June 26, 1934. L. C. MOECKEL 1,964,296

SPRING BED BOTTOM

Filed Dec. 1, 1932

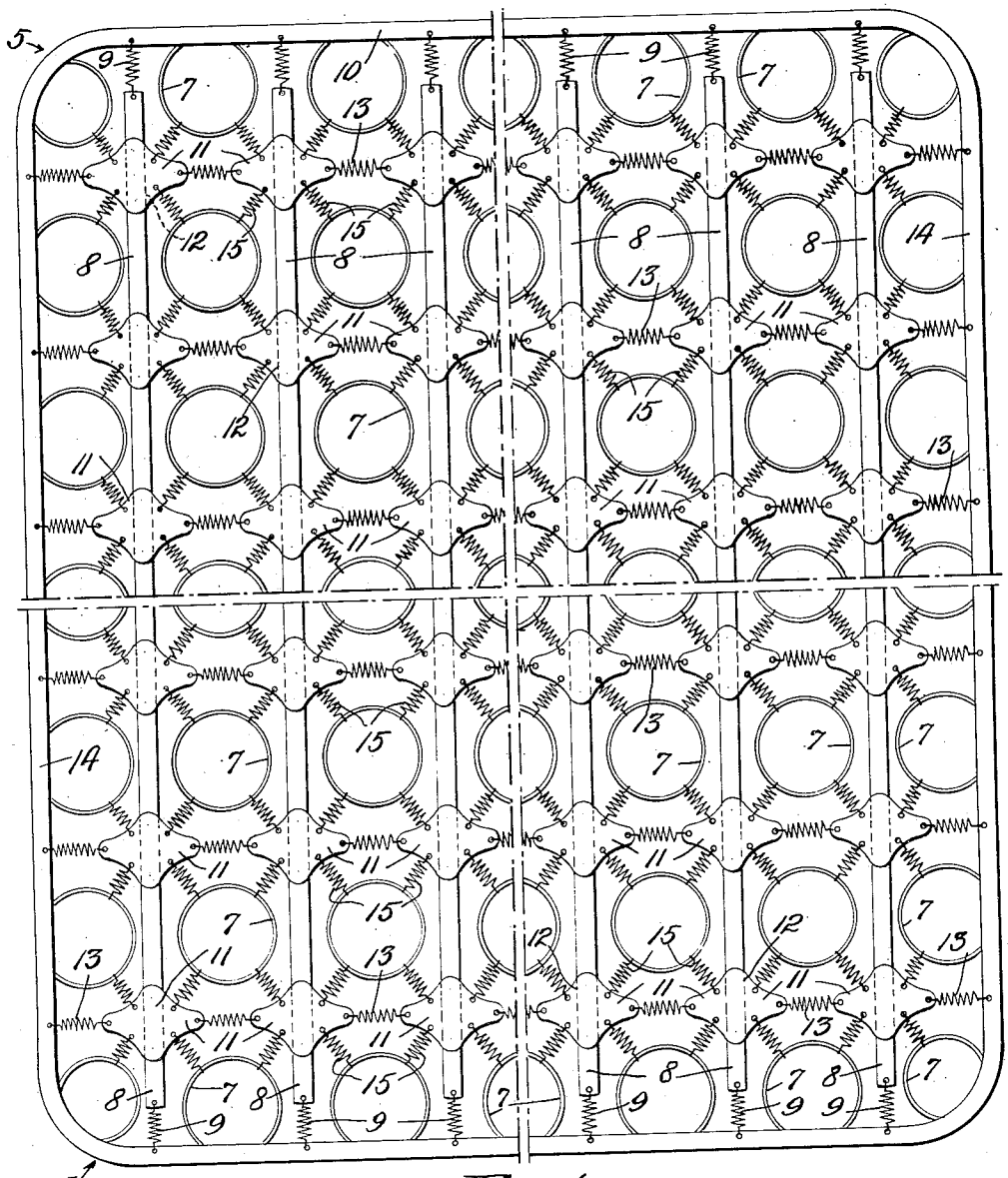


Fig. 1.



Fig. 2.



Fig. 3.

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Patented June 26, 1934

1,964,296

UNITED STATES PATENT OFFICE

1,964,296

SPRING BED BOTTOM

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Application December 1, 1932, Serial No. 645,172

3 Claims. (Cl. 5—269)

This invention relates to spring bed bottoms or a "bed spring" or the like, and aims to improve the construction of the upper portion thereof upon which a mattress is to be placed, so as to provide a surface which supports the mattress properly without danger of injury thereto, while at the same time to render the upper portion comfortable to the occupant lying upon the mattress.

