

J. H. JONES.

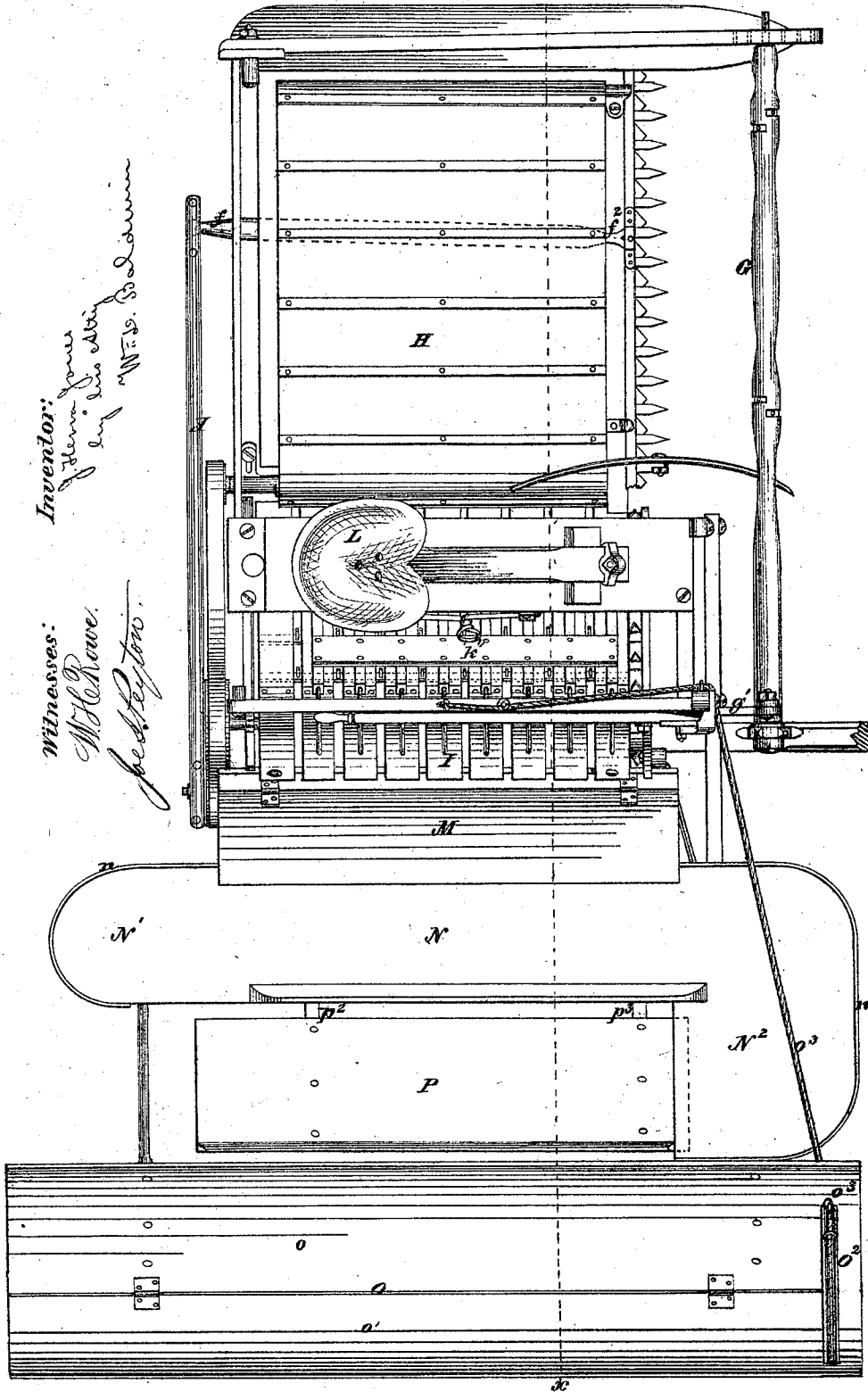
3 Sheets: Sheet 1.

