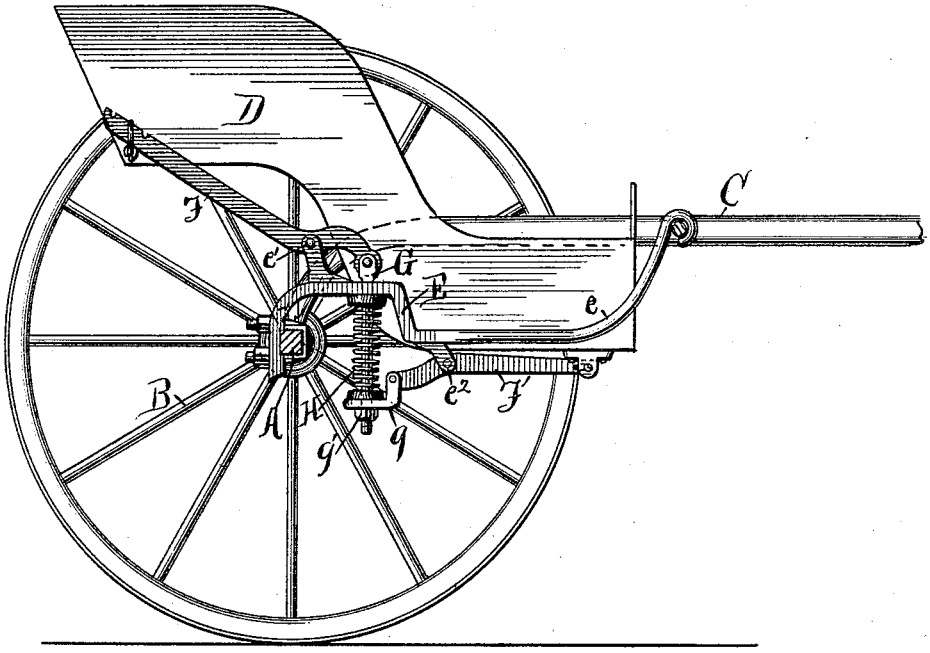
(No Model.)

H. L. FERRIS.

TWO WHEELED VEHICLE.

No. 457,912. Patented Aug. 18, 1891.



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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM & FERRIS, OF SAME PLACE.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 457,912, dated August 18, 1891.

Application filed March 19, 1891. Serial No. 385,608. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Two-Wheeled Vehicles, of which the following is a specification.

This invention relates to a certain new and improved running-gear for two-wheeled vehicles, the object of which is to overcome the jerky oscillating motion common to such vehicles because of the necessity of in some way supporting the body or box from the shafts at some distance from the axle. A great many devices have been employed for this purpose, most of which consist of some sort of loose or yielding connection between the shafts and the box, adapted to take up a portion of the motion due to the horse. I propose to overcome the unpleasant and tiresome motion which has been such an objection to these carts by providing an improved connection between the body of the vehicle and the axle and shafts, by means of which all oscillating motion of the shafts upon the axle will be transformed into a vertical motion of the box or body.

To such end my invention consists in certain features of improvement, hereinafter described, and clearly pointed out in the claims appended hereto.

My preferred construction is shown in the figure of the drawing presented herewith, which is a vertical section of a road-cart, with the nearer wheel and shaft cut away to reveal the connecting-gear between the box and axle. The latter is lettered A, the wheel upon which it rides B, the shaft C, and the box D.

Two frames E are rigidly mounted upon the axle, having forwardly-extending arms *e* secured to a cross-bar *c* between the shafts, and forks e' e^2, in which levers F F′ are fulcrumed, respectively. The adjacent ends of these levers are connected by a rod G, and the box D is pivotally mounted upon the other ends. As a result of this connection, whenever either end of the box either rises or falls its motion is transmitted through the double levers to the other end, which is thus compelled to move in the same direction.

It is obvious that the device as far as described offers no support for the box and that a spring must be employed somewhere to balance the gravity of the same and of its load. The location or the kind of spring is not material; but I prefer to use a coiled spring H upon the connecting-rod G between the frame E and a clip *g*, pivoted to the lever F′. A nut *g* is threaded to the rod below the washer and renders the tension of the spring easily adjustable.

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

1. The combination, with the wheels B, the axle A, the shafts C, and the box D, of the frame E, rigidly secured to the shafts and axle, the levers F F′, the connecting-rod G, and the coiled spring H, applied to the connecting-rod G to balance the gravity of the body, substantially as described.

2. The combination, with the wheels B, the axle A, the shafts C, and the box D, of the frame E, rigid with the axle and shafts, two levers fulcrumed to said frame and carrying the box on their opposite ends, a connecting-rod G, a clip *g*, and a coiled spring H, applied to the connecting-rod between the clip and the frame E, substantially as described.

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