

C. Reed.

Mower.

N^o 56093

Patented Jul. 3, 1866.

Fig. 2.

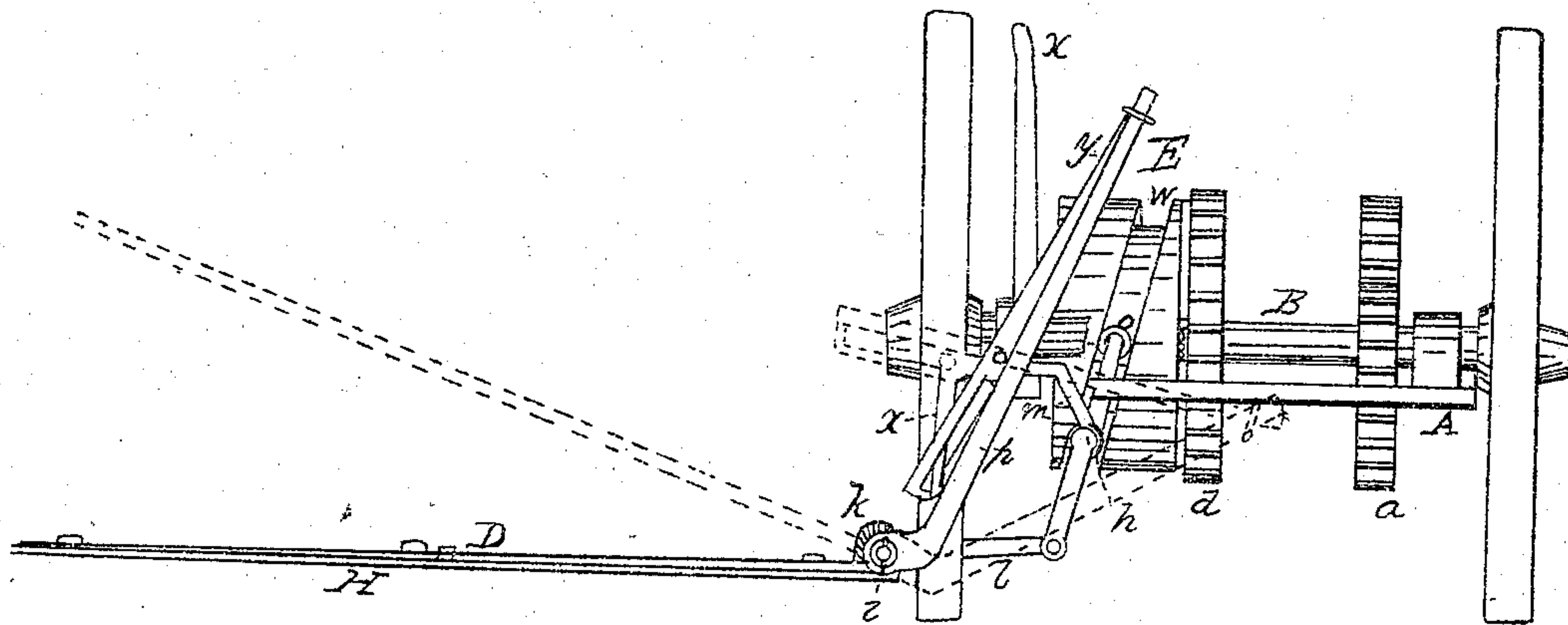


Fig. 1.

