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A. T. KNORZER & S. P. DANNER.

SPRING EDGE SUPPORTING HOOK.

APPLICATION FILED JUNE 21, 1905.

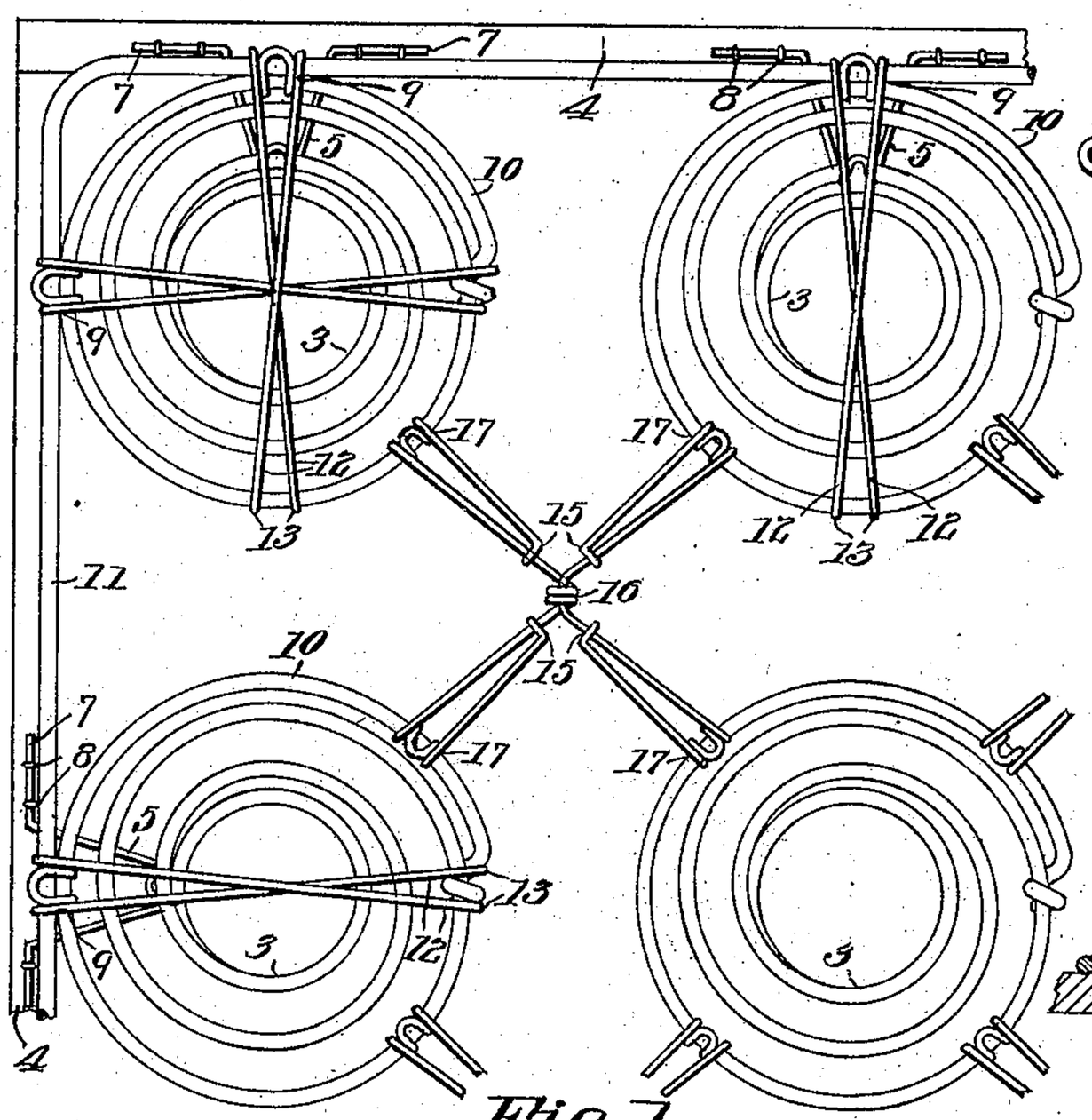

Fig. 1.

