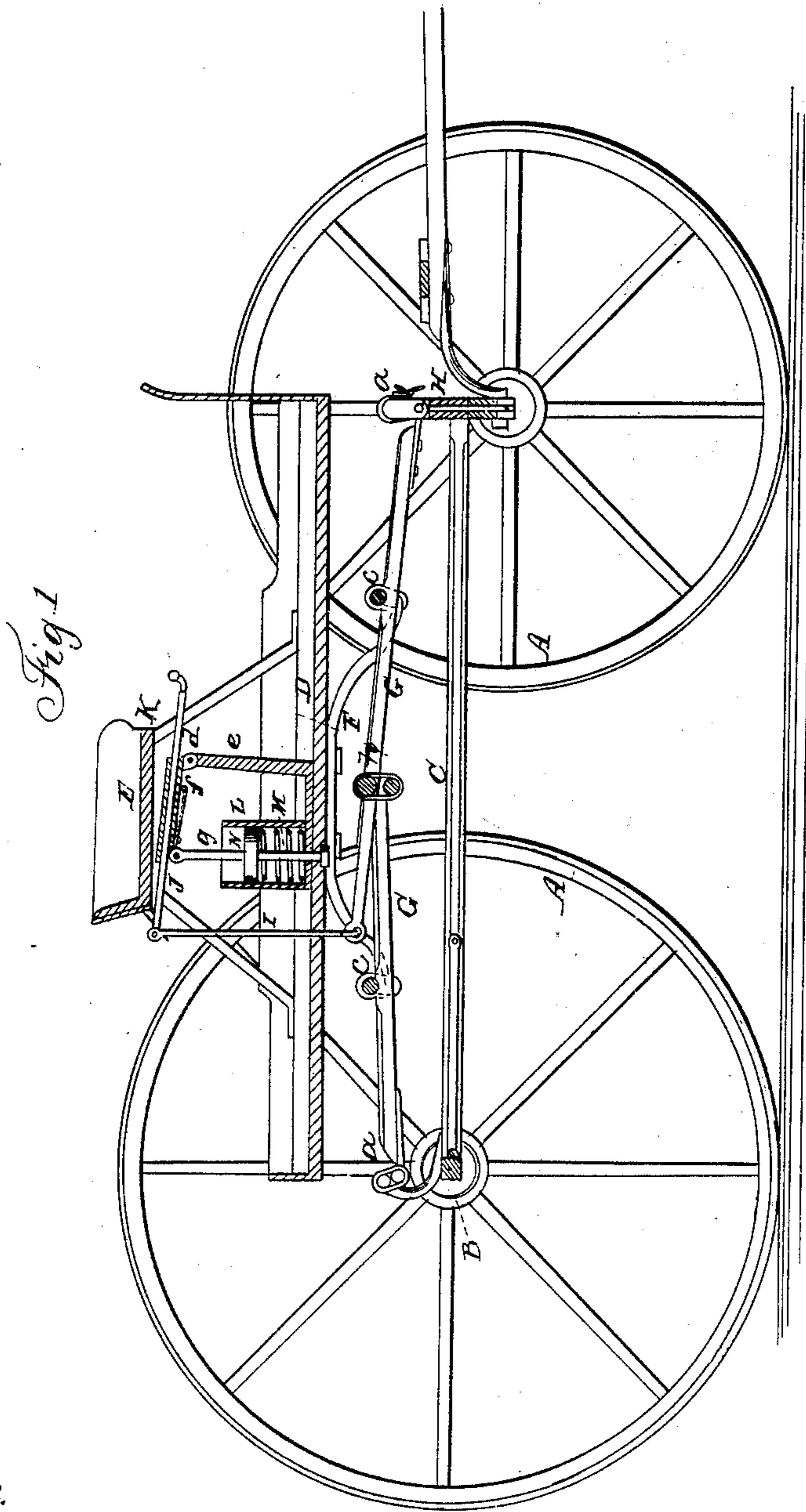


I. CARTER.
Carriage-Spring.

No. 27.036.

