

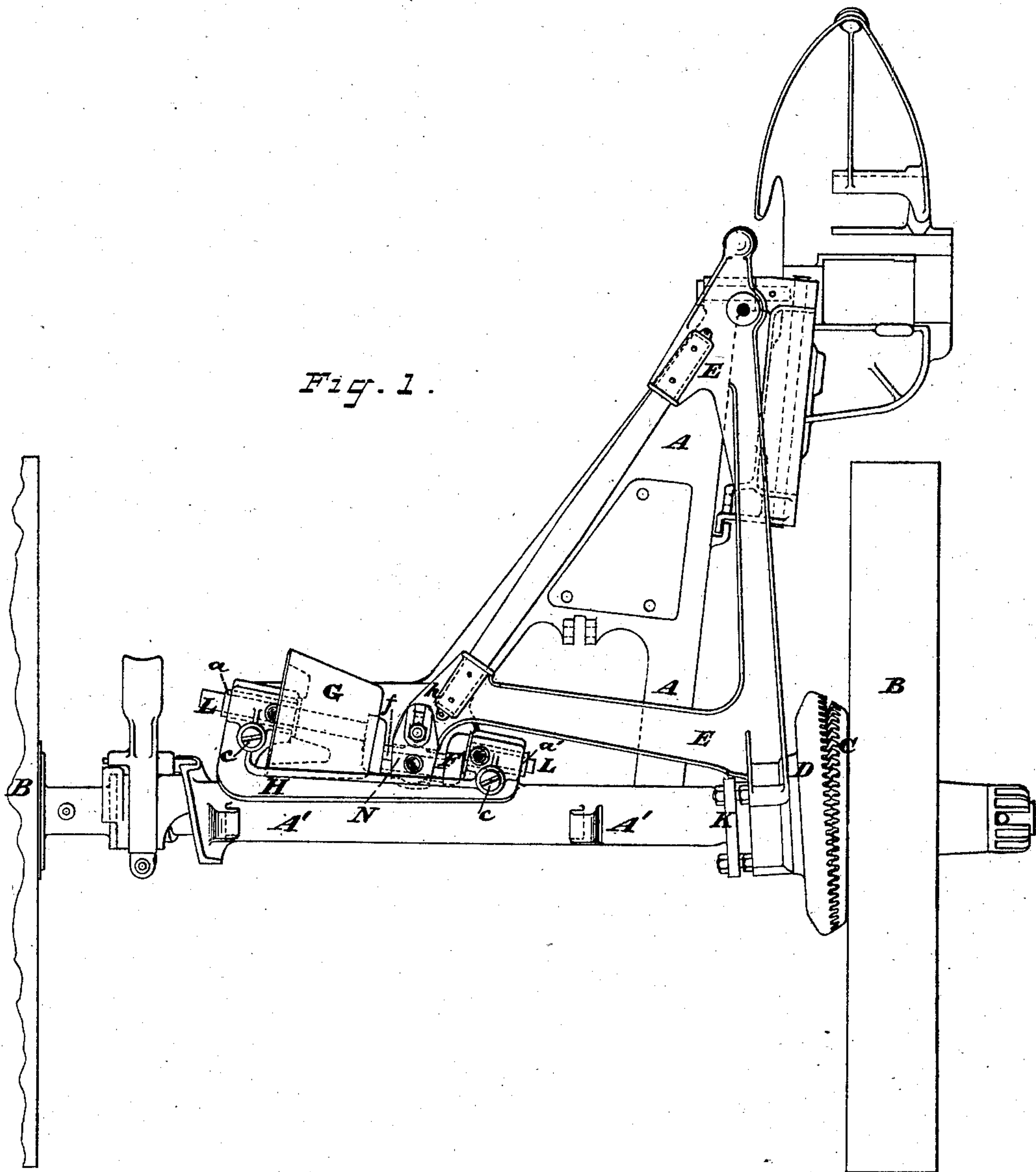
(No Model.)

2 Sheets—Sheet 1.

R. DUTTON.
Mowing Machine.

No. 241,634.

