

W. A. WOOD & J. M. ROSEBROOKS.

Mowing Machine.

No. 230,598.

Patented July 27, 1880.

FIG. 1.

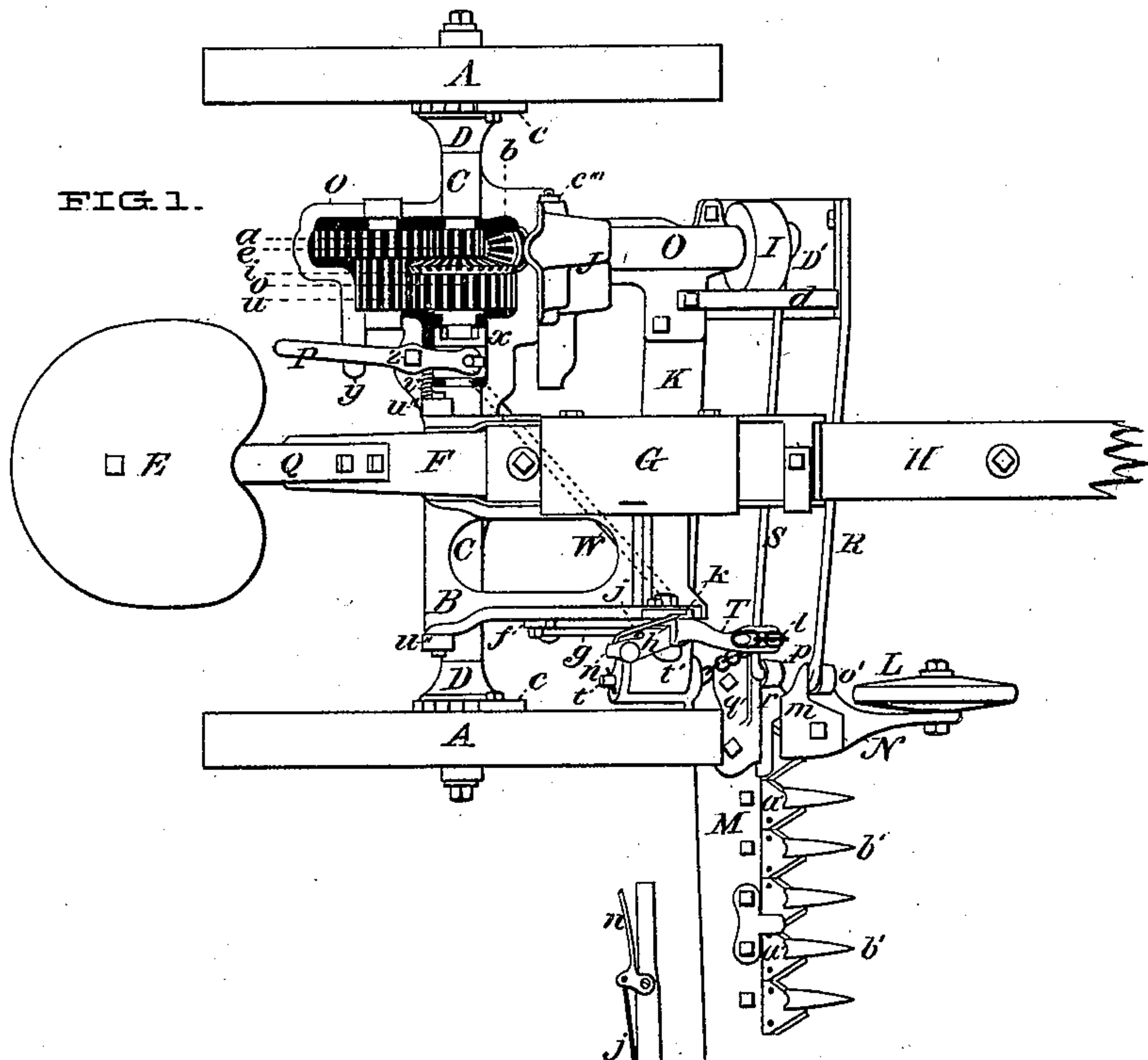
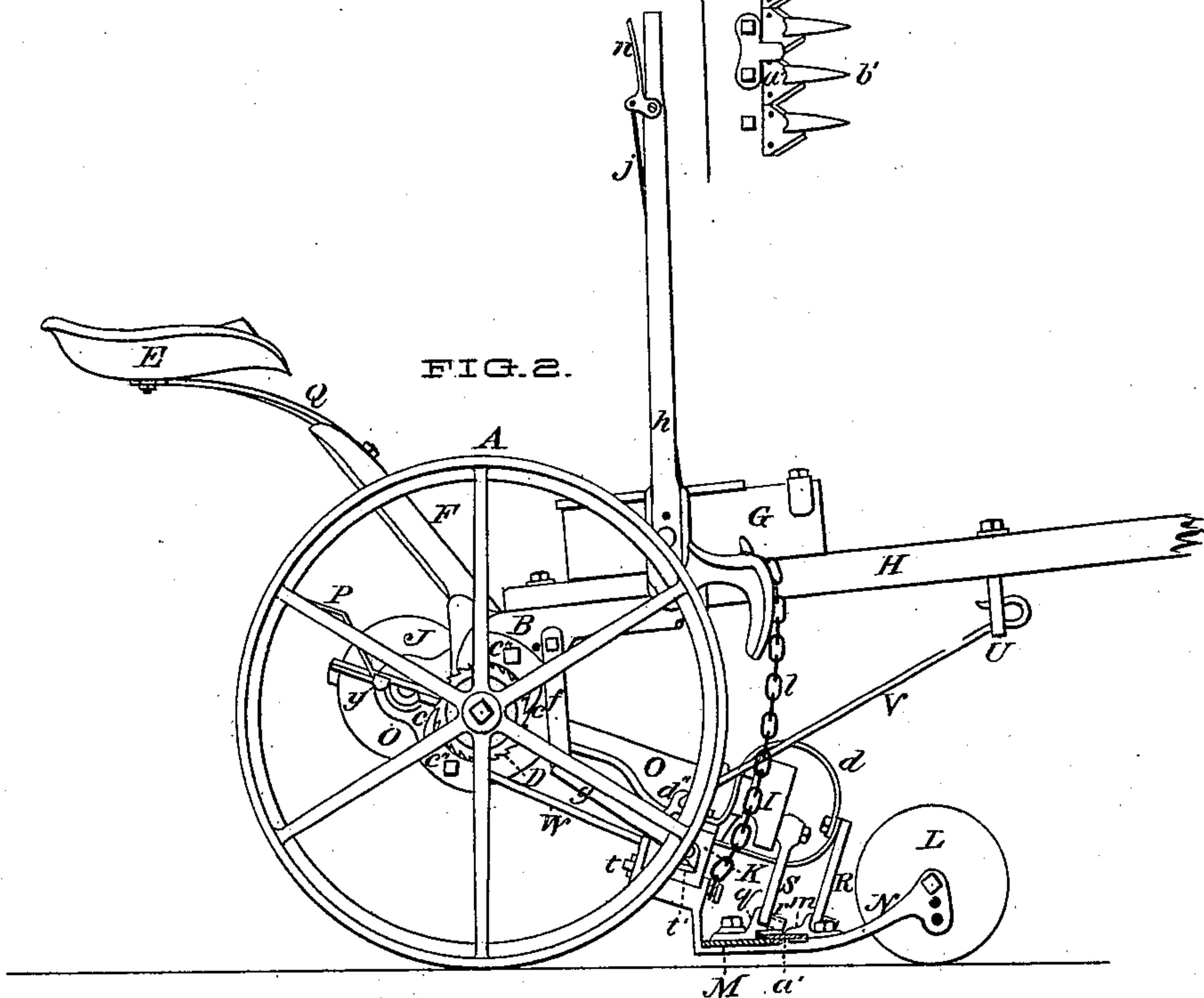


