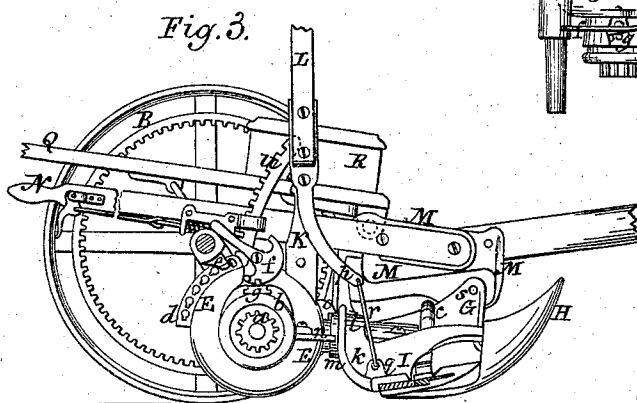
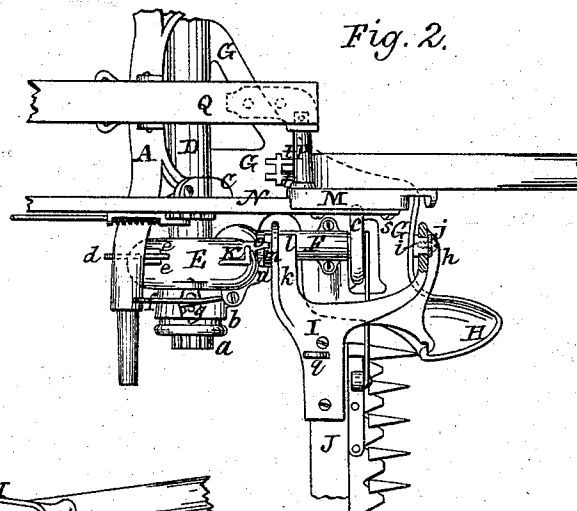
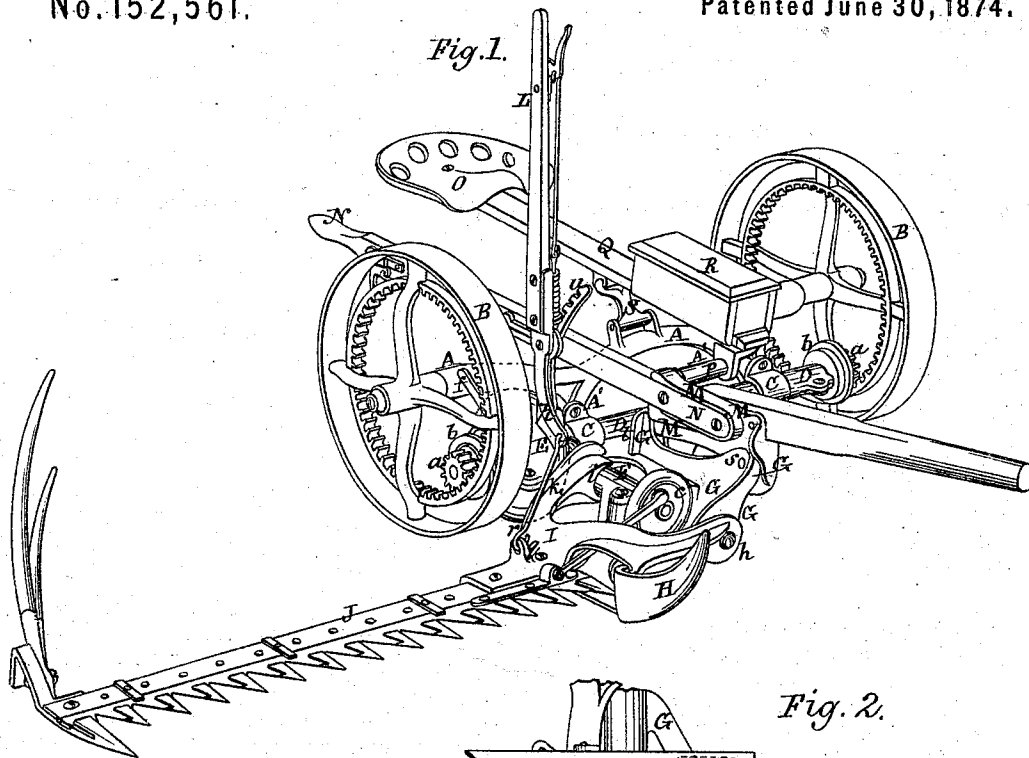


W. A. KIRBY.
Mowing-Machines.

No. 152,561.

Patented June 30, 1874.



Witnesses.
D. R. Gowl
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UNITED STATES PATENT OFFICE.

WILLIAM A. KIRBY, OF AUBURN, NEW YORK, ASSIGNOR TO HIMSELF AND
DAVID M. OSBORNE, OF SAME PLACE.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **152,561**, dated June 30, 1874; application filed
January 29, 1874.

To all whom it may concern:

Be it known that I, WILLIAM A. KIRBY, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Mowing or Grass-Harvesting Machines; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the machine. Fig. 2 represents a top plan of a portion thereof; and Fig. 3 represents an elevation of the machine on the cutter-bar side, with portions removed, and portions broken away and in section.

