

**No. 632,061.**

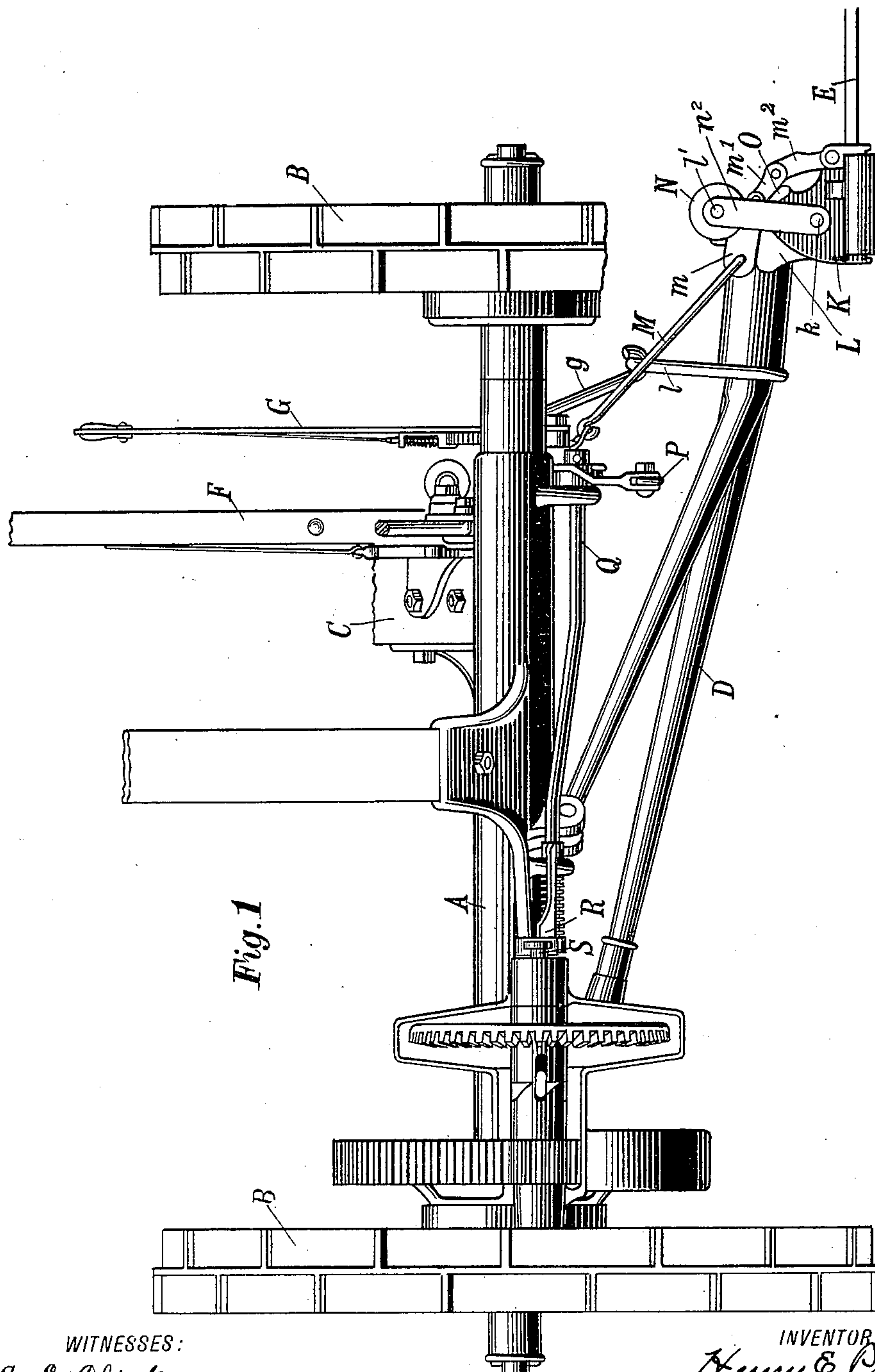
**Patented Aug. 29, 1899.**

**H. E. PRIDMORE.**  
**MOWING MACHINE.**

(Application filed May 6, 1896)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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John M. Culver