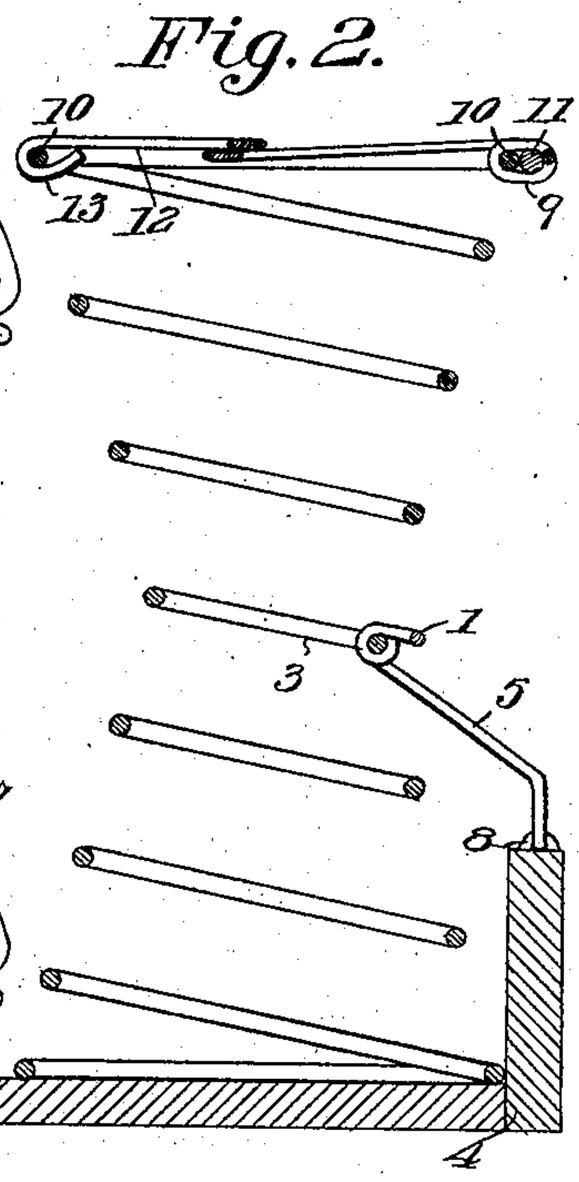

Fig. 2.

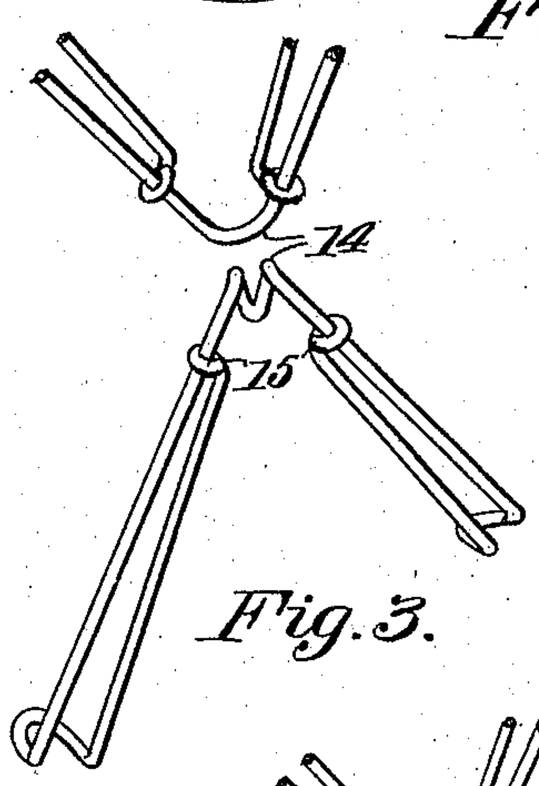

Fig. 3.

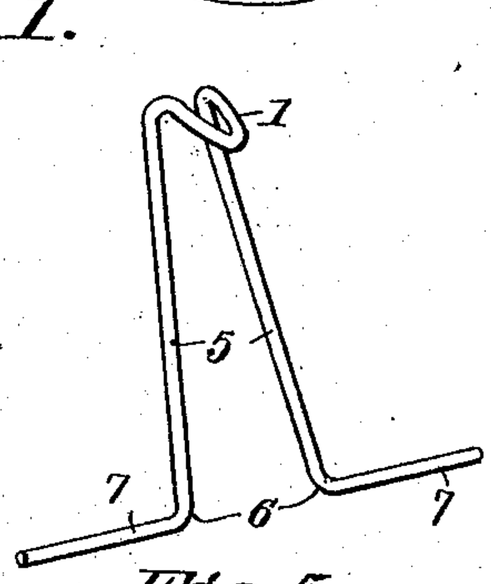

Fig. 5.

