

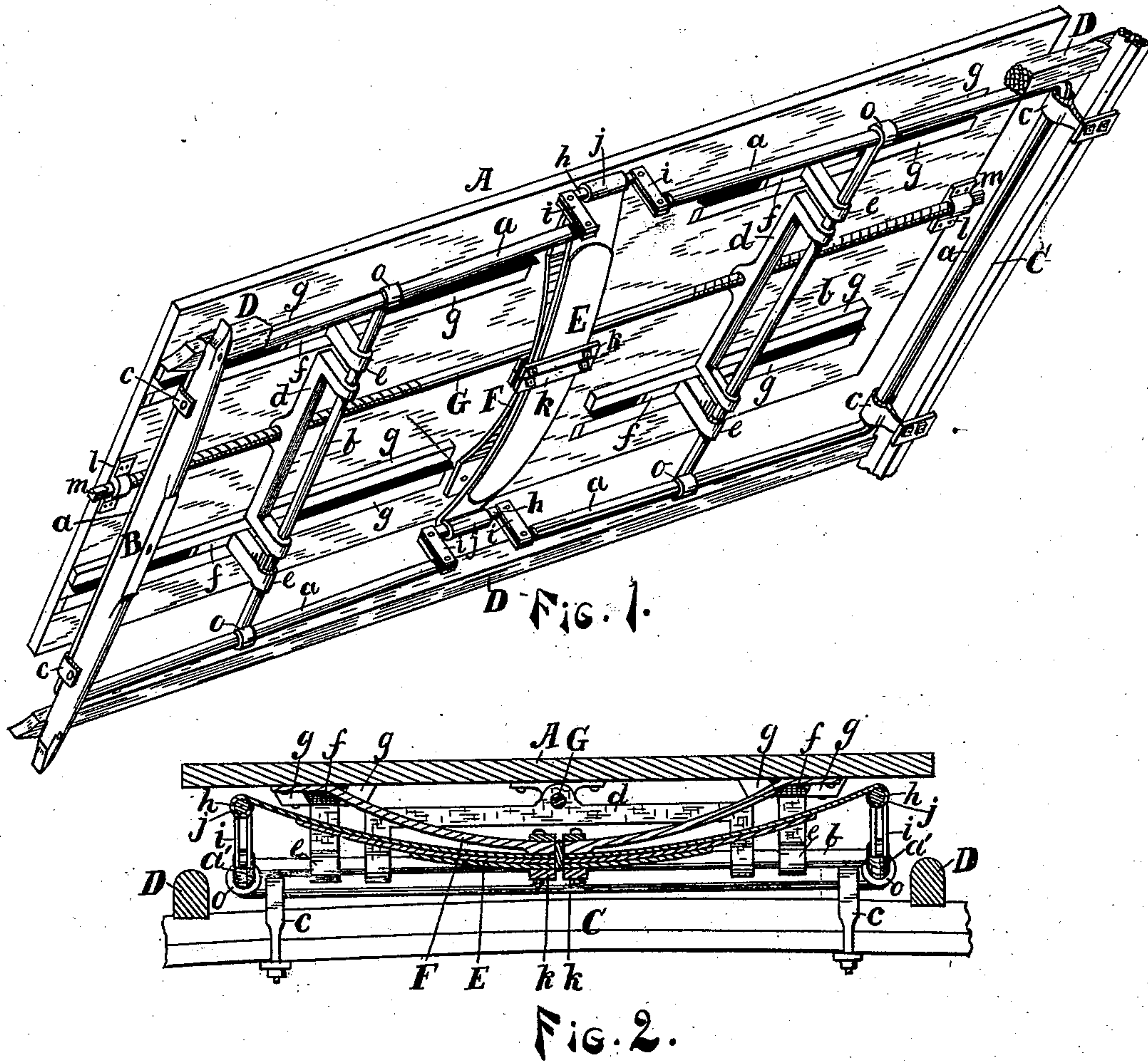
(No Model.)