Improvement in Harvesters.

No. 124,587.

Fig. 1

Patented March 12, 1872.



Inventor:
J. H. Jones
by Wm. S. Baldwin

Witnesses:
W. H. Rowe.
J. H. Jones.

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Improvement in Harvesters.

3 Sheets: Sheet 2.

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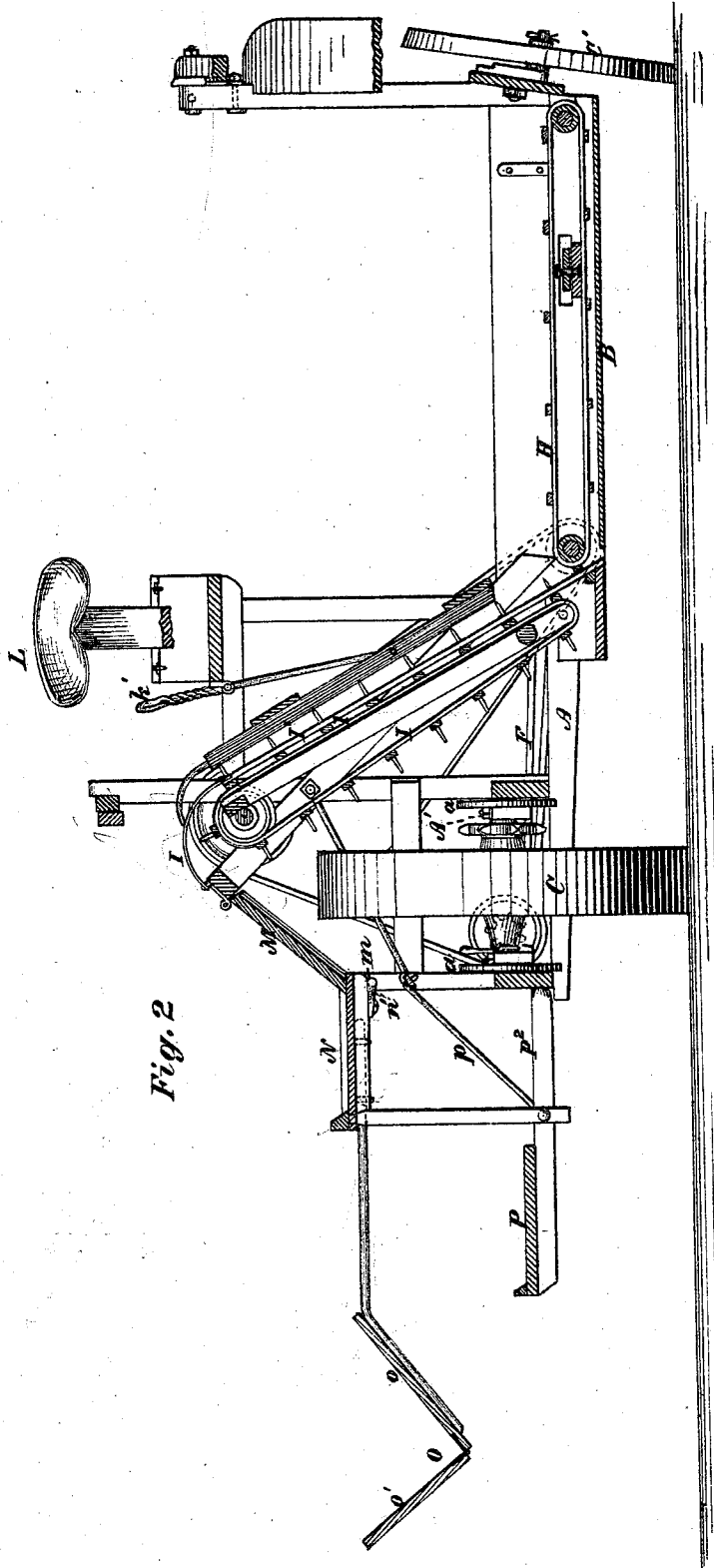


Fig. 2

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3 Sheets: Sheet 3.