Patented Feb. 7. 1860



Witnesses.

Justin H. Leach
A. W. Robbins

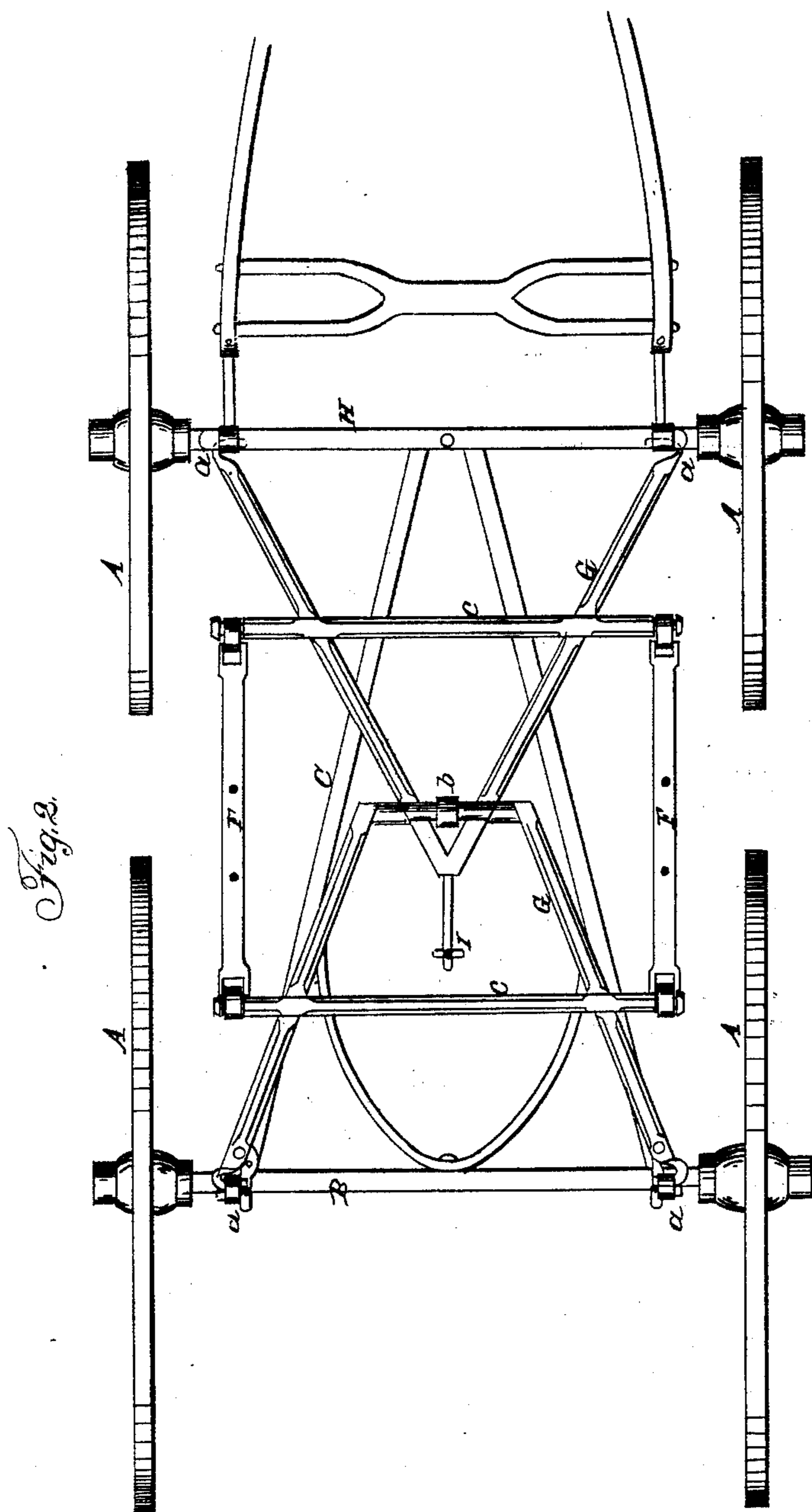
Inventor.

