

(Model.)

2 Sheets—Sheet 1.

E. L. BUSHNELL.

CAR SEAT.

No. 260,162.

Patented June 27, 1882.

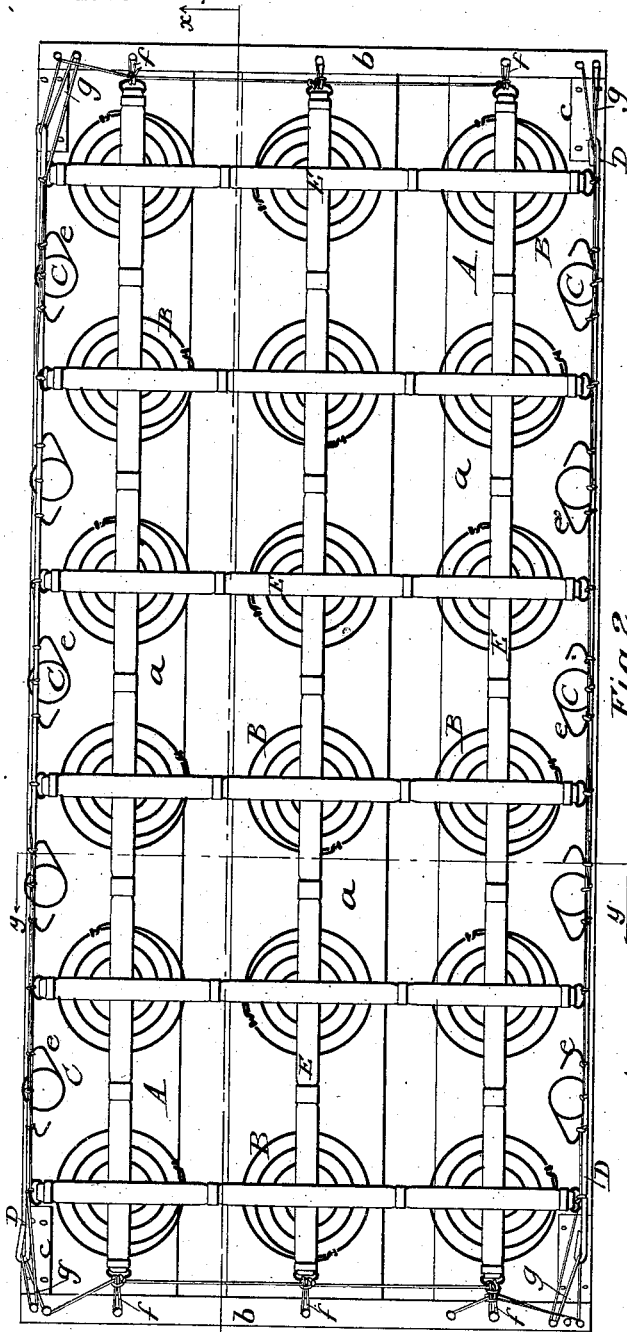


Fig. 2.

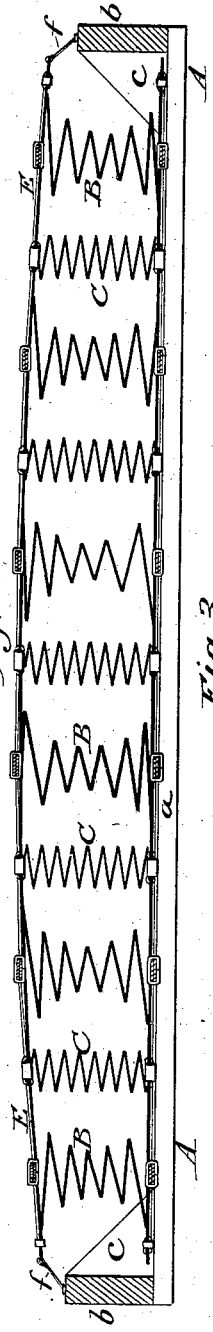
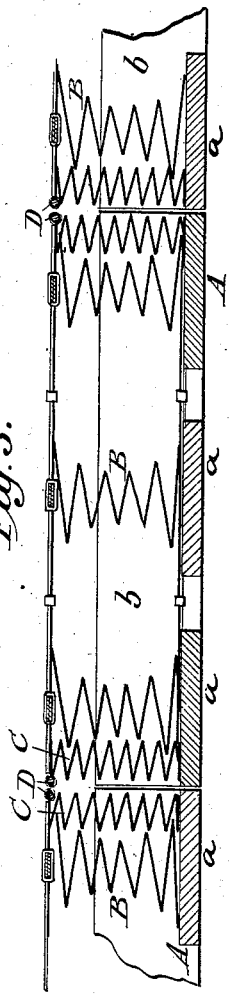


Fig. 3.



