

F. P. D'ARCY.

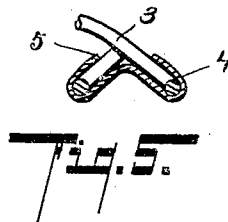
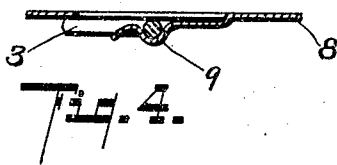
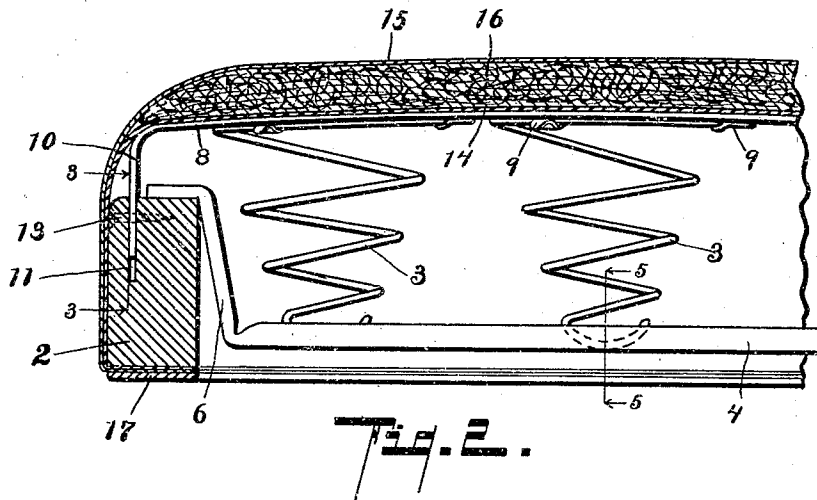
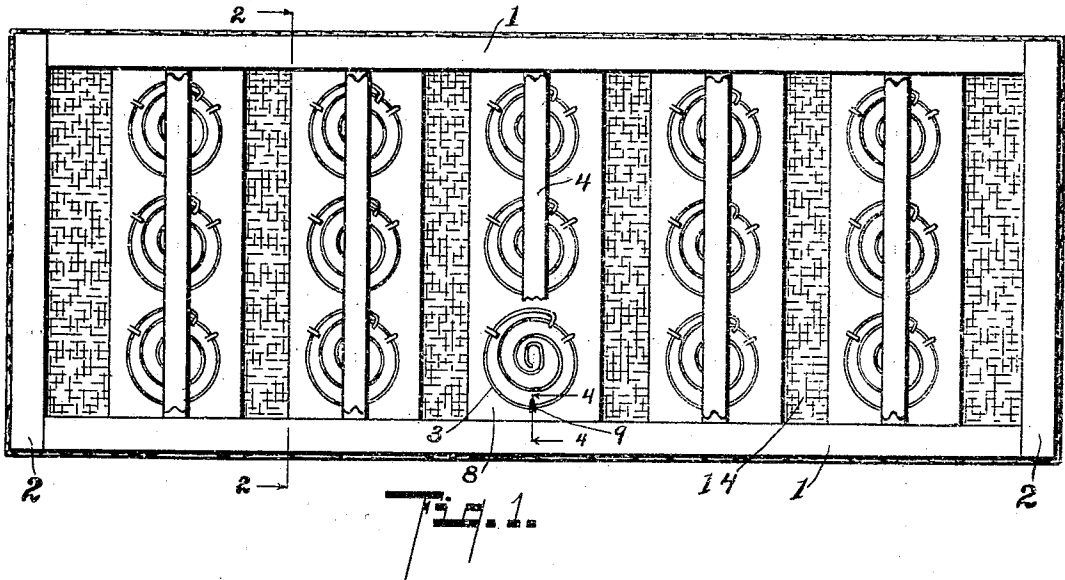
CUSHION.

APPLICATION FILED APR. 27, 1908.

Patented Apr. 19, 1910.

955,324.

2 SHEETS—SHEET 1.



Inventor

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2 SHEETS—SHEET 2.

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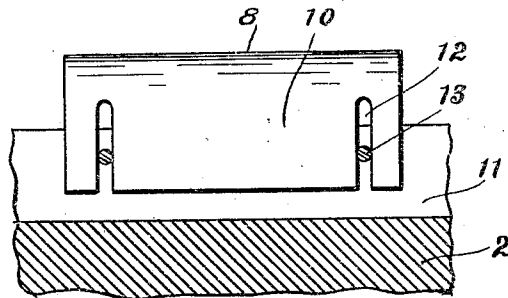


Fig. 3.

