

# J. G. Perry, Mower.

N<sup>o</sup> 53,039.

Patented Mar. 6. 1866.

Fig. 1.

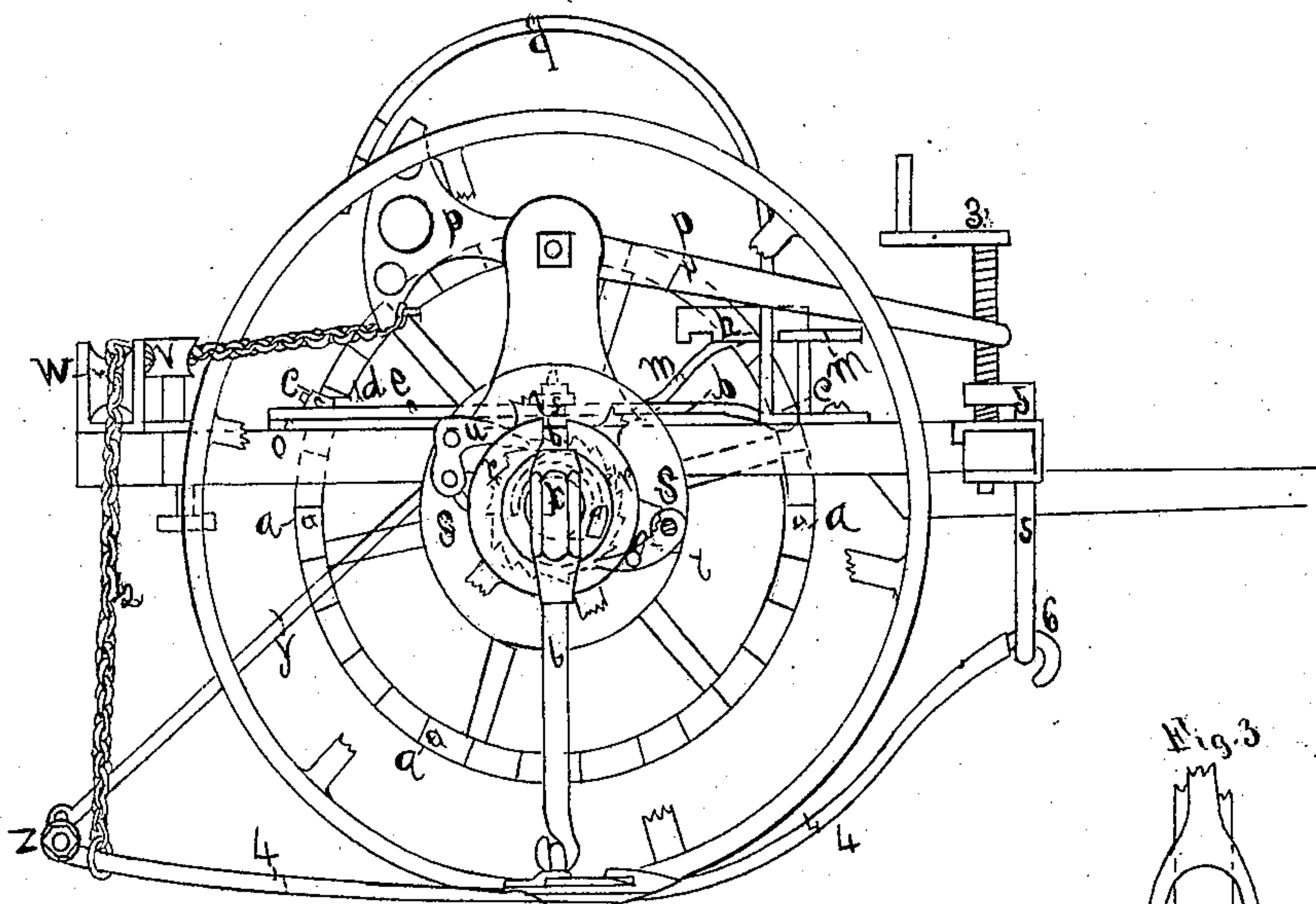


Fig. 3.