My invention consists, first, in the lugs and the stud on the main frame, in combination with the finger-bar supports, to keep the finger-bar joint in proper position. It further consists in a seat, or seat-bar, hinged to the back end of the pole-block and to the main axle, so as to serve as a lever to aid the driver in lifting the main frame.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The main axle A is supported in the two drive-wheels B B, and arms A' project from this main axle, in which boxes or bearings C are made to support and carry a long sleeve, D, through which and in which the shaft that carries the pinions *a a* (one upon each of its ends) passes and rotates; and upon the ends of this sleeve D, and adjacent to the pinions *a*, are the clutch-boxes *b*, for the usual purposes of causing the pinions and shaft to revolve together when the machine is drawn forward, and independent of each other when the machine is backing or turning around. Toward the cutter-bar end of the sleeve D there is cast or wrought a case, E, in which a gear on the pinion-shaft and a pinion on the crank-shaft are incased, and in which they work. The shaft upon which the crank-wheel *c* is placed is also passed through a sleeve, F, and protected therein, said sleeve being a part of and connected to the main

frame of the machine. The sleeve D, and all its connected parts, can play or turn in the bearings or boxes C, attached to the main axle; and the sleeve D, its clutch-boxes, case, and crank-shaft covering may all be regarded as a part of the main frame G, as they are all permanently attached to and move with each other. The shoe H is permanently attached to and a part also of the main frame G, and only moves with the main frame. There is a rib, *d*, cast upon the exterior of the case E, which rib moves between two lugs, *e*, on the main axle A. This rib is furnished with a series of holes, through which a pin or key is passed and adjusted, so that when said pin or key comes against the lugs *e* it will define the extent of downward movement of the shoe and cutting apparatus, while they are free to rise in yielding to any inequalities in the ground. On the case E there is also hung and supported a clutch-lever, *f*, which, being of cam form where it moves between studs or pins in a slide, *g*, moves said slide, and the slide in turn moves a sleeve on one of the gears inside of the case, and engages or disengages it, with its working gear, as the case may be. The support I, to which the finger-bar J is attached, is hinged or pivoted to the main frame so as to swing around the shaft of the crank *c* as a center, said shaft being incased in the sleeve F. For this purpose the support I is branched—one branch, as at *h*, fitting over a stud, *i*, on the main frame, and held thereto, but so as to turn freely on said stud, by a nut and washer, as at *j*. The stud *i* is in line with the inclosed crank-shaft, and conforms with said shaft as a center of motion. The other branch, *k*, of the support I is furnished with a rounded open bearing, as at *l*, which takes in the sleeve F, and turns thereon; and as said sleeve is concentric with the crank-shaft which it contains, the finger-bar, through its support I, swings about said inclosed shaft as a center. On the hub or bearing *l* of the branch *k* there is a flange, *m*, and on the main frame two lugs, *n* and *o*, under or against shoulders or recesses in which said lugs the flange *m* takes, so as to keep the finger-bar joint in true working position and

enable the finger-bar and its appliances to freely rise and fall without cramping or binding.

To the top of a standard, K, attached to the main frame there is pivoted a lever, L, the forward bent end, *p*, of which is attached to a lug, *q*, on the support I by a link, *r*. The rear end of said lever is furnished with a spring-bolt and hand-lever for locking and holding as well as releasing said lever L from the notches in the top of the standard K. This lever L is designed for raising, holding up, or lowering the finger-bar J and cutting apparatus connected thereto, as the case may be.

The pole-block M is pivoted to the main frame, as at *s*, and the rear end of said pole-block moves between guides *t* on the main frame, to give it a steady support as it moves about its pivot-pin at *s*. In a seat formed in the side of the pole-block M is fastened the forward end of the lever N, the rear end of said lever extending back so as to be readily seized and operated by the driver in his seat, *o*. This lever, too, is furnished with a spring-bolt that takes into any one of the notches in the segmental bar *u*, to hold the main frame and cutting apparatus at such regulated height as may be desired. The segmental notched-bar *u* is attached to the main frame, but in rear of its hinged connection with the arms A' of the main axle, so that the main frame and its connected parts may be raised or lowered, the point of the pole and the main axle being the fixed carrying points—that is, fixed as to their height above the surface of the ground—the

pole being fastened to the horses' necks and sustained thereby.

From the side of the pole-block M opposite that where the lever N is fastened there projects an arm, P, on the outer end of which the seat-lever Q is pivoted, and so as to bring said seat-lever about midway between the main wheels B. This seat-lever extends rearward some distance back of the main axle A, and has a seat, O, on its extreme rear end for the driver, and a tool-box, R, at its forward end. Where the seat-lever Q crosses the line of the main axle A, it is connected to said axle by a hinged connecting-piece, S, which forms a fulcrum for the lever, and enables the driver in his seat to use his weight in connection with the seat-lever in raising the main frame and its connected parts.

What I claim is—

1. The combination of the finger-bar support I, provided with flange *m*, the stud *i*, and lugs *n o*, for hinging the finger-bar to the main frame and keeping the joint in true working position, substantially as and for the purpose described.

2. The combination of the hinged pole-block M, arm P thereon, seat-lever Q, hinged to said arm, and the hinged connecting-piece S, for connecting the seat-lever with the main axle, substantially as and for the purpose described.

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Witnesses:

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