

McCormick & Erpelding.

Mower.

Nº 61228

Patented Jan. 15, 1867.

Fig. 1.

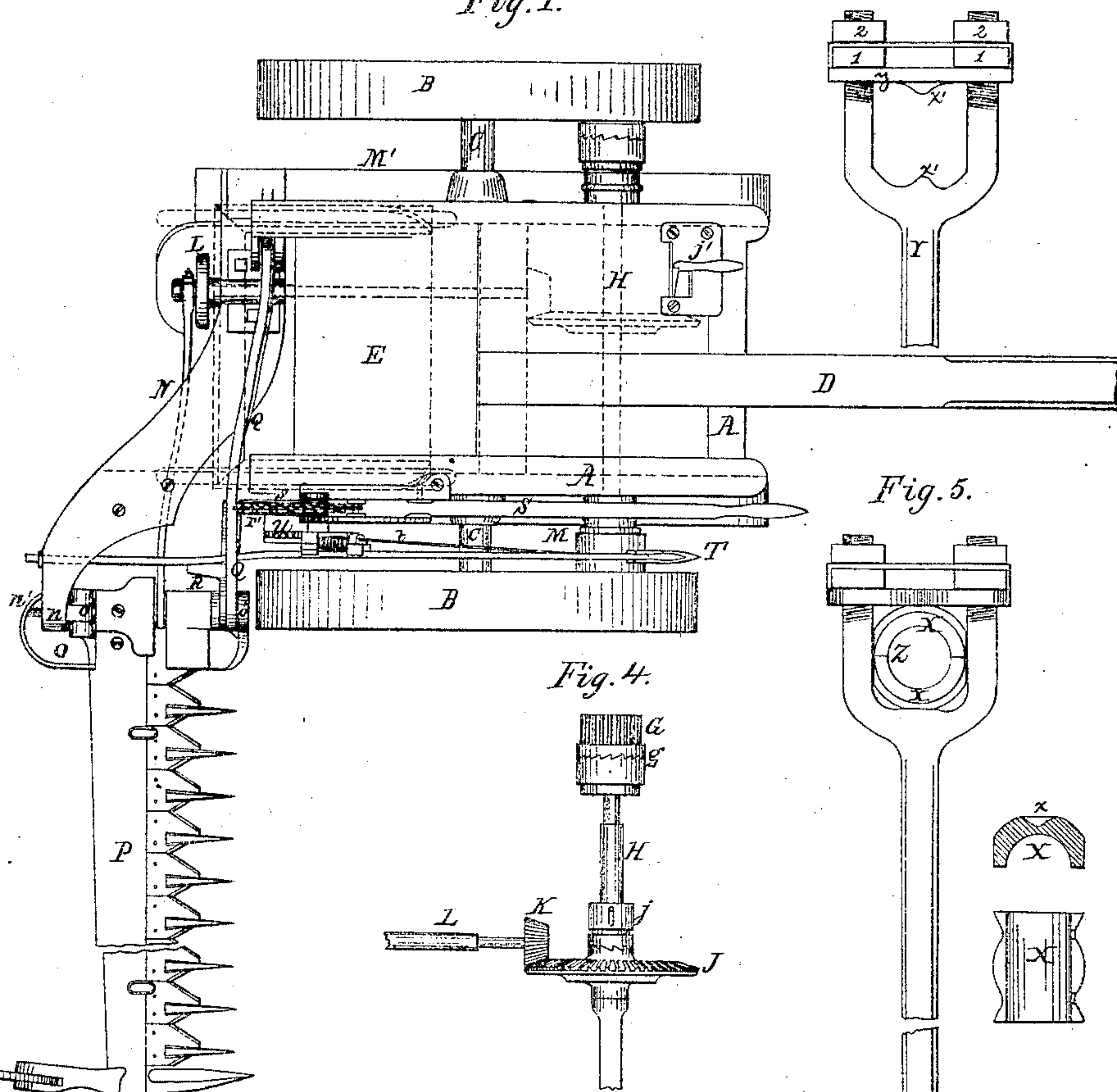


Fig. 5.

