

C. Wheeler Jr.

Mower.

N<sup>o</sup> 41558

Patented Feb. 9, 1864.

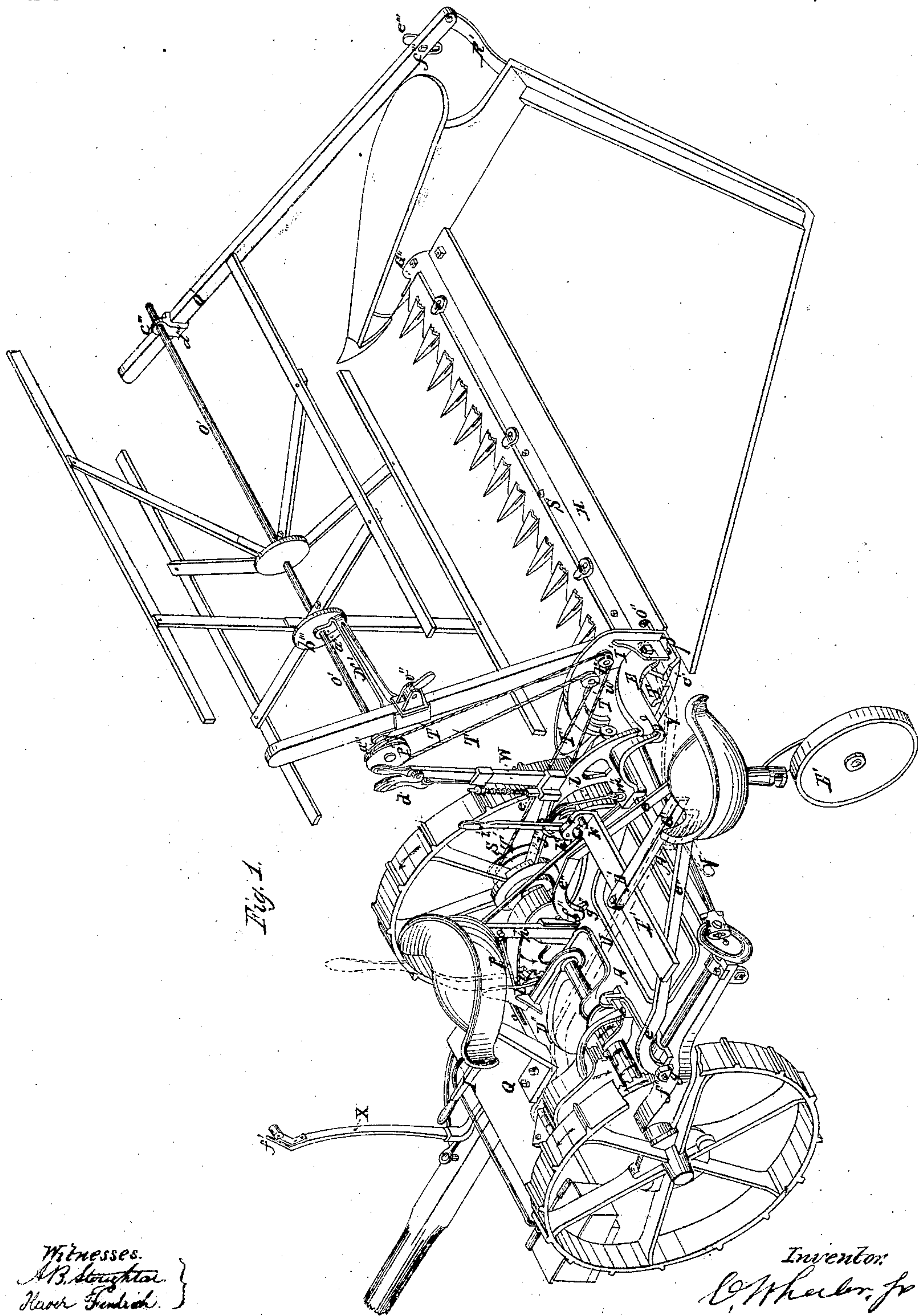


Fig. 1.