Patented May 17, 1881.



ATTEST,

Samuel Lea
John White

INVENTOR,

Rufus Dutton
Per S. D. V. T. Sam
Atty

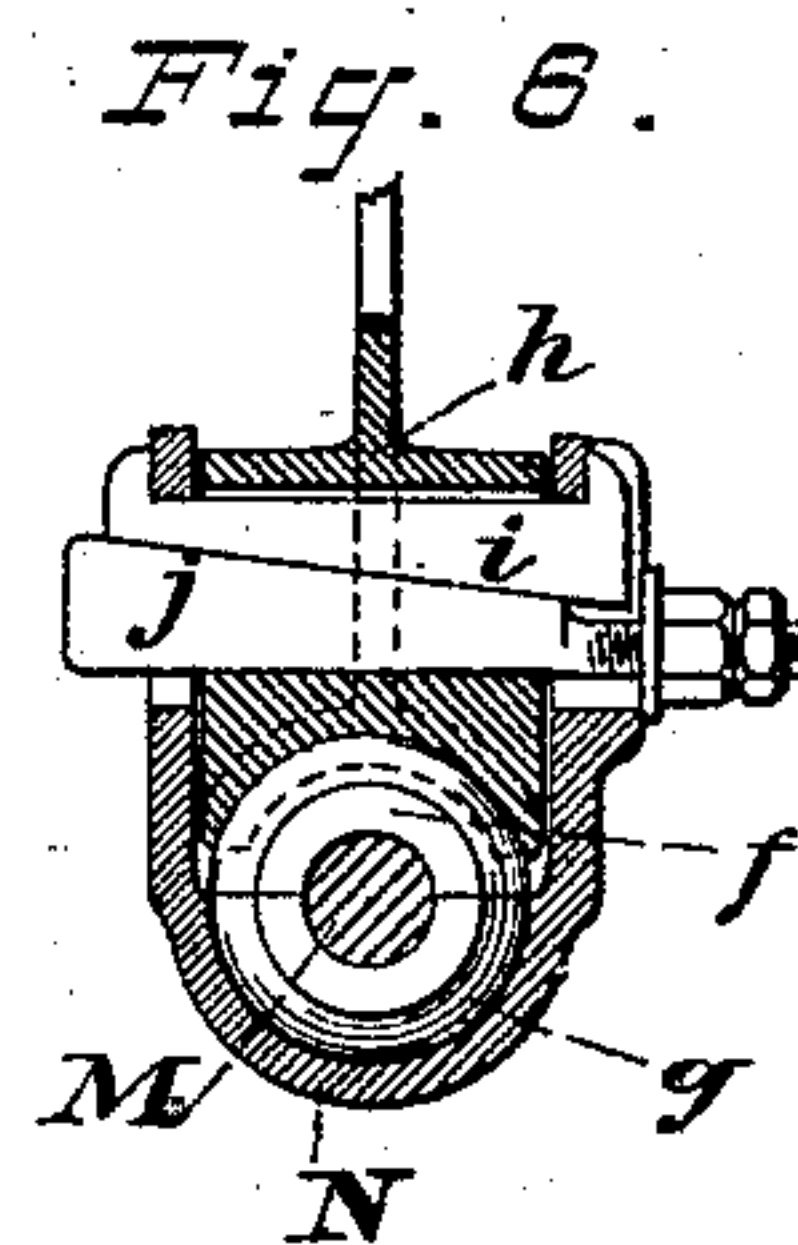
