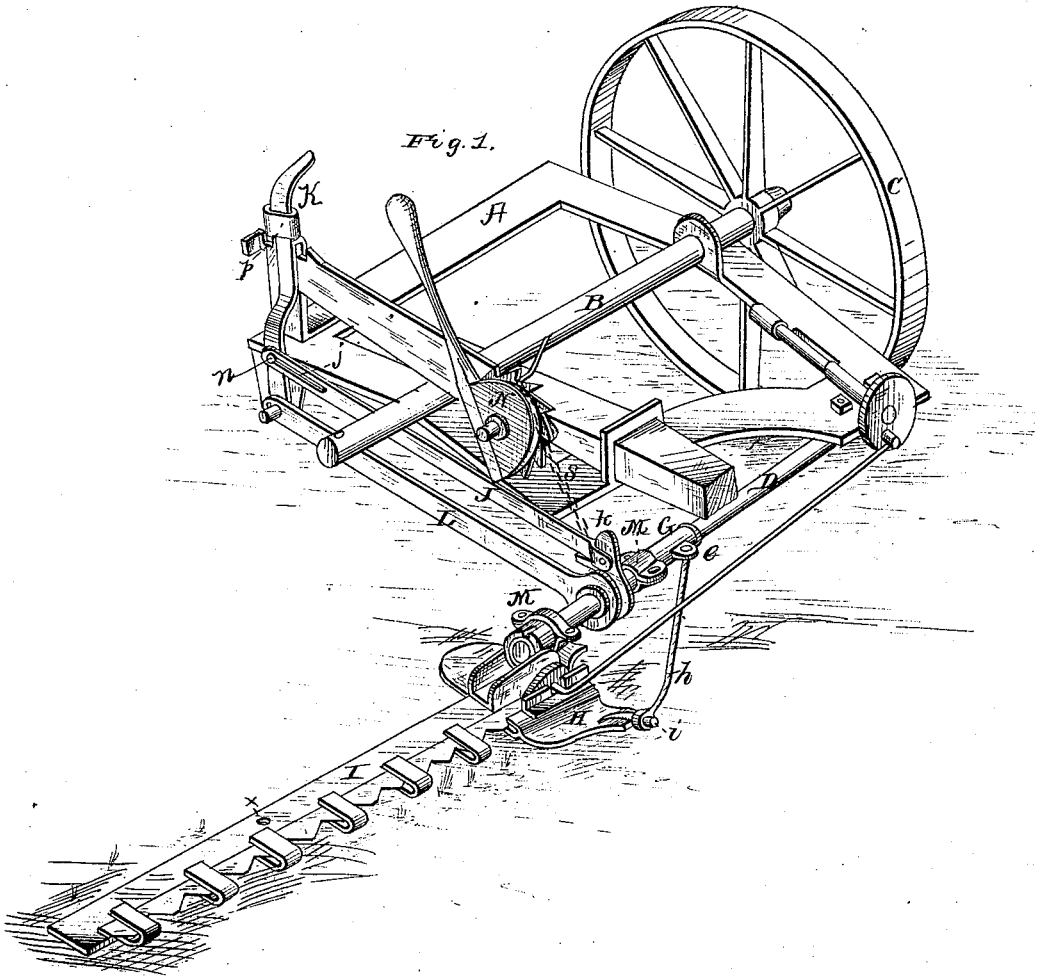
2 Sheets—Sheet 1

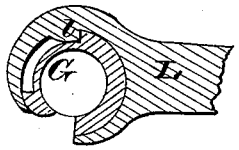
M. F. LOWTH, T. J. HOWE, & H. N. LABARE.

Mowing-Machine.

No. 196,238. Patented Oct. 16, 1877.

Fig. 1.





WITNESSES

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2 Sheets—Sheet 2.

M. F. LOWTH, T. J. HOWE, & H. N. LABARE.

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Fig. 4.

