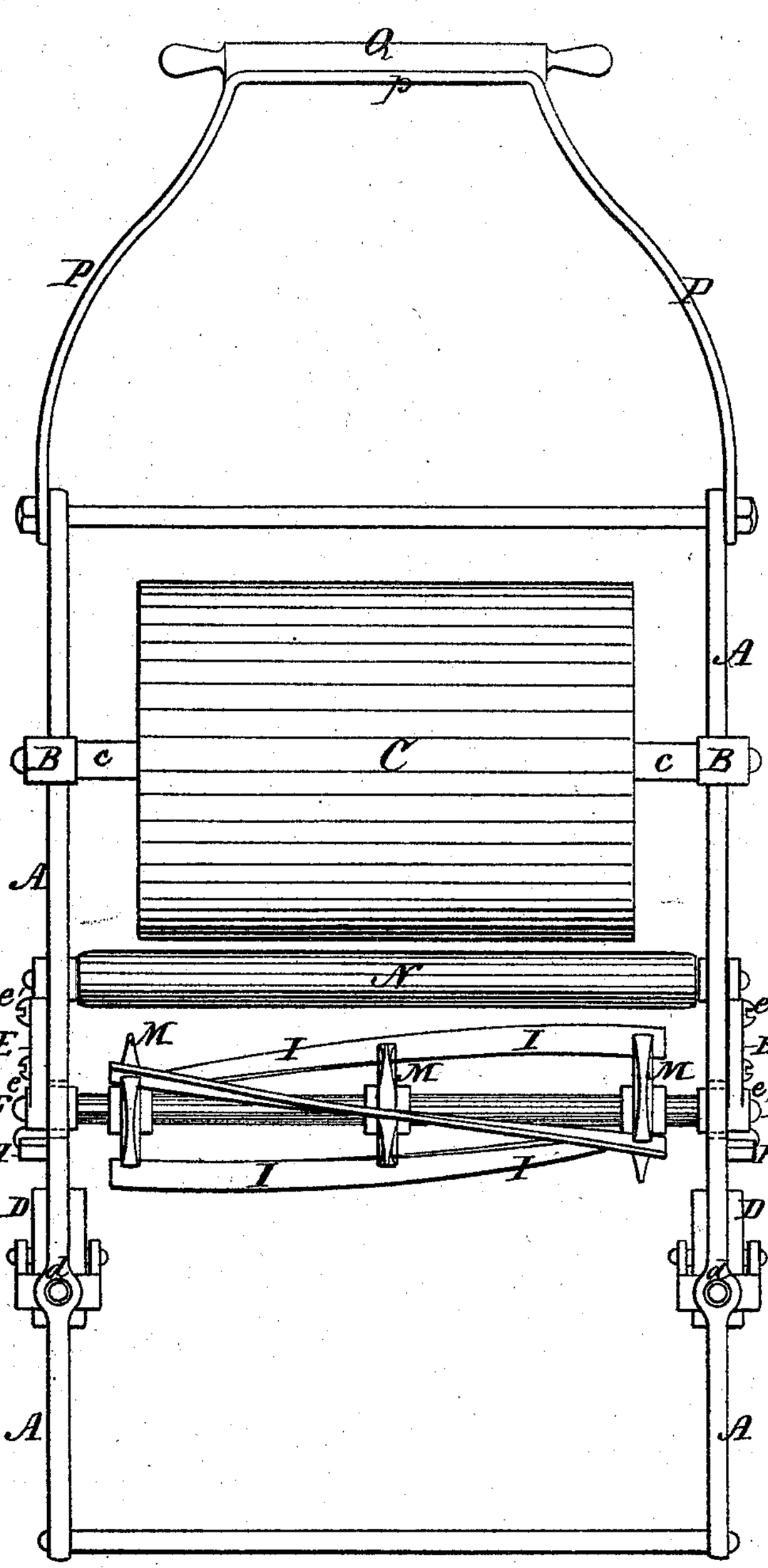
2 Sheets--Sheet 1.

T. COLDWELL & G. L. CHADBORN.

Lawn-Mowers.

No. 136,969. Patented March 18, 1873.

