

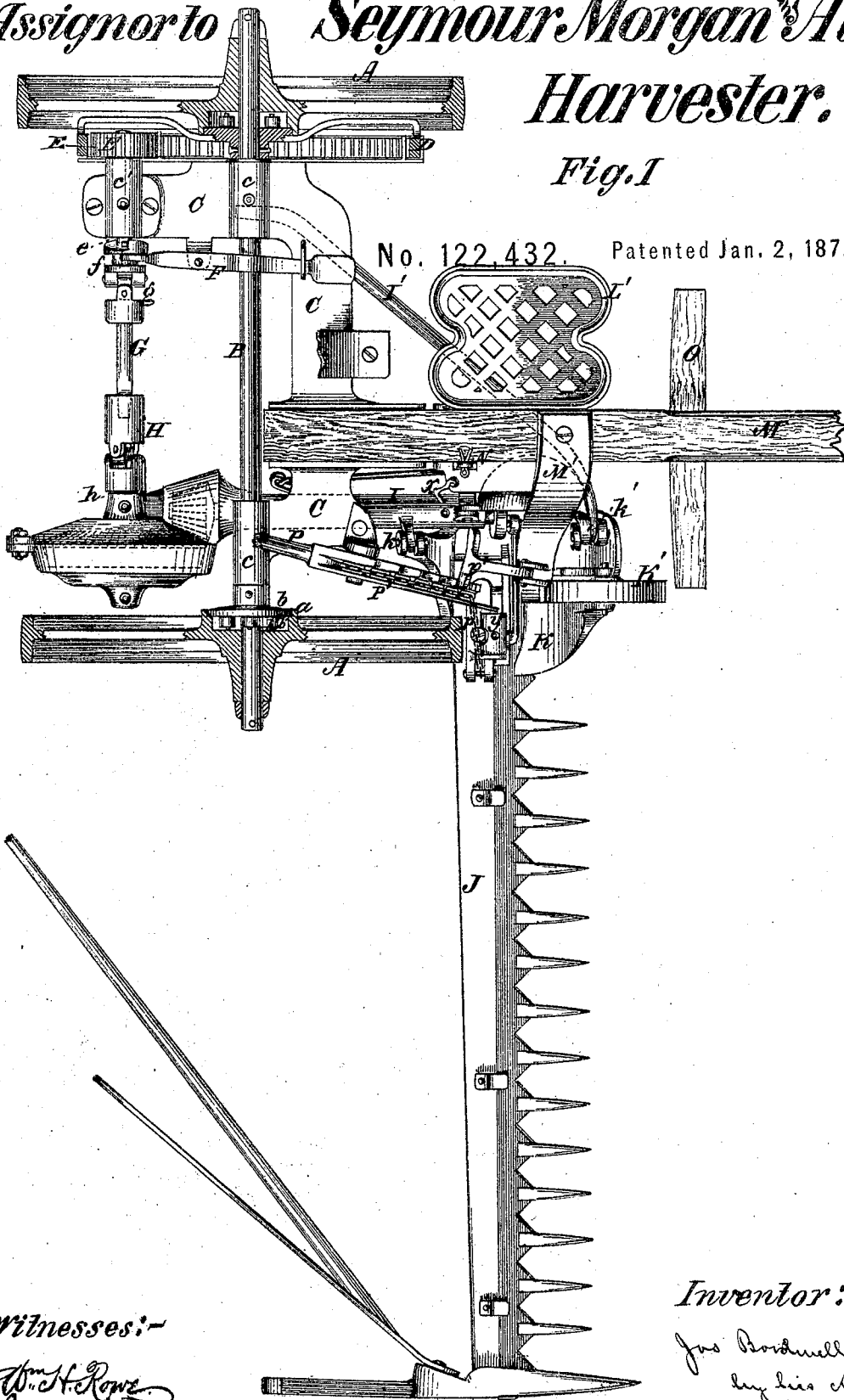
*Joseph Bordwell,*

2 Sheets--Sheet 1.

*Assignor to Seymour Morgan & Allen.*  
*Harvester.**Fig. 1*

No. 122,432.

Patented Jan. 2, 1872.

