No. 668,758.

Patented Feb. 26, 1901.

L. E. SHOGREN.

LAWN MOWER.

(Application filed Oct. 14, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

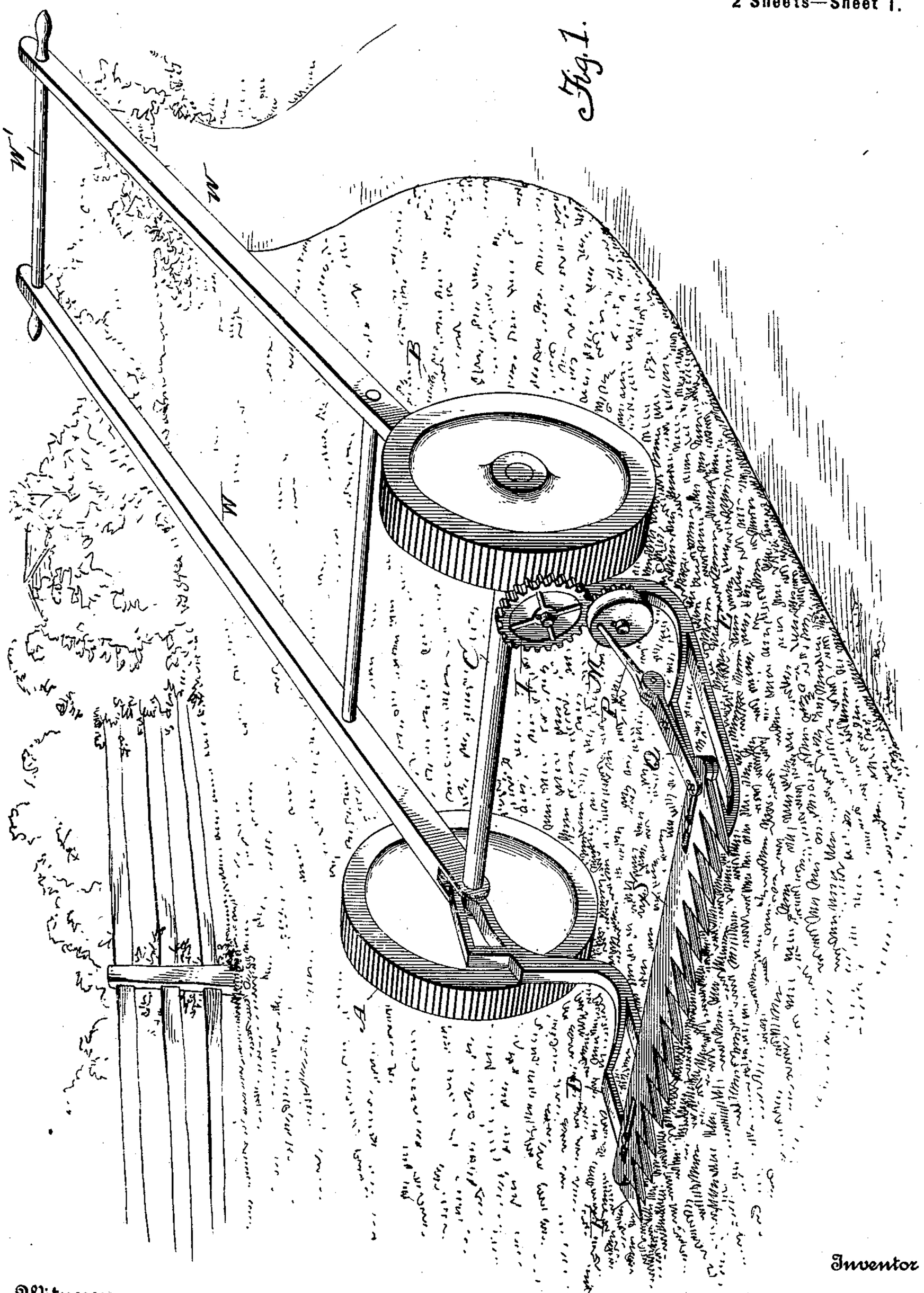

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Fig. 2.

