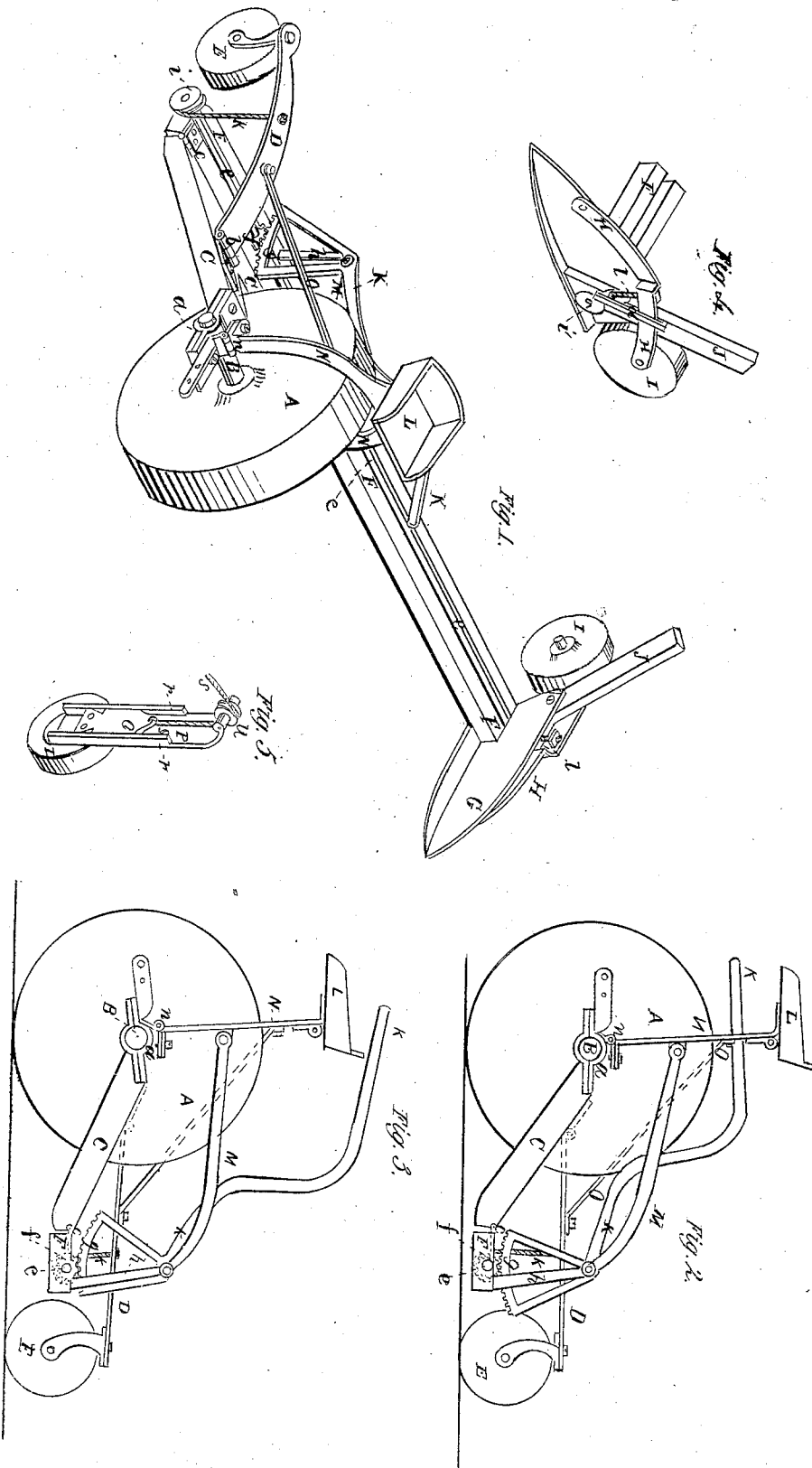


J. P. Manny.
Mower.

No. 18510

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UNITED STATES PATENT OFFICE.

JOHN P. MANNY, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **18,510**, dated October 27, 1857.

To all whom it may concern:

Be it known that I, JOHN P. MANNY, of Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents in perspective so much of a mowing-machine as will illustrate my invention. Fig. 2 represents an end view of the same with the cutter-bar lowered close to the ground. Fig. 3 represents a similar end view with the cutter-bar raised up, and showing the changes of the several parts to effect the raising. Fig. 4 represents in perspective the outside dividing-shoe and supporting-wheel, and Fig. 5 represents a modification of the plan of raising and lowering the cutter-bar.

Similar letters of reference, where they occur in the several figures, denote like parts of the machine in all of them.

The nature of my invention relates to the hanging or suspending of the cutter-bar by flexible connections—such as cords or chains—by both its ends to rigid frames, so that it may be raised and lowered by both its ends at the same time by the driver in his seat, and without straining or twisting said cutter-bar, the advantages of so hanging the cutter being that the connection between the inner and outer part of the machine may be less heavy; the cutter-bar may be raised or lowered while it preserves the same horizontal plane and without warping or straining it; and, lastly, the flexible connections will allow the cutter-bar to rise when it comes against any obstruction and yield to it, when any rigid connection would, under the same circumstances, break or injure the machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe the construction and operation of the same in connection with the drawings.

