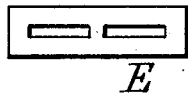
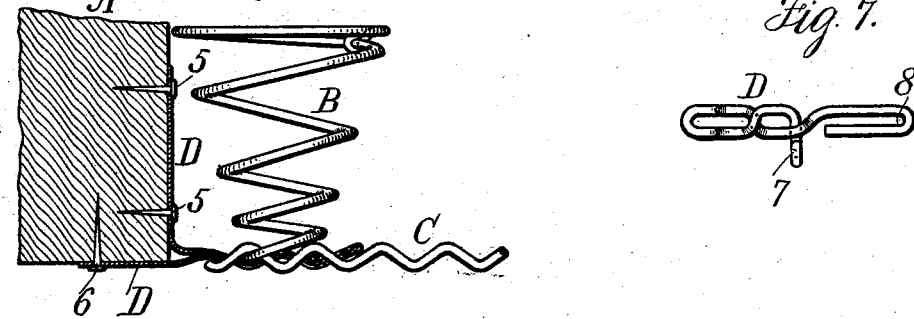
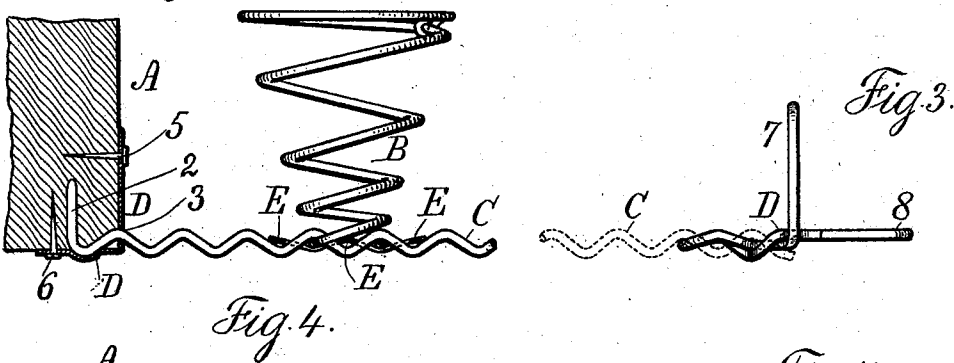
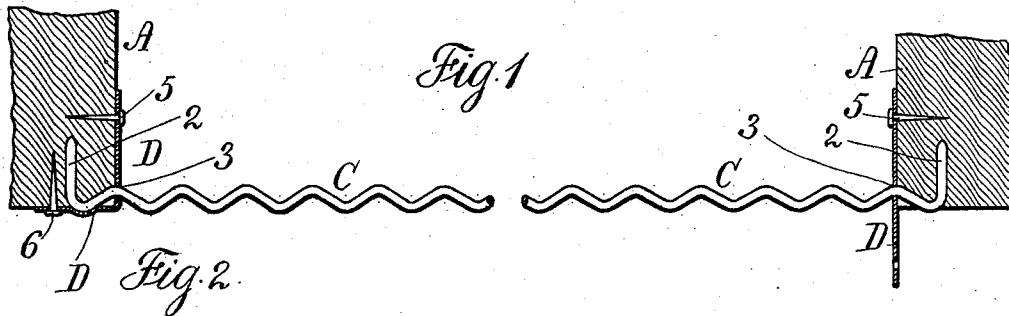


(No Model.)

J. A. STAPLES.
SPRING SUPPORT FOR CHAIR SEATS.

No. 531,477.

Patented Dec. 25, 1894.



Witnesses:
J. Staib
Chas. H. Smith

Inventor:
John A. Staples
per Lemuel W. Skrell

UNITED STATES PATENT OFFICE.

JOHN A. STAPLES, OF NEWBURG, NEW YORK.

SPRING-SUPPORT FOR CHAIR-SEATS.

SPECIFICATION forming part of Letters Patent No. 531,477, dated December 25, 1894.

Application filed November 27, 1893. Serial No. 492,073. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. STAPLES, a citizen of the United States, residing at Newburg, in the county of Orange and State of New York, have invented an Improvement in Spring-Supports for Chair-Seats, &c., of which the following is a specification.

Wire has been made use of for supporting the hour-glass or spiral springs in upholstery, and in some instances the wire has been corrugated, and reference is hereby made to Letters Patent No. 474,536, granted to me May 10, 1892, representing such wire spring support.

In some instances, especially in sofas, the wooden frame is of such a depth that it is inconvenient to connect the wire spring support with the top surface of the wooden frame, and when connected with the bottom edge of the wooden frame the wire spring support has been liable to become detached by the tension upon the spring and by the downward pressure, and the variety of styles and sizes of sofas and seats renders it difficult to supply seat springs of the proper size.

In my present invention I make use of a wire spring support and a metal clip-piece fastened to the inner surface of the wooden frame and which receives the downward pressure upon the wire spring support, and preferably this clip-piece is bent up on the under side of the wooden frame and secured thereto so as to hold the end of the wire which is turned upwardly to form a spike or penetrating end that passes into a hole in the seat frame.

