2 Sheets—Sheet 1.

J. L. BRANSON & A. JUERGENS.

FURNITURE-SPRING.

No. 182,797. Patented Oct. 3, 1876.

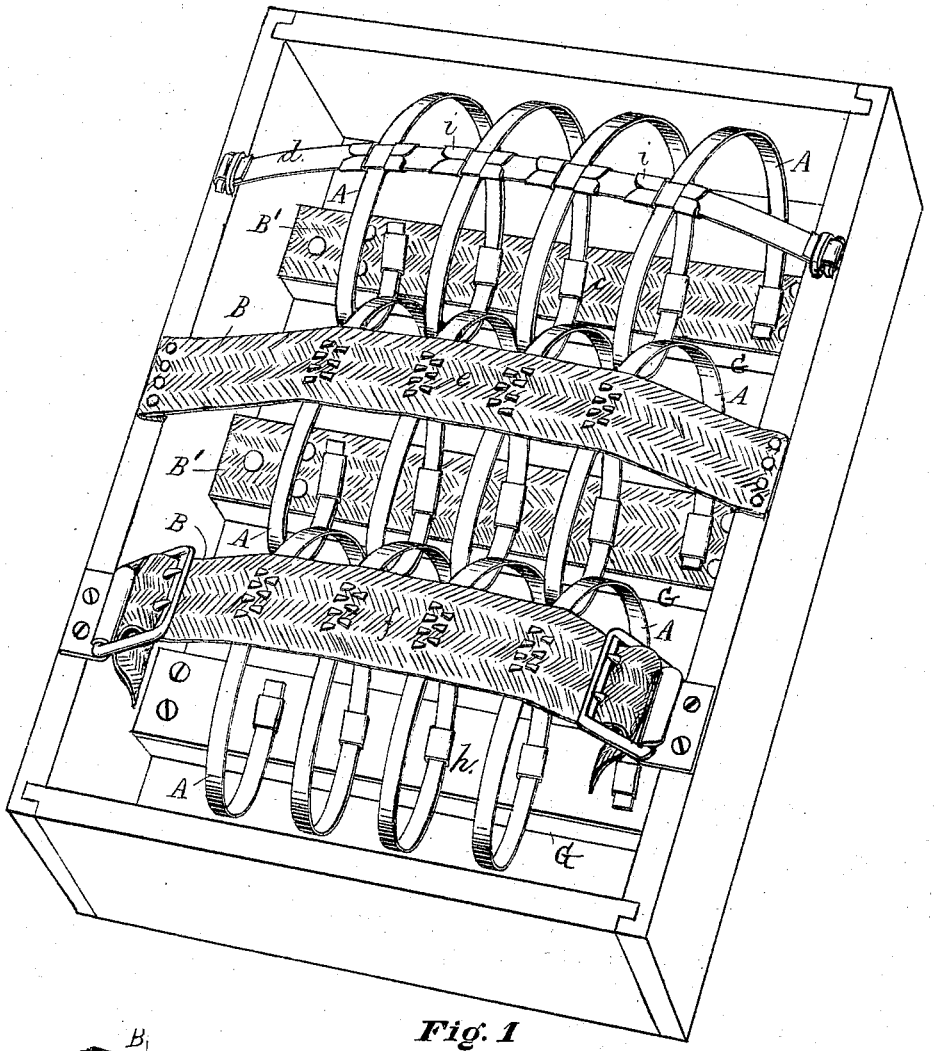

Fig. 1

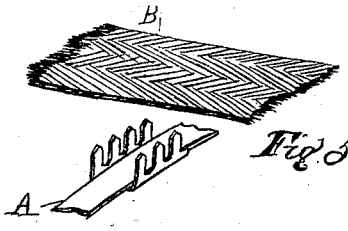

Fig. 5

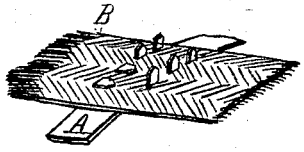

Fig 6.

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2 Sheets—Sheet 2.