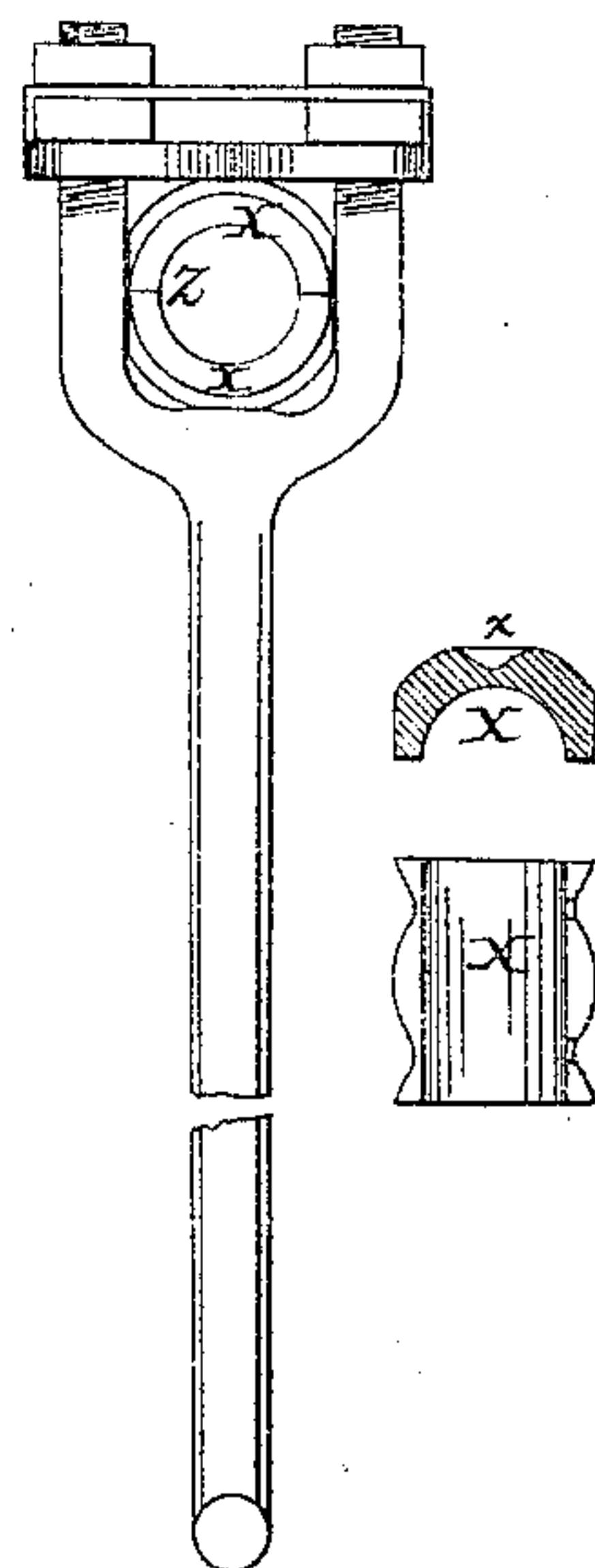


Fig. 4.

