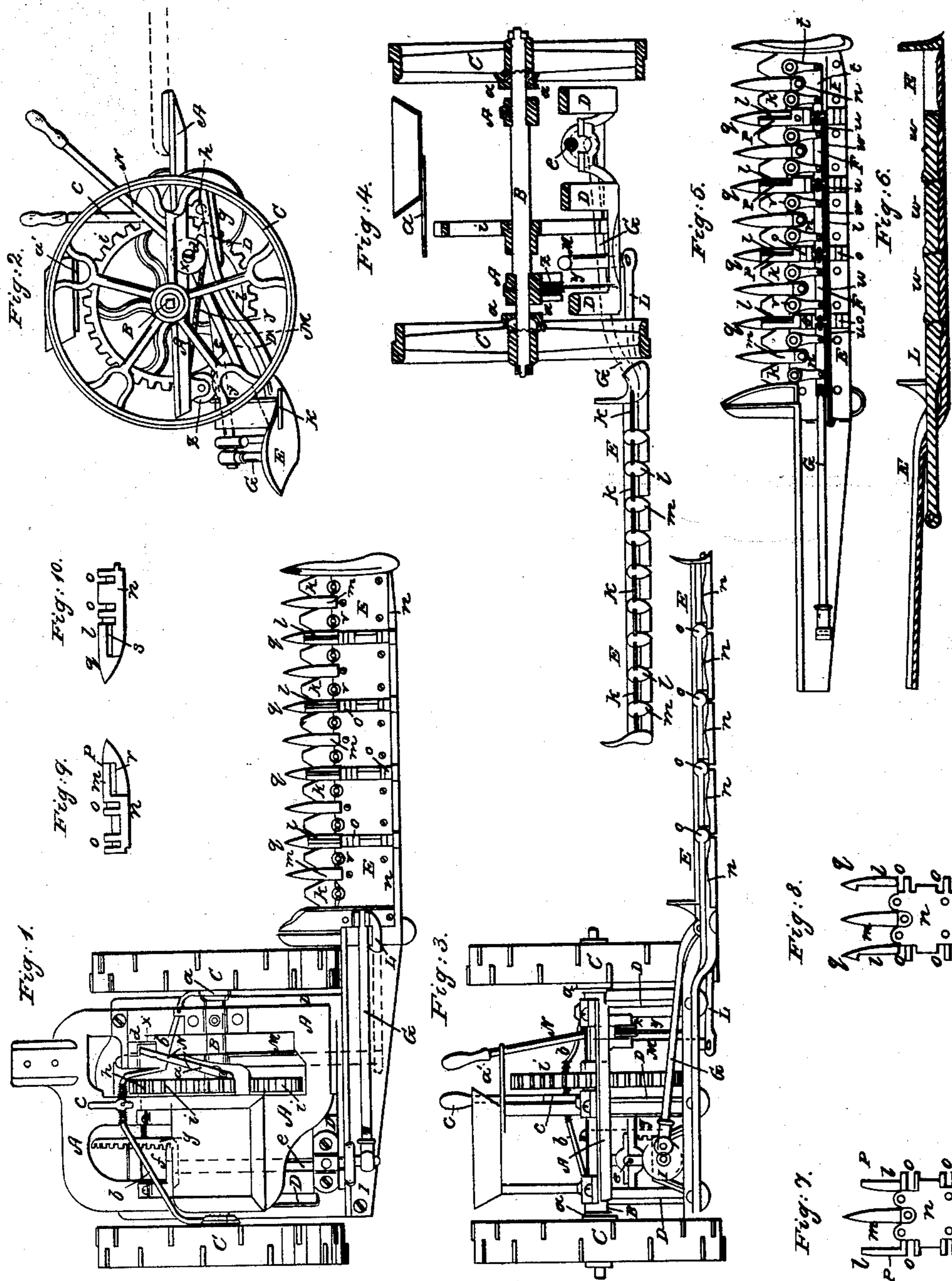


O. R. CHAPLIN.

Mower.

No. 26,814.

Patented Jan'y 10, 1860.



Witnesses:  
Arthur Hill  
Dennis. D. D. D.

O. R. Chaplin.

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 26,314, dated January 10, 1860.

*To all whom it may concern:*

Be it known that I, ORRIL R. CHAPLIN, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented an Improved Mowing-Machine; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a rear elevation, and Fig. 4 a vertical and transverse section, of the said machine. Fig. 5 is a top view of the jointed cutter-bar with its cap-plates removed; Fig. 6, a longitudinal section of the said cutter-bar, the same being taken through its stiffener, to be hereinafter described.

The nature of my invention consists, first, in making the cutter bar or holder in sections hinged together so as to enable it to conform to undulations or variations of the surface of the ground while the machine is in use; second, in making the device for connecting the tails of the cutters in sections, hinged together and to a connecting-rod, when the cutter bar or holder is constructed in sections, in manner substantially as specified; third, in making each tooth situated at the junction or joint of each two sections of the cutter-bar in two parts, hinged together and applied to the two sections and their knives or cutters, as and for the purpose hereinafter mentioned; fourth, in combining with the series of sections composing the cutter-bar a "stiffener" or mechanism applied to it for the purpose of stiffening or supporting it in longitudinal directions while it may be raised off the ground; fifth, in combining the cutter-bar, lifting-lever, and the crank-shaft of the stiffener together and to the main carriage and the supporting-frame of the cutter-bar, so as to enable a person by means of a lateral and backward movement of the lever to raise the cutter-bar frame from the ground and push forward the stiffener at one and the same time.

