

J. MITTEN & N. W. MOTTINGER.

Harvesters.

No. 149,670.

Patented April 14, 1874.

Fig. 1.

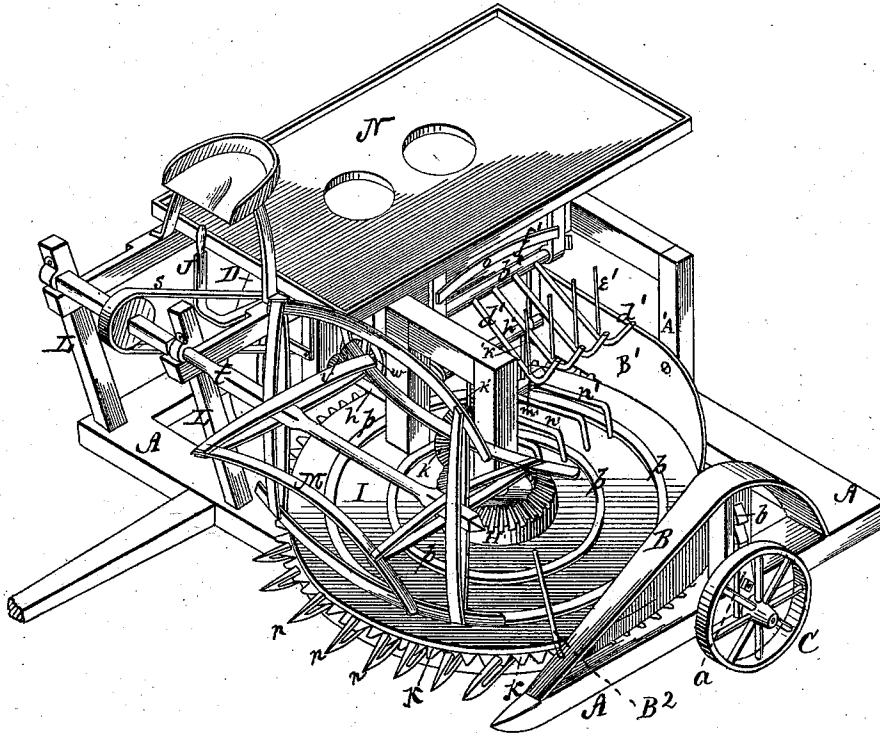
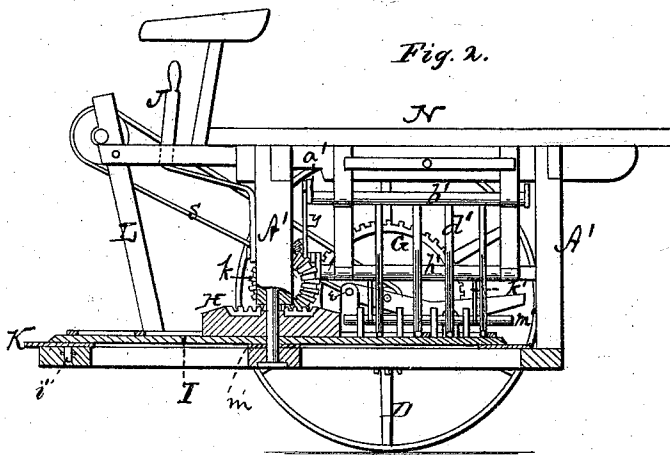


Fig. 2.



Witnesses.

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IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **149,670**, dated April 14, 1874; application filed February 10, 1874.

To all whom it may concern:

Be it known that we, JOHN MITTEN and NOAH W. MOTTINGER, of Massillon, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Harvesters; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of our invention consists in the construction and arrangement of a harvester, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our entire machine. Fig. 2 is a longitudinal section of the same through the center of the revolving platform. Fig. 3 is a transverse sectional view of the same. Fig. 4 is a side view, showing the driving-wheel and adjusting devices. Fig. 5 shows a modification of stops *n'*. Fig. 6 is a sectional view of the revolving platform.

A represents the bed-frame, made of any suitable dimensions, and provided at its left or outer end with a dividing-board, B. At this end the machine is supported upon a small wheel, C, made adjustable up and down by its spindle being attached to the lower end of a bar, *a*, which is toothed upon its inner side, and fastened by means of a bolt to a similarly toothed and slotted bar, *b*, secured in a vertical position on the frame, the teeth upon the two bars engaging with each other, so as to hold the bar *a* with the wheel firmly at whatever height it may be placed on the bar. The inner or right end of the machine is supported upon a driving-wheel, D, which is secured upon a short shaft, *d*, having its bearings in two levers, E E. These levers are pivoted on top of the frame A, and their front ends adjusted and held in perforated forks *f* by means of pins *e*. Upon the inner side of the driving-wheel D is secured a cog-wheel, G, which gears with a pinion, *i*, upon a horizontal shaft, *h*, running at right angles with the line of motion of the machine. This shaft revolves in suit-