FIG. 2.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WALTER A. WOOD AND JOHN M. ROSEBROOKS, OF HOOSICK FALLS, N. Y.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 230,598, dated July 27, 1880.

Application filed April 26, 1878. Patented in England November 21, 1877.

To all whom it may concern:

Be it known that we, WALTER ABBOTT WOOD and JOHN MILTON ROSEBROOKS, of Hoosick Falls, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a specification, and for which we have obtained a patent in Great Britain, No. 4,363, bearing date November 21, 1877.

The nature and object of this invention are to construct a mowing-machine with such an arrangement of parts as to produce an exceedingly-light machine, and so arranged that the driver can manage the same with ease, and that his weight shall be so placed on the machine while driving as to make his weight effective upon the driving-wheels while the machine is cutting, and also to render the elevation of the cutting apparatus easy for himself and the team; also, in combining with a flexible draft or tongue frame a vibrating gear-frame, which vibrates upon the axle on which the main wheels are mounted underneath the pole or draft frame. To said vibrating frame is connected the cutting apparatus by means of an intermediate spring-plate. This spring-plate forms a part of the vibrating frame and is braced by a diagonal plate or rod extending from near the inner shoe end diagonally toward the outer wheel of the machine and fastened at the outer end to the vibrating frame.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the same. Fig. 2 is a side elevation. Fig. 3 is a front elevation, and Fig. 4 is a side elevation, showing the outline of one driving-wheel, its axle, tongue-plate and tongue-seat standard, and seat connected thereto.

Similar letters of reference refer to similar parts.

C is the main axle, on which are mounted the two driving-wheels A A, which turn loosely thereon.

On the inside of each of the driving-wheels A A, and upon the shaft C, are fixed the two ratchet-wheels D D, and each of the driving-

wheels A A is provided with two pawls fixed upon the inside plane of the spokes thereof, which engage into the teeth of the said ratchets. These pawls are provided with a spring to keep them in connection with the teeth of the ratchet-wheels D D while the machine is drawn forward, and being thus in connection with the teeth of the ratchets, will give motion to the axle, and thereby to the train of gears, and through them to the crank-shaft, and by means of the pitman-connection, to the cutters.

