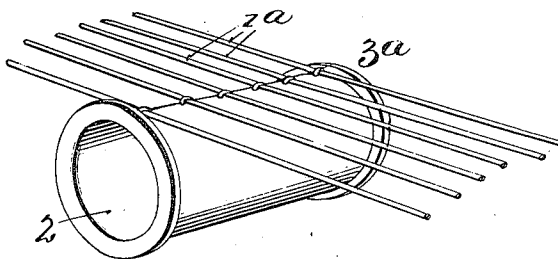
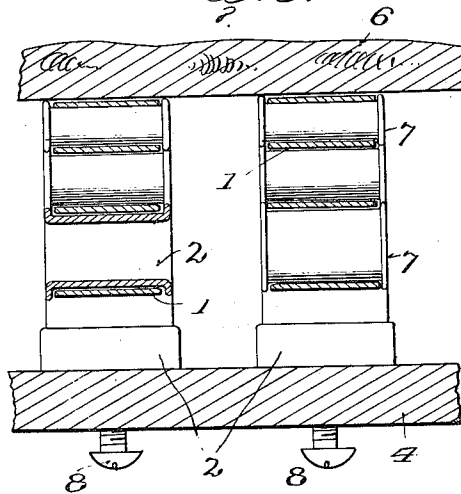


Fig. 4.

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2 SHEETS—SHEET 2.

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Fig. 5.

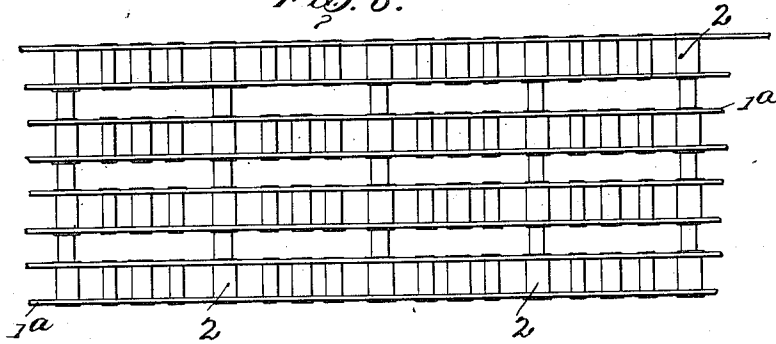


Fig. 6.

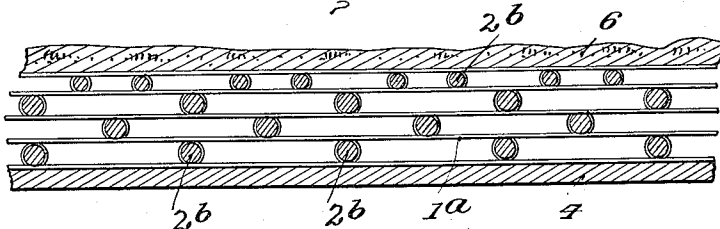


Fig. 7.

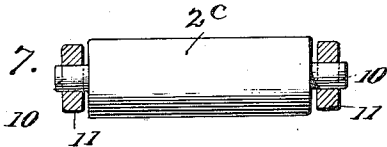


Fig. 8.

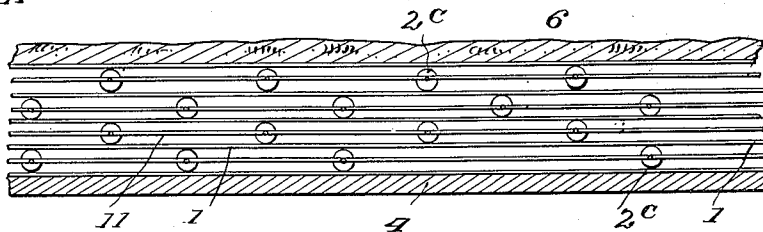
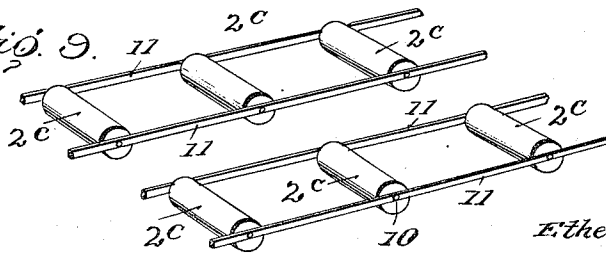


Fig. 9.