J. L. BRANSON & A. JUERGENS.

FURNITURE-SPRING.

No. 182,797. Patented Oct. 3, 1876.

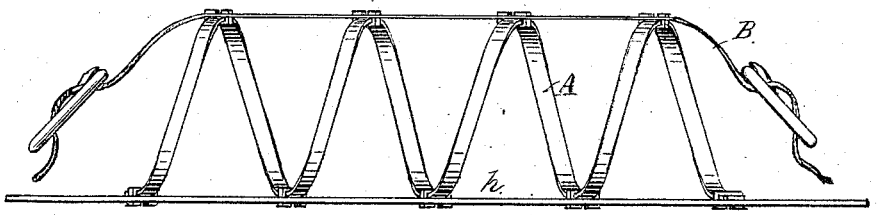

Fig. 2.

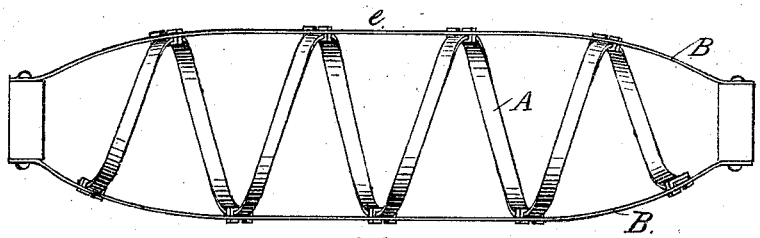

Fig. 3.

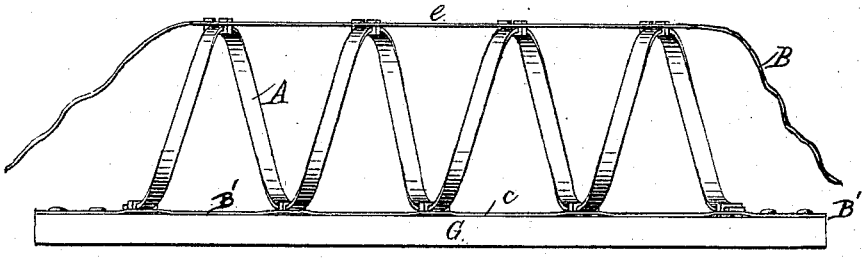

Fig. 4

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UNITED STATES PATENT OFFICE.

JESSE L. BRANSON AND AUGUST JUERGENS, OF CINCINNATI, OHIO.

IMPROVEMENT IN FURNITURE-SPRINGS.

Specification forming part of Letters Patent No. 182,797, dated October 3, 1876; application filed February 23, 1875.

To all whom it may concern:

Be it known that we, JESSE L. BRANSON and AUGUST JUERGENS, both of the city of Cincinnati, county of Hamilton, State of Ohio, have invented new and useful Improvements in Springs, Car Backs or Seats, Chairs, Sofas, Beds, &c.; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

Our present invention is an improvement on the springs described in the Patent No. 156,272, dated October 27, 1874; and it consists in combining with a spirally-bent spring-tempered flat wire spring, a metal steadying-strip secured to the several spirals on the one side of the spring, and a webbing or equivalent flexible material, also secured to the several spirals on the opposite sides, the webbing being adapted for ready tacking or fastening, when desired, to a rigid wooden bar, as hereinafter more particularly set forth.

And it further consists in combining with such a spiral spring, and with a textile or equivalent flexible strap fastened successively to the several coils of such spring, a buckle or buckles, or the equivalents thereof, serving to adjust the strap so as not only to steady the coils, but to prevent their contact with each other, and also to compress them transversely, as need be, thus to that extent varying the resilience or capacity of the spring.

Figure 1 represents, in a single frame, suitable for a seat or back, the several parts or variations of our invention. Fig. 2 shows, detached, a spring composed of the steel or tempered spiral, with metal straps on one side and textile webbing and fastening-buckles on its other side. Fig. 3 shows webbing on the two opposite sides of the spiral. Fig. 4 shows webbing on one side, and a metal strip secured to a wooden cross-bar on the opposite side, of the spiral; and Figs. 5 and 6, the metal clasps and the manner in which they are applied to hold together the spirals and the webbing.