Fig. 1.



Witnesses

Edmund Masson

John R. Young

Inventors.

T. Coldwell and G. L. Chadborn,

by Prindle and Co, their Attys

2 Sheets--Sheet 2.

T. COLDWELL & G. L. CHADBORN.

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Fig. 2.

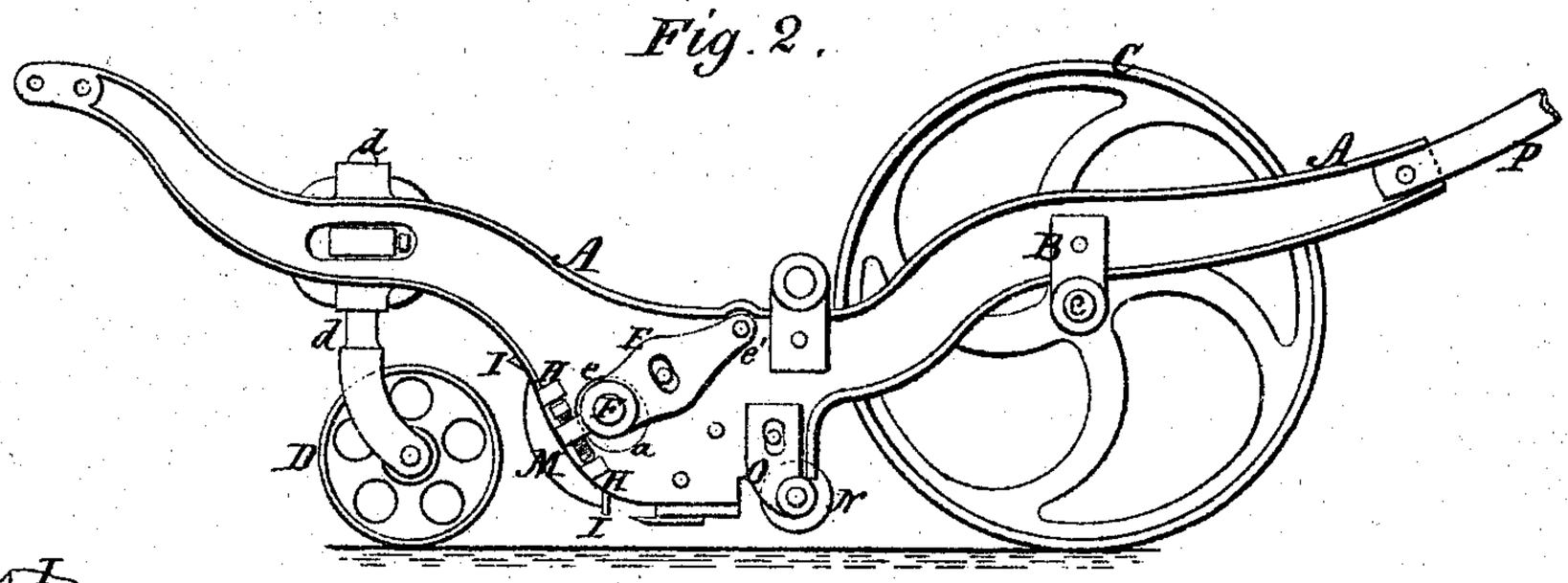


Fig. 4.

