

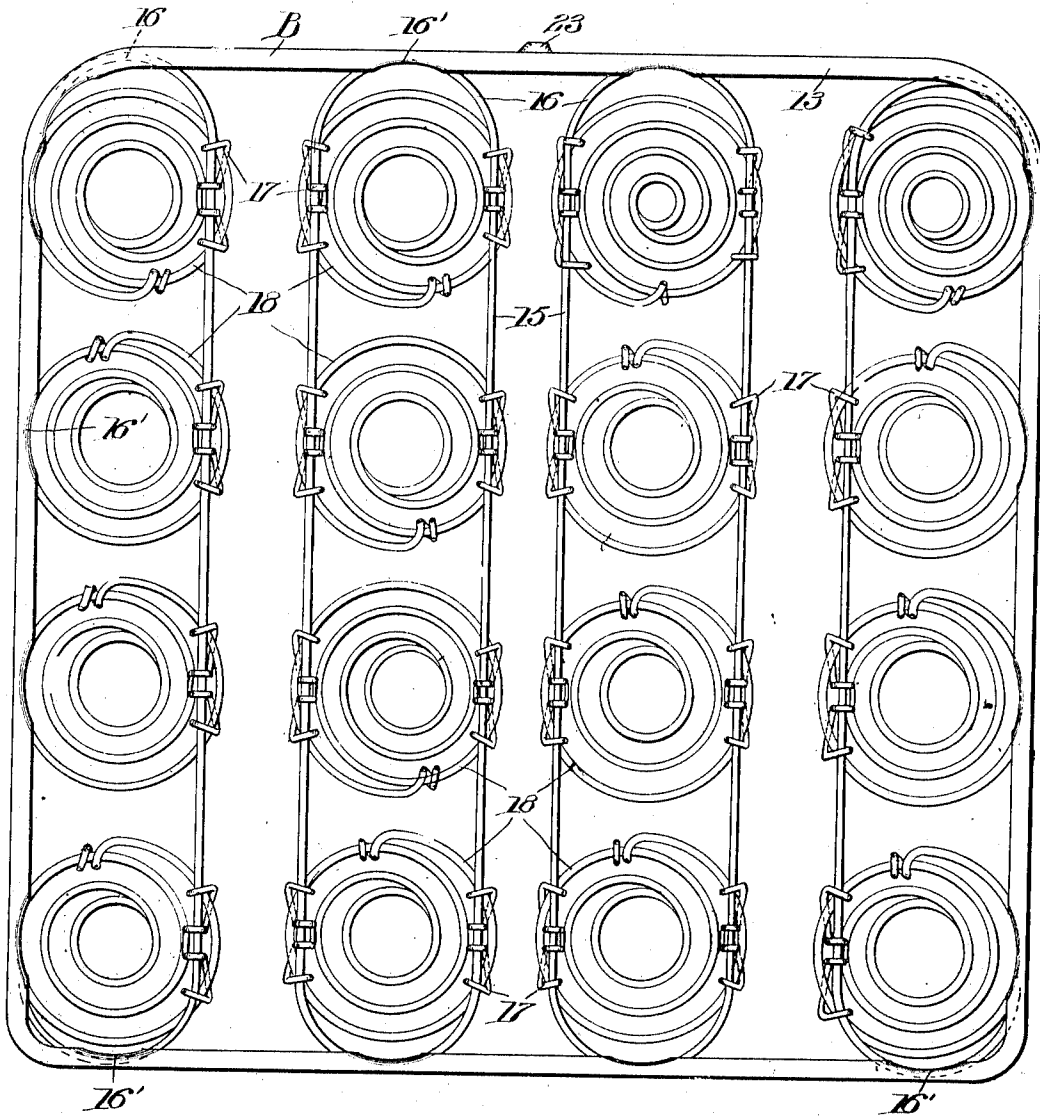
G. B. BRINK.
 SPRING STRUCTURE.
 APPLICATION FILED APR. 25, 1912.

1,061,218.

