

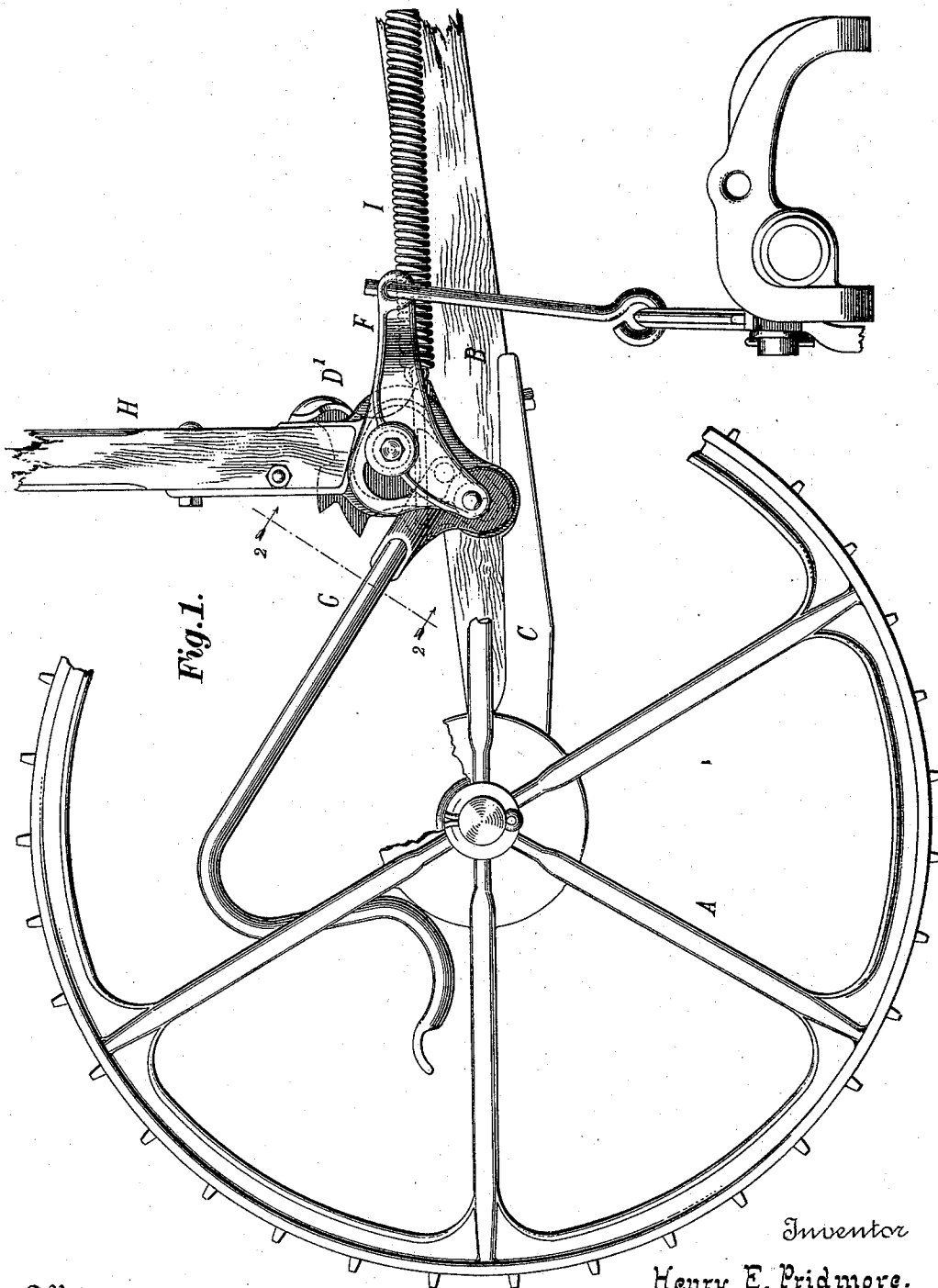
(No Model.)

