July 21, 1931. O. HOTTER 1,815,510

CONSTRUCTION OF SPRING SEATS AND MATTRESSES

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Fig. 1.

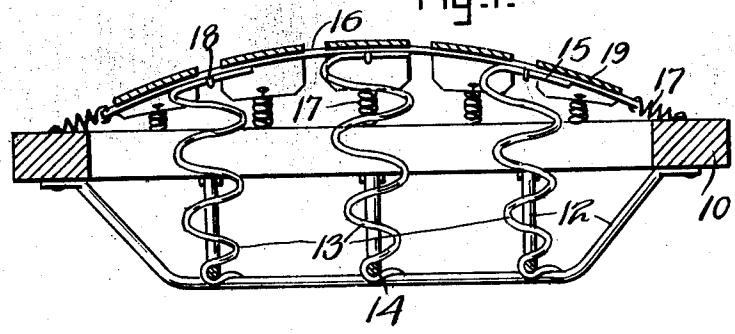
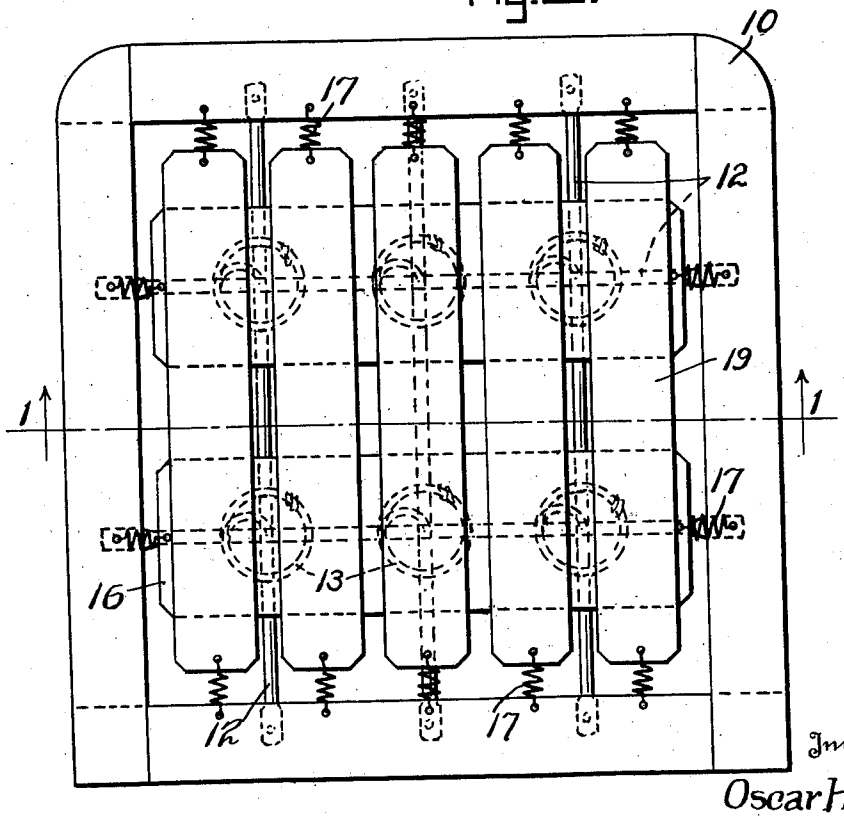


Fig. 2.



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Fig. 3.

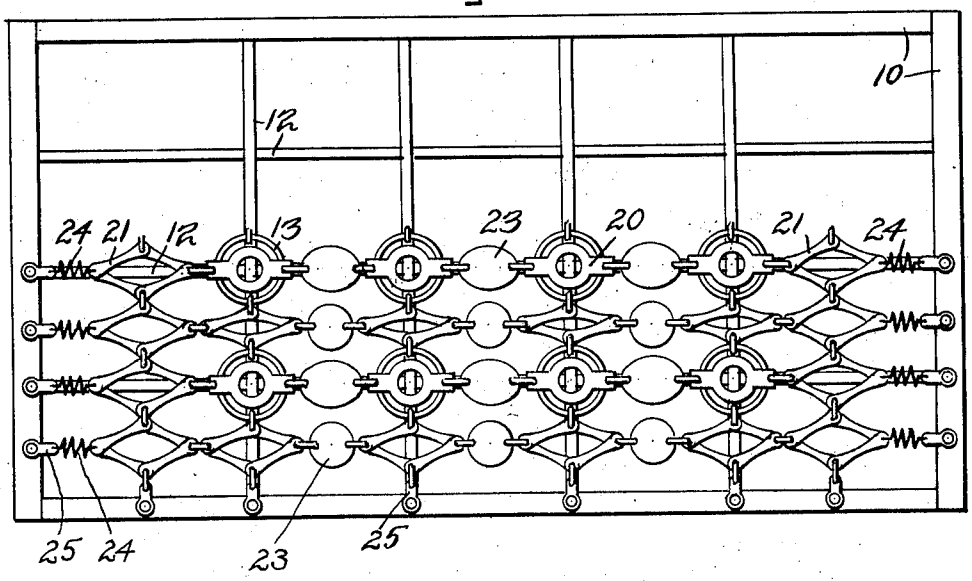


Fig. 4.

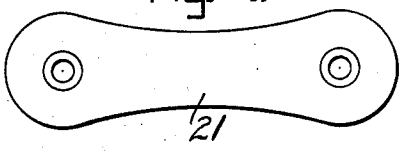


Fig. 5.