A specific object of the present invention is to construct and arrange the parts of the upper portion of the bed bottom so that, if there are two occupants, the resiliently constructed upper portion is not apt to be caused to bulge, hump up or buckle in such a manner between the occupants as to tend to cause one of them to be rolled or forced over against the other one, so as to render their sleeping positions uncomfortable.

Incidentally to the object of providing a comfortable spring bed bottom, the construction is composed of relatively fewer and simpler parts than heretofore, so that such a spring bed bottom can be manufactured with economy.

Another object of the invention is to provide a strip of thin and flexible metal for use in bed bottoms or the like, upon which strip plates of suitable material are rigidly secured, such plates being spaced apart along the strip and extending transversely thereof so as to project a substantial distance beyond the opposite edges of the strip.

These being among the objects of the present invention, the same consists of certain features of construction and combinations of parts to be hereinafter described and then claimed with reference to the accompanying drawing illustrating a preferred embodiment of the invention and wherein

Fig. 1 is a top plan view of the improved spring bed bottom, parts being omitted in two directions so that this figure may be on a larger scale;

Fig. 2 is a transverse sectional view of the upper portion of the bed bottom, so designed as to illustrate the general action in the bed; and

Fig. 3 is an enlarged detail view to illustrate an anchorage plate welded to a carrying strip.

In the drawing the bottom frame of the usual spring bed bottoms is omitted, as it is unnecessary to illustrate it in order to describe the present improvements. The upper frame 5 of the spring bed bottom is preferably composed of angle metal as illustrated in Fig. 2. Spiral coil springs 6 are supported in a well known manner from the bottom frame (not illustrated), and the upper coils 7 thereof are located normally in the plane of the frame 5.

A suitable number of preferably sheet metal strips 8, preferably of thin spring steel, is employed, which are flat from end to end extend parallel with each other lengthwise of the frame 5, and these strips have the desired flexibility so as not to be too stiff and unyielding; that is, they are self-sustaining. This means that whatever may be the material which the strips are made of, such material is somewhat stiff as distinguished from leather, cord or the like which is not self-sustaining, as these when thin will sag of their own weight and not maintain their shape, and besides they have no resiliency and cannot be handled like a strip with suitable stiffness. The strips are preferably spaced substantially equi-distant from each other and the ends thereof are attached by means of spring helicals 9 to the end bars 10 of frame 5. Thus the strips are held under tension longitudinally of the frame.

Metallic anchorage plates 11 in suitable number and flat, may be welded, riveted or otherwise permanently and preferably directly secured along the length of a straight and flat surface of each of the metal strips 8, the plates of each series along each strip being preferably equi-distantly spaced apart so as to be disposed in staggered relation with respect to the supporting springs 6. Each of these anchorage plates 11 preferably approximates a diamond shape with incurved edges. The longer dimension of each plate extends transversely of the strip on which it is mounted, so that the series of anchorage plates extends somewhat between the adjacent upper coils 7 of the rows of supporting springs.

It will be seen that each strip 8 is relatively much narrower than the dimensions of the plates. These plates extend transversely of the strip and preferably project for a considerable distance beyond the edges of the strip. Such construction is desirable because of the narrowness of the flexible resilient strips, as thereby ample supporting surfaces are provided by the plates on the strips, so that there is a maximum amount of supporting surface in contrast with the relatively narrow strips, and the narrow line which would more or less be inherent in each strip if it carried no plates 11 is relieved, and a person lying or resting on a bottom provided with such strips and plates is far more comfortable.

Spring helicals 13 of suitable number and of sufficiently small size extend transversely of the

frame 5 and the strips 8 and connect the anchorage plates 11 directly with each other and with the side bars 14 of the frame. Additional spring helicals 15 connect the anchorage plates 11 directly with the upper coils 7 of the supporting springs. These extend diagonally with reference to the frame 5 and there is one of them for each of the supporting springs and adjacent anchorage plate 11, thereby connecting them in pairs. In other words, there is a pair of converging spring helicals 15 at either side of each spring helical 13, so that there are six spring helicals secured to each anchorage plate. Of course the number may be varied. By reason of the preferred construction of strips 8 and plates 11 providing a maximum supporting surface, the amount of spring connections afforded by the helicals is brought to a minimum; that is to say the lengths of the helicals may be shorter than is customary, so that it is not necessary to employ longer helicals, for obtaining the full benefit of the improvements.

