H. JOSEPHSON.

FURNITURE SPRING.

APPLICATION FILED SEPT. 22, 1920.

**1,369,441.** **Patented Feb. 22, 1921.**

Fig. 1

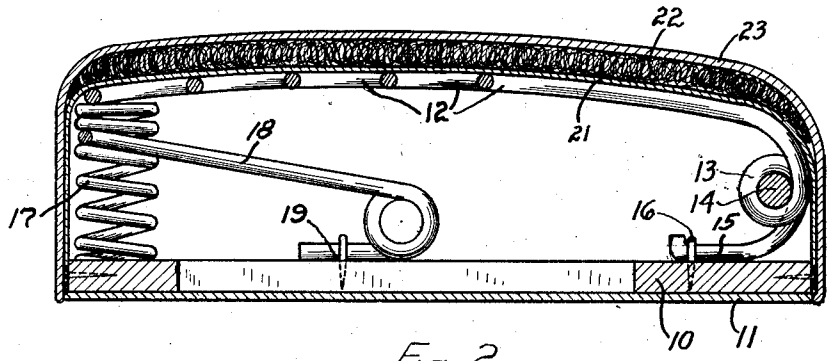



Fig. 2

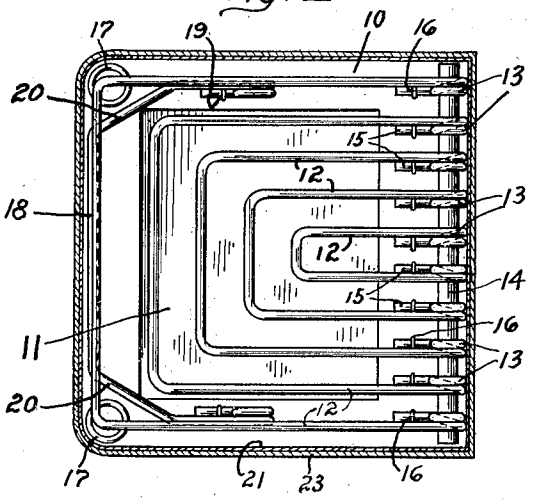



Fig. 3

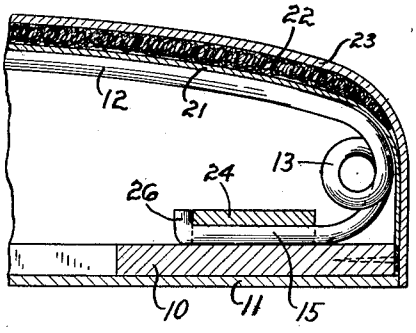
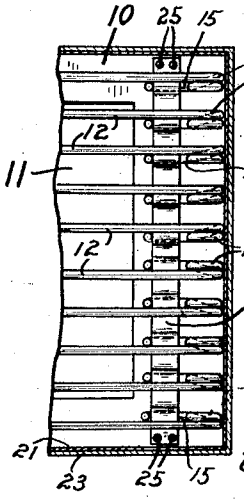



Fig. 4




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HARRY JOSEPHSON, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO GUSTAVE A. JACOBSON, OF BRIDGEPORT, CONNECTICUT.

## FURNITURE-SPRING.

1,369,441. Specification of Letters Patent. Patented Feb. 22, 1921.

Application filed September 22, 1920. Serial No. 411,940.

*To all whom it may concern:*

Be it known that I, HARRY JOSEPHSON, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Furniture-Springs, of which the following is a specification.

This invention relates to a furniture spring of the type especially adapted for use in connection with seats or back rests provided with cushions, and has for its object to provide a spring of the present character, which, while simple in construction and cheap to manufacture, will be efficient and comfortable in use. The spring of the invention is particularly adaptable to an automobile seat or back rest.

With the above and other objects in view, the invention comprises the construction, arrangement and combination of parts as now to be fully described and hereinafter specifically claimed.

In the accompanying drawing forming a part of this specification,—

Figure 1 is a sectional view of the furniture spring of the invention;

Fig. 2 is a top plan view of the spring on a reduced scale, with the cover, leather and pad or cushion of a seat or back rest removed;

Fig. 3 is a fragmentary sectional view of a slightly modified form of the invention; and

Fig. 4 is a fragmentary top plan view on a reduced scale of the spring of Fig 3.

Referring to Figs. 1 and 2, 10 denotes a seat or back rest frame, and 11 denotes a frame support. The numeral 12 indicates a number of U-shaped spring members, each of the legs of which is provided with one or more coils 13. Any number of these spring members may be employed in the construction of the furniture spring invented by me. I have preferred to show five spring members 12. Passing through the coils of all of spring members 12 is a rod 14, and while the coils are loose on the rod so that the spring members may pivot thereon, the arrangement is preferably such that the coils cannot have longitudinal movement with respect to the rod. It will be seen from Fig. 2 of the drawing that the U-shaped spring members 12 are of different dimensions. They may be made to possess different resiliences. The legs and base of the largest one preferably extend nearly the distance from front to rear and from side to side, respectively, of the seat or back rest frame, and the coils of the largest spring member are preferably positioned near the ends of the rod. The legs and bases of each of the other spring members are inclosed within the rectangle formed by the largest spring member, and the coils of the smaller spring members are arranged on the rod between the coils of the largest spring member. In other words, the spring members are arranged so that each one incloses the one just smaller, so that the coils of each smaller spring member are arranged on the rod between the coils of the spring member just larger. The coils of each U-shaped spring member are formed in the portions of the legs which are remote from the bases, and beyond the coils are attaching portions 15 which may be secured to the rear portion of the seat or back rest frame in any desirable manner, as by staples 16.

