

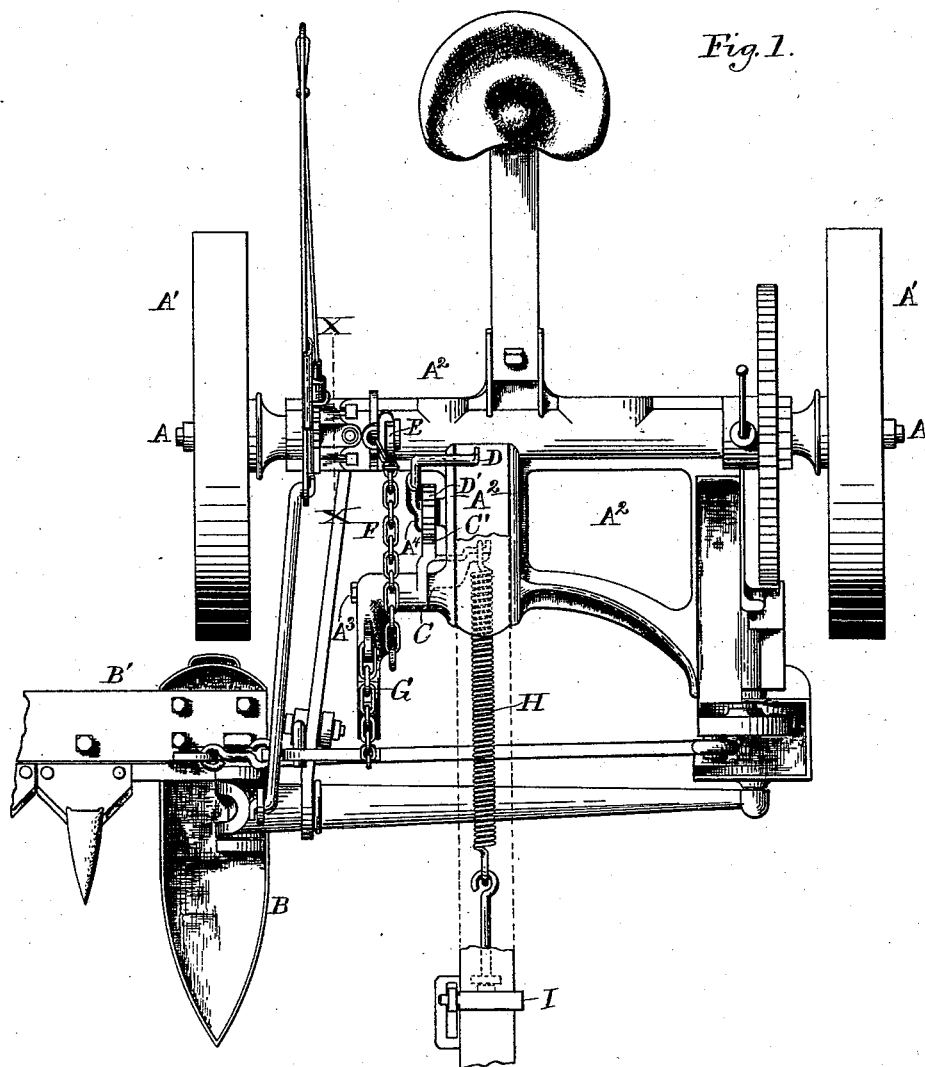
(No Model.)

2 Sheets—Sheet 1.

J. MACPHAIL.
MOWER.

No. 423,435.

Patented Mar. 18, 1890.



