

(No Model.)

2 Sheets--Sheet 1.

E. LACHÈZE.  
Reaping and Mowing Machine.  
No. 232,513. Patented Sept. 21, 1880.

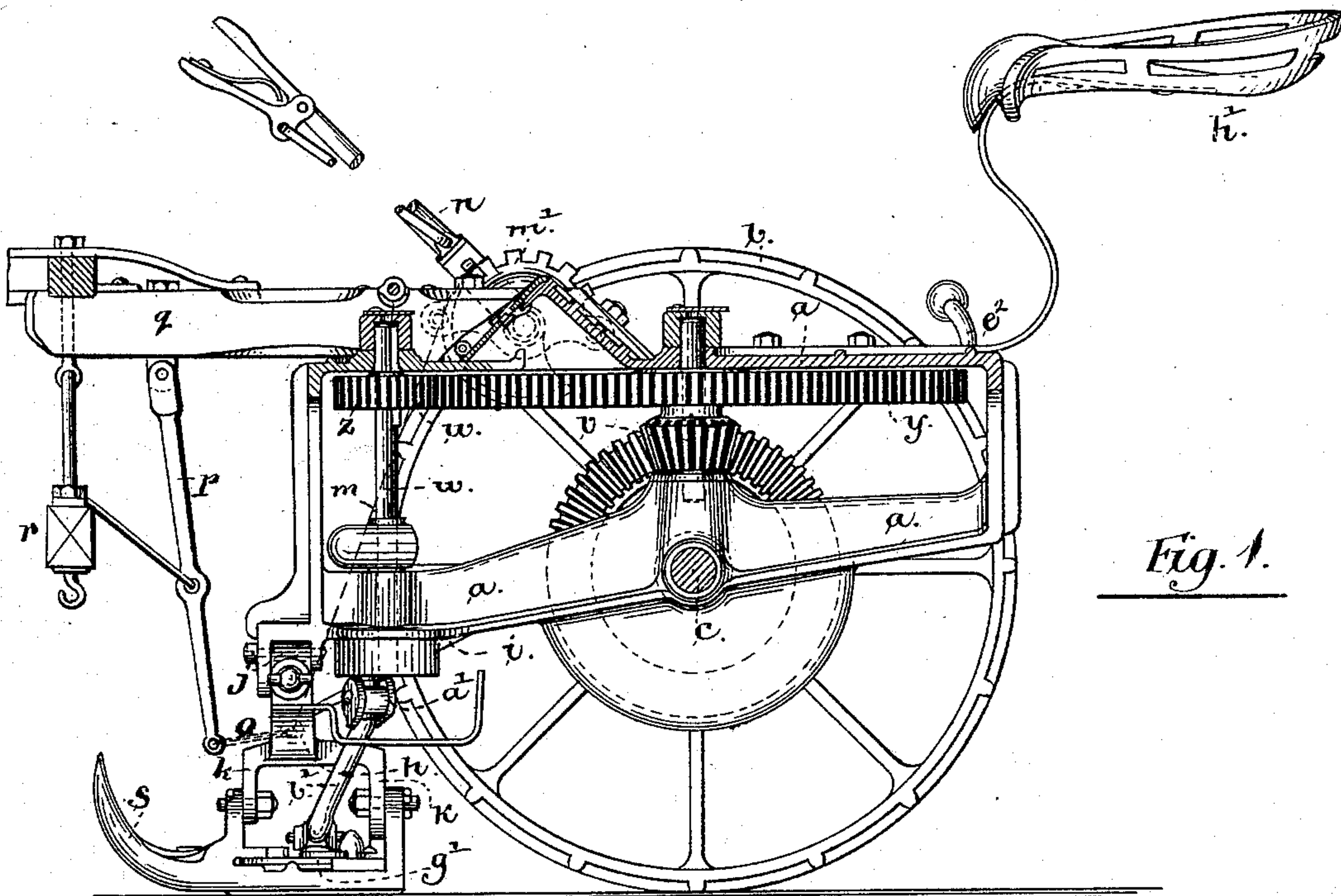


Fig. 1.