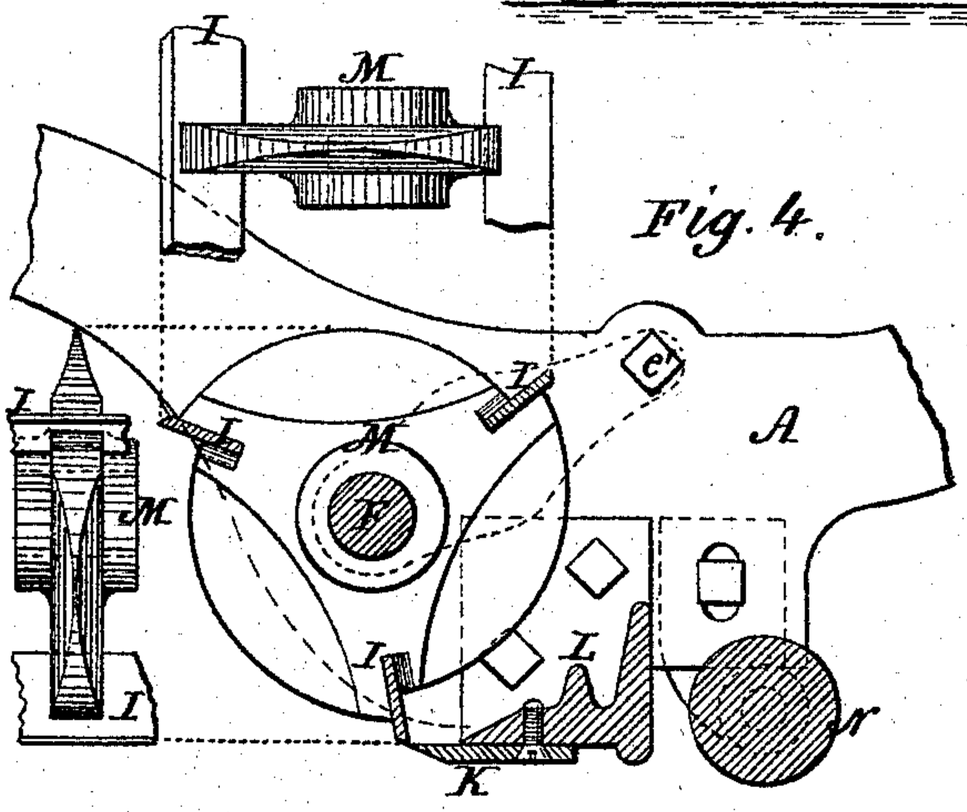


Fig. 3.

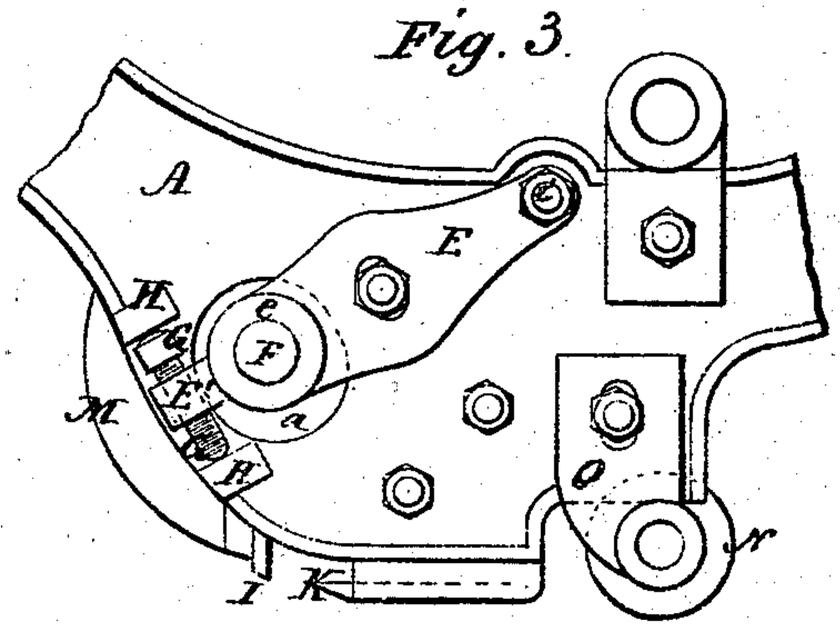


Fig. 5.

