

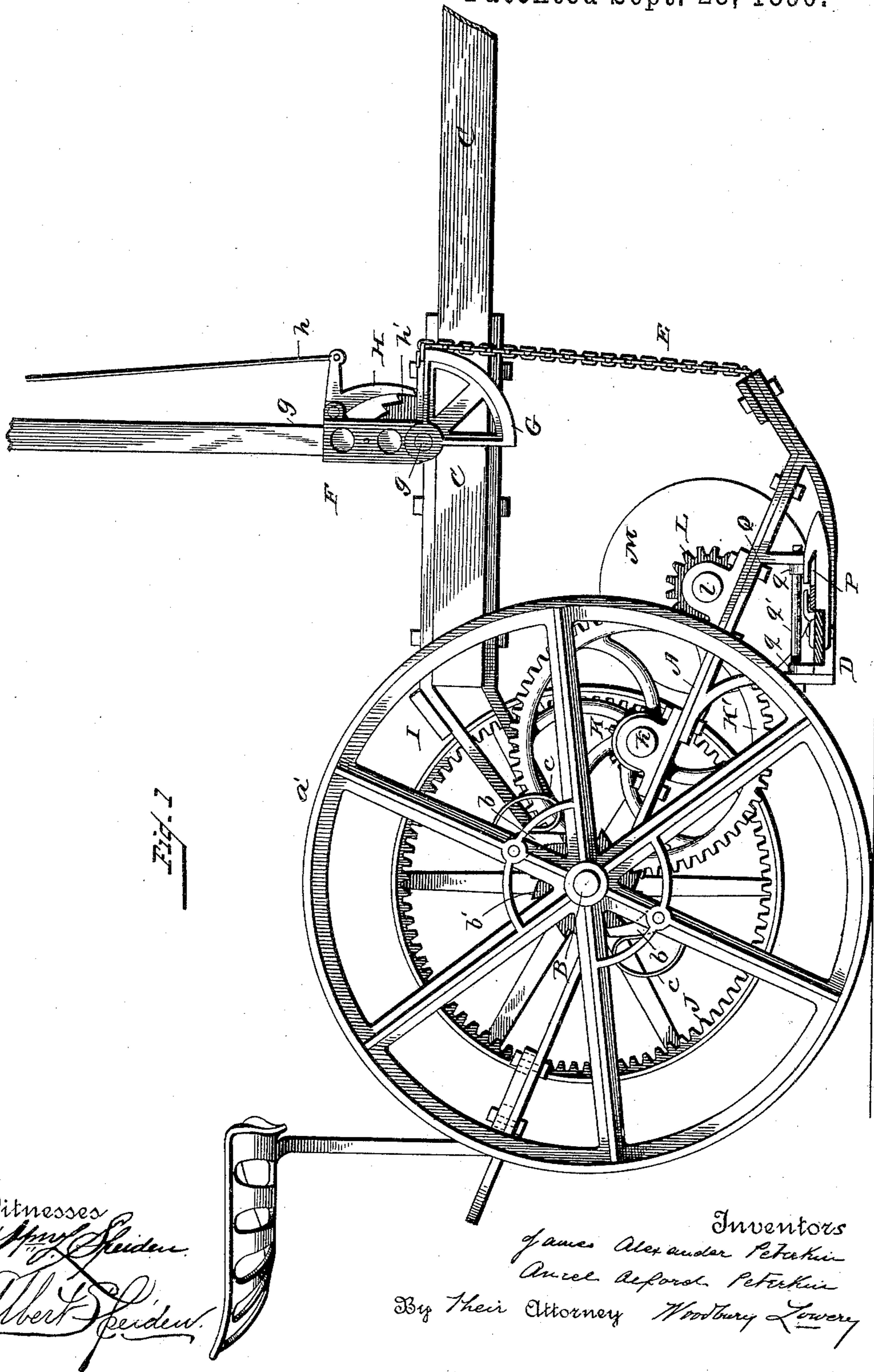
(No Model.)

J. A. & A. A. PETERKIN.
MOWER.

3 Sheets—Sheet 1.

No. 436,878.

Patented Sept. 23, 1890.