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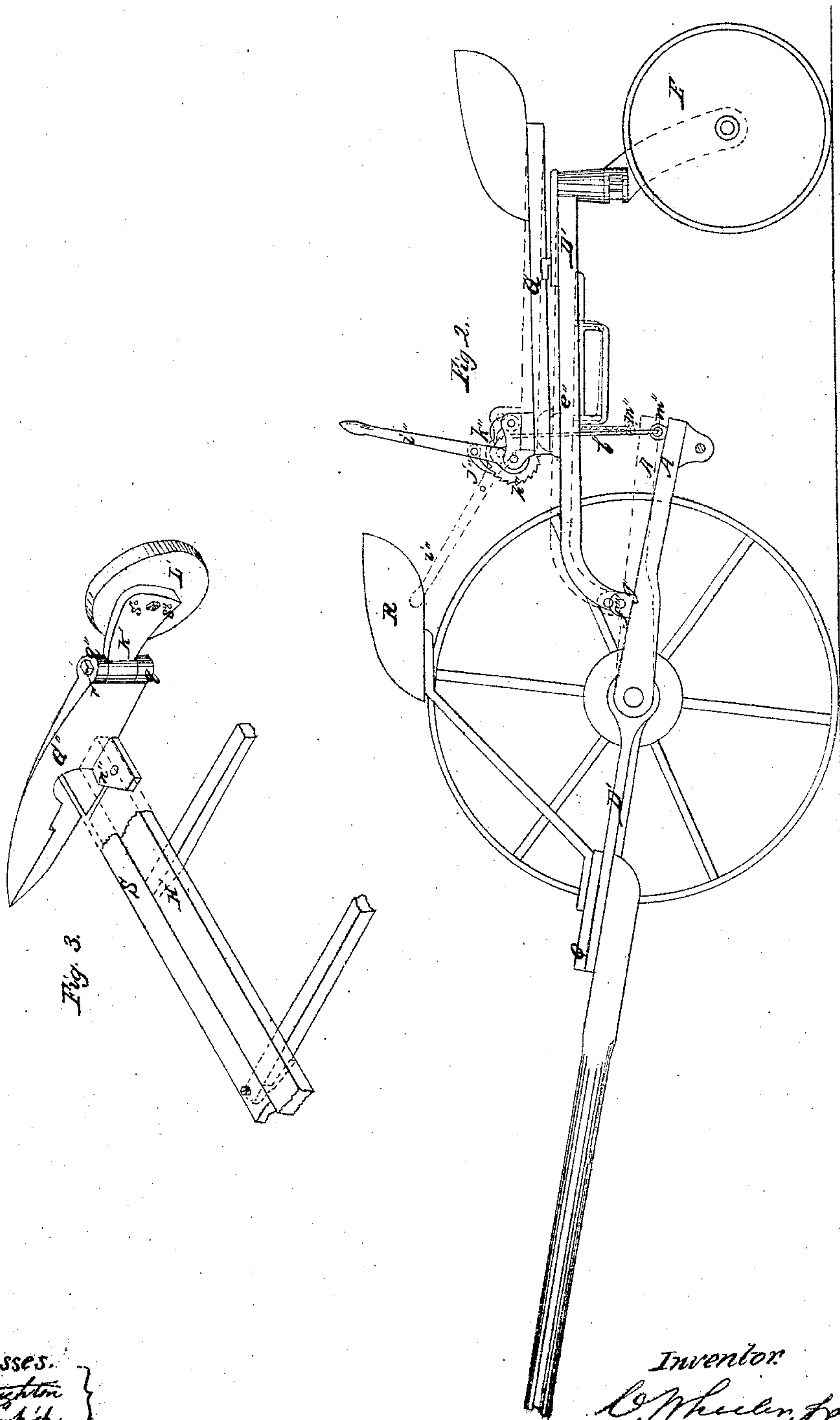
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN HARVESTING-MACHINES.

Specification forming part of Letters Patent No. 41,558, dated February 9, 1864.

*To all whom it may concern:*

Be it known that I, CYRENUS WHEELER, Jr., of Poplar Ridge, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Harvesting-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 a part thereof, in which—

Figure 1 represents in perspective the machine fitted up for cutting grain. Fig. 2 represents a sectional elevation of the same. Fig. 3 represents, on an enlarged scale and in a detached view, the outside shoe or divider and a portion of the finger and platform bars.

Similar letters of reference, where they occur in the separate figures, denote like parts of the machine in all the drawings.

This invention consists, first, in the construction of the outside shoe with a flange for connecting it to the outer end of the supporting-bar, in combination with an ear or flange for connecting the other end of the bar firmly to the inner shoe.

It further consists in a particular manner of driving a reel that has its supports on a hinged cutting apparatus so as to keep the belt tight, however much the cutting apparatus may rise and fall in passing over uneven ground.

It further consists in an arrangement by which the hinged and pivoted cutting apparatus can be rotated on its axis at the pleasure of the operator without changing the length of the band or interfering with the operations of the reel.