INVENTOR

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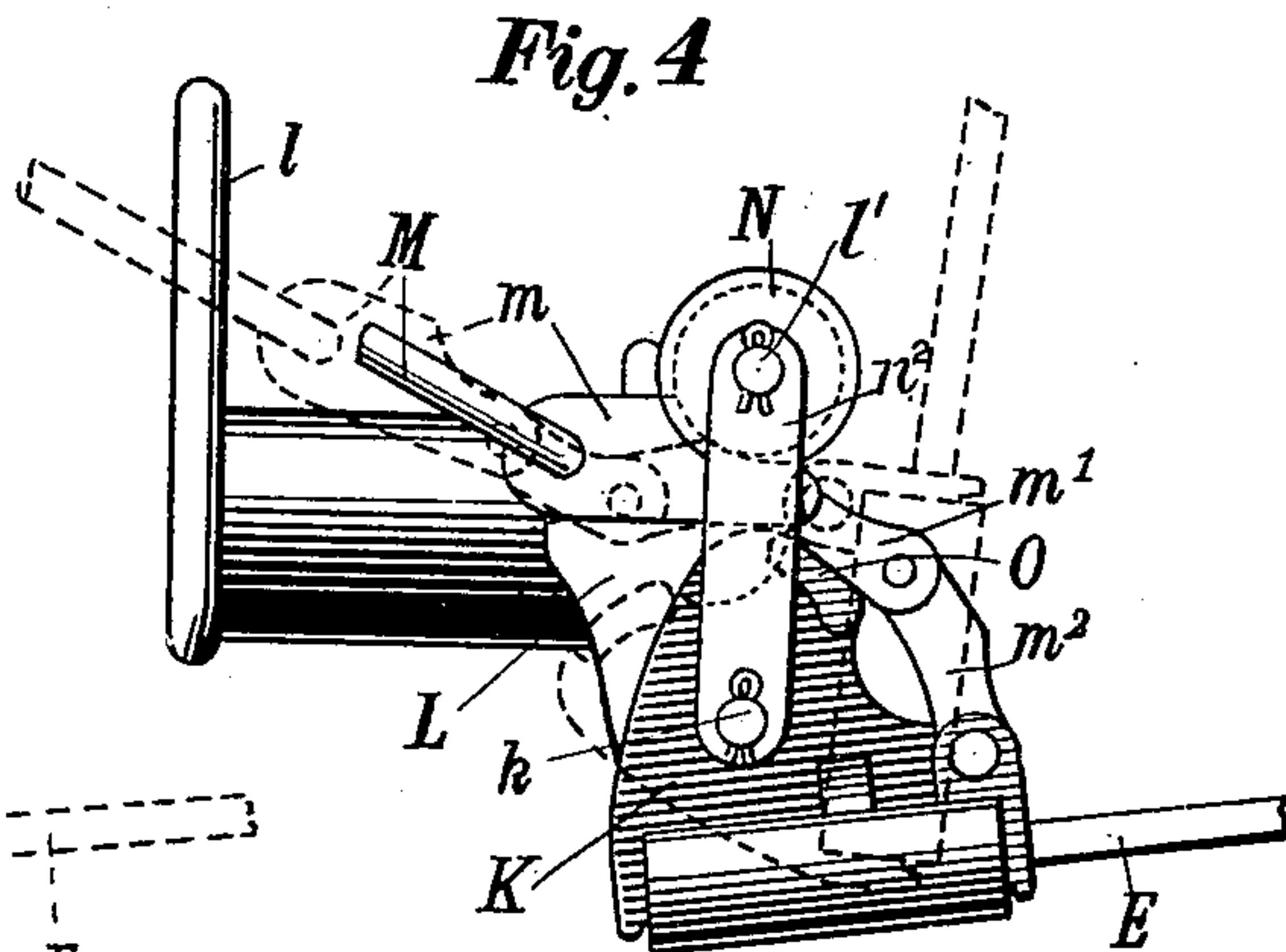
