F. B. KING.

SPRING CONSTRUCTION.

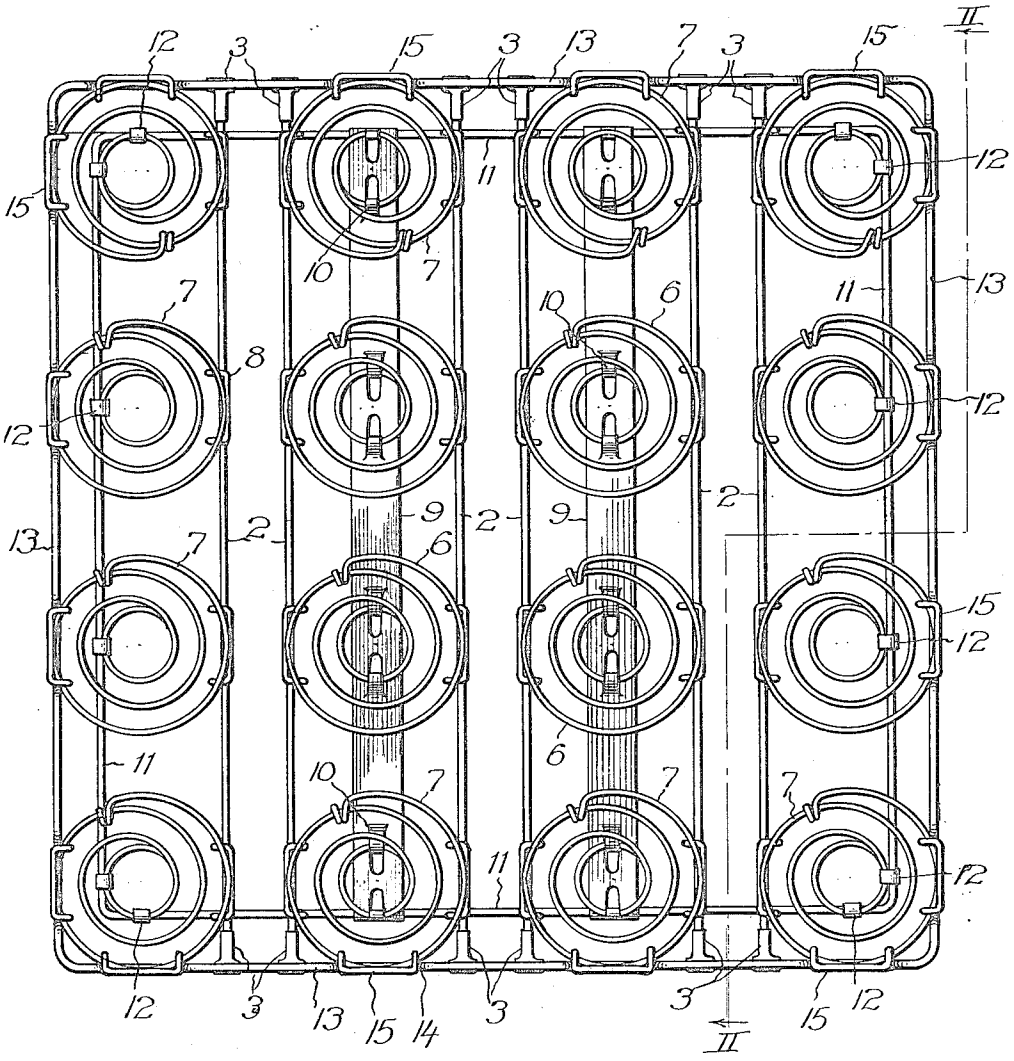
APPLICATION FILED OCT. 17, 1913.

1,155,425.