Ira Carter

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Carriage-Spring.

No. 27.036.

Patented Feb. 7. 1860



Witnesses.

Josiah H. Leach
Wm. Robbins

Inventor.

Ira Carter.

UNITED STATES PATENT OFFICE.

IRA CARTER, OF CHAMPLAIN, NEW YORK.

ADJUSTABLE CARRIAGE-SPRING.

Specification of Letters Patent No. 27,036, dated February 7, 1860.

To all whom it may concern:

Be it known that I, IRA CARTER, of Champlain, in the county of Clinton and State of New York, have invented a new and Improved Spring Attachment for Wheel-Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side sectional view of a pleasure wagon with my invention applied to it. Fig. 2, a plan or top view of the running gear of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a spring for vehicles capable of being graduated according to the weight to which it may be subjected, that is to say, having the spring so arranged that its strength or rigidity may be regulated according to the weight of the load of the vehicle so that an easy and agreeable riding vehicle will be obtained at all times, whether the load be light or heavy.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents the wheels, B the axles and C the perch or reach of an ordinary pleasure wagon. These parts which may be of usual construction do not require a minute description.

D is the body of the wagon which may be of any suitable form and E is the seat secured therein as usual. The body D has two curved metal bars F, F attached to its bottom, one at each side and these bars rest on two lever frames G, G, the other ends of which are connected by any suitable joints *a*, one to the back axle B and the other to the bolster H, or the front axle. The inner ends of the lever frames G, G, cross each other and are connected by a joint *b*, and the bars F, F, are connected to traverse bars C, C, on the frames G, G.

To the inner end of the front lever frame G, a vertical rod I, is attached, said rod passing up through the bottom of the body D, and connected to the back end of a lever J, which is fitted in a socket or tube K, the front end of which is connected by a joint *d*, to the upper end of an upright *e*. The lever

J is notched at its under side to receive a spring catch *f*, which is attached to the tube K and prevents the casual movement of the lever within said tube and at the same time secures the lever at any desired point.

To the bottom of the body D, a cylinder L is attached. This cylinder is underneath the seat and within it a spiral spring M is placed, said spring having a follower N resting on it the rod *g*, of the follower passing through the bottom of the body D, and its upper end being attached to the back or inner end of the tube K.

From the above description it will be seen that the weight of the body D, is transmitted by the lever frames G, G, and rod I lever J and follower N to the spring M in the cylinder L, and it will also be seen that by varying the distance between the upper end of the rod I, and the follower rod *g*, the power of the lever J may be increased or diminished and consequently the strength of the spring M, may be graduated according to the weight in the body D, for as the lever J may be moved in the tube K, its adjustment to regulate its power can be readily accomplished.

This invention may be applied to vehicles at a small cost, much less than the ordinary elliptic springs and the advantage it possesses, viz: the graduating of the power or strength of the spring according to the weight in the body, adds greatly to its value, for an easy and agreeable riding vehicle may be obtained at all times irrespective of the load. The elliptic springs, which are considered the most preferable hitherto devised, are expensive and as ordinarily used if overloaded are worthless and liable to break. When however properly made of good material and subjected to the right weight they cannot be superseded. The difficulty however with them is that when made to sustain a certain load they cannot support more without being unduly strained and liable to be broken and if subjected to a less weight they are not sufficiently elastic. By my invention this difficulty is fully obviated and a very simple, economical and efficient vehicle spring obtained.

I do not confine myself to the precise arrangement of parts herein shown nor to a spiral spring M, for other springs may be

used, an elliptic spring for instance may be placed underneath the seat E. A spiral spring however would be less expensive and would perhaps answer equally as well for
5 light vehicles.

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

Transmitting the weight of the load of a

wheel vehicle to its spring M, through the 10 medium of an adjustable lever J and the lever frames G, G, or their equivalents, substantially as and for the purpose herein set forth.

IRA CARTER.

Witnesses:

TORTIUS H. LEACH,
H. G. ROBBINS.