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E. J. BARCALO & C. VALONE.

WOVEN WIRE BED SPRING.

APPLICATION FILED SEPT. 11, 1902.

NO MODEL.

Fig. 1.

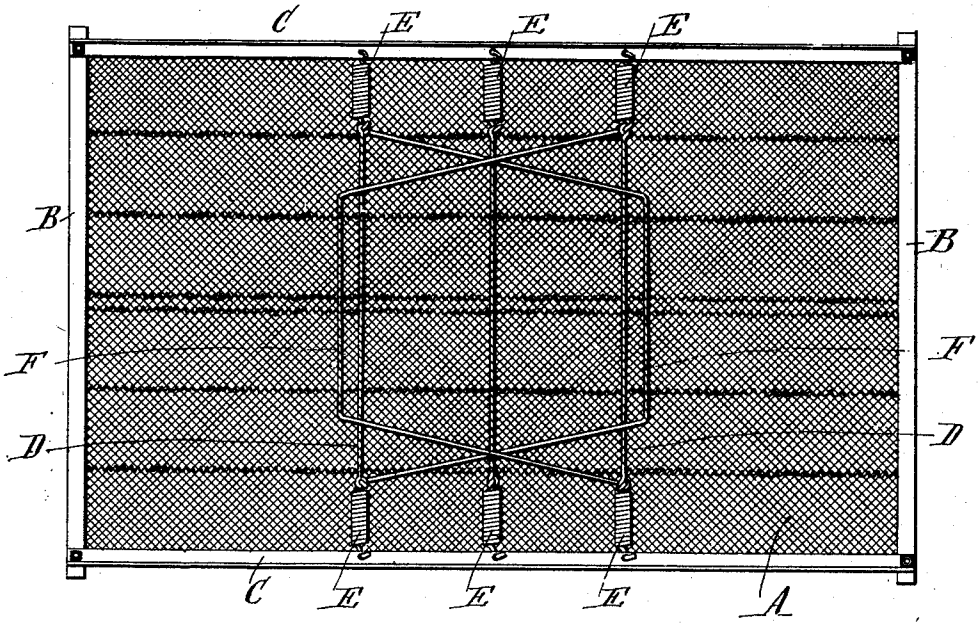
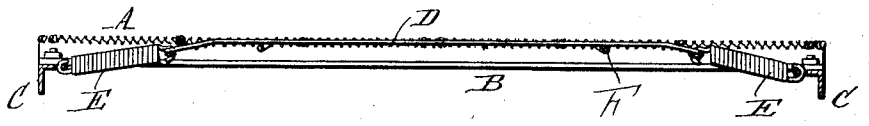


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD J. BARCALO AND CHARLES VALONE, OF BUFFALO, NEW YORK, ASSIGNORS TO BARCALO & BOLL MANUFACTURING COMPANY, OF BUFFALO, NEW YORK.

WOVEN-WIRE BED-SPRING.

SPECIFICATION forming part of Letters Patent No. 719,635, dated February 3, 1903.

Application filed September 11, 1902. Serial No. 122,960. (No model.)

To all whom it may concern:

Be it known that we, EDWARD J. BARCALO and CHARLES VALONE, citizens of the United States, and residents of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Woven-Wire Bed-Springs, of which the following is a specification.

This invention relates to bed springs or bottoms of the well-known woven-wire or wire-fabric type. These spring-bottoms are usually composed of longitudinally-arranged coils of wire, which are interlocked or woven together to form a continuous fabric, and the flexibility or resilience of the bottom is due to the elasticity of these interlocked coils. When the spring-bottom is subjected repeatedly to a considerable weight on a restricted portion of the bottom—as, for instance, when a heavy person occupies the central portion of the bottom—the coils or strands of the bottom in that locality become permanently stretched, distorted, or set, so that the bottom sags at that point or part to such an extent as to detract from the comfort and neat appearance of the bed, making it less flexible and not desirable. Furthermore, the side edges of the spring-bottom are not supported, and when a person sits or reclines on the side of the bed the side edge of the spring-bottom is sprung inwardly and depressed below the side rails of the spring-frame, so that the person comes in contact with the latter.

