A. Palmer,
Mower.

No. 51,746. Patented Dec. 26. 1865.

Fig. 2.

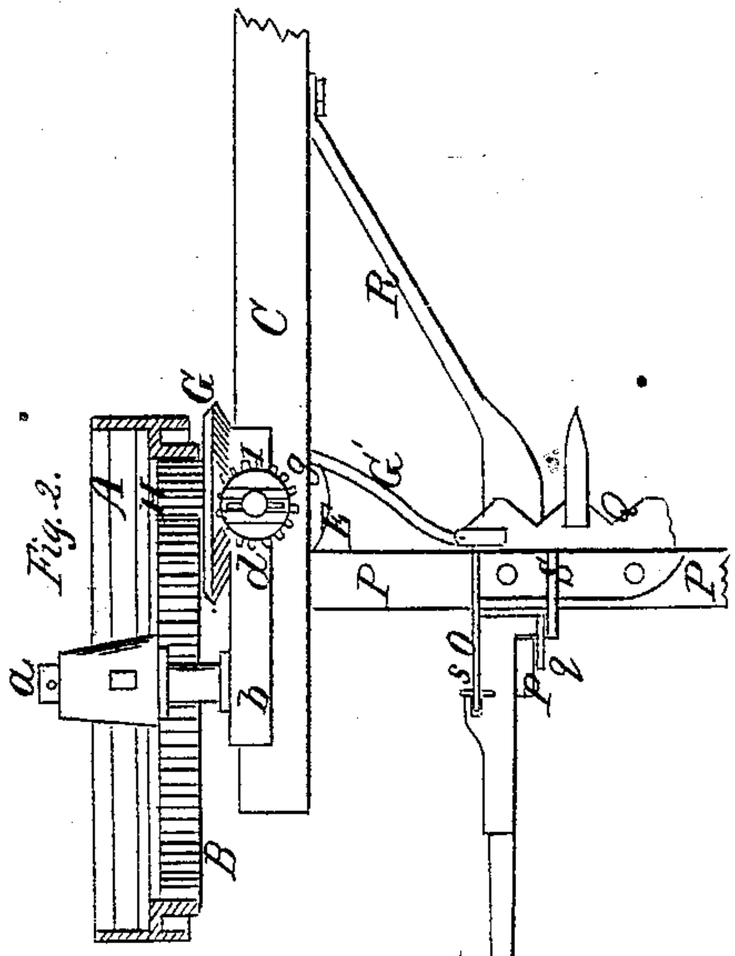


Fig. 7.

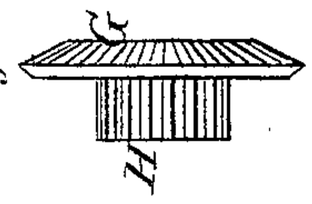


Fig. 5.

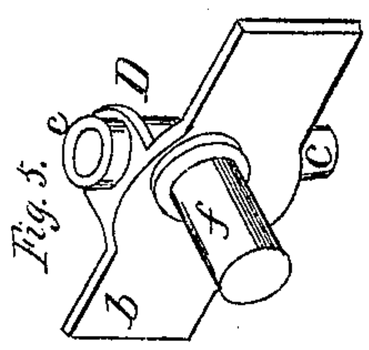


Fig. 6.

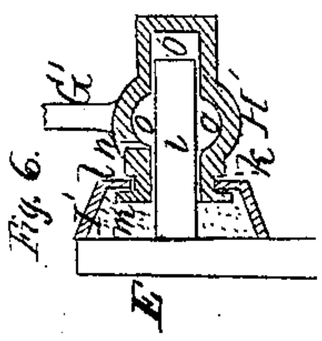


Fig. 3.

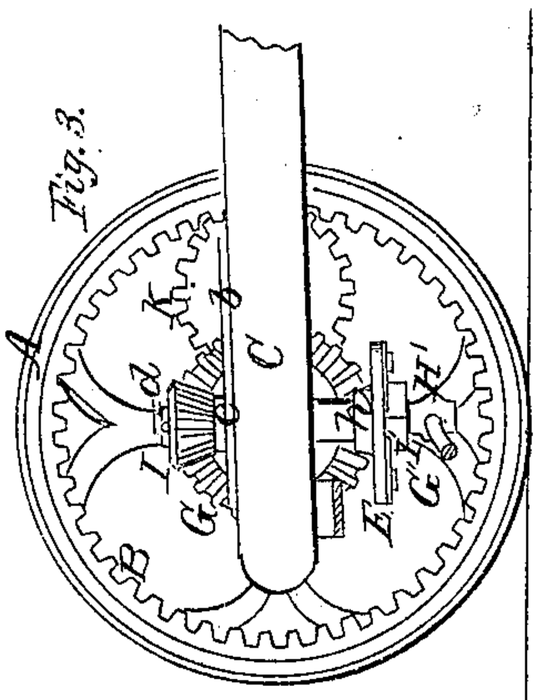


Fig. 1.

