(No Model.) 2 Sheets—Sheet 1.

J. HOBBS.

LAWN MOWER.

No. 262,593. Patented Aug. 15, 1882.

Fig. 1.

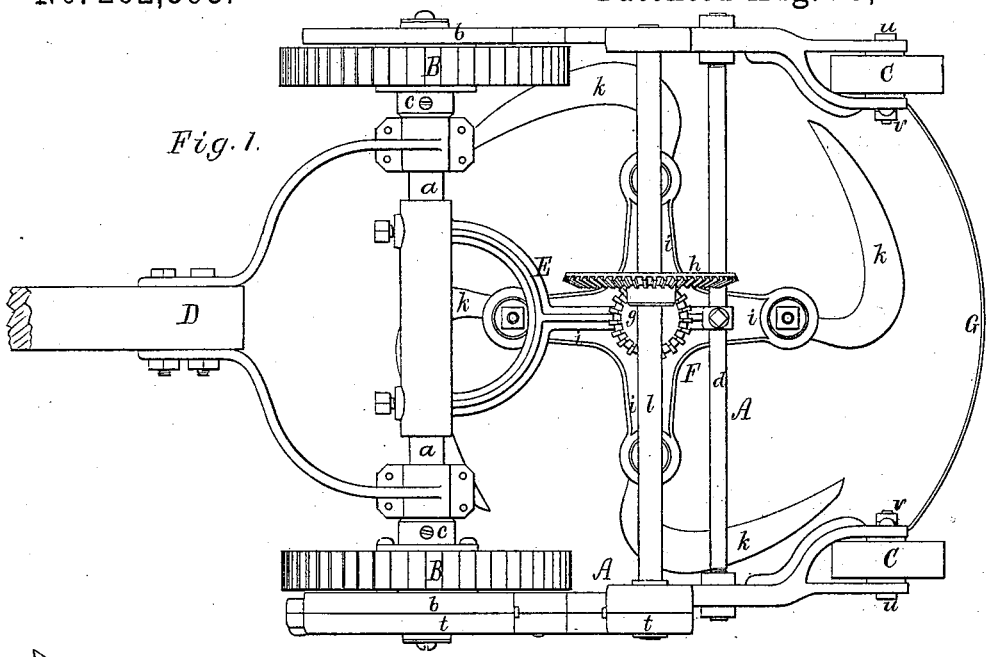


Fig. 2.

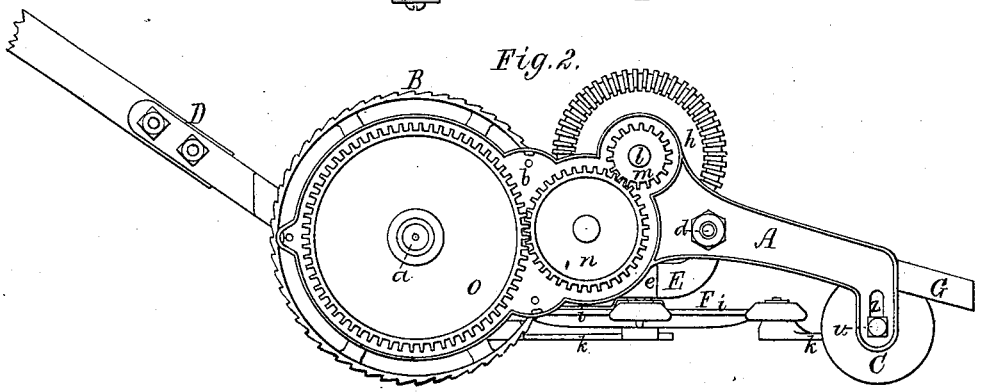
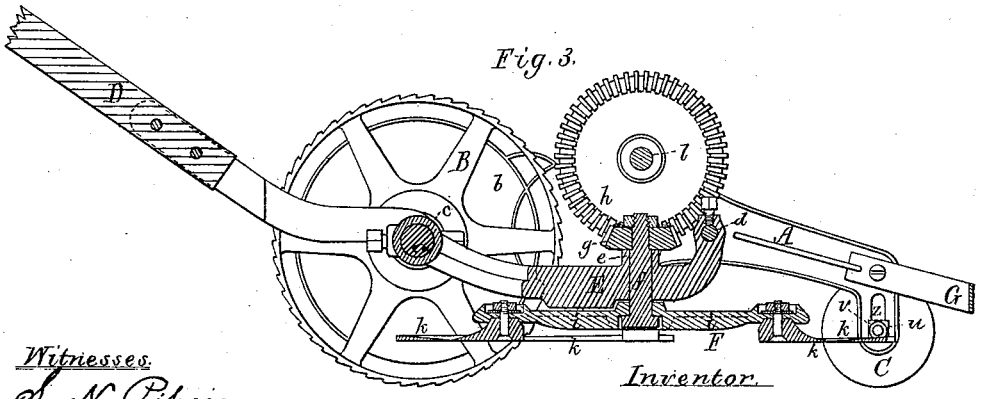


