No. 616,502. Patented Dec. 27, 1898.

J. A. STAPLES.

SUPPORT FOR SPRINGS.

(Application filed Aug. 26, 1898.)

(No Model.)

Fig. 1.

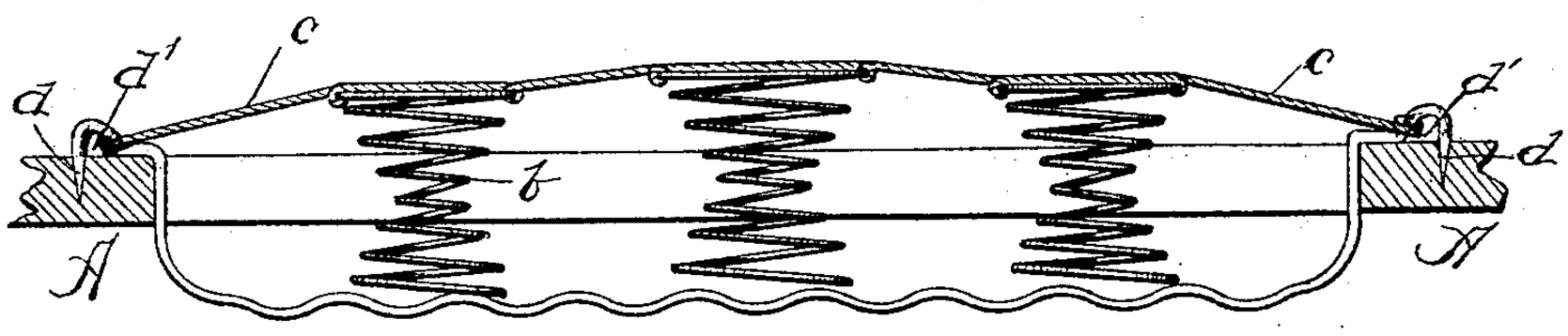


Fig. 2.

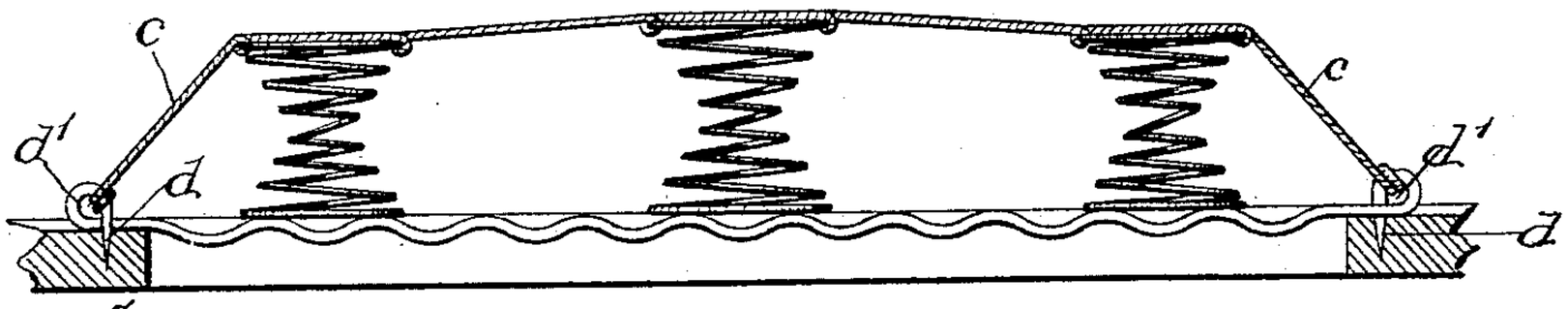


Fig. 3.

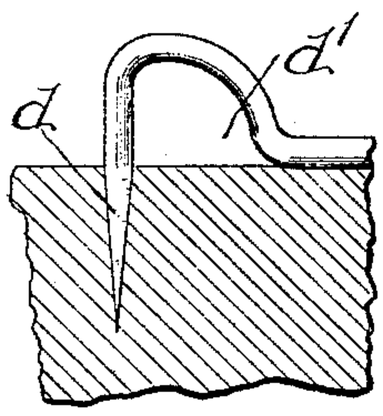
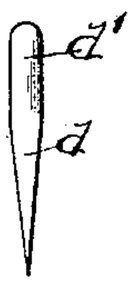


Fig. 4.



Witnesses:
J. B. Weir.
Wm. Geiger.

Inventor
John A. Staples,
by J. McRoberts, his Atty.

UNITED STATES PATENT OFFICE.

JOHN ATKINSON STAPLES, OF NEWBURG, NEW YORK.

SUPPORT FOR SPRINGS.

SPECIFICATION forming part of Letters Patent No. 616,502, dated December 27, 1898.

Application filed August 26, 1898. Serial No. 689,561. (No model.)

To all whom it may concern:

Be it known that I, JOHN ATKINSON STAPLES, a citizen of the United States, residing at Newburg, in the county of Orange and State of New York, have invented a new and useful Improvement in Supports for Springs, of which the following is a specification.