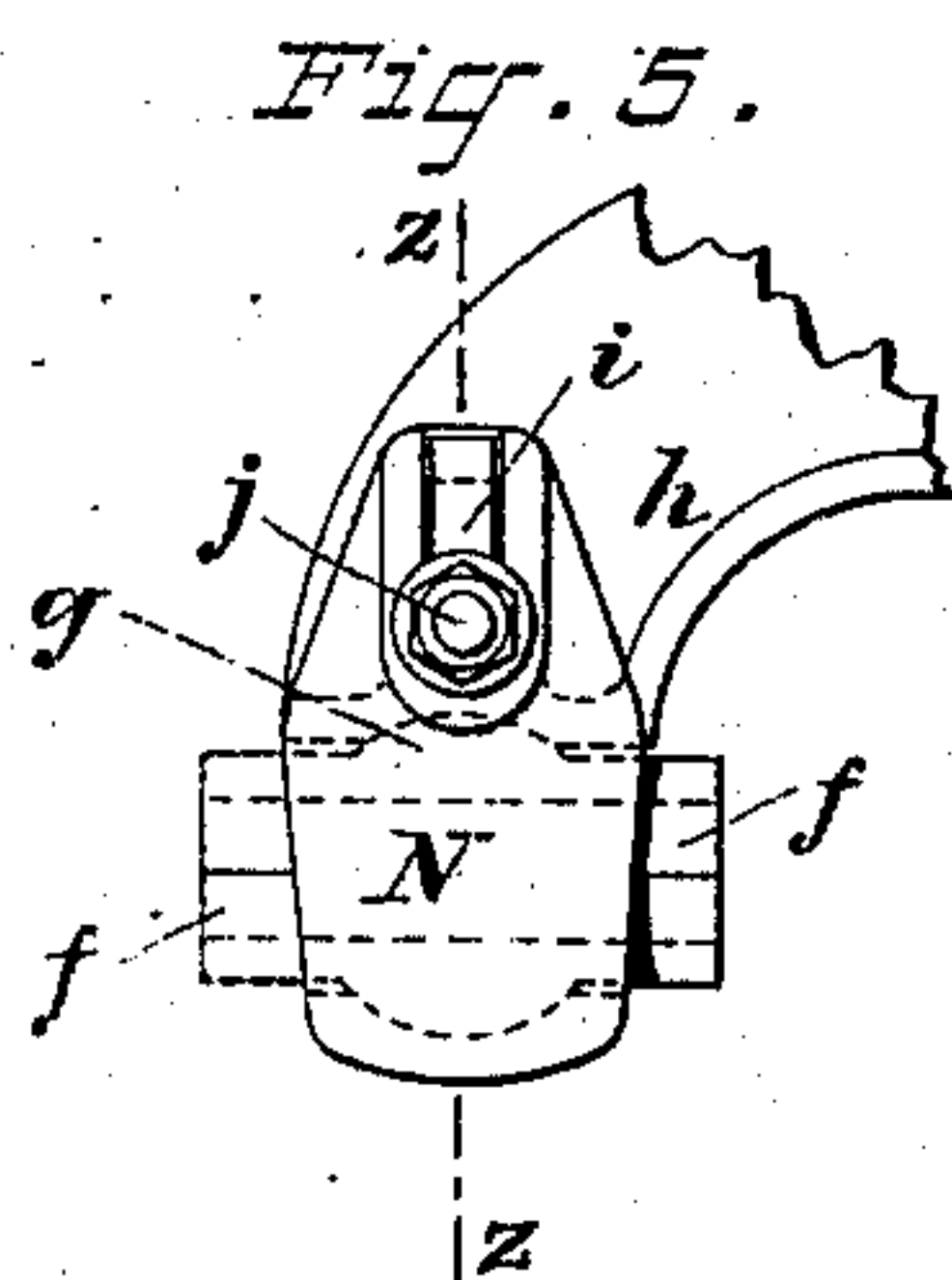
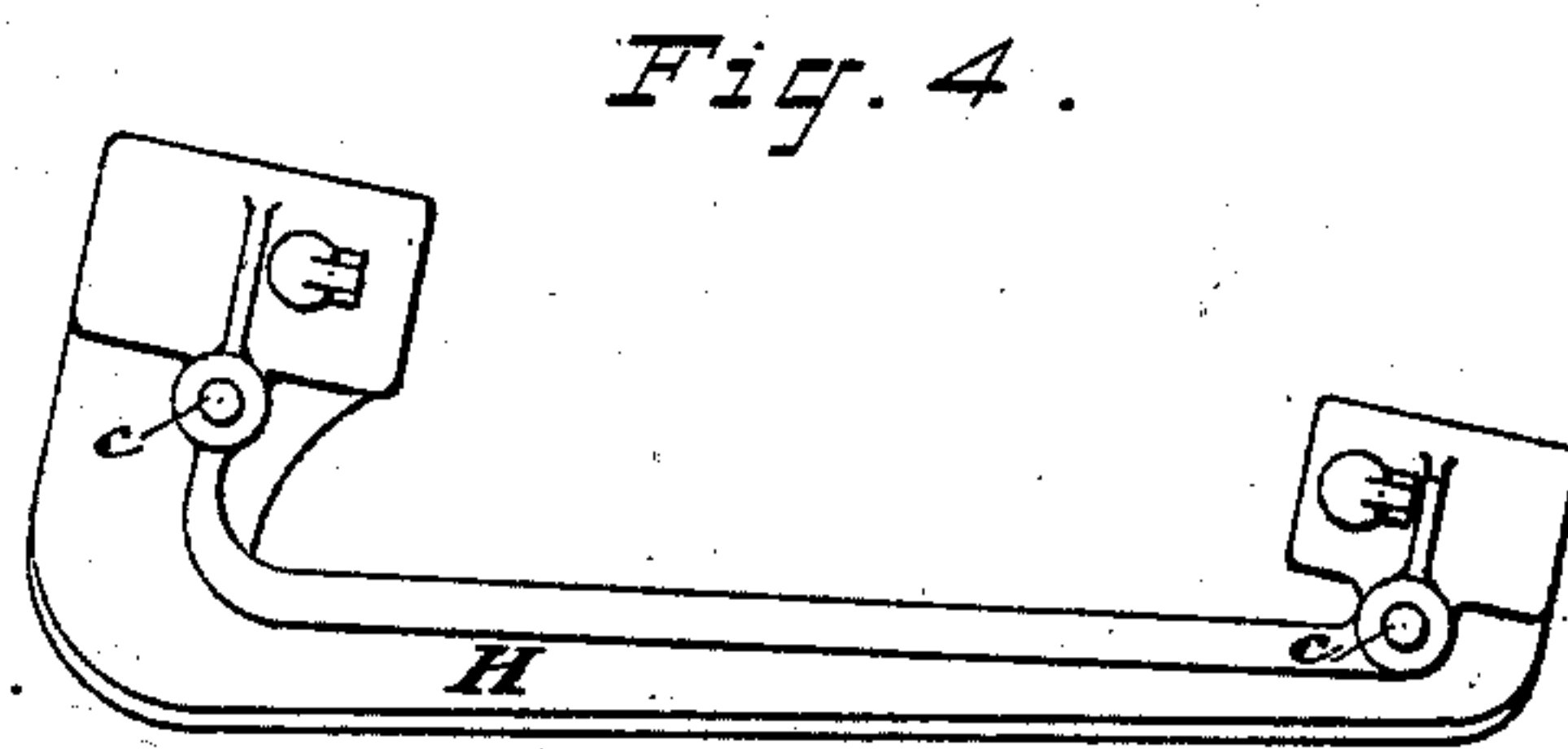