Improvement in Harvesters.

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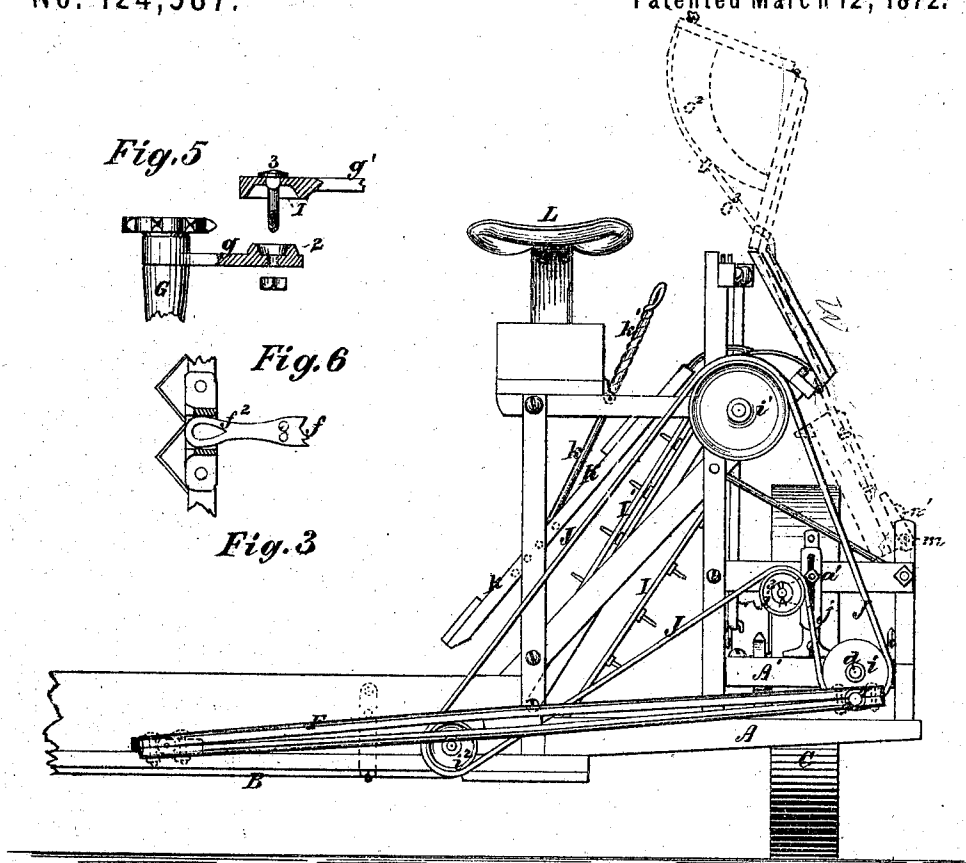