It further consists in the arrangement of reel-band, pulleys, and reel in relation to the driving-pulley and main frame so that the cutting apparatus can be raised for cutting any desired height and the points of the cutters elevated or depressed at pleasure without varying the tightness of the band or interfering with the motions of the reel.

It further consists in sustaining the inside reel support by both the table-bar and the inside shoe.

It further consists in supporting the reel-shaft by three bearings, the reel-shaft and the bearings being all arranged on the hinged portion of the machine.

It further consists in making the outer bearing on the outer reel-post and the outer reel-

post itself for supporting the reel-shaft self-adjusting.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings, premising that, as the frame-work, gearing, and organism of the machine under one of its conditions as a mower have been fully described in another application for a patent by me of the same character, and marked "A," and as the present machine is fully shown in the drawings herewith submitted, I do not deem it necessary to describe or refer to those parts further than may become necessary to a full explanation of the improvements embraced in this application.

For supporting a seat and a lifting device the frame D' is provided, constructed with side pieces, e'', united at two of their ends and mounted on a caster-wheel, E'. The other ends of the side pieces are spread apart, so as to form nearly a triangle, and have holes through their ends for uniting it by pivot-bolts f'' to ears g'' on the main frame A, the pivot-bolts being secured by a pin or leather inserted in holes for the purpose. This triangular frame D' has a cross-bar, F', to the overhanging end of which is pivoted a chain-wheel, h'', having a lever, i'', on the same pivot with the wheel. The lever i'' carries a catch, j'', pivoted to it, which takes into notches in the periphery of the chain-wheel h''.

To fasten the chain-wheel in any fixed position, a weighted dog, k'', is provided and pivoted so as to take into notches in the periphery of the chain-wheel h'', and to this chain-wheel h'' is fastened a chain, l'', having a hook at its other end for hooking into the eye m'' on the main frame A. To the cross-bar F' is also pivoted the lever G', carrying a seat for the raker.

To raise the outer end of the cutting apparatus, a transverse lever, V, is provided, and pivoted at one end to the hinge-piece E and shoe T by the rear pivot-bolt, a'. The lever V is curved upward, and passes at its free end through a long loop on the under side of the triangular frame D'. On the inside of the shoe T, directly under the lever V, is a rib, c', which strikes against the lever V when the inner end of the cutting apparatus is raised and causes the outer end of the cutting apparatus to raise also. When the cutting appa-



ratus is thus elevated the operator can turn the outer end of the cutting apparatus up to a perpendicular position. Then by raising the bolt  $e'$  from the notches in the quadrant by means of the thumb-lever  $d'$  the cutting apparatus will, if divested of the reel and platform, turn down outside of the driving-wheel, and the graduating-lever  $W$  will come inside of the driving-wheel, where it can be secured in its position by slipping the loop of the track-board over the point  $f'$  of the standard  $X$  on the tongue of the machine.

On the foot-board  $Q$  is mounted the seat  $R$ , and to the inner side of the gear-block  $D''$  is fastened the standard  $l$ . To this standard is pivoted a chain-wheel carrying a lever, and directly under the chain-wheel is pivoted a weighted dog, which takes into notches in the periphery of the chain-wheel. On the front end of the dog is a rod,  $o$ , which the operator can with his foot release the dog from the notch at pleasure. To the chain-wheel one end of a chain,  $p$ , is fastened, the other end being fastened to the standard  $h$  on the main frame  $A$ . The operator, by seizing the lever 1 of the chain-wheel, can wind the chain  $p$  on the wheel, drawing the standard  $h$  nearer to the chain-wheel, thereby raising the rear of the main frame  $A$ , and with it the inner end of the cutting apparatus connected to it, the outer end being raised by the operation of the transverse lever  $V$  in the manner previously described.

The triangular frame being connected to the main frame by pivot-bolts removable at pleasure, and the lifting device being connected to the main frame by a hook, it is obvious that the triangular frame may be detached at pleasure, and it is also obvious that the triangular frame may be attached at pleasure. It is also obvious that the longitudinal lever  $U$ , fastened at its forward end to ears on the gear-block  $D''$  and connected by its long loop at its other end to the transverse lever  $V$ , will serve the same purpose in raising the outer end of the cutting apparatus as the triangular frame  $D'$  does.