Attest.  
 Sidney P. Hollingsworth  
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Fig. 1.

Inventor.  
 E. L. Bushnell  
 By his atty  
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(Model.)

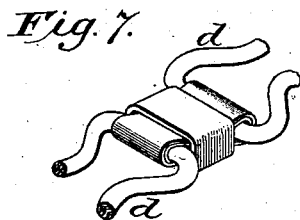
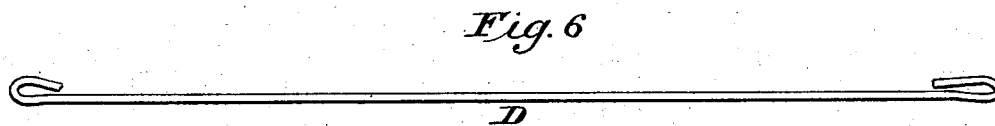
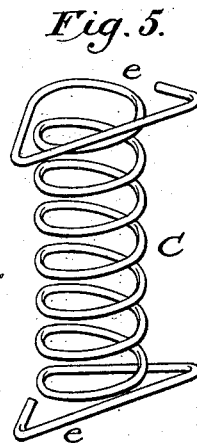
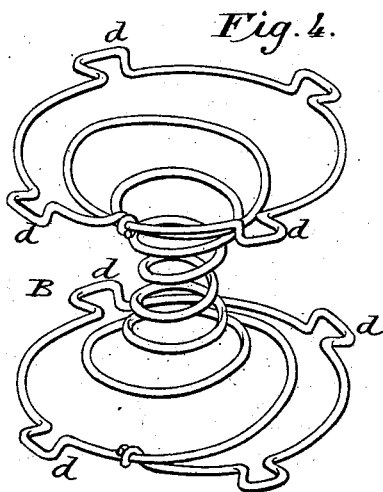
2 Sheets—Sheet 2.

E. L. BUSHNELL.

CAR SEAT.

No. 260,162.

Patented June 27, 1882.



*Attest.*

*Sidney P. Hollinger*

*Newton Haycock*

*Inventor.*

*E. L. Bushnell*

*By his Atty  
Philip S. Dodge.*

# UNITED STATES PATENT OFFICE.

EDWIN L. BUSHNELL, OF POUGHKEEPSIE, NEW YORK.

## CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 260,162, dated June 27, 1882.

Application filed February 18, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, EDWIN L. BUSHNELL, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Car-Seats, of which the following is a specification.

My invention relates to spring-seats designed more particularly for use in sleeping-cars, wherein the bottoms and backs of the seats are arranged side by side at night to form beds.

Various attempts have been made to produce spring-seats for this purpose; but in practice they have all been found open to objection, the greatest objection being the liability of the springs to change their form and position, and the existence in the edge of each seat having a box-like frame of longitudinal raised bars, which presented hard unyielding surfaces in the bed.

My invention is intended to avoid these difficulties; and to this end it consists in constructing the seat-frame with elevated end rails, but without raised bars in the front and rear edges, and connecting the springs and metal strips forming the edges in a peculiar manner, hereinafter described. Being made without the raised bars in the edges, the seat is adapted to sink equally at all points, and consequently a bed composed of a series of such seats presents a soft unyielding surface throughout its entire area.

Referring to the accompanying drawings, Figure 1 represents a top plan view of my improved seat; Fig. 2, a longitudinal vertical section of the same on the line *x x*, Fig. 1; Fig. 3, a transverse vertical section on the line *y y*, Fig. 1, showing three seats arranged in position side by side as in preparing the bed; Fig. 4, a perspective view of one of the main springs; Fig. 5, a perspective view of one of the smaller or secondary springs; Fig. 6, a view of one of the longitudinal wires employed to sustain the edge; Fig. 7, a view showing one of the joints by which the springs are connected with each other.