Fig. 5

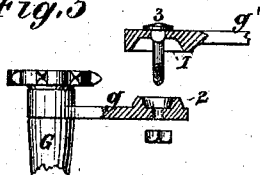


Fig. 6

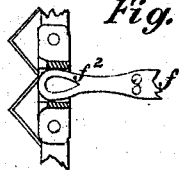
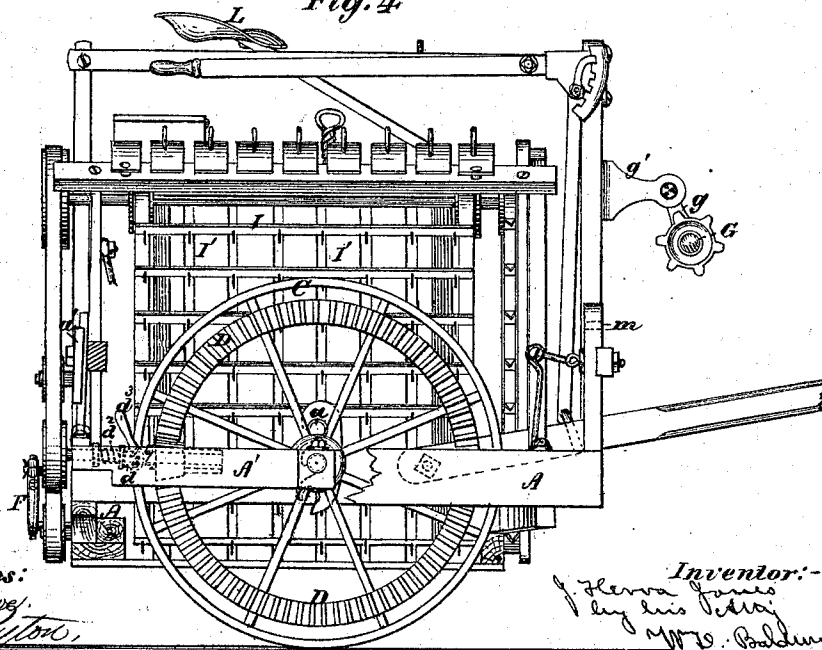


Fig. 3

Fig. 4



Witnesses:

W. H. Rowe
John H. Brown

Inventor:-

Flenna Jones
by his father
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UNITED STATES PATENT OFFICE.

J. HERVA JONES, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 124,587, dated March 12, 1872.

To all whom it may concern:

Be it known that I, J. HERVA JONES, 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:

The improvements hereinafter specified relate more particularly to that class of harvesters in which the grain is bound by a person riding on the machine; obviously, however, some of these improvements may be used without the others; or they may be used on machines of a class or construction different from that herein mentioned.

First. My first improvement relates to the apparatus for conveying the cut grain away from the platform on which it falls when first cut; its object is to prevent the clogging or choking of the conveyer; and the invention consists in combining with the conveyer a yielding grain-guard, so controlled by the driver as to regulate the pressure upon the ascending grain.

Second. The object of my next improvement is to obtain room for two or more binders simultaneously to ride and bind upon the machine, while preserving its proper balance, by combining a receptacle for the cut grain with a binding-table at its rear end, and forming a prolongation thereof, and another binding-table at its front end, arranged transversely thereto and forming a prolongation thereof.

Third. The object of my next improvement is to deposit the bound bundles upon the ground—in numbers sufficient to form a shock—as far away as practicable from the track of the team in the succeeding tour around the field; and this I do by constructing a sheaf-receptacle with an outwardly-sloping fixed side, and a movable side so hinged thereto that when dropped it forms a prolongation of the fixed side, over which the sheaves slide upon the ground.

Fourth. My improvement further consists in combining with the fixed and hinged sides of the receptacle an arm so curved as to act as a stop to regulate the angle of the sides, and a cord or chain attached to said arm, so that the driver, from his seat, can, at will, raise or lower said hinged side.

Fifth. The object of my next improvement is to regulate the height of cut without disturbing the proper relation of the working mechanism; and the invention consists in mounting

the gearing and main driving-wheel in a supplementary frame, adjustable on the main frame by means of grooves on the axle fitting in hooks on the main frame, and an adjustable link connecting the two frames.

Sixth. My next improvement relates to means for rendering the reel-shaft adjustable in order to keep the driving-band tight; and consists in mounting the gearing-end of the reel-shaft in an arm adjustable on a bracket by means of a shallow flaring-cup on one, in which a frustum of a cone on the other fits, the two being securely clamped together by a screw and nut.

In the accompanying drawing, which shows all the improvements herein mentioned as embodied in a machine of the type of the well-known "Marsh harvester," Figure 1 is a plan; Fig. 2, a vertical longitudinal section on the line *x x* of Fig. 1; Fig. 3, a rear elevation, with the binders' table and platform removed, and a part of the grain-platform broken away; Fig. 4, a side elevation, having the binders' platform removed, and a portion of the main frame broken away; Fig. 5, a detail of the reel-bracket joint; and Fig. 6, a similar view of the sway-bar head.