Witnesses:

H. E. Hollister.
E. F. Dowling.

Inventor:

James Macphail,
per L. L. Morrison,
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

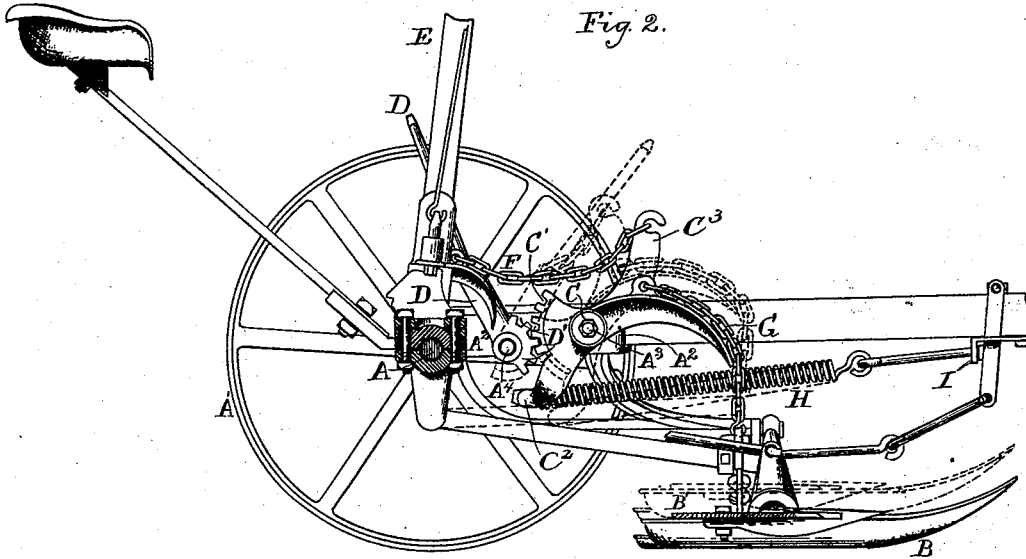
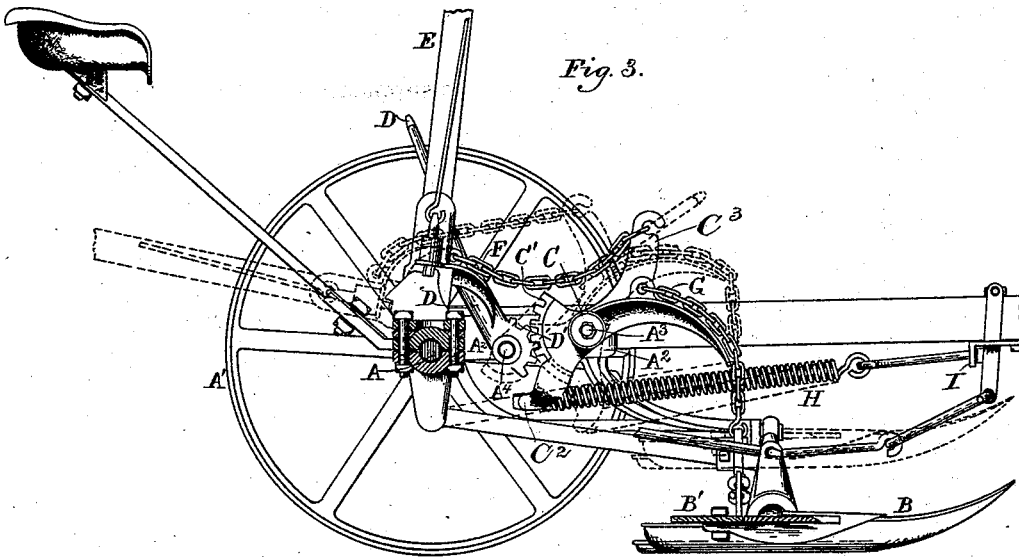


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES MACPHAIL, OF ROCKFORD, ILLINOIS.

MOWER.

SPECIFICATION forming part of Letters Patent No. 423,435, dated March 18, 1890.

Application filed December 4, 1889. Serial No. 332,594. (No model.)

To all whom it may concern:

Be it known that I, JAMES MACPHAIL, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Mowers, of which the following is a specification.

My invention relates to means for raising and lowering the cutter-bars of mowers; and it consists of certain new and useful features of construction and combinations of parts, hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a plan view of the principal parts of a mower provided with my improvement. Figs. 2 and 3 are views of elevations of the same, the parts to the left of the line X X in Fig. 1 being removed, the former indicating by dotted lines the parts and movements necessary to raise the cutter-bar by means of the foot lifting-lever, the latter indicating in like manner the parts and movements required to raise the cutter-bar by means of the hand lifting-lever or the hand lifting-lever and foot lifting-lever in conjunction.