Patented May 6, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

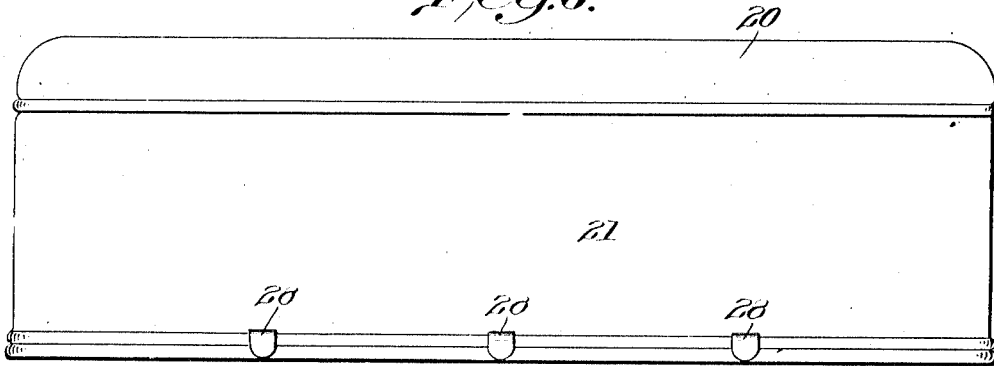


Fig. 2.

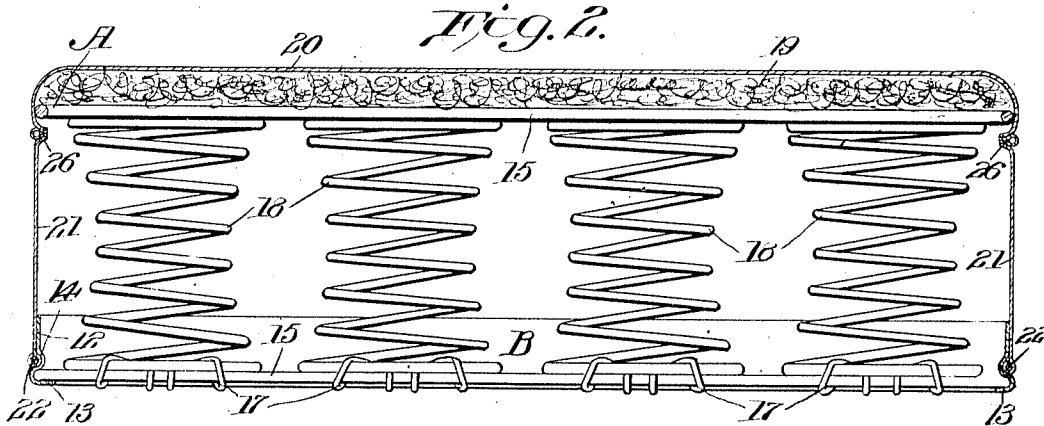


Fig. 3.

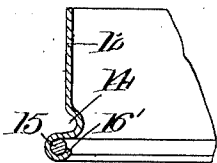


Fig. 4.

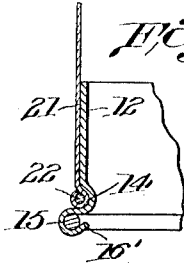


Fig. 5.

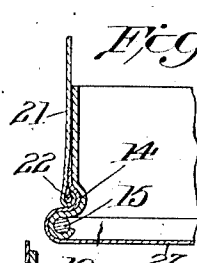


Fig. 6.

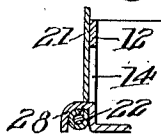


Fig. 9.

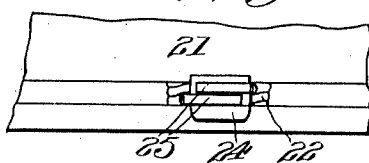
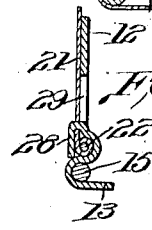


Fig. 7.



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SPRING STRUCTURE.

1,061,218.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed April 25, 1912. Serial No. 693,231.

To all whom it may concern:

Be it known that I, GEORGE B. BRINK, a citizen of the United States, residing at Plymouth, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Spring Structures, of which the following is a specification.

This invention relates to spring structures.

One object is to provide a spring structure embodying such characteristics that the side facing of the finished article may be readily secured to the base frame thereof without the necessity of sewing or tacking the facing to the frame or sewing it to the bottom facing.