In constructing my seat I first prepare a flat base-frame, A, consisting of a flat board or series of longitudinal slats, *a*, secured at the ends to two transverse upright rails or boards, *b*, the latter being secured firmly in position upon the base and sustained, if required, by brackets or angle-blocks *c*. The end rails

are made of a height equal to half or two-thirds the height of the springs employed, the latter proportion being that ordinarily adopted. This base-frame, which is, it will be seen, without elevated rails or bars along its sides, forms the base upon which the remainder of the seat is built. I next provide a suitable number of spiral springs, B, such as represented in Fig. 4, having on each end four ears or eyes, *d*, the springs being similar in construction to those represented to numerous Letters Patent heretofore granted to me. I also provide a second series of springs, C, which are preferably made of uniform diameter throughout their entire length and of the same height as the main springs B. These secondary springs have their ends bent into the form of a horizontal triangle, as shown at *e*, one side being longer than the other, in order to adapt it for attachment to the edge-strip, as hereinafter described. I next provide two wires or ribs, D, such as represented in Fig. 6, with an eye or hook at each end, these wires being made of elastic material and of a length somewhat less than that of the seat. I arrange the main springs B upon the base-frame A in longitudinal and transverse rows, as represented in Fig. 1, placing them near each other and using a sufficient number to fill the entire frame. I connect the interior series of springs together by means of webbing E, or similar material extending across them, the webbing being secured to the ears and the ears of the adjacent springs connected with each other by means of couplings—such as represented in Fig. 7. This coupling consists in the present instance of a strip of webbing wound around and through the ears and fastened by means of a metallic fastening, as shown, being essentially the same as that represented in Letters Patent granted to me. The coupling may, however, be modified as desired.

Having thus united the interior series of springs, B, with each other in such manner as to allow them to yield freely in a vertical direction, but preventing them from tipping or separating, I nail or otherwise secure the lower ends of the springs firmly to the base-frame, and then connect the outer ears of the end springs, B, to the end rails by means of tightly-drawn cords or straps *f*, as shown in Figs. 1 and 2, the cords *f* being attached to

nails, screws, or other fastenings on the end rails, and being drawn tight in order to apply a considerable tension to the longitudinal webbing strips E to keep the springs from being  
5 thrown out of a vertical position.

Along the front and rear edges of the seat I arrange the elastic wires or rods D, as shown in the drawings, and connect their ends also with the end rails, *b*, by means of tightly-drawn  
15 cords or straps *g*, at the same time lashing the outer ears of the springs B firmly to the rods, whereby they are caused to give a mutual support.

In order to give additional support to the  
15 edges of the seat, I secure firmly to the base-frame the series of secondary springs C, arranging them in immediate positions between the springs B in the outer rows. The upper triangular ends of these springs C, I also otherwise secure firmly on the outer side of the  
20 wire rods D, as represented in the drawings. The wires D, being thus supported by the springs B C and strained by the connection with the end rails, are maintained in an elevated position and caused to give the seat-  
25 frame a straight edge.

It will be observed that under the construction described the edges of the seat are permitted to sink with the same degree of freedom  
30 and to the same extent as the other portions of the same, and that when two or more seats are arranged with their edges together to form a bed or couch, as represented in Fig. 3, that no solid obstacle or resistance is presented  
35 beneath the back of the occupant.

The bed thus constructed of a series of my improved connection is free to sink easily and uniformly throughout its entire length.

I am aware that it is common in seats and  
40 beds to mount springs in box-like frames having raised edges or rails on all sides; that it is common to mount springs or flat frames without elevations or rails at any part of the edge; that rods or wires have been used on the edges

of spring-mattresses, and that large and small  
45 springs have been combined in a bed-bottom; but I am not aware that any one has produced a structure containing either of the combinations hereinafter specified or any structure  
50 having the mode of action and practical advantages due to my method of construction.

The present invention is restricted to those matters and things which are specifically  
55 claimed herein, and as to all other features which may be described or shown the right is reserved to make the same the subject of a separate application.

Having thus described my invention, what I claim is—

1. The combination of the base-frame A, elevated only at the ends *b*, the main springs B, having ears thereon, the secondary springs C, having the angular ends, the elastic wires or rods D, and the connections uniting the  
60 springs and wires with each other and with the end rails, substantially as described and shown.

2. In a car-seat, the combination of the spiral springs B, the longitudinal wires or rods D, secured to the upper outer edge of said springs,  
70 and the smaller secondary springs having angular ends secured to the wire, as shown.

3. The improved bed or couch for railway-cars, consisting of two or more independent  
75 sections arranged side by side, each section composed of a base-frame elevated at the ends only in the manner described, the series of large and small spiral springs mounted on said frame, the flexible connections between the upper ends of the larger springs and the longitudinal wires attached to the edges of the  
80 springs, said wires and flexible connections being both attached to the raised ends of the frame, as described and shown.

EDWIN L. BUSHNELL.

Witnesses:

WILSON B. SHELDON,  
CASPER L. ODELL.