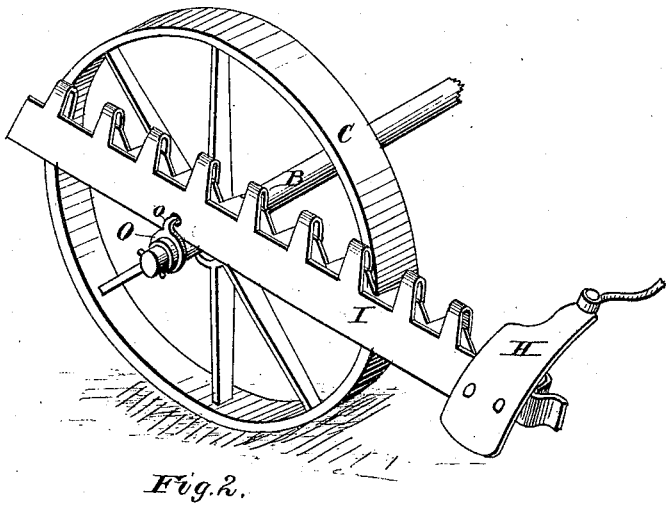


Fig. 2.

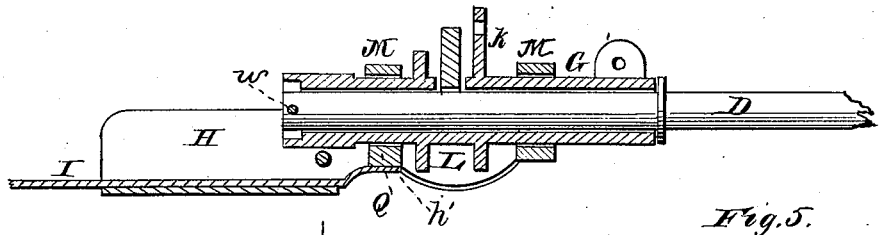


Fig. 5.

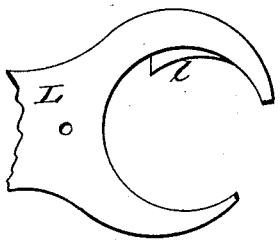


Fig. 6.

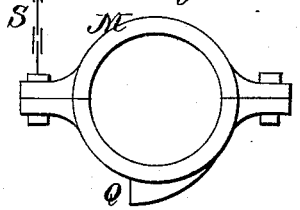
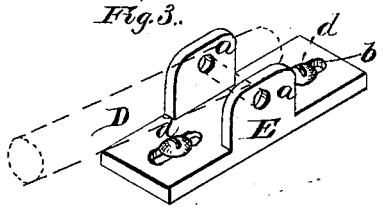


Fig. 3.



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UNITED STATES PATENT OFFICE.

MICHAEL F. LOWTH, THOMAS J. HOWE, AND HENRY N. LABARE, OF OWATONNA, MINNESOTA.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **196,238**, dated October 16, 1877; application filed May 23, 1877.

To all whom it may concern:

Be it known that we, MICHAEL F. LOWTH, THOMAS J. HOWE, and HENRY N. LABARE, of Owatonna, in the county of Steele and State of Minnesota, have invented certain new and useful Improvements in Mowers, of which the following is a specification:

The nature of our invention consists in certain improvements in the construction of the means for attaching and adjusting the finger-bar, whereby the mower becomes better adapted to work on uneven ground, as will be hereinafter more fully set forth.

In the accompanying drawings, which fully illustrate our invention, Figure 1 is a perspective view of a mower embodying our invention. Fig. 2 is a longitudinal section of the rocking sleeve. Fig. 3 shows the casting in which the coupling-arm is attached. Fig. 4 shows means for holding cutter-bar for transportation. Fig. 5 shows the front end of the push-bar L with its hook. Fig. 6 shows the skeleton frame M with its cam-wedge Q.

A represents the main frame of a mower. B is the axle, and C C the driving-wheels. D represents the coupling-arm, one end of which is now shown, in Figs. 1 and 3, as pivoted between two ears, *a a*, projecting from a casting, E, secured to the frame; but in ordinary construction the ball-and-socket joint may be preferred. This casting is provided with slots *b b*, through which the fastening-screws *d* are passed, whereby said casting may be moved a certain distance back and forth, for the purpose of adjusting the finger-bar and its guards with relation to the sickle-bar.

On the other end of the coupling-bar D is placed a rocking sleeve, G, provided at its inner end with a lug, *e*, connected by a rod, *h*, with the front end of the shoe H, said shoe having a projecting pin, *i*, entering an eye in the end of the rod.

The outer end of the rocking sleeve G is hinged to the shoe H, to which the finger-bar I is attached, said hinge being made by means of a cap formed on the shoe, so that the finger and cutter bars will be quite a distance below the center of the rocking sleeve. The sleeve G is also provided with a lug, *k*, for the attachment of the front end of the slotted connecting-bar J, for the purpose of tilting the cutter-bar.