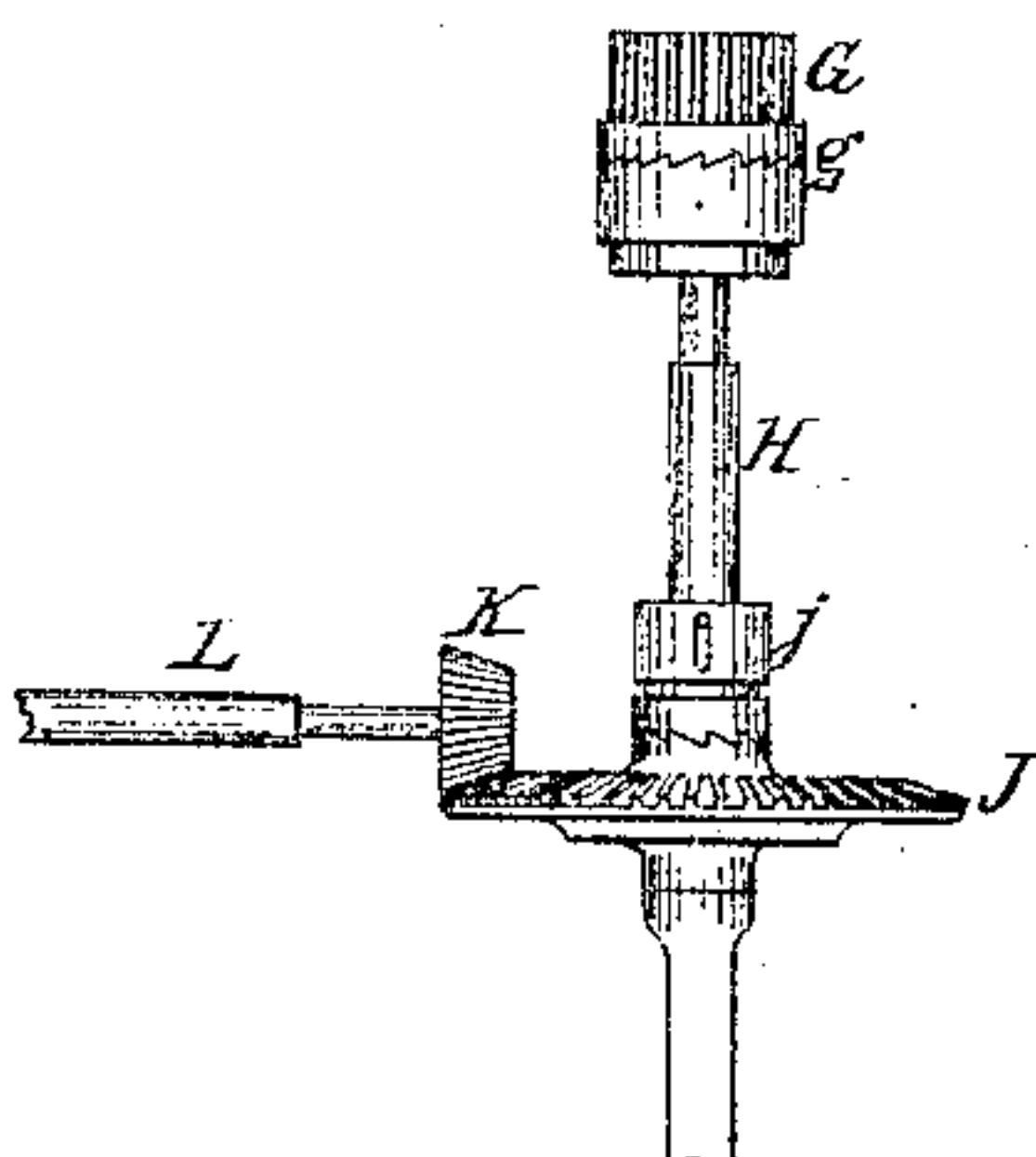


Fig. 2.