Patented Oct. 5, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

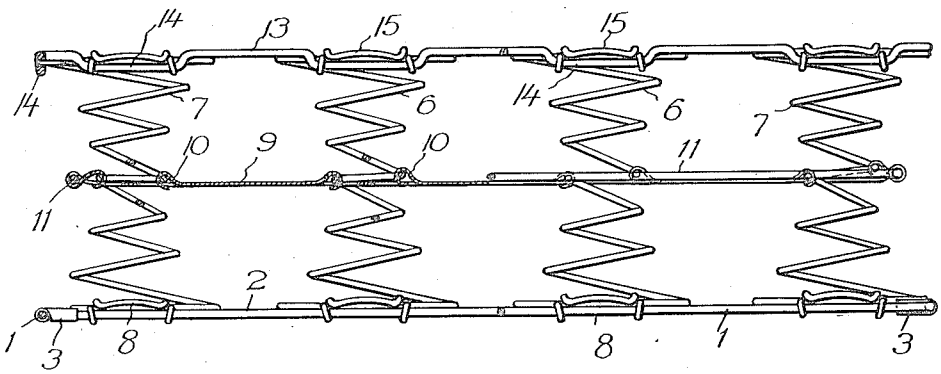


Fig. 3.

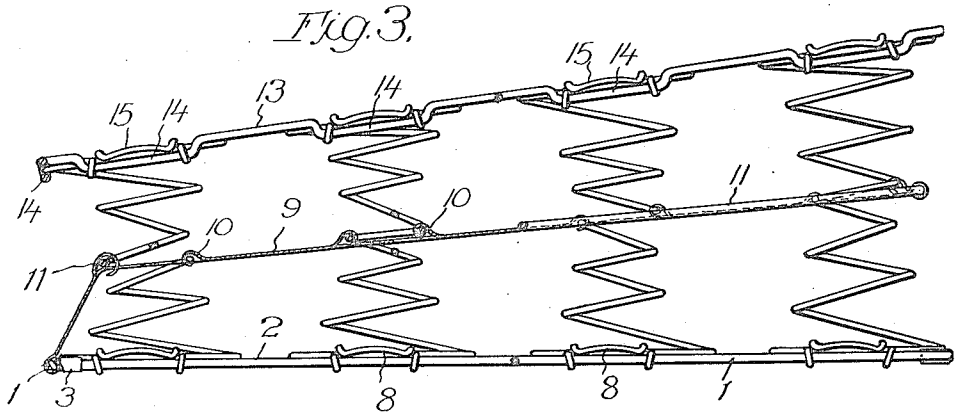


Fig. 4.

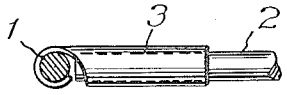


Fig. 5.

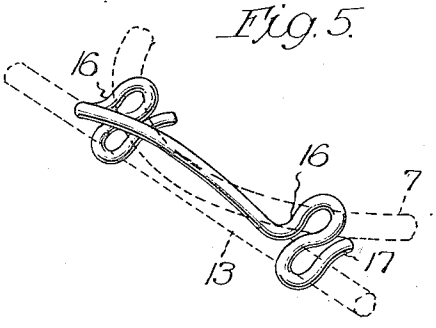
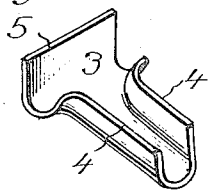


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

FRED B. KING, OF ALBION, MICHIGAN, ASSIGNOR TO NATIONAL SPRING AND WIRE COMPANY, OF ALBION, MICHIGAN, A CORPORATION OF MICHIGAN.

SPRING CONSTRUCTION.

1,155,425. Specification of Letters Patent. Patented Oct. 5, 1915.

Application filed October 17, 1913. Serial No. 795,799.

To all whom it may concern:

Be it known that I, FRED B. KING, a citizen of the United States of America, residing at Albion, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Spring Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to spring seat constructions and to an arrangement thereof that not only provides for rigidity and resiliency, but also affords a comparatively smooth support for applied upholstery without the use of any heavy upper structure. The invention also includes means for securing the supporting members of the structure in such way that they do not work loose under vibration and cannot penetrate the covering on the applied upholstery.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a structure that embodies features of the invention; Fig. 2 is a view in section taken on or about line II—II of Fig. 1; Fig. 3 is a view showing a slight modification of the construction; Fig. 4 is a view in detail of a T clip for securing members of the frame together; Fig. 5 is a view in detail of one form of spring clip; and Fig. 6 is a view in detail of a T clip blank.