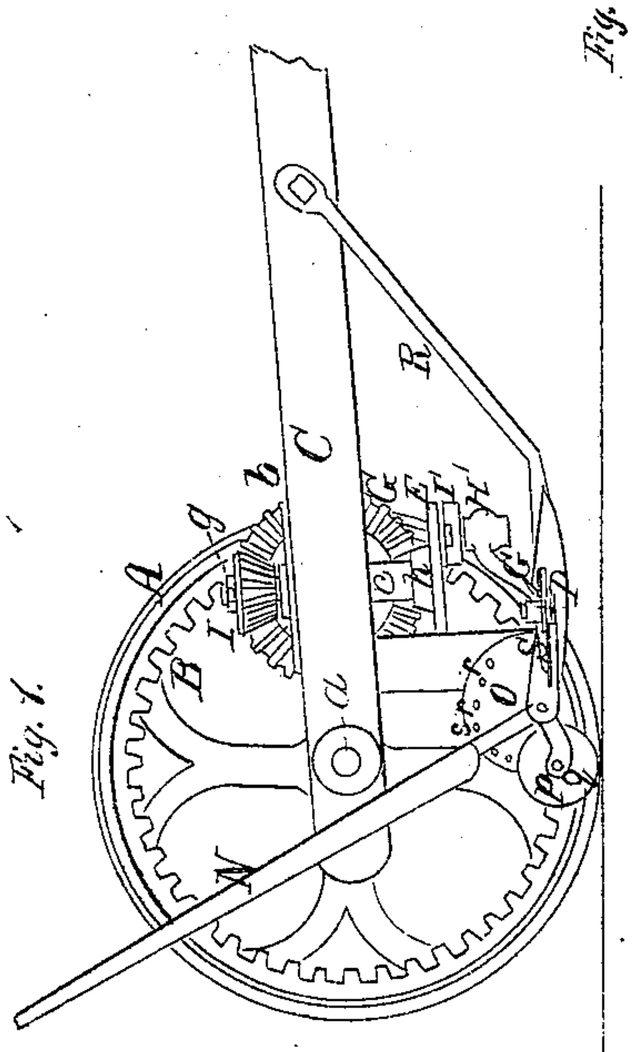
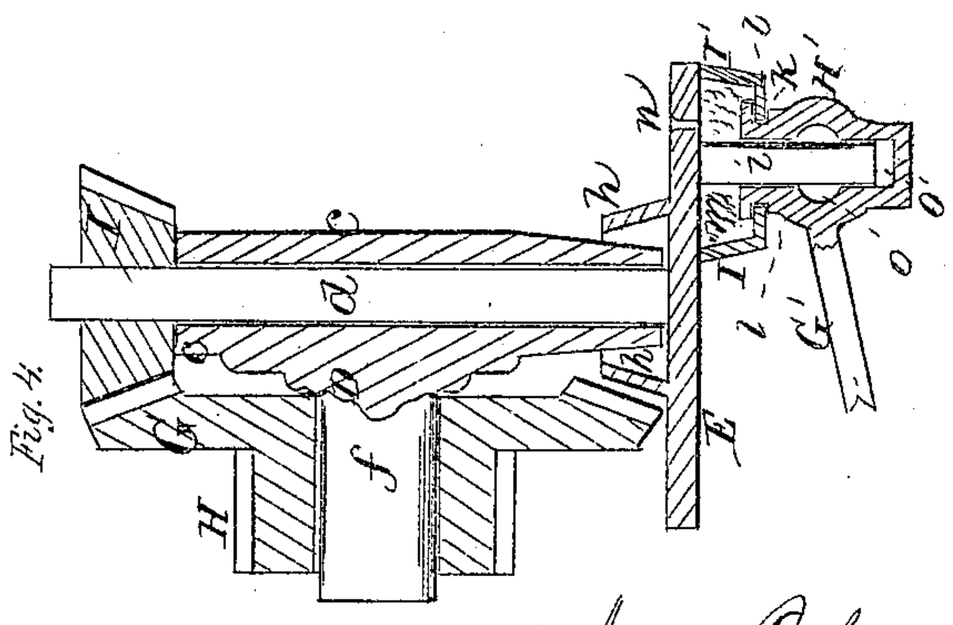


Fig. 4.



Witnesses.
Geo. W. Rofe
Jay Hey att.