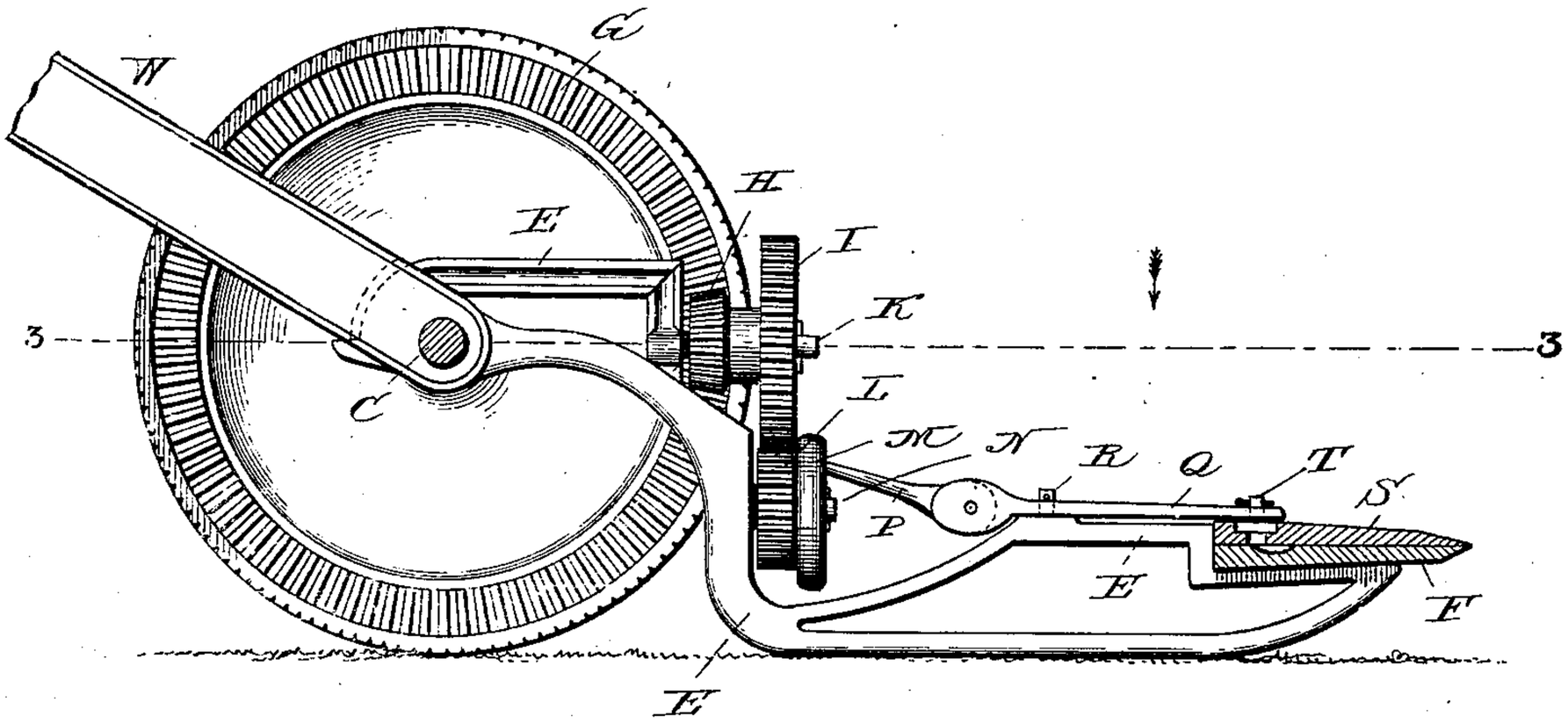


Fig. 3.