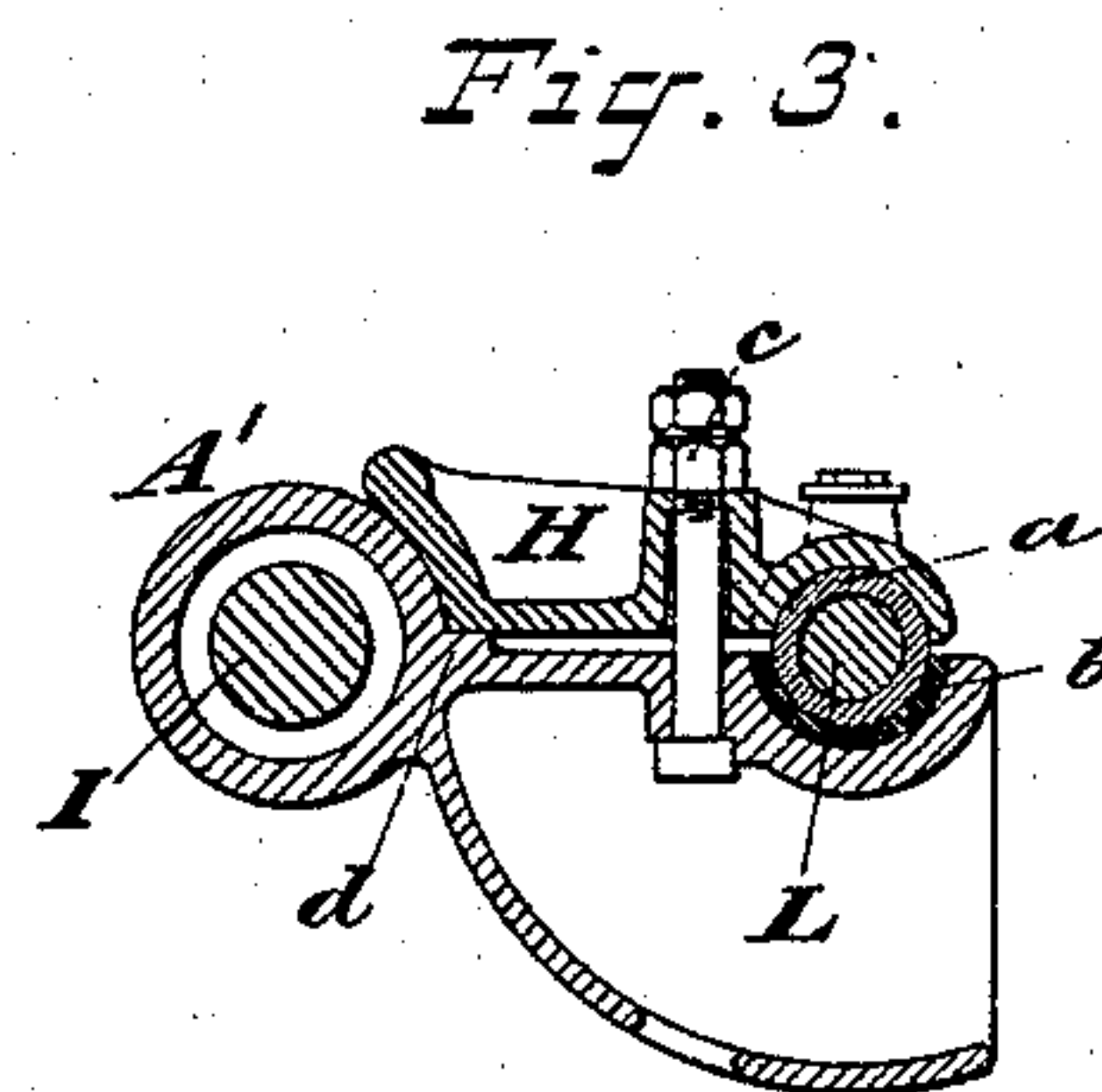
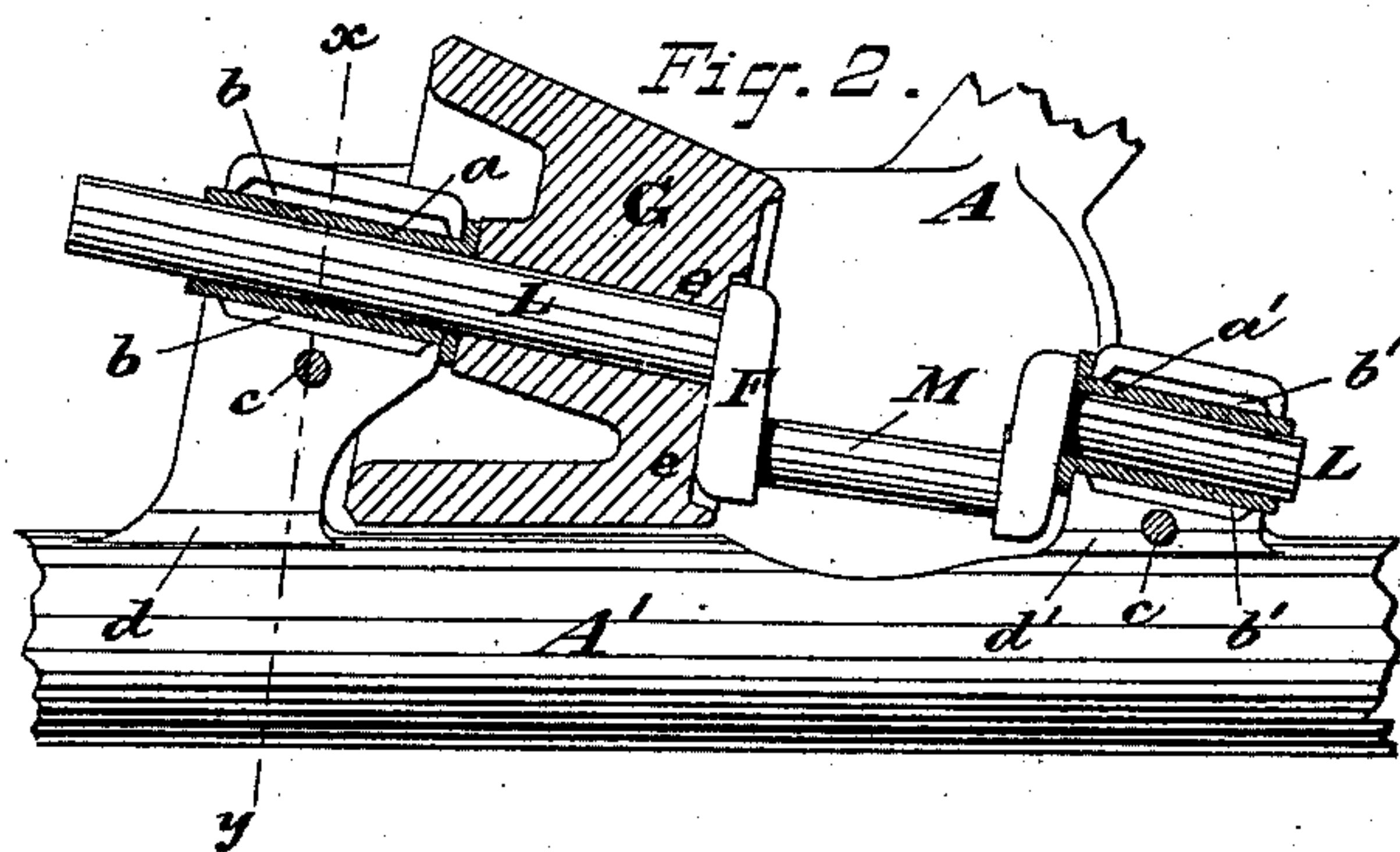
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2 Sheets—Sheet 2

