(No Model.)

H. A. SNYDER.

MECHANISM FOR GRINDING BLADES OF LAWN MOWERS.

No. 302,291. Patented July 22, 1884.

Fig. 5

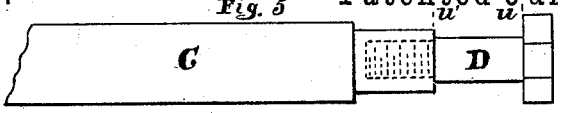


Fig. 1

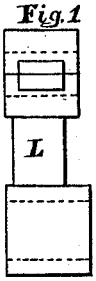


Fig. 2

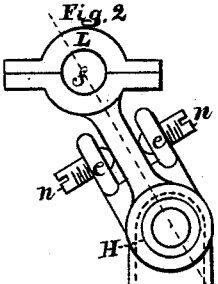


Fig. 3

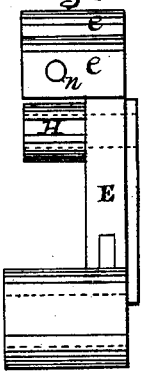


Fig. 6

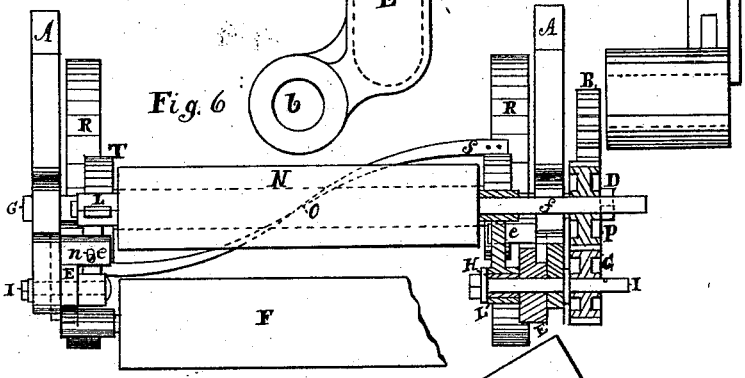
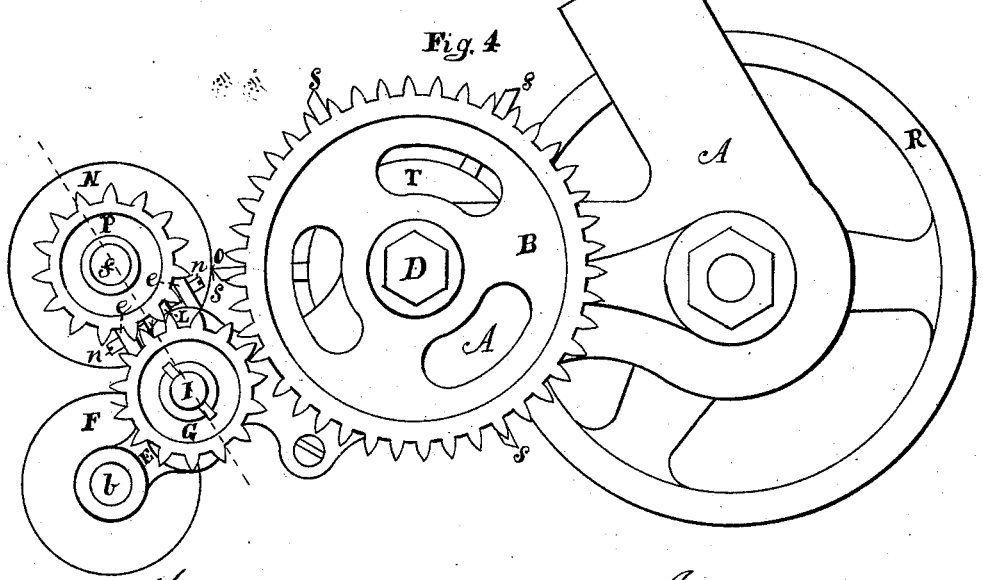


Fig. 4



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UNITED STATES PATENT OFFICE.

HOWARD AUSTIN SNYDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ROBERT C. BARRIE, OF SAME PLACE.

