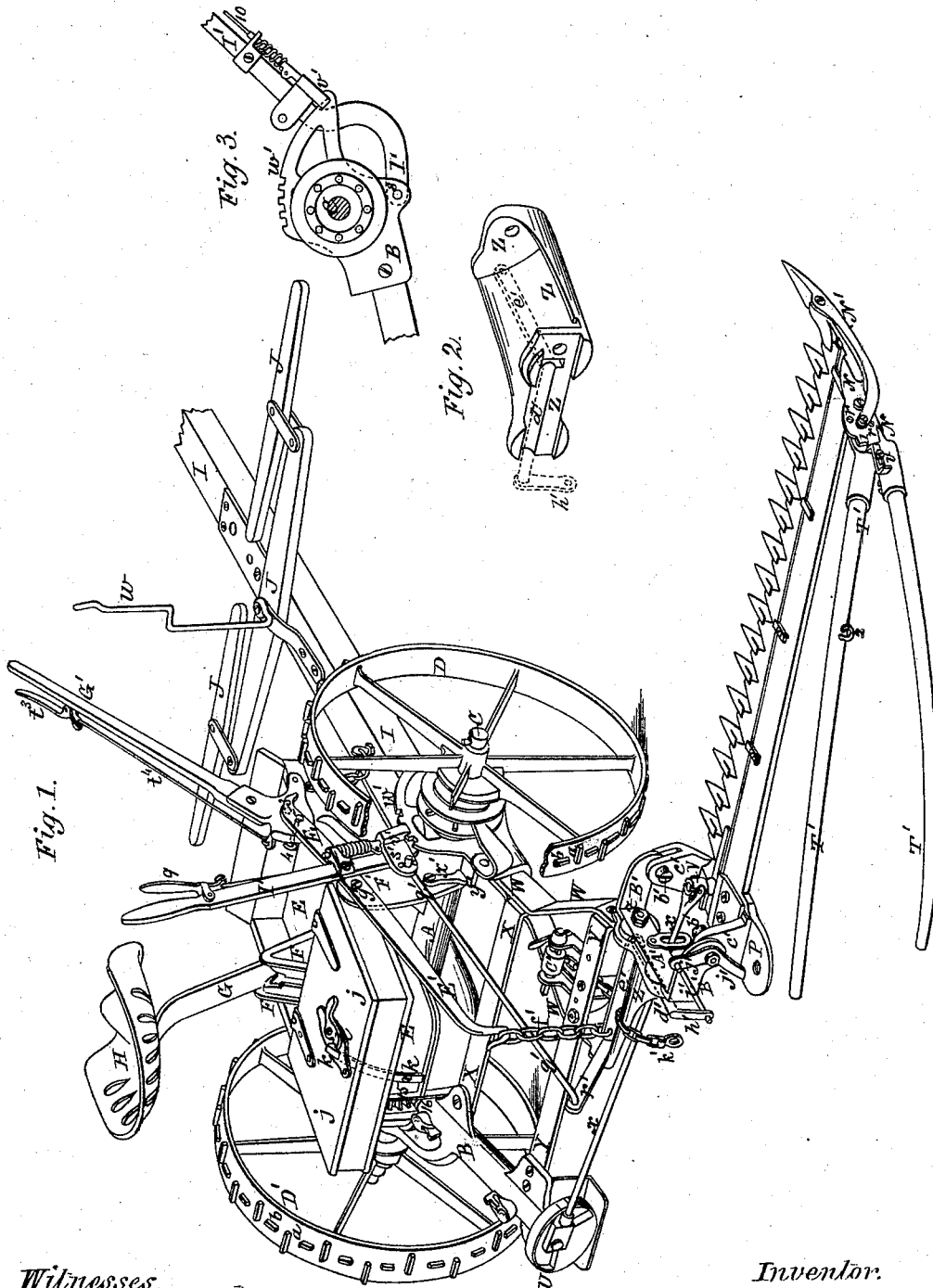


C. WHEELER, Jr.  
Mowing-Machine.

No. 165,461.

Patented July 13, 1875.



Witnesses  
F. B. Smith  
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# UNITED STATES PATENT OFFICE.

CYRENUS WHEELER, JR., OF AUBURN, NEW YORK.

## IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **165,461**, dated July 13, 1875; application filed March 17, 1875.

