2 Sheets—Sheet 1.

J. D. WINANS & G. VANDUSEN.

HARVESTERS.

No. 185,056. Patented Dec. 5, 1876.

Fig. 1

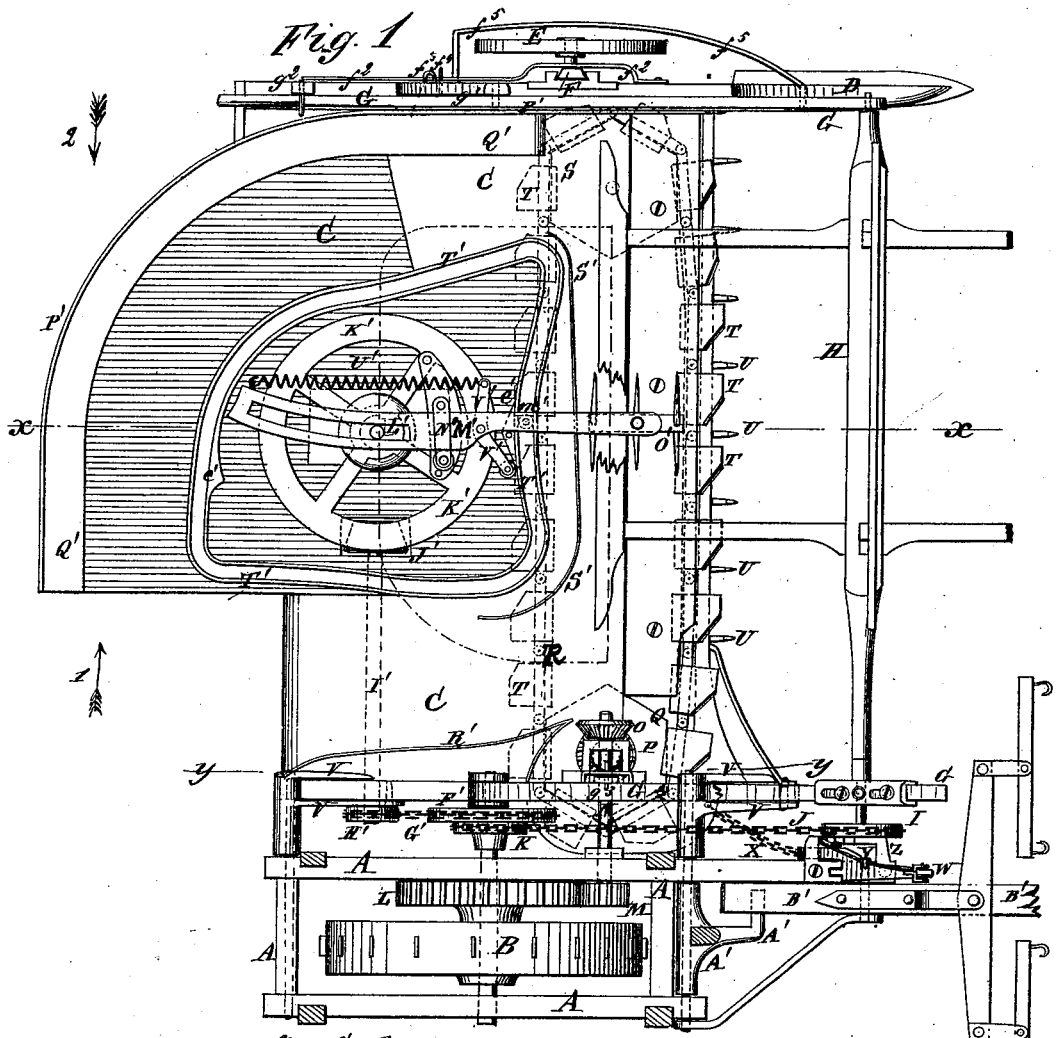
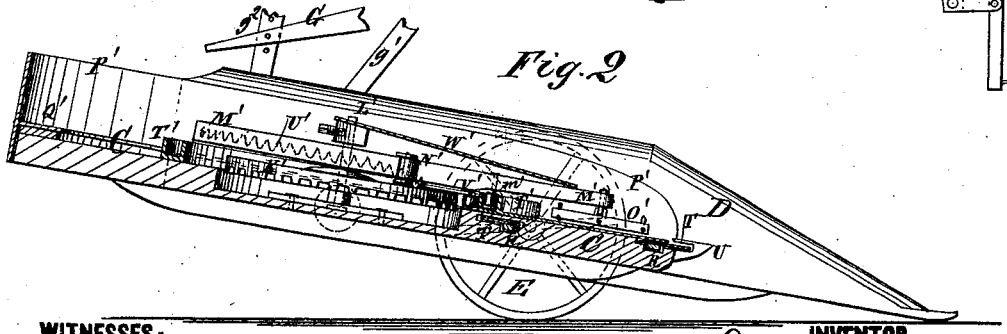