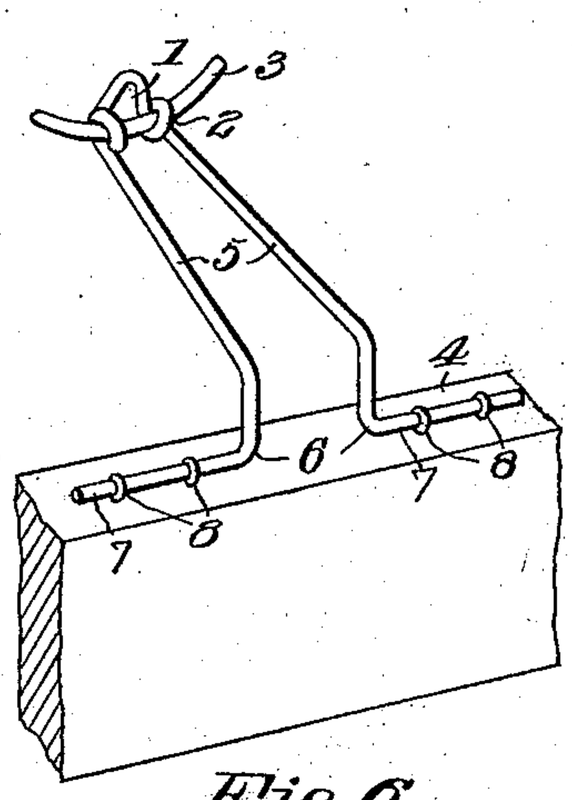

Fig. 6.

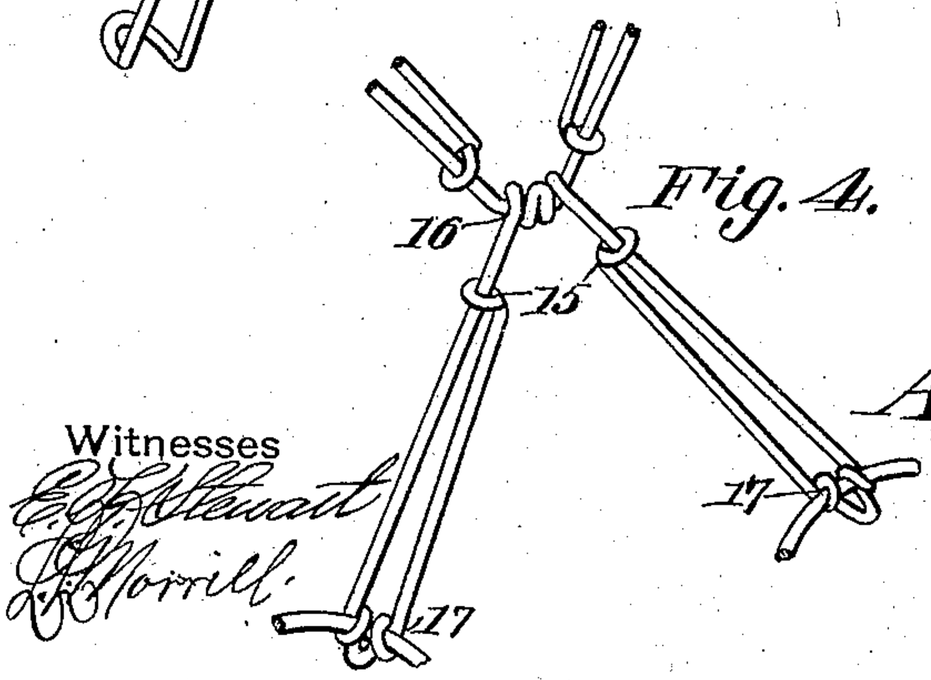

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS T. KNORZER AND SIMON PETER DANNER, OF MIDDLETOWN, CONNECTICUT.

SPRING EDGE-SUPPORTING HOOK.

No. 815,436. Specification of Letters Patent. Patented March 20, 1906.

Application filed June 21, 1905. Serial No. 266,330.

To all whom it may concern:

Be it known that we, AUGUSTUS T. KNORZER and SIMON PETER DANNER, citizens of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Spring Edge-Supporting Hook, of which the following is a specification.

This invention relates generally to spring-bottoms for furniture and the like, and especially to means for fastening the springs relative to each other and to the sides of the frame.

The object of the invention is to provide an improved fastening wherein a fold of wire is wound about the part to be fastened and the loop of the fold passed between the side wires.

A further object of the invention is to provide a fastening for properly spacing the several springs and embodying our improved loop fold.

A further object of the invention is to provide a fastening for securing an edge bar to the outer edge of the top whirl of the outer row of springs and embodying our improved loop fold.

A further object of the invention is to provide a pivoted fastening for securing the outer row of springs to the edge of the frame and embodying our improved loop fold.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter fully described, and shown in the accompanying drawings.

In the drawings, Figure 1 is a top plan view of a spring-bottom embodying the invention. Fig. 2 is a vertical sectional view of a single spring with the edge-supporting hook in position. Fig. 3 is a detail view of the spacing device before being coupled. Fig. 4 is a detail view of the spacing device coupled. Fig. 5 is a detail view of the edge-supporting hook before being wound about the spring-coil. Fig. 6 is a perspective detail view of the edge-supporting hook wound about the spring-coil and pivotally secured to the frame.