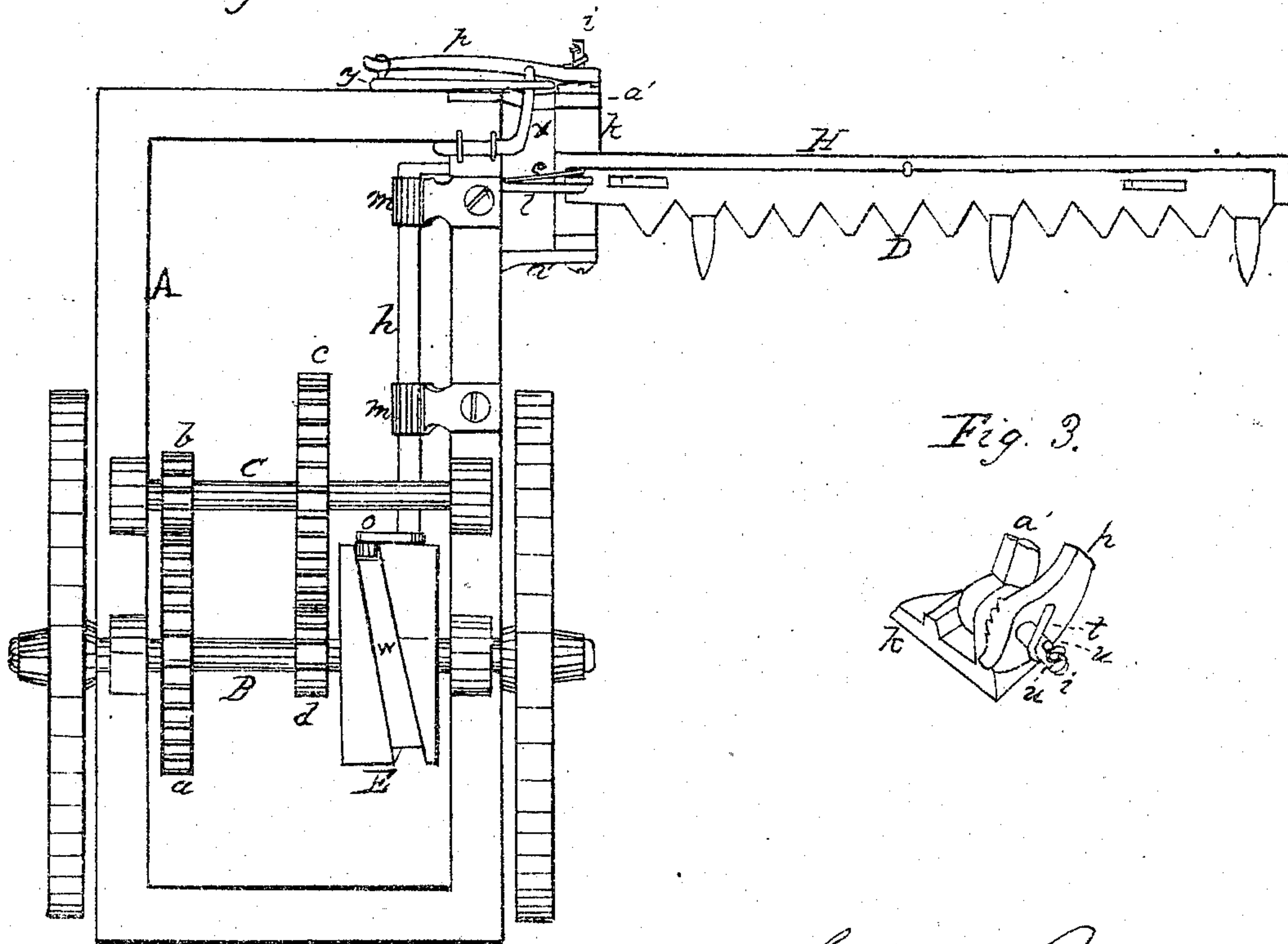
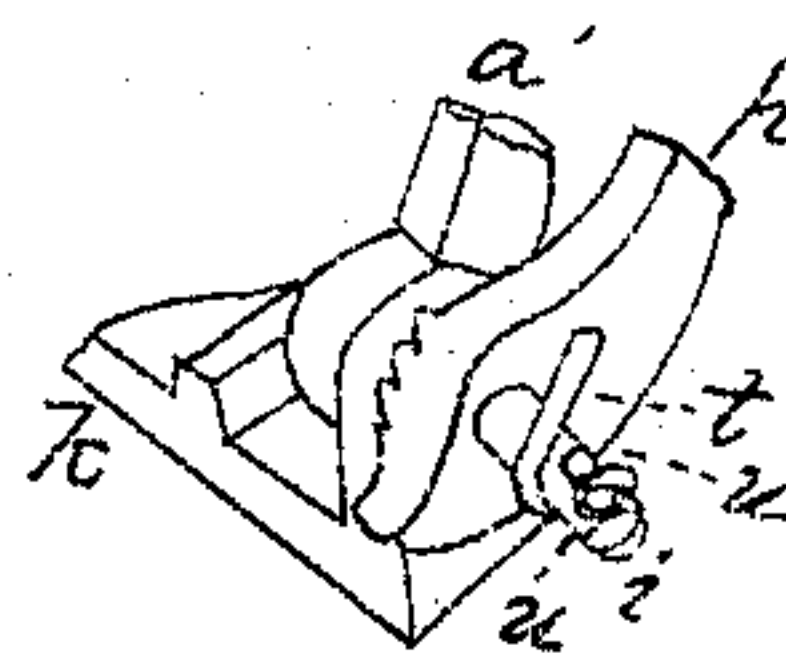


Fig. 3.



Witnesses
 O. J. Dodge
 Robert H. Fenwick

Calvin Reed
 Inventor
 By M. C. Dodge
 Attorney

UNITED STATES PATENT OFFICE.

CALVIN REED, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 56,093, dated July 3, 1866.

To all whom it may concern:

Be it known that I, CALVIN REED, of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

Figure 1 is a top-plan view; Fig. 2, a rear elevation, and Fig. 3 a view of a portion detached.