Fig. 2



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2 Sheets—Sheet 2.

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Fig. 3

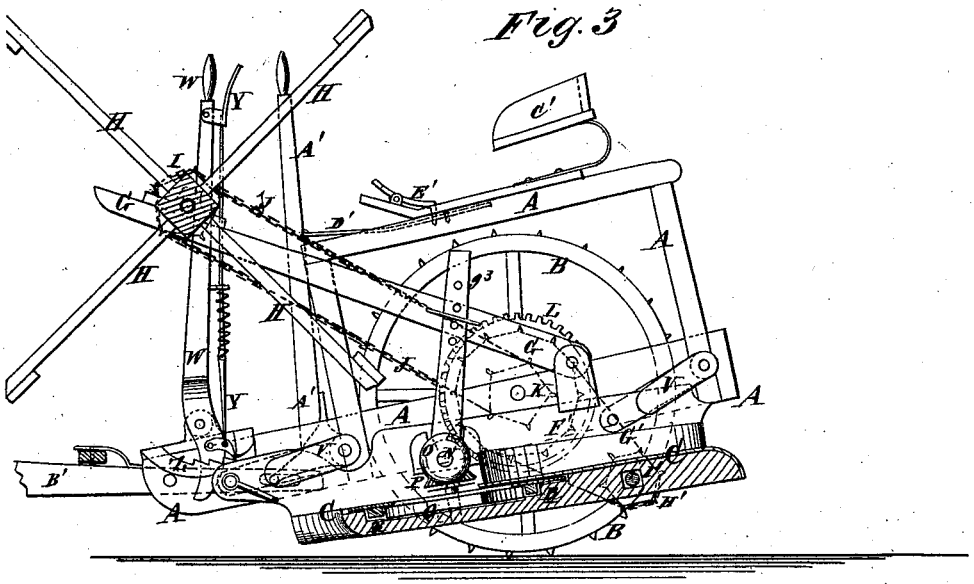
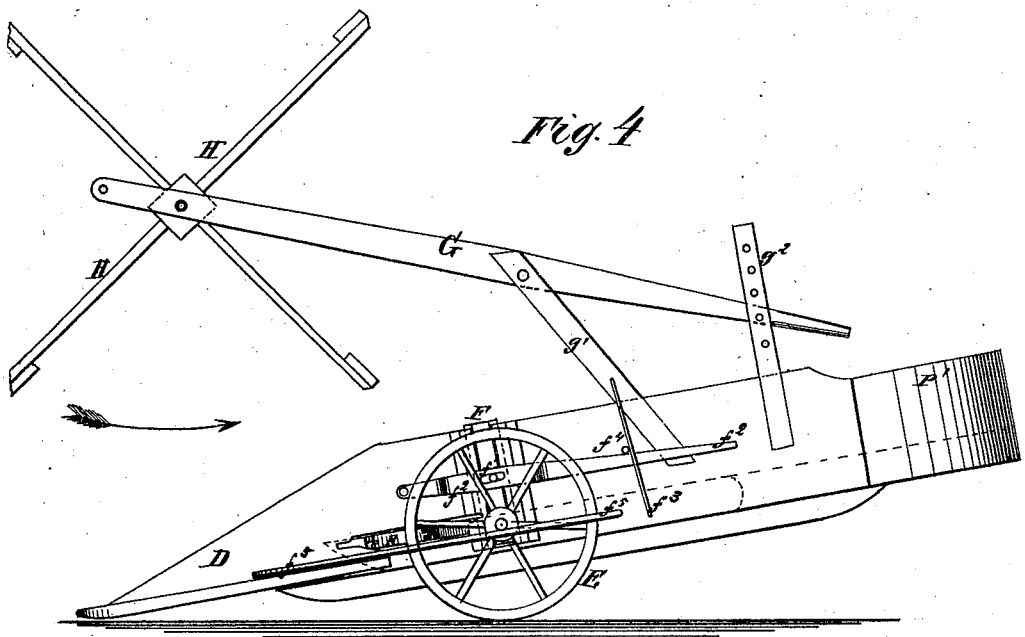