In order to connect the platform to the main frame and cutting apparatus, the shoe  $G''$  is first provided, having a flange,  $n''$ , at its lower edge, back of the recess, for the reception of the end of the finger-bar  $S$ . To this flange is firmly fastened one end of the supporting-bar  $H'$ . The other or inner end is fastened securely to the flange  $o''$  of the sheave-stand  $I'$ , which is in turn securely fastened to the shoe  $T$  by a flange,  $p''$ , and by the pivot bolts  $a'$  of the hinge-piece. The supporting-bar  $H'$  has bed-pieces fastened to it for supporting the platform. The outside gathering-board is supported by the shoe  $G''$ .

On the outside of the rear end of the shoe  $G''$  are two ears,  $q''$ , furnished with holes for inserting a pivot-bolt,  $r''$ , through and through the caster-shank  $K'$ , which has a series of holes,  $s''$ , for bolting the axle that carries the wheel

$L'$ , which by the series of holes can be adjusted to different heights.

To support and drive the reel, a sheave-stand,  $I'$ , is connected to the shoe  $T$  and supporting-bar  $H'$ , as previously described, and on that side of the sheave-stand next the main frame is pivoted the two sheaves  $t''$   $u''$ , and to the opposite side is bolted the reel-post  $M$ , on which is placed the reel-bearer  $N'$ , having a recess for receiving the post, and a cam-lever,  $v''$ , for fastening it at any height. The bearer  $N'$  has two boxes or bearings,  $h'''$ , for the reel-shaft  $O'$ , on which the reel is fastened by frogs  $b'''$ . To the inner end of the shaft  $O'$  is fastened the sheave  $P'$ . The outer end of the reel-shaft has a bearing,  $c'''$ , fitted to the arm  $C$  by a loop,  $d'''$ , so as to slide freely on said arm. This arm or reel-post  $Q$  is pivoted at its rear end to a standard,  $R'$ , which has a slotted arc,  $e'''$ , to which the arm  $Q$  is gripped by a bolt,  $f'''$ , when the reel is adjusted at the desired height. To the hub or axle of the inner driving-wheel is fastened the sheave  $S'$ , on which is placed the band  $T'$ , the upper strand of which is placed under the sheave  $u''$  on the sheave-stand  $I$  and the lower strand is placed under the sheave  $t''$ , and both strands over the sheave  $P'$ , forming an endless band.

The sheaves  $t''$  and  $u''$  being located near the hinged and pivoted connection of the cutting apparatus with the main frame, it will readily be seen that the band at the point where it passes over them will be but little affected by any of the positions that the cutting apparatus may assume; and the cutting apparatus may be changed in the vertical angle of its cut at pleasure by means of the graduating-lever  $W$ , while at the same time it may be raised or lowered for changing its height without interfering with the reel or band. The driving-sheave  $S'$  has its point of rotation and the main frame  $A$  has its point of oscillation in the main axle  $C$ .

This machine, as shown in the drawings, is fitted up for cutting grain, but by removing the reel and platform and placing the driver in the rear seat of the pair it is ready for mowing grass.

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

1. The construction of the outside shoe with a flange for connecting it to the outer end of the supporting-bar, in combination with an ear or flange for connecting the other end of the bar firmly to the inner shoe, substantially as described.

2. Driving a reel that has its support on a hinged cutting apparatus or table by an endless band passing from the driving-pulley over the sheaves or pulleys arranged near the foot of the inner reel-support so that the variation of the reel-pulley relatively to the driving-pulley caused by the varying positions of the cutting apparatus and platform in passing over uneven ground shall not change the tightness of the band or cause it to be thrown from the



driving or driven pulley, substantially as described.

3. The arrangement of the cutting apparatus and platform in combination with the reel-band arranged over the pulleys at the foot of the inner reel-support so that the cutting apparatus pivoted to the main frame can be rotated on its axis at the pleasure of the operator without changing the length of the band or interfering with the operations of the reel supported on the cutting apparatus, substantially as described.

4. The arrangement of the reel-bands, the pulleys, and the reel having its support on the hinged cutting apparatus in relation to the driving-pulley and the main frame so that the cutting apparatus can be raised for cutting any desired height and the points of the cutters elevated or depressed at pleasure without

varying the tightness of the band or interfering with the motions of the reel, substantially as described.

5. Sustaining the inside reel-support by both the table-bar and the shoe, substantially as described.

6. Supporting the reel-shaft by three bearings, said reel-shaft and bearings being all arranged on the hinged portion of the machine, substantially as described.

7. Making the outer bearing on the outer reel-post and the outer reel-post itself for supporting the reel shaft self-adjusting in relation to the other reel-shaft supports, substantially as described and represented.

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Witnesses:

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