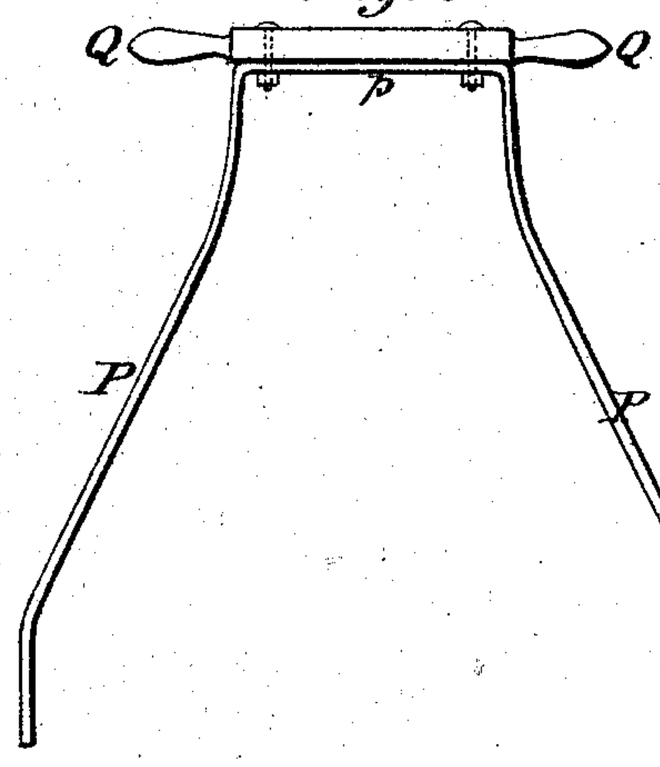
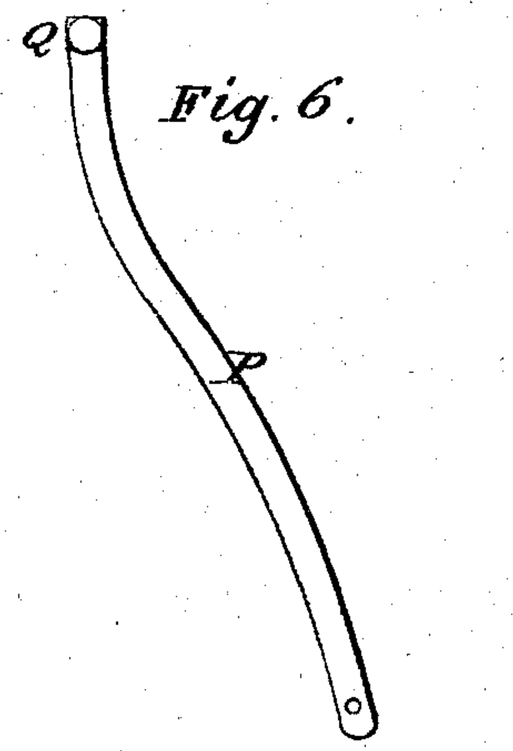


Fig. 6.



Witnesses.

Edmund Masson.

John R. Young

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T. Coldwell and G. L. Chadborn,

by Prindle and Larkin

Attys

UNITED STATES PATENT OFFICE.

THOMAS COLDWELL AND GEORGE L. CHADBORN, OF NEWBURG, N. Y.

IMPROVEMENT IN LAWN-MOWERS.

Specification forming part of Letters Patent No. **136,969**, dated March 18, 1873.

To all whom it may concern:

Be it known that we, THOMAS COLDWELL and GEORGE L. CHADBORN, of Newburg, in the county of Orange and in the State of New York, have invented certain new and useful Improvements in Lawn-Mowers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of the upper side of our improved device. Fig. 2 is a side elevation of the same. Fig. 3 is a like view of the central portion of said device, showing the parts enlarged. Fig. 4 is a vertical central section, upon a line extending from front to rear; and Figs. 5 and 6 are, respectively, a plan view and a side elevation of the handle of the machine.

Letters of like name and kind refer to like parts in each of the figures.

