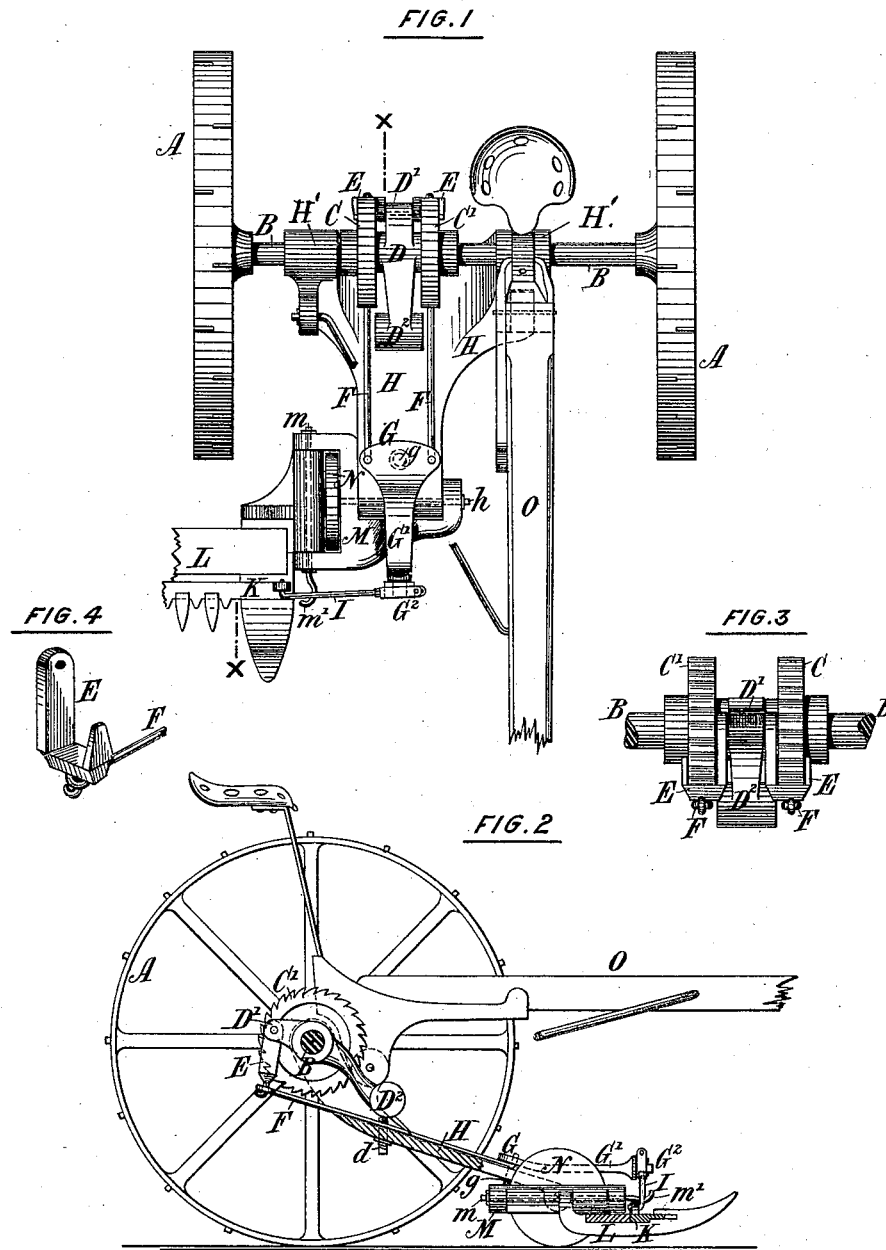


G. O. S. CONWAY.  
Mowing and Reaping Machine.

No. 215,724.

Patented May 27, 1879.



Witnesses:  
*Richard Nelson*  
*Wm. J. McGillis*

*G. O. S. Conway*  
Inventor.

Per Atty.  
*Nash & Reynolds*

# UNITED STATES PATENT OFFICE.

GEORGE O. S. CONWAY, OF STONEFIELD, QUEBEC, ASSIGNOR OF ONE-HALF HIS RIGHT TO HUBERT R. IVES, OF MONTREAL, CANADA.

## IMPROVEMENT IN MOWING AND REAPING MACHINES.

Specification forming part of Letters Patent No. **215,724**, dated May 27, 1879; application filed March 4, 1879.

*To all whom it may concern:*

Be it known that I, GEORGE O. S. CONWAY, of the village of Stonefield, in the county of Argenteuil and Province of Quebec, Canada, have invented certain new and useful Improvements in Mowing and Reaping Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has reference primarily to the mechanism for imparting from the carrying-wheels of any mowing and reaping machine the requisite vibratory motion to the knife, and also comprises details of construction connected therewith, which may be thus briefly described: Upon the axle of the carrying-wheels are mounted two ratchet-wheels, set so that the teeth of one shall be opposite to the intervals between those of the other. Between these is placed loosely on the axle a short sleeve, having in the rear a projecting arm or lug, from which hang two pawls, intermeshing with the ratchet-wheels, and in front a counterbalance-weight, keeping these pawls pressed up against the teeth of the wheels, and being susceptible of adjustment, so as to allow for the wear of the parts. Links attached to these pawls and running at right angles to the axle connect them, respectively, with the ends of a cross-head pivoted to the frame, and having a central projecting arm or lever, connected by means of a universal joint and link with the cutter-bar.

