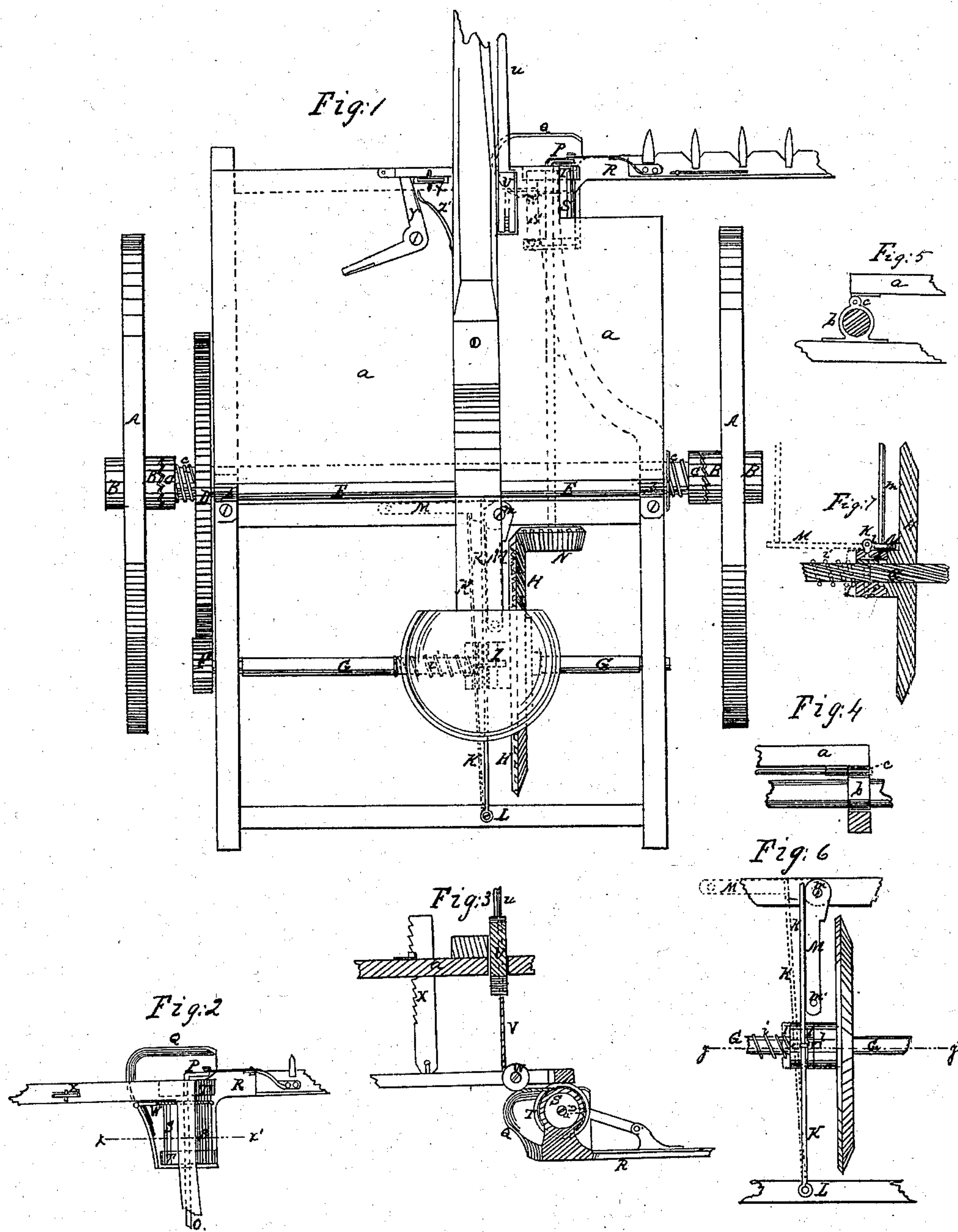


G. M. JACKSON.
HARVESTER.

No. 88,483.

Patented Mar. 30, 1869.



Witnesses.

A. Schmale
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United States Patent Office.

GEORGE M. JACKSON, OF NORTH HECTOR, NEW YORK.

Letters Patent No. 88,483, dated March 30, 1869.

IMPROVEMENT IN HARVESTERS

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE M. JACKSON, of North Hector, in the county of Schuyler, and in the State of New York, have invented an Improvement in Harvesters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the whole machine;

Figure 2 is a plan view of the joint between the finger-board and dragging-frame;

Figure 3 is a vertical section of fig. 2 on the line *x x*, showing also a portion of the foot-board;

Figure 4 is a side elevation of the hinge and box, for supporting the frame and foot-board;

Figure 5 is an end view of the same;

Figure 6 is a plan view of the devices for throwing the machine in and out of gear; and

Figure 7 is a vertical cross-section of fig. 6, upon the line *y y*.

Letters of like name and kind indicate like parts in each of the figures.

My invention is designed more especially for two-wheeled harvesters; and

It consists principally of the construction and arrangement of the joint between the inner end of the finger-bar and dragging-frame, in connection with the crank-shaft, which permits the outer end of the cutting-apparatus to be elevated or depressed without interfering with the operation of the cutters.

It further consists of the devices by which said cutting-apparatus may be elevated bodily, or at either end, to enable it to pass obstructions; and also of the arrangement of the devices, by means of which the machinery employed for actuating said cutting-apparatus may be connected with or released from engagement with the driving-wheels.