Like letters of reference indicate corresponding parts throughout the several views.

A¹ A' A² are respectively an axle, the wheels, and frame of a mower of the usual or any suitable form and construction.

A³ A⁴ are horizontal bearings, preferably integral with and mounted on the mower-frame A² forward of the main axle.

B is the inner shoe of a mower.

B' is a finger-bar fragment secured thereto.

C is a lifting-cam provided at its rear portion with the segment-gear C', the backwardly, downwardly, and obliquely extending arm C², and at its upper portion with the upwardly-extending arm C³, and said cam C is mounted on the bearing A³.

D is a foot lifting-lever provided at its lower end with the counterpart segment-gear D', meshing with the segment-gear C' of the lifting-cam C, and mounted on the bearing A⁴.

E is a hand lifting-lever mounted on the frame of the mower.

F is a chain connecting the free end of the arm C³ of the lifting-cam C with the hand lifting-lever E.

G is a chain connecting the lifting-cam C with the finger-bar B'.

H is an auxiliary spring extending from the free end of the arm C² of the lifting-cam C to the bracket I, which is fast to the tongue of the machine. Obviously it is not material what particular form of fastening is used where I have employed the bracket I. The function of the spring H is to assist the operator in raising and lowering the finger-bar B'.

Whenever it is desired to partially raise the finger-bar to pass obstructions or turn corners in mowing, the operator will press his foot on the foot lifting-lever. If, however, it is desired to raise the finger-bar to its upper limit the operator will press the hand lifting-lever to supplement the work of the foot lifting-lever.

I claim—

1. In combination, the mower-frame having bearings A³ A⁴ mounted thereon forward of the main axle, the finger-bar, the lifting-cam provided at its rear portion with the segment-gear C' and the backwardly, downwardly, and obliquely extending arm C², and mounted on the bearing A³, the foot lifting-lever provided at its lower end with the segment-gear D', meshing with the segment-gear C' of the lifting-cam C, and mounted on the bearing A⁴, the connection between the finger-bar and lifting-cam, the auxiliary spring extending from the lifting-cam to the bracket on the tongue of the machine, and the necessary parts for operatively connecting the same together and with the machine, substantially as and for the purpose specified.

2. In combination, the mower-frame having bearings A³ A⁴ mounted thereon forward of the main axle, the finger-bar, the lifting-cam provided with the segment-gear C' and the backwardly, downwardly, and obliquely extending arm C² at its upper portion, with the upwardly-extending arm C³, and mounted on the bearing A³, the foot lifting-lever provided with the counterpart segment-gear D' and mounted on the bearing A⁴, the connection between the finger-bar and lifting-cam, the auxiliary spring connecting the lifting-cam with the bracket on the tongue of the machine, the hand lifting-lever mounted on the machine-frame, and the chain for connecting the hand lifting-lever with the free end of the arm C³

of the lifting cam, when all of said parts are adapted and arranged to operate substantially as and for the purpose specified.

3. In combination, the mower-frame provided with bearings A³ A⁴, the lifting-cam C, mounted on the bearing A³ and provided with the segment-gear C', the foot lifting-lever D, mounted on the bearing A⁴ and provided with the segment-gear D', the auxiliary spring H, connecting the lifting-cam C with the fastening I on the tongue of the machine, the hand lifting-lever E, mounted on the mower-frame, and the chain F, connecting the lifting-cam C with the hand lifting-lever E.
4. In combination, the mower-frame having the horizontal bearings A³ A⁴, the lifting-cam C, mounted on the bearing A³ and provided

with the segment-gear C', the foot lifting-lever D, mounted on the bearing A⁴ and provided with the segment-gear D', auxiliary spring H, connecting the lifting-cam C with the bracket on the tongue of the machine, the hand lifting-lever E, mounted on the mower-frame, the chain F, connecting the lifting-cam C with the hand lifting-lever E, the finger-bar B', and the chain G, connecting the same with the lifting-cam C, all of said parts being adapted and arranged to operate substantially as and for the purpose specified.

JAMES MACPHAIL.

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