

W. RALL.
Carriage Seats.

No. 147,687.

Patented Feb. 17, 1874.

Fig. 1

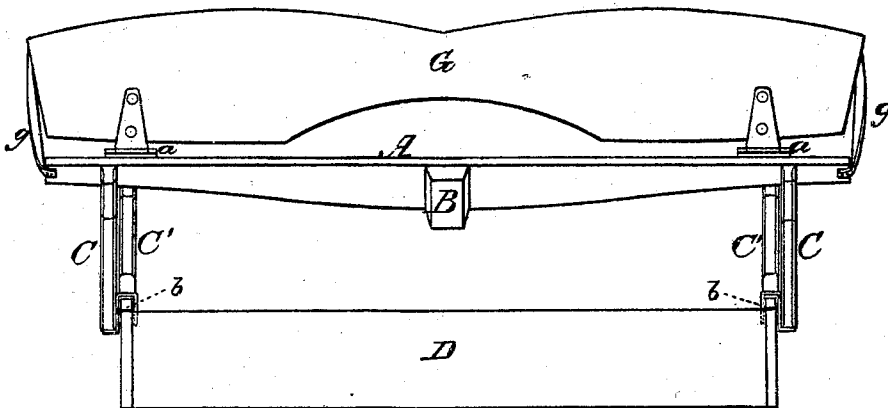


Fig. 3

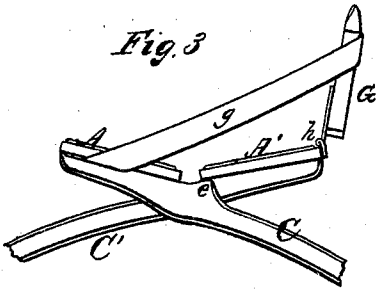
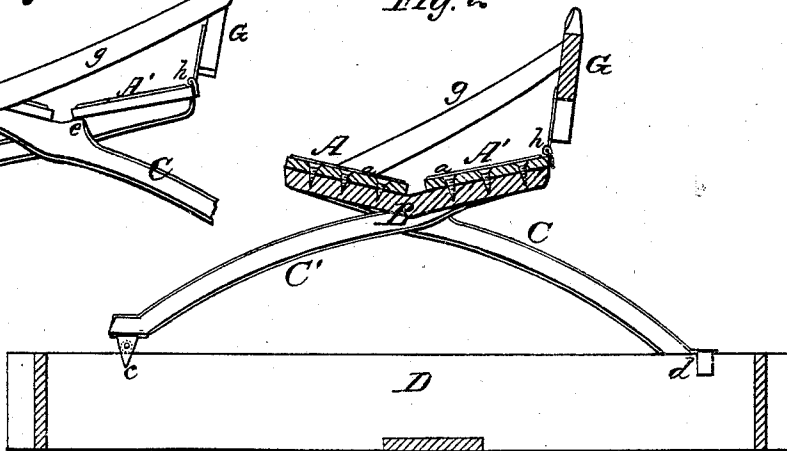


Fig. 2



Witnesses.
George E. Upham.
Robert. Everett.

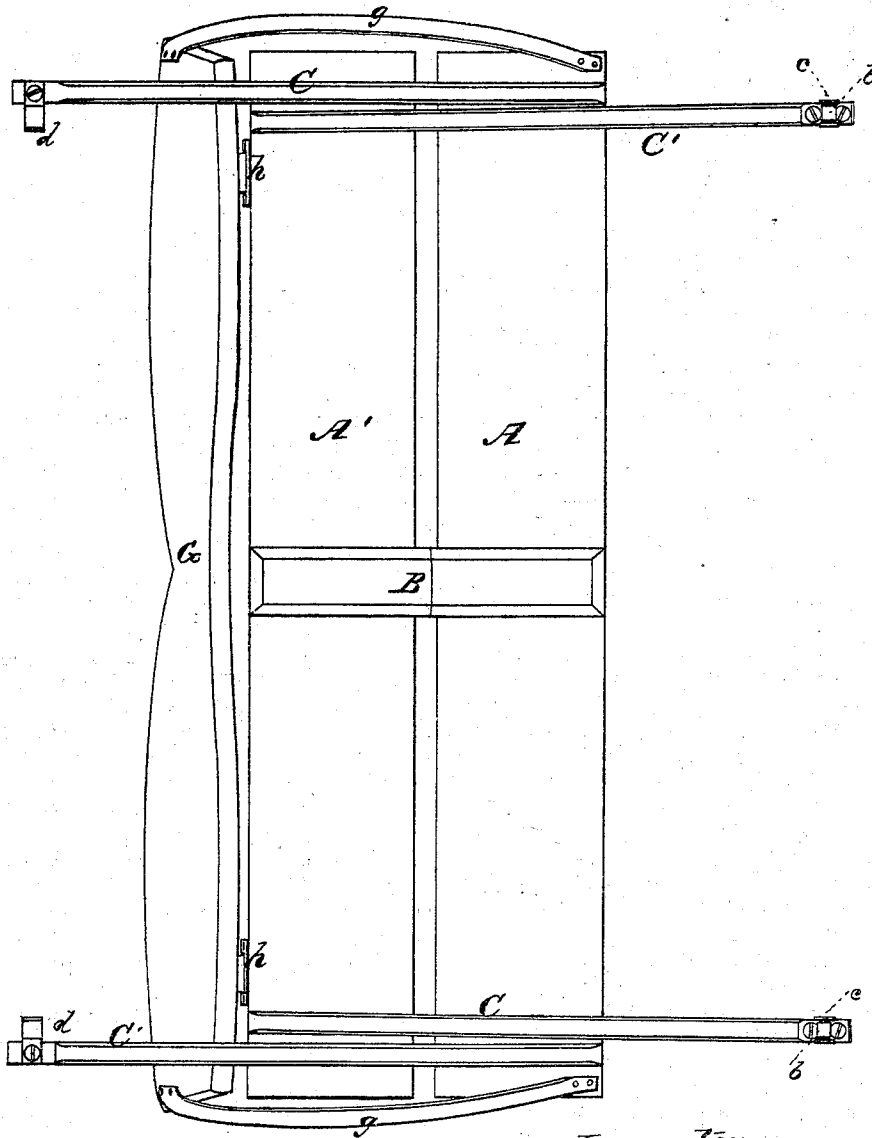
Inventor
William Rall,
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Fig. 4



