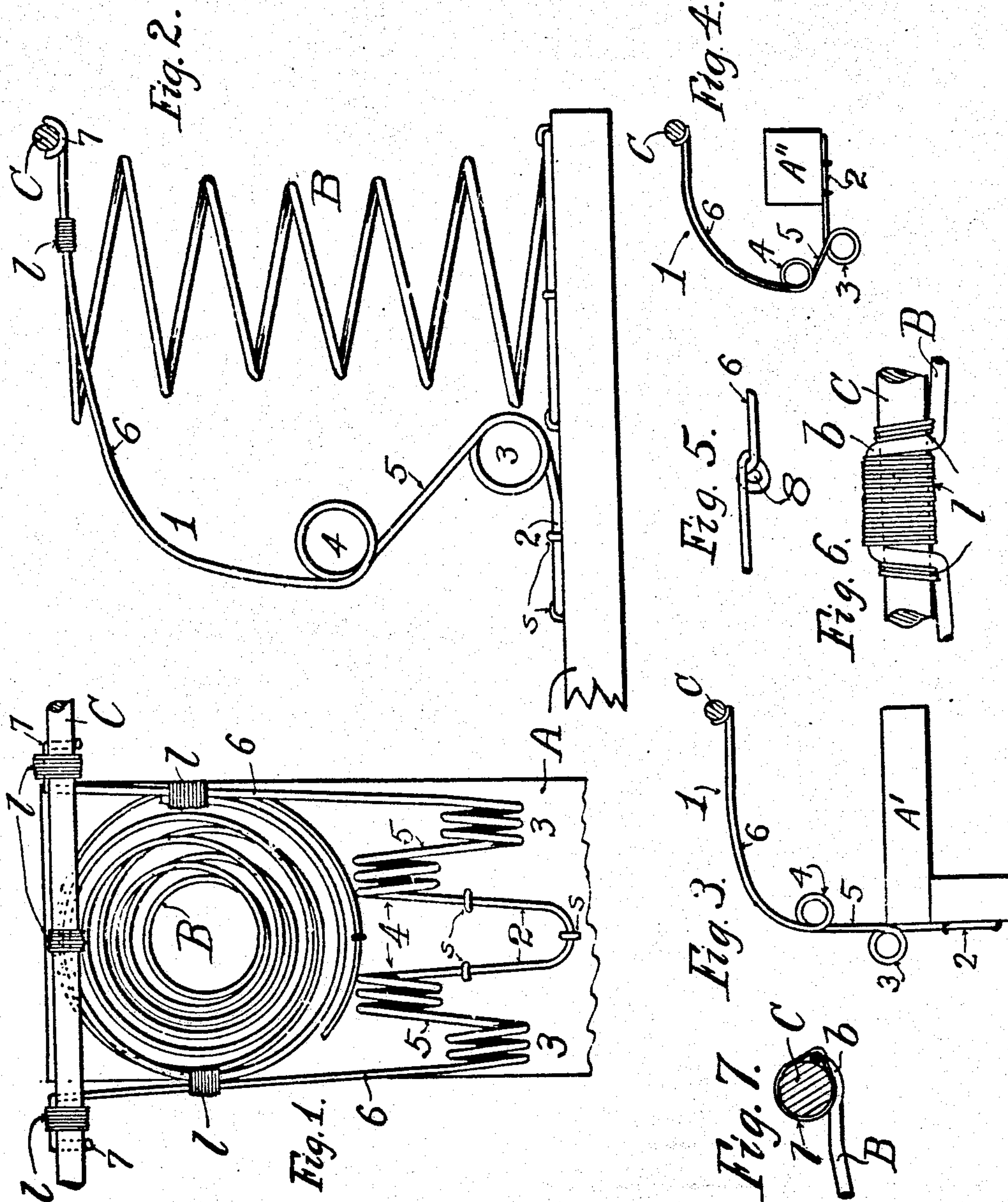


F. J. MAUBORGNE.  
MATTRESS AND FURNITURE SPRING.  
APPLICATION FILED JAN. 11, 1908. RENEWED FEB. 26, 1909.

936,649.

Patented Oct. 12, 1909.



Witnesses:  
*Wm. L. Love*  
*N. Love*

Inventor  
F. J. Mauborgne,  
By his Attorney *R. W. Parkey*



# UNITED STATES PATENT OFFICE.

FRANCIS J. MAUBORGNE, OF NEW YORK, N. Y., ASSIGNOR TO JAMES B. FITZGERALD,  
OF NEWARK, NEW JERSEY.

## MATTRESS AND FURNITURE SPRING.

936,649.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed January 11, 1908, Serial No. 410,405. Renewed February 26, 1909. Serial No. 480,157.

*To all whom it may concern:*

Be it known that I, FRANCIS J. MAUBORGNE, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented a certain new and useful Improvement in Mattress and Furniture Springs, of which the following is a specification.

The object of this invention is to preserve the form, outline and shape of spring-mattresses, chair-seats and upholstered articles, and to preserve the life of the springs throughout the mattress, seat or upholstering; that is, in all spring-bordered work, furniture and mattress. As made heretofore, such articles sooner or later get out of shape at the edges in use, owing to lack of transverse stiffness, and have to be made over or repaired with replacement of many springs in order to restore them to proper form or outline and life. Another defect of such work heretofore has been the wearing out of the lashing whereby the ratan is secured to the outer rows of springs thus releasing the border springs; the ratan turns on the border springs, thus bringing the lashing under strains which break it in a short while.

