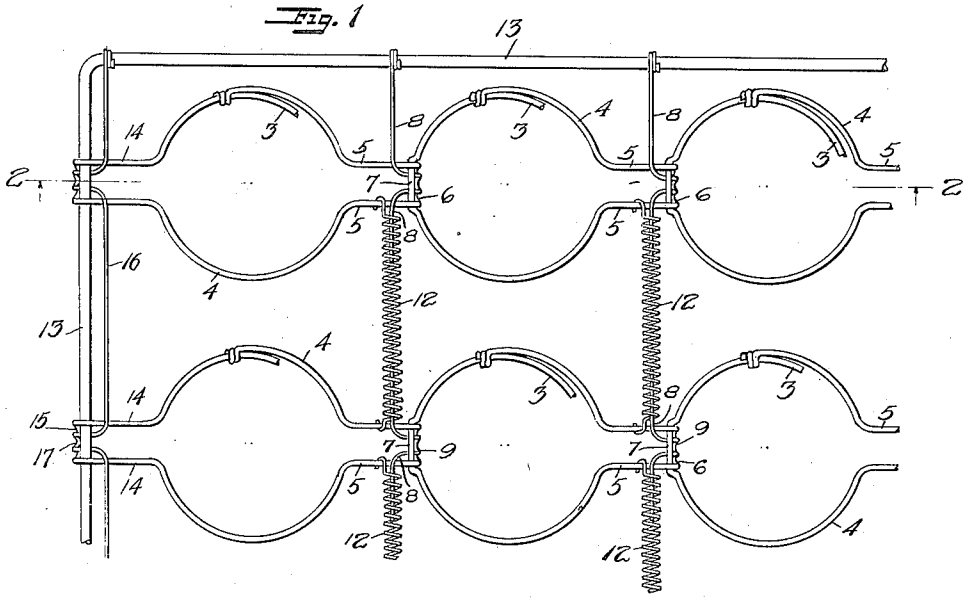
P. F. MALLEY, A. P. BREWER & R. B. HOSNER.

BED SPRING.

APPLICATION FILED OCT. 24, 1916.

1,282,899. Patented Oct. 29, 1918.

Fig. 1



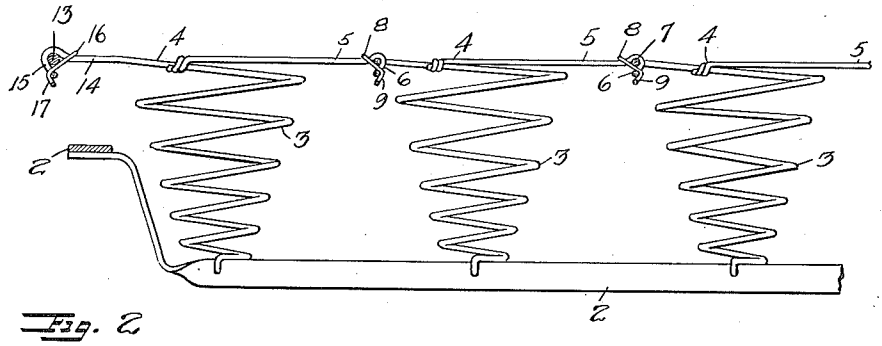


Fig. 2

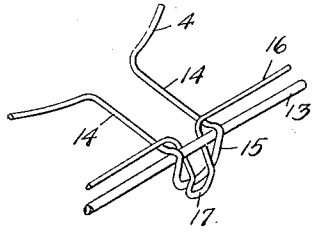


Fig. 3

WITNESSES:

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UNITED STATES PATENT OFFICE.

PATRICK F. MALLEY, ADDISON P. BREWER, AND RALPH B. HOSNER, OF SAN FRANCISCO, CALIFORNIA.

BED-SPRING.

1,282,899. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed October 24, 1916. Serial No. 127,347.

To all whom it may concern:

Be it known that we, PATRICK F. MALLEY, ADDISON P. BREWER, and RALPH B. HOSNER, citizens of the United States, and residents of the city and county of San Francisco and State of California, have invented a certain new and useful Bed-Spring, of which the following is a specification.

The invention relates to bed springs.

An object of the invention is to provide a durable, easily assembled bed spring which is so constructed that the springs are yieldingly interconnected, thereby producing a strong, yielding support for the mattress.

Another object of the invention is to provide an improved means of interconnecting the tops of the individual springs longitudinally of the spring.

A further object of the invention is to provide an improved means for securing the individual springs to the upper edge or frame of the spring.

The invention possesses other advantageous features, some of which, with the foregoing, will be set forth at length in the following description where we shall outline in full, that form of the invention which we have selected for illustration in the drawings accompanying and forming part of the present specification. In the drawings we have shown one particular form of the spring of our invention, but it is to be understood that we do not limit ourselves to such form, because the invention as expressed in the claims may be embodied in a plurality of forms.

Referring to said drawings:

Figure 1 is a plan view of a portion of the top of the spring of our invention.

Fig. 2 is a transverse section of the spring taken on the line 2—2, Fig. 1.

Fig. 3 is a perspective view of the connection between a helical spring and the upper edge of the bed-spring.