A represents the spirally-bent spring-tempered thin flat wire, the temper of which is such that if released from its fastenings it would resume the form of a straight or unbent strip. B is the webbing, of textile material, or its equivalent, which we fasten to each successive coil of A by any suitable fastenings, but preferably by metal-pointed clasps adapted for puncturing the material, and capable of being bent down to hold together the spring and webbing, as shown more particularly in Figs. 5 and 6. The advantages of connecting the spiral with a webbing are, that it needs no previous cutting of slits or forming of loops in metal, and it is much more pliable when used for the upper side of a spring, and the webbing may be readily tacked or otherwise secured to a wooden bar in case it forms the under strap for the spring, as at B′ in Figs. 1 and 4. When thus secured, the spring, for some purposes, may need no crossing or steadying strip on the opposite side of its spirals. In some cases, however, we re-enforce it with a metallic strap, as shown at *d* in Fig. 1, this strap being, as shown, fastened to the frame at its ends by tacks, screws, or other suitable fastenings.

When we wish the entire spring to be removable without removing or disturbing the covering of the furniture, we prefer to have the webbing (see *f*, in Fig. 1) connected to the frame by hooks or buckles so as to be detachable at will from the rear or under side, say from the under side of a seat or chair, or from the back of a seat. In order to make this removal easy, the cross-bar G or the metal strap or webbing, as the case may be, to which the spiral is attached at the back, is secured to the frame in any appropriate manner. The loosening of this cross-bar or strap, as the case may be, on which the coiled spring rests, permits the pulling away from the frame of this spring, and the webbing having been previously unbuckled or loosed at its free ends, the entire section may be at once withdrawn. This provision permits the substitution of one form of our section for another at any time, or the taking out of a section for repairs, or for any other cause, without disturbing any other section.

We have shown a buckle at each end of the webbing, to engage with hooks on the frame, but do not confine ourselves to this special means of attachment. A hook on the buckle

may engage with a slot or eye on the frame, or the hook and eye may be permanently connected, and the strap in such case disconnected by releasing it from the buckle.

This facility of removal is of great value also in transporting and shipping in quantities, say, for instance, bed-bottoms, having usually eight cross-bars with their springs. The bars, when removed, may all be laid side by side in close contact, the spirals permitting this by interlying one with the other. Thus space in packing is very materially reduced, as also the cost of transportation.

The buckle affords another advantage of great importance in permitting the lateral adjustment of the coils so as to prevent or correct any chafing or rubbing together of the edges of two interspacing adjacent coils; and another in making it easier to apply and fasten the spring, while it also allows the ready tightening up at will in case the webbing stretches or becomes otherwise deranged.

Webbing is more easily applied and is more pliable than metal straps, and cannot, like them, cut the covering or bedding, besides affording, as above stated, a means for adjustment, which metal straps do not. The wooden cross-bar G may be dispensed with, and the metal strap *h* be secured or attached removably to the frame, as heretofore indicated.

When the narrow metal strap *d* is used, a clasp, as shown at *i*, Fig. 1, may be used, extending beneath the spiral, spanning the strap on both sides of the spiral, and preventing the need of cutting any weakening slits in the narrow strap.

In no case do we make any holes through our spiral strip whereby to hold it to place. Such holes are not only difficult to make, but they also weaken the strip, lessen its efficiency as a spring, and tend to cause its fracture where the holes are made.

We claim—

1. In combination with the ordinary frame of a spring-seat a supporting-strip, attached to the under side of said frame, flat wire springs coiled in a direction transverse to the length of such strip, and a webbing strip attached to the upper side of the coils, and having buckles or hooks to engage with suitable clips on the frame.

2. The combination, with the spirally-bent spring, of a metal steadying-strip secured to the several spirals on the one side of the spring, and of a webbing or equivalent material, also secured to the several spirals on the opposite side, the webbing being adapted for being readily tacked, when desired, to a rigid wooden bar, substantially as shown and described.

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