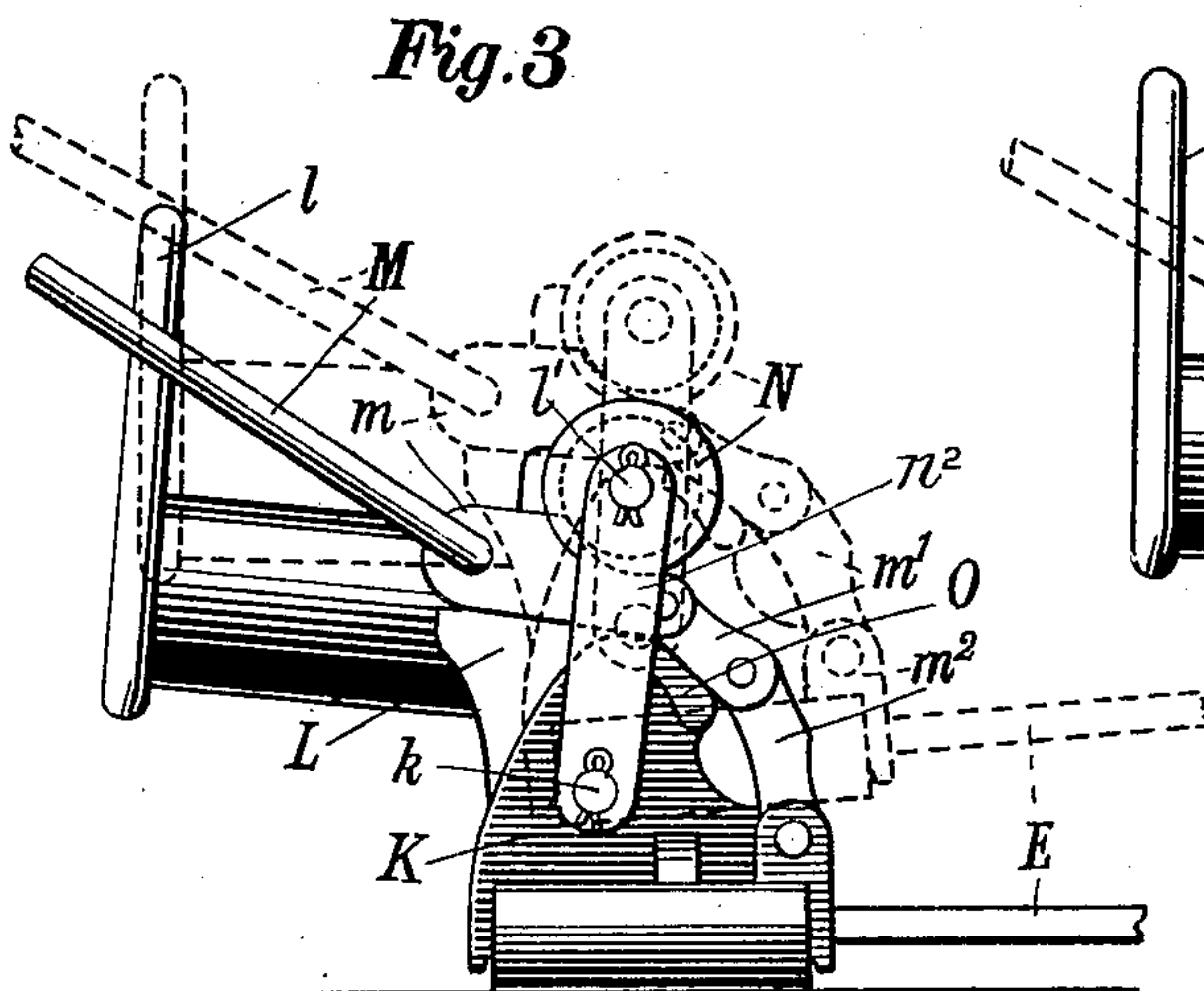
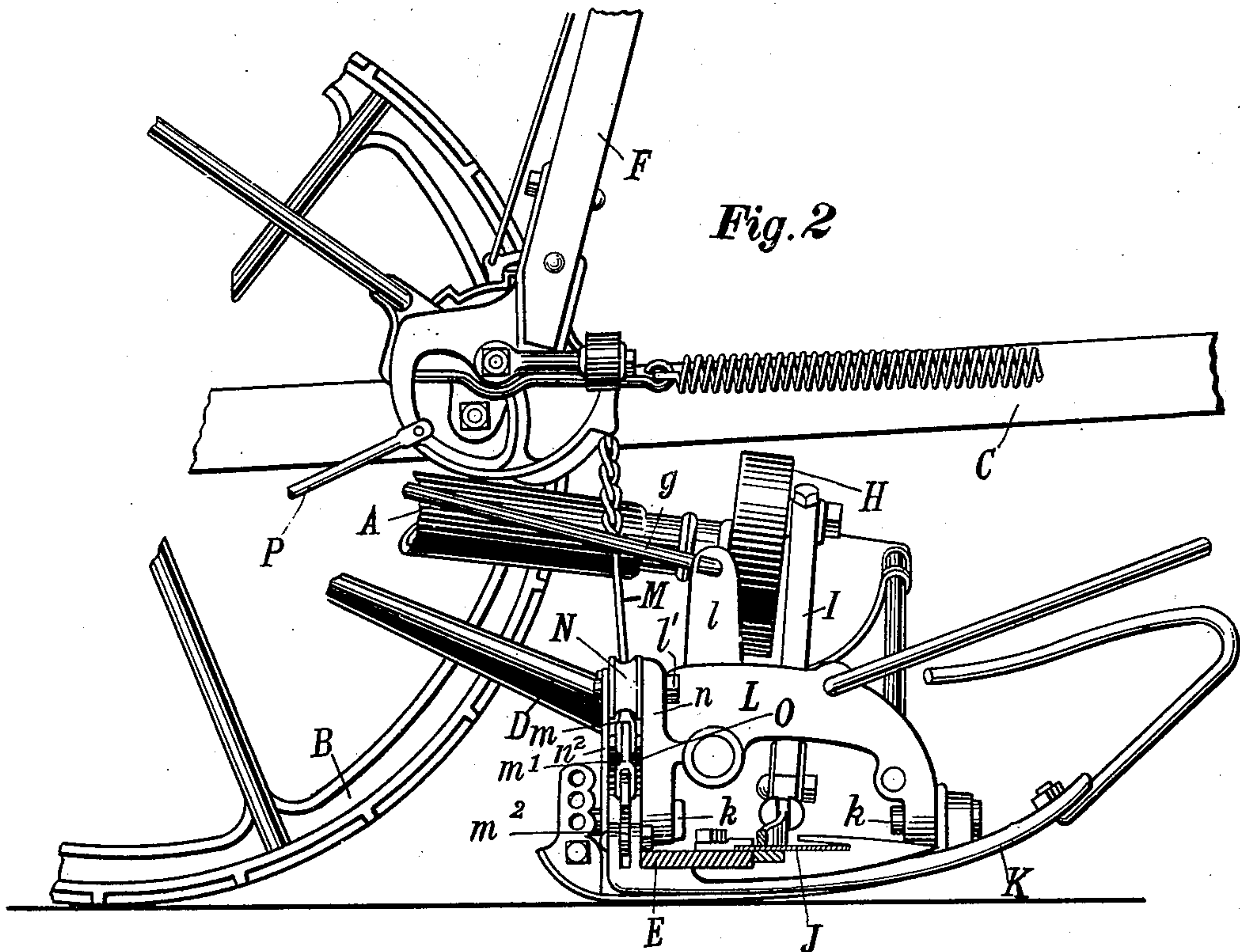
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# UNITED STATES PATENT OFFICE.