Fig. 3.



Witnesses.
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by R. H. Eddy atty.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

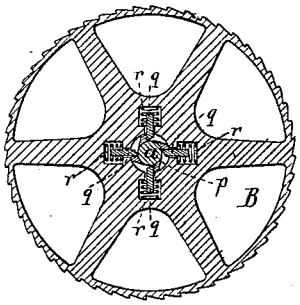


Fig. 7.

Fig. 5.

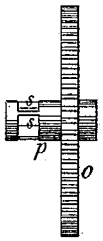
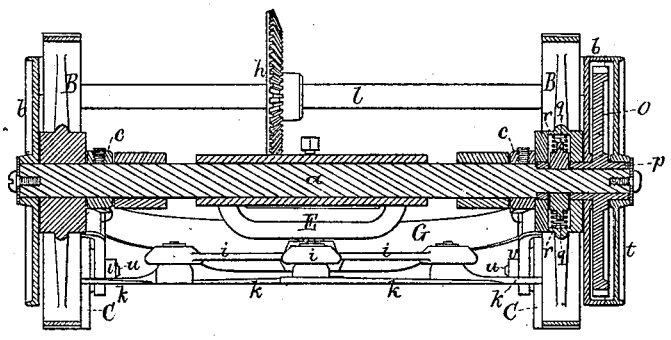


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES HOBBS, OF READING, MASSACHUSETTS.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 262,593, dated August 15, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES HOBBS, of Reading, in the county of Middlesex, of the State of Massachusetts, have invented a new and useful Improvement in Lawn-Mowers; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a longitudinal section, of a lawn-mower containing my invention, the nature of which is defined by the claim hereinafter made. Fig. 4 is a transverse section of the machine, it being taken through the rear rod of the frame or carriage. Fig. 5 is an edge view of the driving-gear *o* and its projecting tubular and notched sleeve *p*, hereinafter described. Fig. 6 is a vertical section of the wheel B, that turns on the sleeve *p*, such wheel being provided with a series of pawls and their springs to operate with the notches of the sleeve. Fig. 7 is a transverse section of the sleeve *p*, showing its notches.

In the drawings, A is an open frame or carriage-body supported by two pairs of wheels, B B and C C, arranged in it, as shown, the rear wheels, B B, being larger in diameter than the front ones. Each of the said rear wheels has a toothed periphery, and one of these revolves freely on a cylindrical rod, *a*, connecting the two side portions, *b b*, of the carriage. The other revolves on a short notched sleeve, *p*, to be hereinafter described. Collars *c c*, fixed on the rod *a*, keep the wheels B B at their proper distances apart. A furcated handle, D, clamped on the rod *a*, extends rearward and upward from it, as shown. Besides the said rod *a*, there belongs to the frame A another rod, *d*, arranged as shown, and serving to connect the side portions, *b b*. Within the frame A, and extending from one to the other of the said rods *a d* and properly fastened to them, is an auxiliary frame, E, for supporting within a suitable bearing, *e*, a short vertical shaft, *f*, which has in its upper part a bevel-pinion, *g*, and on its lower part a cross, F, the four arms *i* of which are equal in length and arranged as represented.

To the outer portion of each of the arms a sickle-blade, *k*, is fixed, the several blades being arranged as shown, the back of each, from its point for about one-half the length of the blade, being curved on the arc of a circle whose center is the axis of the shaft *f*.