2 Sheets—Sheet 1.

H. E. PRIDMORE.
MOWING MACHINE.

No. 578,704.

Patented Mar. 9, 1897.



Witnesses
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S. G. Anderson.

Inventor
Henry E. Pridmore.

By his Attorney
R. B. Swift

(No Model.)

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Fig. 3.

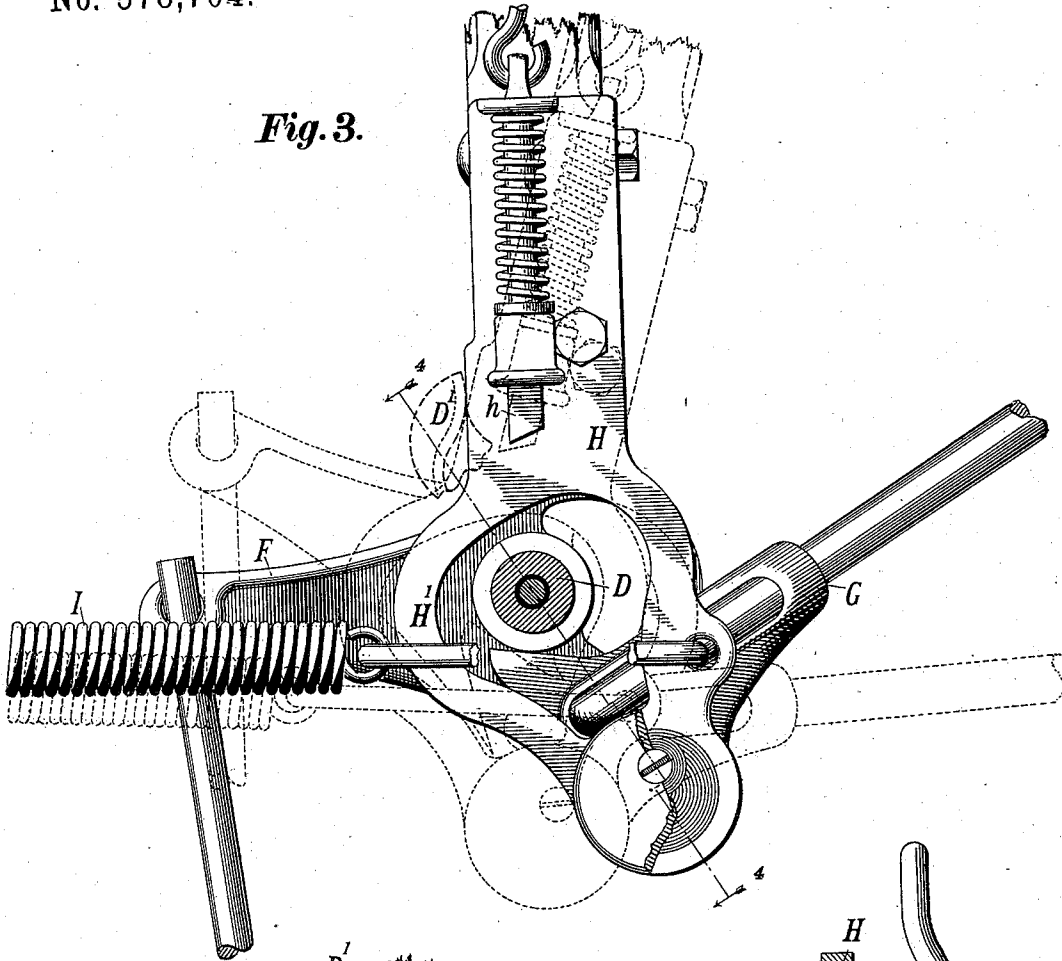
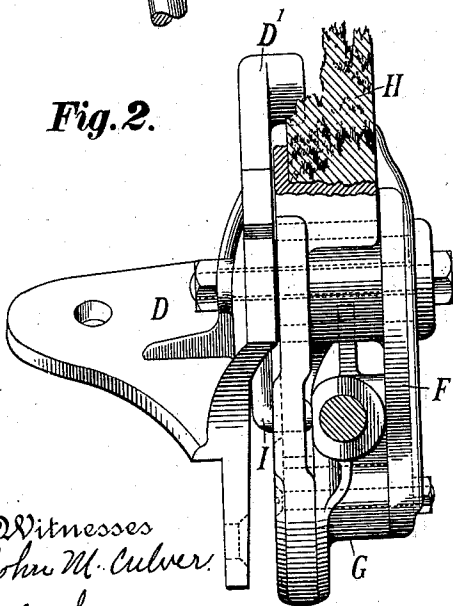
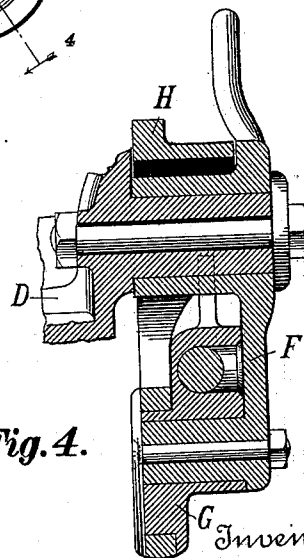