The general details of construction of the machine are so well known as to need no description here, it being deemed sufficient merely to refer to the several parts by letter.

In this instance, a main frame, A, and platform B is shown as supported on two wheels, C C'. The driving-wheel and gearing are mounted in a supplementary frame, A', inclosed, and capable of moving freely up and down in the main frame. The ends of the main axle project beyond the supplementary frame, and have annular grooves formed in them. These grooves engage with one set of a series of hooks, *a*, on the main frame, and thus serve to raise or lower the main axle on the frame, and, consequently, to regulate the height of cut. The back end of the supplementary frame is hinged to the main frame by means of a pivoted slotted link, *a'*, which is adjustable by means of a set-screw. A bevel-wheel, D, on the main driving-wheel drives a corresponding pinion on a crank-shaft, *d*, turning in suitable bearings in the supplementary frame A'. The pinion turns loosely on its shaft with which it is locked, when desired, by means of a flanged collar, *d'*, sliding freely endwise

on the shaft and turning with it. A feather on this collar is interlocked with a corresponding one by means of a spiral spring, and is held out of gear, when desired by means of an eccentric, d , pivoted on the supplementary frame. The cutters are reciprocated in the usual manner by means of a sway-bar, f , the head f^2 of which is inserted in a socket or loop in the cutter-bar. This head I make of soft iron or other suitable metal, so that it may be expanded laterally by a blow on its end to fit snugly in its socket, and thus compensate wear. The pitman F , connecting this sway-bar with the crank-shaft, is made of wood, slotted longitudinally, with the ends firmed together; this I have found in practice a strong, durable, cheap, and desirable mode of construction. The grain end of the reel-shaft G is supported in a standard of usual construction. The gearing-end of this shaft turns in an arm, g , depending from a bracket, g' , adjustable on the main frame. This arm and bracket are connected by means of a flaring-socket, 1, or cup, on one, in which a conical plug, 2, on the other, fits; a screw, 3, and nut clamps the two firmly together when screwed up. I find this construction advantageous, as it renders the reel-shaft easily adjustable to regulate the driving-chain, while the friction of the plug and socket is sufficient to hold it secured when adjusted. The reel is driven by sprocket-wheels and a chain in the usual way. The grain is swept back by the reel, severed by the cutters, and falls upon an endless apron, H , in the usual way. This apron delivers the grain to the elevating-apron or conveyer I , the teeth of which work through slots in a grating, I' . The aprons are driven by a band, J , encircling pulleys i^1 i^2 i^3 , respectively, situated on the crank-shaft, the apron-rollers and an adjusting-slide, j , on the frame, by which the belt is kept taut. The grain is kept down on the conveyer-grating by means of a guard, K , pivoted to swinging-rods k , on a rock-shaft pivoted to the frame. By this mode of construction the guard K rests lightly on the grain as it is carried upward by the conveyer I , and at the same time is free to yield at either end, or altogether, to accommodate the passage of unusually large masses of grain. The driver can, likewise, from his seat L , press either with hand or foot on the handle k' of the guard, and thus increase or diminish its pressure upon the grain passing between it and the conveyer. The grain passes over the top of the grating I' , and slides down the inclined flap or grating M , to the binding-receptacle N . In order to afford access to the gearing, and to enable the binding-apparatus to be folded upon the main frame, as hereafter described, this flap is hinged to the frame at m in such manner that it may be turned up out of the way, as in Fig. 3. The grain-receptacle N is constructed with a rear extension, N^1 , which forms a prolongation of the grain-receptacle in the same line with it; this construction affords room for one binder to draw the grain endwise to one side, and bind it without