A represents a rectangular metallic frame mounted on the axle B. A shaft, C, is also secured transversely of the frame A, parallel to the axle B, as shown in Fig. 1.

To the axle B is secured rigidly a gear-wheel, *a*, which gears into a pinion, *b*, secured to the shaft C, and a wheel, *c*, secured to the shaft C, gears into a pinion, *d*, revolving loosely upon the axle B. This pinion *d* is connected to a balance-wheel or drum, E, in such a manner that both revolve together, running loosely upon the axle B. This drum E has a serpentine groove, *w*, cut in its periphery, as shown in Figs. 1 and 2.

A rock-shaft, *h*, having an arm projecting at right angles therefrom at each end in opposite directions, is mounted in the bearings *m*, as shown in Fig. 1. A crank or wrist projects from the arm at the front end of the rock-shaft *h*, and being provided with a friction-roller, *o*, fits into the groove *w* of the drum E; the arm at the opposite end of shaft *h* being connected by a rod or pitman, *l*, to the sickle D.

It will thus be seen that as the machine is drawn forward, causing the wheels and their axle B to revolve, motion is transmitted from the latter, through wheel *a* and pinion *b*, to shaft C, and from thence, through wheel *c* and pinion *d*, to the drum E, and that as the latter revolves a reciprocating motion is imparted, through the rock-shaft *h*, to the sickle D.

It will be observed that the gearing is so arranged as to multiply the motion, and thereby cause the drum E to revolve with many times the rapidity of the axle B, upon which it re-

volves loosely. This enables the sickle to operate with the necessary rapidity of stroke, and at the same time have but very little inclination given to the groove *w*, only one movement to and fro being imparted by it to the rock-shaft *h* at each revolution of the drum E. By having the groove *w* incline at such a slight angle, it is obvious that the arm of the rock-shaft will operate therein with much less friction and jar than it would were the inclination of the groove greater and the turns in it more abrupt. At the same time the drum E, which should be made heavy for that purpose and running at a high speed, operates as a balance-wheel to overcome the inertia and momentum of the reciprocating parts, and thus causes them to operate with much greater ease and freedom from jar than in machines as usually constructed.

The sickle-bar H is attached to a shoe, *k*, which is pivoted to the supports *a'* at the rear end of the frame, as shown in Fig. 1. A lever, *x*, is secured in proper bearings near the rear end of the frame A, as shown in Fig. 1, its front end projecting forward so as to be within reach of the driver, while its rear end projects beyond the frame, where it enters a slot in the lower end of a second lever, *y*, which is pivoted near its center to the end of the frame A, as shown more clearly in Fig. 2. This lever *y* at its opposite end is provided with a staple encircling the end of a third lever or arm, *p*, attached to the shoe *k*. By depressing the lever *x* the lower end of lever *y* is raised, its opposite end being depressed, carrying with it the arm or lever *p*, and thereby elevating the sickle, as indicated in red in Fig. 2. The lever *p* is not attached permanently to the shoe *k*, but is pivoted upon the bolt *i*, projecting from the rear end of the shoe. On the inner side of the lower portion or head of this lever *p* there is a ratchet or projecting lip, beveled on its under side, which engages in corresponding notches in the face of the adjoining lug of the shoe, as shown in Fig. 3.

By having several of the notches, as shown, the lever will engage with the shoe and raise the cutter-bar, even though the latter be either above or below a horizontal plane.

The bolt *i* turns loosely in its bearings, and the lever *p* has a to-and-fro movement sidewise thereon. A rod, *t*, is attached to the outside of

the lever *p*, and is bent in a spiral form, encircling the bolt *i* and passing between the pins *u*. By turning the bolt *i* to the left the lever *p* is forced up against the shoe *k*, whereby the projection thereon is made to engage with the notches in *k*, and then, by depressing the lever *x*, the cutter-bar may be raised clear from the ground. When the machine is in operation the bolt *i* is to be turned in the opposite direction, whereby the lever *p* is released from contact with the shoe and the cutter-bar is left free to adapt itself to the inequalities of the surface.

By these means I am enabled to construct a machine that operates in a most perfect manner and that is simple in its construction.

Having thus fully described my invention, what I claim is—

1. The cam-wheel *E*, in combination with the rock-shaft *h*, for operating the sickle-bar *D*, when arranged as shown and described.

2. Connecting the sliding lever *p* to the shoe *k* by means of the bolt *i* and spiral rod *t*, when said parts are arranged to operate as herein described.

3. The combination of the levers *x*, *y*, and *p*, with the pivoted or hinged shoe *k*, arranged and operating as and for the purpose set forth.

CALVIN REED.

Witnesses:

I. H. THOMAS,
J. W. THOMAS.