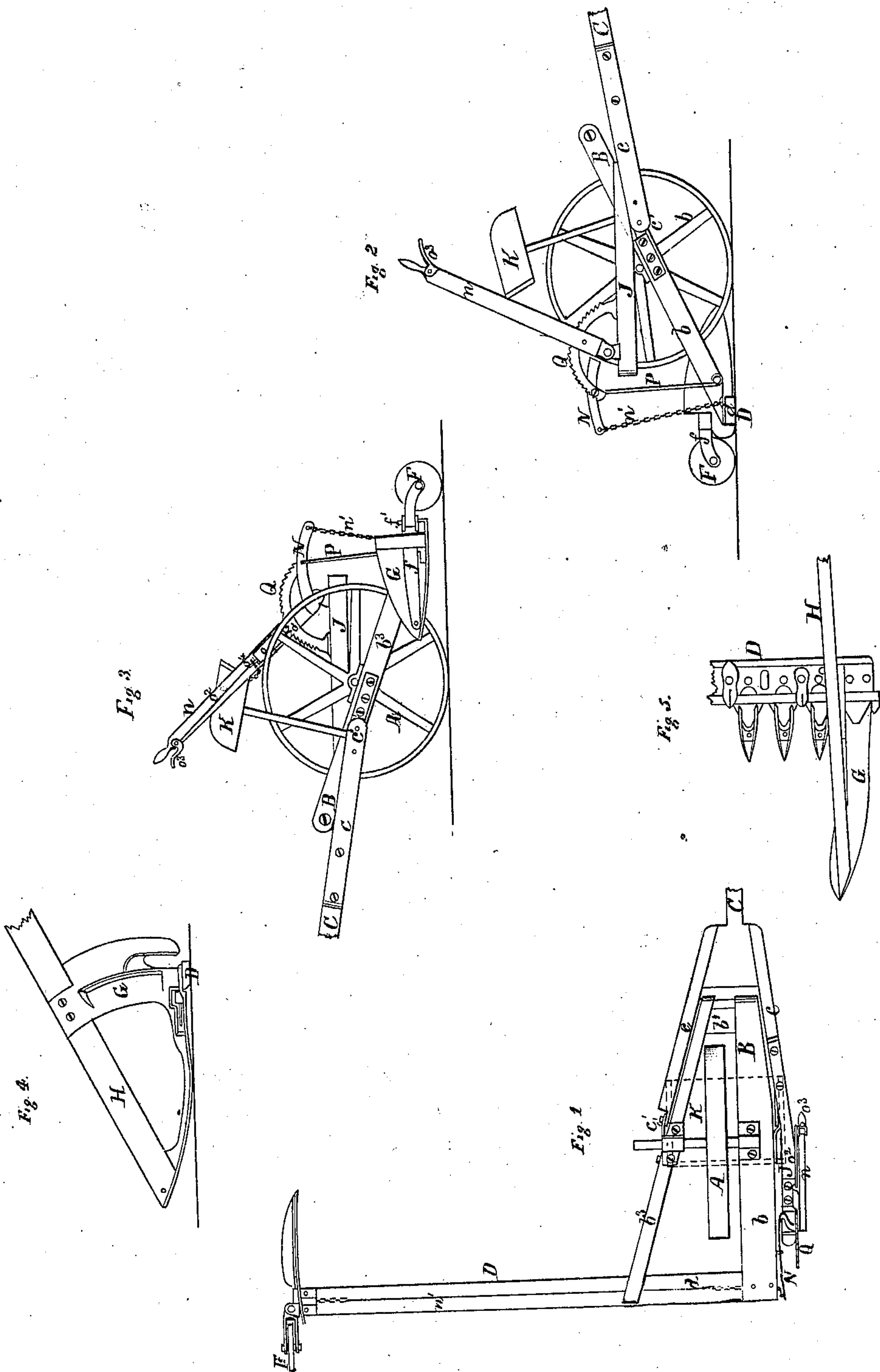


J. P. Manny, Mower.

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Wm. D. B. Lamm }
Charles H. Jones Jr. } Witnesses

John P. Manny

UNITED STATES PATENT OFFICE.