In some instances the clip-piece is made of wire and in other instances of sheet metal, as hereinafter described, and in order to connect the lower end of the upholstery spring to the corrugated wire of the spring support, I make use of a metal clip having openings for the corrugations to pass through in order that the lower end of the upholstery spring may be interlaced between the corrugations and the clip.

In the drawings, Figure 1 is a section representing the two sides of an upholstery frame and with the wire spring support connected therewith. Fig. 2 represents one end of the corrugated wire spring support and the clip for

the lower end of the upholstery spring. Fig. 3 represents the angle clip as of wire detached. Fig. 4 shows the angle clip and the spring clip in one. Fig. 5 is a plan view of the spring clip made of sheet metal. Fig. 6 is a plan view of the spring clip made of wire. Fig. 7 is a plan view of the angle clip shown in Fig. 3.

The frame A for a chair, sofa or other article is to be of any desired size and character and usually it is made of wood. The springs B are either inverted spiral springs or hour-glass springs such as commonly used in upholstery. The wires C form the spring support, and the angle clips are shown at D and the spring clips at E.

The ends of the wire spring supports C are preferably bent upwardly, as at 2, to pass into holes in the under edge of the seat frame, and they are held in position by the angle clips D, which angle clips extend upon the vertical inner face of the frame as well as upon the horizontal under edge, and it is preferable to make the wire spring support C of corrugated wire in order to obtain a small amount of longitudinal elasticity under the lateral pressure from the upholstery springs B, and this corrugation of the spring supports facilitates the attachment of the lower end of the spring so that the spring will not slide upon the spring support, and with this object in view the spring clip E is introduced at the junction of the wire spring support C and the spring B. This clip E is made with openings so as to pass over two of the corrugations in the spring support C, such corrugations projecting upwardly through the openings sufficiently to allow the nearly circular lower end of the upholstery spring to be interlaced between the corrugations of the wire support C and the spring clip E. The spring support C being of corrugated wire can be cut off in any desired lengths to suit the seat frame.

I have represented the spring clip in Fig. 5 as made of a piece of sheet metal with mortises cut through it, and in Fig. 6 the spring support is shown of a piece of wire bent up to shape corresponding to the shape of the sheet metal of the clip, Fig. 5, either spring clip being adapted to the purpose of connecting the lower end of the upholstery spring to

the corrugated wire spring support; and I remark that the spring clip E may be placed so that the corrugations in the wire C pass up through the openings in the spring clip or pass downwardly through said openings, the action being the same in either instance of permanently connecting the lower end of the upholstery spring to the corrugated wire.

Where the angle clip D is made of sheet metal or hoop iron there is an opening 3 through which the wire of the spring support C passes, the end 2 of the wire spring support being driven up into the under edge of the chair or sofa frame, and then a nail or screw is inserted at 5 to fasten the angle clip D permanently to the vertical face of the frame A and then the sheet metal is bent over to confine the end 2 of the wire spring support, and nails or screws are inserted at 6 through holes in the sheet metal to permanently fasten the sheet metal clip to the lower angle of the chair or sofa frame.

Where the clip D is made of wire, as shown in Fig. 3, the upper bent end or eye 7 is adapted to receive a nail or screw to fasten the angle clip to the wooden frame and the lower eye 8 is adapted to receive a screw or nail to fasten such angle clip to the under surface of the frame.

In Fig. 4, I have represented the angle and spring clip as combined and the same may be made of hoop iron or of wire, there being openings or mortises for the corrugations of the wire spring support to pass through, and the lower end of the upholstery spring B is interlaced between the corrugations of the wire C and the surfaces of the angle clip for the two-fold purpose of connecting the spring to the angle clip and of connecting the corrugated spring support to the angle clip; but it will be apparent that where the upholstery spring is farther away from the wooden frame A a cross nail or staple of wire may be inserted between the corrugations of the wire spring support and the surfaces of the angle clip, so as to make a permanent connection

between the angle clip and the corrugated wire of the spring support.

It will be apparent that the angle clips which support the seat spring wire are not liable to become loosened, because the weight upon the spring support is taken upon the vertical part of the angle clip and the tension is taken by the bottom connection of the angle clip, the strain in both instances coming at right angles upon the nails or other fastening devices. Thereby great strength is obtained and there is but little weight of material in such angle clips, and there is but little risk of the wood being torn away by the strain which comes upon the same.

I claim as my invention—

1. The combination with the upholstery spring and the spring support of corrugated wire, of a spring clip having openings through which pass corrugations of the wire spring support and between which clip and the corrugations of the wire, the end coil of the upholstery spring is passed, substantially as set forth.

2. The combination with the corrugated wire spring support and the upholstery spring, of means for connecting the springs and the support and an angle clip having openings for the reception of the corrugations of the spring support, and means for fastening such angle clip to the vertical and under surfaces of the seat frame, substantially as set forth.

3. The combination with the upholstery spring and the spring support of corrugated wire, of a spring clip of sheet metal having openings through which pass corrugations of the wire spring support and between which sheet metal clip and the corrugations of the wire the end coil of the upholstery spring is passed, substantially as set forth.

Signed by me this 22d day of November, 1893.

JOHN A. STAPLES.

Witnesses:

GEO. T. PINCKNEY,
A. M. OLIVER.