Witnesses
Henry Spinden
Albert Spinden

Inventors
James Alexander Peterkin
Amel Deford Peterkin
By Their Attorney *Woodbury Lowery*

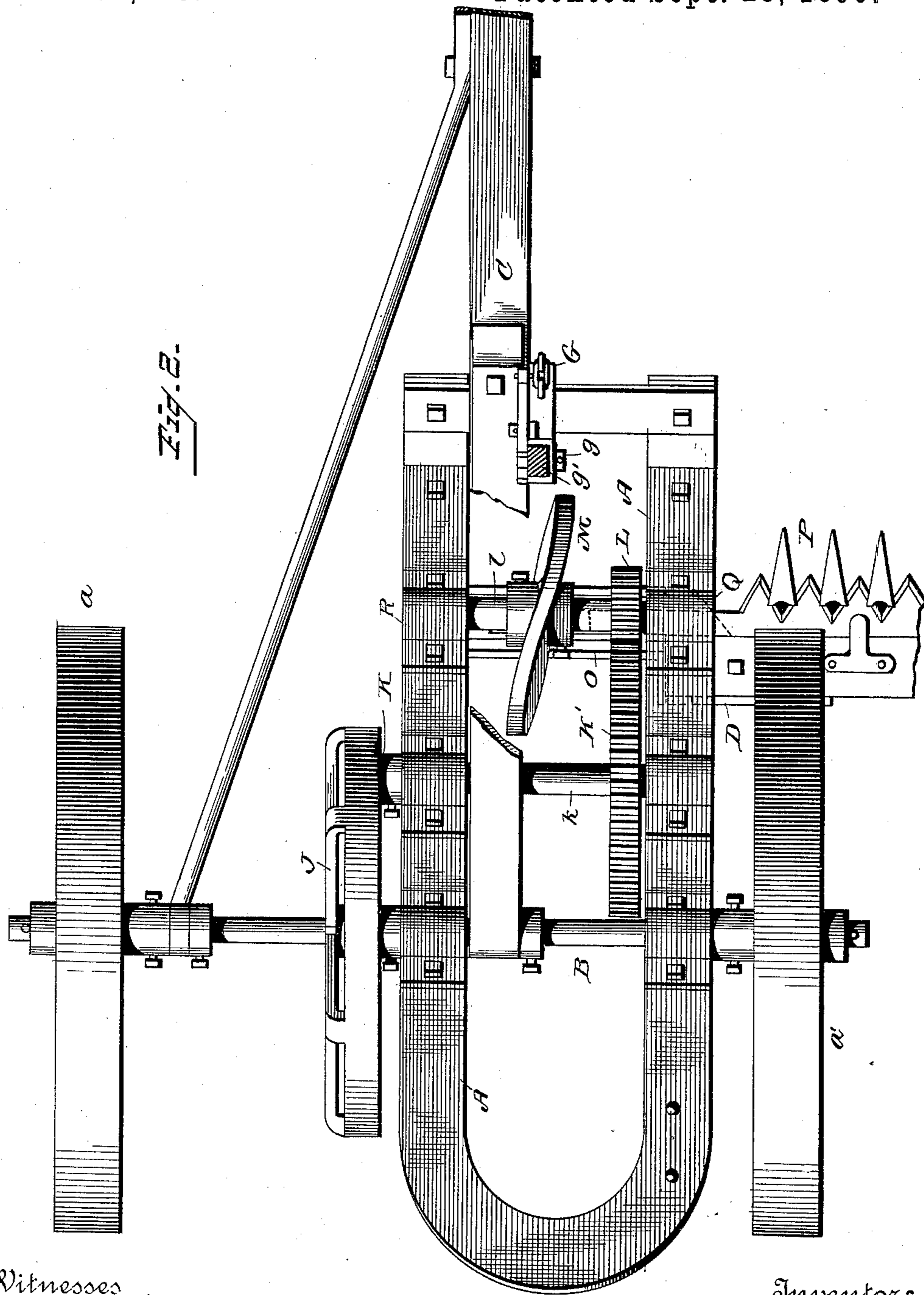
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Albert Speiden.