*Witnesses:-*

*Wm. H. Rowe*  
*Joel Peyton.*

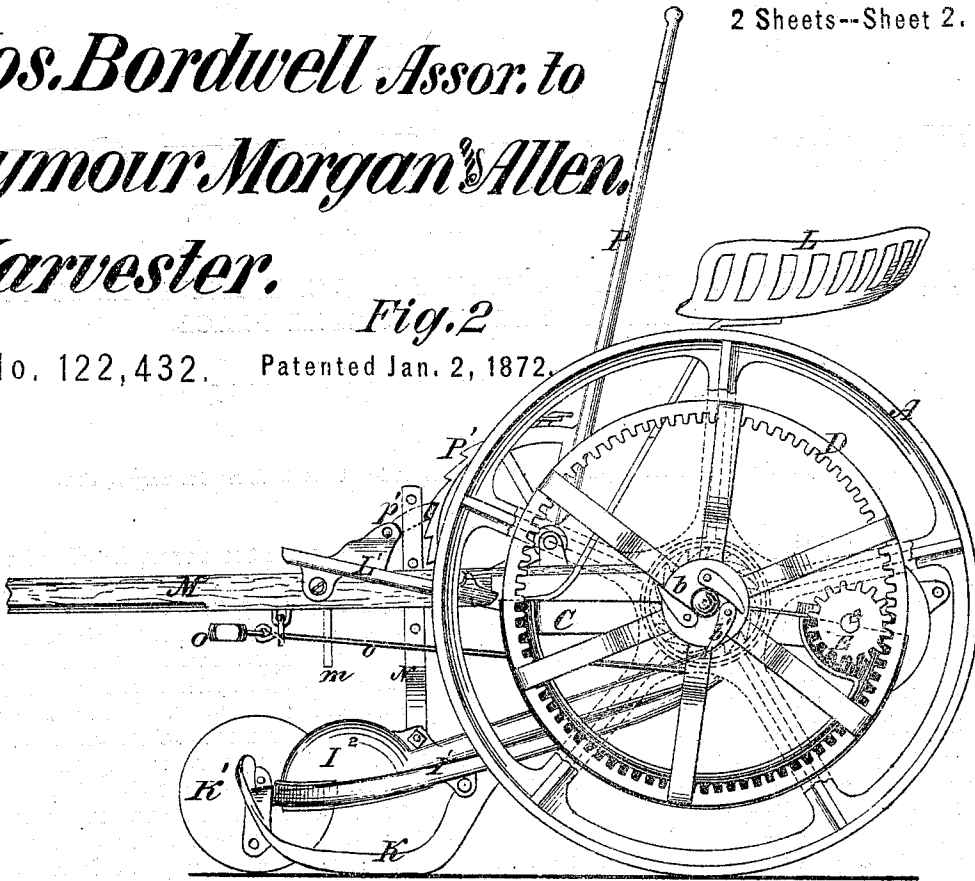
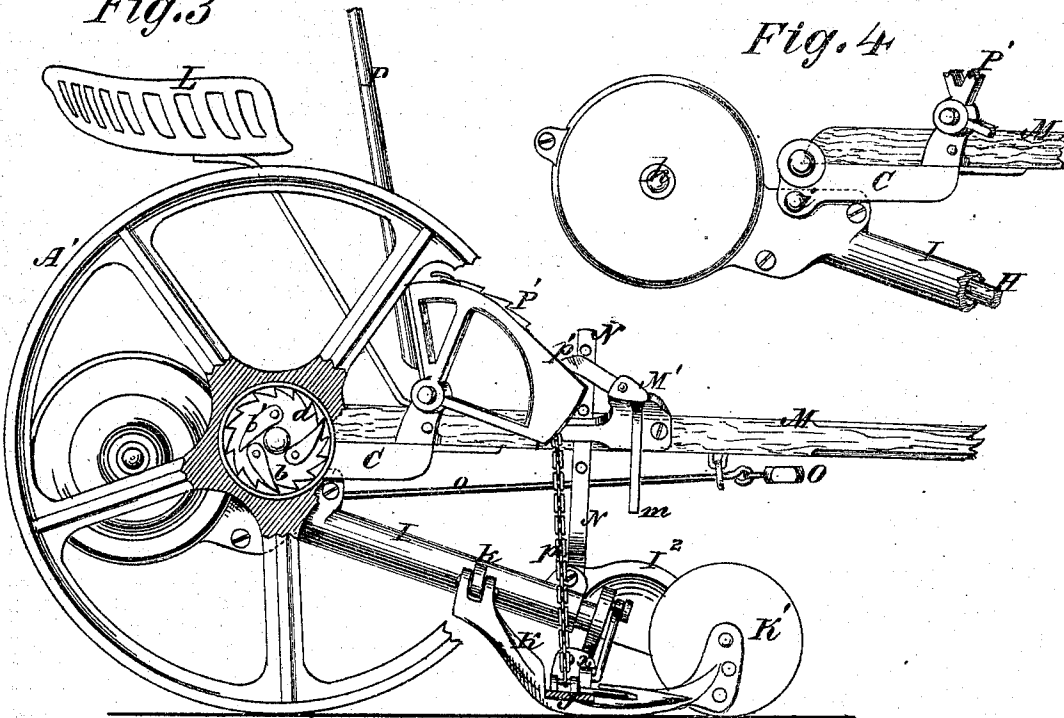
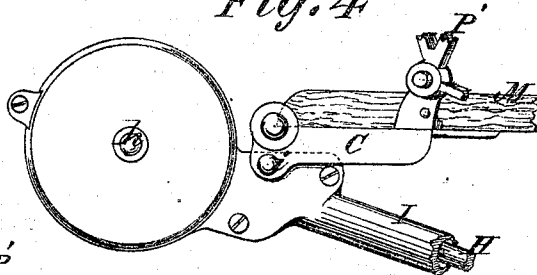
*Inventor:-*

*Joe. Bordwell*  
*by his atty*  
*Wm. D. Baldwin*

*Jos. Bordwell Assor. to  
Seymour Morgan & Allen.  
Harvester.*

*Fig. 2*

No. 122,432. Patented Jan. 2, 1872.