The design of our invention is to increase the efficiency and durability of lawn-mowers, and to render them more easy of operation; and it consists, principally, in the means employed for rendering the revolving cutter adjustable toward or from the bed-knife, substantially as and for the purpose hereinafter set forth. It consists, further, in the peculiar construction of the cutter-heads, substantially as and for the purpose hereinafter shown and described. It consists, finally, in the peculiar construction of the handle, and its combination with the frame of the machine, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A and A represent the frame sides, suitably connected together at their front and rear ends, and provided in rear of their longitudinal centers with two bearings, B, within which are journaled the shaft *c* of the driving-roller C. The front end of the frame is supported upon or by means of two caster-wheels, D, the vertical bearings *d* of which are suitably journaled within the sides A, at points corresponding in position to the bearings B. Pivoted at one end, to or upon the outer side of each frame side A, at its upper edge, and near its longitudinal center, is a plate E, which from thence extends downward and forward, and at its opposite end is provided with a bearing, *e*, which receives the journaled end of the cutter shaft F, which shaft extends outward through an opening, *a*, formed in and through said frame side, the size of said opening being such as to permit said shaft to move for a certain distance with the free ends of its bearing-bars upon a line concentric to the pivotal bearing *e'* of the latter. Within a lug, E', secured to and extending outward from the free end of the bearing-bar E, is provided a threaded opening, that receives a correspondingly-threaded screw, G, the ends of which extend outward at a right angle to the line of said bearing-bar, and in a vertical plane, and are contained between two lugs, H, that are secured to or upon the outer face of the frame side.

As thus constructed and combined, it will be seen that by turning the screw G to the right or left its longitudinal position will be unchanged, but the outer end of the bearing-bar E will be raised or lowered, and with it the cutter-shaft F. The object of this arrangement of parts is to enable the cutters I to be adjusted toward or from the bed-knife K, which latter is secured to or upon a knife-bar, L, that in turn is attached to the frame sides A. The cutters I are preferably arranged spirally within or upon three or more cutter-heads, M, which latter, as seen in Fig. 3, have each a general circular form, with the portions of its periphery between said cutters reduced upon a circular line that extends from near the radial center of one cutter to the heel of the next cutter in front. The object of this construction is to give clearance to the cutters, and to prevent the head from rolling down the grass, as would be the case if its periphery extended outward to or near the edge and front side of the cutters.

The operation of the heads is still further improved by chamfering each side of the portions between the cutters, so as to cause them to present a wedge-shaped edge to the grass, and readily divide the same.

The arrangement of the driving-roller and caster-wheels upon opposite ends of the frame insures steadiness of motion, and prevents the slight inequalities of the surface of the ground from being duplicated upon the surface of the shaven grass; but it sometimes occurs that said roller and casters will simultaneously drop into low spots, so as to cause the bed-

knife to strike the ground, and, by being sprung upward against the cutters, injure, if not break, the same. To remedy this difficulty we journal a guard-roller, N, within two boxes, O, which are attached to and made vertically adjustable upon the frame sides A, immediately in rear of the knife-bar L.

The roller being adjusted so as to bring its periphery somewhat below the line of the bed-knife, it will be seen that when the machine is passing over uneven ground said roller will form a bearing for its central portion, and prevents all contact of said bed-knife with the ground.

Attached to the rear ends of the frame sides A are the opposite ends of a rectangular metal bar, P, which from thence extends rearward, upward, and inward to a suitable distance, and then across in a line at right angles to the draft. Upon the rear central portion *p* is secured a wooden bar, Q, which extends laterally outward in either direction, and forms bearings for the hands.

From the peculiar form of the handle P, great strength and rigidity are obtained by the use of a comparatively small weight of metal. The improvements described add materially to the efficiency and durability of the machine without correspondingly increasing the cost.

Having thus fully set forth the nature and merits of our invention, what we claim as new is—

1. The means employed for rendering the revolving cutter adjustable toward or from the bed-knife, consisting of the pivoted bearings E, provided with the threaded lugs E′, the screws G, working in said lugs, and the lugs H, secured to or upon the frame A, and embracing the ends of said screws, substantially as set forth.

2. The cutter-heads M, having their peripheries reduced in front of the cutters, and their edges chamfered, in the manner and for the purpose substantially as shown and described.

3. The handle shown, consisting of the sides P and cross-bar *p*, formed of one piece, and combined with the frame sides A and bar Q, substantially as and for the purpose specified.

In testimony that we claim the foregoing we have hereunto set our hands this 19th day of February. 1873.

THOMAS COLDWELL.
GEO. L. CHADBORN.

Witnesses:
GEO. S. PRINDLE,
JOHN R. YOUNG,
JOHN W. BUSHFIELD,
CHAS. CALDWELL.