Another object resides in the provision of a spring structure whose base frame is so formed that the side facing, and also the bottom facing, if used, may be readily drawn about or otherwise secured and held effectively to the base frame and quickly removed therefrom if desired without destroying the effectiveness of the original facing securing means.

Another object is to provide a spring structure over which may be readily secured a facing with a minimum of labor and without loss of considerable time and which, when secured to the structure gives to it an ornamental appearance as well as providing for an effective connection of the facing over the structure.

A still further object is to provide a light and durable spring structure embodying a novel base frame to which the spring supporting wires may be firmly connected.

With the above and other objects in view the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the scope or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is an inverted plan view of an open bottom spring structure illustrating one embodiment of my invention. Fig. 2 is a transverse sectional view thereof. Fig. 3 is a fragmentary sectional view of the base frame of the structure with the side facing removed. Fig. 4 is a view similar to Fig. 3 showing the side facing in place. Fig. 5 is a view similar to

Figs. 3 and 4 illustrating a bottom facing in place. Fig. 6 is a face view of another embodiment of the invention. Fig. 7 is a fragmentary sectional view of the structure illustrated in Fig. 6. Fig. 8 illustrates a further embodiment of the invention. Fig. 9 is a modified means for connecting the securing means of the side facing.

Referring now specifically to the accompanying drawings, and more particularly to Figs. 1 to 4, inclusive, wherein is illustrated one embodiment of my invention, the reference characters A and B indicate upper and lower frames, respectively. The lower frame is preferably composed of sheet metal and also preferably has angle formation to provide side web portions 12 and base web portions 13 with the side web portions 12 preferably provided with a surrounding groove 14 which may be pressed or otherwise formed therein for a purpose presently explained.

The base web portion 13 of the lower frame B provides for an ample base for the entire structure and as the web portion 13 extends entirely around the lower frame, it also provides a rest for the ends of the stays 15. The ends of the stays 15 are preferably curved as indicated at 16 in Fig. 1 and are secured to the web portions 13 fixedly by turning in, by a welding process or in any other way, the edges of the web portions to form binding parts or lips 16', shown particularly in Figs. 1, 3 and 4.

Disposed between the upper and lower frames and secured to the supporting wires 15 by means of suitable clips 17 are the springs 18 of the structure. The border springs at the sides of the structure may have their lower convolutions at their outer sides secured on the web portion 13 by the formation of lips 16' in the same manner that the lips 16 are formed, as shown clearly in Fig. 1. The upper ends of the border springs of the springs 18 may be secured to the upper border frame A in any suitable manner and the upholstering material 19 may be positioned on the top of the springs in any suitable manner.

The top facing 20 may be secured to the structure in any suitable manner and the said facing, that is, the front, back and side facings 21 may be sewed or otherwise secured to the top facing 20. In the embodiment of the invention now being described, there is preferably sewed into the side facings a wire 22 at the outer edges of the side

facings. One method of sewing the wire 22 into the side facings is to fold the outer edges of the latter, as clearly shown in Figs. 2 and 4. The wire 22 is preferably continuous and its ends may be soldered together as indicated at 23 in Fig. 1. If preferred, there may be struck up from the web portion 12 of the lower frame a tongue 24 (see Fig. 9) which may extend through the side facings 21 and over the edges of this tongue 24 the ends of the wire 22 may be bent as indicated at 25 in Fig. 9. Instead of a wire 22 a cord, rope or other cable may be substituted. The purpose of the wire or other cable 22 is to provide an effective and novel means for reinforcing the free edge of the side facing and for holding the side facings of the cushion in place.

The old method of making a cushion for automobile seats in particular has been to put a cloth or imitation leather bottom over the bottom of the cushion and it has been necessary to sew this bottom covering onto the side facings with a welt, similar to the welt indicated at 26 between the top facing 20 and the side facings 21. This facing and welt has to be sewed onto the bottom by hand at more or less extra expense. There has been no way of making an open bottom cushion without sewing the outside facing in the cushion by hand around the usual border wire constituting the base frame of the structure and this has left a more or less raw, unfinished appearance.

