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UNITED STATES PATENT OFFICE.

GEORGE M. WILLIAMS, OF NEWARK, DELAWARE, ASSIGNOR OF ONE-HALF
TO EDWARD R. WILSON, OF SAME PLACE.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 345,004, dated July 20, 1886.

Application filed April 21, 1884. Serial No. 128,706. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. WILLIAMS, a citizen of the United States, residing at Newark, in the county of New Castle, State of Delaware, have invented a new and useful Improvement in Lawn-Mowers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 is a side elevation of a lawn-mower embodying my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a side elevation of a detached portion thereof, enlarged. Fig. 4 is a vertical section in line *x x*, Fig. 3. Fig. 15 5 is a top or plan view of Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a lawn-mower having certain means, hereinafter specified, for 20 vertically adjusting the cylinder or rotary cutter.

It also consists of a grass gatherer and dropper.

It also consists of other details of construction, as will be hereinafter fully set forth.

Referring to the drawings, A represents the driving-wheels, having an internally-toothed rim, which, by means of pawl-and-ratchet mechanism and gearing usual in lawn-mowers, 30 imparts motion to the cylinder or rotary cutter C, and serves to render said cylinder inoperative when the mower is run back.

The shaft D of the cutter is mounted on the lower side arms, E, which are sustained by 35 means of upright bars or straps F, the latter having openings *a*, to receive pins or studs *b*, which project laterally from the upper side arms, G, which are of approximately elbow shape, the bends being above. The front limbs 40 of the arms G are continued horizontally forward, and form the bearings for the axles of the pilot or front wheels, H, and the lower ends of the rear limbs have pivoted to them links J, which are also pivoted to the bearings 45 of the axle or shaft D of the cylinder C, the several parts stated being formed of suitable metal.

The arms E are continued rearward in the form of slotted segments K, which support a

grass-gatherer, L, the latter consisting of a pan 50 or box, on the sides of which are rollers or studs M, which project into the slots K' of said segments K, the slots being curved upwardly. To the rear end of the gatherer is attached a rod, N, which extends toward the handle 55 proper of the mower, and is there pivoted to a lever, P, which is conveniently accessible from said handle.

Q represents a scraper which projects into the gatherer L at the rear thereof, and depends 60 from and is secured to arms R, which are pivoted to supports S, rising from the segments K.

Each knife of the cylinder is bent spirally of such pitch that it continues about two-thirds of the cylinder, whereby two knives are 65 always in operation on the bed-knife, the effect of which is the rapid and thorough cutting of the grass without liability of any of the same to escape.

Should it be desired to change the adjustment of the mower, whereby a long or short cut may be made, the bars F, which are somewhat elastic, are forced from the arms G, so that they clear the pins *b*, after which they may be raised or lowered; and when the adjustment is accomplished the bars are sprung 75 or returned into engagement with the pins *b*, and thus the parts are again securely held. As the bars are moved for the adjustment just stated, the arms E and segments K follow the 80 same, and the links J turn on the lower limbs of the arms G as axes, whereby said adjustment is nicely accomplished.

As the grass is cut it falls on the gatherer L, and when a sufficient quantity thereof exists 85 the lever P is operated, the effect whereof is to draw the gatherer rearward and upward, owing to the connection of the same with the segment K, by means of the rollers M in the slots K' of said segments. The said slots have 90 at their upper ends an extension, forming a shoulder, on which the rollers M may be sustained when the said gatherer is tilted. The gatherer is thus tilted, and as it passes the scraper Q the latter sweeps the gatherer and 95 causes the contents thereof to drop on the ground, which operation may occur at regular or irregular intervals, as desired. The lever

P is now let go, whereby the gatherer lowers and returns to its first position.

The arms G increase the strength of the mower and provide convenient means for supporting the pilot or front wheels, attaching the arms F, which sustain the cutting mechanism and the arms E of the gatherer, and the places of connection of the forks of the handle.

The arms E have connected with them a transversely-extending bar, E', on which is supported the bed-knife E'', the latter being adjustably connected with said bar, so as to be set nearer to or farther from the rotary cutter, said knife being slotted, as at a', to receive the screws b', which serve to hold the knife flat on the bar. At the back of the bar is an upright flange, E''', through which are passed screw-bolts E''', the points whereof bear against the back of the bed-knife, whereby the latter is securely held in adjusted position. Projecting from the front of the bar are guards E''', the object whereof is to raise the grass and hold it as it is subjected to the cutting operation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lawn-mower, the cutting devices, in combination with side arms, perforated bars or straps sustaining the same, and arms G, having pins, the said straps or bars being adapted to be sprung onto the said pins, substantially as and for the purpose set forth.

2. A lawn-mower having a tilting grass gatherer and dropper and a scraper thereon, substantially as and for the purpose set forth.

3. Arms with segmental slots, a grass-gatherer with rollers or studs entering said slots, and an operating-lever connected with the gatherer, combined and arranged substantially as and for the purpose set forth.

4. The slotted segments with extensions in the upper ends of the slots K' of said segments, in combination with a grass-gatherer having rollers or studs entering said slots and adapted to rest in said extension when the gatherer is raised, substantially as and for the purpose set forth.

GEORGE M. WILLIAMS.

Witnesses:

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EDWARD R. WILSON.