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CUSHIONING DEVICE.

981,404.

Specification of Letters Patent. **Patented Jan. 10, 1911.**

Application filed March 13, 1909, Serial No. 483,202. Renewed June 20, 1910. Serial No. 567,976.

To all whom it may concern:

Be it known that I, ETHELBERT FAVARY, citizen of Hungary, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cushioning Devices, of which the following is a specification.

The object of this invention, is an improved construction of cushioning device which may be applied wherever resiliency is desired, for instance, in cushioned seats, or backs for cars, automobiles, or other vehicles generally, for sofas, chairs, or other articles of furniture, for mattresses or cushions of any character or type.

The invention consists essentially in one or more strips, bands, or layers of any strong pliable and preferably inelastic material or substance such as leather, gut-string, cables, canvas, chains or the like and spaced supports coöperating with the strips.

Wherever in the following description, the word "strip" appears, it is to be understood that the same includes pliable bands, or layers of any character whatever.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a longitudinal sectional view illustrating my invention as embodied in a couch, sofa, or the like, for example; Fig. 2 is a transverse sectional view of another embodiment of the invention; Fig. 3 is a similar view on the line 3—3 of Fig. 1; Fig. 4 is a detail perspective view, illustrating another modification; Fig. 5 is a top plan view illustrating another embodiment; Fig. 6 is a longitudinal sectional view of that form of the invention which is illustrated in Fig. 5. Fig. 7 is a detail transverse section of one of the supports which is shown in end elevation; Fig. 8 is a longitudinal sectional view illustrating another modification; and, Fig. 9 is a detail perspective view of some of the supports of the form or construction illustrated in Figs. 7 and 8.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

In carrying out my invention, I employ one or more pliable strips 1 as illustrated in Figs. 1 and 3, said strips being in such embodiments of the invention arranged in superimposed series, and of any desired width or number side by side, or if desired they may comprise a single width so far as each strip is concerned, extending from side to side of the article in which they are incorporated. Relative rigid supports 2, either solid or hollow and of any desired shape, construction or design are interposed between the several interposed sets of strips 1 and are secured thereto in any desired way, as for instance, by the rivets indicated at 3 in Fig. 1.

The supports 2 are preferably arranged in staggered relation to the corresponding supports above and below them as best seen in Fig. 1. In this embodiment of the invention, it is intended to illustrate a sofa seat 4 may be employed, either rigid or resilient, the strips 1 being brought down around the end supports 5 and tacked or otherwise secured to the ends of the foundation board. Any desired type of upholstery or tufting 6 may surmount the pliable strips and their interposed supports. If desired, the supports may be flanged at their ends as indicated at 7 in Fig. 3, to properly hold the strips in place and prevent any sidewise displacement thereof.

In the practical use or operation of a cushioning device constructed as above described, it is evident that any downward pressure or stress imposed upon the device at any point will cause a yielding of the subjacent strips and a slight movement of the adjoining supports toward the point of pressure; it will thus be seen that I depend primarily upon the pliability of the strips 1 alone, and the fact that the supports are always maintained in definite spaced relation to each other. Hence the pressure will be resisted by all of the strips and supports in gradually decreasing degrees in all directions from the point of pressure or stress and the desired resiliency will be produced without the necessity of using rubber, steel springs, or other elastic accessories.

If desired, as best seen in Fig. 1 and also

indicated in Fig. 2, the strips 1 may be made more or less taut by tensioning devices, and I have selected for the purpose of illustration only, screws 8, the screws 8 working upwardly through the foundation 4 and working against the lowermost supports 2, which are guided and held against any longitudinal movement in sockets 9 formed in any desired way.