JOHN P. MANNY, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 34,763, dated March 25, 1862.

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, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a plan or top view of a mowing-machine embracing my improvements, the driver's seat being shown in red lines. Fig. 2 represents a view in elevation of the outer or grain side of the same, the finger-beam being shown as resting upon the ground. Fig. 3 represents a similar view from the divider side of the same with the finger-beam raised from the ground. The red lines in this figure show a device for locking the spring-detent in order to hold it out of contact with the rake. Fig. 4 represents a view in elevation of an improved divider and a portion of the reel-post; and Fig. 5 represents a plan or top view of the same, together with a portion of the cutting apparatus.

It is the object of the invention claimed under this patent to produce a cheap, simple, and efficient mowing-machine; and to this end my improvements consist, first, in extending one of the hounds of the hinged tongue backward over the finger-beam and mounting the apparatus which controls the vertical movements of the finger-beam upon it; secondly, in inclosing the driving-wheel in a gearing-frame, to the rear end of which the finger-beam is secured, in combination with a tongue, the hounds of which are hinged near the axle of the driving-wheel, and upon which hounds a driver's seat is mounted, as hereinafter more fully set forth.

The accompanying drawings represent a convenient arrangement of parts for carrying out the objects of my invention.

In this instance the driving-wheel is shown as inclosed by two stout beams, b b' , the outer one, b , of which is made stouter than the other, in order that the gearing may be mounted upon it. The inner edge of this beam b also lies parallel to the plane of the driving-wheel, while its outer edge gradually tapers toward the driving-wheel from a point in front of its axis. The inner beam, b^3 , gradually converges toward the other from rear to front, leaving barely

space enough for the revolution of the driving-wheel, and the two are connected in front by the cross-bar b' , the three forming the gearing-frame B.

The finger-beam D is firmly fastened to the under sides of the rear ends of the beams b b^3 . The heel of the beam, or that portion d of it between the two beams, is bent upward at a slight angle in order to pass over obstructions with greater ease.

A pair of hounds are rigidly secured to the tongue C, and pivoted to the gearing-frame near the axle of the driving-wheel by the hinges or joints c' . A seat, K, for the driver is mounted upon these hounds very close to their point of attachment to the gearing-frame. As the hounds always remain at very nearly the same level, it follows that the seat will be much less liable to tilt backward and forward than if mounted upon the gearing-frame itself.

A strong beam, J, is firmly secured to one of the hounds c , so as to form, as it were, an extension thereof. It is horizontal and parallel to the plane of the driving-wheel and extends backward nearly to the finger-beam, but above it. A curved rack, Q, is secured upon this beam or frame. A bent lever, N, is also pivoted upon this beam, its handle n extending forward near the driver's seat, so as to be within easy reach of his hand. A rod, P, extends from the rear end of the outer beam, b , of the gearing-frame to the bent lever n near its middle. A cord or chain, n' , extends from the rear end of the bent lever down to a pulley on the end of the finger-beam, thence along the beam to the hinged arm f , which supports the caster-wheel F. By this means both ends of the beam may be raised or lowered simultaneously, while at the same time the cutting apparatus is kept horizontal and its fingers prevented from digging into the ground.

