

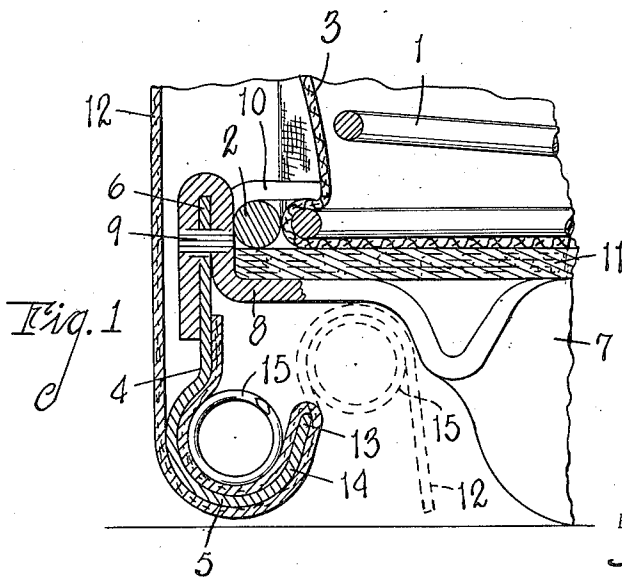
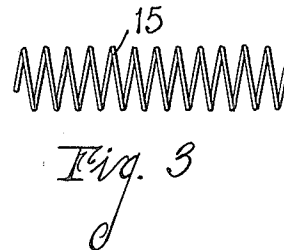
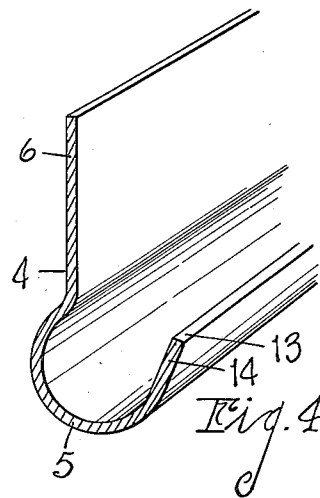
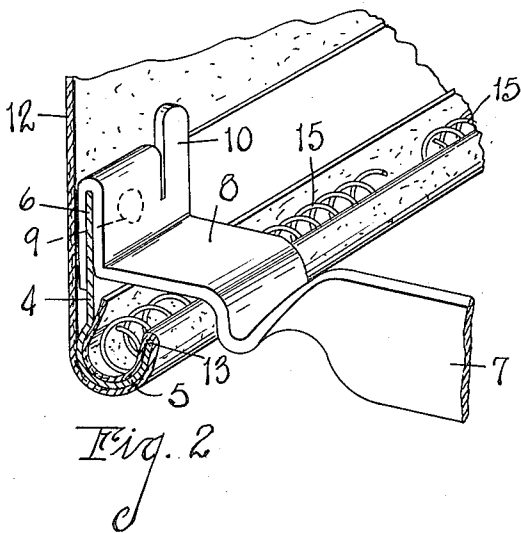
June 18, 1935.

W. A. CLARK

2,005,455

SPRING STRUCTURE

Filed Sept. 17, 1934



INVENTOR.
William A. Clark
BY
Chappell Teal
ATTORNEYS

UNITED STATES PATENT OFFICE

2,005,455

SPRING STRUCTURE

William A. Clark, Detroit, Mich., assignor to L.
A. Young Spring and Wire Corporation, De-
troit, Mich.

Application September 17, 1934, Serial No. 744,296

5 Claims. (Cl. 155—180)

The main objects of this invention are to provide an improved spring or cushion structure in which the upholstery may be very quickly assembled with the spring unit by unskilled workmen and at the same time the upholstery is very securely retained.

Objects relating to details and economies of my invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary sectional view of a spring cushion or seat structure embodying the features of my invention, the steps of assembling being illustrated by dotted lines.

Fig. 2 is a fragmentary perspective view.

Fig. 3 is a plan view of one of the upholstery clamping members which is in the form of a helically coiled spring.

Fig. 4 is a perspective view of the border frame.