MECHANISM FOR GRINDING BLADES OF LAWN-MOWERS.

SPECIFICATION forming part of Letters Patent No. 302,291, dated July 22, 1884.

Application filed September 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, H. A. SNYDER, of Philadelphia, Pennsylvania, have invented a new and useful Mechanism for Grinding (automatically) the Spiral Blades of Lawn-Mowers, of which the following is a specification.

My invention consists in certain devices so arranged that the surface of a rapidly-revolving cylinder of emery or other grinding substance may be adjusted to and from the spiral blades of lawn-mowers, whereby the said blades are ground automatically, as will hereinafter be shown and specified; and it further consists of other devices for the purpose of driving the said cylinder, as will hereinafter be described.

Figure 1 represents a side elevation of the casting L; Fig. 2, an elevation of the adjusting mechanism, showing the castings L and E, hub H, projecting lugs *e e*, and adjusting-screws *n n*. Fig. 3 represents a side elevation of casting E. Fig. 4 is an end elevation showing the arrangement of driving mechanism. Fig. 5 is an enlarged view of shaft C and bolt D. Fig. 6 represents an elevation of a back view, one end showing a section upon the dotted line, Fig. 4.

The construction and application of my invention to lawn-mowers may be described as follows:

In Fig. 4, A represents the side frame of the mower in part, and D is a stud or bolt which screws into the shaft C of the spiral cylinder of said mower.

B represents a toothed wheel fitted tight upon the stud D and clamped to the shaft C; or said shaft may be extended and to it secured the wheel B, the object being to obtain the rotation of said wheel, which thus provides means for driving the pinion G. There will also be seen in this figure secured to the frame A a casting, E, fitted to said frame, and having an ordinary bearing for the shaft *b* of the common rest-roller, F, said castings being made right and left and attached to both side frames of the mower. The said castings have also projecting lugs *e e*, through which pass the adjusting-screws *n n*. Passing through the casting E and frame A will be seen a stud, I, upon which is fitted the loose pinion G, said pinion being rotated by the toothed wheel B.

In Figs 1, 2, and 3 will be seen the casting L, made in suitable shape, so that its lower end is fitted to oscillate upon the hub H, and its upper end is provided with a bearing for the shaft *f* of the grinding-roller N, said roller being made of solid (or may be covered with) emery or other similar substance, and extends the entire length of the blades, (or a small emery-wheel may be made to travel or reciprocate upon the shaft *f*, if desired,) the said shaft extending outwardly far enough so that, the toothed wheel P being secured thereto, said wheel will mesh into and be driven by the pinion G. It will now be evident that any motion of the shaft C may be communicated to the roller N at an increased rate of speed, and, further, that the said roller will revolve in an opposite direction to that of the shaft C.

In Fig. 2 it will be plainly seen that the casting L passes between the lugs *e e*, and is secured or clamped by the screws *n n*, which thus afford means for adjusting the roller N to and fro upon the hub H, the same supporting and adjusting arrangement being made right and left and attached to the side frames of the mower to complete the appliance.

The operation of my invention will be readily understood from the following:

In Figs. 4 and 6 will be seen the spiral blades *s s* of the lawn-mower turning with the toothed wheel B upon the shaft C in direction of the arrow, the motion of which is imparted to the roller N, as described, the said roller turning in an opposite direction. It will now be evident that if the mower be pushed in a forward direction, thus imparting motion to the shaft C and other mechanism, and if the screws *n n* be so adjusted as to bring the surface of the grinder in contact with the blades at *o*, the object of my invention will be attained.

I claim—

1. In combination with a lawn-mower, the rotating grinder driven by suitable mechanism, substantially as and for the purpose described.

2. The combination and arrangement of the

adjusting mechanism, the grinder, driving mechanism, and lawn-mower, as and for the purpose shown and described.

3. In a lawn-mower grinding mechanism, the combination of the shaft C, carrying the mower-knife, the wheel B, attached to said shaft, the grinder N, the intermediate gearing, and the adjusting mechanism, the whole operating together substantially as and for the purpose described.

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Witnesses:

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