D. F. COOPER.
Vehicle-Spring.

No. 200,435. Patented Feb. 19, 1878.

Fig: 1.

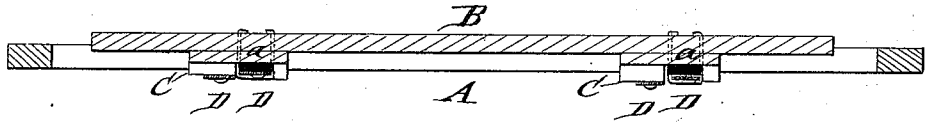


Fig: 2.

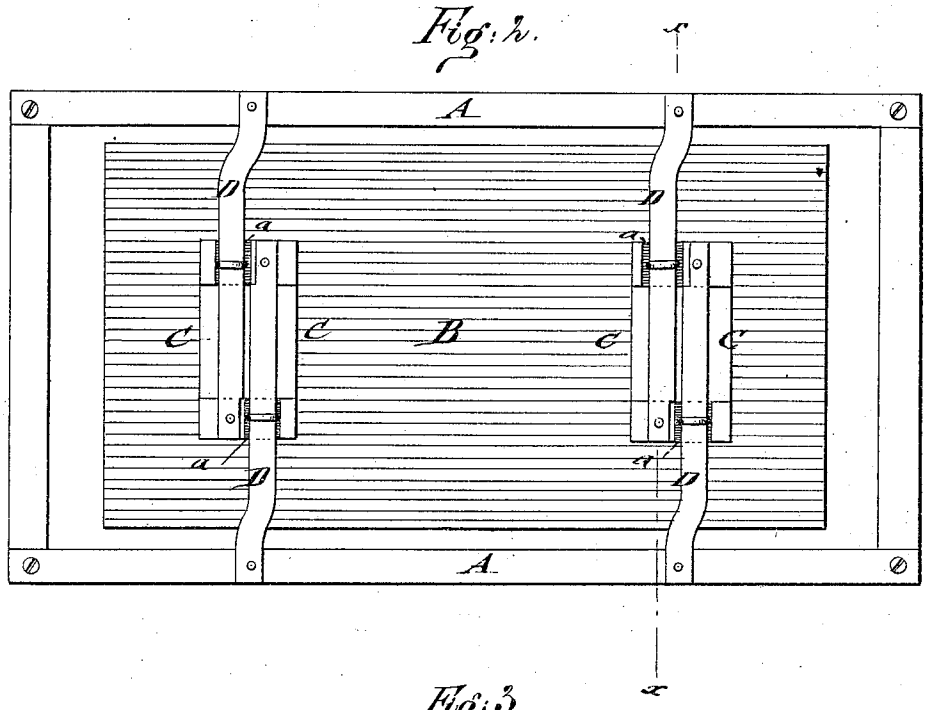
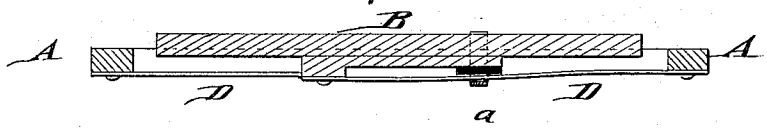


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DRURY F. COOPER, OF NEW YORK, N. Y.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **200,435**, dated February 19, 1878; application filed January 15, 1878.

To all whom it may concern:

Be it known that I, DRURY F. COOPER, of New York city, in the county and State of New York, have invented a new and Improved Side-Bar Wagon, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a vertical longitudinal section; Fig. 2, a bottom view, and Fig. 3 a vertical transverse section on line *x x*, Fig. 2, of my improved side-bar wagon.

Similar letters of reference indicate corresponding parts.

This invention relates to a novel construction of side-bar wagon, by which the same is supported in steady and superior manner on the springs without any lateral rocking motion; and the invention consists of two parallel rubber-cushioned springs, that extend from the side bars to blocks at the under side of the body, to which each spring is fastened at two points, being cushioned at the intermediate points.

Referring to the drawing, A represents the side bars, and B the body, of my improved side-bar wagon. The body B is provided at the under side with blocks C, having raised ends, to which the lateral sustaining-springs D are applied. The body B is supported on two separate springs at the front and hind end, that are secured, in the usual manner, by clips to the side bars, and extended parallel to each other across the blocks C. The ends of the springs between the side bars and body are slightly curved in **S** or other shape, the front spring being curved backward, the adjoining spring forward, so that the points of attachment to the side bars may be aligned, or nearly so. Each spring D is attached, by staples or otherwise, at two points, to its block C, the intermediate point of attachment being cushioned by an interposed rubber block, *a*, or by other elastic means set into a recess of the block, while the outer end is secured to the raised opposite end of the block. The weight of the wagon-body is first thrown on the outer ends of the springs, which are depressed, then on the cushions *a*, and, finally, on the parallel sections of the springs, which are strained, so as to assist in the support of the body.

The fourfold support of the wagon-body by cushioned springs having points of attachment at both sides of its longitudinal axis secures a reliable and steady, yet yielding, motion of the body without any rocking, and furnishes a wagon-body that rides with great ease and comfort on its springs.

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

The cross-springs D, fastened at the outer end to the frame A, at the inner end to the body, and having an intermediate elastic connection with the body, as and for the purpose specified.

DRURY F. COOPER.

Witnesses:

PAUL GOEPEL,

C. SEDGWICK.