

S. ELLIOTT.

Spring-Equalizers for Vehicles.

No. 148,681.

Patented March 17, 1874.

Fig. 1.

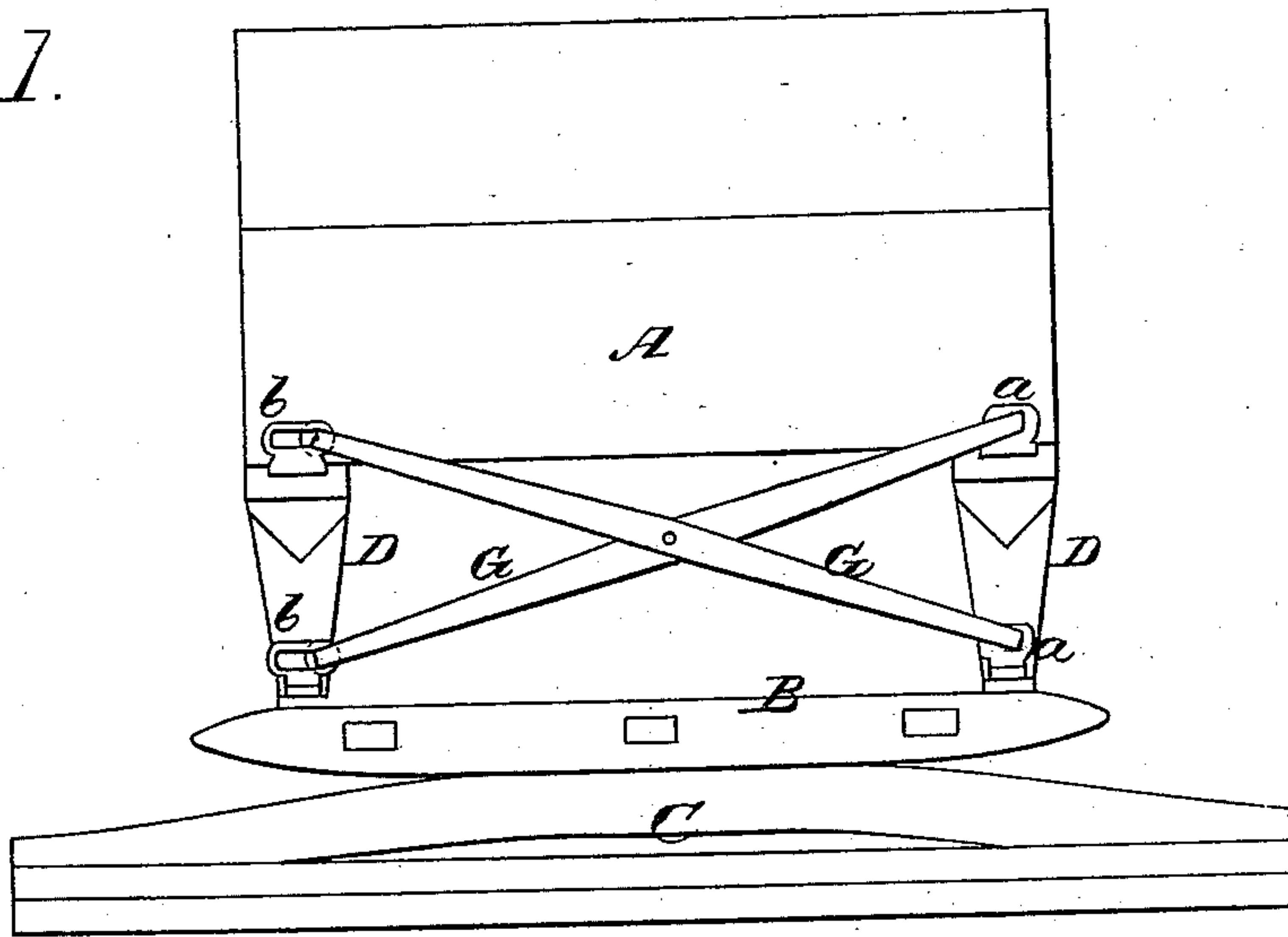
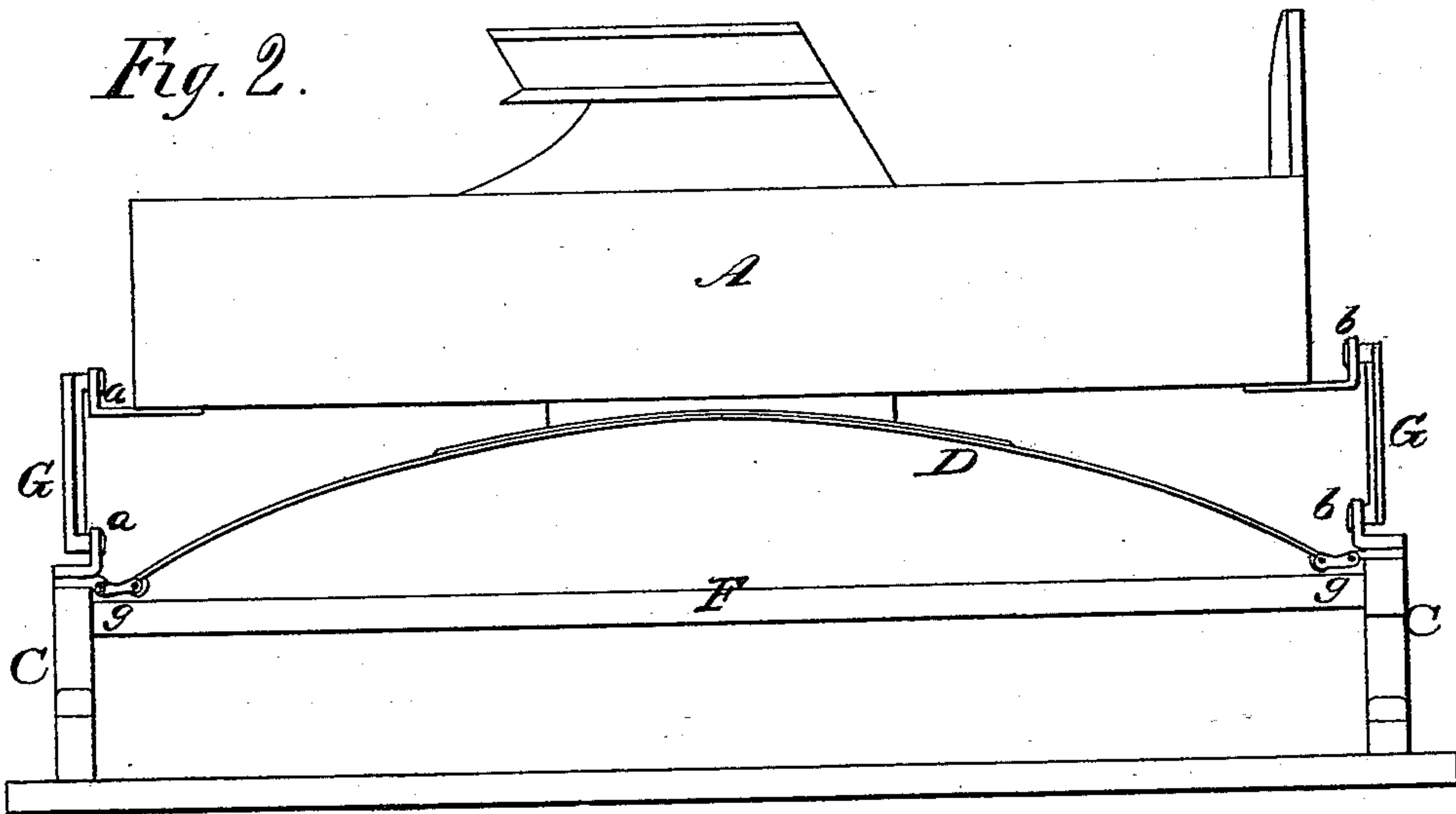