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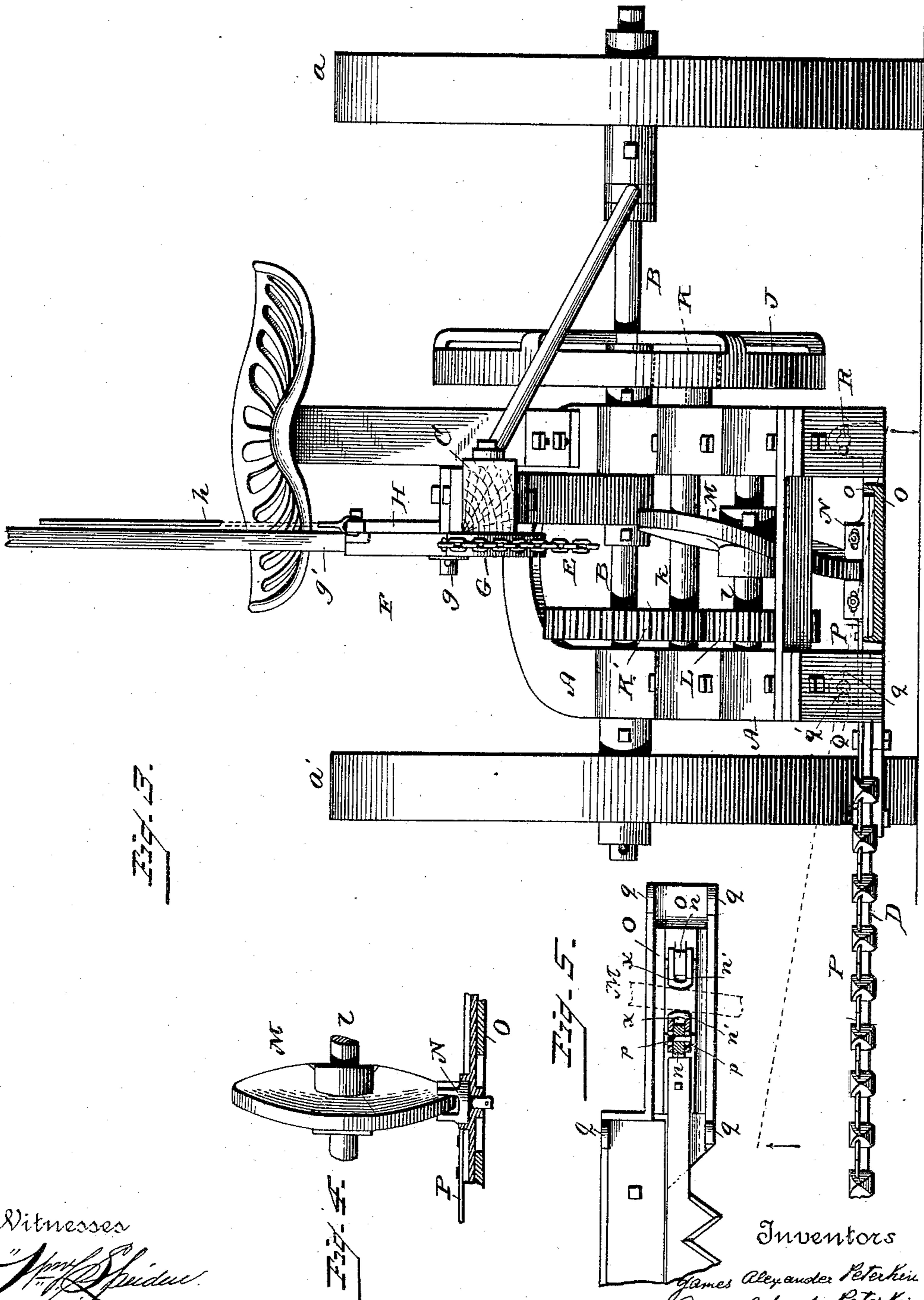
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UNITED STATES PATENT OFFICE.

JAMES ALEXANDER PETERKIN AND ANCEL ALFORD PETERKIN, OF FORT MOTT, SOUTH CAROLINA.

MOWER.

SPECIFICATION forming part of Letters Patent No. 436,878, dated September 23, 1890.

Application filed January 6, 1890. Serial No. 335,990. (No model.)

To all whom it may concern:

Be it known that we, JAMES ALEXANDER PETERKIN and ANCEL ALFORD PETERKIN, citizens of the United States, residing at Fort Mott, in the county of Orangeburg and State of South Carolina, have invented new and useful Improvements in Mowers, of which the following is a specification.

Our improvement consists in a novel device for vibrating the knife of the cutter-bar, whereby we dispense with the usual pitman and crank connections and obtain a direct push and pull upon the knife, thus greatly reducing the wear of the parts, and also in a novel manner of suspending the cutter-bar and its attachments to the frame of the mower, by which means it is readily thrown into and out of gear with the driving mechanism and lifted and lowered for transportation.

