

E. G. PASSMORE.  
Lawn-Mower.

No. 216,056.

Patented June 3, 1879.

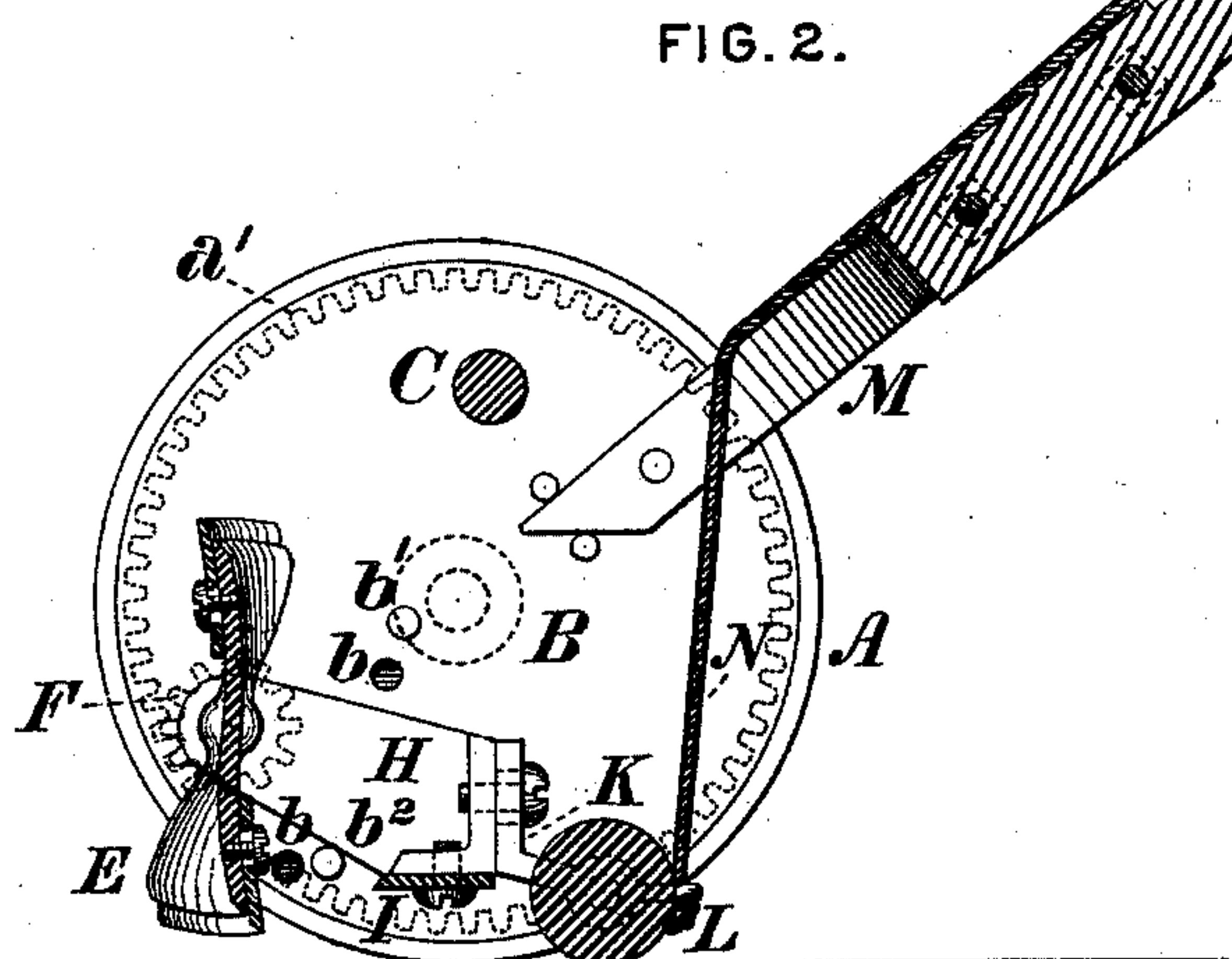
