

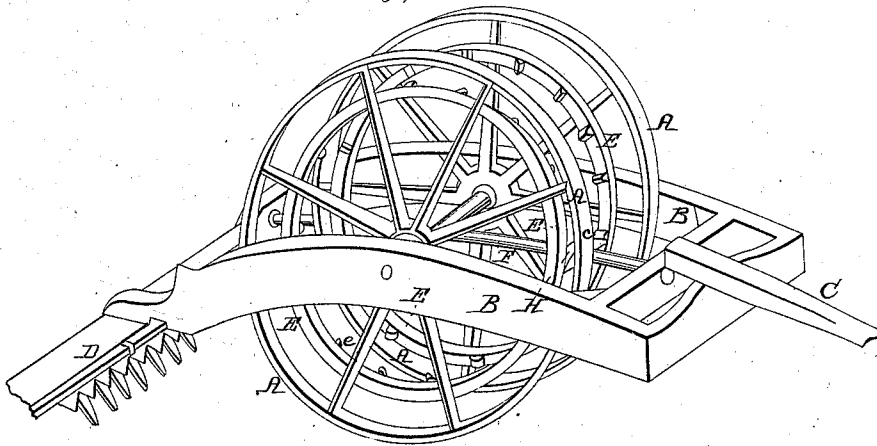
E. O. Rood,

Mechanical Movement.

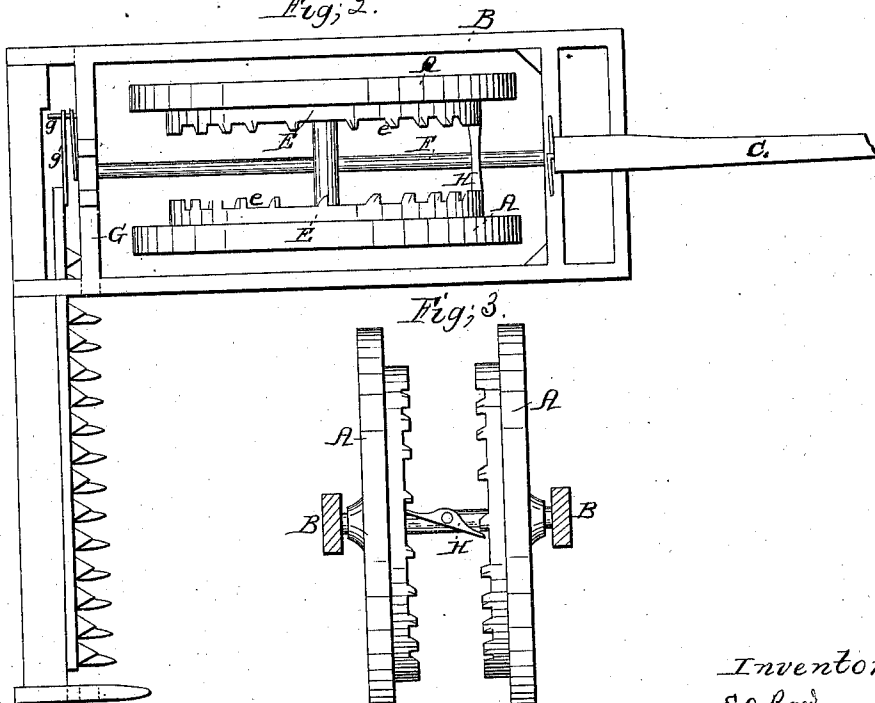
N^o 8,819.

Patented Sep. 1, 1868.

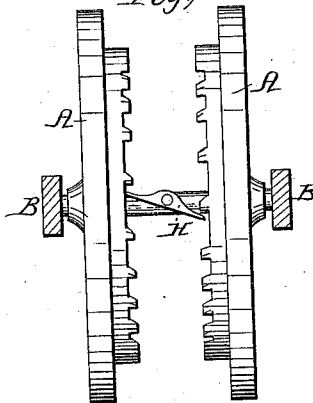
Fig; 1.



Fig; 2.



Fig; 3



Witnesses;
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Inventory;
E.O. Road
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attys

United States Patent Office.

EDWIN O. ROOD, OF LODI, ILLINOIS.

Letters Patent No. 81,819, dated September 1, 1868.