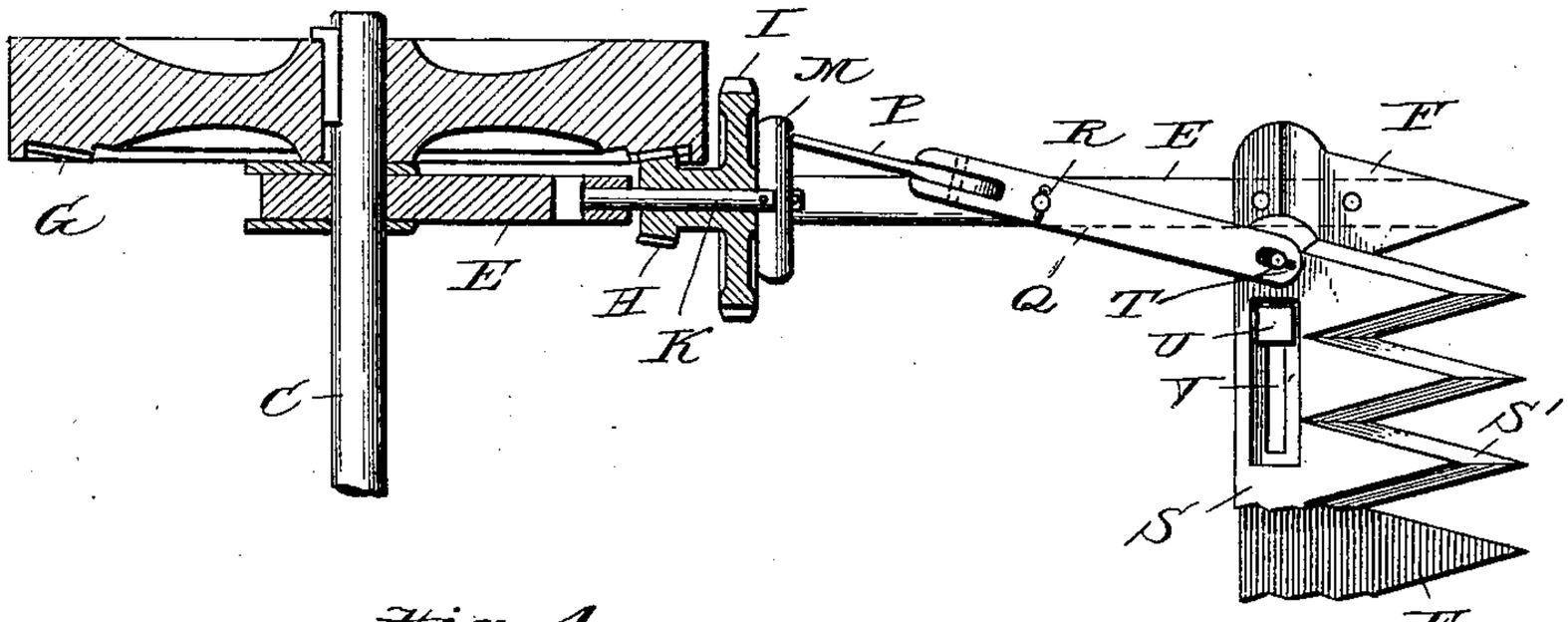


Fig. 4.

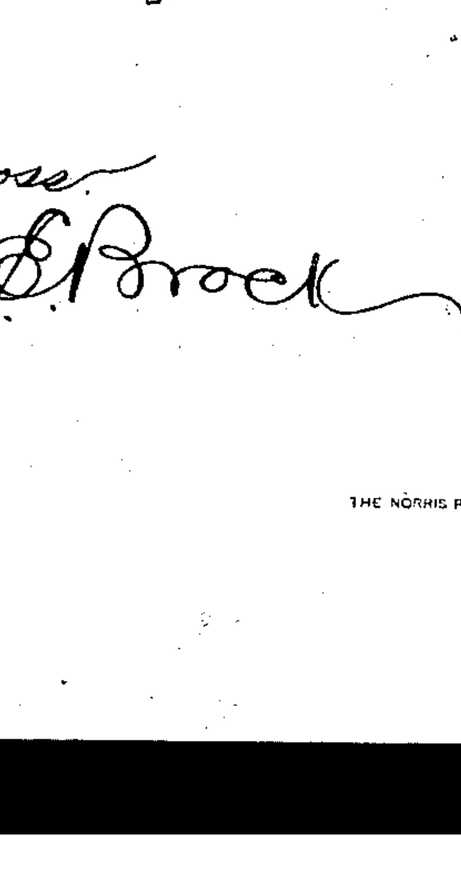
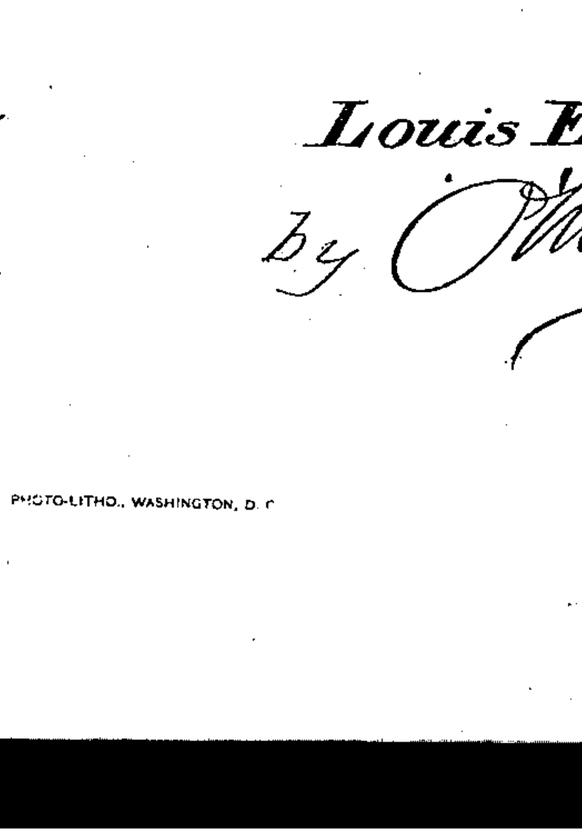


Fig. 5.



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UNITED STATES PATENT OFFICE.

LOUIS E. SHOGREN, OF VERMILION, SOUTH DAKOTA.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 668,758, dated February 26, 1901.