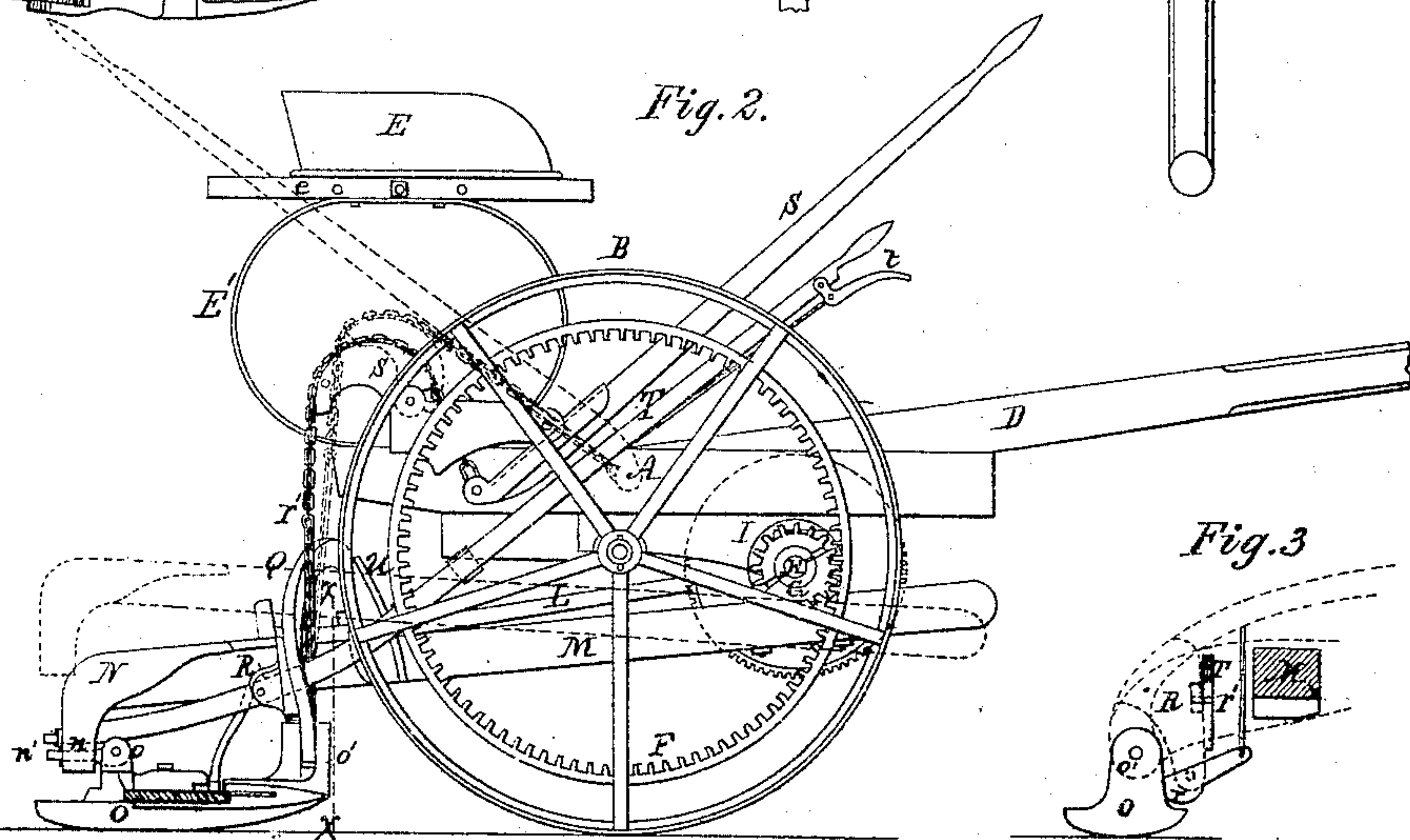
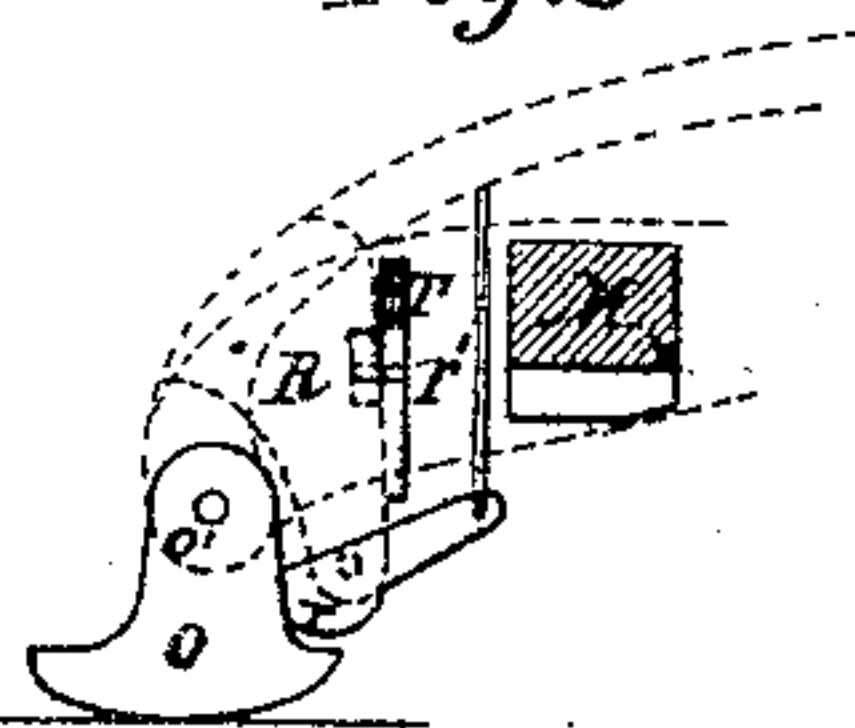