HENRY E. PRIDMORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MCCORMICK HARVESTING MACHINE COMPANY, OF SAME PLACE.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 632,061, dated August 29, 1899.

Application filed May 6, 1896. Serial No. 590,389. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY E. PRIDMORE, of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Mowing-Machines, of which the following is a description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to the construction of the lifting device on a mowing-machine by which the coupling-frame and finger-bar portion of the cutting apparatus is raised from the ground and from the cut crop, and has for its object to provide a device which can be easily and cheaply made, which shall be light and strong, and which will enable the finger-bar to conform to the varying inequalities of the ground and which when power is applied to the lifting device shall raise the coupling-frame and finger-bar portion of the cutting apparatus from the ground, throwing up the outer end of the finger-bar and upon the continued motion of the lifting device throw the finger-bar up vertical to the side of the machine and there hold it until the lifting device is thrown back into its original position.

My invention is illustrated in the accompanying drawings, and the novel features which I desire to claim will be pointed out in the specification and claims.

In the drawings, Figure 1 is a rear view of so much of a mowing-machine as is necessary to show the novel features of my construction. The inside main wheel is broken away to more clearly show certain of the novel parts. Fig. 2 is a side view in elevation, with the finger-bar in section, of the coupling-frame and lifting device. Figs. 3 and 4 show the joint by which the finger-bar portion of the cutting apparatus is connected to the coupling-bar portion and also shows the specific construction of that part of the lifting attachment that connects these two parts together in order that their movements may be controlled from the machine. In Fig. 3 the parts are shown in dotted lines somewhat raised, while in Fig. 4 the finger-bar portion is shown in dotted lines turned up nearly vertical.

Similar letters refer to similar parts throughout the several views.

A is the frame, B B are the wheels, C the tongue, D the coupling-frame, E the finger-bar, F the lifting-lever, G the tilting lever, H the fly-wheel, and I the pitman, which connects the fly-wheel with the knife J, all of which parts are of any of the many well-known forms that are in common use in mowing-machines. The finger-bar E is connected to the coupling-frame D by being bolted at its inner end to a shoe K, that is in turn, by means of the pins  $k$   $k$ , pivoted to a bridge-piece L, that is in turn sleeved upon an arm on the coupling-frame D. The tilting lever G is, by means of the tilting rod  $g$ , connected to a tilting post  $l$  on the bridge-piece L, and the operator is thus enabled to rock the finger-bar and the bridge-piece on the coupling-frame and throw the points of the cutting apparatus to and from the ground. This movement, however, would have no action in raising the finger-bar from the ground vertically. This result is accomplished by means of the lifting-lever F, that is connected to the finger-bar E by a peculiar construction, in which connection is found the features that I think are novel and which I desire to describe and cover in the application.

An application filed by me January 17, 1896, and serially numbered 575,845, claims other features that are shown in these drawings and which will not be specifically pointed out in this description.

Extending from one arm of the lifting-lever F to the finger-bar E and connecting the finger-bar with the lifting-lever is a flexible connection M. This connection extends downwardly and outwardly from the lifting-lever to the finger-bar and passes beneath a pulley N, that is attached to the coupling-frame D of the machine above but practically in the vertical plane of the point of connection of the finger-bar to the coupling-frame. This pulley is mounted on a stud  $l'$ , positioned in a flange  $n$ , which rises from the bridge-piece L, so that as the coupling-frame and finger-bar portion of the cutting apparatus is raised by the hand-lever the pulley will turn freely. The end of the stud  $l'$  is supported by a keeper  $n^2$ , that connects it with the shoe-pin  $k$ . The portion of the



chain M that passes beneath this pulley is made up of links that are formed in a peculiar way for a special purpose. The first link  $m$ —the one toward the machine—is curved on the face that passes under the pulley, and its curvature is practically concentric with the curvature of the pulley. This cutting away of the link begins at a point on the link where the link will be drawn by its connection with the finger-bar when the finger-bar is resting on the ground. The tendency of the curvature of the link will thus be, when the machine is traveling over the ground, to prevent the outer end of the cutter-bar from too freely dropping into obstructions. This link passes beyond the pulley toward the lifting-lever, and when force is applied to the lifting-lever its first action is to turn the link on the pulley, the outer end of the link striking on a post or flange O from the shoe K, thus throwing the outer end of the cutter-bar from the ground by a lever action, the pulley acting as the fulcrum before the inner end of the bar is raised. Practical operators of the machine term this "gagging the bar," and it is deemed a necessary operation to the successful work of a mower that the outer end of the bar shall begin to rise before the inner end when the parts are to be lifted for the passing of obstructions and that it shall rise higher than the inner end. The peculiar formation of this link and its position beneath the pulley is such as to perform this gagging function. It should be explained that in the operation of the parts the driver throws back the lifting-lever and its first action is, as already explained, to throw up the outer end of the bar by the link  $m$  acting as a lever on the flange O. When, however, the outer end of the bar is raised sufficiently so that the flange O drops away from the inner end of link  $m$ , then the coupling-frame and finger-bar rise together until the coupling-frame comes in contact with the frame of the mower. The end of the link  $m$  toward the finger-bar is narrower than the other end, so it will more freely pass beneath the pulley, and is pivoted to a second link  $m'$ , that has a slight curvature on the face that travels around the pulley N, so that it may more freely be drawn around the pulley. This link is in turn pivoted to a third link  $m^2$ , which is pivoted to the finger-bar, and it also has at a point on its length a curved face, which point corresponds with the extreme movement that it is possible to give the finger-bar by the hand-lever and which movement is one that throws the finger-bar into a nearly vertical position, such as is necessary when the machine is moved from field to field or passes large obstructions close to the machine.