Fig. 2.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY E. PRIDMORE, OF CHICAGO, ILLINOIS.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 578,704, dated March 9, 1897.

Application filed July 18, 1892. Serial No. 440,337. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. PRIDMORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a specification.

In the various constructions which have been heretofore made for the lifting of the coupling-frame and cutter-bar of mowers and which have been assisted by a spring the lifting-lever has been outside of and taken no part in the mechanism. In the construction for which the application was filed by me March 19, 1891, Serial No. 385,714, the lifting-lever is a part of the mechanism and acted upon by the spring, so that when grasped by the operator to raise the parts there is no movement that is not effective, whereas when the lifting-lever is outside and the spring is not acting through it there may be considerable part of its movement lost before its connection with the coupling-frame and finger-bar becomes an effective one to raise them over obstructions. In the field the obstruction is seen but a moment before it is encountered, and it is quite important that the lifting and foot levers should be handy and that the first movement upon them should be an effective one. However if the lifting-lever vibrates with every movement of the coupling-frame and the surface of the ground be rough its hand portion will be vibrated through a considerable arc and be difficult of grasping, besides being somewhat dangerous to the operator. It is to keep the lifting-lever as an element in the raising device and still to prevent the large vibration of its hand portion that I have made this improvement, and to this end I have separated the primary lifting-lever, have attached the spring to the hand-lever, have pivoted it medietely to act on the primary lever and immediately to the foot-lever, have arranged a stop upon the machine so as to throw its vibrating pivot outside of its lifting-pivot, and thus have given the hand portion of the lifting-lever a shorter arc of vibration. The construction will be more fully pointed out in the progress of the description and other reasons be given for building the device as shown.

In the accompanying drawings like letters refer to like parts.

Figure 1 is a side view of a mowing-machine, sufficient of the parts being shown so that the attachment of my improved raising device can be seen. Fig. 2 is a view on the line 2 2 of Fig. 1, with the foot and hand lever broken off. Fig. 3 is an inside view, the stop on ratchet-plate being shown in broken lines and in dotted lines the parts in an advanced position. Fig. 4 is a view in section on the line 4 4 of Fig. 3.

