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G. E. BIGELOW.

KNOCKDOWN SUPPORT FOR UPHOLSTERY SPRINGS.

APPLICATION FILED SEPT. 26, 1902.

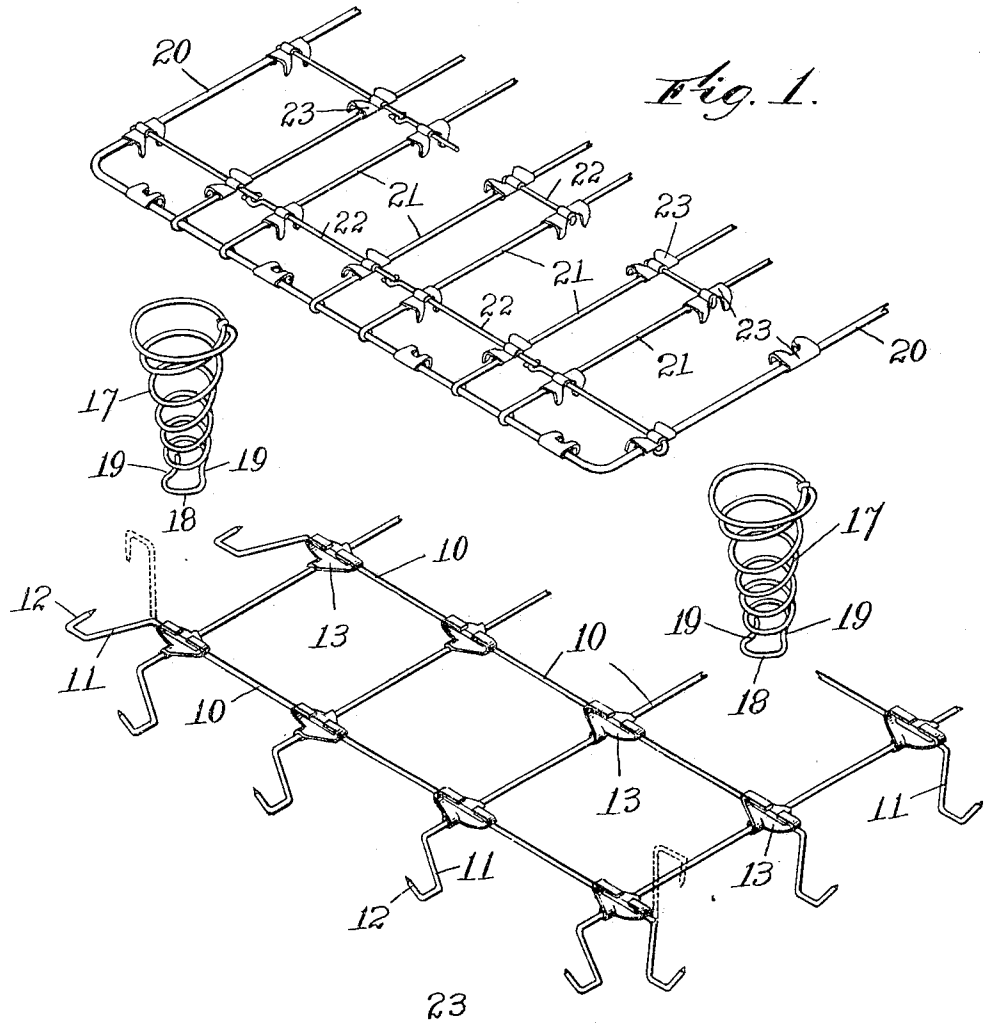


Fig. 1.

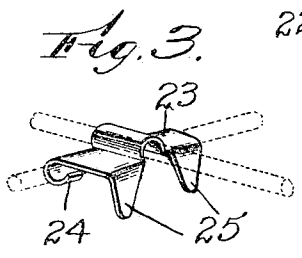


Fig. 3.

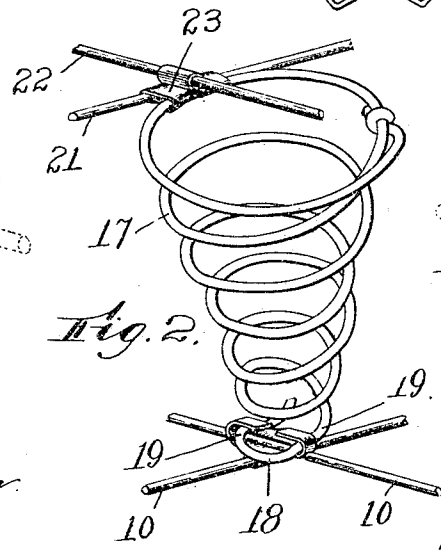


Fig. 2.

