2 Sheets—Sheet 1.

A. N. WILSON.
Harvester.

No. 219,553. Patented Sept. 9, 1879.

Fig. 1.

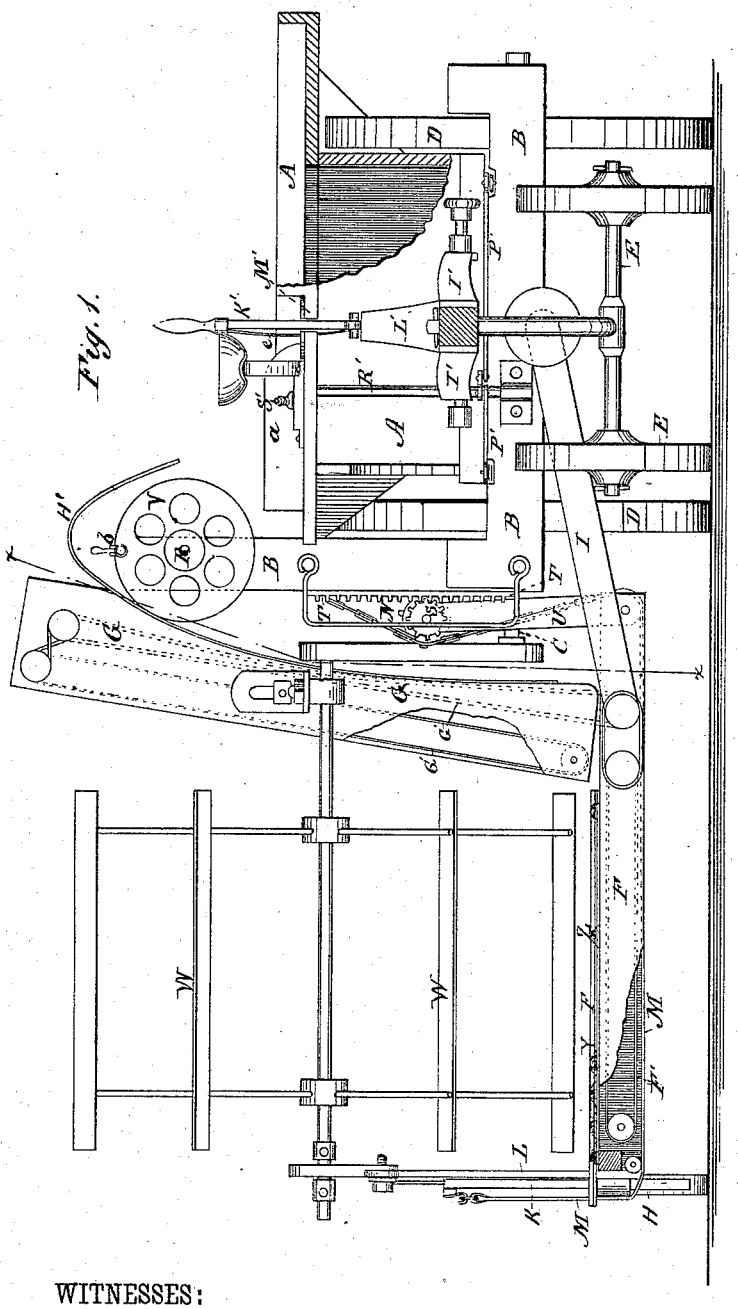
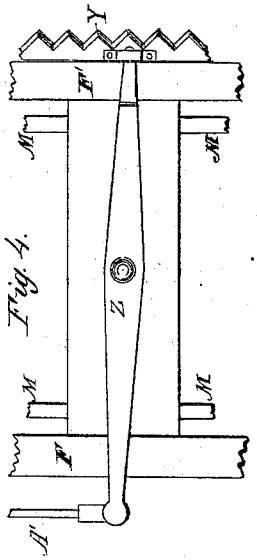


Fig. 4.



WITNESSES:

W. W. Hollingsworth

A. W. Hart

INVENTOR:

A. N. Wilson

BY Munn & Co

ATTORNEYS.

2 Sheets—Sheet 2.

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Fig. 2.

