

## Harvester.

Patented Jan. 10, 1865.



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## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 45,810, dated January 10, 1865.

### *To all whom it may concern:*

Be it known that I, JACOB W. BOPE, of the city and county of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side elevation of my improved harvester. Fig. 2 shows an end view of the machine with levers working at right angles.

My invention consists in the construction and mode of attaching levers on both sides of the frame, moving parallel with each other, so as to raise and lower the finger-bar and cutters on a perpendicular or straight line, they being hung on movable points and controlled by the segment of a circle at the rear of the frame, thereby balancing the cutting mechanism where most desirable, as also raising and lowering the reel by means of levers connected with the cutter or finger bar and keeping it equidistant from the same; also, the adjustable belt-tightener.

To enable others skilled in the art to make and use my improved harvesters, I will describe their construction and operation more in detail, referring to the drawings and to the letters marked thereon.

I make a square frame, A, of timber, securely bolted together, of sufficient width to place my driving and supporting wheels B B inside the frame. On the rear end of the side timbers, A, I secure cast or wrought iron segments C, which have an opening through them to admit the rear ends of the levers D D, the same being pivoted at or near its center to a movable hinged stirrup, E, which is secured by a bolt to the frame A, a short distance back of the axle *b*. To the front ends of the levers D is secured the finger-bar F, which, by the combined action of the levers D, the stirrup or movable center, and the curved flange or segment C, the finger-bar and cutters will raise or lower in a perpendicular or straight line, not describing a circle, as those do that have a fixed point in the rear, from

which the finger-beam radiates, as other machines—for instance, the Ball or Buckeye reapers. Thus by the above arrangement a perpendicular up-and-down movement is effected, not only for my cutter-heel and pitman, but also my finger-bar, from heel to point.

On the sides of the frame A are levers *a*, for the purpose of raising and lowering the seed-shaft *g*, simultaneous with the finger F, and keeping the two equidistant in any position the cutter-bar may be placed, the reel-shaft *g* being supported on the main frame A by standards *b d*, which may be adjusted laterally on the frame, the forward ends of the levers *a a* being in such position and connected by vertical rods *c c* with the finger-bar F that when it is moved up or down the reel moves with it. On the levers *a*, between the driving-wheel B B and the pulley G on the reel-shaft *g*, there is placed a long friction-roller, *f*, which may be slid on the levers *a a*, so as to adjust and regulate the tightness of the belt which drives the revolving reel in any position in which it and the finger-bar may be placed.

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

1. The levers D D, radiating from movable centers, in combination with the segments arranged on the main frame for effecting a perpendicular up-and-down motion of the finger-bar in front, as described.

2. The combination of the levers D, the hinged stirrups E, and the segments C for attaching and moving the finger-bar in the manner described.

3. Raising and lowering the reel by means of the levers extending under the shaft and connected with the finger-bar, as described, whereby the reel is kept equidistant from the cutting mechanism, as herein set forth.

4. The arrangement of the sliding friction-roller *f* on the lever-arms *a a*, as and for the purpose herein described.

JACOB W. BOPE.

Witnesses:

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