(No Model.) 3 Sheets—Sheet 1.

I. T. JAQUES.

MOWING MACHINE.

No. 385,354. Patented July 3, 1888.

Fig. 1.

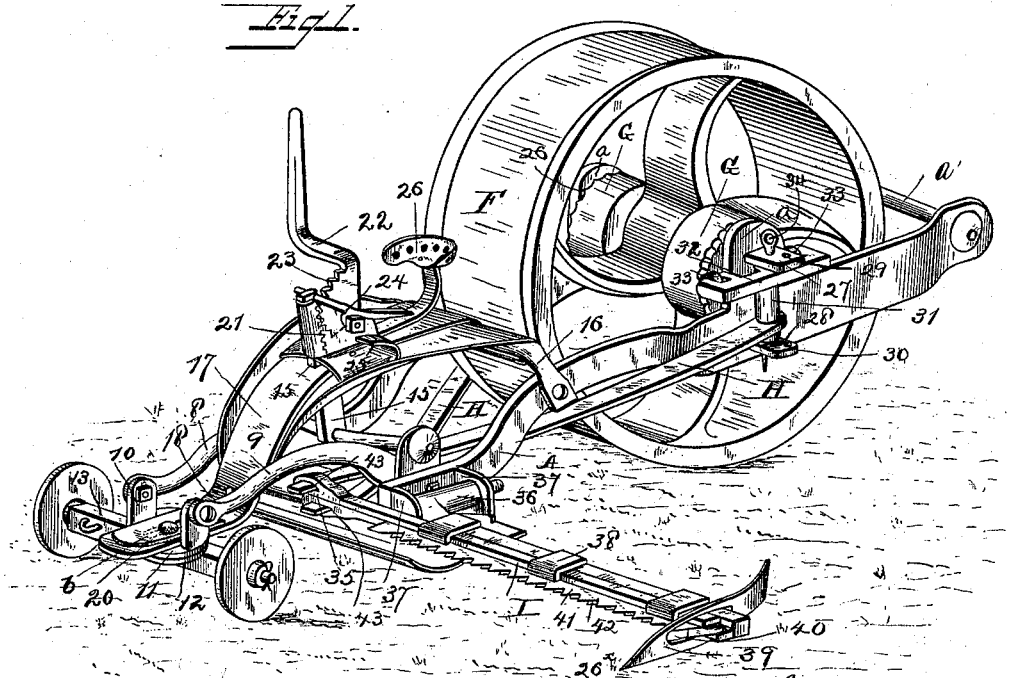
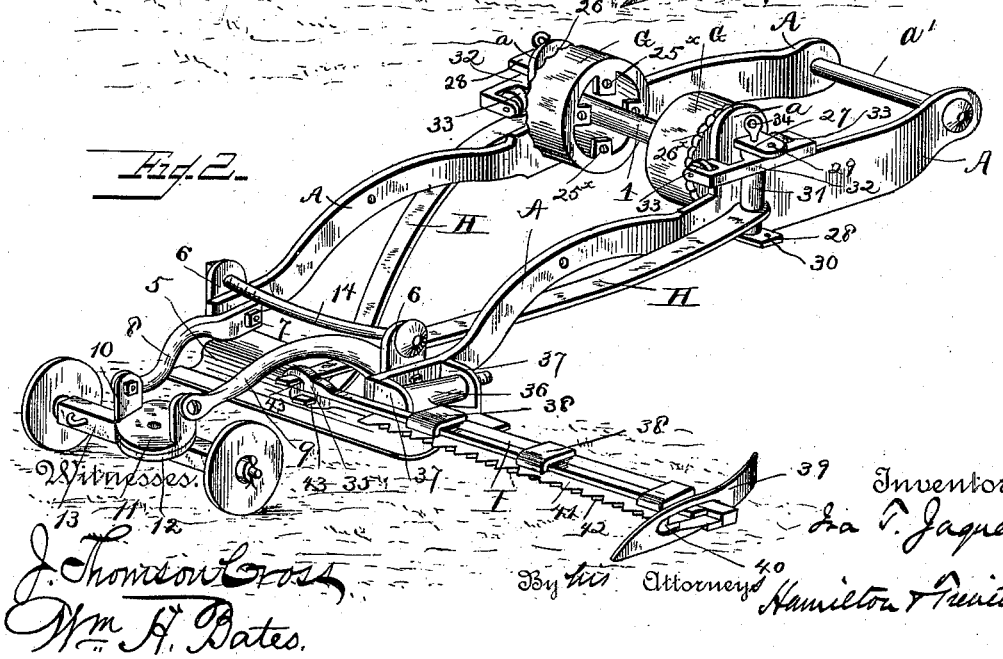


Fig. 2.