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

LEANDER J. McCORMICK AND LAMBERT ERPELDING, OF CHICAGO, ILLINOIS;
SAID ERPELDING ASSIGNS HIS RIGHT TO SAID McCORMICK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 61,228, dated January 15, 1867.

To all whom it may concern:

Be it known that we, LEANDER J. McCORMICK and LAMBERT ERPELDING, both of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Harvesters, 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 harvester embracing our improvement. Fig. 2 represents a view in elevation of the inner or stubble side of the same. Fig. 3 is a view, partly in section, at the line *xx*, Fig. 2, showing the device for locking the joint at the heel of the finger-beam. Fig. 4 is a view of a part of the counter-shaft and crank-shaft detached; and Figs. 5 and 6 are views of the details of the pitman-box and connections.

Our invention relates to that class of hinge-joint harvesters in which the tongue is rigidly secured to a main frame, carrying a seat for the driver, and mounted upon two wheels, both of which act as drivers, while one end of the finger-beam is hinged to the rear end of a supplementary frame hinged to the forward part of the main frame, and capable of rising and falling freely to conform to the undulations of the ground over which it is passing; and the improvement herein claimed consists, first, in combining with the main frame balanced upon two supporting and driving wheels, and having a rigid tongue projecting from its forward end, and a driver's seat mounted upon the rear end, a supplementary frame hinged at its forward end to the main frame in advance of the main axle and in line with the counter-shaft, and having the cutting apparatus hinged to the rear end of the supplementary frame in such manner as to have both a rising and falling, and an axial movement independent of the main frame, substantially as hereinafter described; second, in combining with the supplementary frame, hinged as described, a finger-beam, pivoted at the heel of the shoe to the inner rear corner of the supplementary frame by a swiveling-joint, and at the front of the shoe to a pivoted coupling-arm passing over the supplementary frame and secured to

the outer side thereof, and a rocking-lever pivoted to the supplementary frame and coupling-arm to rock the finger-beam axially; third, in a lever which serves both to lock the finger-beam and to raise it horizontally or parallel to the ground; fourth, in combining with the hinged finger-beam, a rocking-lever to rock the beam axially, and a lifting and locking lever, which raises the beam horizontally; fifth, in a novel mode of connecting the finger-beam to the frame.

In the accompanying drawings a stout rectangular main frame, *A*, is shown as supported upon two driving-wheels, *B*, mounted on a common axle, *C*. A tongue, *D*, is rigidly secured to and projects in front of the frame, while a seat, *E*, for the driver is mounted upon circular springs *E'* on the rear of the frame. This seat can be moved backward and forward on the bars *e*, being provided for this purpose with horizontal slots through which a bar passes underneath the seat.

Internally-gear'd spur-wheels *F* on the driving-wheels gear into spur-pinions *G* on a countershaft, *H*, turning in brackets *I* underneath the main frame, and provided with the usual backing-ratchets *g*. A bevel-wheel, *J*, on the counter-shaft drives a corresponding pinion, *K*, on the crank-shaft *L*, (turning in bearings on the supplementary frame,) which drives the cutters by a crank and pitman in the usual way. The bevel-wheel *J* runs loosely on the shaft, and is thrown into and out of gear by a sliding clutch, *j*, operated by a shifting-lever, *j'*.