In the accompanying drawings, which illustrate our invention, Figure 1 is a side view, partly in cross-section, showing the gear and manner of pivoting the cutter-bar and its attachments. Fig. 2 is a plan view of the same. Fig. 3 is a front view of our improved mower. Fig. 4 is a view of a modified form of the cam-wheel and clutch for vibrating the knife, and Fig. 5 a plan view of the guide and cutter-bar.

A, Fig. 1, is the frame of the mower, supported and rocking upon the main axle B. $a a'$ are the wheels.

C is the independent tongue connected to the main axle B, and from which the lower part of the frame A, carrying the shoe and cutter-bar attachment, is suspended by means of the chain E and the lifting device F. The lifter F consists of the quadrant G, secured to the shaft g , turning in bearings upon tongue C by means of the hand-lever g' fitting into a socket on the shaft g . A pivoted pawl H, having a handle h and a toothed rack h' secured to the tongue, allows of a varying adjustment of the height of the cut.

I is the foot-rest secured to the tongue so that by the pressure against it of the feet of the driver seated on the seat attached to the rear of the frame A the latter, with all of its attachments, is rocked upon the main axle B, and the lower end of the frame, with the shoe and cutter-bar, is lifted over any inequalities of the ground.

The wheels $a a'$, which revolve freely upon the main axle B, are provided with pawls $b b$, by which they can be locked to the ratchet-wheel b' , rigidly mounted upon the main axle B, thus causing the latter to revolve with the wheels. The pawls $b b$ are held to the ratchet-wheel b' by means of the springs $c c$ in a well-known way.

A toothed pinion J, rigidly mounted on the main axle B, gears with a pinion K, similarly mounted on a shaft k , turning in bearings upon the frame A. A second pinion K', also rigidly mounted on the shaft k , gears with a third pinion L, which, with its shaft l , revolves in suitable bearings on the frame A. A cam-wheel M, also mounted on and turning with the shaft l , engages with a clutch N, reciprocating in a groove o in the guide O, secured to the frame A, as hereinafter described. The cutter-bar D is bolted to an offset at one end of the guide O, while the knife P is bolted to the slide which supports the clutch N. The cam-wheel M, which is of such dimensions as to give the least possible friction, is constructed with half of its periphery in the direction of a right-hand screw and the other half in that of a left-hand screw, so that one complete revolution of the cam causes but one reciprocation of the clutch N and the cutter-knife P. The operation of this part of our invention is as follows: The main axle B being thrown into gear with the wheels $a a'$ by means of the pawls and ratchet $b b b'$, the train of pinions J K K' L are revolved, turning the cam-wheel M and giving the knife P a rapid reciprocating motion in a direct line with the force applied. The cam-wheel M is thrown into and out of gear with the clutch N by the following mechanism: The guide O is suspended from the shoe of the frame A at Q by the lugs $q q$ and a bolt q' , and is fastened to the other end of frame A by means of a removable bolt or latch R. It follows that on raising the frame A by rocking it upon the main axle B and then withdrawing the bolt R the cutter-bar D can be lifted vertically upon its pivot Q, the guide O projecting downward, but not sufficiently so to strike the ground. The clutch N is thus withdrawn from engagement with the cam-wheel M and the knife P ceases to vibrate.

On lowering the cutter-bar the clutch and cam-wheel again engage, as in the first instance. By this arrangement of the guide and cutter-bar we are also enabled to with-

draw and release the clutch and knife when the guide O is lowered by simply drawing the clutch N and the attached knife P from their guides without the loosening of bolts or latches.

We have thus far described a cam-wheel having a continuous and uninterrupted motion; but we may, if necessary, provide a cam-wheel, as shown in Fig. 4, in which two parts of its periphery corresponding to both ends of its stroke are made straight—that is to say, without lateral pitch—in order to bring the blade to a full stop before beginning the reverse motion, which makes it easier of operation than in the first instance. In Fig. 4 we have also shown a clutch pivoted to the slide of the knife-blade.

In Fig. 5 the clutch N is shown as consisting of two lugs *n n*, having over their ends movable faces or bearing *n' n'*. The bearing *n'* has a slot *p*, through which it is bolted to the lug *n*, but permitting of a forward movement on the lug to take up the wear or lost motion, the bearings *n'* being held firmly to the cam M by liners *x* inserted between the head of the lugs and the bearings. We also make the seat of the driver adjustable upon the frame A in respect to its distance from the main axle B, in order to set it for the weight of the driver, that he may nearly counterbalance the weight of the slide ends of the frame with the cutter-bar and the driving-gear.