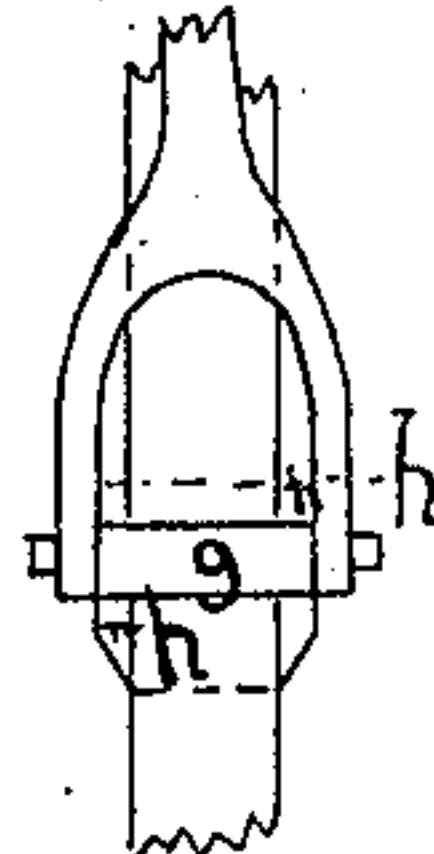


Fig. 2.

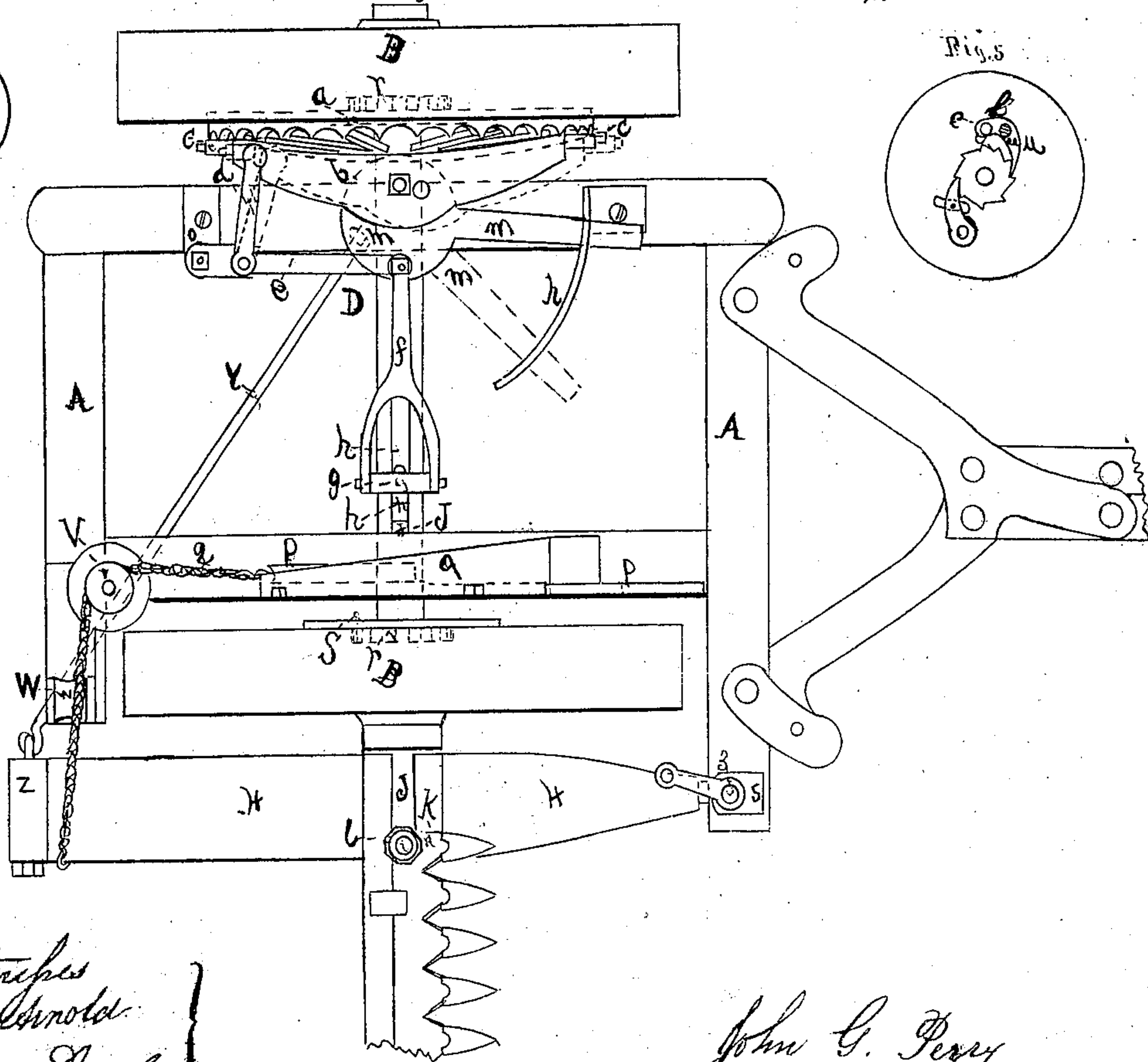


Fig. 5.

