

J. S. CORBAN.  
Spring-Vehicle.

No. 220,347.

Patented Oct. 7, 1879.

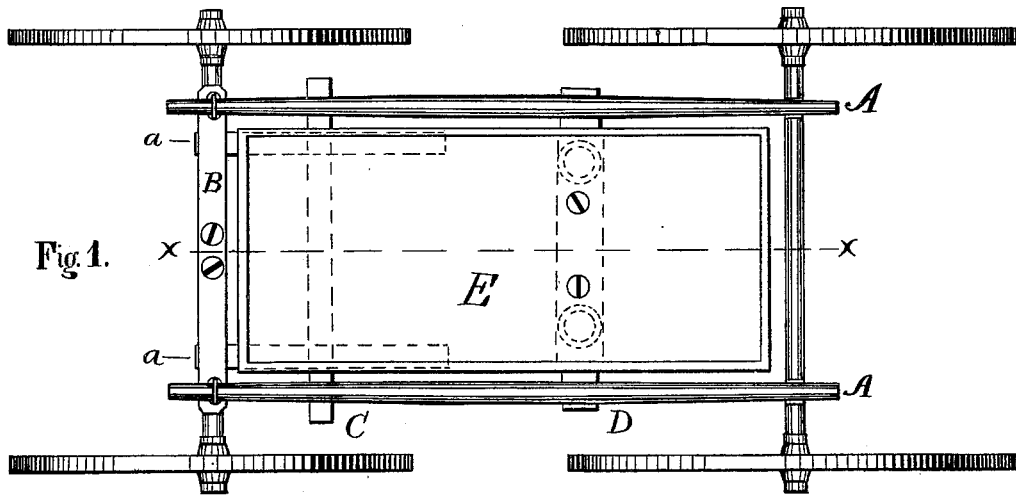
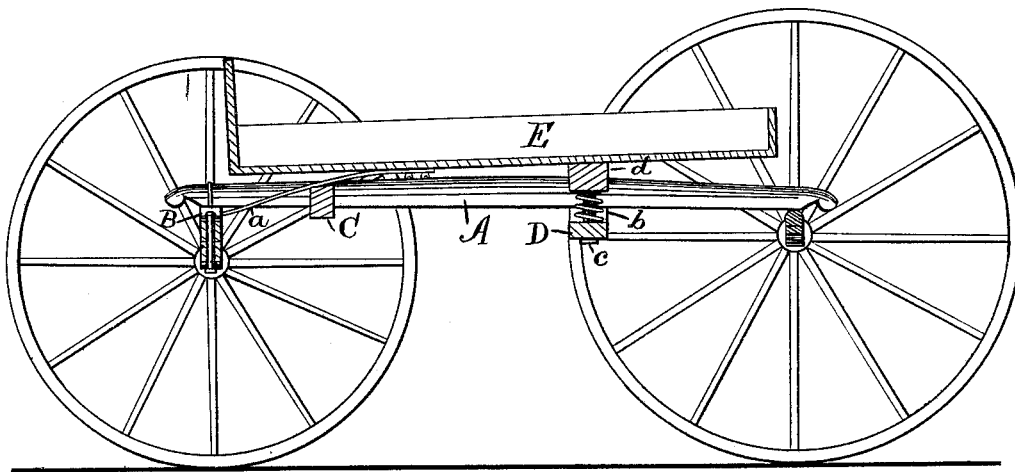


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JEREMIAH S. CORBAN, OF PLAINVILLE, CONNECTICUT.

## IMPROVEMENT IN SPRING-VEHICLES.

Specification forming part of Letters Patent No. **220,347**, dated October 7, 1879; application filed August 23, 1879.

### *To all whom it may concern:*

Be it known that I, JEREMIAH S. CORBAN, of Plainville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wagons, of which the following is a specification.

In the accompanying drawings, Figure 1 is a plan view of a wagon which embodies my invention, and Fig. 2 is a longitudinal section of the same on line *xx* of Fig. 1.

My invention relates to that class of vehicles which have longitudinal side bars, A A, as shown. These side bars may be hung directly to the rear axle and a rigid bar on the head-block, or upon light springs at either or both ends, as may be desired. In the drawings, I have represented them as hung directly to the rear axle and to a half-spring, B, on the head-block. To these side bars, A A, I attach two cross-bars, C and D, the middle portions of which are indicated by broken lines in Fig. 1.

The front end of the body E, I hang upon what I term "spring-hinges," the same consisting of two flat springs, *a a*, with their upper ends rigidly secured to the under side of the body E, and their middle portions bolted or otherwise secured to the upper side of the front cross-bar C, while their lower forward ends extend under the half-spring B. These springs, so secured, will not only prevent the body from rocking from side to side, but will answer as a vertical spring, and when pressure is brought to bear at a point back of these springs they will act as a hinge and allow the rear part of the body to be moved up and down as if the front end were hinged at a point near the cross-bar C, and it is for this reason that I term them spring-hinges.

Upon the rear cross-bar, D, I place two spiral springs, *b*, indicated by the broken circles in Fig. 1, to further support the body at that

point. By placing the cross-bar D nearer or farther from the axle the stiffness of spring of the body may be decreased or increased, the spring of the side bars being thereby utilized to a greater or less extent.

Suitable means should, of course, be employed to limit the upward movement of the rear end of the body, so that the springs may not become displaced. I have so limited the motion by means of bolts *c*, which extend through the cross-bar and into a cleat, *d*, on the bottom of the body.

Any desired number of springs *b* may be employed, either upon one or more cross-bars.

The cross-bar C may also be dispensed with, if desired, by bolting the forward ends of the springs *a a* directly to the half-spring B, or a cross-bar on the head-block when such spring is omitted.

Very good results may be obtained by hanging the forward end of the body to the cross-bar C (placed a little farther forward than now shown) by means of an ordinary pair of pintle-hinges and hanging the rear or middle portion of the body on the cross-bar and springs in the manner hereinbefore described.

I claim as my invention—

1. In a wagon, the side bars, A A, cross-bar D, and springs *b b*, in combination with a suitable forward cross-bar, the wagon-body, and suitable mechanism for hinging the forward end of the body to the forward cross-bar, substantially as described, and for the purpose specified.

2. In a wagon, the combination of the side bars, A A, cross-bar D, springs *b b*, cross-bar C, flat springs *a a*, and body E, substantially as described, and for the purpose specified.

JEREMIAH S. CORBAN.

Witnesses:

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