Among the various advantages arising from our invention are the following: When the mower is in operation, there is no weight upon the tongue or shaft to be held up by the team, arising from the fact that the frame and all of the cutting attachments are supported directly upon the main axle; there is no strain to keep the gearing in place; the blade is driven by a force in line with its axis, neither pulling it up nor down, and preventing all loose working of the finger-bar which arises when movement is imparted to the knife at an angle to its axis; the ease with which the blade can be removed and replaced without altering the adjustments; great facility in raising the blade over obstructions in the ground by a simple pressure of the feet, thus leaving both hands free; the facility with which both frame and cutter-bar pass over obstructions bearing against them at any point, owing to the rocking of all parts together, and the simplicity of the construction and fewness of parts of our mower as compared with other mowers and harvesters now known to us. It is also evident that, owing to the absence of bevel-gearing and the fact that the force applied is all in one direction, we may cast the frame and journal-boxes in one piece, and thus mount the gearing without the use of bolts.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a mower, the combination, with the cutter-knife, of a cam-wheel having equal portions of its periphery a right and left handed screw, with two straight parts connecting the screw portions, and engaging directly with the knife, and suitable driving-gear for actuating the cam-wheel, whereby the knife is driven with a direct push and pull, substantially as described.

2. The combination, in a mower, of the frame, the cutter-bar pivoted thereto and extending inward beyond said pivot, a latching device at the inner end of said extension for holding said cutter-bar in operative position, and means for driving the cutter located on the frame between said pivot and latch, which is disengaged from the cutter when the latter is lifted out of its operative position, substantially as set forth.

3. The combination, in a mower, of a frame rocking upon the main axle, a cam-wheel mounted upon the frame, a cutter-bar and knife pivoted at or near one side of the frame and having an extension across the frame, a device for engaging the knife directly with the cam-wheel when in operative position, a latch located at or near the other side of the frame for locking the cutter-bar and knife in such position, and suitable driving-gear for actuating the cam-wheel mounted upon the frame, substantially as and for the purpose set forth.

4. The combination, with the main axle of a mower, of a frame rocking upon the main axle, the cutter-bar and its knife pivoted at or near one side of the frame, having an extension across the frame, a latching device for locking the cutter-bar in its operative position, located at or near the other side of the frame, driving-gear for actuating the knife mounted on the frame, a counterbalance driver's seat, also located on the frame, the tongue attached to the axle, and a lifter for lifting the cutter-bar end of the frame located on the tongue, whereby when the cutter-bar is locked it may be lifted in a horizontal position and the height of the cut adjusted, substantially as described.

5. The combination, in a mower, of the frame A, the main axle B, the cutter-bar D, the guide O, extending across and pivoted to one side of the frame and having the groove *o*, the clutch N, the knife P, attached to the clutch, the cam M, and the driving-gear J K K' L, mounted upon the frame and actuated by the main axle B of the mower, substantially as described.

6. The combination, in a mower, of the frame A, the main axle B, the cutter-bar D and guide pivoted at Q, the latter forming an extension of the cutter-bar beyond its pivot, the clutch N, supported on a slide reciprocating in the groove *o*, the knife P, attached to the slide which supports the clutch, the latching device R, to hold the cutter-bar in its operative position, the cam M, mounted upon the frame A

and engaging with the clutch, and driving-gear mounted upon the frame and driven by the main axle B, substantially as and for the purpose set forth.

5 7. The combination, in a mower, of the frame A, the main axle B, the adjustable driver's seat located as described, the driving-gear J K K' L, mounted upon the frame and actuated
10 D and guide O, pivoted to the frame at Q, the latter forming an extension of the cutter-bar beyond its pivot, the latch R, to hold the cutter-bar in operative position, the clutch N and knife P, the tongue C, attached to the main
15 axle B, and the lifter F, mounted upon the tongue, all operating substantially as and for the purpose set forth.

8. The combination, with a reciprocating cutter, of a cam-wheel having a portion of its
20 periphery a right-handed screw, an equal por-

tion a left-handed screw, and having two straight parts connecting the screw portions and corresponding to both ends of the stroke, substantially as described.

9. The clutch N, consisting of the lugs *nn* 25 and the adjustable slotted bearings *n' n'*, fitting over the ends of the lugs, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing 30 witnesses.

JAMES ALEXANDER PETERKIN.
ANCEL ALFORD PETERKIN.

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