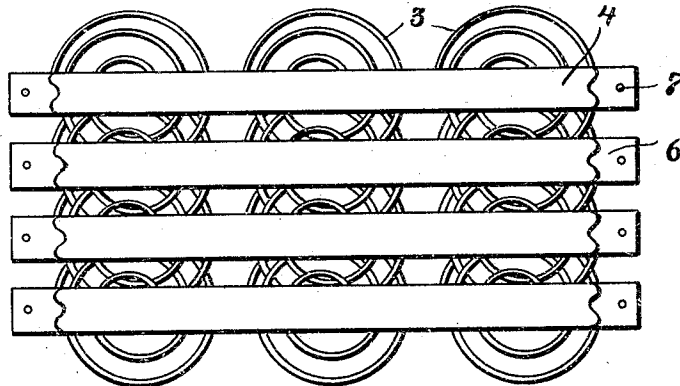


Fig. 5.

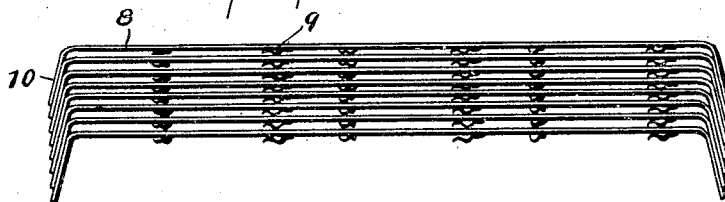


Fig. 7.

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UNITED STATES PATENT OFFICE.

FRANK P. D'ARCY, OF KALAMAZOO, MICHIGAN.

CUSHION.

955,324.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed April 27, 1908. Serial No. 429,401.

To all whom it may concern:

Be it known that I, FRANK P. D'ARCY, a citizen of the United States, residing in the city and county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Cushions, of which the following is a specification.

This invention relates to improvements in cushions.

10 The main objects of this invention are: First, to provide an improved cushion adapted to afford a suitable cushion or spring support for persons of different weight. Second, to provide an improved spring cushion in which the metal parts can be readily shipped in the knock-down and quickly and easily assembled by the user or by the cushion manufacturer. Third, to provide an improved cushion having metal spring supports in which the upholstering is effectively supported so that the wear thereon is minimized. Fourth, to provide an improved spring support in which coiled springs are embodied in which such springs are so supported that they are held in an erect position and are not likely to become displaced. Fifth, to provide an improved cushion structure which is economical to produce and at the same time is very strong and durable.

30 Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

40 A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which,

Figure 1 is an inverted plan of a structure embodying the features of my invention, one of the spring supports being broken away. Fig. 2 is an enlarged detail vertical section taken on a line corresponding to line 2—2 of Fig. 1. Fig. 3 is a detail section taken on a line corresponding to line 3—3 of Fig. 2. Fig. 4 is an enlarged detail taken on a line corresponding to line 4—4 of Fig. 1, showing means for securing the coiled springs to the top or plate spring. Fig. 5 is an enlarged detail cross section, taken on a line corresponding to line 5—5 of Fig. 2, showing the means of securing the bottom of

the coiled springs to their supports. Fig. 6 is an inverted plan of a plurality of the spring supports 4 with the springs 3 secured therein, nested together for shipping. Fig. 7 is a side elevation of a plurality of plates 8 nested for shipping.

In the drawing, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawing, I provide a frame preferably consisting of the side pieces 1 and end pieces 2, this being the general form of carriage and car seat cushion frames. The coiled springs 3, which are preferably of the helically-coiled type, are arranged in series, as illustrated. These springs are provided with suitable supports, as 4, preferably formed of strips of sheet metal having their edges turned in, as at 5, to clamp the bottom coils of the springs, thus rigidly securing them to the supports.

The supports are preferably provided with hangers 6 at each end adapted to rest on the top of the frame, as illustrated in Fig. 2. These may be perforated at 7 to receive nails or brads, if desired, but I find this is not necessary in practice with the parts assembled as I illustrate herein.

