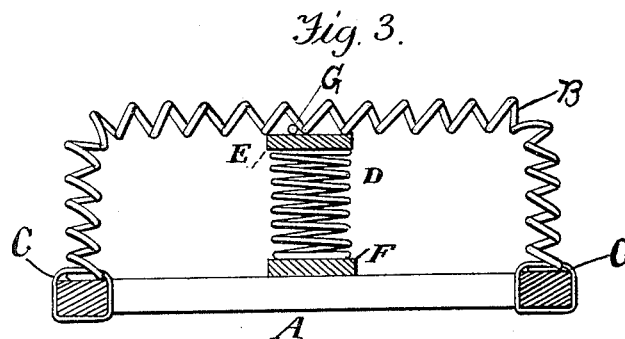
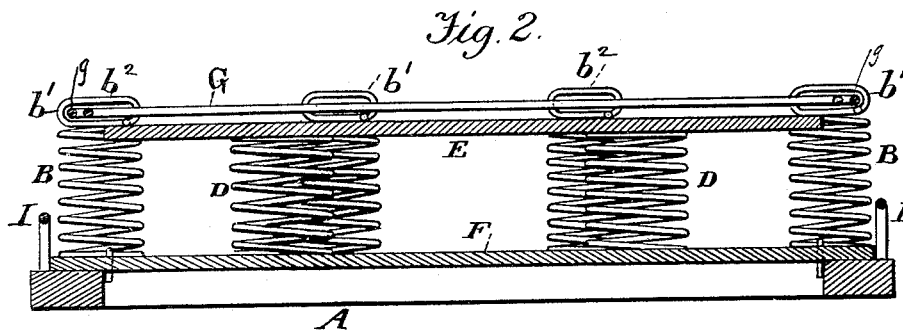
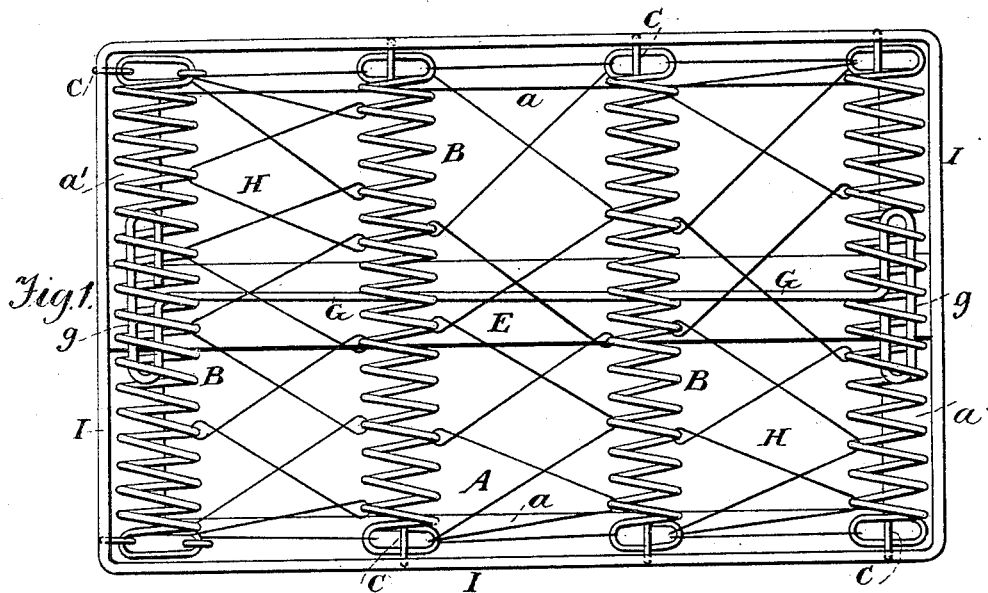


(No Model.)  
J. W. BRIDWELL & W. J. MORGAN.  
SPRING SEAT.

SPRING SEAT.

No. 454,453.

Patented June 23, 1891.



Witnesses.  
A. Ruppert.  
H. A. Daniels

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Per  
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att'y

# UNITED STATES PATENT OFFICE.

JAMES W. BRIDWELL AND WILLIAM J. MORGAN, OF HILLSBOROUGH, OHIO.

## SPRING-SEAT.

SPECIFICATION forming part of Letters Patent No. 454,453, dated June 23, 1891.

Application filed June 25, 1890. Serial No. 356,667. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES W. BRIDWELL and WILLIAM J. MORGAN, citizens of the United States, residing at Hillsborough, in the  
5 county of Highland and State of Ohio, have invented certain new and useful Improvements in Spring-Seats; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable  
10 others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 The invention relates to seat-springs for buggies, cars, carriages, sofas, lounges, and which may likewise be used as bed-bottoms.

The invention will first be described in connection with the drawings, and then pointed  
20 out in the claim.

Figure 1 of the drawings is a plan view; Fig. 2, a vertical cross-section, and Fig. 3 a longitudinal vertical section.

In the drawings, A represents the seat-frame, consisting of the longitudinal pieces *a*  
25 *a* and end pieces *a' a'* jointed together.

B is a steel-wire spring in oval coils *b*, with a short curve *b'* at the ends and a broad flat surface *b<sup>2</sup>* to receive a seat-cushion or bed. We  
30 fasten the springs B at their ends with tie-

wires C to the sides *a a* of the frame A and support them longitudinally in the middle by the two slats D E, one of which rests on the ends *a' a'* of the frame, while the other is sustained by the intermediate coiled springs F. In  
35 order to prevent the end springs from pressing inward, we use a tension-rod G with the cross-head *g* at each end, the cross-heads being arranged within the coils, as shown in Fig. 1 of the drawings. We also connect the  
40 springs by a wire-netting H, which is stretched between them so as to make a flat even surface between and on the springs without any hollows or concavities. We also surround the sides and ends *a a'* of the frame with the iron  
45 rods I to re-enforce said frame.

What we claim as new, and desire to protect by Letters Patent, is—

In a seat-spring, the combination, with the rows of coiled springs, of the tension-rods G,  
50 having heads *g g*, arranged within the coils, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES W. BRIDWELL.  
WILLIAM J. MORGAN.

Witnesses:

JOHN R. HIRST,  
EPHRAIM ROBINSON.