

(No Model.)

A. HURD.
Harvester.

No. 238,907.

Patented March 15, 1881.

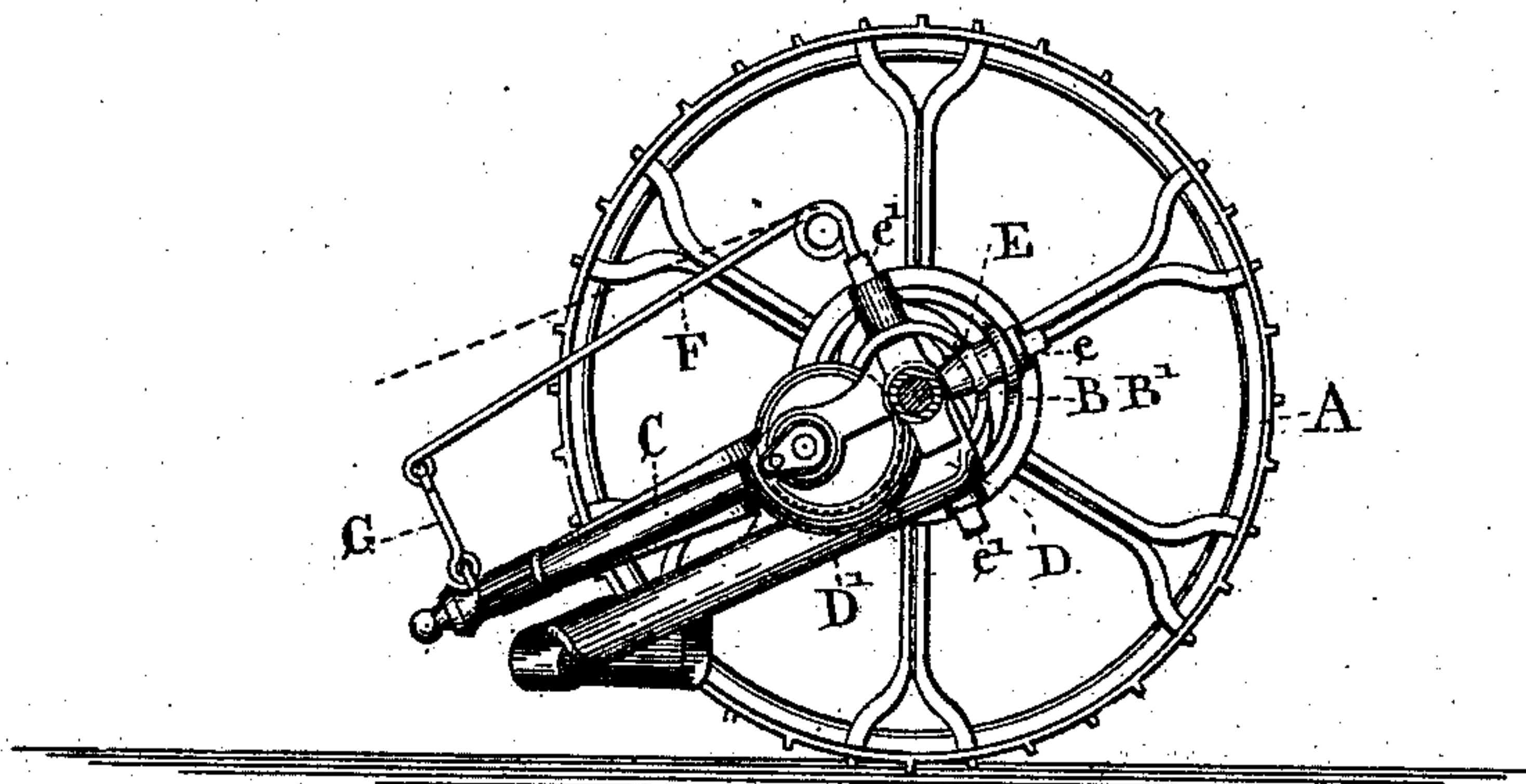


Fig. 1.