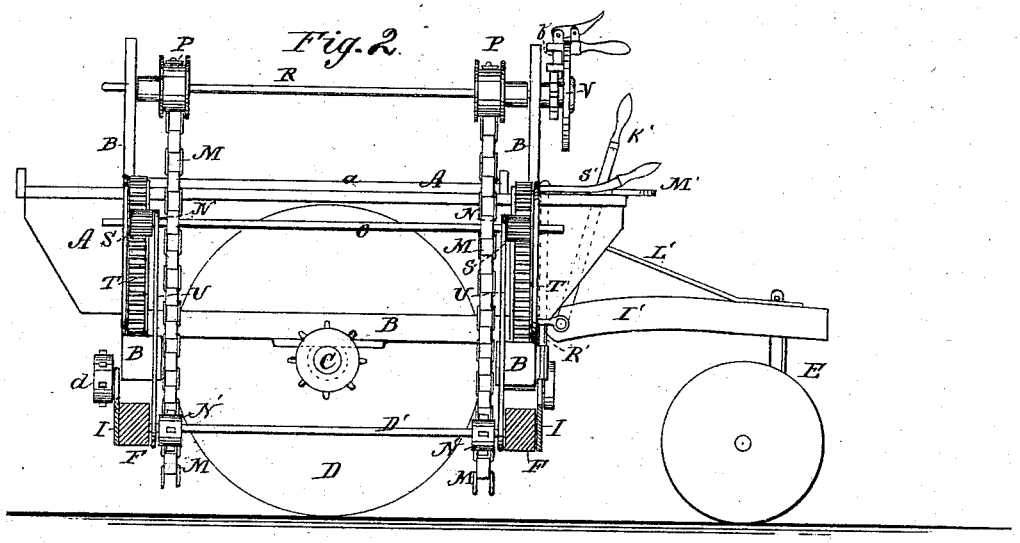
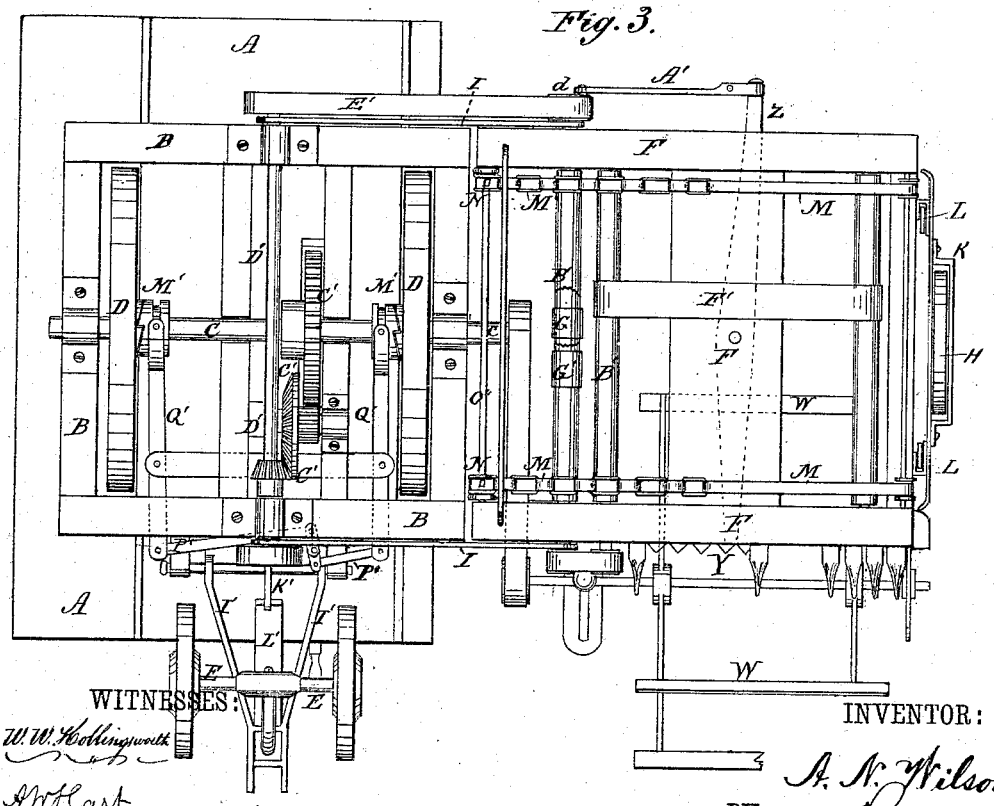


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALONZO N. WILSON, OF COON RAPIDS, IOWA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **219,553**, dated September 9, 1879; application filed April 12, 1879.

To all whom it may concern:

Be it known that I, ALONZO N. WILSON, of Coon Rapids, in the county of Carroll and State of Iowa, have invented a new and useful Improvement in Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in harvesters whose platforms are made vertically adjustable at each end independently of the trucks to which they are hinged.

My invention consists in the specific combination and arrangement of parts, as hereinafter described, for raising and lowering the platform without changing its horizontal angle.

In accompanying drawings, Figure 1 is a front elevation of my improved harvester. Fig. 2 is a vertical section on line *x x* of Fig. 1, and Fig. 3 is a plan of the machine inverted. Fig. 4 is a detail plan view.

The frame of the machine consists of two main parts, which are so connected that one may be adjusted independently of the other in a vertical plane, but not otherwise, and so that each may adapt itself to the inequalities of the surface passed over by the machine. One of these parts consists, mainly, of the box A, Fig. 1, in which the binders stand, and of a frame, B, to which said box is attached. This part of the machine, with its various attachments and appendages hereinafter described, is mounted on the axle C of transporting-wheels D and front caster-wheels or truck E. The other part of the frame of the machine consists of the platform F, Fig. 1, having vertical standards G, and supported at its outer end by a wheel, H, which is vertically adjustable, as hereinafter described. The platform F is connected to the wheeled frame B by means of pivoted bars I, Figs. 1 and 3.