Aaron Palmer
By J. Fraser & Co
Attys.

UNITED STATES PATENT OFFICE.

AARON PALMER, OF BROCKPORT, NEW YORK.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **51,746**, dated December 26, 1865; antedated November 28, 1865.

To all whom it may concern:

Be it known that I, AARON PALMER, of Brockport, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a side elevation of my improved machine; Fig. 2, a horizontal section of the driving-wheel in the plane of line *x x*, Fig. 1, and showing a plan of the gearing and operating parts; Fig. 3, a view similar to Fig. 1, but showing a modification of the gearing; Fig. 4, a vertical section of the bearing supporting the pitman-wheel shaft and the bevel cog-wheel and pinion, with those parts connected therewith, and also showing the box inclosing the crank-pin of the pitman-wheel; Figs. 5, 6, and 7, views of parts detached.

Like letters of reference indicate corresponding parts in all the figures.

My improvements have relation more particularly to machines for mowing grass; and the invention consists essentially in an improved arrangement of the gearing and working parts, and the making of the tongue or shaft as the main frame of the machine.

As represented in the drawings, A is the ordinary driving-wheel, having an internal gear, B; and C is the tongue or draft-pole, to which the driving-wheel is attached. The driving-wheel rests upon a journal, *a*, secured in any manner to the tongue. At a suitable position in front of this journal a bearing, D, is secured to the tongue by means of a flange, *b*, through which pass screws holding it to the wood, or in some equivalent manner. This bearing is formed in a single piece, and consists of a hollow elongated vertical box, *c*, for holding the shaft *d* of the pitman-wheel E, and an axis or journal, *f*, on which rests and turns loosely a bevel cog-wheel, G, and spur-pinion H, the latter both also formed in one piece, as shown. The spur-pinion H meshes with the internal gear, B, of the driving-wheel, while the bevel-wheel G gives motion to a bevel-pinion, I, coupled by means of a pin, *g*, to the upper end of the pitman-wheel shaft *d*, by which means the pitman-wheel is operated.

Instead of gearing the pinion H directly with the internal gear, B, as above described, and as shown in Figs. 1 and 2, an independent spur-pinion, K, may be interposed, as represented in Fig. 3. In this case the axis or journal *f*, on which the loose bevel wheel and pinion G H work, is extended sufficiently to also receive the driving-wheel on the same center, and an independent journal is employed to receive the intermediate pinion.

By the arrangement of the bearing D, consisting of the elongated box *c*, axis *f*, and flange *b*, the whole formed in a single piece, I am enabled to secure the gearing and operating parts directly to the tongue itself, thus dispensing with the ordinary main frame, and thereby economizing space and saving cost. I am aware of no machine in which the simple tongue answers as the main frame for attaching the operating and driving parts.

In all machines with which I am acquainted either a regular main frame is required or a substitute in the form of an enlarged cast-iron plate, that occupies considerable space and is very costly and heavy. By my arrangement, also, the gearing is simplified, consisting of but few elements and situated in the most compact form. In accomplishing these two results—viz, attaching the parts directly to the tongue, and thereby dispensing with a main frame and capped boxes and keys, and simplifying the gearing and putting it in the most compact form—a special and particular construction and arrangement of the bearing D is required, which is adapted to this purpose and no other. Such I consider one feature of my invention.

The finger-beam P and sickle Q are of usual construction. The finger-beam is attached on the under side of the tongue in the ordinary manner, and is suitably stiffened by a brace, R, or some equivalent means. In the angle at the heel of the finger-beam is situated a stiffener, S, which performs the double function of suitably stiffening the finger-beam at this point and of furnishing a vertical concentric segment-guide, O, (which is a part of it,) for the adjustment of a lever, N, and roller *p*, hinged at *q* and running in the rear of the finger-beam. The segment O is provided with a series of adjusting-holes, *r r*, in any of which fits a pin, *s*, so that by changing from one to

another the lever N may be depressed or raised at pleasure, thereby acting upon the roller *p*, and consequently correspondingly raising or lowering the finger beam. This pin and these holes are essential in going into a field, and also in serving as a gage or stop to limit the height at which the finger-beam runs in cutting grass. The lever comes within reach of the operator in his seat, so that he can raise the finger-beam at pleasure in passing an obstruction.

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

The special construction and arrangement of the bearing D, consisting of the box *c* for receiving the shaft of the pitman-wheel, the axis or journal *f* for receiving the bevel cog-wheel and spur-pinion, and the flange *b*, or equivalent, for attaching to the tongue, the whole arranged so as to avoid the use of a main frame, substantially as herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

AARON PALMER.

Witnesses:

R. F. OSGOOD,

CHAS. N. SPENCER.