In the present embodiment of my invention I provide an open bottom cushion and obviate the necessity of sewing the lower edges of the side facings to any part of the structure. I simply sew into the lower edges of the side facings a cable 22 which enables me to draw in the lower edges of the side facing quickly and by soldering or securing the ends of the cable 22 in any suitable manner or as herein described, I am enabled to secure the side facing quickly into the aforesaid groove 14 of the base frame B. If a wire cable be used the lower edges of the facing may be sprung into the groove 14. Whether the lower edges of the facing be drawn or sprung into the groove 14 of the base frame B, I provide a highly effective securing means for the lower edges of the facing, and if it be desired, the lower edges of the facing may be slipped out of the groove 14. The sides of the groove 14 form shoulders and when the cushion is positioned the upper side of the groove forms a shoulder against which the wire or other stiffening element 22 is engaged to prevent disconnection of the lower or free edge of the side facing with relation to the frame incident to the upward tension of the springs of the structure.

If it be desired, a bottom facing 27 (see Fig. 5) may be employed to cover the bot-

tom of the structure, and if it be used, it is simply necessary to place the edges thereof in the groove 14 and by virtue of the binding or clamping action of the cable or other facing securing means 22 between which latter and the bottom of the groove 14 the edges of the bottom facing 27 are disposed, the bottom facing is held securely in place.

In Figs. 6 and 7 I illustrate still another embodiment of my invention. In this instance the structure is the same as the structure hereinbefore described, except that there may be struck up from the web portion 12 of the base frame B a plurality of tongues 28 which may be passed through slits 29 formed in the side facing preferably immediately above the cable 22 and which are preferably bent downwardly over the lower edge of the facing and the cable 22, as clearly shown in Fig. 7. As a matter of fact, as shown in Fig. 8 in the use of these tongues or fingers 28 I may, if desired, dispense with the groove 14' in the web portion 12 of the base frame B and simply have the cable 22 disposed beneath the fingers 28.

From the foregoing it will be seen that the essential part of the present invention resides in the provision of a novel form of base frame and in the effective connection to this base frame of the side facing of the cushion, which side facing may be readily drawn about the base frame or sprung into engagement therewith and effectively held thereto, the base frame having such formation as to also provide for a ready application and support of the supporting wires of the springs of the structure.

What is claimed is:

1. In a spring structure, an upper frame, a lower frame composed of two web portions arranged at right angles to each other, one web portion forming the base of the structure and the other web portion having an external surrounding groove therein, springs between the frames, a cover for the structure including a side facing, a wire secured to the edge of the side facing and adapted to bind the entire lower edge of the facing in the groove of the lower frame and thereby hold the lower edge of the facing above the lower edge of the lower frame and secure it against accidental disconnection therefrom.

2. In a spring structure, an upper frame, a lower frame composed of two web portions arranged at a right angle to each other, one web portion forming the base of the structure and the other web portion forming a marginal vertical portion and which is provided with an external continuous groove, springs between the frames, a cover for the structure including a side facing, a wire secured to the free edge of the side facing and adapted to be drawn in said groove of the lower frame to bind the entire lower edge

of the side facing in the groove of the lower frame and thereby hold the side facing against accidental disconnection from the lower frame, the side facing having a plurality of slits therein above said wire and the lower frame having a plurality of fingers thereon adapted to be directed outwardly of said frame and passed through said slits and bent over the wire in the lower edge of the side facing to cooperate with said wire to hold the side facing against upward movement with relation to the lower frame.

3. In a spring structure, a base frame, having an inwardly directed flange portion and also provided with an internal longitudinal groove and with an external longitudinal groove, supporting wires disposed on said inwardly directed flange with their ends fitted in said internal groove, springs mounted on the supporting wires, and a cover for the structure including a side facing having its lower edge fitted in said external groove of the base frame.

4. In a spring structure, a base frame having an external surrounding groove opening outwardly horizontally and also provided with a continuous internal groove arranged below the external groove with the lower wall of the external groove forming the upper wall of the internal groove, supporting wires having their ends secured in the inwardly opening groove, springs mounted on the supporting wires, a cover for the structure including a side facing, and a single piece of material drawn entirely around the base frame and thereby pulled tightly into said external groove and to which single piece of material the free edge of the side facing is secured.

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

GEORGE B. BRINK.

Witnesses:

L. M. LORD,
H. E. EDWARDS.