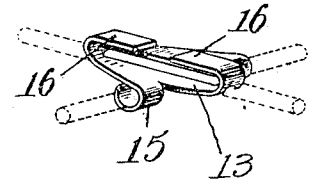


Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE E. BIGELOW, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO MORGAN SPRING COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

KNOCKDOWN SUPPORT FOR UPHOLSTERY-SPRINGS.

SPECIFICATION forming part of Letters Patent No. 793,172, dated June 27, 1905.

Application filed September 26, 1902. Serial No. 124,959.

To all whom it may concern:

Be it known that I, GEORGE E. BIGELOW, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Knockdown Support for Upholstery-Springs, of which the following is a specification.

This invention relates to a new construction for securing upholstery-springs in place in chairs, couches, bed-spring frames, or other articles of furniture.

The especial object of this invention is to provide a knockdown arrangement of parts which may be packed in small compass for shipping and which may be assembled to upholster furniture of the class referred to in a simple and efficient manner without the use of special tools and without skilled labor.

To these ends this invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a fragmentary view of the parts employed in upholstering an article of furniture according to this invention. Fig. 2 is a fragmentary view illustrating the relation of the parts when fastened together. Fig. 3 is a perspective view of one of the tightening-clips for connecting the upper ends of the upholstery-springs, and Fig. 4 is a perspective view of one of the clips which connect the supporting-wires and secure the lower ends of the upholstery-springs thereto.

In applying upholstery-springs to different articles of furniture—for example, to chair-seats, couches, bed-spring frames, or the like—it has heretofore been customary to use a number of transverse supporting strips or wires which are first fastened across the frame which is to be upholstered and then to secure the upholstery-springs to their supporting-wires or cross-strips, either by binding the upholstery-springs thereto or by turning the upholstery-springs to thread their lower coils upon their supports.

In practice the wiring of the upholstery-springs or the threading of the lower coils thereof onto their supports requires the use of special appliances or tools, while in order that the springs may be properly spaced and located evenly and in the most advantageous positions skilled work is required.

One especial object of this invention is to provide a construction for securing an upholstery-spring to a support without wiring the same in place or without turning or threading the coils of the spring onto the support. This is accomplished by providing the support with sockets and by having the bottom coils of the springs of a substantially figure-eight outline or having reëntering ides, so that by pushing the bottom coils laterally into place in the sockets the resilience of the bottom coils will hold the springs in place. The fastening-clips, which have the sockets for holding the springs, also preferably serve the purpose of fastening the supporting-wires together to form a frame. The supporting-wires are provided with bent ends having fastening-points which may be driven into the frame to be upholstered, or said ends may be otherwise connected with the frame, so that the inclined ends of the wires will be supported below the top surface of the frame which is being upholstered in the ordinary manner. The supporting-wires when fastened together by the clips constitute, in effect, a frame; but the wires are preferably left free, so that they may be swiveled or turned, whereby the ends of the wires may all be swung flat or turned into one plane when the supporting-frame is to be shipped.

In upholstering furniture in the ordinary ways it is now customary to cord or wire the upper ends of the upholstery-springs together, and this binding together of the springs has heretofore been done by hand. The binding together of the upholstery-springs is a somewhat difficult matter, as the binding wires or cords employed should be drawn up with uniform tightness, this usually requiring skilled upholsterers.

A further object of this invention is to pro-

vide a binding-frame having clips located in proper position to engage the springs and fasten the same together without the use of wires or cords, the binding-frame also being flat, so that in shipping the parts for upholstering a number of pieces of furniture according to this invention the supporting-frames and binding-frames will be shipped flat, occupying comparatively little room, and the upholstery-springs may be nested together, so that the materials for a comparatively large number of pieces of furniture may be packed and shipped in small compass, while in applying the parts to upholster furniture no special tools or appliances will be required, and the springs will be properly spaced without the use of skilled labor.

Referring to the accompanying drawings for a detail description of the parts constructed according to this invention as shown in Fig. 1, 10 designates the supporting-wires. The supporting-wires 10 are provided at their ends with bent portions 11, in the present instance said bent portions having driving-points 12, although, if preferred, the supporting-wires may have the usual screw-receiving eyes or other means for connecting them to the furniture to which they are to be fastened.

The supporting-wires 10 are preferably connected together by clips 13. Each of the clips 13, as shown most clearly in Fig. 4, is provided with a slotted body portion for receiving the upper one of a pair of crossing supporting-wires and is also provided with the downwardly-bent ears 15, which may be wrapped around to fasten the clip onto the lower one of the crossing supporting-wires. At its ends the body portion of the clip 14 is provided with ears 16, which are bent up and inward to form a socket for receiving one of the upholstery-springs. By connecting the supporting-wires 10 together in this manner the supporting-wires will be fastened so as to constitute, in effect, a frame of fixed size having clips thereon which determine the position of the upholstery-springs, while at the same time the individual supporting-wires 10 will be left free, so that they may be swiveled or turned to bring their bent ends all flat or into one plane for shipping and so that they may be turned to extend up when being applied to the frame of a piece of furniture.