Fig. 4



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UNITED STATES PATENT OFFICE

JAMES D. WINANS AND GILBERT VANDUSEN, OF SYCAMORE, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **185,056**, dated December 5, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that we, JAMES D. WINANS and GILBERT VANDUSEN, of Sycamore, in the county of De Kalb and State of Illinois, have invented a new and useful Improvement in Harvesters, of which the following is a specification:

Figure 1, Sheet 1, is a top view of our improved machine, parts being broken away to show the construction. Fig. 2, Sheet 1, is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 1, and looking in the direction of arrow 1. Fig. 3, Sheet 2, is a vertical longitudinal section of the same, taken through the line *y y*, Fig. 1, and looking in the direction of arrow 2. Fig. 4, Sheet 2, is a side view of the machine.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A represents the frame to which the drive-wheel B is pivoted. C is the platform, to the outer end of which is attached the grain-divider D. The outer end of the platform C is supported by the grain-wheel E, which revolves upon the journal of the axle F. The axle F is bent at right angles, has the side edges of its upright arm beveled off, slides in a dovetailed groove in a casting attached to the divider D, and has a pin, f^1, attached to it, which passes through a slot in the lever f^2. The forward end of the lever f^2 is pivoted to the divider D, so that the outer end of the platform C may be raised and lowered by operating the said lever f^2. The rear end of the lever f^2 passes through a keeper, f^3, attached to the divider D, and is held in any position into which it may be adjusted by a pin, f^4, inserted in one or another of a number of holes formed in the divider D. The wheel E is protected from the standing grain by a guard, f^5, the ends of which are attached to the divider D. G are two bars, to the upper ends of which are pivoted the shaft of the reel H. The outer bar G is pivoted at its middle part to the upper end of a standard, g^1, and its lower end is secured to the standard g^2 by a pin. Several holes are formed in the standard g^2 to receive the pin, so that the rear end of the bar G can be conveniently lowered and raised to raise and lower the outer end of the reel H. The rear end of the inner bar G is pivoted to the rear part of the inner end of the platform C, and its middle part is connected with the bar g^3 attached to the inner end of the platform C by a pin. Several holes are formed in the standard g^3 to receive the pin, so that it may be adjusted to raise and lower the inner end of the reel H. The bearing for the inner of the reel-shaft is adjustable, so that it may be moved to tighten or slacken the chain by which the said reel is driven. To the end of the inner journal of the reel-shaft is attached a small chain-wheel, I, around which passes an endless chain, J, which also passes around a small chain-wheel, K, attached to the inner journal of the drive-wheel B, so that the reel H may be revolved by the advance of the machine. To the inner journal of the drive-wheel B is attached a large gear-wheel, L, the teeth of which mesh into the teeth of the small gear-wheel M attached to the outer end of the short shaft N. The shaft N revolves in bearings attached to the inner end of the platform C, and to the inner end of said shaft is attached a small bevel-gear wheel, O, the teeth of which mesh into the teeth of the small bevel-gear wheel P, attached to the upper journal of the horizontal chain-wheel Q. The chain-wheel Q is pivoted to the inner forward corner of the platform C, and around it passes an endless chain, R, which also passes around a similar chain-wheel, S, pivoted to the outer forward corner of the platform C. To the endless chain R are attached the cutters T, the inner parts of which are made square, and the forward corners of their outer parts are beveled off, as shown in Fig. 1. The endless chain of cutters R T work in a recess in the cutter-bar, and in the forward part of the platform C, and are covered except the forward part of the forward line of cutters by metallic plates attached to said cutter-bar and platform. The cutters T pass through slots in fingers U, attached to the cutter-bar in the usual way, and against which the grain is cut. The forward and rear parts of the inner end of the

platform C are pivoted to the slotted forward parts of the arms V, the rear ends of which are pivoted to the frame A.