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UNITED STATES PATENT OFFICE.

RUFUS DUTTON, OF YONKERS, NEW YORK, ASSIGNOR TO WILLIAM N. WHITELEY, JEROME FASSLER, AND OLIVER S. KELLY, OF CLARKE COUNTY, OHIO.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 241,634, dated May 17, 1881.

Application filed August 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, RUFUS DUTTON, of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof and of the mode or manner of operation.

My invention relates to that class of mowing-machines wherein a reciprocating motion is imparted to the knife by means of differential oscillating gear, and an arm vibrating over the main frame of the machine, the motion being regulated by a crank and fly-wheel.

My invention consists in so constructing the bearings of the crank-shaft that they may be rapidly and permanently adjusted to a line passing through the center of oscillation of the gears, while still left free to be removed for inspection or repairs.

I will now proceed to describe my invention, reference being had to the accompanying drawings, in which—

Figure 1 is a plan of a machine showing my invention. Fig. 2 is a plan of the crank-shaft and its bearings with the cap or binder removed. Fig. 3 is a cross-section through the line xy in Fig. 2. Fig. 4 is a detached view of the cap or binder which holds the crank-shaft in and to its bearings. Fig. 5 is a plan of one end of the vibrating arm, showing the mode of connection to the crank. Fig. 6 is a cross-section through zz in Fig. 5, the crank-pin brasses not being in section.

Similar letters of reference on the drawings indicate like parts.

Only so much of the machine as relates to my invention is illustrated in the drawings.

A A' is the main frame, A' being that part of it which forms the sleeve through which the axle passes and has its bearings.

B B are the driving or carrying wheels.

C is the revolving and D the oscillating differential gear; E, the vibrating arm rigidly fastened to the oscillating gear D.

F is the crank, and G the fly-wheel. H is the cap or binder, which serves to hold both bearings of the crank-shaft. L L is the crank-shaft,

and M the crank-pin, the center lines or axis of each of which would, if continued in that direction, pass through the center of oscillation of the gear D.

The crank-shaft L L is provided with two sleeves or bushings, $a a'$, and the seats for said bushings, cast upon the frame A, are of such a size as to allow some play or movement both vertically and horizontally, but none lengthwise of the shaft.

There are also made in the frame A two semi-cylindrical recesses, $b b'$, below or under the bushings $a a'$, one to each seat, the object of which is as follows: The fly-wheel G having been placed upon the shaft, the two bushings $a a'$ are slipped over the ends of the shaft, and are pushed up close. The whole is then laid into its place in the machine, being held in a true position by a spider or jig. Putty having been applied around the ends of the bushings, Babbitt metal is poured into the recesses $b b'$, which, when set, forms a solid permanent bed for the bushings $a a'$, and insures that such bushings will always come into the same position when replaced after being removed for inspection or repairs. In order to hold such bushings and the shaft securely in their proper position, the cap or binder H is placed over them, and fastened by the bolts $c c$, situated between the abutments $d d'$ and the bushings $a a'$. The cap or binder H is a single casting and covers both bushings $a a'$, holding them firmly in their place.

The fly-wheel G is not keyed to the crank-shaft L L, but is secured thereto in the following manner: In one end of the fly-wheel a recess, e , is cast to admit one cheek of the crank F, which thus compels the fly-wheel to turn with the shaft.

The crank-pin is encircled by a bushing, f , which is made in halves, upon the center of the length of which is formed part of a ball, g . The end h of the vibrating arm E has a depression cast in it to fit the ball g , as has also the strap N, which passes around the bushing f and embraces the end h of the vibrating arm. The strap is prevented from spreading by the gib i , while the key or wedge j brings the halves of the bushing f into close contact with the

crank-pin, thus securing the bushing *f* rigidly to the end *h* of the vibrating arm, and at the same time permitting it to adjust itself to the center line of the pin; and this construction 5 is also available for taking up lost motion that may arise from wear of the parts; but this means for connecting the vibrating arm to the crank-pin I do not claim.

What is claimed is—

10 1. In a mowing-machine in which a vibrating arm, crank, and fly-wheel are used in connection with differential gear for giving motion to the vibrating arm, a crank-shaft having two bearings, one of which is located between 15 the differential gear and the cranks so constructed that said bearings may be easily and permanently adjusted to a line passing through the center of oscillation of the differential gear,

while still left free to be removed for inspection or repairs. 20

2. In a mowing-machine in which a vibrating arm, crank, and fly-wheel are used in connection with differential gear to operate the cutter-bar, the crank-shaft *L*, provided with two bearings, one of which is located between 25 the differential gear and the crank *F*, in combination with the bushings *a a'*, recesses *b b'*, abutments *d d'*, and cap *H*, all constructed to operate as and for the purposes specified.

3. The fly-wheel *G*, having a recess, *e*, in 30 combination with the crank *F*, and crank-shaft *L*, substantially as and for the purpose specified.

Witnesses: RUFUS DUTTON.

SAMUEL LEA,
SEVELUN WHITE.