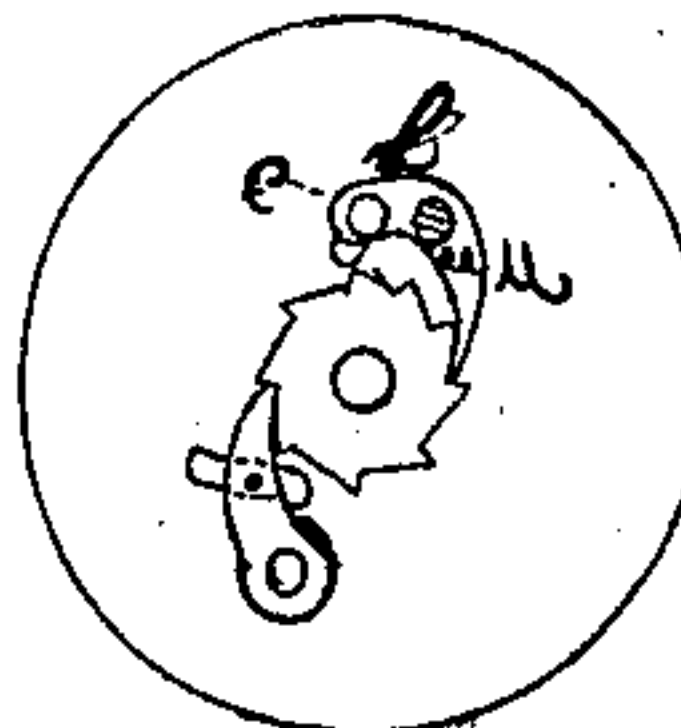
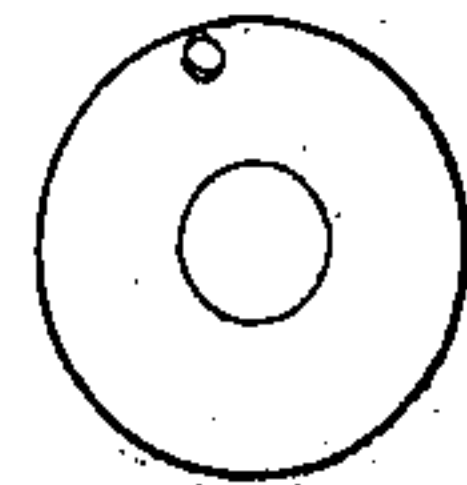


Fig. 4.



Fig. 6.



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## IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 53,039, dated March 6, 1866.

*To all whom it may concern:*

Be it known that I, JOHN G. PERRY, of South Kingston, in the county of Washington, in the State of Rhode Island, have invented a new and Improved Mowing-Machine; and I do hereby declare that the following is a full and correct description thereof, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

In these drawings similar letters denote the same parts in all the figures.

Figure 1 is a side elevation of the machine. Fig. 2 is a top view. Fig. 3 is a view of the connection with the hollow axle. Figs. 4 and 5 show the arrangement of the ratchet-wheels, pawls, and pressure or friction plates combined. Fig. 6 is a separate view of the friction or pressure plates.

The construction of this mowing-machine is as follows: The frame A is placed with suitable bearings upon the axle D, which is free to turn in these bearings, and which has a main wheel, B, on each end, which is also free to turn upon the axle. Two ratchet-wheels, *r r*, are made fast to the axle just inside of the main wheels, and are driven by the pawls *u t* (see Figs. 1, 4, and 5) on the main wheels. Figs. 5 and 6 show the pressure or friction plates placed inside the ratchet-wheels to raise the pawls when the main wheels are turned backward, which they do by the pins in the slots *b b*, (see Fig. 5.) They also tend to bring the ends of the pawls into the ratchet-wheels when turned forward. There are two modes of using these plates (shown in Fig. 5) with oblique slots, and another with an arm instead of a slot, as shown in Figs. 4 and 6. It will be seen that by this mode of using the pawls they are self-operating, being raised and held from the ratchet-wheels in turning and backing the machine without any lever or aid from the driver, besides overcoming the friction and noise and saving the use of springs. The drag-bar 4, to which the cutter-bar is hung, is secured at its front end by a pivot, 6, in the sliding standard 5, which slides through the front part of the frame A. (See Fig. 1.) The back end of the drag-bar is flexibly secured at the inner side by a brace, *y*, which extends to the opposite side of the frame just back of the axle. The