Application filed October 14, 1897. Serial No. 655,136. (No model.)

To all whom it may concern:

Be it known that I, LOUIS E. SHOGREN, residing at Vermilion, in the county of Clay and State of South Dakota, have invented a new and useful Lawn-Mower, of which the following is a specification.

My invention relates to lawn-mowers, and more particularly to lawn-mowers of the class which are provided with reciprocating knife-bars.

The object of my invention is to furnish a lawn-mower of generally improved, simplified, and cheapened construction which shall be constructed of a minimum number of inexpensive parts so strongly made as to render the machine durable and effective in operation.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, having reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a lawn-mower constructed in accordance with my invention in position for practical operation. Fig. 2 is a vertical section through the same from front to rear looking toward the gearing. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2 looking in the direction of the arrow. Fig. 4 is a detail sectional view of the disk for oscillating the knife-bar lever, and Fig. 5 is a detail sectional view through the right-hand end of the cutting apparatus.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A and B are the draft and driving wheels of a lawn-mower, mounted upon a shaft C.

D and E are side frames pivotally mounted on the shaft C, just inside of each of the wheels, projecting forward and serving as end supports for the finger-bar F. The wheel B is provided on its inner side with bevel-gear teeth G, which mesh with a bevel-pinion H, formed in one piece with a gear-wheel I and journaled on a stud-shaft K, projecting from the side frame E. A pinion L, formed in one piece with a disk M, is pivoted upon a second short stub-shaft N, also mounted in the frame E, meshing with the gear-wheel I, whereby the pinion L and disk M are rotated. The disk M is provided with an opening O, which receives the inner end of an arm P, pivoted between the bifurcated inner ends of a lever Q to permit of its vertical oscillation thereon, the lever being pivoted at R to the side of the frame E in a manner to permit of its lateral oscillation thereon.

S is a knife-bar carrying the knives S′ and mounted to slide upon the finger-bar F. The lever Q at its end is longitudinally slotted, and a pin T, passing through said slot into the knife-bar, serves to connect the two together. Bolts U, secured in the finger-bar, pass through slots V in the knife-bar and serve to govern its reciprocation thereon. A handle W is provided at its outer end with cross-bar W′ and has its inner ends forked to embrace the frames D and E and are pivotally connected on the shaft C.

The operation of my invention may be described as follows: When the machine is pushed forward, the draft-wheels will rotate and by virtue of the engagement of the bevel-teeth G with the pinion H will cause the pinion and gear-wheel I to be rotated on the shaft K. The gear-wheel I, meshing with the pinion L, will cause the pinion and the disk M to be rotated on the shaft N. The inner end of the arm P being loosely mounted in an eccentrically-located opening O in the disk M will be carried around in a circle, which will cause it to oscillate vertically in the forked inner end of the lever Q and the lever Q to oscillate horizontally on its pivot R. The forward end of the lever Q being connected, as before described, with the knife-bar will carry the knife-bar with it in its oscillation, thus reciprocating the knife-bar on the finger-bar, it being guided in such reciprocation by the bolts U in the slots V.

From the foregoing description it will be obvious that I have produced a lawn-mower of exceedingly simple and cheap construction, which owing to the fact that its parts

are few and inexpensive may be placed upon the market at a very low price. It will be further observed that all the parts of my improved lawn-mover are constructed in a manner to render them strong and durable, and consequently very little liable to breakage or wear with ordinary usage.

The parts being simple in construction may, when worn or broken, be replaced at very slight expense.

While I have illustrated and described the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown and described, but hold that any slight changes or variations, such as might suggest themselves to the ordinary mechanic, will properly fall within the limit and scope of my invention.

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

A lawn-mower comprising a shaft, ground-wheels at the ends of said shaft, one of said wheels formed on its inner face with gear-teeth, side frames each comprising an arm perforated to loosely receive the shaft, and a foot on a lower plane than the arm, with a vertical connecting-piece between the foot and arm, said foot at its forward end formed on its upper portion with a seat, a finger-bar secured at its respective ends on the seats of the feet of the side frames, a slotted knife-bar mounted to slide on said finger-bar, bolts secured in the finger-bar and passing through the slots in the knife-bar and limiting the movement thereof, a lever intermediately pivoted upon the upper portion of the foot of one of the side frames, and pivotally connected at one end with the knife-bar, a disk mounted on the vertical connection portion of the side frame, and formed with gear-teeth, a link connecting said disk and lever, a disk mounted on the end of the arm of the frame and having gear-teeth meshing with the gear of the first-mentioned disk and with the gear of the ground-wheel, and a handle having side bars which are perforated to receive the shaft and bifurcated to receive the inner ends of the arms of the frame, substantially as described.

LOUIS E. SHOGREN.

Witnesses:
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