Witnesses.
George E. Upham.
Jas. B. Loomis.

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UNITED STATES PATENT OFFICE.

WILLIAM RALL, OF BATTLE CREEK, MICHIGAN.

IMPROVEMENT IN CARRIAGE-SEATS.

Specification forming part of Letters Patent No. **147,687**, dated February 17, 1874; application filed December 6, 1873.

To all whom it may concern:

Be it known that I, WILLIAM RALL, of Battle Creek, in the county of Calhoun and State of Michigan, have invented a new and valuable Improvement in Spring-Wagon Seats; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of my spring-wagon seat. Fig. 2 is a sectional view of the same. Fig. 3 is an end, and Fig. 4 a bottom, view of the same.

This invention has relation to spring-wagon seats; and it consists in spring-seat boards, which are secured together by a double-inclined cross-bar, and also secured to crossed-leg supports, in such manner that the spring-action of the seat is derived from a torsion or twisting action of its boards, as will be hereinafter explained.

The following is a description of my invention.

In the annexed drawings, A A' represent two seat-boards, which are made of some tough springy wood, and which may be of any desired length, width, and thickness. B represents a cross-bar, which inclines from its ends to the middle of its length, and which is secured to the two seat-boards at the middle of their length, thus giving the desired longitudinal concavity to the upper side of the seat, shown in Figs. 2 and 3. C C' represent two of the seat-supports, which are secured to the bottom sides of the front board A, and extended backward and downward to the rear part of the wagon-box D, on the upper edge of which their ends rest by means of hooked feet *d*. At *e* the upper ends of the supports are extended back beneath the front edge of the rear seat-board A', for the purpose of supporting this board where it receives the greatest strain. C' C' represent the front supporting-legs, which cross the legs C C' inside, and are rigidly secured to the bottom side of the rear-seat board A'. These legs C' C' extend forward and downward, and have rollers *b b* applied on their ends, which bear on the upper edge of the wagon-box D. The ears *c*, to which

the rollers *b* are attached, prevent lateral displacement of the legs C' C'.

For the purpose of firmly securing the ends of the seat-boards to the ends of the supporting-legs, I employ metal battens *a a*, and secure them on top of the seat-boards just over the ends of the legs, by the same screws or bolts which are used to secure the said boards to their legs.

If desirable, rollers may be applied to the lower ends of the four legs, although I prefer to use rollers on the front legs only.

G represents the back of the seat, which is connected by hinges *h* and flexible arm-strips *g* to the seat.

It will be seen from the above description that the seat-boards are rigidly held together by the obtuse angular cross-bar B, and that they are connected at their ends to independently-removable legs, which cross each other on opposite sides of the wagon-box, and are free to spread apart when a weight is on the seat, which weight will act to twist the ends of the seat-board and make them approximate a horizontal plane.

I thus obtain the required spring-action by torsion of the seat-boards on opposite sides of their connecting cross-bar.

Should the seat-boards sag from any cause, they can be readily removed from their cross-bar and legs, and inverted.

What I claim as new, and desire to secure by Letters Patent, is—

1. The spring-seat boards A A', connected by an angular cross-bar, B, in combination with the independent leg-supports C C', substantially as described.

2. The rigid battens *a a*, applied to the spring-seat boards A A', over the upper ends of the legs C C', in combination with the angular cross-bar B, as and for the purposes set forth.

3. The foot-pieces *c d*, and rollers *b*, combined with the legs C C', seat-boards A A', and cross-bar B, substantially as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses:

WILLIAM RALL.

C. C. PEAVEY,
E. HARBECK.