In the annexed drawings—

A A represent the driving, or ground-wheels, pivoted loosely upon the outer ends of the axle E, to which they impart motion when turned in a forward direction, by means of a series of angular teeth upon the face of the hubs B B, which engage with corresponding teeth upon the faces of the detents, or clutches C C, secured to said axle.

The clutches C C are loosely fitted to the axle, upon which they are allowed to slide longitudinally, but not to revolve. A key being secured to said axle, and fitting into a corresponding groove, or key-way in said clutches, a spiral spring, *c*, is caused to press against the back side of each clutch, holding it firmly against the hub of the wheel, except when the latter is caused to revolve backward, as in turning, in which event said clutch is thrown out of engagement.

Secured to, and revolving with the axle E, is a spur-wheel, D, which meshes into and imparts motion to the pinion secured upon the end of the counter-shaft G, and through the latter to the cutting-apparatus of the

harvester, by means of the bevelled gear H, pinion N, shaft O, and crank P, in the usual manner.

The bevelled gear H is fitted loosely upon the counter-shaft G, so that the latter may revolve freely within the former, except when it is desired to operate the cutting-apparatus, for which purpose is provided a clutch, I, secured to the shaft by a key working in a slot, or key-way within said clutch, allowing the latter to slide back and forth upon said shaft.

The face of the clutch I, next to the gear, is provided with a projection, which engages with a corresponding recess in the hub of said gear, locking the latter securely to the counter-shaft, with which it must revolve.

The clutch is caused to engage with, or is released from the gear H, by means of a rod, K, which is pivoted to the frame at L, passes through an eye upon a strap, *l*, working in a groove in said clutch, and is operated by means of a pin projecting downward from the lever M, pivoted to the frame at *m*.

A vertical rod, *m'*, is attached to the outer end of the lever M, and comes within convenient reach of the driver's hand.

A spiral spring, *i*, is caused to press against the clutch, so as to hold it against the hub of the bevelled wheel, except when thrown out of engagement by means of the lever M and rod K.

The inner end of the finger-bar R, and the shoe 2, are pivoted to the dragging-frame by means of a hollow pivot, or cylinder, S, suspended within suitable bearings T T, through the centre of which passes the crank-shaft O, by which arrangement the axial points of the crank-shaft and cutting-apparatus are the same, and the cutters will be operated freely, whatever the position of the finger-bar, rendering it unnecessary to throw the machine out of gear when it is required to raise said cutting-apparatus, which may be elevated to any height, or even thrown over, so as to rest against the pole, without derangement of any of the machinery.

The frame supporting the cutting-apparatus, and machinery for operating the same, is suspended from the axle E, by means of the boxes *b*, to the upper side of which the foot-board *a* is pivoted, allowing an up or down motion of either foot-board or frame independent of the other.

To enable the dragging-frame and the cutting-apparatus to be raised when necessary, a pulley, U, operated by means of a lever, *u*, is pivoted upon the foot-board, and has attached to it one end of a cord, V, which passes downward around a second pulley, W, upon the dragging-frame, and from thence over and around the cylinder S, to which it is secured. If, now, the lever *u* is pressed downward, so as to rotate the pulley U, the cord V is drawn upward and with it the dragging-frame, but if the latter is prevented from rising, the motion given to the cord will cause the cylinder S to rotate, and elevate the outer end of the cutting-apparatus.

To accomplish the latter object, a ratchet-bar, X,

is secured to the dragging-frame, and passes upward through a slot in the foot-board, where it is engaged by a catch, Y, within convenient reach of the driver's foot. If, now, the catch is caused to engage with the ratchet-bar, and the lever *u* pressed down, so as to draw the cord V upward, the dragging-frame will be prevented from rising, and the force exerted upon said lever will rotate the cylinder S, and elevate the outer end of the cutting-apparatus.

This harvester possesses many advantages, among which are—

First, it is peculiarly adapted for use in fields interspersed with stumps, trees, or other obstructions, as it can be run close to such obstructions, the cutting-apparatus raised to a sufficient angle to enable it to pass, and then dropped upon the opposite side, without stopping the operation of the machinery.

Second, there is little liability to injury to the joint between the dragging-frame and cutting-apparatus, while passing to or from the field, as the latter can be raised to a perpendicular position, so as to be entirely supported by the dragging-frame, and thus relieve the joint from the strain caused in those machines where the cutting-apparatus can only be raised to a less angle, and remains suspended, so that every jolt shall produce a strain upon said joint.

Third, the devices for throwing the machinery in or out of gear are simple, effective, and completely under the attendant's control, and the general arrangement of the machine is such as to render it easy to operate.

Having thus fully set forth the nature and merits of my invention,

What I claim as new, is—

The arrangement of the clutch I, rod K, spiral spring *i*, and lever M, substantially as and for the purpose shown.

Also, the combination of the cylinder S, bearings T, and crank-shaft O, together with the cutting-apparatus of a harvester, substantially as shown, and for the purpose set forth.

Also, the arrangement of the lever *u*, pulley U, cord R, pulley W, shoe Q, and cylinder S, together with the ratchet-bar X and catch Y, substantially as shown and described.

In testimony that I claim the foregoing, I have hereunto set my hand, this 19th day of February, 1868.

GEO. M. JACKSON.

Witnesses:

T. W. PORTER,
J. R. HOPKINS.