Extending upwardly from the front corner portions of the seat or back rest frame are coil springs 17 upon which the ends of the base and the forward ends of the legs of the largest U-shaped spring member are adapted to rest, as will be clear from Figs. 1 and 2. An additional U-shaped spring member 18 is secured to the seat or back rest frame intermediate its front and rear in any desirable manner, as indicated at 19. The legs of this second U-shaped member are bent or curved toward each other as indicated at 20 so as to clear coil springs 17, and are of such length that the base of said additional spring member 18 is, preferably, directly beneath or a little forward of the base of the largest spring member 12.

A cover, denoted by 21, which is secured to the edges of the sides, front and rear of the seat or back rest frame, incloses all of the spring members and the coil springs of the furniture spring. 22 denotes a pad or cushion which is located on the portion of the cover which rests on the U-shaped spring members that are secured to the rear portion of the seat or back rest frame, and 23 denotes the outside cover for the pad or cushion which may be of leather or other suitable material, and which is likewise secured to all of the edges of the seat or back rest frame.

It will of course be understood that U-shaped spring members 12, by reason of their own resiliency and that of coil springs 17, are adapted to exert slight upward pressure against cover 21, so that the outside cover for the pad or cushion will be kept stretched smoothly, as is desirable, and that the coils of each of spring members 12 are so arranged that when the furniture spring is in use, said spring members will yieldably support the occupant. As each spring member 12 is independently supported, it will be obvious that when pressure is applied to the outside cover, the particular spring member or members 12 put under the most of the pressure will yield to a greater extent than the other spring members, so that the furniture spring will readily conform to the shape of the occupant. This is conducive to comfort. As fully described, coil springs 17 are arranged to bear against the largest of spring members 12, and spring member 18 is positioned beneath said largest member 12. It is, therefore, obvious that when the largest spring member 12 is forced downwardly by an occupant of an article of furniture carrying the spring, the coil springs provide additional yieldable holding means which, together with the spring action of said largest spring member 12 itself, serves to make the front edge of the furniture spring less yieldable than are the other portions, as is desirable. When, now, the base of the largest spring member 12 has been moved down against its own spring action and that of the coil springs until it reaches spring member 18, an additional spring action, *i. e.*, that of spring member 18, is brought into play. And while the front edge of the furniture spring is even then yieldably supported, it is only slightly so as will be evident.

The furniture spring disclosed in Figs. 3 and 4 is exactly like the spring of the other figures, except that the coils, denoted by 13, are not provided with a rod, and that instead of securing the attaching portions 15 to the seat or back rest frame by means of staples, a plate 24 secured to the seat or back rest frame as indicated at 25 is arranged to hold down each of said attaching portions. The attaching portions may have upturned extensions 26 which hook around the edge of the plate, as shown, or the plate may be perforated to receive said extensions, or some different arrangement of securing the attaching portions between the plate and seat or back rest frame may be used.

What I desire to claim is:

1. A furniture spring comprising a frame, a plurality of U-shaped spring members secured near the rear of said frame and arranged to act independently of each other, said spring members arranged one within the other, and coil springs arranged at the front corners of said frame and adapted to bear against the largest of said U-shaped spring members, whereby the front portion of said furniture spring will be less yieldable than are the other portions thereof.

2. A furniture spring comprising a frame, a plurality of U-shaped spring members secured near the rear of said frame and arranged to act independently of each other, said spring members arranged one within the other, coil springs arranged at the front corners of said frame and adapted to bear against the largest of said U-shaped spring members to render the front portion of said furniture spring less yieldable than are the other portions thereof, and resilient means adapted to be engaged by said largest U-shaped spring member when said member is put under excessive pressure.

3. A furniture spring comprising a frame, a plurality of U-shaped spring members secured near the rear of said frame and arranged to act independently of each other, said spring members arranged one within the other, coil springs on said frame and adapted to bear against the largest of said U-shaped spring members, a spring member secured to said frame intermediate the front and rear thereof, and a cover for said coil springs and for all of said spring members, said spring member adapted to be engaged by said largest U-shaped spring member when said last mentioned member is put under excessive pressure.

4. A furniture spring comprising a frame, a plurality of U-shaped spring members secured near the rear of said frame and arranged to act independently of each other, said spring members arranged one within the other, coil springs on said frame and adapted to bear against the largest of said U-shaped spring members, an additional U-shaped spring member secured to said frame intermediate the front and rear thereof, and a cover for said coil springs and for all of said U-shaped spring members, said additional U-shaped spring member adapted to be engaged by said largest U-shaped spring member when said last mentioned member is put under excessive pressure.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 2nd day of September, A. D. 1920.

HARRY JOSEPHSON.

Witnesses:
C. M. NEWMAN,
LILLIAN M. ALLING.