able bearings on a frame-work, A', erected on the bed-frame A, and the shaft is on its outer end provided with a bevel-pinion, *k*, which gears with a horizontal bevel cog-wheel, H, attached to the grain-platform I. The pinion *i* is feathered upon the shaft *h*, so that it can be moved laterally on the same by means of a lever, J, and thus throw the pinion in and out of gear with the cog-wheel G, or, in other words, throw the entire working mechanism in or out of gear, the entire working parts being driven from said shaft *h*. The grain-platform I is made circular in form, and may be composed of two layers of boards or bars, the two layers being placed at right angles with each other to prevent warping, all firmly secured together and to a central cross-bar, *m*, of metal on the under side. On top of the platform, in the center, is secured the cog-wheel H, and through the center of both wheel and platform passes a short vertical shaft, having its lower bearing in a bar of the bed-frame A, and its upper bearing in a post of the frame-work A'. Upon this shaft the platform is made to revolve by the gears G *i* and *k* H. The minimum of friction may be secured by means of friction-rollers *i' i'* placed upon the frame beneath the platform. On the under side of the platform I is secured a continuous circular row of knives or cutters, K, which project beyond the edge of the platform, and are made in sections, so that in case of breakage any one or more sections can be easily removed without disturbing the rest. The front bar of the bed-frame A is made segmental to correspond with the curvature of the platform, and to said segmental bar are secured the fingers *n n*, through which the knives K pass as the platform revolves. Upon the upper surface of the platform I is a series of concentric rings or raised circular ribs *p p*, the object of which is to keep the grain elevated a suitable distance above the platform to allow the elevator-arms, hereinafter described, to pass under the grain for the purpose of lifting the same up and throw it or deposit it upon the binder's table. The shaft *d* of the driving-wheel D is, by a belt, *s*, connected with a pulley on the reel-shaft *t*, which has its bearings in arms L L, whereby the reel may be moved out from or in to the platform, as required. The bars M of the reel

connecting the radiating arms are bowed or arched to correspond with the curvature of the revolving platform, so as to bring the grain evenly to the cutting-knives. Upon the shaft *h*, above mentioned, is secured a miter-wheel, *v*, which gears with and revolves a similar wheel, *w*, mounted in suitable hangers from the frame-work *A'*. On the rear face of the wheel *w* is a crank or wrist pin, *x*, upon which are placed two pitmen, *y* and *z*. The end of the pitman *y* placed upon said crank-pin is slotted longitudinally, and the outer end of said pitman is pivoted to a crank, *a'*, on the end of a shaft, *b'*, which has its bearings in hangers from the frame-work *A'*. To this shaft *b'* are secured at right angles a number of elevator-arms, *d'*, the outer ends of which are bent at such an angle that when the arms are thrown down said ends will lie flat upon the platform *I*, and between the concentric rings or ribs *p p*. To the upper side of each arm *d'*, at or immediately above the angle where the arm is bent, is secured a prong, *e'*, of such length and set at such an angle that when the arms are thrown upward the ends of said prongs will pass over and above the edge of the binders' table. *f'* is a spring attached to the frame *A'*, and against which the arms *d'* strike, at the conclusion of their upward movement, to prevent any shock or jar to the machinery by said arms coming in contact with the binders' table. The pitman *z* is pivoted on the crank-pin *x*, and its outer end slotted longitudinally, and passed over a crank, *i'*, on the end of a shaft, *h'*, which, like the shaft *b'*, is suspended in hangers from the frame-work *A'*. From the shaft *h'* extend two arms, *k'*, which, at their outer ends, form bearings for a shaft, *m'*, having a series of L-shaped arms, *n' n'*, attached. These arms *n'* rest and slide upon the platform *I*, between the concentric rings *p* and between the elevator-arms *d'*, and form stops for the grain.

The operation of these stops and the elevator-arms is as follows: The machine being in operation, the cut grain is carried by and on the platform *I*, but resting upon the concentric rings *p*, unto the outer ends of the elevator-arms *d'*, and collecting upon the same against the prongs *e'*. At the proper time the arms *d'* are, by the action of the pitman *y* upon the crank *a'*, thrown over to the binders' table, when the grain elevated by them slides off the prongs *e'* onto said table. At the same time, as the arms *d'* are thrown up, the stops *n'* are, by the action of the pitman *z* upon the crank *i'*, moved forward to stop the grain until the elevator-arms are again thrown down, when said stops move backward, and

the grain collects upon the arms as before. The stops *n'* may be constructed as shown in Fig. 5, forming a hollow or recess in which the grain is stopped. *N* represents the binders' table, provided with apertures for two binders, who stand upon a platform, *O*, arranged inside of the driving-wheel. *B*¹ represents a fender or guard extending from the front end of the dividing-board *B* around the outer edge of the platform *I*, covering the knives *K* attached to the frame *A'* and extending back of the elevator-arms. This guard will effectually protect the knives and hold the grain on the platform. *B*² represents a guide attached near the front end of the division-board *B* and extending inward to near the center of the platform *I*. This guide is so arranged that it will cause the stalks of grain that are cut on the outer side of the platform to fall with their heads to the center.

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

1. In combination with the revolving platform *I* and concentric rings or raised ribs *p p*, the elevating-arms *d'*, substantially as shown and described.

2. The prongs *e'* attached to the elevating-arms *d'*, for the purposes herein set forth.

3. The spring *f'*, in combination with the elevator-arms *d'*, substantially as and for the purposes herein set forth.

4. The combination, with the elevator-arms *d'* and the shaft *b'* to which they are attached, of the crank *a'*, pitman *y*, the crank-pin *x*, and wheel *w*, all substantially as and for the purposes herein set forth.

5. The stops *n'*, operating in connection with the revolving platform *I* and elevator-arms *d'*, substantially as and for the purposes herein set forth.

6. The combination of the wheel *w*, crank-pin *x*, pitman *z* slotted at its outer end, crank *i'*, shaft *h'* with arms *k'*, and shaft *m'* with stops *n'*, all constructed substantially as and for the purposes herein set forth.

7. In combination with the revolving platform, a guide, *B*², extending from near the front end of the divider toward the center of the platform, substantially as shown and described, all arranged and operating to place the stalks of grain upon the platform, with heads to the center and butts outward.

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Signed in presence of—
BENNET B. WARNER,
THOMAS H. SEAMAN.