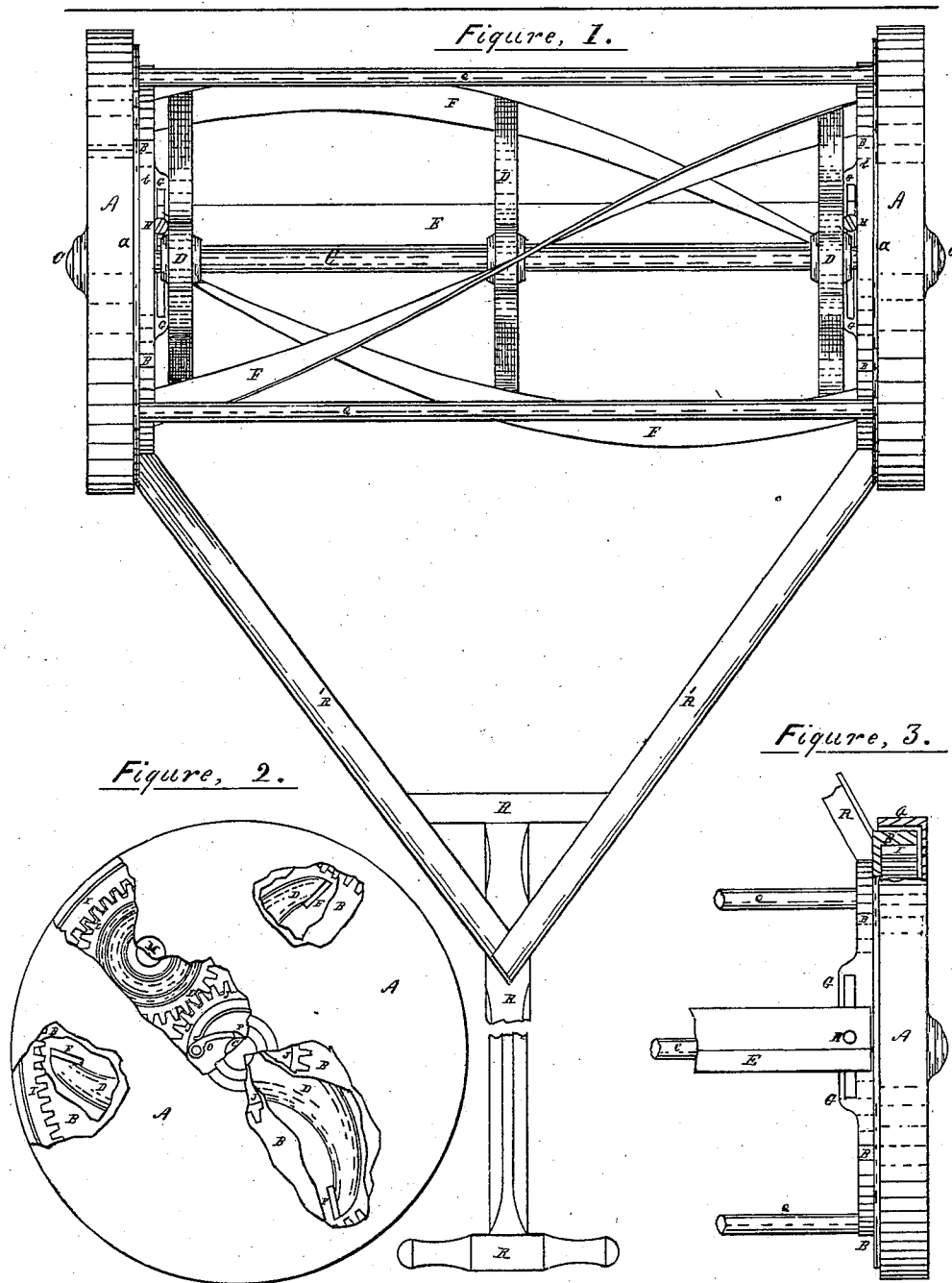


J. C. & C. J. STURGEON.

Lawn-Mowers.

No. 148,260.

Patented March 3, 1874.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN C. STURGEON AND CARSON J. STURGEON, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN LAWN-MOWERS.

Specification forming part of Letters Patent No. **148,260**, dated March 3, 1874; application filed October 16, 1872.

To all whom it may concern:

Be it known that we, JOHN C. STURGEON and CARSON J. STURGEON, of the city and county of Erie, in the State of Pennsylvania, have invented certain new and useful Improvements in Lawn-Mowers and Harvesters, of which the following is a specification:

The invention consists in the combination and arrangement of the operative mechanism of a lawn-mower, as hereinafter more fully described, and pointed out by the claims.

Figure 1 is a plan view of an improved lawn-mower or harvester. Fig. 2 is a face view of the end of one of the driving-wheels, with portions of the face of the wheel broken away, showing the relative positions of the fixed inside spur-gearing and frame, the loose traveling spur-pinions, the central ratchet spur-pinions, and the driving-wheels, and portions of the inside face of the inside spur-gearing broken away show the revolving cutter beyond. Fig. 3 is a view of the edge of one end of the machine as seen from the under side, and also the relative positions of the driving-wheels, the frame and fixed inside spur-gearing, and slots for stationary cutter.

