

I. A. JOHNSON.

HARVESTER.

No. 112,147.

Patented Feb. 28, 1871.

Fig. 1

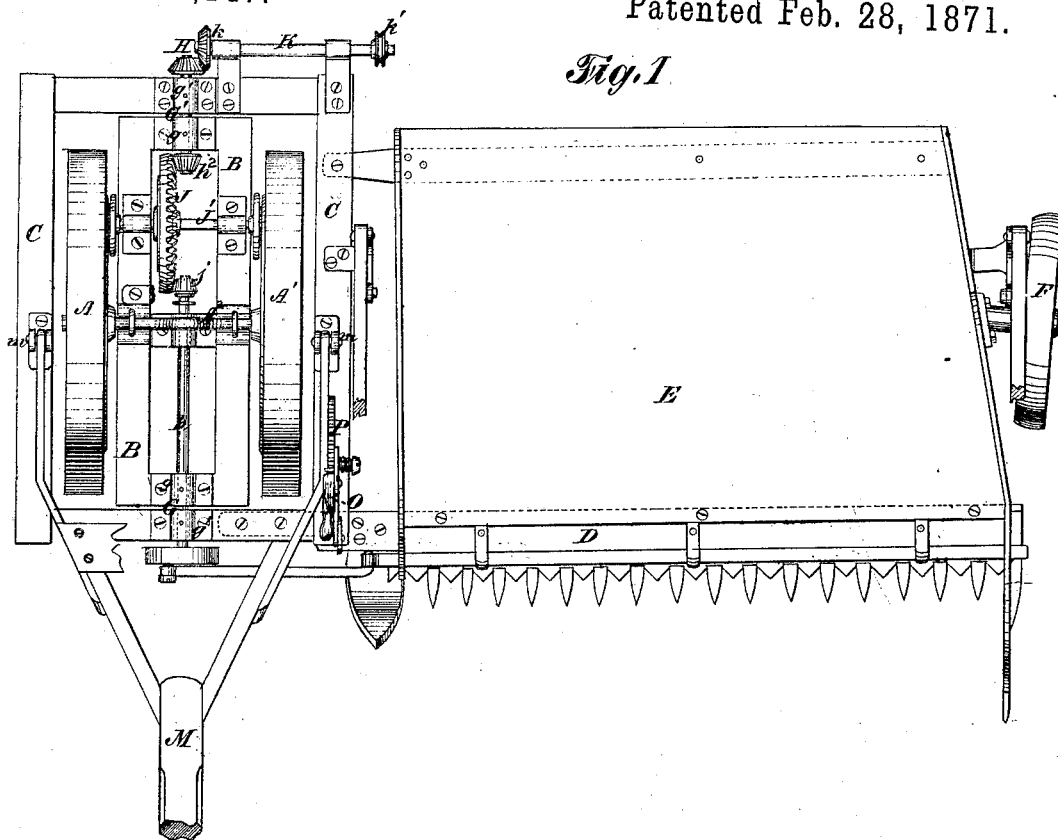
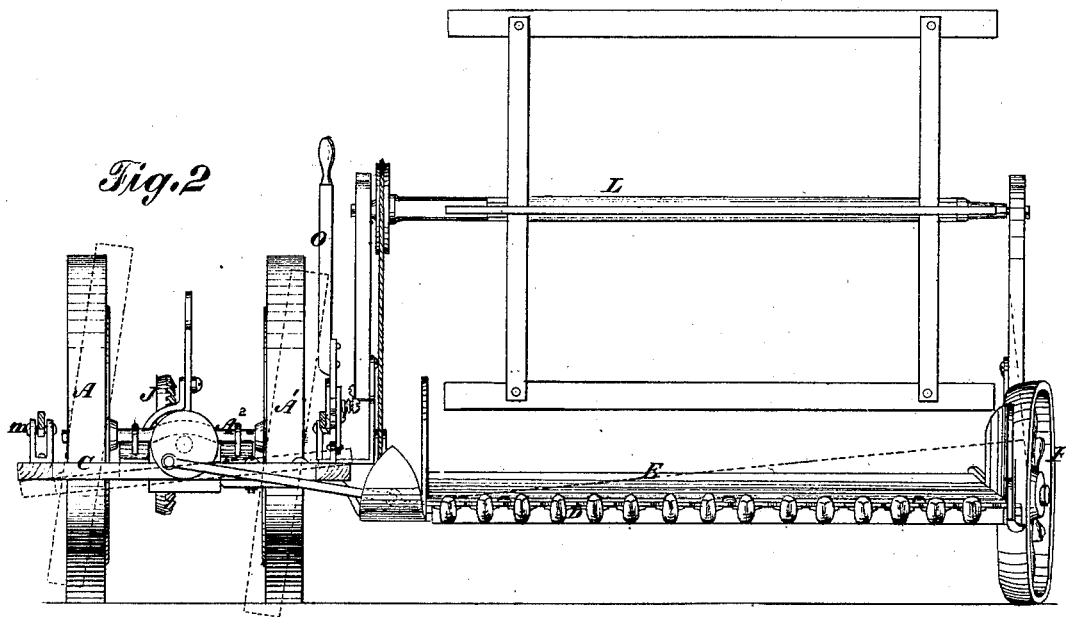


Fig. 2



Witnesses:-
Wm H. Rowe
Henry Kaiser

Inventor:-
Isaac A. Johnson
by his Attys
Wm D. Baldwin

UNITED STATES PATENT OFFICE.

