Moran & Wallace,

Mower.

No. 111,557. Patented. Feb. 7. 1871.

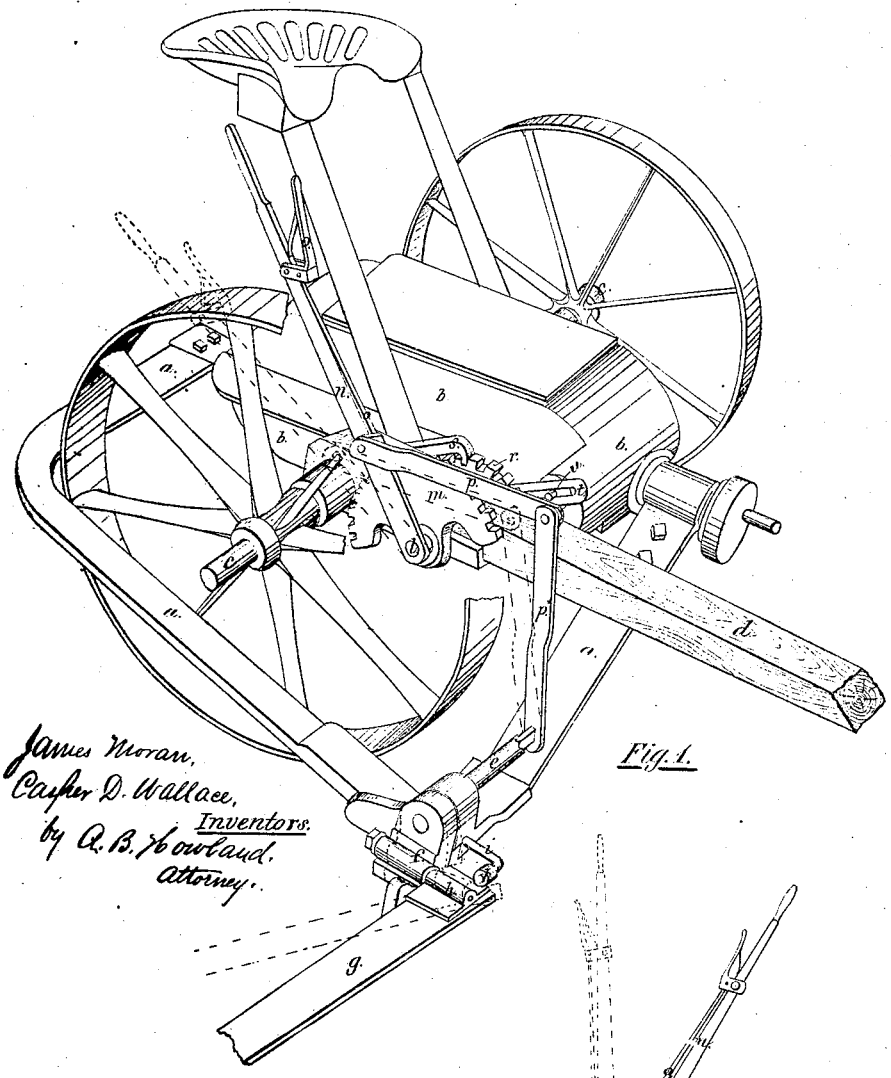

Fig. 1.

James Moran,
Casper D. Wallace,
by A. B. Howland. Inventors.
Attorney.

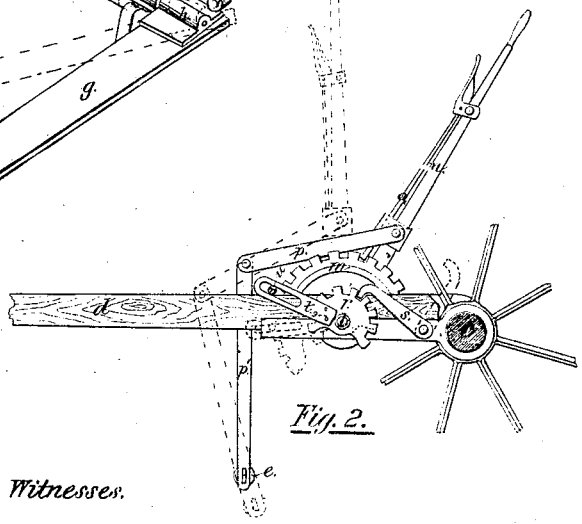

Fig. 2.

W. H. Pond Jr
J. Lawrence Witnesses.

UNITED STATES PATENT OFFICE.

JAMES MORAN, OF AUBURN, NEW YORK, AND CASPER D. WALLACE, OF CORRY, PENNSYLVANIA, ASSIGNORS TO THEMSELVES AND HIRAM K. NEEDHAM, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 111,557, *dated February* 7, 1871.

To all whom it may concern:

Be it known that we, JAMES MORAN, of Auburn, in the county of Cayuga and State of New York, and CASPER D. WALLACE, of Corry, in the county of Erie and State of Pennsylvania, have invented certain Improvements in Harvesters, of which the following is a specification:

Our invention relates to the combination of a hand-lever, rocking shafts, pawl, and connecting-links with the tongue, body, and cutter-bar of a harvester, in such manner that the operator is enabled to adjust all parts of the machine to the irregularities of the ground or the work to be done by the manipulation of a single hand-lever.