The mowing-machine to which my attachment is connected may be of any of the well-known forms of mowers, and it may be attached to the pole or the frame of the mower, as is most convenient. In the construction shown in the drawings I have connected it to the tongue B, which is attached to the frame C and supported upon the wheels A. Attached to the tongue or frame are the ratchet-plate and pivot-stud D. Upon this stud is pivoted the primary lever F, one arm of which is connected by any suitable means with the coupling-frame and finger-bar of the mower. Upon the lever F the foot-lever G is pivoted and is extended convenient to the foot of the operator. There is a stop on which the foot-lever strikes, which in the construction shown is the hub of the lever F, thus making the connection of the levers F and G a rigid one in the direction that tends to raise the coupling-frame and finger-bar.

So far as the construction has been described any pressure upon the foot-lever would be exerted to raise the coupling-frame. The operator would, however, have no benefit of a spring to assist in the handling of the coupling-frame and finger-bar to keep the parts taut and free from rattling, nor would he have the benefit of the hand to assist in the raising. To these ends a hand-lever H is pivoted to act on the lever F and a stop H' thereon arranged so as to limit its movement and make a rigid connection between it and the lever F when it is desired to raise the coupling-arm and finger-bar by means of the hand-lever.

Attached on the frame of the machine is a spring I, that acts on the lever H, being connected thereto in such a manner as to exert

a slight force upon the arm F to raise the coupling-arm and finger-bar when they are down in working position and to exert a constantly-increasing force because of a better leverage on the lever F as the coupling-arm and finger-bar are raised and the spring loses its reactionary power. This is accomplished by attaching the spring I to the lever H at a point nearly in a line with the pivot-post of the ratchet D. A part of the force so applied holds the lever against a stop D', which for convenience in the construction here shown is located on the ratchet-plate D. Now as the lever F is raised and lowered by its connection with the coupling-frame and finger-bar because of the rough surface of the ground the lever H, pivoted thereon and acted upon by the spring I, will be held against the stop D' and rocked thereover, the movement of its upper or hand extension being but a limited one. Still the movement it has is largely toward the operator, so as to be more conveniently reached by him, and yet it is not sufficient to endanger the operator by flying back and striking him as he may be reaching for it or handling other parts. Of the mower it will be noticed that the ratchet-plate D has its first notch of some length, that the locking-bolt *h* on the hand-lever H engages in this notch, and that the lever is prevented from going back only as it rocks over this rear part of the notch, even though it might be raised by the foot of the operator. The lever H is steadied by the ratchet-plate B on the one side and the lever F on the other and is kept taut by the spring I.

The reason for the limited movement of the hand portion of the lever H will be made plain by noticing that it rocks over the fulcrum-stop D' as the coupling-frame and finger-bar raise and lower in the operation of the machine over uneven ground, while when used by the operator for lifting the parts the fulcrum is no longer a point above the ratchet-stud D, but is the ratchet-stud itself when the part H' of the lever H is drawn against it—that is, the lever H has one fulcrum when the machine is at work, which gives its extremity a shorter arc of throw, and another when put to use to raise the parts.

Heretofore in this description it has been said that the hand-lever H was pivoted to act upon the lever F. If the foot-lever G was dispensed with, the hand-lever H could be pivoted immediately upon the lever F, but as a foot-lever is a very desirable attachment on a mower I am able to combine it in a very simple and tasty way by pivoting it to the lever F, and by eccentrically pivoting the hand-lever H to it, as shown in Fig. 4, the stress of the spring I, exerted through the lever H, tends to hold the foot-lever G in position and to prevent any shaking or rattling.

The carrying power of the spring I on the coupling-frame can be regulated by the place it is attached to the lever F—that is, if it is attached so that it approaches the center of

the stop D' on the ratchet-plate D it will exert but little force when the coupling-bar is down. When, however, the coupling-frame is raised and its attachment to the lever H moves away from the stop on the ratchet-plate D, it will exert more force, which will assist the operator in handling the coupling-frame and finger-bar. If the spring is attached to the handle H farther from the stop, it will exert force to float the finger-bar along the ground. However, as I have other means of floating the bar I place the connection of the spring I to the lever H quite close to the pivot on the ratchet-plate D. Thus when the machine is at work the spring exerts only sufficient force upon the parts to keep them taut, but materially increases to assist in the handling as the coupling-frame and finger-bar are raised.

