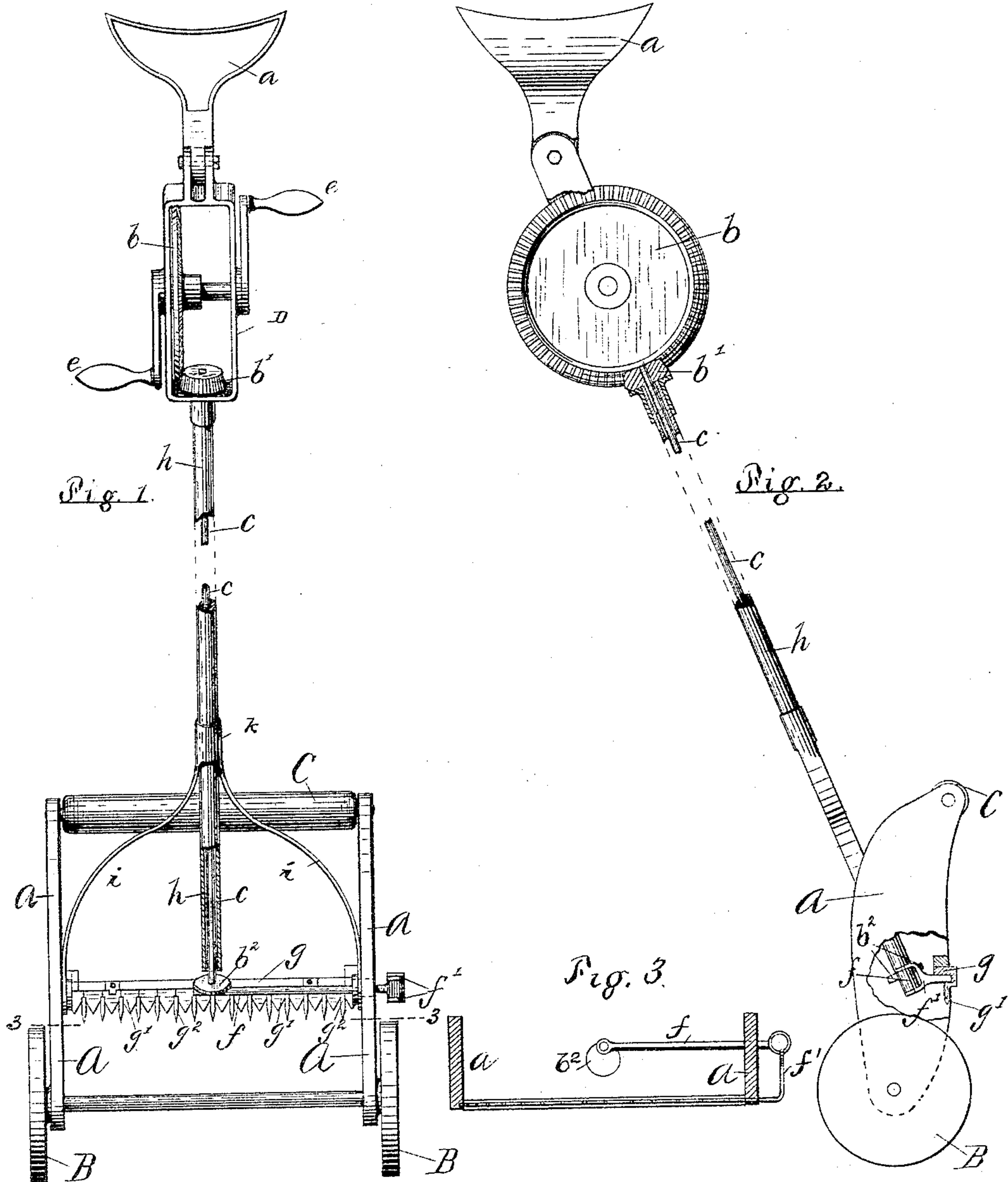


(No Model.)

N. A. BATCHELLER.  
LAWN MOWER.

No. 437,809.

Patented Oct. 7, 1890.



Witnesses.  
Ellis  
Geo. E. Waldo.

Inventor  
Nelson A. Batcheller



# UNITED STATES PATENT OFFICE.

NELSON A. BATCHELLER, OF BLACK RIVER FALLS, WISCONSIN.

## LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 437,809, dated October 7, 1890.

Application filed January 9, 1890. Serial No. 336,457. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON A. BATCHELLER, a citizen of the United States, residing at Black River Falls, in the county of Jackson and State of Wisconsin, have invented certain new and useful Improvements in Lawn-Mowers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to lawn-mowers; and the construction herein claimed, while shown as applied to a machine having a reciprocating cutting apparatus, is equally applicable to machines having rotary cutters.