The object of this invention is to provide a wire bed-spring of simple, light, and inexpensive construction which will retain its form and elasticity and is free from the objections above stated.

In the accompanying drawings, Figure 1 is a bottom plan view of a woven-wire bed spring or bottom embodying the invention. Fig. 2 is a transverse section of the same on an enlarged scale.

Like letters of reference refer to like parts in both figures.

A represents the woven-wire fabric or bed-bottom, which is formed, as usual, of interwoven or interlocked coiled shanks of wire; B, the end rails, and C the side rails, of the rectangular supporting-frame for the fabric. The latter is secured, as ordinarily, at its opposite ends to the end rails of the frame, with its side edges parallel with and above the side rails of the frame. The frame shown is composed of metal flanged bars; but a frame of any usual or suitable construction may be employed.

D represents flexible equalizing or stay wires, strips, or members, which are arranged transversely of the woven-wire fabric and are threaded or passed through the coils of the latter for practically their entire length and nearly the entire width of the fabric. In the drawings three wires are shown, which are arranged parallel at the central portion of the bed-spring; but a greater or less number of wires may be employed.

E represents coiled springs which are arranged at the opposite sides of the bed-spring and each of which is connected in any desired manner at its inner end to the adjacent end of a stay-wire and at its outer end to the adjacent side rail of the bed-spring frame. As shown, the coiled springs are provided at opposite ends with hooks which engage, respectively, in eyes on the ends of the stay-wires and holes in the side rails of the frame. The stay-wires being connected to the coiled springs at opposite sides of the bed-spring yield or give with the spring fabric when weight is placed on the same and stretch the coiled springs, but are always straightened or returned to their normal taut position by the coiled springs when the weight is removed from the spring fabric. The stay-wires do not, therefore, prevent a free spring action of the fabric, but being threaded through the latter act as equalizers to distribute the load, which may bear on a restricted part only of the fabric, throughout the width of the fabric and prevent that portion of the fabric immediately beneath the load from bearing the entire weight thereof and becoming abnormally stretched and set. The stay-wires and springs also act as supports to prevent the sides of the spring fabric from being sprung downwardly between the side rails of the frame. While the separate stay-wires are shown, a simple continuous stay could be employed.

F represents supplemental stay members,

strips, or wires, the central portion of each of which is threaded through the coils of the spring fabric, while the opposite ends are inclined from the central portion and secured to two of the coiled springs E at opposite sides of the bed-spring. These stays being threaded through one part of the fabric and connected to the springs for the stays D, threaded through another part, supplement the equalizing action of the stays D and distribute the strain both longitudinally and crosswise of the fabric.

It has heretofore been suggested to pass stiffening strips or rods through the meshes of the woven-wire fabric and connect the ends of the stiffening-rods to the sides of the fabric; but such rods have no appreciable effect in preventing the longitudinal stretching and permanent setting of the fabric unless made very heavy, in which case they would stiffen the fabric to such an extent as to render it uncomfortable and undesirable. The stays described herein prevent an uneven stretching or permanent sag in the fabric, but do not unduly stiffen the same.

We claim as our invention—

1. The combination in a bed-spring, of a frame, a spring fabric attached at its opposite ends to the frame, springs connected to opposite sides of the frame, and a stay having a central portion passing through the spring fabric and inclined end portions connected to said springs, substantially as set forth.

2. The combination in a bed-spring, of a frame, a spring fabric attached at its opposite ends to the frame, transverse wires passing through the spring fabric, springs connected to the opposite ends of said wires and to the frame, and supplemental wires having central portions passing through the spring fabric and inclined portions connected to said springs, substantially as set forth.

Witness our hands this 29th day of August, 1902.

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Witnesses:
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