Figure 1 is a perspective view of the several parts of the machine embraced within this description, a portion of one wheel being removed. Fig. 2 is a sectional view, taken at right angles with the axle, and looking right, showing the tongue and device for rendering the body and frame of the machine fixed or movable with relation to the tongue.

The different positions given to the several parts by the manipulation of the hand-lever are shown by dotted lines.

a is the frame carrying the cutter-bar, connected by trunnions to the front and rear ends of the body *b*, which body is attached directly to and oscillates upon the axle *c*. The tongue *d* is also attached directly to the axle, and swings upon it as a center. *e* is a small shaft placed upon the forward right-hand corner of the frame *a*, and parallel with the axle. *f* is a rocking cutter-block secured upon said shaft. *g* is the cutter-bar, hinged to the block *f*, the axis of the hinge *h* being at right angles with the shaft *e*. The heel of the cutter-bar projects a short distance inside of the hinge *h*.

A fixed pin, *i*, is attached rigidly to the corner of the frame *a*, and is provided with a small friction-roller, *k*, the latter being located directly over the projecting heel of the cutter-bar. Upon the tongue *d* is secured a rock-shaft, *l*. A toothed segment, *m*, is keyed tightly upon said rock-shaft, between the tongue and wheel. A hand-lever, *n*, is attached to the outer end of the rock-shaft, swinging loosely upon the same as a center, and provided with a spring-latch, *o*, which engages with the teeth or notches upon the segment *m*. Said lever *n* is connected with the inner projecting end of the shaft *e* by intervening links, *p p'*, arranged as shown, the link *p'* being attached rigidly to the shaft *e*. A toothed segment, *r*, is keyed upon the opposite inner end of the rock-shaft *l*, and provided with a pawl, *s*, so arranged that it may be thrown in or out of gear by the foot of the operator. A slotted link, *t*, is secured upon the face of the segment *r*, its slot engaging with or embracing a fixed pin, *u*, projecting from the forward end of the body *b*.

Bearing in mind that the tongue of the machine, when in operation, maintains a nearly uniform position with relation to the surface of the ground, that the segments *m* and *r* and slotted link *t* are rigidly attached to and move or oscillate with the rock-shaft *l*, and that the forward slotted end of the link *t* engages with the fixed pin *u* upon the body of the machine, while the hand-lever *n* may be swung freely upon the rock-shaft as a center, or, by means of the latch-pawl *o*, may grasp and carry with it the rock-shaft, segments, link *t*, and pin *u*, it will be seen that a skillful manipulation of said lever will produce the following single or combined movements:

First, by disconnecting the latch *o* from the notches in the segment *m*, (the pawl *s* holding the body and frame in position,) the lever *n* may be moved freely upon the shaft *l*, when a backward or forward movement of said lever rocks the shaft *e* and cutter-block *f*, and thus elevates or depresses the cutting-edge or teeth of the cutter-bar. The latter has two movements, one a rocking movement upon the shaft *e* as a center, as above, the other upon its hinge *h*, allowing the tilting or elevation of its outer end when necessary to clear any obstacle or to adapt itself to any irregularities in the ground. To produce this latter movement the hand-lever *l* is thrown back nearly to the axle *c*, the cutter-bar is swung forward and upward until the projecting heel of the cutter-bar strikes the roll *k* upon the fixed pin *i*, when a further movement of the lever and raising of the cutter-bar and hinge *h* elevates or tilts the outer

end thereof, the roller *k* serving as a fulcrum.

Second, by allowing the latch *o* to engage with the notches upon the segment *m*, a backward or forward movement of said lever rocks the shaft *l* and its segments, raises or depresses the forward slotted end of the link *t*, and with it the entire body, frame, and cutter-bar, enabling it to clear any rock, stump, or other obstacle, while by throwing forward the pawl *s* it engages with the notched segment *r*, and holds the body, frame, and cutter-bar rigid with relation to the tongue *d*, and at any desired height above the ground. The body, frame, and cutter-bar are thus adjusted or held firmly in any required position with relation to the ground by the use of the lever *n* and pawl *s*. The latch *o* is then thrown back, and a continued movement of the lever elevates the outer end of the cutter-bar, when the machine is ready for folding and transportation.

We claim as our invention—

1. The described combination of the hand-lever *n*, rock-shaft *l*, segments *m* and *r*, link *t*, connecting-links *p p'*, shaft *e*, rocking block *f*, and fixed pin and roller *i k*, arranged to effect the several movements hereinbefore described by the manipulation of the single lever *n*, substantially as set forth.

2. The combination, with the tongue of a harvesting-machine, of the lever *n*, notched segment *r*, pawl *s*, link *t*, and fixed pin *u* upon the body of the machine, for the purpose of rendering the body and frame fixed or movable with relation to the tongue, substantially as set forth.

3. The pin *i* and roller *k*, affixed to the frame, in combination with the hinged cutter-bar and rocking block *f*, substantially as and for the purposes set forth.

JAMES MORAN.
CASPER D. WALLACE.

Witnesses:
A. W. COVELL,
A. B. HOWLAND.