The bevel-pinion *g* engages with a bevel-gear, *h*, fixed on a cross-shaft, *l*, duly supported in the carriage. There is fastened on the shaft *l*, at one end of it, a spur-gear, *m*, which, by means of an intermediate gear, *n*, engages with a driving-gear, *o*, fixed on a tubular shaft or sleeve, *p*, arranged to turn freely on the rod *a*. One of the wheels B turns freely on the said sleeve *p*, and has arranged within it, (the said wheel,) as shown, a series of latches or pawls, *q*, each of which is provided with a spring, *r*, to press it toward the sleeve. The said sleeve has four notches, *s*, in it, formed, as shown, to receive the pawls respectively. When the machine is being moved forward the pawls or latches *s* cause the sleeve and its gear to revolve and revolve the intermediate gear, *n*, whereby the spur-gear *m* will also be revolved. As a consequence, the series of sickles will be put in revolution, so as to cut any grass that may be intercepted by them. When the machine is drawn backward the several pawls slip out of the notches of the sleeve, so as to allow the wheel B to revolve on the sleeve, without revolving it. Consequently, at such times the sickles will not be revolved.

The train of gears *m*, *n*, and *o* are covered by one or more caps, *t*, suitably fastened to the adjacent side portion of the frame, which is recessed to receive the gears.

To prevent the bevel-gears from becoming clogged with grass they may also be suitably covered. At the front part of the frame or carriage, and to extend from one side portion of it to the other, is a bar or guard, G, curved and arranged with reference to the series of sickles in manner as represented. This bar, by being a little above and extended a little in front of the path of revolution of the backs of the sickles, prevents the sickles from striking a stone or other impediment, as the bar, while the machine may be advancing, will first be forced against such stone or impediment.

Each side portion, *b*, of the frame A is forked, as shown, at its front part, and the prongs are bent downward. Both prongs are slotted vertically. A screw-bolt, *u*, goes through the slots *z* of the prongs, and is provided with a nut, *v*,

to hold it in place therein. This bolt thus becomes adjustable vertically in the slots. On each of these bolts, and to turn freely thereon, is one of the front wheels, C. By varying the altitude of the two bolts in their slots I can adjust or bring the rotary set of sickles nearer to or farther from the ground, as occasion may require.

Each sickle-blade and its sustaining-arm is essentially like a common sickle.

From the above it will be seen that on the machine being moved forward on a grass plat, with its wheels bearing thereon, the set of sickles will be put in rapid revolution, and that the curved guard will be borne against the grass and will bend it a little forward or down and give support to it while it is caught and cut by the sickles. Thus the guard performs two offices—viz., to sustain the grass while the sickles may be cutting it and to prevent them from striking a stone or other impediment likely to injure them.

Mowers have been made prior to this having a guard for holding the grass for the knives; also, with adjustable trailing wheels, and with driving-wheels connected by pawl and ratchet with the operating mechanism. Hence no broad claim is made to these constructions; but in the improved device which I have devised important advantages are obtained. The guard G and the knives *k*, being in fixed relation, rise and fall together as the wheels C C are adjusted. This adjustment causes the guard and the front knives to move in a curve, and hence the guard, as the wheels move up or the front of the frame is lowered, comes in toward the wheels and closer to the ground, and the knives have an oblique cut. This construction adapts the knives to be changed, so as to give a cut more directly across the grass as it is bent down, instead of striking it horizontally, which is of special use if the grass be soft, thereby cutting, instead of sliding off. Thus it is seen that the guard G is not only a guard, but also a presser, and being adjusted with the knives suits the pressure to the cut, varying with the latter directly; also, by lowering the front of the frame, the guard coming down can be thus adjusted with relation to ground having small stones.

Both the driving-wheels run loosely on the axle *a*, which forms a portion of the mower-frame, and the gear *o* also runs loosely on this axle, one wheel B engaging the sleeve *p* of the latter. Hence, as the wheels and gear move independent of the axle *a*, there is no danger of resistance breaking the gear loose from its connection with the drive-wheel, as the gear *o* is integral with its sleeve *p*, and not simply secured to it.

What I claim as my invention is as follows, viz:

The frame A, having the slotted prongs in front, in combination with the bolts *u*, nuts *v*, wheels C, the series of rotary sickles arranged behind these wheels, and the combined guard and presser G, located in front of the wheels, the guard and the sickles being in fixed relation to the frame, whereby the last two are adjusted together, and the pressure varies directly with the cut, as set forth.

JAMES HOBBS.

Witnesses:
R. H. EDDY,
E. B. PRATT.