By this construction, as the inner end of the platform C is raised and lowered it swings through the arc of a circle, which keeps the gear-wheel M always in mesh with the gear-wheel L. The inner end of the platform C is raised and lowered by the lever W, which is pivoted to the forward end of the frame A, and the lower end of which is connected with the inner forward corner of the platform C by a short chain, X. The lever W is held in any position into which it is adjusted by a spring-lever pawl, Y, attached to it, and which engages with the ratchet-teeth of a bar, Z, attached to the said frame A. The forward edge of the platform C is raised and lowered, as required, by a bent lever, A′, which is pivoted at its angle to the forward end of the frame A, and the end of its lower arm is pivoted to the tongue B′. The upper arm of the lever A′ projects upward into such a position that it may be conveniently reached and operated by the driver from his seat C′, which is attached to the upper part of the frame A. The lever A′ is held in any position into which it may be adjusted by the bar D′, which passes through a keeper attached to the lower side of the seat-platform, and has a number of holes formed through it to receive the pin of the lever-catch E′, pivoted to the said seat-platform in such a position that it may be conveniently reached and operated by the driver from his seat.

To the inner journal of the drive-wheel B is attached a chain-wheel, F′, around which passes an endless chain, G′. The chain G′ also passes around a chain-wheel, H′, attached to the outer end of the shaft I′. It is requisite there shall be a flexible or extensible connection (not shown) between said chain-wheel and shaft, to permit the adjustment of the platform, as hereinbefore described. The shaft works in a recess in the platform C, and to its inner end is attached a small gear-wheel, J′, the teeth of which mesh into teeth formed upon the lower side of the rim of the wheel K′, which revolves upon a post, L′, attached to the middle part of the platform C. M′ is a lever, the inner part of which is slightly curved, and is slotted longitudinally to receive the post L′, said slot being lined with metal, to prevent wear. The middle part of the lever M′ passes through a keeper, N′, attached to the wheel K′, and its rear side rests against a small roller, placed upon the rear arm of said keeper, to lessen the friction.

To the forward end of the lever M′ is pivoted the rake O′, which moves across the forward part of the platform C, gathers the cut grain against the flanges P′, carries it back along said flange, and drops it to the ground through a space formed by cutting away the rear inner corner of the platform. The rear corner of the outer end of the platform C is rounded off, and the flange P′ is extended around said end and the rear side to the cut, through which the gavel is dropped to the ground. The rake O′ then passes forward across the inner end of the platform C, and again collects and removes the cut grain.

The rake is guided in its movements by the flanges Q′ R′ S′, attached to the platform. The forward end of the lever M′ is kept in the right position as it moves around by a pin, m', attached to it by a guide-groove formed in a metal bar, T′, attached to the platform C. The lever M′ is slid out and in, as the direction of the guide-groove T′ may require, by a spiral spring, U′, one end of which is attached to the inner end of the said lever M′, and its other end is attached to the end of a short lever, V′, The lever V′ is pivoted at its middle part to the lever M′, and its other end, or a small roller pivoted to said other end, rests against the inner side of the grooved bar T′, inclines e' being attached to said bar T′, where required.

The object of the described arrangement of lever V′ and spring U′ is to assist the lever M′, by throwing it out upon the front of platform, so as to more perfectly catch the grain and rake it therefrom.

To the upper end of the post L′ is attached a plate, W′, to protect the mechanism attached to the middle part of the platform from the falling grain.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A harvester-platform, pivoted at front and rear to the pivoted and slotted arms U of the frame A, as and for the purpose specified.

2. The combination of the chain G′, chain-wheels F′ H′, the shaft I′, the gear-wheels J′ K′, the slotted lever M′, the pivoted rake O′, the guide-flanges P′ Q′ R′ S′, the guide-groove T′, inclines e', the guide-pin m', the pivoted lever V′, and the spring U′ with the drive-wheel B and the platform C, substantially as herein shown and described.

3. The combination, in a harvester, of the rake-carrying lever M′, having pin m', the flanges forming groove T′, and the lever V′, having roller at its outer end, the two levers being connected by a pivot and a spring, U′, as and for the purpose specified.

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