Fig. 2.



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IMPROVEMENT IN SPRING-EQUALIZERS FOR VEHICLES.

Specification forming part of Letters Patent No. **148,681**, dated March 17, 1874; application filed January 10, 1874.

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and valuable Improvement in Carriage-Spring Equalizers; 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 an end view of my carriage-spring equalizer. Fig. 2 is a side view of the same.

The object of this invention is to employ, in combination with the springs of a carriage, a contrivance which will equalize the weight on the springs and prevent the body of the vehicle from tilting laterally; and the novelty consists in the construction and arrangement of the parts, as will be hereinafter more fully described and claimed.

The following is a description of my invention:

In the annexed drawings, A represents the body of a wagon; B, the front spring-bar; C, the axles, and F the reach-bars. The body A is mounted on springs D, which extend from the rear axle C to the front spring-bar B, and are connected to eye-plates on these parts by means of shackle-loops *g g*. The equalizers consist of crossed arms G, which are applied at the front and rear ends of the wagon, and which are connected together at their points of crossing by means of pivots *i*, or by a socket-joint. One end of each arm G is pivoted to a plate, *a*, and the other end of each arm is allowed to play freely in a slot made through a plate, *b*. These connections of the arms G allow them to play freely, and keep their ends equi-

distant during the vertical movements of the body A. The pivotal connections of the equalizing-arms are located on one side of the wagon at its front end, and on the opposite side at the rear end; and this is also the case with respect to the slotted connections of the said arms.

It will be seen from the above description that the equalizing-arms will keep the body of the wagon parallel to the axles under all circumstances, without in any manner interfering with the action of the springs D. The equalizers also tend to prevent the springs from breaking, as the strain or weight on any part of the body is uniformly distributed upon both springs; and if either one of the springs should break from any cause, the equalizing-arms will still keep the body horizontally supported upon the remaining unbroken spring.

I am aware that equalizing pivoted arms have been combined with an elliptical spring, and therefore I do not claim such invention broadly; but

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

The equalizing centrally-pivoted arms G, each having one end pivoted to a plate, *a*, and the other end of each allowed to play freely in a slot through a plate, *b*, and the springs D extending from the front to the rear of the wagon and connected to the same by means of shackle-loops *g g*, all combined as shown, and for the purpose specified.

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

STERLING ELLIOTT.

Witnesses:

CHAS. W. VROOMAN,
N. K. ELLIOTT.