It is apparent that each of the wheels A A is independent of the other, and when the machine is backed the pawls will be disconnected from the ratchet-wheels D D, or either of them, when the machine is turned in either direction.

Hinged upon the axle is the frame O, which consists of a sleeve which embraces the axle, forms the under portion of the incasement of the gears, extends forward and incases the crank-shaft, and also has a lip on it at its forward end. To this lip the spring-plate K is bolted, which spring-plate extends toward the main shoe, and is hinged to the main shoe at the rear end thereof, just behind the cutters, as shown at *t*.

A short distance from the hinge *t* is fastened the brace-rod W, which extends backward and is bolted to the under side of the vibrating frame O.

Fast to the main axle C is the gear-wheel *o*, which communicates motion to the pinion *u*, which is fastened to the larger gear-wheel *a*.

The pinion *u* and wheel *a* turn loosely on a shaft mounted in the frame O. The gear-wheel *a* meshes into the small pinion *e*, which is fast to the bevel-wheel *i*.

The bevel-wheel *i* and pinion *e* turn loosely on the main axle, and the bevel-wheel *e* communicates motion to bevel-pinion *b*, which is fast upon the crank-shaft, on the forward end of which is fastened the crank balance-wheel I, which, through the pitman S, gives motion to the cutters.

The arrangement of this gearing is distinctly shown in Fig. 1, in which figure the cover J is turned back to show the gearing. This cover J is hinged to the main frame in order to enable the operator to open it to oil this system of gearing, and when it is closed, as shown in Fig. 2, while the machine is in operation, to

keep the dust and dirt from getting into the gearing.

The tongue or pole H is bolted fast to the tongue-plate B, which tongue-plate is hinged to the lugs projecting from the sleeve part of the main frame, which incloses the axle, and which lugs extend upward and backward from the axle, as shown in Fig. 4.

A seat-standard, F, is inserted at the rear of the pole and in a socket cast in the tongue-plate B for its reception. This standard extends diagonally backward and at a sufficient height to make a convenient and easy seat for the driver.

At the right-hand side of the tongue-plate B is hinged an adjustable lever, within easy reach of the driver, which lever is connected by a chain, *l*, to the rear of the inner shoe, by means of which lever and connection the driver in his seat can at will raise the cutting apparatus.

From the inner shoe a brace-rod, R, extends to the front of the shield, which shield protects the crank from cut grass. The lower end of this brace-rod is hinged to the shoe and its upper end is bolted fast to the shield.

From the tongue-plate B is hinged a down-hanger, *f*, as shown in Fig. 2. At *v'*, at the lower end of this down-hanger *f*, is hinged a bar, *g*, which is hinged to the spring brace-bar K.

At the back of the spring brace-bar K, and rigidly fastened to the rear of the inner shoe-back of the brace-bar K, is an arm, *n''*, extending toward the outer wheel of the machine, in order that when the driver wishes to raise the cutting apparatus this bar will strike against the bar *g* and raise the outer end of the finger-bar.

An adjustable rod, V, is attached at its lower end to the spring-bar K, and extends diagonally upward through a loop on the under side of the pole, and is provided at its upper and forward end with a hook to which the whiffletrees are attached to draw the machine.

The operation of the machine is as follows: When the machine is drawn forward the pawls on the driving-wheels engage with the ratchets fast upon the axle, and thereby convey motion to the axle, and through the motion of the gears and crank-shafts, to the cutters. If the driver wishes to raise the cutting apparatus,

to pass obstructions, he can, by means of the lever *h*, raise the same at any desired height, and by the peculiar arrangement of the seat, it being fastened above and behind the axle, the movement of his body in a backward direction gives him the advantage of his own weight to assist him in raising the cutting apparatus.

It is not necessary to enter into details of the construction of the cutting apparatus and other minute parts of the machine, as they are already well known in this art.

The peculiar arrangement of the vibrating frame and its connection with the cutting apparatus through the intervention of the spring-bar K, the diagonal brace-rod W, and the brace-bar R, makes of this machine a perfect floating finger-bar machine, and combines ease of management, simplicity, and durability with the least possible amount of material. It has all the benefits to be derived from what are known as "radius-bar" machines, as well as vibrating and loose-tongue machines, combined in one.

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

1. The combination, in a mowing-machine, of a gear-frame vibrating on the main axle between the wheels and a vibrating tongue-frame which supports the driver hinged to the said gear-frame upon pivots higher than the axle and back of a vertical line passing through said axle, substantially as and for the purpose described.

2. The combination, in a mowing-machine, of a gear-frame vibrating on the main axle between the wheels, a vibrating tongue-frame which supports the driver hinged to the said gear-frame above and back of a vertical line passing through the axle, a lifting-lever pivoted to the tongue-frame, and a cord or chain, substantially as and for the purposes specified.

3. A vibrating triangular-shaped gear-frame hinged to the axle, which frame supports the cutting apparatus, the front side of which frame is made of a spring-plate and a brace hinged to the main inner shoe and rigidly attached to the shield D', substantially as and for the purposes described.

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Witnesses:

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