Witnesses.
J. Thornton Cross
Wm. H. Bates.

Inventor,
Ira T. Jaques,
By his Attorneys
Hamilton & Truitt.

(No Model.) 3 Sheets—Sheet 2.

I. T. JAQUES.

MOWING MACHINE.

No. 385,354. Patented July 3, 1888.

Fig. 3.

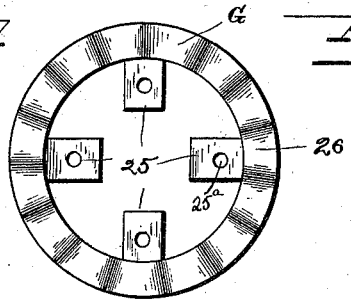


Fig. 4.

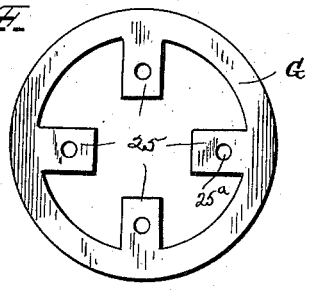


Fig. 5.

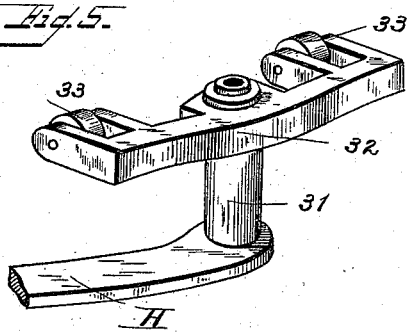


Fig. 6.

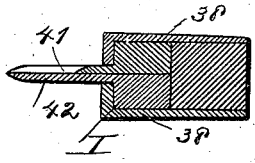


Fig. 7.

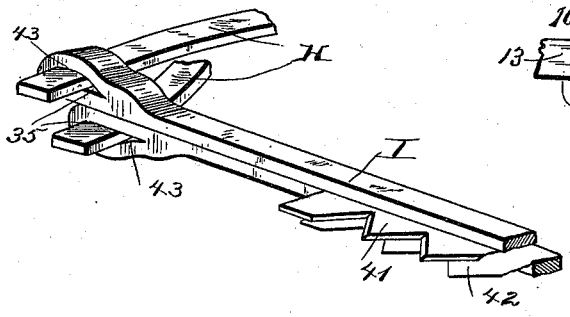
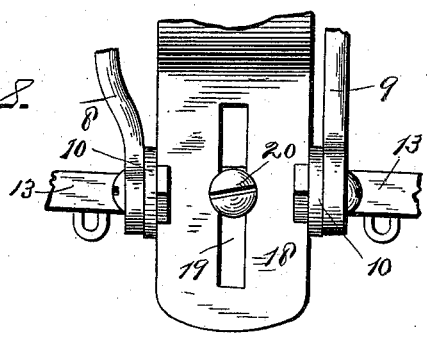


Fig. 8.



Witnesses,
J. Thomson Gross.
Wm. H. Bates.

Inventor.
Ira T. Jaques.
By his Attorneys Hamilton & Prescott.

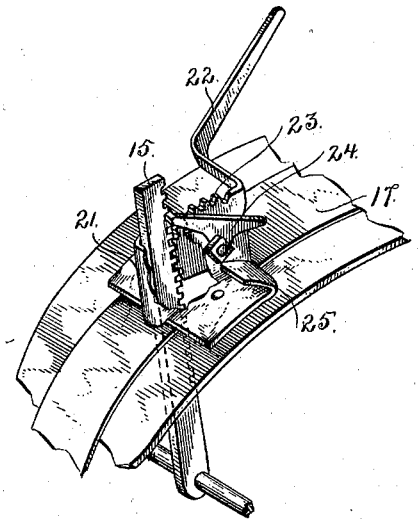
(No Model.) 3 Sheets—Sheet 3

I. T. JAQUES.

MOWING MACHINE.

No. 385,354. Patented July 3, 1888.

Fig. 9.



Witnesses.
J. Thomson Cross.
L. C. Dallas.

Inventor.
Ira T. Jaques.
By Lris Attorneys
Hamelton & Jaquett.

UNITED STATES PATENT OFFICE.

IRA T. JAQUES, OF LINCOLN, NEBRASKA, ASSIGNOR OF ONE-HALF TO CHARLES H. HUNT, OF SAME PLACE.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,354, dated July 3, 1888.

Application filed May 9, 1887. Serial No. 237,595. (No model.)