turning. As, however, more than one binder is sometimes required, I form another binding-table, N^2 , at the end opposite the other extension. This table is arranged at right angles, or thereabout, to the grain-receptacle, but partly in the line of said receptacle, as shown in Fig. 1, so that the binder, by turning his bundle, may get it out of the way of the incoming grain. A slight flange, n , prevents the grain from falling over the outer edge of the receptacle. The bound gavels are tossed into a V-shaped receptacle, O , arranged parallel with the line of draft on the outer side of the binders' table. The inner side o of this receptacle or "discharger" consists of a board fixed to the binders' table or frame, inclining steeply outward; the outward side of this receptacle consists of a board, o^1 , hinged at its lower edge to the fixed side o , so that when swung downward it forms a continuation of the fixed side over which the sheafs slide, and are deposited upon the ground away from the machine, so as to leave ample room on the next round. A curved arm, o^2 , on the hinged side, acts as a stop, to prevent the two sides from approximating each other too nearly. This arm also presents a suitable point for the attachment of a cord, o^3 , by means of which the driver, from his seat, can raise, lower, or hold the side o^1 , as needed. The arm, it will be observed, keeps the cord in a uniform relation to the joint of the hinged side, by which means the driver is not required to exert more strength with the hinged side in one position than in another, which, obviously, would not be the case were the cord attached directly to the side. The binders stand upon a platform, P , and are supported on three sides by the grain-receptacle and its connections with the discharger, and on the fourth by the discharger itself. They are thus securely supported, and are at liberty to move with freedom, as required. The location of the rear binding-table N^1 , enables the weight of the gavel, while being bound, to be thrown close to the line of the driving-wheel, which is important in many respects, particularly when working on hillsides, with the driving-wheel side of the machine lower than the divider side, in which position the machines, as heretofore constructed, are apt to tip over. The arrangement of the front binding-table N^2 is important, as it keeps the binder's weight close to the driving-wheel, prevents its interference with the team, and diminishes the weight on the horses' necks. The discharger is connected with the binders' table or frame, and the latter is hinged to the main frame by means of trunnions n' ; by this mode of construction, when the flap is turned up, the binders' table and discharger may be folded over upon the frame, as shown by the dotted lines in Fig. 3. The binders' platform is likewise hung to the main frame by detachable links p , when in position. The arms p^2 p^3 of this platform frame, respectively, abut against or are inserted into the main frame or binders' frame, and thus support the latter firmly.

I do not broadly claim every arrangement by which more than one binder can ride on a machine; neither do I broadly claim a gavel-discharger.

I claim as my invention—

1. The combination with an elevating-conveyor of a yielding grain-guard, controlled by the driver, and operating substantially as hereinbefore set forth.

2. The combination of the grain-receptacle, the rear binding-table forming an extension thereof, and the front binding-table, arranged transversely thereto, substantially as set forth.

3. The combination, in a sheaf-discharger, of a fixed side sloping outward, and a movable side hinged thereto; these parts being so constructed that when dropped the hinged side forms a prolongation of the fixed side, over which the sheaves slide, substantially as hereinbefore set forth.

4. The combination, in a sheaf-discharger, of a fixed side, a hinged side, and an arm which serves both as a stop to secure the proper relation between the two sides and as a means

whereby the driver is enabled to exert a uniform lifting strain on the hinged side; all these members being constructed and operating substantially as hereinbefore set forth.

5. The combination of the series of hooks on the main frame, the supplemental frame movable in said frame, and the main axle mounted in the supplemental frame, and having annular grooves in each end to engage with the hooks, as set forth, to raise or lower the machine.

6. The combination of the adjustable reel-bracket with the swinging-arm, in which the reel-shaft is journaled, by means of a flaring socket on one, a tapering plug on the other, and a clamp-screw passing through both socket and plug, in the manner described, to adjust and clamp the reel-shaft.

In testimony whereof I have hereunto subscribed my name.

J. HERVA JONES.

Witnesses:

JOHN FAXON,
WAIT TALCOTT.