The links that have just been described only pass under the pulley N as they turn the finger-bar toward its vertical position. As the parts are raised, as shown in Fig. 3, to the

ordinary heights the outer end of the cutter-bar is held higher than the inner end by this shoe extension O and the link  $m$ ; but when the lifting-lever is given its extreme movement, throwing the cutter-bar toward a vertical position, the shoe-flange O swings away from the chain and the draft upon the chain is more nearly a direct one, throwing the cutter-bar toward a vertical position and holding it there, the curved part on the link  $m^2$  then being beneath the roller. The peculiar formation and arrangement of the parts described thus serve the office of controlling the cutter-bar in its different stages and of throwing it up vertically and holding it when so desired. It should be explained that when the lifting-lever is given sufficient movement to throw the cutter-bar into a vertical position it is necessary to unclutch the gearing of the machine from its power. This may be done in any of several well-known ways.

In operation the driver upon his seat guides the machine through the field and when an obstruction is encountered, by means of his hand upon the lifting-lever, he raises the coupling-frame and finger-bar portion of the cutting apparatus to the height that he deems necessary. If it require but a slight rise, the first action is to raise the outer end of the finger-bar by the means heretofore described and then raise the coupling-frame and finger-bar together until the obstruction is passed or the corner has been turned. If, however, a more marked obstruction is encountered, the lifting parts are thrown into more excessive action, throwing up the outer end of the finger-bar and raising the inner end and finally throwing the whole finger-bar into a vertical position at the side of the machine and holding it there. In the meantime the clutch has been withdrawn and the machine is ready for transportation on the road or to go through gates and pass large obstructions.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination in a mowing-machine, a coupling-frame pivoted to the machine, a finger-bar pivoted to the coupling-frame, a lifting-lever pivoted to the main frame, a connection extending from the lifting-lever to the finger-bar, an extension on the finger-bar and near the joint of the finger-bar to the coupling-frame, over which extension the connection from the finger-bar to the lifting-lever passes and upon which extension the connection bears until the outer end of the finger-bar has been raised to a given height, substantially as and for the purpose specified.

2. In combination in a mowing-machine, a coupling-frame pivoted to the main frame, a finger-bar pivoted to the coupling-frame, a hand-lever pivoted upon the main frame, a connection extending from the lever to the finger-bar, a pulley, beneath which this connection passes, positioned on a post located



on the coupling-frame and near to the joint of the finger-bar to the coupling-frame, a flange on the shoe beneath the pulley over which flange the connection draws, substantially as and for the purpose specified.

3. In a mowing-machine, a coupling-frame pivoted to the main frame, a finger-bar pivoted to the coupling-frame, a hand-lever pivoted on the main frame and connected to the finger-bar and coupling-frame by a flexible connection, a pulley pivoted on the coupling-frame in line with a flange upstanding from the finger-bar, and a link connection between the lifting-lever and the finger-bar that passes over the flange and under the pulley, substantially as and for the purpose specified.

4. In a mowing-machine, having a finger-

bar pivotally connected to the main frame by a coupling-frame, a lifting-lever pivoted on the main frame, a flexible connection joining the lifting-lever and the finger-bar, and connected to the finger-bar at a point on the bar between its pivot to the coupling-frame and its grass end, a fulcrum on the coupling-frame beneath which the connection passes, the connection being formed of a plurality of links at the point in its length where it passes beneath the fulcrum, and a flange on the finger-bar over which the plurality of links pass, substantially for the purpose described.

HENRY E. PRIDMORE.

Witnesses:

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E. E. CLINTON.