ISAAC A. JOHNSON, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HIMSELF AND
FREDERICK H. MANNY, OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **112,147**, dated February 28, 1871.

To all whom it may concern:

Be it known that I, ISAAC A. JOHNSON, of Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Harvesters, of which the following is a specification:

My invention relates to that class of harvesters having two main driving and supporting wheels.

Its object is to enable the cutting apparatus to rise and fall to conform to inequalities of the surface over which it passes; and the improvements herein claimed consist in a novel method, hereinafter described, of combining a main frame mounted on two wheels and carrying the gearing, a vibrating frame carrying the cutting apparatus, said frame being so constructed as entirely to inclose the gear-frame and driving-wheels, and oscillating on a central axis parallel with the driving-wheels, and a tongue hinged to the said frame.

My invention further consists in a novel method, hereinafter described, of constructing the boxes or journals on which the two frames vibrate.

In the accompanying drawing my improvements are all shown as embodied in a fully-organized harvester, the details of construction of which, obviously, may be varied without departing from the spirit of my invention.

Figure 1 represents a plan of the machine, with the driver's seat omitted; Fig. 2, a front elevation of the same, the dotted lines showing the axis of oscillation; Fig. 3, a vertical longitudinal section through the machine; Fig. 4, a side elevation with the platform in section; Fig. 5, a detached sectional view, on an enlarged scale, of the joints between the two frames.

In this instance two driving-wheels, A A¹, are shown as turning loosely on a fixed axle, A², with which they are connected by backing-ratchets, as usual. This axle is mounted in a rectangular gearing-frame, B, arranged between the wheels and rocking freely on the axle. The gearing is mounted in this frame, as hereinafter described. The gearing-frame and driving-wheels are surrounded by another frame, C, to which a finger-beam, D, is firmly secured. A joint might be used near the heel end of the finger-beam; but I have found a

rigid connection in practice to answer every purpose. A suitable platform, E, is to be attached for reaping, and removed when mowing, as usual. The grain end of the finger-beam is supported by a grain-wheel, F, having its axle in line, or substantially so, with that of the driving-wheels. This wheel may, if preferred, be attached to the platform, but in this instance is shown as mounted on an arm projecting from the finger-beam.

The pivot or axis on which the two frames rock consists, in this instance, of two double boxes, G G', one at each end of the frame. Each box is constructed in two sections, *g g'*, one section being mounted on each frame. The sections *g* have long semi-cylindrical lugs or ears *g*², Fig. 5, projecting therefrom, and fitting into their corresponding sections *g'*, thus constituting, when bolted together, a tubular journal or trunnion, on which the frames rock, and through which shafts *h h'* pass. By this mode of construction the journals or pivots connecting the two frames are relieved from the strain and friction to which they otherwise would be subjected, and the shafts *h h'* are also relieved from liability to become bound or strained.

In this instance internal spur-gears I on the driving-wheels drive corresponding pinions *i* on the counter-shaft J', carrying a bevel-wheel, J, which drives a corresponding pinion, *j*, on a crank-shaft, *h*, which passes through the box G, as above described, and drives the cutters by a crank and pitman, in the usual way. A reel or rake may, in like manner, be driven from the same bevel-wheel J, meshing with a pinion, *h*², on a shaft, *h'*, passing through the box G, and carrying a bevel-pinion, H, meshing into a corresponding one, *k*, on a shaft, K, carrying a gear-wheel or sheave, *k'*, from which the reel or rake may be driven in any suitable well-known way.

In this instance a reel, L, of well-known form, is shown as mounted on the outer vibrating frame, or on posts connected and vibrating therewith. By this mode of construction all the parts can vibrate freely around their respective centers without binding or straining the mechanism.

The tongue M is forked at its rear end and hinged to the outer frame at *m*, as shown in

the drawing, outside the main wheels. A seat, N, for the driver is mounted on the tongue. A lifting-lever, O, is also mounted on the tongue, and connected with the outer frame by a swiveling or pivoted link, o. A spring-detent of well-known construction takes into the notches of a sector-rack, P, on the tongue. By these devices the cutting apparatus can be raised, lowered, or held in any position desired.

In operation, the gearing-frame can rock or tilt freely on its pivots, as shown by the dotted lines in Fig. 2, independently of the movements of the finger-beam over the surface of the ground. The finger-beam in like manner can tilt on the same pivots without disturbing the working of the gearing.

In raising or lowering the cutting apparatus with the finger-beam horizontal, both the

gearing-frame and the outer frame necessarily move together, rocking on the axle of the driving-wheels as a fulcrum.

I claim as my invention—

1. The combination of the driving-wheels, the gear-frame, the main frame pivoted thereto, and the bifurcated tongue hinged to the rocking-frame outside the driving-wheels, as set forth.

2. The tubular interlocking boxes *g*, constructed as described, and forming the trunnions on which the two frames vibrate.

In testimony whereof I have hereunto subscribed my name.

ISAAC A. JOHNSON.

Witnesses:

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