According to the present invention, transverse stiffness is secured by means of springs having reverse-coils in them, which springs have reverse-coils in them and which are secured to the ratan or cord running around the spring-bordered work and also to some part of the woodwork as well as to the usual coiled springs, if desired. These reverse-coil springs may be arranged, by their shape, to give more or less resistance to both inward and downward pressures or to either.

It is observed that the new springs are equally applicable in original construction as well as in repair work; that is, they may be used when the mattress, seat or upholstering is made in the first instance, or they may be put in place at any time thereafter, as in repairing the same.

The invention is embodied in the springs illustrated in the accompanying drawing, forming part hereof, in which—

Figure 1 is a plan view; Fig. 2 is an elevation of the same; Fig. 3 is an elevation of the spring applied to a shelf A'; Fig. 4 is an elevation showing the spring attached to a bar A'' in a chair; Fig. 5 shows a loop;

and Figs. 6 and 7 are two views showing a cradle applied to the ordinary border spring.

In the drawing, the reference numeral 1 designates the new spring, which, preferably, is made double, as by bending a single wire to form a base 2, the reverse coils 3 and 4 which are connected by the separators 5, and the arms 6 which are curved upward and outward and which have their ends formed into the lips or cradles 7 to receive the ratan or cord C. The base 2 is attached to a slat A by staples s, and the cradles 7 and the arms 6 are secured to the ratan C by lashings l, of cord or other suitable material. The cradles 7 are formed by bending the wire-ends at about right angles, laterally, with the arms 6 and then about parallel thereto, and bending the arms 6 and their ends downwardly, as shown in Figs. 1 and 2, to receive the edge, as the ratan or cord C. The arrangement shown in Figs. 1 and 2 is the preferred form in respect of the cradle, since the ratan cannot turn out of the cradle; whereas, if the cradle is carried only to about the center of the ratan, as shown in Figs. 3 and 4, the ratan is liable to twist over the end of the wire, get beneath the cradle and thus lead to the destruction of the outline of the mattress or other spring-bordered article. The new springs may also be lashed to the usual border spring B (see l). Or loops 8 may be formed in the arms 6 and the springs B be wound through them to connect them to said arms 6, with a saving of time in assembling. The springs B are omitted from Figs. 3 and 4, but it will be understood that they are, or may be, used there.

The ordinary springs B may have cradles 7\* formed thereon for the reception of the ratan C, lashings l being used to secure the spring and ratan together, thereby preventing the ratan from twisting over the end of the spring. The stiffening springs 1 have reverse coils, 3, 4, in each branch thereof, these coils being free to act as springs to any extent by twisting and untwisting. These springs 1 are used at the borders, all around the mattress or other spring-bordered part, and are each disposed at substantially right angles to the border where they are placed, and impart a resilient stiffness in a horizontal direction additional to the slight stiffness of the usual border springs B, as well



as stiffness in a vertical direction. The connections 5 and coils 3 resist, in a resilient manner, inward thrust (from the right, in Fig. 2), while coils 4 and arms 6 take care of downward thrust. The coils 3 4 are free to twist and to untwist in the use of the spring, there being no bar or rod passed through them.

It will be observed that the cradles 7 are open on their upper sides, whereby the ratan is merely laid in place and is then lashed.

What I claim as new and desire to secure by Letters Patent of the United States is—

1. In spring-mattresses and the like, a border, and a vertically-acting nesting spring for coaction therewith, combined with a horizontally and vertically acting spring consisting of a U-shaped base for attachment to the framework, two arms, each provided with a pair of reverse coils, extending from said base, means for attaching said arms to said nesting spring, and means for attaching the extremities of said arms to said border.

2. In spring-mattresses and the like, a border, and a vertically-acting nesting spring for coaction therewith, combined with a horizontally and vertically acting spring consisting of a U-shaped base for attachment to the framework, two arms each provided with a coil near said base and connectors extending upwardly from said coils to points above and laterally away from said base and with coils at said points reversed as compared with the first-named coils and said arms then continued upwardly and outwardly (of the mattress or the like) to the border, means for securing said arms to said nesting springs, and means for securing the extremities of said arms to the border.

3. In spring mattresses and the like, a border and a vertically-acting nesting spring coacting therewith, combined with a horizontally and vertically acting spring consisting of a U-shaped base for attachment to the framework extending into two arms each provided with a pair of reverse coils and terminating in cradles for receiving said border, and means for fastening said springs and border together.

4. In spring mattresses and the like, a stiffening spring consisting of a single wire bent at its middle portion to form a U-shaped base whereby it may be attached to a framework and the ends of the U-base being continued upwardly and backwardly and then forwardly and horizontally and provided each with reverse coils, whereby the spring may yield horizontally and vertically, and the ends thereof being formed into cradles for receiving the border or ratan.

5. In spring mattresses and the like, a stiffening spring consisting of a single wire bent at its middle portion to form a U-shaped base whereby the spring may be attached to a framework, the ends of the U-base being continued upwardly, rearwardly and then forwardly and horizontally and provided each with a pair of reverse coils in their rearwardly and forwardly parts and with loops in their horizontal parts, and the ends thereof being shaped for connection with the border or ratan.

Signed at New York in the county of New York and State of New York this ninth day of January, A. D. 1908.

FRANCIS J. MAUBORGNE.

Witnesses:

HUGO MOCK,  
R. W. BARKLEY.