The leading or most important feature of the invention is the adaptation of the platform F and its attachments (which latter will be hereinafter described) for vertical adjustment independently of the truck-frame A B. The object of such adjustment is to cut the grain at a higher or lower point. The means for effecting such adjustment are the following: The wheel H, which supports the outer end of the platform F, has its bearings in a frame, K, which slides vertically in ways formed by vertical grooved standards L, attached to the platform. Chains M are attached to this adjustable frame K, and pass under the platform F, and then upward over chain-wheels N on shafts O O′, respectively, and are secured to pulleys P, fixed on a rotatable shaft, R, having its bearings in vertical standards forming part of frame B. Spur-pinions S are fixed on shaft O, and mesh with racks T, attached in vertical parallel position to the aforesaid standards. The pinions are held engaged with the racks by guides. The shaft O of the chain-wheels N is connected with the inner end of platform-frame F by means of bars or links U.

It is obvious that by rotating shaft R in one direction the chains M will be wound on the pulleys P, and, since the chains run over wheels N, the latter will be rotated also, thus causing the pinions S to travel up the racks T, and thereby raising the inner end of the platform F. This contraction of the length of chains M necessarily slides the wheeled frame K downward on ways L, and thereby raises the outer end of the platform simultaneously with the other. In brief, the rotation of the pulley-shaft R in one direction raises the whole platform F, while its rotation in the other direction will correspondingly lower the platform. Such adjustment may be made when the machines is moving as well as when at rest, and enables the sickle-bar to be quickly placed at any desired height, as required by the nature of the ground, or for cutting the grain-stalks short or long, or for heading the same. To enable said shaft R to be conveniently rotated by the driver and locked in any adjustment, I apply a crank or handled disk, V, to the front end thereof, and provide the disk with a sliding spring bolt or catch, *b*, which enters notches in a boss or collar, *c*, attached to the standard contiguous to the disk.

The attachments of the platform F are the following: the reel W, which is adjustable vertically and horizontally, and rotated by a chain, X, running obliquely from a pulley on the projecting inner end of axle C; the sickle-bar Y, which is reciprocated by a lever, Z, which is pivoted flat on the platform, and is vibrated by a rod, A′, pivoted eccentrically to a pulley, *d*, on a shaft, B′, to which rotary motion is imparted from the axle C through the

medium of gearing C′, shaft D′, and chain or belt E′, Fig. 3.

The grain is moved laterally by endless traveling belts F′ and carried upward by the parallel endless traveling belts G′, and discharged upon a chute, H′, down which it slides onto the binder's platform or table *a*. The vertical belts G′ G′ are placed so near each other as to press the grain sufficiently to hold it as they travel upward. Motion is imparted to the belts F′ G′ by the geared parallel rollers or shafts B′, which are located at the inner end of the platform F, and rotated by belt or chain E′, Figs. 1 and 3.

It will be seen that the platform-wheel H constitutes practically a pivot on which the platform may be tilted to raise or lower its front edge or cutters, and that the transporting-wheels D have a like relation to the box-frame A B.

For the purpose of tilting the platform, I adjust the angle of the hounds I′, whose front ends are supported on the pivoted standard of the caster-wheel truck E. The hand-lever K′ and inclined bar L′ have a triangular arrangement with or relation to the hounds I′, and the upper portion of the lever has a spring-catch, *e*, which holds it locked in any adjustment in a rack, M′, forming a fixed portion of the binder's box A. Thus, by changing the vertical angle of the lever K′ the horizontal angle of the hounds I′ will be correspondingly changed, and the connected platform F and frame B tilted down or up, as required.

The transporting-wheels D D are loose on the axle C, but may be thrown into rigid engagement with the latter by sliding clutches M′, Fig. 3, operated by levers Q′, whose front ends are connected by links P′ with the arms of a vertical rack-shaft, R′, Fig. 1, to whose upper end a horizontal hand-lever, S′, is attached.

What I claim is—

1. In a harvester, the combination of the chains, chain-wheels, racks and pinions, winding-pulleys, and outer adjustable transporting-wheel, H, with the platform F and truck B, substantially as shown and described, whereby the taking up or letting out of the chains raises or lowers the platform independently of the truck, and without changing its horizontal angle.

2. In a harvester, the combination of the chains and pulley-shaft R with the chain-wheels N and pinions S, the shaft O, on which both said wheels and pinions are fixed, the fixed racks T, and adjustable platform F, said chains passing over and engaging one side of the wheels, so that the latter are rotated when the chains travel, and thus cause the pinions to travel on the racks, as and for the purpose specified.

ALONZO N. WILSON.

Witnesses:
H. T. MARNETT,
JOS. M. DUEES.