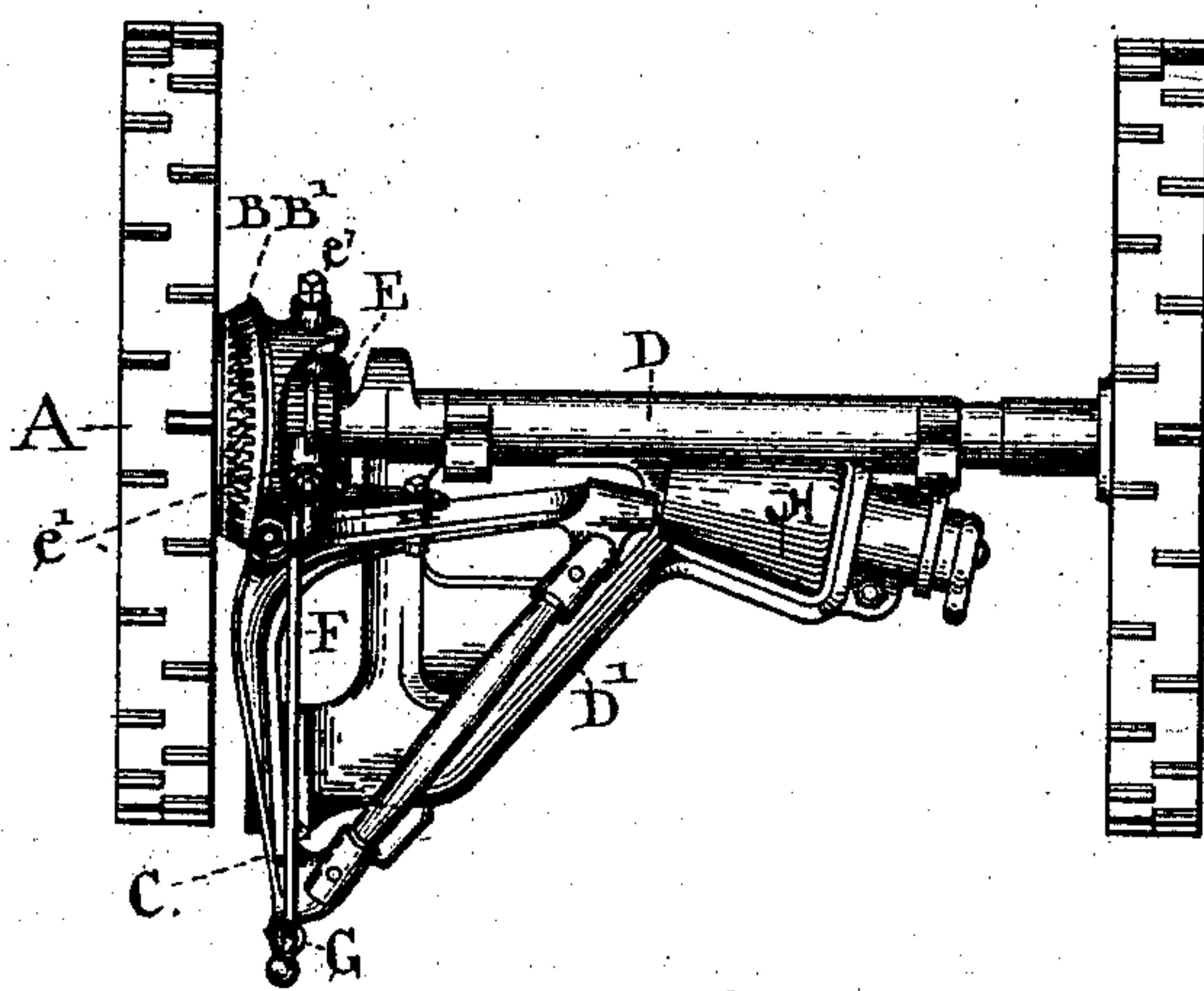


Fig. 2.



Fig. 3.

WITNESSES:

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SPECIFICATION forming part of Letters Patent No. 238,907, dated March 15, 1881.

Application filed February 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, ASA HURD, of the city of Springfield, in the county of Clarke, in the State of Ohio, one of the United States of America, have invented certain new and useful Improvements in Harvesting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates more particularly to that class of harvesting-machines in which the knife is driven by a vibrating arm from a differential oscillating gear-wheel mounted on the frame of machine and operated by a toothed wheel on the master-wheel of machine or axle.

My invention consists in the combination, with said vibrating arm and connections, of a suspension-rod which is attached at one end to a support placed above and connected to the frame of machine, and at the other end to the vibrating arm, for the purpose of supporting the weight of said arm and relieving the working-joints of the driving-gear from the strain and wear of the weight and motion of the vibrating arm.

In the accompanying drawings, Figure 1 is a side view. Fig. 2 is a plan of a mowing-machine, in the construction of which my improvement is embodied. Fig. 3 is a detail.

A is the master-wheel of machine; B B², the differential driving-gearing; C, the vibrating arm, and D the frame of machine, provided with the depending arm D', which connects with the inside shoe of the cutting apparatus. E is the gimbal-ring, upon which the gear-wheel B' is pivoted by the pins e, and which, in turn, is pivoted to the frame by the pins e', forming what is commonly known as a "gimbal-joint."

In the practical operation of harvesting-machines of the above description it has been found that the weight and motion of the vibrating arm bears very heavily upon and rapidly wears the gimbal-pins and pin-bearings to an oval shape, and materially affects the value and life of the machine. To prevent this wear and attendant difficulty I have invented a support for the vibrating arm, which, while it sustains the weight of the arm, does not interfere with its working.

The support consists of the spring-bar F, which is shown as secured to the gimbal-pin e at one end, and extends forwardly over and terminates at a point above the end of the vibrat-

ing arm, to which it is connected by the suspension-rod G.

I have made the bar F in the form of a spring, which draws upwardly on the arm with sufficient force to sustain the weight of said arm and relieve the gimbal-pins. Suitable hook-and-eye joints are formed on the ends of the supporting-bar and suspension-rod, to allow of a free and easy pendulum-like motion of the suspension-rod, in order that said rod may adapt itself to the movement of the vibrating arm, and sustained in all the positions it assumed in working.

It is not essential to the proper working of the device that the end of the supporting-bar be secured to the gimbal-pin as the sole point of attachment to the frame, as the bar could be supported from the frame at any other suitable point, and, if necessary, a bracket could be specially provided on the frame as a means of attachment for the bar. Neither is it essential that the supporting-bar be constructed in or confined to a spring form of support, as it could be made inflexible and rigidly attached to the frame, if preferred or found desirable.

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

1. The combination of the differential oscillating gear, the vibrating arm connected thereto, the crank and fly-wheel connected to the opposite corner of the driving-arm and controlling the gear in mesh, and the suspension-rod, one end of said rod being connected to the vibrating arm and at the opposite end to a support placed above and connected to the frame of machine, substantially as described.

2. The combination of the differential oscillating driving-gear, the vibrating arm, and the suspension-rod, said rod being connected to the vibrating arm at one end, and at the opposite end to a support placed above and connected to the frame of machine, substantially as described.

3. The combination, with the vibrating arm, operating substantially as described, of the suspension-rod, said rod being sustained at one end by a support connected to and placed above the frame of machine, and at the opposite end to or about the front end of the vibrating arm, substantially as described.

Witnesses:

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