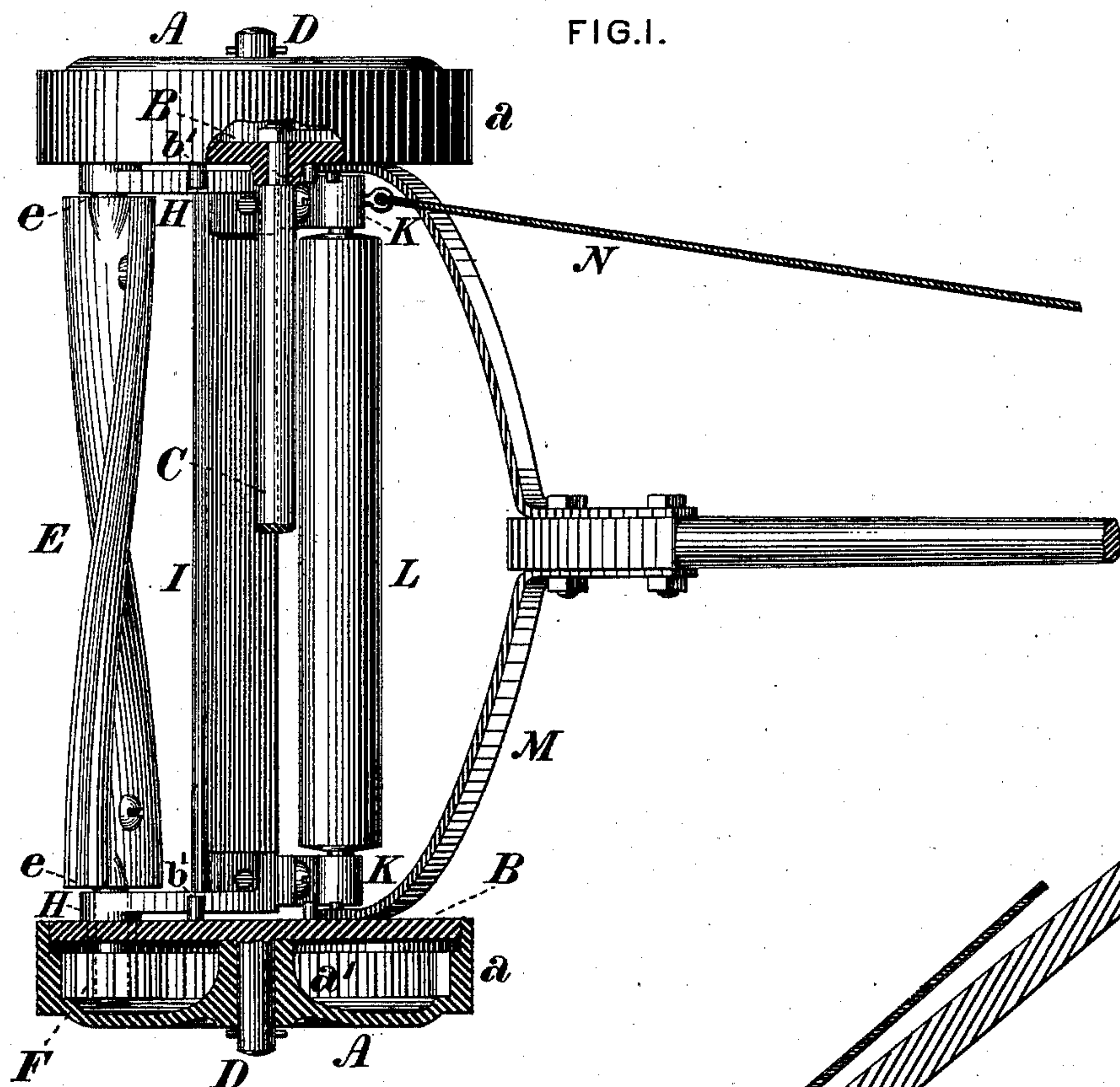
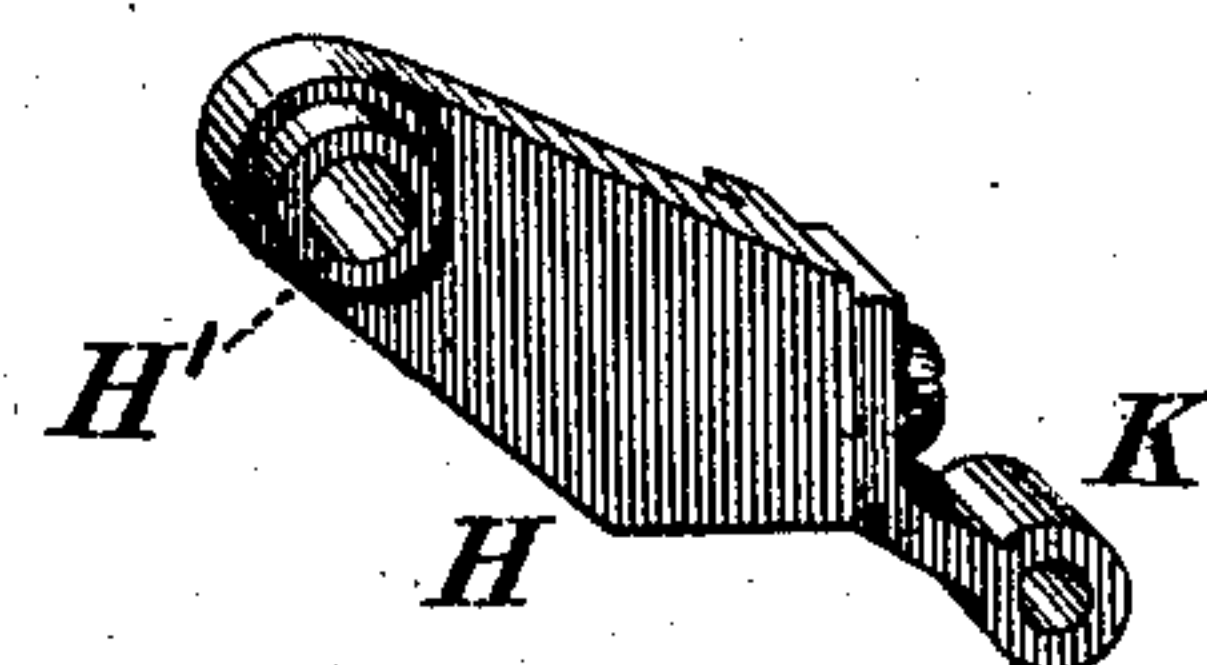