*To all whom it may concern:*

Be it known that I, CYRENUS WHEELER, Jr., of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Combined or Interchangeable Reaping and Mowing Machines; and that the following is a full, clear, and exact description of the machine as it appears when adapted for mowing, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents in perspective the machine as it appears when arranged for mowing. Figs. 2 and 3 represent portions of the machine detached, to better show their forms and co-operative parts.

The subject-matter of this application relates to the machine as arranged for mowing; and the invention consists in the several combinations of devices, as hereinafter particularly stated, for adapting the machine to the mowing of grass or other crops, as will be explained.

In the drawing, A represents a front frame, and B a rear frame. The main axle C passes through a sleeve or boss on the frame A, and the frame B is hinged to bosses or bearings on the sleeve of the frame A, so that both frames may move, one independent of the other, but always about the main axle C as a center of motion. The main axle C is supported and carried in the main driving and supporting wheels D D', the perimeters of which are furnished with two sets of lugs, *a* and *b*—the former to give a better hold upon the ground, the latter to prevent the machine from slipping downward when working on inclined ground. The platform E is hinged to the front or gear frame A, so as to be readily raised to get at the gearing, which is covered by it, for oiling, &c. On the rear portion of the cover or platform is a tool-box, protected by a hinged cover, *j*, and a catch or hasp, *k*, fastened to the frame A, passes up through the platform E, through the tool-box, and through the lid or cover *j*, where it is caught by a hook or keeper, *l*, so that one fastening secures the cover and platform in place. Upon the platform E is fastened an angular abutment, F, in or against which the seat-support G and the seat H are sustained. The pole I is fast-

ened to the frame A, and the draft-bars J are bolted thereto, as shown in the drawing. The finger-bar, guards, and cutters are shown in the drawings, and need no special description, as they are well known and understood. The outside divider N' is made adjustable on the sub-shoe N by means of a bolt going into one of the series of holes *r*. The track-cleaver T' is pivoted to the shoe N, as seen in the drawing, and a slide or bolt, *v*, on the track-cleaver may be set so as to take upon any one of the shoulders I upon the rear of the shoe N, so that while said track-cleaver cannot drop below the particular shoulder it is adjusted to or for, it is free to rise above that point whenever forced to do so by the grass. There is an eye or ring, 2, on one of the fingers of the track-cleaver, for taking over a support, *w*, on the pole I, when the machine is folded up for transportation to or from the field. To the rear of the cutter-frame B, which is of cast metal, and near to the inside wheel D, I bolt a Y-shaped piece, W, of wrought-iron, and, by means of wrought-iron cross-braces X Y, firmly unite this piece W to the rear part of the frame B. As this piece W has mainly to support the cutting mechanism and its appliances, it is necessary that it should be of wrought-iron, and of strength sufficient to endure the strain it is subjected to. Z is a coupling-piece, through which the cutting mechanism is united to the wrought-iron piece W; and as this coupling-piece serves other purposes—viz., as a shield and support for a raising and lowering mechanism, and for a gagging mechanism—it is made of cast-iron, owing to its shape and form. The coupling-piece Z is connected to the wrought-iron piece W by a bolt, *z*, which serves as a pivot, about which the frame and the coupling-piece may move as occasion may require. In a recess formed in the face of the coupling-piece, next to the cutting apparatus, is securely fastened a sustaining plate or yoke, A', from which project two downwardly-bent arms, B', one at each end thereof, and to the lower ends of these bent arms the inside shoe P is pivoted by bolts *b'* passing through the arms B' and through lugs *c'*, cast upon or with said shoe P. As the shoe P supports and carries the finger-bar, cutting apparatus, outside divider, and track-cleaver, all these