Upon the inner side of the lever-handle n is secured a bolt-case, o . The spring detent or bolt o' , which engages the teeth of the curved rack Q, slides longitudinally within this case, and its lower end is held in contact with the rack by means of a coiled or spiral spring inside the case. A cord or wire, o^2 , leads from the end of this bolt up to a small bent lever, o^3 , pivoted upon the upper end of the lever-handle n . By reference to the drawings it will be seen that the arrangement of the mechanism is such that when the bolt engages the teeth of the rack

a rigid connection is formed between the horizontal frame J and the finger-beam, and that consequently the cutting apparatus will be held at an unvarying height from the ground. By pressing on the small bent lever o^3 with his hand the driver can release the bolt from the rack and adjust the finger-beam to any elevation desired by pushing the lever-handle n backward or forward. As soon as he releases his grasp upon the handle, the spring throws the bolt o' into contact with the teeth of the rack and holds the beam firmly, as before. This method of maintaining the finger-beam at a uniform elevation is of great utility when moving from place to place, or cutting stubble of a given length; but when mowing over rough ground it is essential that the finger-beam should be allowed to play freely up and down, in order to conform to the undulations of its surface. In order to give this flexibility to the finger-beam, I make a transverse slot or hole in the bolt o' in such position that when the bolt is withdrawn from the rack the slot will be above the top of the case; and by inserting a pin, o^4 , into this slot the bolt will be held out of contact with the rack, thus permitting the finger-beam to play freely up and down. The details of this arrangement are clearly shown in Fig. 3, in which the locking-pin o^4 is shown in red lines.

In Figs. 1, 2, and 3 the divider end of the finger-beam is represented as supported upon a caster-wheel, F, the yoke of which is pivoted to an arm or radius-bar, f , hinged near the point of the divider and capable of playing freely up and down, the pivot or hinge f' , which connects this hinged arm and the caster-yoke, is so arranged that when the finger-beam rests upon the ground the axis of the pivot is inclined slightly forward from the perpendicular, the effect of which arrangement is that when the machine is turned (which is always done by backing the divider end of the beam, while the driving-wheel forms the pivot upon which the turn is made) the caster-wheel swings round and raises the finger-beam from the ground while turning. As soon as the forward movement of the machine recommences, the caster-wheel resumes its original position, and the finger-beam is again lowered upon the ground.

Figs. 4 and 5 represent views on an enlarged scale, showing my improvements in the divider and the mode of attaching both it and the guard-fingers to the finger-beam; but as I propose to make these devices the subject of a separate application for Letters Patent hereafter, a further description of them is deemed unnecessary here.

The operation of the machine is such that when the horses are harnessed to the machine the beam J and the tongue are horizontal, or very nearly so, and always remain at the same elevation above the ground. Owing to this fact, the driver's seat K, which is mounted upon the hounds, remains comparatively undisturbed by the movements of the machine; whereas, were it mounted upon the frame B, it would be constantly rocking backward and forward during the oscillation of the frame. The arrangement of the finger-beam, gearing-frame, and hinged tongue is such that the beam is free to play up and down without varying the weight upon the necks of the horses, while at the same time the pull of the team has no tendency to lift the finger-beam from the ground, which is of great importance in mowing.

It is obvious that attaching the tongue rigidly to the gearing-frame would entirely change the character of the machine, as the weight of the tongue would constantly tend to raise the rear end of the machine. By means of the adjusting mechanism mounted upon the horizontal frame J, I am enabled either to hold the finger beam at any desired elevation or to allow it to play freely up and down at will, and thus combine the advantages of both a rigid and a limber tongue.

I deem it unnecessary to describe here the details of the construction and operation of the various parts of the mechanism, which are common to nearly all mowing-machines of recent date, and well known to all skillful constructors of such machines. Moreover, such parts as are of my own invention are fully described in three several applications for Letters Patent of the United States for improvements in harvesters, respectively marked "A," "B," and "C," and filed February 25, 1862.

What I claim under this patent as my invention is—

1. Mounting the apparatus which regulates the height of the finger-beam on an extension of one of the hounds of the tongue, as and for the purpose described.

2. The combination, in a mowing-machine, of a finger-beam, gearing-frame, hinged tongue, and driver's seat, when the whole is arranged and operated substantially as herein described.

In testimony whereof I have hereunto subscribed my name.

JOHN P. MANNY.

Witnesses:

WM. D. BADLWIN,

CHARLES H. JAMES, Jr.