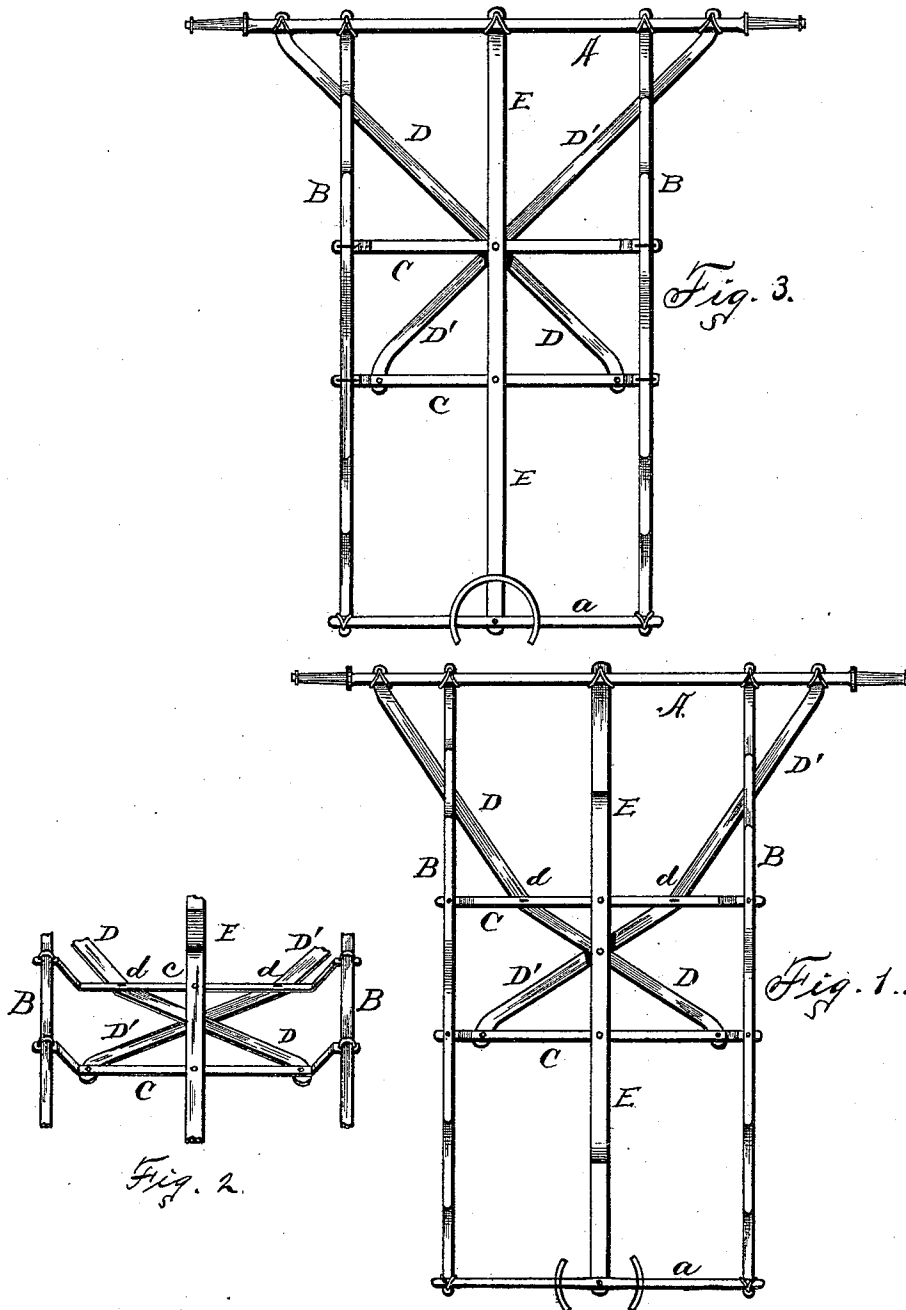


(No Model.)

W. L. PIKE.  
VEHICLE GEAR.

No. 463,391.

Patented Nov. 17, 1891.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

WILLIAM LUTHER PIKE, OF GROTON, NEW YORK.

## VEHICLE-GEAR.

SPECIFICATION forming part of Letters Patent No. 463,391, dated November 17, 1891.

Application filed July 15, 1891. Serial No. 399,556. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM LUTHER PIKE, of Groton, in the county of Tompkins, in the State of New York, have invented new and useful Improvements in Vehicle-Gears, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to vehicle-gears; and it has for its object the improvement of the equalizing of the spring action, and in addition thereto the depression of the body of the vehicle below and between the side bars of openings, and the concentration of the spring-supporting power central to the gear, both longitudinally and transversely, causing all of the component springs to co-operate in perfect unison and with a combined joint action, one re-enforcing the other.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the gear. Fig. 2 is a plan perspective of a part thereof. Fig. 3 is a top plan of a gear in which the crossed re-enforcing springs are straight and are crossed farther toward the back and connected at their crossing directly at the rear cross-bar.

A is the rear axle, and *a* is the front head-block.

B B are the side springs between and connected to said axle and head-block and all lying in substantially the same plane.

C C are parallel cross-springs, angularly bent adjacent to their ends, substantially as shown, and secured to the side springs by clips or in any other ordinary manner, so that their central portions between the angles lie in a plane substantially parallel with and below the side springs.

D D are auxiliary springs secured at their rear ends, thence passing inwardly and under the side springs and not touching them, and then crossing each other and passing under the rear cross-spring and having their front ends secured to the front cross-spring. In Fig. 1 this crossing is directly under the

rear cross-spring, while in Fig. 3, on account of the angle *d* in each, the crossing is between the cross-springs. These springs D are also secured to the cross-springs at their points of intersection.

E is a longitudinal central spring parallel with and between the side springs and pivotally connected at the front to the king-bolt and at the rear to the axle, and bent downward adjacent to the rear end, so that it is secured to the cross-springs and the auxiliary springs where it intersects them. The action of this gear is that the auxiliary springs re-enforce the cross-springs and the joint operation of the auxiliary springs and cross-springs re-enforce the side springs, even though the central longitudinal spring E be omitted, as it can be. When this central spring is used, its function is to centrally support the cross-springs while co-operating with the other springs in the gear. It will also be seen that I can use the cross-springs straight, if desired, and that I can vary the extent of the depression thereof. It will also be seen that by thus crossing the springs D, I create a central re-enforced spring-platform, the function of which is to give the maximum re-enforcement to the side springs when carrying a load, and consequently it will be almost impossible to depress one side spring below the plane of the other—that is, to any great extent—and consequently the vehicle-body will always be substantially horizontal.

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

The combination, with the rear axle and front head-block, of the center and side springs connecting them, cross-springs connecting the aforesaid springs, the auxiliary springs connected at their rear ends to the axle and at their forward ends to one of the cross-springs adjacent to the side springs and connected to each other and to the central longitudinal spring at their points of intersection.

In witness whereof I have hereunto set my hand this 11th day of July, 1891.

WILLIAM LUTHER PIKE.

In presence of—

E. A. LANDON,  
W. W. WILLIAMS.