H. W. VAN ANTWERP.

VEHICLE SPRING PLATFORM.

No. 364,150.

Patented May 31, 1887.



Witnesses

S. G. Burleigh
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Inventor

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UNITED STATES PATENT OFFICE.

HARMON W. VAN ANTWERP, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO
SAMUEL G. BURLEIGH, OF SAME PLACE.

VEHICLE-SPRING PLATFORM.

SPECIFICATION forming part of Letters Patent No. 364,150, dated May 31, 1887.

Application filed October 25, 1886. Serial No. 217,178. (No model.)

To all whom it may concern:

Be it known that I, HARMON W. VAN ANTWERP, a citizen of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Adjustable Equalizer for Springs, of which the following is a specification.

Heretofore springs have been so constructed that all the weight placed above falls upon them directly, thereby either overloading the springs or else having too light weight to secure easy riding. I overcome this objection by the use of one spring so secured to equalizing-rods and adjustable cross-bars that no more pressure than the natural capacity of the spring is intended to bear to ride easily comes upon it, whether there be much or little weight carried. To illustrate: If the capacity, by direct pressure, to secure the desired softness and flexibility of the spring for riding were one hundred pounds, by the ready adjustment of my device five hundred pounds can be carried, and yet but one hundred pounds direct pressure will fall upon the spring. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevated plan view of the device, showing the under side; and Fig. 2 is a sectional end view.

Similar letters refer to similar parts in both views.

Bolster B, rear axle, C, and side bars, D D, constitute the body or frame-work of a vehicle to which my device may be attached, and in this case I prefer to secure the device to the frame by means of four clips, *c c*, as shown in the drawings.

A leaf-spring, E, of any desired stiffness is secured at its concave surface to an anchor-bar, F, by clips *k k*, which bar is secured to the bottom of platform A and holds the spring firmly in position. The clips *k k* are adjustable, so that they may be drawn apart or brought together, thereby stiffening or softening the spring at pleasure.

The equalizing-rods *a a a a*, secured to the frame, in this instance, as previously stated, are secured, respectively, to each end of a spring, E, at the center of the rods by means of a stirrup contrivance, *i i*, forming the links,

and a connecting-pin, *h*, that passes through the end of the spring, which is turned back upon itself and forms a grip, *j*, on the pin *h*. These equalizing-rods *a a a a* pass through the ends of adjustable cross-bars *b b*, which slide back and forth on these rods to equalize the pressure upon the spring. The entire weight above comes upon cross-bars *b b*, which are provided with yokes or clevises *d d*, having right and left threaded holes, through which the ends of rod G, being respectively right and left threaded, pass, and which rod G is secured to platform A by journal-boxings at each end *l l*. The object of this rod (or other suitable means for accomplishing the same purpose) is that when it is turned round by means of a wrench, *m*, it forces the adjustable rods *b b* back and forth, forcing them together or apart at the same time on the equalizing-rods. Since all the weight comes upon these connecting-rods *b b* as they are brought near to or away from the center to or from the spring E, the pressure is either brought more heavily upon the spring or removed from it and thrown upon the axle and bolster, thus regulating the direct pressure upon the spring and securing the easy riding, whether the vehicle be heavily or lightly laden.

I secure the weight upon the connecting-bars *b b* by a shoe or slide, *e e*, through holes in which the bars pass. Upon these shoes or slides *e e* the platform A is secured in a slot or way, *f f*, made by guides *g g*, so beveled at the under side to correspond to the shape of the shoe, and forming a dovetail slot in which the shoe slides along against the sill of platform A when the connecting-bars *b b* are moved upon the equalizing-rods.

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

The combination, with suitable frame-work, of spring E, secured to bar F by clips *k k*, and to stirrups *i i h*, equalizing-rods *a a a a*, with cross-bars *b b*, having clevises *d d*, through which rod G passes and is secured to platform A by journal-boxings *l l*, and shoes *e e*, operating in slots *f f*, substantially as described.

HARMON W. VAN ANTWERP.

Witnesses:

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