IMPROVEMENT IN MECHANICAL MOVEMENT.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWIN O. ROOD, of Lodi, in the county of Kane, and State of Illinois, have invented a new and useful Mechanical Movement; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made a part of this specification.

The subject of this invention is a novel mechanical movement for transmitting motion to machinery generally. The device consists of a lever, fixed in a peculiar manner to a rock-shaft, and vibrated by the alternate action of projections upon two wheels or circular rims, between which the lever and rock-shaft are situated.

In the drawings—

Figure 1 is a perspective view, and

Figure 2 a plan, illustrating the application of my invention to a reaping-machine.

Figure 3 is a sectional front elevation.

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

While the invention may be applied very advantageously to mowing and reaping-machines, it is only illustrated in connection with that kind of implement for the sake of convenience, it being designed for application to various kinds of machinery, which it is unnecessary to enumerate.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe it in connection with the accompanying drawings:

A A may represent the ground or carrying-wheels of a mowing-machine, whose axle-tree is mounted in the frame B, to which the draught-tongue C and cutting-apparatus D are attached at the front and rear respectively. E E are wheels or rings, of somewhat smaller diameter than the wheels A A, the same being fixed to the wheels A concentrically, so as to turn therewith.

Each of the rings E is provided with a circular series of teeth or projections, *eee*. The projections of one ring are at points midway between the projections of the other ring, so that a line carried forth and back from the projections of one wheel to those of the other wheel would present a zigzag appearance.

F is a rock-shaft, situated between the wheels and toothed rings, as shown, and having its bearings in the front and rear end of the frame B.

G is a vibrating arm, attached to the rear end of the rock-shaft F, and connected, by a wrist-pin, *g*, with the pitman *g'*, which imparts motion to the cutter-bar of the cutting-apparatus.

H is a vibrating lever, made fast to the rock-shaft F, in the manner shown in fig. 3. When this lever H is in a horizontal position, its extremities are equally near their respectively-adjacent rings E E, and in the paths in which both series of teeth *e* revolve, and a straight line drawn from one extremity of H to its opposite extremity would pass below the centre of the rock-shaft F. This latter feature is to be particularly noted, inasmuch as it is absolutely essential to the operation of the device.

The longitudinal centre of the lever H (when horizontal) being below the centre of the rock-shaft F, as described, adapts the teeth *e*, of the respective rings E E, to alternately act upon the ends of said lever, keeping it in continual vibration, and thereby giving motion to the rock-shaft, and through it to the parts of the machinery.

In order to elucidate the operation of the lever H, it may be necessary to imagine a vertical plane passing through the centre of the rock-shaft longitudinally.

Now, if the lever H were so applied to the shaft F that its longitudinal centre, when horizontal, is neither above nor below the centre of the shaft F, it is manifest that the vibration of said lever H would not vary the relative distance of its extremities from the vertical plane, above-referred to, the distance between said plane and the extremities of the lever being, in that case, always the same; hence, a lever so applied would not operate, as one vibration would suffice to carry both ends beyond the reach of the projections *e* on the rings E.

Under my method of applying the lever to the shaft F, each vibration of said lever places its upper extremity farther away from the above-referred-to imaginary vertical plane than the lower end, and hence, while the upper

end of the lever stands in the path of one series of projections *e*, to be depressed thereby, the other end is sufficiently removed from the other series of projections to avoid counteracting contact therewith, the ascending extremity of the lever H escaping the action of one series of projections till the other extremity is out of the reach of the other series. When the machine is backed or reversed, both ends of the lever H remain beyond the field of motion of the teeth *e*, and hence the operation of said lever ceases.

I do not limit myself to the mode herein described of communicating motion to the lever H, as the latter may, by an obvious mechanical modification, be made to act upon the rings, instead of the rings upon it. So long as the two circular series of teeth or projections *e* are employed, it is immaterial whether the same be upon a wheel, ring, or disk, or otherwise situated.

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

The vibrating lever or bar H, or its equivalent, applied to a rock-shaft, F, in the manner described, and employed in conjunction with two circular series of teeth or projections *e*, substantially as and for the purpose set forth.

To the above, I have signed my name, this 17th day of August, 1868.

EDWIN O. ROOD.

Witnesses:

JOHN A. WIEDERSHEIM,

CHAS. D. SMITH.