The bed-spring comprises a suitable lower frame 2 upon which the coils 3 are mounted and to which they are suitably attached. The coils are arranged in rows extending longitudinally and transversely of the bed-spring and their upper convolutions are connected in such manner that the top surface of the bed-spring presents a yielding resilient surface for the mattress to rest on. In Fig. 1 the rows of coils disposed across the sheet are disposed transversely of the bed-spring and those disposed from top to bottom of the sheet are disposed longitudinally of the bed-spring. The upper or enlarged convolution 4 of each coil-spring 3 is extended laterally and bent upon itself to form an arm 5, having a downwardly turned loop 6 on its outer end which engages with and overlaps the upper convolution of the adjacent coil-spring in the same transverse row. The upper convolution of the adjacent spring is provided with a bent or offset portion 7 at that point where it is engaged by the loop 6, so that relative movement of the loop and adjacent spring in a horizontal plane is prevented. This produces a more firm construction than if the upper convolution of the adjacent spring was allowed to slip through the loop. A hinge joint is therefore formed between the coil springs in each transverse row and the hinge is locked against disengagement by the wire or clip 8, which overlies the two wires of the arm 5, and passes in a loop 9 under the upper convolution of the adjacent spring and over the loop 6, at which point it is bent down around the loop 6. The transverse rows of coil-springs are connected together by helical springs 12, which hook over the arms 5 adjacent the hinges. The longitudinally projecting ends of the clips 8 extend into the helical springs 12 and prevent their displacement along the arms 5 and hold them in the proper position. The clips therefore perform the double function of completing the hinge joint between the adjacent coils and of holding the helical springs in their proper positions.

The clips 8, which complete the hinges along the two transverse end rows of coiled springs, extend outward and are fastened to the outer edge or frame 13 of the bed spring. Means are also provided for securing the outer longitudinal rows of coil springs to the outer edge 13. The upper convolution of each coil lying along the longitudinal edge of the bed spring is projected laterally and bent backward to form an arm 14 which is bent downward in a loop 15 over the edge 13. The loop 15 may be bent over the edge 13 sufficiently to tightly grip the edge, but in order to insure this joint against slipping we prefer to tie the arm 14 to the edge 13 by a wire 16 having a plurality of loops 17 formed thereon. These loops are inserted between the parallel wires of the

arms 14, passed under the edge 13 and over the loop 15 and then bent around the loop 15 to lock the joint between the loop 15 and the edge 13. The ends of the wire 16 are preferably connected to the upper edge 13.

This arrangement requires that the upper convolution of one coil-spring in each row be provided with two laterally projecting arms arranged diametrically opposite each other and this coil-spring may be arranged adjacent the edge 13 or it may be in the center of the row, as desired.

The bed-spring constructed and connected as here shown can be quickly and easily assembled, and when completed forms a spring having a completely interconnected upper surface of such construction that the effect of a load on one part of the surface is distributed over said part and parts adjacent thereto, but is not distributed over the entire surface. The arms 5 form the cross tie between the coils, and the helical springs 12 form a longitudinal tie. The various connections between the coils, coils and helicals and coils and upper edge, not only permit a free movement of each coil with respect to each other coil, but form noiseless hinges, all of the play and rattling being taken up by the helical springs. Also, a smooth, unobstructed, yielding surface is produced for the reception of a mattress and a clear upper edge, free from sharp-edged clips, is provided.

We claim:

1. In a bed spring, a wire constituting an edge for said bed spring, a group of coiled springs each formed with an offset portion in one side of the upper convolution of said spring, arms terminating in a hook and extending laterally from the opposite side of the upper convolution of said springs and adapted to engage the offset portion of an adjacent coil spring or said edge, a second group of coiled springs, laterally extending arms oppositely disposed upon the upper convolution of the springs of said second group, each of said arms terminating in a hook adapted to engage the edge of said bed-spring or the offset portion of an adjacent coil spring of the first mentioned group, a plurality of the coil springs of said first mentioned group and one coil spring of the last mentioned group forming each transverse row of coil springs in said bed spring, and means for preventing the disengagement of said hooks from the elements engaged therewith.

2. In a bed-spring, a plurality of coil-springs arranged transversely of the bed-spring, a laterally extending arm on the upper convolution of each spring, a loop on said arm engaging the upper convolution of the adjacent coil spring, a clip having a looped portion locking the arm and adjacent convolution together and having longitudinally projecting ends and a helical spring surrounding the adjacent ends of two clips and attached to two longitudinally adjacent arms.

3. In a bed-spring, a plurality of series of transversely arranged coiled springs, clips connecting the upper convolutions of the coils of the adjacent springs in each series and helical springs engaging clips in two adjacent series and connected to said convolutions.

4. In a bed-spring, a plurality of series of transversely arranged coiled springs, a laterally extending arm on the upper convolution of each spring engaging the upper convolution of the adjacent spring in the same series, clips locking said arms and convolutions together and helical springs engaging said clips and connecting corresponding springs in the successive series.

5. In a bed spring, an upper frame, a plurality of coil springs, means for tying and interlocking the springs together transversely and longitudinally and to said frame, comprising laterally extending arms on the upper convolutions of said springs engaging the upper convolutions of the adjacent springs, clips locking said arms and convolutions together, longitudinally disposed helical springs engaging said clips and attached to said arms, laterally projecting arms on the upper convolutions of the outside longitudinal rows of springs engaging said frame and a tie wire locking said frame and last-named arms together.

In testimony whereof we have hereunto set our hands at San Francisco, California, this 18th day of October, 1916.

PATRICK F. MALLEY.
ADDISON P. BREWER.
RALPH B. HOSNER.