Figs. 5 and 6 show the details of the pitman-box, which consists of two semi-cylindrical bearings or journals, *X*, within which the crank-pin *l* works. The boxes each have recesses *x* in which pivots *x'* on the pitman *Y* fit. The bifurcated ends of the pitman have screws cut on them. A bar, *y*, is placed on them to form the bearing for the upper box, and is held down by nuts 1. A guard-plate, *z*, is placed over these nuts and held down by screw-nuts 2. By this mode of construction the pitman is free to traverse round the crank-pin, or to turn axially to accommodate itself to the rising and falling and rolling motion of the finger-beam, and the nuts are prevented

from being shaken loose by the vibration of the pitman.

The supplementary frame consists of two parallel longitudinal side pieces, M M', connected by suitable cross-bars. The inner side piece M is longer than the other, and the two are connected by a curved metal brace or cross-piece, N, which lies upon and extends beyond the supplementary frame, and is bent down so as to form a lug, *n*, in which to pivot the hinge of the finger-beam. This piece N is formed with a flange, so as to embrace the end and top of the side piece M, to which it is firmly fastened, both by vertical and horizontal bolts, thus securing great rigidity, and preventing the rocking or twisting of the frame, the cross-piece N, the bar Q, and the shoe forming a triangular frame.

The finger-beam P is firmly secured at its inner end to a shoe, O, having upon it two lugs, *o o'*.

A rod, *n'*, is pivoted to play vertically in the rear lug *o*, while it has an axial rotation in the lug *n*, so as to allow the finger-beam to rise and fall at its outer end, and to rock axially to raise or lower the points of the guards, while it also rises and falls with the supplementary frame.

A curved coupling-arm or brace, Q, is pivoted to the front lug *o'*, curving over the supplementary frame, and pivoted to the outer beam M. A bifurcated bracket, R, is secured to the lower end of this coupling-arm. A locking-cam, *r*, Fig. 3, plays in this bracket, and is connected by a cord or chain, *r'*, with a locking-lever, S, on the main frame, the chain passing over a crescent-shaped cam, *s*, pivoted to the frame by one horn, as shown in Fig. 2. When the toe of the locking-cam is depressed by raising lever S, it abuts against the heel of the finger-beam so as to prevent its divider end from falling below a horizontal plane when the finger-beam is raised from the ground.

The rear end of the lifting-lever T is pivoted in the lug *n*, and extends forward and upward above the main frame, within reach of the driver. The bracket R is pivoted to this lever, as well as to the coupling-arm Q, so that by raising or lowering the lever the points of the guard-finger are raised or lowered.

A spring-detent, *t*, and segment-rack U,

serve to hold the lever T in any position desired.

As the machine advances (when in operation) the supplementary frame rises and falls to conform to the undulations of the ground over which the shoe *o* passes, while the divider end of the finger-beam is free to rise and fall above or below the plane of the shoe. The driver can raise or depress the points of the guards by means of lever T. When he lifts the finger-beam, by raising lever S, the cam *r* bears against the shoe and keeps the finger-beam level while being raised by the lever. When the beam is raised to its greatest height the cam *s* is vertical, as shown in Fig. 2, and the strain being parallel with the lever, forms a self-locking device to hold the finger-beam in its elevated position.

As the lug *n* and coupling-arm Q extend beyond and below the supplementary frame, while the lugs *o o'* extend above the shoe, the finger-beam can easily be turned up so as to rest against the frame for transportation.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, as set forth, of the main frame, supplementary frame, and hinged and pivoted finger-beam, all constructed and arranged as described.

2. The combination of the supplementary frame, the hinged finger-beam, and the coupling-arm, with the rocking-lever, when arranged for joint operation, as described.

3. The combination of the shoe O, locking-piece *r*, and crescent-cam *s*, with the lever S, all arranged as described, for the purposes both of locking the finger-beam and lifting it longitudinally.

4. The combination, with the main and supplementary frames, of the hinged finger-beam, the locking-lever, the coupling-bar Q, and the rocking-lever, all arranged and operating as described.

5. The combination of the cross-piece N, and coupling-bar Q, with the shoe O, constructed and arranged as described.

In testimony whereof we have hereunto subscribed our names.

L. J. McCORMICK.

Witnesses: LAMBERT ERPELDING.

C. A. SPRING, Jr.,

JOHN CHURCH.