I also propose to form the connection between the frame proper and finger-bar by means of an intermediate piece carried on a wheel and constructed so as to allow for every variation in the level of the ground and of the folding up of the bar, if required; but for fuller comprehension of my invention reference must be had to the annexed drawings, in which—

Figure 1 is a plan of my invention. Fig. 2 is a vertical sectional elevation on line *x x*, Fig. 1. Fig. 3 is a back view of pawls, &c. Fig. 4 is a view of pawl detached.

Similar letters of reference indicate like parts.

A A are the carrying-wheels, of any suitable

diameter and tread, keyed or otherwise attached to the axle B. Upon the axle are also secured, so as to revolve with it, ratchet-wheels C C', so arranged that the points of the teeth of C are opposite to the intervals between the teeth of C'. Between the wheels C C' is mounted loosely a sleeve, D, having projecting lug D<sup>1</sup>, from which are suspended, also loosely, the pawls or hangers E E. (Shown more particularly in Figs. 3 and 4.) To the under side of these pawls or hangers E E are attached links F F, connecting them, respectively, with the ends of a cross-head, G, pivoted centrally, as shown at *g*, to the frame H, which is of some such configuration as that shown, and hangs loosely by eyes H' from the axle B. This cross-head G has formed in one with it, and at right angles thereto, an arm, G<sup>1</sup>, (the two forming together a double bell-crank lever,) the heel end of which is connected by a universal joint, G<sup>2</sup>, to one end of a link or bar, I, the other end of which is attached in any ordinary way to the cutter-bar K, this, with the finger-bar L, being of any special or usual construction.

On the front side of the sleeve D, and in one with it, is formed a weight, D<sup>2</sup>, serving as a counter-balance and resting on a set-screw, *d*, passing up through the frame H to receive it.

Between the forward end of the frame and the inner end of the finger-bar is interposed an intermediate piece, M, pivoted to the frame by a pin, *h*, which is carried through to form the spindle of the wheel N, carrying the piece M, the connection of which with the finger-bar L is formed by a pivot-pin, *m*, carried out, as shown at *m'*, to form a guide for the link I.

O is the tongue, which is, as shown in Figs. 1 and 2, pivoted to a lug on the frame H, so as to be always level at any variation of angle that the frame may assume.

The operation of my invention is as follows: By the rotation of the axle B, as the machine is moved forward, the teeth of the ratchet-wheels C C' strike alternately against the hanging pawls E E, thus giving, through the links F F, a rocking motion on the pivot *g* to the double bell-crank lever, composed of the cross-head G and arm G<sup>1</sup>, this latter being of

sufficient length to give the stroke required, and imparting, through the connecting-link I, vibratory motion to the cutter-bar and knife K.

The pawls or hangers E E are so constructed that when the machine is backed the ratchet-wheels pass through them without actuating the parts.

The counter-balance D<sup>2</sup>, hung on one side of the sleeve D, serves to raise the projection D<sup>1</sup> on the other side, and thus always to keep the pawls E E hanging therefrom in contact with the teeth of the ratchets, the degree of pressure being regulated by the distance to which the counter-balance D<sup>2</sup> is allowed to descend by the set-screw *d*, so that any wear of the pawls may be easily compensated for by lowering the screw.

While the machine is traveling along, and not required to work, the parts may be very easily thrown out of gear by simply raising the counter-balance, and thus moving the pawls out of contact with the ratchets, any suitable means, such as a lever, being provided for the purpose.

It will thus be seen that by the arrangement just described the actuating parts fall naturally into gear, instead of being, as in other machines, forced together.

The intermediate piece carrying the end of the frame, and in its turn carried by the wheel N, allows the finger and cutter bars to follow

any undulation of the ground, the universal joint G<sup>2</sup> and the guide *m'* for the link I insuring the regularity of the motion at whatever angle the frame may be set.

The attachment of the finger-bar to the intermediate piece M by the pivot-pin *m* allows the former to be turned up while the machine is traveling.

Having thus described my invention, what I claim is as follows:

1. The combination, with the rotating axle of a mowing or reaping machine, of a loose sleeve carrying hanging pawls, impinged upon alternately by ratchet-wheels secured to the axle, and operating through links to give a rocking motion to a lever which imparts, through a universal joint and link, vibratory motion to the cutter-bar and knife, substantially as herein set forth.

2. The combination, with the ratchet-wheels C C', secured on the rotating axle B, of the sleeve D, with lug D<sup>1</sup>, carrying the hanging pawls E E, and held up by the counter-balance D<sup>2</sup>, the position of which is adjusted by set-screw *d*, all as herein set forth, and for the purposes described.

Montreal, February 27, A. D. 1879.

G. O. S. CONWAY.

Witnesses:

FRAS. H. REYNOLDS,  
R. ARTHUR KELLOND.