It should be stated that the upper coils 7 of the supporting springs which are located directly adjoining the frame 5, are permanently and rigidly attached at 16 to such frame.

It will be seen that a bed bottom or the like constructed as shown and described will have an upper mattress or the like supporting portion which forms an ample support and at the same time possesses considerable flexibility and resiliency when in use. A bed equipped with such a spring bottom will permit certain of the strips 8 which are directly under an occupant of the bed to be depressed from the position indicated in broken lines in Fig. 2, without causing adjacent strips to buckle or hump up, with a tendency to cause another occupant of the bed to roll or move away from their sleeping position on the bed, inasmuch as such other occupant will depress the strips directly underneath in a similar way. Hence each occupant of a bed can occupy the same without such objectionable tendency, while at the same time the occupant will be comfortably supported by the thoroughly resilient spring construction throughout the bed bottom. This is partially achieved from the fact that each strip 8 with its rigidly attached anchorage plates may move independently or tilt sidewise of any other strip, because it is preferably solely connected with the next strip and with the coils by the resilient helicals which practically surround each anchorage plate.

As the improved construction of bed bottom presents a minimum number of parts for achieving the desired advantages, the same can be manufactured and sold for a reasonable price. Each of the metallic strips 6 is self-sustaining as it were, that is to say it is entirely and independently resiliently supported, as by means of the little spring helicals. Furthermore, the anchorage plates on each strip 8 will move or tilt bodily as a whole with the strip, and not be affected by an adjacent strip.

The invention is also applicable to a narrow bed spring to be used by one person, as obviously some of the advantages of the improved construction would still be achieved. If desired, the transverse helicals directly connecting the strips 8 may be omitted.

Obviously the invention shown and described is susceptible of more or less further modification without departing from the invention as defined in the appended claims.

What I claim as new is—

1. A spring bed bottom or the like, including in combination a frame, supporting springs for the frame arranged in rows longitudinally of the frame, strips of self-sustaining sheet material extending in spaced parallel relation between the successive rows substantially continuously from end to end of the frame, and the ends of the strips yieldingly secured to the ends of the frame, anchorage plates spaced along each strip and rigidly secured directly thereto, spring helicals connecting the plates in succession transversely with each other and with the sides of the frame, such helicals forming resilient connections transversely, and additional spring helicals connecting each plate with the supporting springs in succession at opposite sides thereof, whereby successive strips are bodily tiltable edgewise and are downwardly relatively movable one to the other without affecting other strips.

2. A spring bed bottom or the like, including in combination a frame, supporting springs for the frame arranged in rows longitudinally of the frame, strips of self-sustaining sheet material extending in spaced parallel relation between the successive rows substantially continuously from end to end of the frame, and the ends of the strips yieldingly secured to the ends of the frame, anchorage plates spaced along each strip and rigidly secured thereto, the ends of the plates of each strip projecting laterally of the strip, such projecting ends having perforations which are located beyond the side edges of each strip, spring helicals engaged with some of the perforations and connecting the plates in succession transversely with each other and with the sides of the frame, such helicals forming resilient connections transversely, and additional spring helicals engaged with other of the perforations and connecting each plate with the supporting springs in succession at opposite sides thereof and extending diagonally of the frame, whereby successive strips are bodily tiltable edgewise and are downwardly relatively movable one to the other without affecting other strips.

3. A spring bed bottom or the like, including in combination a frame, supporting springs for the frame arranged in rows longitudinally of the frame, strips of self-sustaining sheet material extending in spaced parallel relation between the successive rows, substantially continuously from one end to the other of the frame, and spring helicals secured to the ends of the strips and the ends of the frame, whereby the strips are yieldingly secured to the frame to permit each strip to tilt bodily edgewise, anchorage plates spaced apart along each strip, and directly secured rigidly and permanently to one of the surfaces across the width of the strip, the anchorage plates on each strip having portions projecting beyond the edges of the strips and terminating between the adjacent supporting springs, and spring helicals connecting the projecting portions of the plates with the supporting springs, each of the strips being somewhat independent of the other strips for relative movements.

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