W. A. KIRBY.
Mower.

No. 206,116. Patented July 16, 1878.

Fig. 1.

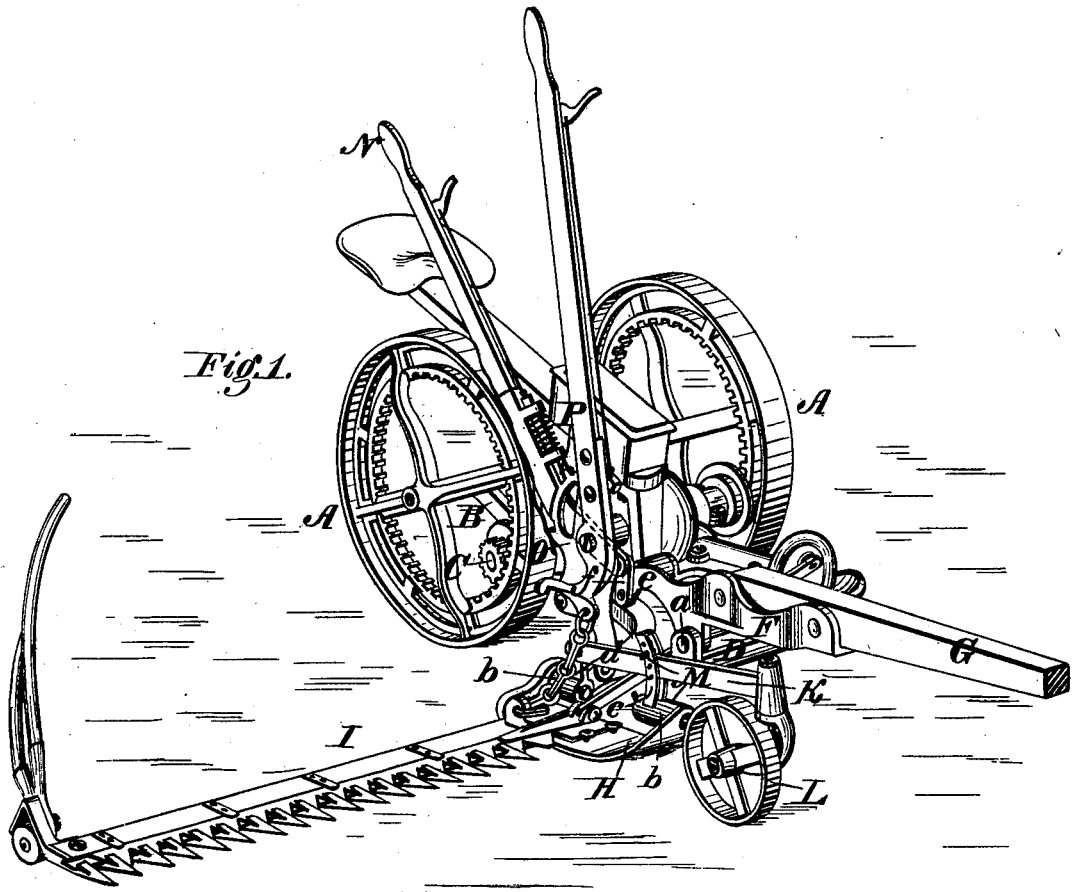
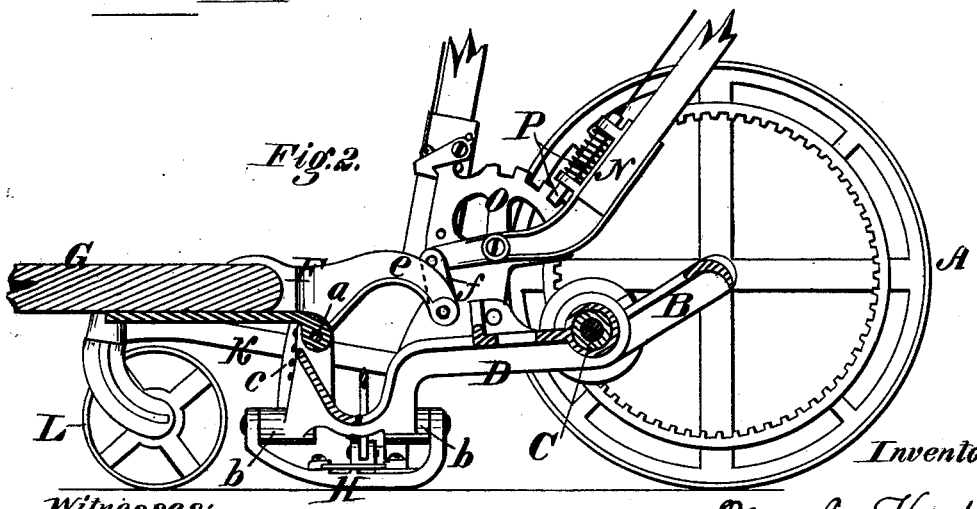


Fig. 2.



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WILLIAM A. KIRBY, OF AUBURN, NEW YORK.

IMPROVEMENT IN MOWERS.

Specification forming part of Letters Patent No. **206,116**, dated July 16, 1878; application filed April 24, 1878.

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 Improvements in Mowing-Machines, of which the following is a specification:

This invention relates more particularly to improvements in that well-known class of Kirby mowers in which the main frame, having the cutter-bar hinged thereto, is itself hinged on one side to a pivoted axle-frame, and on the other to a draft-pole or tongue, and in which a hand-lever connecting the frame and tongue serves to elevate and rock the main frame, for the purpose of raising the heel of the cutter-bar and of rolling the same, in order to raise and lower the points of the finger-guards, such machine being illustrated in Patents No. 142,111, August 26, 1873, and No. 90,273, dated May 18, 1869.