*Fig. 3**Fig. 4*

Witnesses:

*Wm. H. Rowe  
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Inventor:—

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# UNITED STATES PATENT OFFICE.

JOSEPH BORDWELL, OF BROCKPORT, NEW YORK, ASSIGNOR TO SEYMOUR, MORGAN & ALLEN, OF SAME PLACE.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 122,432, dated January 2, 1872.

*To all whom it may concern:*

Be it known that I, JOSEPH BORDWELL, of Brockport, in the county of Monroe and State New York, have invented certain new and useful Improvements in Harvesters, of which the following is a specification:

My invention relates more especially to machines of the class known as two-wheeled front-cut hinged-bar mowing-machine; and consists in certain improvements, hereinafter specifically described, upon the machine for which Letters Patent of the United States, No. 78,904, were granted June 16, 1868, to Thomas Welch.

In the accompanying drawing of my improved mowing-machine, Figure 1 is a plan; Fig. 2, an elevation of the stubble side; Fig. 3, a similar view of the opposite side; Fig. 4, a similar view of a part of the tongue-frame and gearing-frame.

Two driving-wheels, A A', turn freely on an axle, B, which revolves in boxes *c* in the main or draft-frame C. A flanged collar, *b*, keyed fast on the axle, carries pawls *b'*, which take into ratchet-teeth *a* on the inner side of the hub of the wheel A', thus locking the wheel and axle together when moving forward, as is well understood, but leaving them disconnected in backing. The pawls have no springs, but operate by gravity alone. The other driving-wheel A has a corresponding ratchet. Its flanged collar, however, is secured to an internally-gear'd spur-wheel D fast upon the main axle B. This wheel drives a corresponding pinion, E, on a counter-shaft, *e*, turning in a box, *c'*, on the frame. A grooved collar, *f*, slides freely on this shaft when moved by the shipping-lever F, and a ratchet on this collar is thus thrown into or out of gear with a transverse pin on the counter-shaft. This collar *f* likewise forms part of the universal joint *g* of the tumbling-shaft G, which turns with but moves freely endwise in the knuckle of the second universal joint H, which forms the connection between the tumbling-shaft G and the shaft *h* mounted in bearings in the frame I. This frame consists of a hollow casing, I, rocking vertically on a pivot, *i*, underneath the main frame, and a brace-rod, I', pivoted underneath the main frame in the same axial plane as that of the pivot *i*, and connected at its

front end with the casing I. The finger-beam J is secured to a shoe, K, carrying a leading wheel, K', and pivoted at *k k'* to the coupling-frame or casing I. A bevel-wheel on the shaft *h* drives a corresponding pinion on the crank-shaft H', which latter drives the cutters by a crank and pitman, as usual. These wheels and the crank-shaft are shown in dotted lines in Fig. 1, being inclosed by the casing. A seat, L, for the driver is mounted on the main frame in front of the axle, in order that his weight may counterbalance that of the gearing. A tongue, M, projects from the front of the main frame, as usual. A foot-board, L', for the driver is secured upon this tongue, as is also a bracket, M', having a stop, *m*, underneath it to limit the rising of the coupling-frame. A link, N, pivoted to the coupling-frame, passes upward through a slot in this bracket. A pin, passed through one of a series of holes in this link above the tongue, limits the descent of the coupling-frame, while leaving it free to rise when necessary. This link also holds the coupling-frame firmly against the stop when moving from field to field. The double-tree O is attached to a draft-rod, *o*, hooked into a lug on the coupling-frame, so that the pull of the team may tend to lift the coupling-frame and cutting apparatus and diminish its pressure upon the ground, and thus lighten the draft of the machine. A lifting-lever, P, mounted on the main frame, vibrates a sector-rack, P', carrying a chain, *p*, connected with the finger-beam to lift it. A swinging pawl, *p'*, pivoted to the bracket M', engages the teeth of the sector-rack and holds the finger-beam at the elevation desired. A hook, X, pivoted on the bracket, takes into a hole, *x*, on the guide Y of the cutter-bar, when the cutting apparatus is folded up close to the main frame, and serves to hold the finger-beam in its elevated position. A cap, I<sup>2</sup>, on the casing I, protects the crank from being obstructed by cut grass and other things, and also forms that portion of the casing which abuts against the stop *m* to limit the ascent of the coupling-frame.

I claim as my invention—

1. The combination of the main frame, the main axle turning therein; the driving-wheels, the backing-ratchets inclosed therein; the

spur-gear fast on one of the flanged collars of the ratchets, the spur-pinion on the counter-shaft, and the sliding clutch in the universal-joint connection of the counter-shaft, all these parts being constructed and operating as described.

2. The combination of the counter-shaft revolving in a long box-bearing, the shipping-lever, the sliding clutch forming part of the universal joint, and the coupling-shaft sliding

endwise in the knuckle of the second universal joint, all constructed, arranged, and operating as described, for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

JOSEPH <sup>his</sup> × BORDWELL.  
mark.

Witnesses:

E. T. LAMB,

WM. STOUGHTON.

(74)