To all whom it may concern:

Be it known that I, IRA T. JAQUES, a citizen of the United States of America, residing at Lincoln, in the county of Lancaster, State of Nebraska, have invented a new and useful Improvement in Mowing-Machines, of which the following is a specification.

My invention has relation to improvements in mowing-machines of that class styled "front-cut mowers," (one wheel,) and the object is to simplify and improve the mechanical construction of existing machines of that class and for the purpose named; and my invention consists in the novel construction of parts and their combination, as will be hereinafter fully described, and especially as the same is pointed out in the claims made hereto.

I have fully illustrated my improvements in the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a perspective view of the machine. Fig. 2 is a perspective of the frame of the machine with the driving-wheel and standing-platform removed. Fig. 3 is a view of one of the cam-racks. Fig. 4 is a rear view of the same. Fig. 5 is a view of one of the vibrating arms with its actuating cross-head and rollers therein. Fig. 6 is a cross-section of the finger-bar and cutter-bar. Fig. 7 is a detail view of a section of the cutter-bars and arms, showing their connection. Fig. 8 is a plan view of a section of the front end of the platform, showing the slot in the end thereof. Fig. 9 is a detail view of the lever with segmental rack and the vertically-arranged rack-bar in engagement therewith, the retaining-sleeve being broken away and the associated parts being curtailed.

In the drawings, the same parts in different figures are designated by the same notations, and reference being had thereto, the letter A designates the frame of the machine, the two main side pieces of which are curved downward toward the front and then extended horizontally, substantially as seen in the drawings. The side pieces may be extended rearward beyond the driving-wheel and be connected by a cross-rod, *a'*. On these side pieces are formed or secured vertical standards *a*, between which the axle 4 is rigidly fixed, the axle serving to hold the frame together. The grass-shoe 5 is formed with vertical lugs 6, and to these lugs the front ends of the side pieces are pivotally connected by the bolts 7. The grass-shoe has its front turned upward to ride the stubble and carry the machine over small obstacles in its progress at work. On the bolts which pivot the front ends of the side pieces to the lugs on the grass-shoe are secured the rear ends of two arms, 8 9, their connection on the bolts being pivotal to give the frame a joint at that point. The forward ends of these arms 8 9 are pivotally bolted to the vertical lugs 10, formed on a metal disk, 11, which rides the fifth-wheel, 12, on the axle of the front carriage, 13. A lifting-bar, 14, is passed through holes in the vertical lugs of the grass-shoe, across the frame, over the side pieces of the frame, and above the vibrating arms, and bolted in position, and in the middle of this lifting-bar is secured the lifting-rack 15. In front of the driving-wheel across the machine is secured a bench-rod, 16, the ends thereof being bolted to the side pieces of the frame. On this bench-rod is secured one end of the riding-platform 17, which is carried forward on an incline or curve to a point adjacent to the front carriage, from whence it is extended horizontally, as at 18, the extended piece being formed with a longitudinally-arranged slot, 19. A stop-plate or keeper, *b*, is set over the extension 18, and the king-bolt 20 is passed through this keeper, the extension of the platform, and axle of the carriage, and the parts thus secured together, with the extension of the platform adapted to slide in its seat to the limits of the slot. On the riding-platform is secured a vertical sleeve, 21, which is set over a hole in the platform, and in the extension of this sleeve is pivoted the lever 22, having a segmental rack, 23, and the pawl 24, both of which engage with the rack-bar 15, passed up through the platform and sleeve. Foot-rests 25 are fixed on the platform, substantially as shown, and a seat, 26, is provided. This mechanism enables the driver to lift the grass-shoe and cutter-bars with the cutters over all ordinary obstructions during the progress of the ma-

chine, and when the knives are disconnected and turned up the grass-shoe may be lifted from its lowest position and set by the pawl and rack and the machine hauled about in that position. This functional result is attained by reason of the limited joint movement given the machine at the connection of the main frame-pieces and the carriage-arms at their meeting on the bolts of the lugs on the grass-shoe. The machine being sustained at the rear on the axle of the driving-wheel and at the front on the ends of the arms, it will be readily seen that by lifting the rack-bar the machine below is drawn up, the extension of the frame being permitted through the action of the slot in the extension of the platform. When the machine is let down to cut at the lowest limit, the end of the plate on the extension of the platform sets against the foot of the incline of the platform and prevents the shoe and cutters from riding too hard on the stubble. In this position, however, the jointed frame will permit the shoe to ride over ordinary obstructions freely. To lift the shoe and cutters over obstructions in the swath, the driver disengages the pawl from the rack by pressing on its lever end with his foot, and then turns down rearwardly the lever, which draws up the rack and lifts the machine at the joint at the grass-shoe.