In the drawings, A exhibits the main carriage or frame of the mowing-machine, it being provided with an axle, B, supporting two wheels, C C. These wheels play loosely on the axle, and with the shaft are provided with clutches *a a*, for connecting them to the shaft in such manner as to cause them to put it in

revolution while they may be in rotary movement. These clutches are to be operated by two bent levers, *b b*, connected with a handle-lever, *c*, the whole being arranged as shown in the drawings.

A frame, D, for supporting the cutter F, is arranged underneath the carriage-frame A, and hinged to it, as shown at *d*, so as to be capable of being tilted in a vertical direction. This frame serves to support a cranked shaft, *e*, and the train of gears *f g h*, for putting the said shaft in revolution, such train being actuated by a large gear, *i*, fixed upon the axle B, the whole being arranged as shown in the drawings. In such drawings the vibrating cutters of the cutter-bars are exhibited at *k k k*, each being caused to play between and into two teeth, *l m*, projecting from the cutter-bar, as shown in the drawings. The said cutter-bar is composed of a series of parts or sections, *n n n*, each of which is hinged to another of them, so as to be capable of being turned upward in a vertical direction, the several hinges being shown at *o*. Furthermore, each tooth, *l*, that projects from the hinge of any two sections is formed in two parts, *p q*, they being made to project respectively from the two sections, as shown in Figs. 7 and 8, which represent separate views of two of the sections in a disjointed state. One of the parts—viz., *q*—projects over the end of the other part, *p*, as shown in Fig. 1, and each part has a recess formed in it laterally for the reception of its cutter.

Figs. 9 and 10 exhibit edge views of the two cutter-bar sections, and represent, at *r* and *s*, the said knife-recesses. By so constructing each of the teeth *l l* two cutters can play freely into them, however the cutter-bar may be curved while on the ground. The several tails, *t t t*, of the vibratory cutters are jointed at their rear ends to a connection, F, composed of a series of long links, *t' t' t'*, and a series of shorter links, *u u u*, jointed or hinged together, the smaller links being arranged respectively at the joints of the cutter-bar. This connection F is jointed to a connecting-rod, G, whose rearmost end turns on a crank, I, applied to the crank-shaft *e*. Each of the cutters is supported by and turns on a separate fulcrum, *v*, and thus, whenever the shaft *e* is put in revo-

lution, the cutters will be caused to vibrate in lateral directions between the teeth of the cutter-bar.

In order to stiffen the cutter-bar, so as to enable it to be lifted bodily off the ground while the frame D is being raised upward, there is applied to the cutter-bar what I term a "stiffener," L. (See Figs. 5 and 6.) It is composed of a series of bars, *w w w*, each being formed and arranged in the said cutter-bar as shown in the said figures. The front end of each of the said bars *w* not only abuts against the rear end of that section of the next bar in advance of it, but projects downward against the rear end of that section of the cutter-bar which is next beyond it. Under these circumstances the act of moving forward the rear-most bar, *w*, longitudinally will cause each of the other bars *w* to be put in movement in a manner not only to move the bar in advance of it, but press against and support that section of the cutter-bar which may be immediately beyond it. The said stiffener L at its rear end is jointed to a shaft, M, whose two bearings are respectively supported by the two frames A and D. From one side of the said shaft M the fulcrum of a lever, N, projects, such lever carrying a sectoral arc, *x*, at its lower end. A chain, *y*, attached to the sectoral arc, passes around a sheave, *z*, and from thence depends and is attached to the cutter-bar carriage D, as shown in Fig. 4. A movement of the lever on its fulcrum suffices to raise the cutter-bar frame, while a lateral movement of it at the same time effects a for-

ward movement of the stiffener, a catch, *a'*, serving to lock or hold the lever M while the cutter is thus elevated and stiffened. Were it not for the stiffener the cutter-bar could not be raised off the ground.

What I claim as my invention is as follows—that is to say:

1. Making the cutter bar or holder E in sections, hinged together in manner and for the purpose substantially as specified.
2. In combination with so making the cutter-bar, making the connection F of the tails of the cutters in sections hinged together and to a connecting-rod, essentially as described.
3. Making each tooth *l*, situated at the junction or joint of each two sections of the cutter-bar, in two parts, hinged together, constructed, and applied respectively to the two sections, as and for the purpose specified.
4. Combining with the cutter-bar, made in sections connected as described, a stiffener, L, constructed and made to operate therewith, substantially as described.
5. Combining the lever N and the shaft M together and to the frames A and D, substantially as specified, in order that by means of simultaneous movements of the lever in backward and lateral directions the cutter-bar frame may be elevated and the stiffener impelled forward at one and the same time.

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Witnesses:

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