Each series of springs is provided with a top plate 8 having spring engaging tongues 9 on the under side thereof, by means of which the springs are effectively secured to the plates. These tongues are arranged so that the springs may be readily secured thereto, and be removed, should occasion require. This I accomplish by directing a portion of the set of tongues for each spring inwardly and a portion outwardly,—that is, in the same general direction, so that the springs may be readily slipped under the tongues. The tongues are punched down from the plate and have sufficient spring tension therein to readily snap over the top coils of the springs. Other means might be provided for securing the springs to the top plates. These top plates are preferably formed of spring sheet metal and provided with downturned ends 10 adapted to engage the grooves or kerfs 11 formed in the upper edges of the side pieces of the frame. These grooves or kerfs are located adjacent to the outer sides of the side pieces so that the top plates effectively support the up-

holstering well out toward the edge of the cushion, as clearly appears in Fig. 2. The downturned ends of the top plates are preferably slotted at 12 to receive the screws 13, which are arranged through the side pieces, as indicated by the dotted lines in Fig. 2. This prevents the lateral movement of the top plates, and also supports the side pieces so that they are not likely to split off from the kerf, thus making it possible to locate the same close to the edge and continuous, which, it is obvious, is a convenience in manufacturing.

The springs 3 are adapted to support the spring plates 8 in an elevated position, so that the springs 3 normally carry the entire load. As soon, however, as these springs are overcome sufficiently to carry the top plates down until their end pieces 10 engage the bottom of the grooves—which serve as stops or rests therefor,—the spring plates are brought into action and help to carry the load. The spring plates are spaced somewhat, but are arranged close enough together to form a suitable support for the upholstery. This may be a padded upholstery, as illustrated, or the spring structure forms a suitable support for a ratan covering, or any suitable fabric.

In the structure illustrated, I show a padded covering consisting of an inner fabric 14 and an outer fabric 15, between which is a filling 16. The edges of the inner and outer fabrics are preferably brought down over the sides of the frame and secured on the lower edge thereof by means of the facing strips 17, thus forming a structure which has a very complete and attractive appearance. The top plates for the springs, as stated, effectively support the upholstery so that it is very durable. They also effectively support the same well out to the edges of the cushion, which is a further advantage as will be obvious.

The springs 3 are so supported that it is practically impossible for them to become displaced in use. At the same time, they may be readily assembled by the user or the cushion manufacturer.

By forming the parts as I have illustrated, the metal parts can be readily shipped in the knock-down in a nested form, as illustrated in Figs. 6 and 7, and this results not only in an economy of storage and packing space, but as well in rates to be secured thereon.

I have illustrated and described my improved spring support in detail in the form preferred by me on account of its structural simplicity and economy and the convenience with which it may be assembled. I am aware, however, that it is capable of considerable variation in structural details without departing from my invention, and I desire to be understood as claiming the

same specifically, as illustrated, as well as broadly.

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

1. The combination with the frame, having vertical kerfs in the upper edges of the side pieces thereof, said kerfs being located adjacent to the outer sides of said side pieces; helically-coiled springs arranged in series; a support for each series of springs to which their bottom coils are secured, the supports having hangers at the ends thereof adapted to rest on the top of said side pieces of the frame; a spring plate for each series of springs having downturned ends arranged in said kerfs in said side pieces and adapted to reciprocate therein, said downturned ends having vertical slots therein; and screws arranged through said kerfs in said side pieces to engage said slots in said spring plates.

2. The combination with the frame, having vertical kerfs in the upper edges of the side pieces thereof, said kerfs being located adjacent to the outer sides of said side pieces; helically-coiled springs arranged in series; a support for each series of springs to which their bottom coils are secured, the supports having hangers at the ends thereof adapted to rest on the top of said side pieces of the frame; and a spring plate for each series of springs having downturned ends arranged in said kerfs in said side pieces and adapted to reciprocate therein and means for removably securing said springs to said plates.

3. The combination with the frame, having vertical grooves in the upper edges of the side pieces thereof; coiled springs arranged in series; a support for each series of springs connected to said frame; a spring plate for each series of springs connected to said frame; a spring plate for each series of springs having downturned ends arranged in said grooves in said side pieces and adapted to reciprocate therein and means for removably securing said springs to said plates; and means for holding said spring plates against lateral movement in said grooves.

4. The combination with the frame, having vertical grooves in the upper edges of the side pieces thereof; coiled springs arranged in series; a support for each series of springs connected to said frame; a spring plate for each series of springs having downturned ends arranged in said grooves in said side pieces and adapted to reciprocate therein, said springs being secured to said plates; and means for holding said spring plates against lateral movement in said grooves.

5. The combination with the frame, having vertical grooves in the upper edges of the side pieces thereof; coiled springs ar-

ranged in series; a support for each series
of springs connected to said frame; and a
spring plate for each series of springs hav-
ing downturned ends arranged in said
5 grooves in said side pieces and adapted to
reciprocate therein, said springs being se-
cured to said plates.

In witness whereof, I have hereunto set
my hand and seal in the presence of two
witnesses.

FRANK P. D'ARCY. [L. s.]

Witnesses:

L. G. GREENFIELD,
CLORA E. BRODEN.