parts can rise and fall about the pivotal points  $b'$  as a center, even to folding up the cutting apparatus thereon, so as to carry it on or against the frame of the machine. In the coupling-piece  $Z$ , and behind the plate  $A'$ , there is supported, so as to turn freely, a shaft,  $d'$ , which has a crank-arm,  $e'$ , attached to one of its ends, and lying within the hollow portion of the coupling-piece, and to the end of this crank-arm  $e'$  is attached a chain,  $f'$ , which is connected to the vibrating beam  $E'$ , pivoted to a standard,  $F'$ , at the point  $g'$ , said standard being cast with or upon the front frame  $A$  of the machine. On the opposite end of the shaft  $d'$ , from and at right angles to the arm  $e'$ , is another crank-arm,  $h'$ , which is connected by a link,  $i'$ , to a gag-lever,  $j'$ , pivoted by one of the bolts  $b'$ , and so made as to take upon the heel of the inside shoe  $P$ , and gag up the finger-bar and cutting apparatus; this gagging apparatus or mechanism being operated from the driver's seat  $H$ , through or by means of the lever  $G'$  and the vibrating beam  $E'$ . The lever  $I'$  is arranged for tipping the points of the fingers; it is curved rearward and downward, and pivoted to the frame  $B$  underneath and a little in advance of a vertical plane through the main axle  $C$ . On the lever  $I'$  there is a spring-bolt,  $v'$ , operated by a thumb-lever,  $9$ , and a rod,  $10$ , and said bolt, when raised, swings over an arc-piece,  $w'$ , also attached to the frame  $B$ , but above the main axle  $C$ , the lever pivotal connection being below it. The bolt  $v'$ , when dropped into any one of the notches in the arc-piece  $w'$ , holds the finger-bar in the position into which it has been tipped by the lever  $I'$ . The operator, through the lifting-lever  $G'$ , can raise up the cutter-frame until its projection  $y'$  comes against the stop  $x'$  on the frame  $A$ , which defines or limits the extent of the upward motion of said frame; and when these two parts  $x'$   $y'$  are brought together, and the raising motion of the lever  $G'$  is continued, the outer end of the finger bar is gagged up, and can be so held up or let down, at pleasure, by the mechanism above described. The box portion of the gear-frame  $A$  extends some distance behind the vertical plane of the main axle, about which it, as well as the rear frame, swings. The rear of this box portion is slotted, as at 15, so that the forward part of the sleeve or frame  $B$ , that incloses the crank-shaft, and as seen at 16, may enter and play through, and at the same time be laterally supported by the sides of said slot or opening. This gives the rear frame additional strength or ability to resist the heavy strains that must

be borne by the rear frame, and at a different point from that immediately at and around the main axle. By means of the connecting-rod  $q'$ , attached to an arm,  $r'$ , fast on the coupling-piece  $Z$ , and projecting rearward therefrom, and to a lug,  $s'$ , on the lever  $I'$ , the tipping of the points of the guards or fingers may be accomplished. The lever  $I$ , though pivoted to the frame  $B$  at 8, is forward of the main axle  $C$ , about which the two frames vibrate.

What I claim is—

1. The gag-lever  $j'$ , in combination with the lever  $G'$ , vibrating beam  $E'$ , rocking bar  $d'$ , and its crank-arms  $e'$  and  $h'$ , and chain and link attachment, so as to be operated by the driver from his seat, substantially as described.
2. The pendent gag  $x'$ , attached to the frame  $A$ , in combination with the projection  $y'$  on the frame  $B$ , to limit the free upward motion of frame  $B$ , as described and represented.
3. The hinged coupling-piece  $Z$ , for connecting the cutting apparatus to the cutter-frame, the said coupling serving also as a shield for the arm  $e'$  and rock-shaft  $d'$ , as described and represented.
4. The combination of the frame  $B$ , wrought-iron  $Y$ -shaped frame  $W$ , and cross-braces  $X$   $Y$ , to form a support for the coupling-piece  $Z$ , as and for the purpose described.
5. The construction of the gear-box, projecting rearward of the main axle, and slotted, as at 15, to allow the sleeve  $B$  to enter and play through, as and for the purpose described and represented.
6. The quadrant or arc  $W'$  on the rear frame, but projected over and forward of the axle  $C$ , in combination with the lever  $I'$ , hinged to the rear frame below the axle, so as to bring said lever within convenient reach of the driver upon his seat, as and for the purpose described and represented.
7. The slotted abutment  $F$ , in combination with the seat-support  $G$ , for the purpose of transposing, reversing, and holding the seat, substantially as and for the purpose described.
8. The rod  $q'$ , in combination with the lever  $I'$  and arm  $r'$  on the coupling-piece  $Z$ , for the purpose of tipping the points of the guards or rocking the cutting apparatus about the pivotal rod or bar  $z$ , as described.
9. The gear-cover  $E$  and tool-box cover  $j$ , separately hinged, but both fastened by the same hook or hasp  $k$   $l$ , as described and shown.

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Witnesses:

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