Referring to the drawing, a base frame 1 of wire or like suitable material is formed of the shape desired for the completed structure, and is provided with longitudinally disposed supporting rods 2. The latter are secured to the end members of the base frame by T clips 3. These consist each of a rectangular blank having its longitudinal margins 4 for a portion of their length bent toward each other and folded around the end portion of a longitudinal member 2 while the end marginal portion 5 is bent up and over to embrace a contiguous frame member. This gives firm support to the parts which it holds in abutting relation. Body springs 6 and marginal springs 7 have their lower base coils secured on the base frame 1 and the longitudinal members thereof by any preferred form of clip, such as indicated at 8 that prevents longitudinal movements of the strips. The middle coils of each row of springs are united by pliable strips 9 with struck up tongues 10 that are folded over the spring turns. Preferably the tongues are inbent and closely pressed against the springs.

An intermediate rim frame 11 is supported by the end portions of the strips 9 which are folded around the intermediate frame members. The marginal springs which are connected by the strips 9 are secured to the adjacent portions of the intermediate rim frame as by clips 12. If preferred, as shown in Fig. 3, the strips 9 may be continued downwardly and secured to the base frame 1 so that they stay the structure as a whole from forward movement. Such disposition of the strips does not impair the resiliency of the seat as a whole as it is usual in such construction to increase the height of the body springs toward the front of the seat and as the weight is rarely carried by the rear marginal springs save as the latter act in conjunction with the rest of the structure, the depending portions of the strips do not affect the result.

The upper turns of the marginal springs 7 support an upper rim frame 13 that has offset portions 14 on which the turns lie and are held by suitable clips 15. The latter may be formed of wire bent into an S loop indicated at 16 at either end, one eyelet of which encircles the rim while the other encircles the coil, the end portion 17 acting as a lock to prevent displacement of the parts. The off-sets are so proportioned that the top of the spring structure is practically smooth, that is, there are no projections above the plane of the rim frame.

As a result of this construction, a spring structure is obtained that has a base frame combining strength with rigidity, because of the intermediate connection between the longitudinal members of the marginal portions of the frame, these connections not permitting the parts to work loose and penetrate any applied upholstery covering. The stray strips between the middle turns of the body springs and front and back marginal springs retain the body springs in upright position and at the same time permit the free upper portions thereof to be depressed to a certain extent before the lower base turns are carried down by any weight resting on the seat. When the stay strips are carried down to the base frame additional means are provided for preventing the

swinging forward of the structure on the weight with the second distortion on the frame. The upper rim frame with its off-sets and the clips used present a smooth support for the seat cushion which does not have any projecting members to work through any fabric that rests thereon.

Obviously, changes in the details of construction may be made without departing from the spirit of my invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim is:—

1. A spring seat construction comprising a base frame having longitudinal spaced members, clips each encircling the end portion of a longitudinal member and the adjacent portion of a side member of the frame and holding the parts in abutting relation, upright coiled springs secured on the base frame, resilient spring strips connecting the intermediate coils of the interior body springs and front and back marginal springs, an intermediate frame secured and supported by the end portions of the spring strips and by the middle turns of the side marginal springs, and an upper rim frame having off-set portions on which the upper turns of the body springs rest and to which they are secured to clips lying below the plane of the upper face of the rim frame.

2. In a spring seat construction having a base, upright coiled springs thereon and an upper rim frame connecting the upper turns of the marginal body springs, spring metal strips having struck out tongues that engage the intermediate turns of the interior body springs and corresponding turns of some of the marginal springs, with a frame supported by the end portions of the strips and secured to the intermediate turns of the marginal springs that are not connected to the strips, one end portion of each strip extending to the base of the structure to which it is secured.

3. In a spring seat construction, having a base and upright body springs mounted thereon, an upper rim frame consisting of a rim having depending off-sets adapted to receive the upper turns of adjacent body springs, and clips having **S** bends at the ends thereof whose eyelets encircle the off-set portions of the rim and contiguous parts of the body spring coils respectively, the clips and coils forming with the rim frame a substantially flush support for applied upholstery.

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

FRED B. KING.

Witnesses:
OTIS A. LEONARD,
BLANCHE H. HOYT.