Each of the upholstery-springs 17, as shown most clearly in Figs. 1 and 3, may be of substantially the ordinary conical furniture-spring form, except that the lower coil 18 thereof is of a substantially figure-eight shape or is provided with reëntering sides 19.

To secure the furniture-springs to their supporting-frame after the supporting-frame has been fastened in place in the article of furniture to which it is to be applied, the lower coils of the springs are pushed laterally into their sockets, and the resilience of the lower coils serve to hold the springs in place without the threading of the coils into place or without the use of fastening-wires, as is now the practice.

The binding-frame for fastening the upper ends of the springs, as illustrated in Fig. 1, comprises a wire frame 20, having longitudinal wires 21, which longitudinal wires 21 may be connected by cross-wires 22, which cross-wires 22 may simply serve to connect adjacent longitudinal wires, or the ends of said cross-wires 22 may be connected together, both of these constructions being shown in Fig. 1.

Fastening the longitudinal wires 21 and cross-wires 22 together are clips 23. As shown in Fig. 3, each of these clips 23 is provided with a body portion, which is grooved to receive a cross-wire, and with ears 24, which are bent down and around a longitudinal wire. Extending from the body portion of the clip 23 are fastening-arms 25, which are normally in their expanded or horizontal position or which may be clenched around the upper coil of one of the springs, as shown in Fig. 2, when the springs are to be bound together by the binding-frame.

Numerous changes may be made in practicing this invention by those who are skilled in the art without departing from the scope thereof as expressed in the claims. It is not desired, therefore, to be limited to the special construction which has herein been shown and described; but

What is claimed, and desired to be secured by Letters Patent of the United States, is—

1. In a frame for supporting upholstery-springs, the combination of wires having bent-up ends which normally support the frame below the level of the support to which the same is applied, said wires having rotatable or pivotal joints with each other which permit the wires to be turned to bring the bent ends into the same plane to form a flat structure for shipping.

2. In a frame for supporting upholstery-springs, the combination of wires having bent-up ends for supporting the frame below the level of the top of the support to which the frame is applied, and clips securing the wires together with rotatable or pivotal joints permitting the wires to be turned to bring the bent-up ends into one plane to form a flat structure for shipping.

3. In constructions of the class described, the combination of wires crossing each other at right angles to form a frame, said wires having bent ends which normally extend up and are adapted to be connected so as to support the frame below the surface of the furniture being upholstered, sheet-metal clips securing said wires together where they cross each other, so that the wires may be turned to bring their ends into the same plane to

form a flat structure for shipment, and each of said clips being adapted to form a connection between an upholstery-spring and the frame.

4. In constructions of the class described, the combination of the supporting-wires, clips secured on said wires, and each having a socket for receiving the lower coil of an upholstery-spring, and upholstery-springs, the lower coil of each of which has reëntrant sides, or is of substantially figure-eight shape, whereby the coils may be pushed laterally into the sockets, and the resilience of the springs will hold them in place.

5. In constructions of the class described, the combination of a frame comprising wires crossing each other at right angles, sheet-metal clips holding said wires in place, each of said clips shaped to form a socket for receiving the lower coil of an upholstery-spring, and upholstery-springs, the lower coil of each of which has reëntrant sides or is of substantially figure-eight shape, whereby the coils may be moved laterally into position, and the resilience of the coils will hold the springs in place.

6. As an article of manufacture, a clip for connecting two crossing supporting-wires, comprising a body portion for engaging the upper one of the wires, clamping-arms for engaging the lower wire, and arms which extend up above the body portion of the clip to form a socket for receiving the lower coil of an upholstery-spring.

7. As an article of manufacture, a clip for connecting two crossing wires, and for receiving an upholstery-spring, comprising a sheet-metal body portion slotted to receive the upper wire, downwardly-extending arms adapted to be clamped into engagement with the lower crossing wire, and upwardly-extending arms which are bent in to form a socket for receiving the lower coil of an upholstery-spring.

8. In constructions of the class described, the combination of upholstery-springs, means for supporting the upholstery-springs, and a binding-frame comprising wires crossing each other at right angles, and sheet-metal clips each of which has a body portion engaging the upper crossing wire, arms extending down and clamped around the lower crossing wire, and arms which normally extend out in position to be clamped onto the upper ends of the upholstery-springs to bind the upholstery-springs together.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE E. BIGELOW.

Witnesses:
LOUIS W. SOUTHGATE,
PHILIP W. SOUTHGATE.