In operation the coupling-frame and finger-bar can be raised by the foot sufficiently to pass over small obstructions and to turn the corners, or, at the cost of the loss of ease in raising the bar, the parts may be raised higher and still the hand-lever remain locked to rock over the extremities of the long notch on the ratchet-plate D. It is my intention, however, that the foot-lever be used only in the first movements of raising the frame and finger-bar, which movement is generally sufficient in the field, and that when it is necessary to carry the parts higher the hand-lever can be used and by means of the notches on the ratchet-plate D the coupling-frame and finger-bar can be lifted and locked in position. The foot-lift, in the mean time, will strike upon the frame of the mower, where it will be lightly held owing to the eccentricity of the hand-lever's mounting, upon which the spring is acting.

Having now described my invention, what I claim is—

1. In combination in a mowing-machine, a primary lever pivoted on the machine, one arm of which is connected with the coupling-frame, a hand-lever pivotally connected to the primary lever at a point outside the pivot of the primary lever, a stop on the machine-frame and a spring acting on the hand-lever between its connection to the primary lever and the stop.

2. In combination in a mowing-machine, a primary lever pivoted on the machine, one arm of which is connected to the coupling-frame by a stiff link, a hand-lever pivotally connected to the other arm at a point below the pivot of the primary lever, a stop on the machine-frame above the connection of the hand to the primary lever, and a spring acting on the hand-lever between the stop and the connection of the hand and primary levers.

3. In a mowing-machine in combination, a primary lever pivoted on the machine one arm of which is connected with the coupling-frame, a hand-lever pivotally connected with the other arm at a point in a plane which is below the pivot of the primary lever, a stop

on the machine above the pivot of the primary lever, a spring acting on the hand-lever between the connection of the hand and primary levers and the stop on the frame and a stop 5 for the hand-lever over which it rocks when the parts are being raised.

4. In a lifting device, in combination, a primary lever pivoted to the frame of the machine, a hand-lever pivotally connected to the 10 primary lever and having its pivot eccentric to that of the pivot of the primary lever, a spring reacting between the hand-lever and the machine-frame, a stop located on the machine-frame, against which stop the spring 15 holds the lever when the parts are at work, and a secondary stop which serves as a lock between the hand and the primary levers while the parts are being raised, and which is so located that the initial movement of the hand- 20 lever stretches the spring as the power exerted on the hand-lever by the operator is transmitted to the coupling-frame and finger-bar.

5. In a raising device in combination, a primary lever pivoted to the machine, one arm 25 of which is connected with the coupling-frame, a foot-lever pivoted on the primary lever, stops on the foot and primary levers to limit their movement, a hand-lever mounted on the foot-lever on a pivot that is eccentric to 30 the pivot of the foot-lever on the primary lever, means for locking the hand and primary

levers when the parts are being raised by the hand-lever, a stop for the hand-lever, located on the frame of the machine and a spring reacting between the frame of the machine and 35 the hand-lever, and attached to the hand-lever between the pivot of the hand-lever on the foot-lever and the stop on the frame of the machine.

6. In a raising device for handling the coupling-frame, the cutter-bar portion of mowing- 40 machines, in combination, a primary lever pivoted to the machine and connected to the coupling-frame, a foot-lever pivoted to the primary lever, a hand-lever pivotally connected 45 to the primary lever on a pivot that is formed on the foot-lever eccentrically to its pivot to the primary lever, a spring reacting between the machine-frame and the hand-lever, a stop 50 located on the machine-frame, on the same side of the hand-lever as the direction in which the spring tends to rock the hand-lever on its pivot, the stop on the machine-frame forming the pivot upon which the hand-lever 55 vibrates as the coupling-frame and finger-bar portion of the mower rise and fall in their travel over the ground.

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Witnesses:

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