J. T. YERKES.

Spring-Seat for Vehicles.

No. 204,411. Patented May 28, 1878.

Fig. 1.

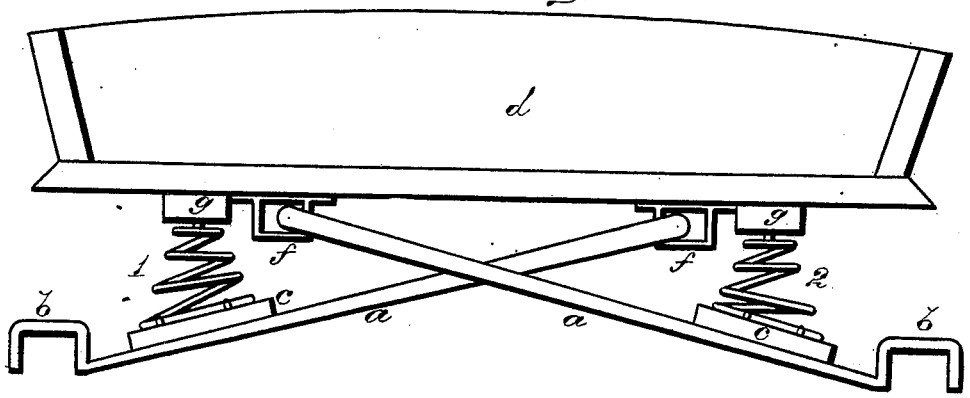
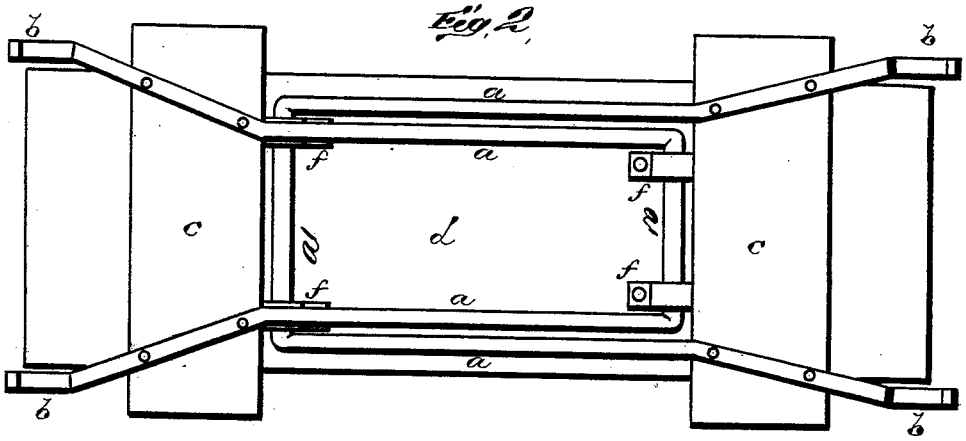


Fig. 2.



WITNESSES

E. H. Bates

Walter C. Mast

INVENTOR

Josiah T. Yerkes,

by E. W. Anderson,

ATTORNEY

UNITED STATES PATENT OFFICE.

JOSIAH T. YERKES, OF STUART, IOWA.

IMPROVEMENT IN SPRING-SEATS FOR VEHICLES.

Specification forming part of Letters Patent No. **204,411**, dated May 28, 1878; application filed December 31, 1877.

To all whom it may concern:

Be it known that I, JOSIAH T. YERKES, of Stuart, in the county of Guthrie and State of Iowa, have invented an Improved Spring Wagon-Seat, whereof the following is a full, clear, and exact description, reference being had to the drawing, and the letters and figures marked thereon, in which—

Figure 1 represents a perspective view of this invention applied to a wagon-box, and Fig. 2 represents a bottom view, showing the double rectangular cross-braces.

This invention has relation to spring wagon-seats; and it consists in the construction and novel arrangement of the oblique cross-braces bearing the series of end springs upon which the seat rests, as hereinafter shown and described.

In the accompanying drawing, the letters *a a* designate the oblique braces, which are arranged under the seat, and each of which extends nearly the entire length of the same. These braces are designed to be spring-bars, preferably made of round spring-steel rods bent into the form of elongated rectangular loops, open at their lower and outer ends, which are fashioned into hooks or fastenings *b* for attachment to the rail or margin of a wagon-box. From their attachment they extend upward under the seat obliquely, each nearly to the opposite end of said seat, thus crossing each other at the middle of the same, one loop-brace being usually made of less width than the other to facilitate this crossing.

Upon the lower ends of these spring-braces are arranged and secured the base-boards *c c*, which support the bases of the series of end springs 1 2, the upper ends of which are attached to the bottom of the wagon-seat *d*, as shown.

The upper end of each spring-brace *a* is rectangular, and its transverse portion *a'* is nearly as long as the seat is wide from before backward, thereby affording a broad bearing to support the seat against rocking backward or forward. This transverse portion or bearing *a'* of the brace-loop *a* is connected to the bottom of the wagon-seat by means of elongated loops or slot-plates *f f*, which are located just inside the rectangular bends of the brace *a*, as shown, and serve as stops to prevent the seat from sliding backward or forward, while they give sufficient play to the ends of the oblique braces in the direction of the length of the seat.

Undue sliding or parallel motion in the direction of the length of the seat is also prevented by these oblique braces, which hold the seat on each side by connecting the slot-plates *f* with the wagon-box. These pairs of slot plates or loops allow the cross-portions of the spring-braces *a* to slide therein when the end springs are compressed by the weight on the seat, and when they recoil, said weight being removed, the upper ends of the springs 1 2 are connected usually to cleats *g g*, which are secured across the ends of the seat-board, as shown.

As the spring-braces *a a* extend nearly the entire length of the seat underneath, in opposite directions, they will form low angles relative to each other where they cross at their middle portions and relative to the seat when they slide in the slot-plates; therefore they will slide easily under the seat without grating, and will have strength to act as stops to withstand a twisting-strain upon the seat, which is apt to occur when it is occupied at one end only.

In this manner is formed a strong spring wagon-seat, which is designed to be braced against parallel movements forward, backward, or sidewise, rocking movements forward and backward, and twisting motions, while it is free to act vertically in accordance with the movements of the end springs.

I am aware that spiral springs fixed on blocks having hooks attached, and compensating stay-rods sliding in bearings carried by said blocks, have been combined with a seat-board; and I am also aware that sliding braces supporting the end springs upon which the seat rests have been connected to bracket slideways under the middle of the seat; hence I do not claim such inventions.

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

The combination, with the seat *d*, of the double rectangular cross-braces *a a*, each formed in a single piece, and connected to slide-loops *f f* under the seat ends by the transverse portion *a'*, connecting the two arms or prongs of said brace, said arms supporting the bases of the seat-springs, substantially as specified.

JOSIAH THOMAS YERKES.

Witnesses:

ZENAS PLUMB,

J. Q. NELSON.