drag-bar is raised with the cutter-bar by means of a chain attached at the outer side of the drag-bar, which chain passes over the cam-lever *p*. By this oblique arrangement of the brace *y* under the back part of the frame with the forward end of the brace higher than the other it will glance over and rise above obstructions, so as to pass them without breaking or bending the brace or bringing up and injuring the driver or machine, and without varying the drag-bar and cutter-bar out and in in their upward and downward motions, as is done in other machines, where the brace is arranged parallel with the axle and cutter-bar, either in front or behind the axle or at right angles with the shoe or drag-bar. The front end of the drag-bar 4 is raised and lowered to give the cutter-bar a rolling motion by means of the slide 5 and screw 3 operating by the crank. By this rolling motion the cutter-bar may be leveled or the points of the fingers and cutters set above or below the level, and thereby easily adjusted to any height of team and to work in lodged grass or otherwise. This drag-bar or shoe may extend any distance from the fulcrums 3 and *z* back of the cutter-bar, with the lever P and chain 2, running over and guided by the chain pulleys *w* and *v*, so as to obtain an extra leverage and easily raise the bar to any required height and position. An escape-wheel, *a*, having curved projections on its side, is firmly secured to the axle between the frame A and the main wheel, that is farthest from the cutter-bar. A lever, *b*, is pivoted at *e*, the ends of the lever being furnished with friction-rolls *c c* to play alternately in and out of the spaces between the projections on the wheel *a*. The lever *b* is thrown in and out of gear by means of the lever *m*, and held in place by the catch *n*, and is connected by the rod *d* to another lever, *e*, swinging on the pivot *o*, to the end of which is attached lever *f*. The axle is made hollow or tubular, with one or more openings through its sides, so that a connection may be made with the rod J inside the shaft by the lever *f* outside, as may be seen in Figs. 2 and 3 at *h* and *g*, the rod J having a sliding connection with the rod *l*, (see Fig. 1,) which moves the knife-bar. By this arrangement the cutter-bar is moved by either one of the main wheels B B, independent of



the other, or by both at the same time. The sliding connection of rods J l dispenses with many joints, allows the cutter-bar to raise and fall freely and work at any height and at any angle with all ease and without affecting the length of the stroke of the blades, and the slight spring of the upright rod l eases the shock of sudden stoppage of the cutter-bar at the end of each vibration and prevents much breakage. An adjustable screw or sliding stop-piece, *q*, is attached to the under back part of the frame above the oblique brace of the drag-bar 4, by which the cutter-bar is stopped at its inner end when raised to a level height, and the outer end raised to a vertical or any other desired position by the lever *p* attached.

The operation of the machine is as follows: Motion being communicated to the wheels B B by drawing the machine over the ground, the pawls *u t* on the wheels move the axle by means of the ratchet-wheels *r r*, the wheel *a*, being fast to the axle, is carried by it, the projections upon it bearing alternately on the ends of the lever *c* cause it to vibrate, which vibration is communicated by rod *d* to lever *e*, which moves the bar *t*, connected to the rod J in the axle. This rod is connected to the rod l, (see Fig. 1,) which is connected to and moves the cutter-bar. The cutter-bar being so placed in line with the axle, is better accommodated to uneven surfaces, and its weight when raised is relieved from bearing upon the team, and by the peculiar arrangement of the machine and self-rising of the oblique brace *y* the space between the wheels under the frame and axle is left entirely open and free to pass

obstructions, and it can be easily converted into a harvester, as it is not necessary to move the cutter-bar from the line of axle, that being the most desirable place for it in the harvester as well as the mower, and the side draft and many other difficulties are thereby overcome.

Having thus described my improved mowing-machine and harvester, what I claim, and desire to secure by Letters Patent, is—

1. The hollow axle D, with one or more connecting openings in it between the main wheels, substantially as herein described, and for the purposes set forth.

2. The arrangement of the escapement-wheel *a* upon the open hollow main shaft, in combination with the main wheels B B, substantially as described herein, and for the purpose set forth.

3. The rods J and l, in combination with the cutter-bar, substantially as herein described, and for the purposes set forth.

4. The pawls *u* and *t*, ratchet-wheels *r r*, and friction or pressure plates *s*, when made self-operating, in combination with a mowing-machine or harvester, substantially as herein described, and for the purpose set forth.

5. The combination of the drag-bar 4 or shoe and self-clearing oblique brace-rod *y*, substantially as herein described, and for the purposes set forth.

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Witnesses:

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