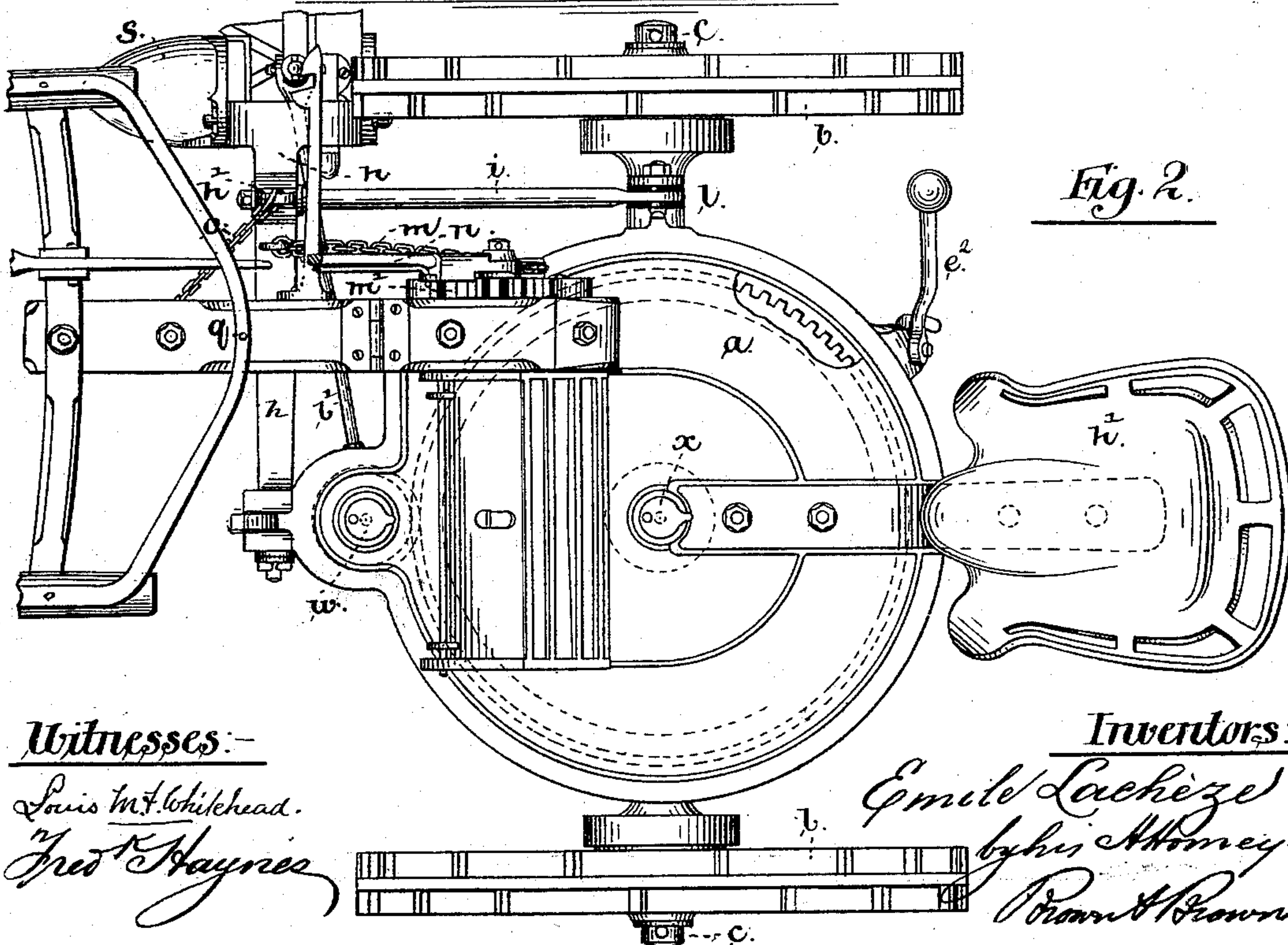


Fig. 2.

Witnesses:

Louis M. Whitehead.

Fred. Haynes

Inventors:

Emile Lachèze  
by his Attorneys  
R. M. Brown

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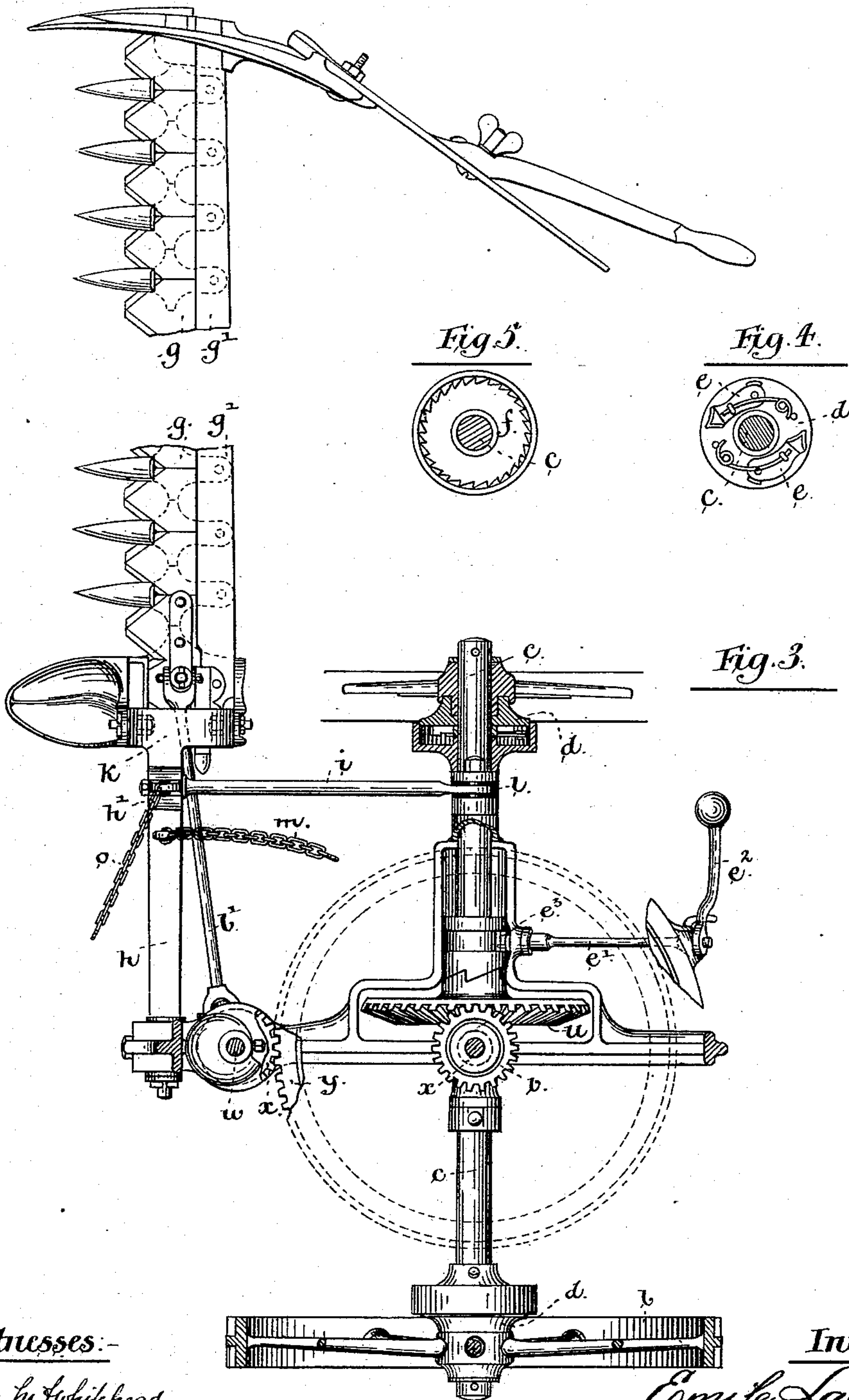
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by his Attorney  
Brown & Brown



# UNITED STATES PATENT OFFICE.

EMILE LACHÈZE, OF DIJON, FRANCE.

## REAPING AND MOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 232,513, dated September 21, 1880.

Application filed May 13, 1880. (No model.) Patented in France July 22, 1879, in Belgium October 23, 1879, in Italy December 31, 1879, and in Portugal February 4, 1880.

*To all whom it may concern:*

Be it known that I, EMILE LACHÈZE, of Dijon, in the department of Cote d'Or, in the Republic of France, have invented certain Improvements in Reaping and Mowing Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

My invention relates to improved means for connecting the finger-bar with the whiffletree; and it consists in the features of combination hereinafter described, and specifically pointed out in the claim.

Figure 1 in the drawings is a side elevation, partly in section, of a mowing-machine with my improvements. Fig. 2 is a plan of the same, the cutting apparatus being omitted. Fig. 3 is a horizontal section of the same. Figs. 4 and 5 are detail views of the driving ratchet and pawl.