The rear end of the connecting-bar J is provided with a longitudinal slot, *j*, for the purpose of allowing the said connecting-bar J to slide longitudinally, when the front of the finger-bar is raised by passing over stones or abrupt obstructions; also, to allow the finger-bar to be folded for transportation, said slot passing over a pin, *n*, projecting from the tilting lever, K, which is pivoted at its lower end, as shown. This tilting lever is provided with a lock or catch, *p*, to prevent the point of the guards from turning down when the cutter-bar is tilted up. L represents the push-bar, pivoted at its rear end, and its front end encircling the sleeve G in a circumferential groove formed thereon.

Fig. 5 represents the front end of the push-bar L. *l* is a hook or stop on the inner part, that encircles the sleeve G, which comes in contact with a corresponding recess in the sleeve G, when the finger-bar is at work on the ground, or is raised bodily from the ground by the chain S, the hook *l* preventing the sleeve and finger-bar from rolling forward too far, thus preventing the guards from turning down. The recess in the sleeve is made so as to allow the points of the guards to turn up. This connection is such that the point of resistance is nearly central on the rocking sleeve.

On the sleeve G is also a skeleton frame, M, composed of two connected collars placed loosely thereon, and having, on the end adjoining the shoe H, a cam-shaped projection, *m*. This frame and the end of the bar D may be raised or lowered by means of the chain *s* and lever N, and in these motions the cam projection will be made to operate on the shoe H, through the projections *h'*, or like means, and thus the outer end of the cutter-bar may be raised or lowered.

On the end of the axle or driving-shaft B is a washer, O, provided with an inwardly-projecting stud, *o*, which is designed to fit into the hole *x* on the finger-bar, and thus hold it securely in the transportation or carriage of the machine. This washer has preferably a longitudinal motion on the axle, to enable it to be retracted for the insertion of said project-

ing pin into the hole *x* of the finger-bar. When the bar is thus fixed, having some upward and outward pressure, it will be thus kept firmly and securely in place. The adjustment upon or release from this position is managed very easily.

The rocking sleeve G is prevented from slipping off from the coupling-bar D by means of a linchpin, *w*, projecting from said bar, as shown in Fig. 2; but the more resistance the cutting apparatus has, the more it will turn down and clog the knife in the guards, especially on uneven and rough ground.

With our improvements, as described, the mower will run over any irregularities or inequalities in the ground, and cut the grass clean and close, the same as on a perfect plane.

The cutter-bar being quite a distance below the center of the rocking sleeve gives a decided leverage to turn down the guards when the machine is at work.

It will also be seen that a large proportion of the weight of the shoe and cutter-bar is in front of the center of the coupling-arm and rocking sleeve, all of which has a tendency to turn the cutter-bar down while at work.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the coupling-arm D, pivoted adjustably at one end, as described, the rocking sleeve G, mounted at the other end thereof, with the shoe H, and the cutter and finger bars, substantially as and for the purposes set forth.

2. The combination of the connecting-bar J, provided at its end with a slot, *j*, the tilting lever K, having a pin, *n*, and the rocking sleeve G, having lug *k*, substantially as described.

3. The push-bar L, having hook *l*, in combination with the rocking sleeve G, having the recess, all constructed and operating substantially as set forth.

4. The combination of the slotted connecting-bar, rocking sleeve, coupling-arm, and push-bar, all arranged as described, whereby the cutter is allowed automatically to follow the contour of the ground, substantially as set forth.

5. The combination of the rocking sleeve G with frame M, chain *s*, and lever N, substantially as and for the purposes set forth.

6. The combination of the longitudinally-movable washer O, having the inwardly-projecting stud *o*, with the finger-bar having a perforation at *x*, substantially as and for the purposes set forth.

7. The combination of the rocking sleeve G, placed on the bar D, and carrying the frame M, having cam projection *m*, as described, with the shoe H, and cutter and finger bars, substantially as set forth.

In testimony that we claim the foregoing as our own we now affix our signatures in presence of two witnesses.

MICHAEL F. LOWTH.
THOMAS J. HOWE.
HENRY N. LABARE.

Witnesses:
EDWIN K. BURCH,
JAMES FISK.