The letter F designates the driving-wheel, which has the usual broad face rim, and arranged to turn on the axle which is projected through the hub.

The letter G designates metal cylinders secured to the opposite sides of the driving-wheel. These cylinders are formed with radial lugs 25, projected inward from the interior face of the cylinder and provided with bolt-holes 25^a, through which bolts are projected into threaded holes in the spokes of the driving-wheel. These cylinders are formed on outer edge face with cam-racks 26, which engage with the rollers 33 on the cross-heads 32, hereinafter described, and by this connection the arms are vibrated and the cutter-bars reciprocated. On the outside of the frame and standards *a* are two outward-projecting horizontal bearing-arms, 27 28, which have bearing-pin holes 29 30, which take the bearing-pins 34 of the arms H.

The letter H designates vibrating arms, which are duplicates in reverse construction. These arms H have rigidly attached to them each a vertical sleeve, 31, having a cross-head, 32, with rollers 33 journaled in the ends. The sleeve of each arm is fitted snugly on the bearing-pin 34. The cross-head reaches across the cam-cylinder on that side, with its rollers arranged to set in engagement with the cam-rack, so that one roller shall set on the point of a cam and the other between two cam-points. The arms extend forward with an inward and downward curve, substantially as shown, and are formed with their free ends to set within the respective eyes on the cutter-bars, as at 35. The cross-heads are arranged, in connection with the cam-racks, on opposite sides to move in alternate motion, in order that the cutter-bars may also be reciprocated in relative alternation.

The letter I designates the finger-bar, formed with a sleeve, 36, journaled in lugs 37 on the grass-shoe, and having guides 38, under which the cutter-bars slide. On the other end of the finger-bar is the usual shoe, 39, slotted, as at 40, to allow the ends of the cutter-bars to pass a short distance through in the movements. The cutters 41 42 have their cutter-bars to fit the guides on the finger-bar, and their inner ends are formed with eyes 43 to take the ends of the arms H.

The operation of the several elements in the machine have been stated in connection with the description, and I here give the description of how the machine is detached and made inoperative, except for transportation as a wheeled vehicle. The bearing-pins of the arms H are withdrawn from their seats and the sleeves drawn outward, which disengages the rollers and the cam-racks. At the same time the vibrating arms are drawn back until the ends are out of the eyes of the cutter-bars, when the sleeves are secured in the outer bearings, 29 and 30. The knives cannot be reciprocated when this condition is reached; but the cutting apparatus should be turned up about the journaled sleeve 36 against the platform, and this is accomplished by drawing the cutter-bars outward until the eyes are at a line with the bearing of the finger-bar, when the cutting apparatus may be turned up about the journaled sleeve 36 from a horizontal to a vertical position. The grass-shoe may then be lifted by the lever and rack-bar, and the machine may then be drawn wherever desired.

The front carriage or truck turns on the king-bolt, and the machine is thus adapted to make short turns at the ends of the swaths.

Having described my invention, what I claim is—

1. The combination of the driving-wheel F, having cylinders G on its opposite sides formed with cams on their outer face edges, the frame A, having bearing-arms 27 28 projected from the side pieces of the frame, the vibrating arms H, formed with vertical sleeves 31, having cross-heads 32, with rollers 33, the bearing-pins 34, arranged in said bearing-arms and sleeves, and the cutter-bars, all substantially as described.

2. The combination of the frame A, supported on the drive-wheel at the rear and pivotally connected to standards on the grass-shoe at its front end, the forward-projecting arms 8 9, pivotally connected at their rear ends to the standards of the grass-shoe, the front carriage carrying the front ends of the arms 8 9, the seat-platform arranged on the machine, with its front end to slide on the front carriage, the rack-bar 15, connected to the grass-shoe and projected through the seat-platform,

and a lever mounted on the platform, having a segmental rack to engage the rack-bar and lift the grass-shoe and frame-bars, substantially as described.

3. The combination, with the driving-wheel, the grass-shoe, and the front carriage, of the main frame supported at the rear on the drive-wheel and having the front ends pivotally connected to standards on the grass shoe, the forward-projecting arms 8 9, having their rear ends pivotally connected to the standards of the grass-shoe and their front ends secured to the front carriage, the seat-platform supported at its rear on the main frame and at its front on the front carriage, and formed at its front end with a slot, 19, to engage the king-bolt in the front carriage, and a lever mounted on the seat-platform connected with the grass-shoe to lift it, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

IRA T. JAQUES.

Attest:
SOLOMON F. MOUCK,
C. L. TREVITT.