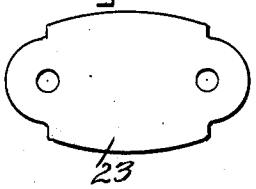


Fig. 6.

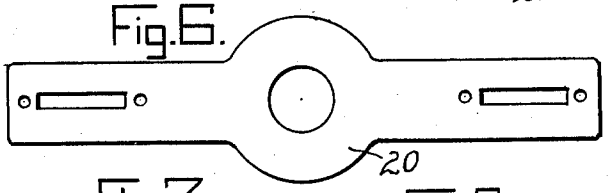


Fig. 7.

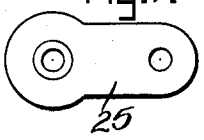
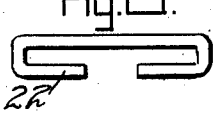


Fig. 8.



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UNITED STATES PATENT OFFICE

OSCAR HOTTER, OF HOCHSTADT, GERMANY

CONSTRUCTION OF SPRING-SEATS AND MATTRESSES

Application filed November 23, 1928, Serial No. 321,464, and in Germany December 9, 1927.

This application relates to spring seats and spring mattresses, and the method of constructing the same.

An object of the invention is to provide a new seat or mattress construction, in which there shall be a reduction of the metal parts which contact with the fabric to injure the covering of the metal parts; and further to effect a reduction in heat transfer to the cushioning or fabric parts.

A further object is to provide a construction wherein cords which tear off from the fabric and straps which give way and stretch may be eliminated.

A still further object is to reduce noise due to rubbing and swinging of metal parts, such as is true of such mattresses now in use.

A still further object is to provide a seat or mattress having springs which will readily adapt themselves to the form of the person sitting or reclining thereon.

Another object is to reduce dampness in such seats and mattresses.

Further objects and advantages will become apparent as the description proceeds.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts,

Figure 1 is a vertical section through a spring seat taken on the line 1—1 of Fig. 2,

Figure 2 is a plan view of a cushion or seat,

Figure 3 is a plan view of the invention as applied to a mattress or other large upholstery,

Figures 4 to 7 inclusive show shapes of the vulcan fibre parts for mattresses and large upholstery, and

Figure 8, a connecting hook for the parts shown in Figs. 4 to 7.

In spring seats and mattresses as heretofore constructed, metal straps and cords as well as metal nets have been used to hold the springs in place. In my construction instead of metal bands I have substituted vulcanized fibre bands and strips, and in some constructions I use a net formed of vulcan fibre strips linked together. By replacing metal parts with vulcan fibre material I lessen the amount of metal which would ordinarily come in contact with the fabric cover of the cushion or seat.

As shown in Fig. 1, the seat comprises a suitable frame 10, to the lower side of which supporting members 12 are secured. Springs 13 are secured at the intersections of these supports in any suitable way, such as by squeezing a loop 14 on the spring over or around one or both of the supporting rods. The upper ends 15 of the springs are secured to vulcan fibre bands 16. These bands are secured at their ends to the sides of the frame by means of springs 17. The ends 15 of the springs are preferably secured to the bands around pegs 18 on the under side of the bands. Above the fibre strips 16 and at right angles to them are additional fibre strips 19 secured to the sides of the frame by springs 17.

In the construction of mattresses or the like upholstery I use a frame and supporting members similar to those shown in Fig. 1 and mount the springs to rest at the intersection of the supporting rods of the frame in the way described above with respect to Fig. 1. The upper portions of the springs in this construction are held in position by a net which consists of vulcanized fibre strips of convenient size and of suitable shape. This net consists of a number of fibre strips 20 to the under side of which the upper ends of the springs are secured. These strips are connected together by means of a number of links 21 connected into link squares of any suitable form by means of swinging loops in which connecting hooks 22 are fastened. The spaces between the springs are filled out by fibre discs 23. The whole network is connected to the sides of the frame by means of springs 24 secured in fibre plates 25. The fibre plates are seated in the sides of the frame and secured thereto by means of screws, bolts or the like. The construction of the net just described not only dispenses with metal parts which injure the fabric covering of the couch or seat, but particularly lends itself to an excellent artistic finish.

While I have shown the net as constructed of links and strips of convenient shape and size, I of course do not wish to be limited to these particular shapes and sizes.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention, and I, therefore, do not limit myself to what is shown in the drawings and described in the specification, but only as set forth in the appended claim.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patents, is:

The combination with a mattress or cushion comprising a rigid frame having longitudinal and transverse supports, a group of vertical coil springs mounted on the supports and arranged within the frame in spaced relation to each other and in longitudinal and transverse rows at right angles to each other, of flexible tie means secured to and connecting the upper ends of the springs in each longitudinal row together, connecting devices between the springs of each transverse row and between the ends of each transverse row and the sides of the frame, said connecting devices comprising disks and fiber links, the latter being connected to form parallelograms and capable of expanding longitudinally or transversely and simultaneously contracting in the other direction, ties connecting the said parallelograms with the disks to form a series of longitudinally expansible tie elements alternating with the longitudinal rows of springs, and expansion springs connecting the ends of said tie means and said tie elements separately to the ends of the frame, substantially as set forth.

In testimony whereof I affix my signature.

OSCAR HOTTER.