Like characters of reference designate corresponding parts throughout the several views.

The basic feature of the invention is an integral fastening composed of wire-folded upon itself to form the loop 1. The loop 1 is wound about the part to be fastened, as at 2, with the loop passed between the side wires and outstanding substantially upon the side opposite.

The invention is preferably applied by twisting or winding the loop 1 about a coil 3 of a spring adjacent the edge of the frame 4, to which the springs are secured. The single ends 5 are bent at an angle at 6, forming alined pintles 7, secured to the edge of the frame 4, as by the staples 8.

Another application of the basic element is in a fastening 9 with the loop fold wound about the outer side of the upper whirl of the outer row of springs 10 and the edge rod 11, securing the spring and rod together. The free ends 12 are then wound, as at 13, about the side of the whirl opposite the edge rod. Another application is in a fastening for spacing the several springs and wherein the wire is folded first at the middle substantially at right angles, as at 14, and the single ends again folded upon themselves and fastened, as at 15. The middle fold of one fastening is then wound about the middle fold of the other, as at 16, forming a jointed fastening member with four loops. The four loops are then wound about the top whirl, as shown at 17, thus holding the several springs at the desired spacings relative to each other.

By the several applications, as above noted, a complete spring-bottom is produced, as shown in Fig. 1, from a view of which and the foregoing description its use and operation will be clearly and fully understood. It will be understood, further, that the spring-bottom assembled as above is applicable to any form of bed, chair, car, or wagon-seat or to other uses when spring-bottoms are or may be used.

Having thus described the invention, what is claimed is—

1. In a device of the class described a plurality of coil-springs with their bases secured in a common plane, an edge bar connecting the center sides of the top whirls of the outer row of springs, a fastening composed of wire folded upon itself and with the loop of the fold wound about the edge bar and the spring and passing between the side wires and the single ends of the fastening wound about the spring-coil opposite the edge bar.

2. In a device of the class described a plurality of coil-springs with their bases secured

in a common plane, a pair of coacting fastenings to hold the several springs properly spaced relative to each other and each composed of a wire folded at the middle and each end again folded upon itself and with the folds wound about the coils of the springs and passing between the side wires and the middle fold of fastening wound about the middle fold of the other.

3. A device of the class described, comprising a frame, a plurality of coil-springs, with their bases secured to the frame, an edge bar connecting the outer sides of the top whirl of the outer row of springs, a fastening composed of wire folded upon itself and with the loop of the fold wound about the edge bar and the spring and passing between the side wires and the single ends of the fastening wound about the spring-coil opposite the edge bar, and a fastening composed of wire folded upon itself and with the loop of the fold wound about a coil of the outer spring below the bar and passing between the side wires and with the single ends pivotally secured to the frame.

4. A device of the class described, comprising a frame, a plurality of coil-springs with their bases secured to the frame, an edge bar connecting the outer sides of the top whirls of the outer row of springs, a fastening composed of wire folded upon itself and with the loop of the fold wound about the edge bar and the spring and passing between the side wires and the single ends of the fastening wound about the spring-coil opposite the edge bar, and a pair of coacting fastenings to hold the several springs properly spaced and each composed of a wire folded at the middle and each end again folded upon itself and with the folds wound about the coils of the springs and passing between the side wires and the middle fold of one fastening wound about the middle fold of the other.

5. A device of the class described, comprising a frame, a plurality of coil-springs with their bases secured to the frame, a pair of coacting fastenings to hold the several springs properly spaced and each composed of a wire folded at the middle and each end again folded upon itself and with the folds wound about the coils of the springs and passing between the side wires and the middle fold of one fastening wound about the middle fold of the other, and a fastening composed of wire folded upon itself and with the loop of the fold wound about a coil of the outer spring below the top whirl and passing between the side wires and with the single ends pivotally secured to the frame.

6. A device of the class described, comprising a frame, a plurality of coil-springs with their bases secured to the frame, a pair of coacting fastenings to hold the several springs properly spaced and each composed of a wire folded at the middle and each end again folded upon itself and with the folds wound about the coils of the springs and passing between the side wires and the middle fold of one fastening wound about the middle fold of the other, an edge bar connecting the outer sides of the top whirls of the outer row of springs, a fastening composed of wire folded upon itself and with the loop of the fold wound about the edge bar and the spring and passing between the side wires and the single ends of the fastening wound about the spring-coil opposite the edge bar, and a fastening composed of wire folded upon itself and with the loop of the fold wound about a coil of the outer spring below the bar and passing between the side wires and with the single ends pivotally secured to the frame.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

AUGUSTUS T. KNORZER
S. PETER DANNER.

Witnesses:
MAY A. CROSLEY,
FRANK D. HAINES.