As stated at the outset of the specification my invention is not limited to any particular material or substance for the pliable strips 1. For instance, as illustrated in Fig. 2, I may employ wires, 1^a in lieu of leather or other strips above mentioned, in which the supports 2, foundation 4, upholstery or tufting 6 and tensioning devices 8 may be substantially like the corresponding parts illustrated in Figs. 1 and 3. It is to be understood that my invention is not limited to any desired number of strips, see for instance Fig. 4 wherein 1^a designates a comparatively large number of wires for each support 2, the wires being connected to the supports by means of staples 3^a.

Fig. 5 merely illustrates a top plan view of the modification or embodiment of the invention illustrated in Fig. 2, but without any solid foundation, or tufting or upholstery, and representing that form of the invention which may be embodied in a mattress for instance. Here also 1^a designates the pliable strips of wire, and 2 the supports.

Fig. 6 is a longitudinal sectional view of that form of the invention illustrated in Fig. 2, with the exception that the tensioning devices are omitted. In this view (Fig. 6) 6 designates the upholstery or tufting on a foundation of any desired kind, 1^a the pliable strips, and 2^b the interposed supports, it being noted that these supports last mentioned are solid rather than of the hollow type illustrated in Figs. 1, 2, 3, and 4. I have not shown any specific connection or fastening means between the pliable strips 1^a and the supports 2^b for the reason that my invention is not limited to any particular form of fastening, but it is to be understood that in any case, the supports are maintained in definite relation to the strips and in spaced relation to each other. It is also to be understood, that the supports may have movement about their own axes. One instance of this is illustrated in Figs. 7, 8 and 9, wherein it will be seen that the supports designated 2^c are formed with trunnions 10 journaled in bearings of spacing bars 11 to hold them against any bodily movement in a longitudinal direction relative to the interposed strips 1, but which at the same time permit the supports to turn about their own axes.

From the foregoing description in con-

nection with the accompanying drawings, it will be seen that I have provided a very simple, durable and efficient construction of yielding device which may be applied to a variety of uses and which depends primarily for its resiliency upon the pliability and not the elasticity of the strips, the arrangement of parts, the pliability of the strips, and the interposed supports fastened thereto, producing the desired resilient effect which is participated in by all of the strips and their supports to a greater or less extent as the point of strain is approached or departed from. The bars 11 (Figs. 8 and 9) may also be of pliable material, if convenient.

Having thus described the invention, what is claimed as new is:

1. A cushioning device of the character specified embodying pliable strips and relatively rigid supports for the strips, the supports being arranged in spaced relation to each other and being secured to the strips and holding under longitudinal tension a portion of the strips between them.

2. A cushioning device of the character described, comprising a plurality of superimposed pliable strips, and interposed supports of relatively rigid material fastened to the strips, the supports being arranged in spaced relation to each other.

3. A cushioning device of the character described, comprising pliable strips, and relatively rigid supports arranged in spaced relation to each other underneath said strips and fastened thereto, the supports being arranged in spaced relation to each other.

4. A cushioning device of the character described, embodying a plurality of superimposed pliable strips, and relatively rigid supports interposed between the several strips and fastened thereto and holding under longitudinal tension the portion of the strips between them.

5. A cushioning device comprising a plurality of pliable strips, supports therefor, the supports being interposed between the strips and the supports between every two strips being arranged in spaced relation to each other, the strips being rigidly fastened at their ends, and means applied to the intermediate supports for raising the latter so as to increase the tension upon the strips.

6. A cushioning device of the character described, comprising a plurality of pliable strips, supports for said strips, the supports being arranged in spaced relation to each other, and means for holding said supports and strips together as against any relative bodily movement of the former longitudinally of the latter, while at the same time permitting said supports to rotate about their own axes.

7. A cushioning device of the character

described comprising a plurality of superimposed pliable strips, and interposed supports fastened to the strips, the supports being arranged in spaced relation to each other.

5 8. A cushioning device of the character described, comprising a plurality of superimposed strips and supports for the strips, said supports being arranged in spaced rela-

tion to each other and holding under tension a portion of the strips between them. 10

In testimony whereof I affix my signature in presence of two witnesses.

ETHELBERT FAVARY. [L. S.]

Witnesses:

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