In this machine two driving-wheels, A A, are mounted upon the main shaft of the machine, C, so as to sustain the entire weight of the machine upon them. The shaft C is common to both the revolving cutter D D D and the driving-wheels A A, the driving-wheels A A turning loosely upon said shaft C, and by means of the fixed inside spur-gear wheels B B, the loose spur-pinions L L, and ratchet spur-pinions J J, the driving-wheels communicate motion to the horizontal revolving cutter D, the working part of the machine. In constructing this machine, two fixed inside spur-gear wheels, B B, are cast so as to fit snugly into flanges *a*, cast on the driving-wheels A A for that purpose, the fixed gear wheels B B not fitting tight enough to prevent the driving-wheels from turning freely around them, but tight enough to exclude dust, dirt, and grit from the gearing. The fixed inside spur-gear wheels B B are cast with ribs or flanges *bb* on their inside faces, which project sufficiently to cover the ends of the revolving cutter-blades F F F, and prevent grass and other obstructions from winding around the ends of

the shaft C; and on the under side of the fixed wheels B B adjusting-slots G G are cast, either separately or as part of the flanges or ribs *b b*. In the latter case the flanges *b b* are extended and enlarged sufficiently to form the said adjusting-slots G G, upon which the stationary cutter-bar E is fastened by means of the set-screws H H, so that the stationary cutter-bar E can be raised and lowered to alter the height of the cut. The said fixed inside spur-gear wheels B B also have boxes or bearings in their centers to receive the shaft C of the revolving cutter. The handle R is divided into two arms, R' R', and may be fastened to the inside faces of the said fixed inside gear wheels B B, it may be, by means of set-screws, in such a manner that the handle R may be raised and lowered to suit the operator; and the said gear wheels B B are also connected together, at suitable distance apart, by means of rods Q Q and the stationary cutter-bar E, thereby forming a strong and compact frame for the machine.

The driving-wheels A A are cast with an inwardly-projecting flange, *a*, projecting over and covering the fixed inside gear wheels B B, and thereby forming suitable treads for the wheels, and also with fixed pins or bearings M, at suitable distances from the centers of driving-wheels A A, to receive and support the loose traveling spur-pinions L L, meshing into the inside spur-cogs I I of the fixed gear wheels B B, and also into the ratchet spur-pinions J J on the main shaft, thereby imparting motion to the revolving cutter D D D, the driving-wheels A A turning loosely on the ends of the main shaft of the revolving cutter C, or on a common axis or center with the same.

The cutting apparatus of this machine consists of a spiral cutter, D D D, with blades F F F, keyed or otherwise fastened on the shaft C, and rotating over the edge of the stationary cutter-bar E, forming a shear, and cutting off the grass as the blades F F F pass it.

The shaft C passes through the boxes or bearings in the centers of the ends B B of the geared frame, and carries the ratchet spur-pinions J J, which mesh into the loose spur-pinions L L, attached to the driving-wheels A A, and also carries the driving-wheels A A upon its ends.

The gearing of this improved machine is

made up of the fixed geared wheels B B, constituting the ends of the frame, having boxes or bearings in their centers to receive the shaft C, and inside spur-gearing I I, (see Figs. 2 and 3,) in combination with the loose traveling spur-pinions L L, turning on the pins or bearings M M, fixed in the driving-wheels A A, and the ratchet spur-pinions J J on the central shaft C. The loose traveling spur-pinions L L, meshing into both the fixed inside spur-gearing I I and the ratchet spur-pinions J J, and the driving-wheels A A, carrying around the traveling spur-pinions L L, impart the motion of the driving-wheels A A to the revolving cutter D D, and the central spur-pinions J J, being provided with pawls O, which, when the machine is moved forward, catch in the ratchets P in the main shaft C, and when the machine is backed pass over the ratchet P, allowing the revolving cutter D to remain at rest.

In operation, the operator seizes the handle R and pushes the machine before him, and the rotary cutters F F F, working against the stationary cutter E, shear off the grass.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The wheels B B, cast with flanges *b b*, extending out a sufficient distance to cover the ends of the cutter-blades F, to prevent grass and other obstructions from winding around the shaft C, as and for the purpose specified.

2. The combination, substantially as set forth, of the frame with fixed gearing B B, horizontal revolving cutter journaled in boxes or bearing in centers of said fixed inside geared wheels B B, stationary cutter-bar mounted directly on said fixed wheels B B, and with loose driving-wheels, carrying loose spur-pinions, mounted directly on the shaft of the revolving cutter, or on a common axis or center with said cutter.

In testimony whereof we have hereunto subscribed our names.

JOHN C. STURGEON.
CARSON J. STURGEON.

Witnesses:

J. C. JOHNSON,
HENRY MURPHY.