FIG. 3.



WITNESSES.

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*Att'y.*



# UNITED STATES PATENT OFFICE.

EVERETT G. PASSMORE, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN LAWN-MOWERS.

Specification forming part of Letters Patent No. **216,056**, dated June 3, 1879; application filed February 20, 1879.

*To all whom it may concern:*

Be it known that I, EVERETT G. PASSMORE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Lawn-Mowers, of which improvements the following is a specification.

My improvements pertain to that class of lawn-mowers in which the cutting apparatus is so arranged that the line of cut is in advance of the axis of the driving or supporting wheels, and which I may designate as "front-cut" machines, to discriminate them from the class of lawn-mowers in which the line of cut is in rear of the axis of the supporting-wheels, of which latter class an example will be found described in the Letters Patent Reissue No. 8,560, granted to me under date of January 28, 1879, the original patent being dated February 23, 1869.

It is the object of my invention to combine in a front-cut lawn-mower, as above defined, the simplicity of construction and facility in management which I attain in the rear-cut machine by the improvements specified in my above-mentioned Patent Reissue No. 8,560; and to this end my invention consists in mounting the fixed straight cutter in a supplemental frame, independent of the main frame, and pivotal about the axis of the rotary spiral cutter, so that the cutting apparatus may have the operation hereinafter more fully described; and this being the principle of my improvements, I proceed to describe the best mode in which I have contemplated applying that principle, as represented in the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a plan view, partly in section, of a front-cut lawn-mower embodying my improvements; Fig. 2, a vertical central section through the same; and Fig. 3, a view, in perspective, of one of the lugs of the supplemental frame.