Heretofore many forms of lawn-mowers have been devised, but in the majority motion is given the cutter by the movement of the machine—that is, through driving connection between the supporting-wheels and the cutting apparatus. A few forms have been devised in which the cutting apparatus is set in operation by the hand of the person pushing the machine, and is therefore independent of the motive power propelling the same. Machines of this latter class are deficient in operation and ineffective in result as heretofore constructed by reason of the difficulty experienced in obtaining sufficient power to easily operate the cutters when mowing tough grass, the same being due to lack of proper connections between the source of power and the cutter, and it is therefore the object of my invention to provide a device simple in construction, of few parts, but very efficient.

The invention therefore consists in certain details of construction and arrangements of parts, all hereinafter fully described, and set forth specifically in the claim.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the machine, partly in section. Fig. 2 is a side elevation, a portion being broken away to more clearly illustrate the working parts. Fig. 3 is a vertical section on line 3 3, Fig. 1.

In the drawings the frame of the machine is shown as composed of two side plates A A, preferably of iron, having bearings formed at

or near one end for the axle of the wheels B B, forming the front supports for the machine, and at the other end for the supporting-roller C.

Supported at each end in the frame-plates A A is a frame *g*, adapted to support the cutter-bar, said frame *g* being preferably grooved to afford a channel in which the sickle-bar *g'* may slide. Said sickle-bar is provided with ordinary teeth and guards *g*<sup>2</sup>. One end of said sickle-bar is bent to form an upwardly-extending arm *f'*, preferably bifurcated, between the forks of which is secured one end of a horizontally-extending arm *f*, for a purpose hereinafter to be described.

Suitably secured to the inside of the frame-plates A A are bent pieces *i i*, terminating at their upper ends in a sleeve *k*, through which passes and is secured the handle *h* of the machine. This handle is preferably formed of gas-pipe and has fitting over its upper part the lower end of a frame forming the upper part of said handle. Between the sides of this frame and upon a suitable shaft is arranged a bevel-gear *b*, meshing with a transverse bevel-gear *b'*, arranged upon the upper end of an inclined shaft *c*, which passes entirely through said handle and has bearings near the upper and lower ends thereof. Upon the lower end of said inclined shaft *c* is a transverse disk *b*<sup>2</sup>, provided with a crank-pin on its lower face, which is in engagement with the inner end of the horizontal arm *f*, before referred to.

Attached to each end of the shaft carrying the wheel *b* are cranks *e e*, having suitable handles to which power is applied to reciprocate the cutter, the same being transmitted through the intermediate mechanism referred to.

As a further improvement I bolt to the upper end of the handle a yoke or frame *a*, the same being so attached as to swing in a vertical plane. It will be readily seen, therefore, that the operator can propel the machine by pushing with his breast against this frame and at the same time have free use of his hands to operate the cutting apparatus. This pivoted breast-frame is particularly applicable to those machines where both hands are used to apply the power to move the cutting apparatus, and hence is broadly claimed as a part of the present invention.



It will be readily seen that when power is applied to the handles *e e* the same will be transmitted through the wheels *b b'* and shaft *c* to the disk *b<sup>2</sup>*, which, through the crank-connection with the rod *f*, will move the same back and forth, thus imparting a reciprocating movement to the sickle-bar.

I am aware that heretofore it has been proposed to impart motion to the reciprocating cutter by means independent of the propelling power by pivoting upon one side of the handle a wheel meshing with a wheel upon one end of a horizontal shaft and adapted to transmit motion to a wheel upon the opposite end of said horizontal shaft, which is in operative connection with the long arm of bell-crank lever pivoted to the frame and having its short arm attached to the cutter-bar, whereby the same is reciprocated. I am also aware that other forms of lawn-mowers having reciprocating cutter-bars are old. The constructions heretofore used, however, are defective, for the reason that the power of only one hand of the operator can be applied thereto, as the other hand will have to be used to steady the machine and hold up the handle, and, second, by reason of the power being applied to only one end of the wheel-shaft the difficulty in keeping the machine steady when rough work is to be done is very great, as when strain is applied the machine is apt to be dragged out of a straight line. In my device, however, by securing the wheel between the sides of the handle and provid-

ing two cranks both hands can be used to apply the power and at the same time steady the machine, the same being impelled by pressure against the breast-frame.

I am further aware that it is old to form the end of the handle of a mower of such a shape as to facilitate the application of pushing-power to it; but I am not aware that a pivoted breast-frame, in combination with double cranks, has ever before been used; but it will be readily seen that it is an essential feature of a machine in which both hands of the operator are to be used simultaneously in applying power to move the cutters, and the combination is therefore herein claimed, broadly, without reference to any particular kind of cutting apparatus.

I claim as my invention—

In combination with the handle of a lawn-mower and suitable cutting apparatus, a wheel having bearings in said handle, hand-crank, one upon each side of said wheel, for rotating the same, driving-connections between the wheel and the cutting apparatus, and a breast-frame pivoted to said handle and adapted to swing in vertical plane, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NELSON A. BATCHELLER.

Witnesses:

W. C. JONES,  
T. H. PHILLIPS.