The framing *a* of the machine is supported on two carrying-wheels, *b*, fitted loosely to the axle *c*. The hub of each wheel carries on its inner side a disk, *d*, of which Fig. 4 is a face view, to which are pivoted two spring-pawls, *e*, engaging with a ratchet-wheel, *f*, of which Fig. 5 is a face view, fast on the axle. The wheels may thus turn freely in one direction, yet in the other they drive the axle *c*, and hence the machine may turn freely and run backward without transmitting any movement to the cutter-bar *g*. The finger-bar *g'* is suspended from the frame and from the axle by articulated arms *h i*, which permit the said bar and the cutter-bar to rise and fall according to the undulations of the ground. The arm *h* is articulated in a socket, *j*, which is itself articulated to the frame. These two articulations are perpendicular to each other. This arm is terminated at the other extremity by a fork, *k*, with which the finger-bar *g'* is connected. Near this fork the arm *h* is furnished with a socket, *h'*, in which is fitted so as to turn therein the extremity of the second arm, *i*, whose other extremity is articulated to the frame at *b*, near where the axle passes through the latter.

The first arm, *h*, has attached to it a lifting-chain, *m*, worked by a lever, *n*, furnished with a stop-pin engaging with a rack, *m'*, on the frame, permitting the regulation of the height

of the finger-bar and cutter-bar above the ground. The said arm *h* has also attached to it, near its lower extremity, a chain, *o*, which secures it to a pendent piece, *p*, which is articulated above on the tongue *q*, and connected by a rod with the whiffletree *r*, which is suspended in any suitable manner from the tongue *q*. This system of mounting facilitates the oscillations of the finger-bar and cutter-bar at the same time that it permits the exact regulation of the direction of draft, which is very important in certain cases.

The finger-bar is guided upon the ground by a shoe, *s*, arranged on the inner end, while the outer end is supported by a roller. It is easy to raise the finger-bar and cutter-bar by making them turn about the forked joint *k*, which supports the inner end of the finger-bar, the several parts of the machine being arranged so as not to hinder this movement.

The transmission of motion to the cutter-bar and the throwing in and out of gear are effected in the following manner: The axle carries upon it a bevel-gear, *u*, which is mounted loose upon it, and which gears with a bevel-pinion, *v*, keyed upon a vertical intermediate shaft, *x*, working in bearings in the frame *a*, and carrying a spur-wheel, *y*, which gears with a pinion, *z*, mounted on a second arbor, *w*. This latter carries on its lower part a crank, *a'*, which is connected by the connecting-rod *b'* with the cutter-bar, the connections of the said rod with the crank and cutter-bar being made by double articulations or universal joints.

The means of putting the cutting apparatus in or out of gear with the axle consists of a rock-shaft, *e*, (see Fig. 3,) working in bearings on the frame, and furnished at the rear end with a loaded handle, *e<sup>2</sup>*, and at the front end with an eccentric, *e<sup>3</sup>*, which works in a groove in a sliding portion of a clutch, *f*, which connects the bevel-gear *u* with and disconnects it from the axle, the said handle *e<sup>2</sup>* being so arranged as to be worked by the driver sitting on the seat *h'*.

I will remark that when the apparatus is to be operated as a hand-machine—that is to say, put in motion by two men, one drawing the machine, and the other putting the knives in motion by means of a hand-crank—it suf-



pieces to prolong the vertical shaft *x* at its upper end and to adapt to it a bevel-gearing carrying a crank.

I am aware that it is not new to connect the arm or other device which supports the finger-bar with the whiffletree by means of links or rods. Under my arrangement, however, the arm which supports the finger-bar is connected with the pendant, and the pendant is in turn connected with the whiffletree. The pendant acts as a lever, and the draft is not connected directly with the pendant, as in some instances, but with a whiffletree which is suspended from the tongue independently of the pendant and connected with the pendant by a rod or a chain, if desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a harvester or mower, the combination, with the finger-bar, of the arm *h*, articulated in a swiveled socket, *j*, and connected with the cutter-bar, the pendant or lever-bar *p*, hinged to the tongue, the chain *o*, connecting the arm *h* with the lower end of said pendant, and the whiffletree *r*, suspended from the tongue and connected by a rod with the pendant, all constructed and arranged as shown and specified.

E. LACHÈZE.

Witnesses:

POZZO DI BORGO,  
E. BÉGNÉ.