A represents the main supporting and driving wheel, the journals of whose axle B are supported by and turn in boxes *a*, (one only being seen, but both alike,) attached to the frame C, so that said frame may hinge with or be raised or lowered on said journals. To this frame C is hinged at the point *b*, or at any other point nearer to the axle B, or to the axle

itself, an arm D, which has on its rear end a caster-wheel, E, to support it. The only object in its being a caster-wheel is to facilitate the turning around of the machine. Otherwise it might be a supporting-wheel alone.

To the rear of the frame A is hinged by the hinges *c c* the cutter-bar F, which may be of the usual length, and the outer end of said bar has attached to it the divider G for dividing the grass or grain that is to be cut from that which is to be left standing.

To the divider is pivoted an arm, H, in the rear end of which is hung the outside supporting-wheel, I, said arm H passing through a guide, *d*, fixed in the brace or post J.

A groove or opening is made longitudinally through the cutter-bar F, in which is laid or placed a rod or shaft, *e*, with proper supports in which it may freely turn, and on this shaft *e* there is a pinion, *f*, into which a segmental rack, *g*, takes, said rack *g* being connected to a lever, K, pivoted to the top of the post or standard *h* and extending to the seat L, so that the driver or conductor from his seat may with his hand or foot operate said lever, and through the segmental rack *g* and pinion *f* turn the shaft *e* in its supports or bearings.

On each of the extreme ends of the cutter-bar are arranged pulleys *i i'*, to the former, *i*, of which is connected one end of a cord or chain, *k*, the other end being attached to the arm D, and to the latter, *i'*, is also connected one end of a cord, *l*, the other end of which is attached to the arm H, so that when the shaft *e* is rotated in one direction it will by winding up the cords or chains on its pulleys raise up the cutter-bar, and by reversing its motion, let the cutter-bar down again.

I can dispense with the long shaft or rod running through the cutter-bar by using instead thereof a cord or chains, as will be explained in connection with Fig. 5.

To the top of the standard or post *h* is attached one end of a radius-bar, M, the other end thereof being similarly connected—viz., pivoted to the standard N, which supports the driver's seat L. This bar M of course keeps the top of post *h* and the standard N at the same relative distance from each other, and this, with the hinged joint in front of the cutter-bar at *c*, holds the finger-bar (and the platform, when connected to it) horizontally with the ground, and admits of its rising or falling in

the same horizontal plane, or planes that are parallel to each other.

The cutter-bar is in fact suspended at each one of its ends to a rigid frame—viz., the arm and wheel D E at one of its ends and the arm and wheel H I at its opposite end—and said bar, being raised at both its ends simultaneously, does not sag, warp, or twist, and, being thus suspended and raised, it can be made lighter, because it is not obliged to withstand so much strain.

The standards N, that support the seat L, are hinged as at *n*, because in raising the frame C the boxes must roll somewhat; but the standards are braced from the arm D by a brace, *o*, which keeps the seat in nearly the same position, and would do so entirely were the joint at *b* moved up to or made on the axle or immediately under the seat.

Fig. 5 represents a modification of the plan heretofore described for raising and lowering the cutter-bar. It is as follows: I is the outside supporting-wheel, hung to an upright piece, P. Two flanges, *r r*, are formed or turned on this piece P to form ways or guides for a plate, Q, to travel in, said plate being permanently attached to the end of the cutter-bar. A cord or chain, *s*, has one of its ends attached to the plate Q, and then passes over a pulley, *u*, in the top of upright piece P, and thence down underneath or through a groove or opening in the cutter-bar to the opposite end thereof, where it may be wound up on the same pulley with the cord or chain at that end, or by the raising-lever in any of the well-known ways.

The effect in this case is precisely the same as in the former one—viz., the cutter-bar would be suspended at both of its ends to rigid frames, it would be raised and lowered by both its ends, and while it was being raised or lowered it would not practically change its horizontality with regard to the ground. A rigid connection at each end of the cutter-bar requires the constant attention of the driver, and the raising-lever can never be fastened, because of the liability of the bar to strike or come against obstructions on the ground, and if not allowed to rise itself to mount over such obstruction it is liable to break or be injured. By the use of the flexible connections the cutter-bar is free to rise and surmount any intervening obstacle, and then drop again to its adjusted height above the ground without the aid of the driver or conductor.

Having thus fully described the nature and object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

Suspending, elevating, and lowering the cutter-bar of mowing-machines in a horizontal position by means of flexible connections—such as cords or chains—attached to each of its ends, when the same are arranged in relation to and used in combination with independent rigid frames, substantially in the manner and for the purposes herein described.

JOHN P. MANNY.

Witnesses:

JAS. B. WATTS,
J. G. MANLOVE.