It is customary in all upholstering work to tie the tops of springs together and to the frame in order to keep them in place. This has heretofore been usually done by crossed bands of webbing or cords and sometimes by means of fine wires secured to the frame by tacking. It is customary in assembling the parts to drive the tacks part way into the frame, wind the cord or wire once around them, and then drive the tacks in the full distance, and thus secure the cord or wire to the frame by means of the heads of the tacks. This manner of upholstering, although universally employed, is very unsatisfactory, as it does not make a permanent support. In a short time the cord will be cut by the tacks or the tacks will pull out of the wood, and when the cord becomes loosened from the frame the whole structure of the springwork becomes disarranged. It is necessary to use large tacks to make the cords hold at all, and these large tacks are not only a large item of expense, but are apt to split a thin frame, and, furthermore, are liable to pull out. Another objection to this construction is the fact that these tacks take up much room, which is valuable in the limited space provided by the top edge of a narrow frame, such as now used in some classes of seats.

It is usual in upholstering chairs and sofas to use the above-described system of crossed bands, cords, or wires in connection with either crossed bands of webbing for supporting the lower ends of the springs or with wire supports provided with bends or corrugations to form seats for the springs. In either class of supports the cords or wires employed to keep the springs in place have been attached to the frame in the manner above pointed out.

The object of this invention is to provide a support for the springwork which shall provide seats for the bases of the springs and for the cords or wires; and the invention consists of a support adapted to receive the lower ends of the springs and having seats or bends for the twine or wire.

In the drawings accompanying this specification and forming a part thereof, Figure 1 is a cross-section of a seat-frame, showing my invention as applied to a hanging wire support. Fig. 2 is a cross-section of a seat-frame showing my invention as applied to a support running straight across the frame. Fig. 3 is a side view of a detail of a support made according to my invention, and Fig. 4 is an end view of the same.

The reference-letter A represents the frame of a chair-seat of usual construction, and *b* represents helical springs, whose lower ends rest upon the supports *d*, the upper ends of the springs being connected and held by an interlaced network of cords or wires *c*, whose ends are connected to the supports *d* in the manner hereinafter fully disclosed and which tie the tops of the springs together and to the frame.

The supports may be of any desired form—as, for example, either what is known in the trade as the "hanging" wire support (shown in Fig. 1) or the "straight" support. (Shown in Fig. 2.) These supports are of malleable metal and are provided along their horizontal portions with seats for the springs and preferably at their ends with integral points, which enter the frame and secure the upholstering permanently thereto, as clearly set forth in my Patent No. 474,536, dated May 10, 1892. In order to make these supports perform the further function of providing seats for the tie cords or wires employed to hold the springs in place, their ends are provided with seats *d'*, to which the cords or wires are fastened when the parts are assembled in the frame. These seats *d'* may be of any desired form that will answer the purpose for which they are intended, it being obvious that they may be made in a number of different forms—such, for example, as loops or eyes or bends—without in any manner departing from the spirit of my invention. Thus in Fig. 1 they are shown as mere bends in the support, while in Fig. 2 they are in the form of rings or eyes formed by the return-bends of the supports. It is equally clear that the supports may be provided with any of the various forms of seats *d'*, whether the support itself be of the

hanging or of the straight type. Thus the hanging support of Fig. 1 may have the loops shown in Fig. 2 and the straight support of Fig. 2 may have the bends shown in Fig. 1, there being no particular choice of relative arrangement.

The supports *d* may be attached to the seat in any convenient manner, though I prefer to employ the integral points shown herein. With this construction the seat *d'* is made approximately at the end of the horizontal portion of the wire, so that in driving the integral points to place in the frame it forms a head for the hammer to strike, so that the force is applied directly to the top of the points.

When wire is employed to form the supports *d*, it is of such suitable size that it will not cut the cords employed, and being round in cross-section presents a smooth surface to the cords or wires, thus greatly increasing the life of the structure. By this construction permanent seats for the tie cords or wires are provided, which render their displacement impossible until the entire upholstering be bodily removed from the frame.

In assembling the parts the points of the wire supports are partially inserted in the frame at the predetermined points, and the springs and cords or wires are then assembled upon them in their proper relation. After this has been done the points are driven home into the frame, thereby securing the cords or wires permanently in place. It is obvious that by this construction the work of assembling the parts can be quickly performed, as the seating of the points in the frame also secures the tie cords or wires in place. It will, however, be understood that the points of the wire supports may be first driven their full depth into the frame and the cords or wires afterward passed through the eyes, which are large enough to receive the cords after the points are fully seated.

The form of support shown is that disclosed in my patent above recited; but it is apparent that the invention may be used in connection with other forms of supports—for example, the flat metal strip now sometimes used—the only requirement being that the support shall be of such form and material as will provide not only seats for the spiral springs, but also for the connecting cords or wires.

Having thus described my invention, what I claim is new, and desire to secure by Letters Patent, is—

1. A spring-support formed of a single piece of malleable metal having seats for the springs and for the tie cords or wires formed in the body thereof, substantially as described.

2. A spring-support formed of wire and consisting of a horizontal portion providing seats for the springs, angular portions providing attaching-points, and intermediate portions providing seats for the tie cords or wires, substantially as described.

3. A spring-support formed of wire comprising a horizontal portion to receive the springs, downwardly-projecting ends, and seats for the tie-cords forming a head by which the ends are seated in a frame, substantially as described.

4. A spring-support formed of wire comprising a horizontal portion, attaching-points, and seats for the tie-cords whereby the seating of the points in their frame secures all the parts in position, substantially as described.

5. The combination with the seat-frame, of spring-supports formed of wire with horizontal portions for the springs, downturned points and bends or eyes, and tie-cords attached to the bends or eyes and connecting the tops of the springs together and to the seat-frame, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN ATKINSON STAPLES.

Witnesses:

BENJ. MCCLUNG,

WILLIAM J. BEAHAN.