Each of the supporting-wheels A A is cast with an inwardly-projecting flange, *a*, and with an internal driving-gear, *a'*. Two disks, B B, are connected by a cross-bar, C, having shoulders on the outside and bolts on the inside of

the disks to hold them firmly in place. Each of the disks B fits snugly in the flange *a* of one of the wheels A, and projecting centrally from the outer face of each disk is an axle, D, which supports the wheel. The rotary spiral cutter E is supported upon trunnions *e e*, which have bearings in the lugs H H of the supplemental frame, to be presently described, through which lugs the trunnions project within the wheels far enough to carry the pinions F F, meshing with the internal gears, *a'*, of the wheels A. Each of the lugs H H has, as shown in Fig. 3, a hollow boss, H', provided with a bearing in the disk B, and affording a bearing to the trunnions *e*, as already described; thus, while making the supplemental frame pivotal about the axis of the rotary spiral cutter, bringing the weight of the supplemental frame upon the bearings of the hollow bosses, and freeing the spiral cutter from any axial weight or strain that would tend to bind it. The main frame thus consists of the disks B B and the cross-bar C, the disks inclosing and protecting the gearing and supporting the wheels, which turn freely on the short axles D. The trunnions *e e* support the rotary spiral cutter E forward of the axis of the supporting-wheels. Between the ends of the rotary spiral cutter and the inner face of the disks B B the lugs H H of the supplemental frame turn upon their bearings in the disks, as already described, and these lugs, with the fixed straight cutter I, constitute the supplemental frame, the straight cutter extending from one of the lugs to the other, and being secured to them at its respective ends, with due provision for any necessary adjustment toward or from the edge of the rotary spiral cutter, the length of the lugs being such relatively to the diameter of the rotary spiral cutter and to the width of the straight cutter as to establish the line of cut at the desired point.

To support the straight cutter in the proper relation to the surface of the ground, I attach to the rear of the supplemental frame two adjustable lugs, K K, in which is mounted a small roller, L, following the straight cutter, in the usual manner. To prevent undue ele-



vation or depression of the straight cutter, I provide in the disks B B holes  $b$   $b$ , both above and below the lugs H H, so that pins  $b^1$   $b^2$ , inserted in these holes, will stop the supplemental frame in either direction.

The bail M is attached to the main frame in rear of the axis of the supporting-wheels, and the machine is pushed forward in the usual manner, the straight cutter being sustained at a substantially uniform height from the ground by the roller L, independent of the elevation or depression of the rotary spiral cutter, and also independent of the main frame and of the movements of the bail which raise or lower the rotary spiral cutter. The operator may raise the supplemental frame at will within the adjusted limits between the stops  $b^1$   $b^2$  by means of the cord N, attached to and extending back from the rear end of the supplemental frame.

While I have thus described my improved machine in its best form, it is to be understood that I contemplate varying the details of construction in such particulars as the form of the main frame—which, for example, may have instead of disks side plates of other shapes—and in place of a roller in rear of the straight cutter, shoes or wheels may be substituted; and, moreover, I contemplate using two wheels, of which only one has gearing instead of both, as in the instance shown.

The essential constituents of my improved lawn-mower are two supporting-wheels, one or both of them being driving-wheels, a main frame, a cutting apparatus consisting of a rotary spiral cutter and a straight cutter, gearing for rotating the spiral cutter, a supplemental frame pivotal about the axis of the rotary spiral cutter and carrying the straight cutter, and a bail or handle by which the machine is pushed forward.

Having thus described the nature and objects of my improvements, what I claim as new, and desire to secure by Letters Patent, is—

1. A lawn-mower in which are combined two supporting-wheels, a main frame, a rotary spiral cutter, a supplemental frame pivotal about the axis of the rotary spiral cutter, a fixed straight cutter, and gearing for rotating the spiral cutter, the combination being and operating substantially as described.

2. The combination, in a lawn-mower, of two supporting-wheels, a main frame, a rotary spiral cutter mounted in the main frame, and a supplemental frame pivotal about the axis of the rotary spiral cutter, substantially as and for the purposes set forth.

3. The combination, in a lawn-mowing machine, of a main frame and a supplemental frame supported on the main frame and pivoted about an axis in front of the axis of the driving-wheels, the combination being and operating substantially as and for the purposes described.

4. The combination, in a lawn-mower, of a main frame, a bail or handle, a rotary spiral cutter governed by the main frame and by the bail or handle, and a supplemental frame raised by the operator independently of the main frame, substantially as and for the purposes described.

5. The combination, in a lawn-mower, of a main frame, a supplemental frame, and a cord for raising the supplemental frame independently of the main frame, substantially as described.

EVERETT G. PASSMORE.

Witnesses:

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