In the embodiment of my invention illustrated, the body springs 1, a fragment only of which is illustrated, are preferably of the helically coiled hour-glass type and these are preferably assembled as a unit with a wire border frame 2, the spring unit illustrated being provided with a fabric casing 3. The details of securing the springs together as a unit are not illustrated as means of assembling or securing the springs in an assembled unit satisfactory for use in this connection are well known in the art.

The border frame 4 of the structure illustrated comprises a channeled bottom portion 5 preferably of curved section as illustrated and an upright web-like portion 6 extending upwardly from the outer arm of the channel portion and preferably inwardly offset as illustrated.

Cross bars 7 are provided with saddles 8 at the ends thereof terminating in hooks engaged over the upper portion of the border frame and secured thereto by welding as at 9. The lower edges of the cross bars are preferably slightly in a plane below the plane of the border frame so as to serve as supports. The cross bars have integral tongues 10 which are clamped over the border frame of the spring unit, securing the spring unit in assembled relation upon the bottom panel 11 supported on the cross bars.

The upholstery 12 is wrapped around the bottom portion of the border frame and over the edge 13 of the inner arm 14 of the border frame and disposed within the channel, being clamped

therein by means of the helically coiled spring clamping members 15.

It will be observed that the maximum diameter of the channel exceeds the width of the mouth or entrance to the channel and the coiled spring clamping members are sprung into the channel with the upholstery embracing the same, the normal diameter of the spring clamping members with the upholstery wrapped thereon being greater than the width of the entrance to the channel so that the upholstery is retained by a wedging action and also by the "snubbing" action resulting from wrapping around the edge 13 of the border frame. These spring clamping members may be of quite light gauge stock and at the same time have a very secure clamping or binding hold upon the upholstery.

In assembling, the upholstery is wrapped around the bottom of the border frame and draped over the clamping member as indicated by dotted lines in Fig. 1, when the parts are forced into the channel with a rolling compressing action on the clamping members, the springs being somewhat compressed as they are forced into the channels and expanding therein, holding the upholstery in binding engagement throughout a very considerable portion of the channel.

I have not attempted to illustrate the parts in their exact proportion and have shown only such parts of a spring structure as seem desirable to illustrate a practical embodiment of my invention. The upholstery may be very quickly assembled upon the spring unit by unskilled workmen; that is, it is not necessary that the operator be a skilled upholsterer, and there is little likelihood of defective structures resulting. Further, the upholstery can be easily removed should occasion require and replaced as the clamping members can be pulled out without injury to the upholstery. However, the upholstery is very securely retained.

I have illustrated and described my improvements in a simple and practical embodiment thereof. I have not attempted to illustrate various modifications or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

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

1. In a spring structure, the combination with a border frame having a bottom portion of curved channel section, the mouth or entrance of the

channel portion being of less width than the maximum diameter of the channel, upholstery wrapped around the bottom of said border frame and over the edge of the inner arm of the channel, and helically coiled spring clamping members sprung into the channel with the upholstery partially embracing them, the normal diameter of the clamping members with the upholstery thereon exceeding the width of the entrance to the channel.

2. In a cushion seat or like structure, the combination of a border frame having a cylindrically curved channel, the maximum diameter of the channel exceeding the entrance thereto, upholstery, and a helically coiled spring clamping member sprung into said channel with the upholstery embracing the same, the normal diameter of the clamping member with the upholstery thereon exceeding the width of the entrance to the channel whereby the upholstery is retained within the channel.

3. In a cushion seat or like structure, the combination of a border frame having a channel,

the internal width of the channel exceeding the width of the entrance thereto, upholstery, and a helically coiled spring clamping member sprung into said channel with the upholstery embracing the same, the normal width of the clamping member with the upholstery thereon exceeding the width of the entrance to the channel whereby the upholstery is retained within the channel.

4. In a cushion seat or like structure, the combination of a border frame having a cylindrically curved channel, upholstery, and cylindrical helically coiled spring clamping members sprung into said channel with the upholstery embracing them.

5. In a cushion seat or like structure, the combination of a border frame having a channel, upholstery, and helically coiled longitudinally flexible spring clamping members sprung into said channel with the upholstery embracing them, the individual coils of the spring clamping members each having an effective clutching engagement with the upholstery.

WILLIAM A. CLARK.