The present improvements consist, mainly, in the use of a caster-wheel mounted on the front end of an adjustable arm pivoted or otherwise attached to the front of the main frame, and traveling directly in advance of the inner or main shoe, for the purpose of treading down the grass in advance of the shoe, preventing undue friction of the shoe upon the ground, controlling, in part, the rolling action of the cutter-bar, and of supporting the parts while turning the machine; second, in a peculiar manner of arranging the hand-lever and connecting the same with the tongue, for the purpose of adjusting the main or knife-carrying frame.

Referring to the accompanying drawings, Figure 1 represents a perspective view of my improved machine; Fig. 2, a longitudinal vertical cross section of the same on a line passing through the draft-pole or tongue.

In its general construction the machine is essentially the same as those shown in the patents above referred to.

A A represent two driving-wheels, mounted on journals cast on the rear end of the axle-frame B, which latter is provided at its front with boxes or bearings to receive a transverse pinion-shaft, C, on which latter is hung the rear side of the main frame D, which is, in turn, pivoted at its forward end to a plate, F, on which the draft-pole or tongue G is rigidly secured, the tongue-plate and the main frame being pivoted together at the point A, Figs. 1 and 2.

As shown in the drawings, the main frame has its forward end extended downward in front of the driving-wheel, on the grain side of the machine, and provided with two arms adapted to receive horizontal pivots *b*, on which the inner or main shoe H of the cutter-bar I is hung loosely in such manner as to permit it to rise and fall freely with the frame, while its outer end or shoe remains upon the ground. On the arms of the main frame, directly above the pivots *b*, I form two arms or uprights, *c* and *d*, the former arranged in advance of the latter, and provided with a vertical longitudinal slot, and also with a series of transverse holes, as clearly represented in Fig. 1. To the rear arm or stud *d*, I pivot the rear end of a horizontal lever or bar, K, extending through the forward arm *c*, beyond the main shoe, and provided at its forward end with a socket to receive the supporting-arm of the caster-wheel L, as represented in Figs. 1 and 2, the caster-wheel being thus supported directly in advance of the main shoe.

For the purpose of limiting the descent of the main shoe, and of supporting the same at any required distance above the ground, I pass a pin, M, through one of the holes in the arm *c*, above the bar or arm K, as represented in Fig. 1, the pin being passed through one or another of the holes, according to the height at which it is desired to sustain the shoe. The pin, passing above the caster-supporting arm, permits the latter to fall, and relieves the main frame of its weight when the latter is elevated by the hand-lever. By arranging or supporting the caster-wheel directly from the main frame, in the manner described, it is caused to maintain at all times, when in operation, one and the same relation to the main shoe and cutter.

In original Patent No. 90,273, above referred to, a caster-wheel was employed in advance of the main shoe, but was supported by an arm attached rigidly to the pivoted tongue, the consequence of which was, that the relative positions of the shoe and caster were changed

by the adjustment of the frame—a difficulty which is entirely overcome by the present arrangement.

The essential feature of the present improvement consists in supporting the caster-wheel from the frame which carries the cutter in substantially the manner described, and it is manifest that the construction of the supporting-arms and the manner of attaching the caster-carrying arm thereto may be modified. Good results may be secured by the use of the caster rigidly attached to this peculiar main frame; but the yielding arrangement is preferred.

Referring now to the second feature of the invention, it will be seen that the tongue-supporting plate has formed thereon a backwardly-extending arm, *e*, which is connected by an upwardly-extending link, *f*, to the end of the hand-lever N, which latter is pivoted near its lower end to a rigid arm or standard, O, bolted firmly upon the side of the main frame, and which is provided at its top with a curved notched rack to receive a locking-dog, P, attached to the hand-lever.

The movement of the hand-lever, when arranged as above described, serves to elevate and depress the main frame, and also, when the lever is thrown well forward, to tip or rock the main frame in such manner as to roll the guards of the finger-bar downward, so as to cause the knife to cut close to the ground. So far as the effect produced by the hand-lever is concerned, it is substantially the same as in the former machines; but the present arrangement of the lever admits of its being given a greater leverage and longer sweep of movement, so that the frame may be adjusted with greater ease and accuracy than in the original machine.

It is obvious that the arrangement for locking the lever may be modified as desired, and other devices substituted for the rack and dog represented in the drawing.

Having thus described my invention, what I claim is—

1. In a mowing-machine, the combination of the main frame D, hinged to the axle-frame B and tongue G, and provided with the cutter-bar, and a caster-wheel, L, attached to said frame D in advance of the inner shoe, as described and shown.

2. The main frame provided with a slotted perforated arm, *c*, and arm *d*, in combination with a pivoted bar having the caster-wheel attached, and a transverse pin to limit the upward movement of said bar on its pivot.

3. In combination with the main frame D, hinged to the tongue and axle-frame, and provided with the cutter-bar, a caster-wheel having a free downward but limited upward movement in relation to the main frame, and connected thereto at or near the hinge of the finger-bar, substantially as shown and described.

4. The combination of the hinged axle-frame B, tongue G, main frame D, hinged to both the axle-frame and the tongue, and provided with the cutter-bar, and a hand-lever mounted on said main frame and connected with the tongue, substantially as shown.

5. In a jointed-frame machine such as shown, the tongue-plate pivoted to the main frame, on which the cutter is mounted, and provided with a backwardly-extending arm, and the hand-lever mounted on said main frame and connected with the tongue-extension, as described and shown.

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